Developers Guide

Prepared for:

DataCash Merchants

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2.22	25/05/2011	Removed capitalisation on the vTID.configuration documentation (SA) PayPal:- re-ordering of elements in alphabetical order with required field first and optional after. (SA) PayPal: PayPalTxn.reference. Is required for G (use from S)(SA) PayPal.AirlineItineraryData is optional for D&C, PayPal.Items optional for D (SA) PayPal.ShippingAddress optional for D (SA) PayPal: Updated "Values for paymentstatus" table in "pending"line to explain that this only applies PayPal.payment_type = "Any" (SA) PayPal:update the "timestamp" fields in the XML response examples to be more recent ones (SA) PayPal:updated PayPal Auth Capture, PayPal.payment_action must be "order" for S (SA) PayPal: updated PayPal Auth Capture, PayPal.payment_action may be "order" for D, or "sale" if wishing to convert the existing txn (SA) PayPal: Example URL for re-direct - added the URL for the sandbox (www.sandbox.paypal) (SA) PayPal: Added an xml for paypal elements (SA) PayPal: AirlineItineraryData and FlightDetails. Updated the PayPal Do Reference service. (SA) PayPal: Amended the title on the second do_capture transaction example. (SA) PayPal: Updated the PayPal do reference for: TxnDetails.amount; PayPalTxn.reference; PayPalTxn.payment_action. (SA) PayPal: Added Extra XML examples (SA) PayPal: Updated the title for Example XML Requests for update_billing_agreement (SA) PayPal: Updated the title for Example XML Request for do_reference_transaction and added an extra example (SA) Removed reference to device_category=1 in the request.Transaction.TxnDetails.ThreeDSecureBrowser (SA) Added missing information to "Schema Elements for Query Response" about the "HpsTxn" element (SA) Added version 2 specific response changes (MPM)

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2.27	19/07/2011	Updated broken links
2.28	11/08/2011	Update to Tokenization XML and element name as well as the reference to the appendices.
2.29	15/08/2011	Updated the Tokenization spelling to the US spelling: tokenization
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1. INTRODUCTION TO THE DATACASH DEVELOPERS GUIDE

1.1 AUDIENCE

This document is intended to be used by developers, technical personnel and business analysts to facilitate a successful integration by a merchant to the gateways provided by DataCash.

This is reflected in the layout of the document, which covers the submission of data in XML form to DataCash.

1.2 SCOPE

This document describes the interfaces, messages, data formats, and responses used for integration into DataCash. This is a technical API document and as such does not cover the business reasons or business process for integration.

This document is supplemented with an Appendices document.

Both the Developers Guide and the Appendices are available for download from the DataCash Developers Area: https://testserver.datacash.com/software/download.cgi.

This document describes some of the services that DataCash currently provides at a high level. The other services' descriptions can be found on the DataCash website, and a link to the relevant webpage will be provided in this document.

1.3 SUPPORT

For any assistance or information pertaining to existing or new DataCash services, please contact Support via the DataCash website.

1.4 HOW TO USE THIS DOCUMENT

1.4.1 *Which Gateway?*

This document is split into two main parts, each catering for specific processing needs.

- The first part deals with integrating into the DPG (DataCash Payment Gateway) system. If you would like to process credit card transactions via DataCash, then this section applies to you. Please see Section 2 DPG - DataCash Payment Gateway.
  - Note that this system also includes functionality to process PayPal and UK Direct Debit (BACs) transactions.

- The second part deals with integrating into the APG (Alternative Payment Gateway) system. If you would like to process non-card purchase or payout method transactions via DataCash (electronic wallets, prepaid products, and bank transfers), then this section applies to you. Please see Section 3 APG – Alternative Payment Gateway

Both of these systems provide Risk Screening Services.

1.4.2 *The Layout Structure Used In This Document*

Despite the length of this document, there is a simple structure in place to make it easy to use.

Firstly, as described above, the document is split into two sections: one for card processing and the other for non-card payment method processing.

Secondly, within each of the two main sections the Services that are provided by each gateway are listed.

Thirdly, for each Service there are four sub sections:

1. Request XML complex structures
2. Request examples
3. Response XML complex structures
4. Response examples

Fourthly, for each XML complex structure, information is provided about:

- Description and position
- Elements
- Attributes
- Examples

And lastly, full examples of the Request and Response complex structures are provided, showing a number of variations depending on the scenario.

Cross-references are used throughout this document, for XML complex structures that are shared between various Services.

(To navigate forward, click on the link)

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2. DPG - DATACASH PAYMENT GATEWAY

2.1 INTRODUCTION TO DPG

This section of the document is the DataCash Developer's Guide for the DPG. It is aimed at developers and technical personnel who will be integrating applications for card, PayPal and UK Direct Debit processing.

As each DPG Service requires particular information to be submitted and this information tends to be grouped within similar areas (parent elements) of the XML schema, the names of the parent elements will first be introduced.

Each parent will then be placed into its context in the schema and its child elements discussed. This includes any restrictions on the format, length and transaction type of each element.

If the DPG Service contains additional aspects (for example notifications for Standard Direct Debit and Standard Recurring Transactions), this will also be covered.

2.1.1 *XML Requests and Responses*

There are certain features of the Request and Response that are applicable to all DPG Services; these elements are covered in this section. Others are only used for a particular Service or group of Services; these elements will be covered within the documentation for that Service.

2.1.1.1 Request

The Request has an optional attribute "version" which can be sent to the DPG.

The version of the request when supplied indicates version specific functionality which may vary depending on the type of request.

The attribute corresponds to an unsigned integer.

It is important to note that when a version attribute is specified with a value greater value than 1, the Response Element will be returned with a version attribute that directly corresponds to the value passed in with the Request.

The vast majority of requests will not have separate versions. When the version attribute is not supplied this value will default to "1". Please note that where version is not explicitly mentioned when describing specific types of requests in this document, it can be assumed that version 1 is the only supported version of the request. It can also be assumed that supplying a greater version number will not adversely affect current functionality for these services.

Where version is explicitly documented when describing specific types of request, special attention should be given to the effects of changing the version attribute of the Request.

Example Request Using Optional Version Attribute

```
<Request version="2">
  ...
</Request>
```

In the Request, only the Authentication element is used for all DPG Services.

2.1.1.2 Authentication

Element Name:	Authentication
Position:	Request

Element Name	Description	Values / Limitations
client	Specifies the account the transaction will be processed on (vTID)	As advised by DataCash
password	The password for the account.	As advised by DataCash[1]

When your account is setup, DataCash will advise you of the password. This password currently has a maximum lifetime of 12 months, however in an effort to streamline the password expiry process, as of the 18th of September 2012, your DPG password will no longer have an expiry date. The changes remain compliant with PCI DSS regulations. If your DPG password is due to expire prior to this time, please follow the guidelines available below to make the necessary changes for this last compulsory time. Should you still wish to change your DPG password at any given time after the 18 September 2012, the facility to do so is still available?

Further information about generating a new password is available in the Support Centre: http://datacash.custhelp.com/cgi-bin/datacash.cfg/php/enduser/std_adp.php?p_faqid=567

(keyword search "DPG password")

Example XML for Authentication complex elements

```
<Authentication>
   <client>99000001</client>
   <password>mypasswd</password>
</Authentication>
```

2.1.1.3 Response

There are several elements to the Response that are returned regardless of the Service used. These are:

Element Name	**Description**
`Status`	Numeric return code indicating the result of the transaction
`Reason`	A text field expanding on the status of the transaction
`datacash_reference`	The DataCash reference of the transaction.
`Time`	The Unix Timestamp at which the transaction reached the DataCash server
`Mode`	Indicates the current status of your account – one of: live, test or accreditation

There are also the following additional elements that may be returned depending upon the result of the transaction:

Element Name	**Description**
`Information`	If an error is generated, additional information is often returned to allow the source of the error to be identified
`merchant_reference`	Your reference number

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2.2 SINGLE CARD PAYMENTS

2.2.1 *Credit and Debit Card Service*

A technical introduction to this Service is available on the website:

http://www.datacash.com/gettingproducts.php?id=Bank-Card-Processing-

2.2.1.1 Schema Elements for Request

In this section the required fields for each transaction type will be presented, along with example XML for those fields. The XML is presented in italics for those fields that are not required for all transaction types. If the transaction type is specified in the XML, this is highlighted in the cases where other transaction types can be used in its place.

As not all transaction types use the same fields, each field will be labelled with the following key:

- O - Optional
- R - Required, field must be presented
- X - Excluded, presenting this field will cause the transaction to fail
- M - Mandatory if Available, if the information is available, it should be presented

Please refer to the website for definitions of the transaction types and examples of when you may wish to implement them.

The following keys will be used for each transaction type:

- A - `auth`
- P - `pre`
- R - `refund`
- E – `erp`
- C – `cancel`
- F – `fulfill`
- TR – `txn_refund`
- ARR – `authorize_referral_request`

Initial Transactions with Card details

The `auth`, `pre`, `refund` and `erp` transaction types all require the same information about the transaction to be provided. This data is passed in these distinct places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `CardTxn` – the type and authorisation code, section 2.2.1.1.2
      - `Card` – this contains all the information about the Card, section 2.2.1.1.1
    - `TxnDetails` – contains details of the transaction, section 2.2.1.1.3

Historic Transactions

The cancel, fulfill, txn_refund and authorize_referral_request transaction types all require similar information about the transaction to be provided. This data is passed in these distinct places in the schema:

- Request
  - Authentication – section 2.1.1.2
  - Transaction
    - HistoricTxn – information relating to the original transaction section 2.2.1.1.4
      - Card – this contains all the information about the Card, section 2.2.1.1.1
    - TxnDetails - contains details of the transaction, section 2.2.1.1.3

2.2.1.1.1 Card

Element Name:	Card
Position:	Request.Transaction.CardTxn

Elements of Card						
Element Name	**Description**	**Values / Limitations**	**A**	**P**	**R**	**E**
pan	card number	must be a valid card number between 13 and 19 digits in length	R	R	R	R
expirydate	expiry date for the card	must be passed in mm/yy format	R	R	R	R
startdate	start date for the card	must be passed in mm/yy format	M	M	M	M
issuenumber	issue number of the card	must be one or two digits long	M	M	M	M

The CardInfo files can be used to determine whether a startdate or an issuenumber is required for each card.

Example XML for Card complex elements

```
<Card>
   <pan>444433*********1</pan>
   <expirydate>04/06</expirydate>
</Card>

<Card>
   <pan>675998*********1</pan>
   <expirydate>04/06</expirydate>
   <startdate>01/99</startdate>
   <issuenumber>01</issuenumber>
</Card>
```

2.2.1.1.2 CardTxn

For transactions using card details only. In addition to the basic Card details, the transaction type and authorisation code (if applicable) are sent in the CardTxn element:

Element Name:	`CardTxn`
Position:	`Request.Transaction`

Elements of CardTxn						
Element Name	**Description**	**Values / Limitations**	**A**	**P**	**R**	**E**
`Card`	see section 2.2.1.1.1					
`authcode`	authorisation code received from the bank	If presented, must be value received from Banks Authorisation centre	O	O	O	O

`method`	the transaction type	`auth`
		`pre`
		`refund`
		`erp`
			R	R	R	R

Example XML for CardTxn complex elements

```
<CardTxn>
   <Card>…</Card>
   <authcode>123123</authcode>
   <method>pre<method>
</CardTxn>
```

2.2.1.1.3 TxnDetails

For all transactions:

Element Name:	TxnDetails
Position:	Request.Transaction

Elements of TxnDetails										
Element Name	Description	Values/ Limitations	A	P	R	E	C	F	TR	ARR
merchantreference	A unique reference number for each transaction	Min 6, max 30 alphanumeric characters. Must be unique	R	R	R	R	-	*	-	-
amount	The value of the transaction		R	R	R	R	-	O	O	-
custom_data	Custom data to be stored against the transaction, for view/search in Reporting system	Max 30 alphanumeric characters.	O	O	O	O	O	O	O	O
capture_method	If vTID is set up for more than one capture method,this specifies the transaction's environment.	ecomm cnp cont_auth ivrcapture	O	O	O	O	O	O	O	O

Attributes for Elements of TxnDetails										
Attribute Name	Attribute of Element	Values / Limitations	A	P	R	E	C	F	TR	ARR
currency	amount	Currency is passed in the 3 character ISO 4217 Alphabetic format (Default is GBP) e.g. GBP, USD, EUR	O	O	O	O	O	O	X	-

Note: For fulfill transactions, the merchantreference field is not required. However, if the Merchant is subscribed to the SplitShipment Service and has already fulfilled part of the transaction, the merchantreference field must be presented for any subsequent fulfill transactions submitted on that transaction.

Example XML for TxnDetails complex elements:

Card Transaction

```
<TxnDetails>
   <merchantreference>myreference123459988</merchantreference>
   <amount currency="EUR">146.99</amount>
    <custom_data>1AZ23HHH</custom_data>
</TxnDetails>
```

Historic Transaction

```
<TxnDetails>
   <amount>146.99</amount>
</TxnDetails>
```

Additional fulfill when subscribed to SplitShipment

```
<TxnDetails>
   <amount>146.99</amount>
   <merchantreference>myreference123459988_1</merchantreference>
</TxnDetails>
```

2.2.1.1.4 HistoricTxn

This element is the direct equivalent of the `Card` element (for transactions using card details).

Element Name:	`HistoricTxn`
Position:	`Request.Transaction`

Elements of HistoricTxn						
Element Name	**Description**	**Values / Limitations**	**C**	**F**	**TR**	**ARR**
`reference`	DataCash unique reference of the original transaction	must be a valid transaction	R	R	R	R
`authcode`	DataCash authorisation code of the original transaction. For `fulfill` and `authorize_referral_request`, if the original transaction was referred, then provide the value received from Banks Authorisation centre	-	n/a	R	-	R

`method`	The transaction type	`fulfill`
		`txn_refund`
		`cancel`
		`authorize_referral_request`
			R	R	R	R

Example XML Request for HistoricTxn complex elements

```
<HistoricTxn>
   <reference>4100200039275407</reference>
   <authcode>641413</authcode>
   <method>fulfill</method>
</HistoricTxn>
```

2.2.1.1.4.1 Acquirer Specific Notes
2.2.1.1.5 AdditionalInfo

For the Chase PaymentTech acquirer, an optional reversal=”true” attribute can be supplied within the method element when a cancel is being performed. This has the effect of attempting an online transaction reversal with the acquirer, in addition to excluding the transaction from the settlement file.AdditionalInfo

Element Name	AdditionalInfo
Position	Request.Transaction.TxnDetails
Children	Yes
Attributes	No

Elements of AdditionalInfo

Element Name	Description	Values/Limitations	Required
addendumdata			O
risk_bypass		Y/N	O
CustomerInfo	See below		O

2.2.1.1.6 CustomerInfo

Element Name	`CustomerInfo`
Position	`Request.Transaction.TxnDetails.AdditionalInfo`
Children	`Yes`
Attributes	`No`

Elements of CustomerInfo			
Element Name	**Description**	**Values/Limitations**	**Required**
`customer_ip_address`	IP Address	Must be a valid IP Address	O

2.2.1.2 XML Examples Requests

2.2.1.2.1 Transactions with Card Details

Example XML Request for refund

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>*****</password>
   </Authentication>
   <Transaction>
      <CardTxn>
         <Card>
            <pan>633300*********1</pan>
            <expirydate>04/06</expirydate>
            <startdate>01/04</startdate>
         </Card>
         <method>refund</method>
      </CardTxn>
      <TxnDetails>
         <merchantreference>1000001</merchantreference>
         <amount currency="GBP">95.99</amount>
          <custom_data>1AZ23HHH</custom_data>
      </TxnDetails>
   </Transaction>
</Request>
```

If the `method` is changed, the same XML could also be used for `auth`, `pre` and `erp` transactions.

Example XML Request for pre with an authcode

```xml
<Request>
   <Authentication>
      <client>99000001</client>
      <password>*****</password>
   </Authentication>
   <Transaction>
      <CardTxn>
         <Card>
            <pan>444433*********1</pan>
            <expirydate>12/08</expirydate>
            <startdate>03/05</startdate>
         </Card>
         <authcode>439673</authcode>
         <method>pre</method>
      </CardTxn>
      <TxnDetails>
         <merchantreference>1000023</merchantreference>
         <amount currency="USD">1800.00</amount>
      </TxnDetails>
   </Transaction>
</Request>
```

2.2.1.2.2 Historic Transactions

Example XML Request for cancel

```xml
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <reference>4900200000000001</reference>
         <method>cancel</method>
      </HistoricTxn>
   </Transaction>
</Request>
```

Example XML Request for fulfill

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount>25.00</amount>
      </TxnDetails>
      <HistoricTxn>
         <reference>4900200000000001</reference>
         <authcode>A6</authcode>
         <method>fulfill</method>
      </HistoricTxn>
   </Transaction>
</Request>
```

Example XML Request for an additional fulfill when configured for SplitShipment

```
<Request>
  <Authentication>...</Authentication>
  <Transaction>
    <HistoricTxn>
      <authcode>534872</authcode>
      <reference>4400201011754019</reference>
      <method>fulfill</method>
    </HistoricTxn>
    <TxnDetails>
      <amount>30.99</amount>
      <merchantreference>fulfill_2</merchantreference>
    </TxnDetails>
  </Transaction>
</Request>
```

Example XML Request for a txn_refund

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount>10.00</amount>
      </TxnDetails>
      <HistoricTxn>
         <reference>3100000088888888</reference>
         <method>txn_refund</method>
      </HistoricTxn>
   </Transaction>
</Request>
```

Example XML Request for an authorize_referral_request

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <reference>3100000088888888</reference>
         <authcode>A6</authcode>
         <method>authorize_referral_request</method>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.2.1.3 Schema Elements for Response

In addition to the elements covered in this section, Responses for this Service will also contain the general Response elements, as described in section 2.1.1.3.

2.2.1.3.1 CardTxn

Element Name:	`CardTxn`
Position:	`Response`

Element Name	Description	Values / Limitations
`issuer`	The Card Issuing Bank, if known	
`card_scheme`	The Card Scheme, if known. Current values which may be returned are listed	- American Express - Arval Fuel Card - ATM - Debit Mastercard - Diners Club - Discover - Duet - EnRoute - GE Capital - JCB - Key Fuels Card - Laser - Maestro - Mastercard - Platima - Solo - PPT - RBS Gift Card - ReD Fuel Card - Red Liquid Fuel Card - UK Fuel Card - VISA - VISA Debit - VISA Electron - Visa Purchasing
`country`	The Country of Issue, if known	
`authcode`	Authorisation code for successful transactions. Additional information from the bank if declined or referred	

Example XML Response for CardTxn complex elements

```
<CardTxn>
  <authcode>01HD</authcode>
  <card_scheme>Visa</card_scheme>
  <country>France</country>
  <issuer>Credit Lyonnais</issuer>
</CardTxn>
```

2.2.1.4 XML Example Responses

There are various results that can be returned for transactions. These can be clustered into two groups:

- Bank Responses – the transaction is submitted to the bank
- Error codes – an error occurred which prevented the transaction from being sent to the bank

If the transaction is submitted to the bank, the bank can either accept, decline or refer the transaction. Please refer to the website for additional information on why transactions can be declined or referred.

Status	Meaning
1	The bank has authorised the transaction
7	The bank has declined or referred the transaction
All others	All other responses are error codes

As there are many different return codes, this document only contains examples for status 1 and 7. A complete list of Response Codes for this service is available on the website. The Support Centre also contains extensive examples for most error codes, with illustrations of how they would appear in both Reporting and an XML Response, plus suggestions to prevent them occurring.

- Support Centre
- Website

2.2.1.4.1 Initial Transactions

Example XML Response for an authorised initial transaction

```
<Response>
   <CardTxn>
      <authcode>060642</authcode>
      <card_scheme>Mastercard</card_scheme>
      <country>United Kingdom</country>
      <issuer>HSBC</issuer>
   </CardTxn>
   <datacash_reference>3000000088888888</datacash_reference>
   <merchantreference>1000001</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1071567305</time>
</Response>
```

Example XML Response for a REFERRED transaction

```
<Response>
   <CardTxn>
      <authcode>CALL AUTH CENTRE</authcode>
      <card_scheme>Mastercard</card_scheme>
      <country>United Kingdom</country>
      <issuer>BARCLAYS BANK PLC</issuer>
   </CardTxn>
   <datacash_reference>3100000088888123</datacash_reference>
   <merchantreference>1000113</merchantreference>
   <mode>LIVE</mode>
   <reason>REFERRED</reason>
   <status>7</status>
   <time>1134692433</time>
</Response>
```

Example XML Response for a DECLINED transaction

```
<Response>
   <CardTxn>
      <authcode>DECLINED</authcode>
      <card_scheme>Mastercard</card_scheme>
      <country>United Kingdom</country>
   </CardTxn>
   <datacash_reference>4400200045583767</datacash_reference>
   <merchantreference>AA004630</merchantreference>
   <mode>TEST</mode>
   <reason>DECLINED</reason>
   <status>7</status>
   <time>1169223906</time>
</Response>
```

2.2.1.4.2 Historic Transactions

Example XML Response for a successful cancel

```
<Response>
   <datacash_reference>4900200000000001</datacash_reference>
   <merchantreference>4900200000000001</merchantreference>
   <mode>TEST</mode>
   <reason>CANCELLED OK</reason>
   <status>1</status>
   <time>1151567456</time>
</Response>
```

Example XML Response for a successful fulfil

```xml
<Response>
   <datacash_reference>3900200000000001</datacash_reference>
   <merchantreference>3900200000000001</merchantreference>
   <mode>LIVE</mode>
   <reason>FULFILLED OK</reason>
   <status>1</status>
   <time>1071567356</time>
</Response>
```

Example XML for a successful txn_refund

```xml
<Response>
   <datacash_reference>4000000088889999</datacash_reference>
   <HistoricTxn>
      <authcode>896876</authcode>
   </HistoricTxn>
   <merchantreference>4100000088888888</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1071567375</time>
</Response>
```

Example XML Response for a successful authorize_referral_request

```xml
<Response>
   <datacash_reference>3900200000000001</datacash_reference>
   <merchantreference>3900200000000001</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1071567356</time>
</Response>
```

2.2.1.4.2.1 Acquirer Specific Notes

As mentioned in the Acquirer Specific Notes (section 2.2.1.1.4.1) for the XML request, the following is returned as a response to a Chase PaymentTech cancellation where the `method` attribute `reversal=”true”` was supplied:

Example XML Response for a successfully reversed cancellation

```
<Response>
   <datacash_reference>4100900012345675</datacash_reference>
   <merchantreference>4100900012345675</merchantreference>
   <mode>TEST</mode>
   <reason reversal="success">CANCELLED OK</reason>
   <status>1</status>
   <time>1071567390</time>
</Response>
```

This additional attribute indicates the results of the online reversal. This could be `‘success’`, `‘failed’` or `‘not attempted’`.

2.2.2 *Additional Data (American Express ISO8583)*

The following complex elements are specific to merchants subscribed to the American Express ISO8583 service.

Element Name:	AdditionalData
Position:	Request.Transaction.TxnDetails

Element Name	Description
ITD	This element should be provided for Ecommerce transactions (See section 2.2.2.1). This block cannot be used in conjunction with the IAC element (Ecommerce Airline Transactions). In the case where your transaction involves the sale of airline tickets, just send the IAC and not the ITD.
IAC	This element should be provided for Ecommerce Airline transactions. It should be populated in addition to the standard Request.Transaction.TxnDetails.AirlinesDetails elements. See section 2.2.2.2
AAV	This element can be provided in addition to the standard Cv2Avs element. It allows additional Cv2Avs data to be sent. See section 2.2.2.3

2.2.2.1 ITD

This block should only be sent for standard Ecommerce transactions that **do not** involve the sale of Airline Tickets. If the transaction involves the sale of Airline tickets, send the IAC block instead.

Element Name:	ITD
Position:	Request.Transaction.TxnDetails.AdditionalData

Element Name	Description	Values / Limitations
customer_email	The customer's E-Mail address. Example: customer@example.com	Valid E-Mail format, Max 60 Bytes
customer_hostname	The customer's hostname.	Valid FQDN format, Max 60 Bytes
http_browser_type	The customers browser type.	Max 60 Bytes
ship_to_country	The country code for the shipping destination.	Max 3 Bytes
shipping_method	The shipping method used to deliver the product or service associated with the transaction.	• 01 - Same day • 02 - Overnight / next day • 03 - Priority 2-3 days • 04 - Ground, 4 or more days • 05 - Electronic delivery • 06 - ZZ - Reserved
MerchantProductSKU	See section 2.2.2.1.1	Up to 5 sub-elements can be supplied in this block.
customer_ip	The customer's IP address.	Valid IP Address Format, Max 15 Bytes
customer_ani	ANI (Automatic Number Identification) specified phone number that the customer used to place the order. Example: 6025551212	Numeric, Max 10 Bytes
customer_ii_digits	Telephone company-provided ANI information identifier (II) digits associated with customer_ani field above. II digits indicate the call type. For example, cellular (61-63), payphone (27), toll free (24, 25) etc.	Numeric, Max 2 Bytes

2.2.2.1.1 Merchant Product SKU

Element Name:	`MerchantProductSku`
Position:	`Request.Transaction.TxnDetails.AdditionalData.ITD`

Element Name	Description	Values / Limitations
`sku`	Unique SKU (Stock Keeping Unit) inventory reference number of product associated with this authorization request. For multiple items, you should provide the most expensive item first. Up to 5 elements can be supplied.	Alphanumeric & Special Characters, Max 15 Bytes.

Example XML for a MerchantProductSku Element

```
…
   <ITD>
    ...
     <MerchantProductSku>
      <sku>AB1</sku>
      <sku>EH5</sku>
     </MerchantProductSku>
    ...
   </ITD>
...
```

2.2.2.2 IAC

This block should be sent for Ecommerce Airline transactions where the sale of airline tickets is involved. If there are no airline tickets involved, send the ITD block instead.

Element Name:	`IAC`
Position:	`Request.Transaction.TxnDetails.AdditionalData`

Element Name	Description	Values / Limitations
`departure_date`	The flight departure date.	YYYYMMDD, Max 8 Bytes
`PassengerName`	This element contains the passengers name and other details. See section 2.2.2.2.1	
`origin`	The 3 character IATA airport code for the departure airport.	Max 5 Bytes
`dest`	The 3 character IATA airport code for the destination airport.	Max 5 Bytes
`RoutingCities`	Up to 10 city sub-elements can be supplied in this block. See section 2.2.2.2.2	
`AirlineCarriers`	Up to 9 airline sub-elements can be supplied in this block. See section 2.2.2.2.3	
`farebasis`	Primary & secondary discount codes indicate class of service and fare level associated with ticket. Truncate at 24 bytes, if necessary.	Max 24 Bytes
`number_of_passengers`	The number of passengers travelling.	Numeric, 3 Bytes
`customer_ip`	The customer's IP address.	Valid IP Address Format, Max 15 Bytes
`customer_email`	The customer's E-Mail address.	Valid E-Mail format, Max 60 Bytes

2.2.2.2.1 Passenger Name

Element Name: `PassengerName`
Position: `Request.Transaction.TxnDetails.AdditionalData.IAC`

Element Name	Description	Values / Limitations
`Surname`	The customer's surname.	Max 40 Bytes
`Firstname`	The customer's firstname	Max 40 Bytes
`middle_initial`	The customer's middle initial(s)	Max 40 Bytes
`title`	The customers honorific.	Max 40 Bytes

Example XML for a PassengerName Element

```
…
<IAC>
     ...
   <PassengerName>
      <surname>Bloggs</surname>
      <firstname>Fred</firstname>
      <middle_initial>J</middle_initial>
      <title>Mr</title>
   </PassengerName>
     ...
 </IAC>
...
```

2.2.2.2.2 Routing Cities

Element Name:	`RoutingCities`
Position:	`Request.Transaction.TxnDetails.AdditionalData.IAC`

Element Name	Description	Values / Limitations
`city`	Up to 10 city sub-elements can be supplied in this block. The city elements should contain the Routing Airport or City Codes for each leg on the ticket (including the origin and dest).	Max 5 Bytes per sub-element

Example XML for a RoutingCities Element

```
…
<IAC>
     ...
   <RoutingCities>
      <city>SIG</city>
      <city>SYD</city>
   </RoutingCities>
     ...
  </IAC>
...
```

2.2.2.2.3 Airline Carriers

Element Name:	`AirlineCarriers`
Position:	`Request.Transaction.TxnDetails.AdditionalData.IAC`

Element Name	Description	Values / Limitations
`airline`	Up to 9 airline sub-elements can be supplied in this block. The Airline Carrier Code for each leg on the ticket should be provided (including origin and dest). Note that each leg must have an entry, even if multiple or all legs are on the same airline.	2 Character ICAO Airline Designator, Max 5 Bytes

Example XML for a AirlineCarriers Element

```
…
<IAC>
    ...
   <AirlineCarriers>
     <airline>AB</airline>
     <airline>CD</airline>
     <airline>EF</airline>
   </AirlineCarriers>
    ...
  </IAC>
...
```

2.2.2.3 AAV

This should be provided in addition to the standard Cv2Avs block.

Element Name:	AAV
Position:	Request.Transaction.TxnDetails.AdditionalData

Element Name	Description	Values / Limitations
cm_billing_postal_code	The Card Member billing postal code.	Max 9 Bytes
cm_billing_street_address	The Card Member billing street address.	Max 20 Bytes
cm_first_name	The Card Member first name.	Max 15 Bytes
cm_last_name	The Card Member surname.	Max 30 Bytes
cm_phone_number	The Card Member telephone number	Max 10 Bytes
ship_to_postal_code	The shipping postal code.	Max 9 Bytes
ship_to_address	The shipping address.	Max 50 Bytes
ship_to_first_name	The shipping first name.	Max 15 Bytes
ship_to_last_name	The shipping last name.	Max 30 Bytes
ship_to_phone_number	The shipping phone number.	Max 10 Bytes
ship_to_country_code	The shipping destination country code.	Max 3 Bytes

2.2.2.4 Example XML

Please note that the following snippet is an example. In reality the ITD and IAC elements would never be submitted in the same request. The ITD block should be sent for standard Ecommerce transactions, whereas the IAC block should be sent instead of the ITD for Airline Ecommerce transactions.

Partial XML Request showing the AdditionalData Elements.

```
<Request>
   ...
  <TxnDetails>
     ...
    <AdditionalData>
      <ITD>
       <customer_email>example@example.com</customer_email>
       <customer_hostname>example.com</customer_hostname>
        <http_browser_type>Mozilla /4,0</http_browser_type>
        <ship_to_country>840</ship_to_country>
        <shipping_method />
        <MerchantProductSku>
          <sku>AB1</sku>
          <sku>EH5</sku>
        </MerchantProductSku>
        <customer_ip>127.0.0.1</customer_ip>
        <customer_ani>441315388400</customer_ani>
        <customer_ii_digits>27</customer_ii_digits>
      </ITD>
      <IAC>
        <departure_date>20110231</departure_date>
        <PassengerName>
          <surname>Bloggs</surname>
          <firstname>Fred</firstname>
          <middle_initial>J</middle_initial>
          <title>Mr</title>
        </PassengerName>
        <origin>EDI</origin>
        <dest>AMS</dest>
        <RoutingCities>
          <city>SIG</city>
          <city>SYD</city>
        </RoutingCities>
        <AirlineCarriers>
          <airline>AB</airline>
          <airline>CD</airline>
          <airline>EF</airline>
        </AirlineCarriers>
        <farebasis>ABC12345</farebasis>
        <number_of_passengers>2</number_of_passengers>
        <customer_ip>192.168.1.1</customer_ip>
        <customer_email>customer@example.com</customer_email>
      </IAC>
      <AAV>
        <cm_billing_postal_code>EH6 7EZ</cm_billing_postal_code>
        <cm_billing_street_address>14, Links
    Place</cm_billing_street_address>
```

```
         <cm_first_name>Joe</cm_first_name>
         <cm_last_name>Bloggs</cm_last_name>
         <cm_phone_number>441315388400</cm_phone_number>
         <ship_to_postal_code>7446</ship_to_postal_code>
         <ship_to_address>No 1 Waterview</ship_to_address>
         <ship_to_first_name>Fred</ship_to_first_name>
         <ship_to_last_name>Bloggs</ship_to_last_name>
         <ship_to_phone_number>27215284500</ship_to_phone_number>
         <ship_to_country_code>710</ship_to_country_code>
       </AAV>
     </AdditionalData>
     ...
   </TxnDetails>
   ...
  </Request>
```

2.2.3 *Misc Customer Info*

Misc Customer Info can be provided with the majority of transaction types. To use this service it must be configured on your account by DataCash support.

The following complex element can be sent in the request XML and will be captured and stored alongside the transaction by DataCash.

Element Name:	`MiscCustomerInfo`
Position:	`Request.Transaction.TxnDetails`

Element Name	Description	Values / Limitations
`firstname`	The customer's first name.	Max 50 Characters.
`lastname`	The customer's last name / surname.	Max 50 Characters.
`email`	The customer's E-Mail address. Example: customer@example.com	Valid E-Mail format. Max 255 Characters.
`language`	The country code for the shipping destination.	Max 20 Characters.
`Country`	The customers country.	Max 50 Characters.

2.2.4 *Line Item Detail*

A technical introduction to this Service is available on the website:

http://www.datacash.com/gettingproducts.php?id=Corporate-Purchasing-

This service is utilised by sending a normal Credit and Debit Card Service Request with additional information. This section of documentation assumes the Credit and Debit Card Service has already been integrated and the reader is familiar with it. The Credit and Debit Card Service is described in section 2.2.1.

Please bear in mind that the `amount` field must be reconciled with the `line items`. The `amount` field should contain the gross amount, after tax and (where appropriate) shipping and discounts. In order to compensate for rounding errors, a tolerance of one minor currency unit per line item element is allowed.

When using the Line Item Detail Service, the transaction methods `auth`, `pre`, `refund`, `erp` and `txn_refund` can all be submitted. However, if you are using the `pre` and `erp` methods, the full amount must be fulfilled – partial fulfills cannot be used. The `txn_refund` method can also be used, providing the full value of the original transaction is refunded in one step. If a partial `fulfill`, or `txn_refund` is performed, the amount would not reconcile with the line items.

2.2.4.1 Schema Elements for Request

In this section, the fields that can be presented with Line Item Detail transactions will be presented along with example XML for those fields.

To process Visa or American Express Corporate Purchasing Cards, one can make use of the `LineItemDetail` schema element:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails`
      - `LineItemDetail` – information relating to the whole order, section 2.2.4.1.5
        - `Shipping` – details about the delivery, section 2.2.4.1.2
          - `AddressDetail` – details about the delivery address, section 2.2.4.1.1
        - `Items` – allows detail of each item to be passed, section 2.2.4.1.3
          - `Item` – detailed information about a single item, section 2.2.4.1.4

As the fields which can be provided depend upon the Acquiring Bank you are using, each field will be labelled with the following key:

- *O* - Optional
- *R* - Required, field must be presented
- *X* - Excluded, presenting this field will cause the transaction to fail
- *M* - Mandatory if available; if the information is available, it should be presented

2.2.4.1.1 AddressDetail

The fields within this element can only be presented for holders of American Express cards when the cardholder is billed in a different country from the supplier (a cross border transaction). If you are submitting such a transaction, it is recommended that these fields are provided.

Submitting this information for a non-American Express transaction, or an American Express non-cross border transaction will cause the transaction to be rejected.

Element Name	`AddressDetail`
Position	`Request.Transaction.TxnDetails.LineItemDetail.Shipping`
Children	`Yes`
Attributes	`Yes`

Elements of AddressDetail					
Attribute Name	**Description**	**Values/Limitations**	**Amex**	**Amex, cross border**	**NWS**
`side`	Designates whether the source or destination address	"source" or "destination"	X	R	X

Elements of AddressDetail					
Element Name	**Description**	**Values/Limitations**	**Amex**	**Amex, cross border**	**NWS**
`address`	A single line of the address. Between one and four such lines may be submitted, distinguished by the line attribute	Alphanumeric, up to 40 characters. line attribute should be a single digit between 1 and 4	X	R	X
`postcode`	The postal code for the address	Alphanumeric, up to 10 characters	X	R	X
`country`	ISO numeric code for the address	Numeric, 3-digit ISO code. For example, UK=826, France=250 etc.	X	R	X

XML Example element for AddressDetail

```
<AddressDetail side="source">
   <address line="1">My Company</address>
   <address line="2">My Street</address>
   <address line="3">Mytown</address>
   <postcode>MP1 1AB</postcode>
   <country>826</country>
</AddressDetail>

<AddressDetail side="destination">
   <address line="1">Ma Maison</address>
   <address line="2">Ma Rue</address>
   <postcode>75123</postcode>
   <country>250</country>
</AddressDetail>
```

2.2.4.1.2 Shipping

Optional shipping information may be submitted for a CPC transaction. In the case of American Express, whilst this information may be submitted, it is not used by their systems at present (with the exception of the AddressDetail information discussed above). In particular, shipping should *not* be used in invoice reconciliation for American Express transactions.

Element Name	Shipping
Position	Request.Transaction.TxnDetails.LineItemDetail
Children	Yes
Attributes	No

Attributes of Shipping

Element Name	Description	Values / Limitations	Amex	NWS
AddressDetail	See section 2.2.4.1.1			
destinationcountrycode	Country code of the destination	ISO Alphabetic 3 characters	O	O
destinationpostalcode	Postcode to send to	Alphanumeric up to 10 characters	O	O
shipfrompostalcode	Postcode of the source	Alphanumeric up to 10 characters	O	O
shippingamount	Net (pre-tax) cost of shipping	Numeric	O	O
shippingVATrate	Percentage rate at which shipping is taxed	Numeric	O	O

XML Example elements for Shipping

```
<Shipping>
  <destinationcountrycode>GBR</destinationcountrycode>
  <destinationpostalcode>EH1 1AB</destinationpostalcode>
  <shipfrompostalcode>SW19</shipfrompostalcode>
  <shippingamount>5.95</shippingamount>
  <shippingVATrate>17.5</shippingVATrate>
</Shipping>
```

2.2.4.1.3 Items

Element Name	`Items`
Position	`Request.Transaction.TxnDetails.LineItemDetail`
Children	`Yes`
Attributes	`No`

Elements of Items		
Element Name	**Description**	**Values/Limitations**
`Item`	An individual line item, as described below	At least one item element must be submitted per transaction

Example XML is shown in section 2.2.4.1.4.

2.2.4.1.4 Item

Details of the individual line items are submitted here.

Element Name	`Item`
Position	`Request.Transaction.TxnDetails.LineItemDetail.Items`
Children	`Yes`
Attributes	`No`

Attributes of Item			
Element Name	**Description**	**Required**	**Values/Limitations**
`commoditycode`	The commodity code for this purchase	N	Four-digit commodity code. See Appendix 1 for a list.
`description`	Description of the item	Y	Alphanumeric up to 26 characters (Barclays, Natwest), or 40 characters (Amex).

discountamount	The item-level discount for this item	N	Numeric. Not supported by American Express
product_code	Merchant’s product code	N	Alphanumeric up to 12 characters
quantity	The number of units	Y	Numeric
totalamount	The total Net (pre-VAT) cost of the items	Y	Numeric. Must reconcile with quantity, unitprice and (where appropriate) discountamount
unitcost	The amount for a single unit	Y	Numeric
unitmeasure	The units in which the items are counted	Y	Alphanumeric up to 12 characters
vatrate	The item-level VAT rate for this item	Y	Numeric

XML Example element for Items and Item

```
<Items>
  <Item>
    <commoditycode>4800</commoditycode>
    <description>Ring Binder</description>
    <unitmeasure>Box</unitmeasure>
    <unitprice>9.99</unitprice>
    <vatrate>17.5</vatrate>
    <quantity>1</quantity>
    <totalamount>9.99</totalamount>
  </Item>
  <Item>
    <commoditycode>4800</commoditycode>
    <description>Photocopier paper</description>
    <unitmeasure>Ream</unitmeasure>
    <unitcost>5.00</unitcost>
    <vatrate>17.5</vatrate>
    <quantity>100</quantity>
    <totalamount>500</totalamount>
  </Item>
</Items>
```

2.2.4.1.5 LineItemDetail

This is where information relating to the order as a whole is submitted. Since each acquiring bank has different requirements, this information is listed with the following key:

Element Name	LineItemDetail
Position	Request.Transaction.TxnDetails

Children	Y
Attributes	N

Elements of LineItemDetail

Element Name	Description	Values/Limitations	NWS	Amex
customercode	Customer-supplied reference field	Alphanumeric, up to 16 characters	R	O
customernumber	Customer-supplied reference field	Alphanumeric, up to 17 characters	N	O
customerref1	Customer-supplied reference field	Alphanumeric, up to 20 characters	N	O
customerref2	Customer-supplied reference field	Alphanumeric, up to 20 characters	N	O
customerVATnumber	The customer's VAT number	Alphanumeric, up to 13 characters	O	O[1]
discountamount	Transaction-level discount amount	Numeric	O	O[2]
merchantVATnumber	The merchant's VAT number	Alphanumeric, up to 13 characters	O	R
originalinvoicenumber	The invoice number of the original transaction (for refunds)	Alphanumeric, up to 12 characters	O	O
originalorderdate	The date on which the order was placed	YYMMDD	O	O
supplierorderreference	The supplier's reference	Alphanumeric, up to 12 characters	O	N
transactionVAT	The total VAT amount for the transaction	Numeric. Must reconcile with the individual amounts and VAT rates of the items	R	R
transactionVATstatus	Should always be '1'	'1'	R	R

Notes:

[1] For American Express transactions, the customer VAT number is required for cross border transactions, and any transaction made by a Belgian merchant.

[2] Whilst the discountamount field may be submitted to American Express, it is currently ignored by their system. In particular, it must *not* be used in invoice reconciliation.

2.2.4.2 XML Example Request

XML Example Transaction for an order with two items

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <CardTxn>
      <method>auth</method>
      <Card>
        <pan>5700********0001</pan>
        <expirydate>10/05</expirydate>
      </Card>
    </CardTxn>
    <TxnDetails>
      <merchantreference>12345601</merchantreference>
      <amount>600.28</amount>
      <LineItemDetail>
        <customercode>CustCode123</customercode>
        <transactionVAT>90.29</transactionVAT>
        <transactionVATstatus>1</transactionVATstatus>
        <merchantVATnumber>7E6G415</merchantVATnumber>
        <Shipping>
          <shippingamount>5.99</shippingamount>
          <shippingVATrate>17.5</shippingVATrate>
        </Shipping>
        <Items>
          <Item>
            <commoditycode>4800</commoditycode>
            <description>Ring Binder</description>
            <unitmeasure>Box</unitmeasure>
            <unitprice>9.99</unitprice>
            <vatrate>17.5</vatrate>
            <quantity>1</quantity>
            <totalamount>9.99</totalamount>
          </Item>
          <Item>
            <commoditycode>4800</commoditycode>
            <description>Photocopier paper</description>
            <unitmeasure>Ream</unitmeasure>
            <unitprice>5</unitprice>
            <vatrate>17.5</vatrate>
            <quantity>100</quantity>
            <totalamount>500</totalamount>
          </Item>
        </Items>
      </LineItemDetail>
    </TxnDetails>
  </Transaction>
</Request>
```

2.2.5 *Airlines Transaction Records*

This service is utilised by sending additional information in an otherwise normal Credit and Debit Card transaction. This section assumes that facility for processing Credit and Debit Card transactions has already been integrated and the reader is familiar with it. Details about the Credit and Debit Card Service are available in section 2.2.1

The DPG will also accept Airline data in a `fulfill` transaction when using the two-stage transaction model. The location of the data in the request XML remains the same. At present this only applies to Airline data.

This service is currently available for merchants using The Royal Bank of Scotland Group (inc Natwest Streamline, Natwest IMS, Ulster Bank, Clydesdale Bank, Yorkshire Bank) , Barclaycard Business and Omnipay.

2.2.5.1 Schema Elements for Request

In this section, the fields associated with Airlines transactions will be presented along with example XML for those fields.

To submit flight itinerary information, one should use the `AirlinesDetails` container element:

- `Request`
  - `Authentication` – section 2.1.1.1.1
  - `Transaction`
    - `TxnDetails`
      - `AirlinesDetails` – information relating to the whole order, section 2.2.5.1.1
        - `Passenger` – details about an individual passenger, section 2.2.5.4
        - `FlightLeg` – allows detail of each leg of the journey, section 2.2.6.4.1

In the following tables, each field will be labelled with the following key:

- *O* - Optional
- *R* - Required, field must be presented

2.2.5.1.1 AirlinesDetails

The `AirlinesDetails` elements contains information relating to the whole order.

Element Name	`AirlinesDetails`
Position	`Request.Transaction.TxnDetails`
Children	`Yes`
Attributes	`No`

2.2.5.3 Elements of AirlinesDetails

Elements of AirlinesDetails			
Element Name	**Description**	**Values/Limitations**	**Required**
`agencyname`	The POS agency name	Alphanumeric, up to 26 characters (for submission to DPG). For BMS merchants: the first 25 characters will be used at settlement	R
`agencycode`	The POS IATA number	Numeric up to 8 characters	R
`airlineplaninvoice`	The airline plan invoice	Alpha numeric, up to 6 characters	O
`airlineplannumber`	The airline plan number	Alphanumeric, up to 2 characters	O
`departurepoint`	The departure point	Three-character origination code	R
`Passenger`	See Section 2.2.5.4		
`FlightLeg`	See Section 2.2.6.4.1		

XML Example elements for AirlinesDetails

```
<AirlinesDetails>
  <agencyname>MyAirlinesAgency</agencyname>
  <agencycode>24681357</agencycode>
  <departurepoint>EDI</departurepoint>
  <Passenger>…</Passenger>
  <Passenger>…</Passenger>
  <FlightLeg number="1">…</FlightLeg>
  <FlightLeg number="2">…</FlightLeg>
  <FlightLeg number="3">…</FlightLeg>
</AirlinesDetails>

<AirlinesDetails>
  <agencyname>MyAirlinesAgency</agencyname>
  <agencycode>12345612</agencycode>
  <airplaninvoice>1234AN</airplaninvoice>
  <airplannumber>12</airplannumber>
  <departurepoint>LON</departurepoint>
  <Passenger>…</Passenger>
  <FlightLeg number="1">…</FlightLeg>
</AirlinesDetails>
```

2.2.5.4 Passenger

There must be at least one passenger per transaction. Where there is more than one person travelling, supplying multiple `Passenger` elements allows the entire transaction to be authorised at once, whilst maintaining the individual invoice information for each passenger. The sum of ticket prices for each passenger should match the `amount` field that forms part of the normal Credit and Debit Card information. This element may repeat as often as necessary.

Element Name	`Passenger`
Position	`Request.Transaction.TxnDetails.AirlinesDetails`
Children	`Yes`
Attributes	`No`

Elements of Passenger

Element Name	Description	Values/Limitations	Required
`passengername`	The passenger's name	Alphanumeric, up to 25 characters	R
`passengerref`	A unique reference for the passenger	Alphanumeric, up to 17 characters for submission to DPG. For BMS merchants: the first 12 characters will be used at settlement	R
`ticketnumber`	Ticket number for the passenger. This may optionally be different for each passenger	14 characters. This usually consists of a 3-character prefix, 10 characters of ticket number and a single check digit at the end. The prefix characters and check digit may optionally be replaced by '0'	R
`ticketprice`	The ticket price for the individual passenger.		R

XML Example element for Passenger

```
<Passenger>
   <passengername>Joe Bloggs</passengername>
   <passengerref>12345678</passengerref>
   <ticketnumber>00024680135790</ticketnumber>
   <ticketprice>199.99</ticketprice>
</Passenger>
```

2.2.5.4.1 FlightLeg

Each transaction may contain details of up to four flight legs. These are each specified in their own `FlightLeg` container element. For a multi-flight leg journey: the point of departure for the first leg will be set to the value supplied in `AirlinesDetails.departurepoint`; the point of departure for subsequent legs will be taken to be the `destination` from the previous leg.

Element Name	`FlightLeg`
Position	`Request.Transaction.TxnDetailsAirlinesDetails`
Children	`Yes`
Attributes	`Yes`

Attributes of FlightLeg			
Attribute Name	**Description**	**Values/Limitations**	**Required**
`number`	The stage of the journey	1, 2, 3 or 4	R

Elements of FlightLeg			
Element Name	**Description**	**Values/Limitations**	**Required**
`carriercode`	Carrier code for this leg	Two character carrier code	R
`class`	Service class of this leg	Single alphanumeric character	R
`departtax`	Depature tax	Numeric, up to 12 digits including decimal point	O
`departuredate`	Date of departure for this leg	Date, as YYYYMMDD	R
`destination`	The destination for this leg	Three-character destination code	R
`farebasiscode`	The fare basis code	Alphanumeric, up to 6 charcters	O
`flight_number`	Flight number for this leg	Alphanumeric, up to 4 characters	O
`stopovercode`	The stop-over code	Alphanumeric, 1 character	O

XML Example elements for FlightLeg

```
<FlightLeg number="1">
   <carriercode>BA</carriercode>
   <class>1</class>
   <departuredate>20040730</departuredate>
   <destination>LHA</destination>
   <flight_number>1234</flight_number>
</FlightLeg>

<FlightLeg number="1">
   <carriercode>BA</carriercode>
   <class>1</class>
   <departtax>12.99</departtax>
   <departuredate>20040730</departuredate>
   <destination>LHA</destination>
   <farebasiscode>1223AB</farebasiscode>
   <flight_number>1234</flight_number>
</FlightLeg>
```

2.2.5.4.2 ISOAirline

The ISOAirline elements contains information relating to the whole order.

Element Name	ISOAirline
Position	Request.Transaction.TxnDetails
Children	Yes
Attributes	No

Elements of AirlinesDetails			
Element Name	**Description**	**Values/Limitations**	**Required**
issuingcarrier	2- or 3-character IATA assigned airline designator.	Alphanumeric	R
customercode	Cardholder supplied code	Alphanumeric, up to 27 characters	R
issuedate	Date of issue	YYMMDD	O
totalfees	Total fees		R
travelagencyname	Name of agency	Alphanumeric	R
ticketnumber	Ticket number	Alphanumeric, up to 15 characters	R
travelagencycode	IATA-assigned Agency code (7 digits plus check		O

	digit).		
totaltaxes	Total taxes		R
totalfare	Total fare		R
pnr		Alphanumeric, up to 6 characters	R
ISOAirlinePassenger	See Section 2.2.5.4.3		
ISOAirlineLeg	See Section 2.2.6.4.4		

XML Example elements for ISOAirline

```
<ISOAirline>
   <issuingcarrier>12</issuingcarrier>
   <customercode>ABCD1234</customercode>
   <issuedate>110101</issuedate>
   <totalfees>1000.00</totalfees>
   <travelagencyname>MyAgency</travelagencyname>
   <ticketnumber>1234ABCD</ticketnumber>
   <travelagencycode>12345678</travelagencycode>
   <totalfare>800.00</totalfare>
   <totaltaxes>200.00</totaltaxes>
   <pnr>123456</pnr>
   <ISOAirlinePassenger>…</ISOAirlinePassenger>
   <ISOAirlineLeg>…</ISOAirlineLeg>
</ISOAirline>
```

2.2.5.4.3 ISOAirlinePassenger

Only details of one passenger may be provided in a transaction with ISO Airline data.

Element Name	ISOAirlinePassenger
Position	Request.Transaction.TxnDetails.ISOAirline
Children	Yes
Attributes	No

Elements of Passenger

Element Name	Description	Values/Limitations	Required
passengername	The passenger's name	Alphanumeric, up to 25 characters	R

XML Example element for ISOAirlinePassenger

```
<ISOAirlinePassenger>
  <passengername>Joe Bloggs</passengername>
</ISOAirlinePassenger>
```

2.2.5.4.4 ISOAirlineLeg

Each transaction may contain details of up to four flight legs. These are each specified in their own ISOAirlineLeg container element. For a multi-flight leg journey, the point of departure for the first leg will be set to the value supplied in ISOAirline.departurepoint and the point of departure for subsequent legs will be taken to be the destination from the previous leg.

Element Name	ISOAirlineLeg
Position	Request.Transaction.TxnDetails.ISOAirline
Children	Yes
Attributes	Yes

Attributes of FlightLeg

Attribute Name	Description	Values/Limitations	Required
number	The stage of the journey	1, 2, 3 or 4	R

Elements of FlightLeg

Element Name	Description	Values/Limitations	Required
conjunctionticket		Alphanumeric, up to 15 characters	R
exchangeticket		Alphanumeric, up to 15 characters	R
couponnumber		Alphanumeric, single characters	O
fare			R
taxes			R
fees			R

endorsement	Endorsement/Restriction	Alphanumeric, up to 20 characters	R
departuredate		YYMMDD	O
departuretime		HHMM	O
originairport	3-character IATA location identifier.		R
arrivaldate		YYMMDD	O
arrivaltime		HHMM	O
destinationairport	3-character IATA location identifier.		R
carriercode	2- or 3-character IATA assigned airline designator.		R
stopovercode		Single alphanumeric character	O
farebasiscode		Alphanumeric, up to 15 characters	R
flightnumber		Alphanumeric, up to 5 characters	R

XML Example elements for ISOAirlineLeg

```xml
<ISOAirlineLeg number="1">
   <conjunctionticket>1234ABCD</conjunctionticket>
   <exchangeticket>2345BCDE</exchangeticket>
   <couponnuber>1</couponnumber>
   <fare>400.00</fare>
   <taxes>100.00</taxes>
   <fees>1.00</fees>
   <endorsement>A1BC23</endorsement>
   <departuredate>110101</departuredate>
   <departuretime>0900</departuretime>
   <originairport>EDI</originairport>
   <arrivaldate>110101</arrivaldate>
   <arrivaltime>1200</arrivaltime>
   <destinationairport>JFK</destinationairport>
   <carriercode>BA</carriercode>
   <serviceclass>1A</serviceclass>
   <farebasiscode>BA</farebasiscode>
   <flightnumber>BA</flightnumber>
</ISOAirlineLeg>
```

2.2.5.5 XML Example Requests

XML Example Transaction for a ticket purchase for multi-leg, single-passenger flight

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <CardTxn>
         <method>auth</method>
         <Card>
            <pan>5700********0001</pan>
            <expirydate>10/05</expirydate>
         </Card>
      </CardTxn>
      <TxnDetails>
         <merchantreference>2345679</merchantreference>
         <amount>1002.00</amount>
         <ISOAirline>
          <issuingcarrier>12</issuingcarrier>
          <customercode>ABCD1234</customercode>
          <issuedate>110101</issuedate>
          <totalfees>2.00</totalfees>
          <travelagencyname>MyAgency</travelagencyname>
          <ticketnumber>1234ABCD</ticketnumber>
          <travelagencycode>12345678</travelagencycode>
          <totalfare>800.00</totalfare>
          <totaltaxes>200.00</totaltaxes>
          <pnr>123456</pnr>
          <ISOAirlinePassenger>
         <passengername>Joe Bloggs</passengername>
         </ISOAirlinePassenger>
         <ISOAirlineLeg number="1">
           <conjunctionticket>1234ABCD</conjunctionticket>
           <exchangeticket>2345BCDE</exchangeticket>
           <couponnuber>1</couponnumber>
           <fare>400.00</fare>
           <taxes>100.00</taxes>
           <fees>1.00</fees>
           <endorsement>A1BC23</endorsement>
           <departuredate>110101</departuredate>
           <departuretime>0900</departuretime>
           <originairport>EDI</originairport>
           <arrivaldate>110101</arrivaldate>
           <arrivaltime>1200</arrivaltime>
           <destinationairport>JFK</destinationairport>
           <carriercode>BA</carriercode>
           <serviceclass>1A</serviceclass>
           <farebasiscode>BA</farebasiscode>
           <flightnumber>BA</flightnumber>
         </ISOAirlineLeg>
         <ISOAirlineLeg number="1">
           <conjunctionticket>3456ABCD</conjunctionticket>
           <exchangeticket>4567BCDE</exchangeticket>
           <couponnuber>1</couponnumber>
           <fare>400.00</fare>
           <taxes>100.00</taxes>
           <fees>1.00</fees>
           <endorsement>A1BC23</endorsement>
           <departuredate>110114</departuredate>
           <departuretime>1000</departuretime>
           <originairport>JFK</originairport>
           <arrivaldate>110101</arrivaldate>
           <arrivaltime>1230</arrivaltime>
           <destinationairport>EDI</destinationairport>
           <carriercode>BA</carriercode>
           <serviceclass>1A</serviceclass>
           <farebasiscode>BA</farebasiscode>
           <flightnumber>BA</flightnumber>
         </ISOAirlineLeg>
       </ISOAirline>
      </TxnDetails>
   </Transaction>
 </Request>
```

2.2.5.6 XML Example Requests

XML Example Transaction for a ticket purchase for multi-leg, multi-passenger flight

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <CardTxn>
      <method>auth</method>
      <Card>
        <pan>5700********0001</pan>
        <expirydate>10/05</expirydate>
      </Card>
    </CardTxn>
    <TxnDetails>
      <merchantreference>2345679</merchantreference>
      <amount>150.00</amount>
      <AirlinesDetails>
        <agencyname>MyAirlinesAgency</agencyname>
        <agencycode>24681357</agencycode>
        <departurepoint>EDI</departurepoint>
        <Passenger>
          <passengername>Joe Bloggs</passengername>
          <passengerref>12345602</passengerref>
          <ticketnumber>ABC09876543210</ticketnumber>
          <ticketprice>100.00</ticketprice>
        </Passenger>
        <Passenger>
          <passengername>Jane Bloggs</passengername>
          <passengerref>12345603</passengerref>
          <ticketnumber>ABC09876543210</ticketnumber>
          <ticketprice>50.00</ticketprice>
        </Passenger>
        <FlightLeg number="1">
          <carriercode>BA</carriercode>
          <destination>LHA</destination>
          <departuredate>20040730</departuredate>
          <class>1</class>
        </FlightLeg>
        <FlightLeg number="2">
          <carriercode>AB</carriercode>
          <destination>JFK</destination>
          <departuredate>20040731</departuredate>
          <class>1</class>
        </FlightLeg>
      </AirlinesDetails>
    </TxnDetails>
  </Transaction>
</Request>
```

XML Example Transaction supplying data in a “fulfill” transaction

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <reference>4100200039275407</reference>
      <method>fulfill</method>
    </HistoricTxn>
    <TxnDetails>
      <AirlinesDetails>
        <agencyname>MyAirlinesAgency</agencyname>
        <agencycode>24681357</agencycode>
        <departurepoint>EDI</departurepoint>
        <Passenger>
          <passengername>Joe Bloggs</passengername>
          <passengerref>12345601</passengerref>
          <ticketnumber>ABC09876543210</ticketnumber>
          <ticketprice>100.00</ticketprice>
        </Passenger>
        <FlightLeg number="1">
          <carriercode>BA</carriercode>
          <destination>LHA</destination>
          <departuredate>20040730</departuredate>
          <class>1</class>
        </FlightLeg>
      </AirlinesDetails>
    </TxnDetails>
  </Transaction>
</Request>
```

2.2.6 *Merchant Narrative*

The Merchant Narrative Service allows merchants to specify the narrative presented on the cardholders statement on a per transaction basis, rather than basing the narrative on static data held by the acquiring bank.

2.2.6.1 Schema Elements for Request

Element Name:	`MerchantNarrative`
Position:	`Request.Transaction.CardTxn` `Request.Transaction.HistoricTxn`

Elements of MerchantNarrative			
Element Name	**Description**	**Values/Limitations**	**Required**
`narrative1`	Merchant Narrative element 1	Maximum 26 characters. The following characters are permitted: Alpha numerics, !”%&’()*+,-./:;<=>?_ Spaces permitted however leading and trailing whitespace will be trimmed	M
`narrative2`	Merchant Narrative element 2	Maximum 26 characters. The following characters are permitted: Alpha numerics, !”%&’()*+,-./:;<=>?_ Spaces permitted however leading and trailing whitespace will be trimmed	M

Either `narrative1`, `narrative2`, or both can be present in the parent `MerchantNarrative` element, however an empty `MerchantNarrative` element will not be permitted.

The `MerchantNarrative` element can only be supplied for the following Bank Card transaction methods:

- `auth`
- `refund`
- `txn_refund`
- `pre`
- `erp`

The Merchant Narrative service is not compatible with the Airlines Transaction Record service.

2.2.6.2 XML Example Request

Example Merchant Narrative Request

```
<Request>

  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>

  <Transaction>
    <TxnDetails>
      <merchantreference>12345601</merchantreference>
      <amount currency="GBP">1000.00</amount>
    </TxnDetails>

    <CardTxn>
      <method>auth</method>
      <Card>
        <pan>XXXXXXXXXXXXXXXX</pan>
        <expirydate>XX/XX</expirydate>
      </Card>
      <MerchantNarrative>
        <narrative1>line1</narrative1>
        <narrative2>line2</narrative2>
      </MerchantNarrative>
    </CardTxn>

  </Transaction>
</Request>
```

2.2.7 *Fuel Card Service*

The Fuel Card service allows merchants to trade with various fuel card acquirers.

Typically this will be via cardholder present terminals, and at the time of writing will involve keyed and swiped transactions only (The majority of fuel cards don't have chips so parked transactions are not supported at the time of writing).

Refunds onto fuel cards are currently unsupported.

2.2.7.1 Schema Elements for Request

Legend

- FV = fuel_validate
- FOAS = fuel_offline_auth_settle
- FOA = fuel_online_auth
- FS = fuel_settle

2.2.7.1.1 FuelCardTxn

For transactions using card details only. In addition to the basic Card details, the transaction type and authorisation code (if applicable) are sent in the `FuelCardTxn` element:

Element Name:	`FuelCardTxn`
Position:	`Request.Transaction`

Elements of FuelCardTxn						
Element Name	**Description**	**Values/Limitations**	**FV**	**FOAS**	**FOA**	**FS**

`method`	The transaction type	`fuel_validate`
		`fuel_offline_auth_settle`
		`fuel_online_auth`
		`fuel_settle`
			R	R	R	R

`Card`	Used for keyed transactions only. See 2.7.1.1 in Card Holder Present section		M	M	M	-
`card_details`	Data read from the magnetic stripe of the card, or equivalent from the ICC	Must be Base64 encoded. Only used for `swiped` transactions	M	M	M	-
`authcode`	authorisation code received from the bank	If presented, must be value received from Banks Authorisation centre	-	M	O	R

`receipt_no`	The EFT transaction number	A one to six digit number. The values taken in FOAS / FS transactions will be used.	O	R	O	R
`odometer_reading`	Distance travelled by vehicle	The odometer reading from the vehicle used in the fuel transaction. Optional	O	O	O	-
`registration_number`	Registration of vehicle	The registration from the vehicle involved in the fuel transaction. Optional.	O	O	O	-
`FuelProducts`	Complex XML element containing details about the products ordered. See FuelProducts section 2.2.8.1.2.		O	O	O	-
`ICC`	See 2.7.1.1.4 in Card Holder Present section		M	M	M	-
`Terminal`	See 2.7.1.1.3 in Card Holder Present section		M	M	M	-

2.2.7.1.2 FuelProducts

This complex element can contain one or more `FuelProduct` elements.

Element Name:	`FuelProducts`
Position:	`Request.Transaction.FuelCardTxn`

Elements of FuelProducts						
Element Name	**Description**	**Values/Limitations**	**FV**	**FOAS**	**FOA**	**FS**
`FuelProduct`	Complex XML element containing details about each product ordered. See section 2.2.8.1.3.		O	O	O	-

2.2.7.1.3 FuelProduct

This complex element contains information about a specific fuel product in a transaction.

Element Name:	`FuelProduct`
Position:	`Request.Transaction.FuelCardTxn.FuelProducts`

Elements of FuelProducts						
Element Name	**Description**	**Values/Limitations**	**FV**	**FOAS**	**FOA**	**FS**
`prod_code`	Sale code of the product ordered	2 alphanumeric characters	O	O	O	-
`prod_quantity`	Quantity of product purchased. (e.g. litres dispensed)	Decimal number	O	O	O	-
`prod_value`	Monetary value of product purchased	Decimal number. Not validated against overall transaction amount.	O	O	O	-

2.2.7.2 XML Request Examples

Example XML for a fuel_validate transaction (keyed)

```
<Request>
  <Authentication>
    <password>#########</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">145.74</amount>
      <merchantreference>74927489274</merchantreference>
      <capturemethod>keyed</capturemethod>
     </TxnDetails>
     <FuelCardTxn>
       <method>fuel_validate</method>
       <Terminal id="88547856">
         <terminal_capabilities ic_reader="true"
magnetic_stripe_reader="true" manual_card_entry="true" />
         <features_capabilities pin_pad_available="true" />
       </Terminal>
       <ICC>
         <term_type>22</term_type>
       </ICC>
       <Card>
         <pan>7019000000######</pan>
         <expirydate>12/15</expirydate>
       </Card>
       <receipt_no>4383</receipt_no>
       <odometer_reading>10000</odometer_reading>
       <registration_number>H702MOF</registration_number>
       <FuelProducts>
         <FuelProduct>
           <prod_code>01</prod_code>
           <prod_quantity>50.22</prod_quantity>
           <prod_value>99.99</prod_value>
         </FuelProduct>
         <FuelProduct>
           <prod_code>05</prod_code>
           <prod_quantity>23.45</prod_quantity>
           <prod_value>45.75</prod_value>
         </FuelProduct>
       </FuelProducts>
     </FuelCardTxn>
  </Transaction>
</Request>
```

Example XML for a fuel_offline_auth_settle transaction (keyed)

```
<Request>
  <Authentication>
    <password>#########</password>
    <client>88000004</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">200.54</amount>
      <merchantreference>94927787</merchantreference>
      <capturemethod>keyed</capturemethod>
     </TxnDetails>
     <FuelCardTxn>
       <method>fuel_offline_auth_settle</method>
       <Terminal id="78547856">
         <terminal_capabilities ic_reader="true"
magnetic_stripe_reader="true" manual_card_entry="true" />
         <features_capabilities pin_pad_available="true" />
       </Terminal>
       <ICC>
         <term_type>22</term_type>
       </ICC>
       <Card>
         <pan>7019000000######</pan>
         <expirydate>12/15</expirydate>
       </Card>
       <receipt_no>7813</receipt_no>
       <odometer_reading>29057</odometer_reading>
       <registration_number>H702MOF</registration_number>
       <FuelProducts>
         <FuelProduct>
           <prod_code>01</prod_code>
           <prod_quantity>100.01</prod_quantity>
           <prod_value>200.54</prod_value>
         </FuelProduct>
       </FuelProducts>
     </FuelCardTxn>
  </Transaction>
</Request>
```

Example XML for a fuel_online_auth transaction (swiped)

```
<Request>
  <Authentication>
    <password>##########</password>
    <client>88000009</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">50.00</amount>
      <merchantreference>1049277874</merchantreference>
      <capturemethod>swiped</capturemethod>
    </TxnDetails>
    <FuelCardTxn>
      <method>fuel_online_auth</method>
      <Terminal id="78547856">
        <terminal_capabilities ic_reader="true"
magnetic_stripe_reader="true" manual_card_entry="true" />
        <features_capabilities pin_pad_available="true" />
      </Terminal>
      <ICC>
        <term_type>22</term_type>
      </ICC>
      <card_details
type="track2_data">############</card_details>
      <receipt_no>45671</receipt_no>
      <odometer_reading>125781</odometer_reading>
      <registration_number>H702MOF</registration_number>
    </FuelCardTxn>
  </Transaction>
</Request>
```

Example XML for a fuel_settle transaction

```
<Request>
  <Authentication>
    <password>##########</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>fuel_settle</method>
      <receipt_no>123456</receipt_no>
      <reference>4800900012345672</reference>
      <authcode>324837</authcode>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.2.7.3 Schema Elements for Response

2.2.7.3.1 Response

Note: See main `response` section 2.1.1.3 for other elements of the response from DataCash.

Element Name:	Response
Position:	

Element Name	Description
acquirer_message	Textual message from the acquirer indicating the transaction outcome
acquirer_response_code	Code returned by acquirer
referral_telephone_number	Base64 encoded referral telephone number. Decode this to get the telephone number to call in the case of an acquirer decline / referral.

2.2.7.3.2 FuelCardTxn

Element Name:	FuelCardTxn
Position:	Response

Element Name	Description
issuer	The Card Issuing Bank, if known
card_scheme	The Card Scheme, if known. Current values which may be returned are listed
country	The Country of Issue, if known
authcode	Authorisation code for successful transactions. Additional information from the bank if declined or referred

2.2.7.4 XML Response Examples

2.2.7.4.1 Successful transactions

Example XML to a successful fuel_online_auth transaction

```
<?xml version="1.0" encoding="UTF-8" ?>
<Response>
  <FuelCardTxn>
    <authcode>100000</authcode>
    <card_scheme>Arval Fuel Card</card_scheme>
    <country>gbr</country>
    <issuer>Arval</issuer>
  </FuelCardTxn>
  <acquirer_message>AUTH CODE:100000</acquirer_message>
  <acquirer_response_code>00</acquirer_response_code>
  <datacash_reference>4900900012345676</datacash_reference>
  <merchantreference>419110205</merchantreference>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1256921756</time>
</Response>
```

Example XML to a successful fuel_settle transaction

```
<?xml version="1.0" encoding="UTF-8" ?>
<Response>
  <datacash_reference>4900900012345676</datacash_reference>
  <merchantreference>419110205</merchantreference>
  <reason>SETTLED OK</reason>
  <status>1</status>
  <time>1253911456</time>
</Response>
```

2.2.7.4.2 Unsuccessful transactions

Example XML to an unsuccessful fuel_online_auth transaction

```
<?xml version="1.0" encoding="UTF-8" ?>
<Response>
  <FuelCardTxn>
    <authcode>DECLINED</authcode>
    <card_scheme>Arval Fuel Card</card_scheme>
    <country>gbr</country>
    <issuer>Arval</issuer>
  </FuelCardTxn>
  <acquirer_message>DECLINED</acquirer_message>
  <acquirer_response_code>05</acquirer_response_code>
  <datacash_reference>4000900012345671</datacash_reference>
  <merchantreference>419110200</merchantreference>
  <reason>DECLINED</reason>
  <referral_telephone_number>MTIzNA==</referral_telephone_number>
  <status>7</status>
  <time>1256921756</time>
</Response>
```

2.2.7.4.3 Invalid transactions

Example XML to an invalid fuel_settle transaction

```
<?xml version="1.0" encoding="UTF-8" ?>
<Response>
  <datacash_reference>4400900012345674</datacash_reference>
  <information>fuel_settle or fuel_offline_auth_settle must contain the
    receipt_no element</information>
  <reason>Fuels: Missing receipt_no element</reason>
  <status>764</status>
  <time>1256923751</time>
</Response>
```

2.2.8 *Hosted Card Capture*

The Hosted Card Capture (HCC) Service enables DataCash to capture sensitive cardholder data on behalf of merchants and process transactions with the captured data. As merchants do not capture and store the cardholder data directly, it is easier for you to comply with the Payment Card Industry security standards.

This service may also be used in conjunction to with either the Card Tokenization Service (section 2.9) or the Payment Tokenization Service (section 2.3.1) to enable the Card Holder to enter only their CVV/CV2 details on the capture page, preventing the need to re-enter their card details.

A technical introduction to this Service is available on the website:
http://www.datacash.com/gettingproducts.php?id=Hosted-Card-Capture

2.2.8.1 Schema Elements for Request

In this section, the required fields for each transaction type are presented along with example XML for those fields.

The following keys will be used for each transaction type:

- S – `setup`
- Q – `query`
- P – a payment transaction, one of: `pre`, `auth`, `refund`, `erp`

Initial setup transaction

The `setup` transaction provides basic details to initiate the Hosted Card Capture session. This data is passed in these distinct places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – contains payment information that will be displayed to the customer, section 2.2.1.1.3.
    - `HpsTxn` – contains all the details specific to the HCC session setup request, section 2.2.8.1.3
      - `Card` – this optional section contains the token for cvv only Card Tokens, section 2.2.8.1.4
    - `DynamicData` – this optional section contains dynamic data to display on the capture page, section 2.2.8.1.5

Query transaction

After a customer has been returned to your website following the data capture process, you may optionally send a `query` transaction. This will allow you to determine whether the data capture was successful, without sending an authorisation. It will also allow you to obtain information about the card details that were supplied.

This data is passed in these distinct places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2

- Transaction
  - HistoricTxn – details of the original setup transaction - section 2.2.1.1.4

Payment Using Captured Details

The auth, pre, refund and erp transaction types all require the same information about the transaction to be provided. This data is passed in these distinct places in the schema:

- Request
  - Authentication – section 2.1.1.2
  - Transaction
    - TxnDetails – see section 2.2.1.1.3.
    - CardTxn – see section 2.2.8.1.2.
      - Card –contains the address information for AVS checking and policy, section 2.2.8.1.4
        - ExtendedPolicy – contains details of the AVSCV2 policy, section 2.4.1.1.2
    - ThreeDSecure – optional section containing all the details required to initiate the 3-D Secure check, section 2.4.4.1.1

2.2.8.1.1 TxnDetails

This element is presented for setup and payment transactions only.

Element Name:	TxnDetails
Position:	Request.Transaction

Elements of TxnDetails					
Element Name	**Description**	**Values / Limitations**	**S**	**Q**	**P**
merchantreference	A unique reference number for each transaction	Minimum 6, maximum 30 alphanumeric characters. Must be unique	R	-	O
amount	The value of the transaction.		R	-	R

Attributes for Elements of TxnDetails		
Attribute Name	**Attribute of Element**	**Values / Limitations**
currency	amount	Currency is passed in the 3 character ISO 4217 Alphabetic format (Default is GBP) e.g. GBP, USD, EUR

Note: if the merchantreference field is not provided for a payment transaction, the DPG will automatically use the same `merchantreference` as the setup.

Example XML for TxnDetail complex elements

```
<TxnDetail>
  <merchantreference>27fh450osdfhjk3hs</merchantreference>
  <amount currency=”AUD”>99.99<amount>
</TxnDetail>
```

2.2.8.1.2 CardTxn

For payment transactions only. In addition to the referencing the HCC `setup`, the transaction type and authorisation code (if applicable) are sent in the CardTxn element:

Element Name:	`CardTxn`
Position:	`Request.Transaction`

Elements of CardTxn		
Element Name	**Description**	**Values / Limitations**
`authcode`	authorisation code received from the bank	Optional element. If presented, must be value received from Banks Authorisation centre
`card_details`	Specifies the DataCash reference of a successful HCC session setup.	Required. Must be a 16-digit DataCash reference.

`method`	the transaction type	`auth`
		`pre`
		`refund`
		`erp`

`Card`	See section 2.2.8.1.4	

Attributes for Elements of CardTxn		
Attribute Name	**Attribute of Element**	**Values / Limitations**
`type`	`card_details`	Specifies the nature of the supplied DataCash reference. For an HCC transaction, it must have the value `from_hps`.

Example XML for CardTxn complex elements

```
<CardTxn>
  <Card>…</Card>
  <card_details type=”from_hps”>4100203022036495</card_details>
  <method>pre<method>
</CardTxn>
```

2.2.8.1.3 HpsTxn

This element must be present for all setup transactions. It should not be presented for other transaction types.

Element Name:	`HpsTxn`
Position:	`Request.Transaction`

Elements of TxnDetails

Element Name	Description	Values / Limitations	Required
`method`	The action that is being requested	Must have the value “setup”	R
`page_set_id`	An ID number that signifies the “page set” that should be used when presenting the data capture screen to the customer.	An integer value of a page set that has already been configured.	R
`return_url`	A URL from the customer’s website. If this value is supplied, then when the data capture process has been completed, the customer will be redirected to this URL instead of the default URL configured within HCC.	Max size 2083.	O
`expiry_url`	A URL from the customer’s website. If this value is specified, the customer will be redirected to this URL instead of the default expiry URL configured within HCC on attempting to visit an expired session.	Max size 208.	O
`cvv_only`	If this element is given the value 1, it signifies that this will be a CVV Only card capture. This means that either a pre-registered card or tokenized card number are being used. The merchant must be subscribed to the HCC CVV Only service for this type of card capture.	A value of 1 means true. A value of 0 means false.	O

Card	The Card element is only required if using the AVSCV2 Service (section 2.4.1), or if a tokenized card number is being presented (section 2.9) for a CVV only transaction.	See section 2.2.8.1.4	
card_details	In a CVV Only card capture, the datacash_reference of the Payment Token (section 2.3.1)	Referenced transaction must have taken place within the previous 13 months, and have a status=1. Mutually exclusive with Card.pan element. cvv_only must be 1.	O

Attributes of elements of HpsTxn				
Attribute Name	**Attribute of Element**	**Description**	**Values / Limitations**	**Required**
type	card_details	Specifies that a Payment Token is being presented for use with the cvv only transaction	hps_prereg	R

Example HpsTxn element for a session setup to capture the cvv number, where the card has previously been captured and tokenized using the Payment Tokenization Service

```
<HpsTxn>
  <method>setup</method>
  <page_set_id>1</page_set_id>
  <cvv_only>1</cvv_only>
  <card_details type="hps_prereg">2185999900000001</card_details>
  <return_url>https://shop.example.com/process</return_url>
  <expiry_url>https://shop.example.com/expired</expiry_url>
</HpsTxn>
```

Example HpsTxn element for a session setup with Dynamic data

```
<HpsTxn>
 <method>setup</method>
 <page_set_id>99</page_set_id>
 <return_url>https://shop.example.com/process</return_url>
 <expiry_url>https://shop.example.com/expired</expiry_url>
  <DynamicData>...</DynamicData>
</HpsTxn>
```

2.2.8.1.4 Card

The `Card` element is only required for `setup` transactions if a tokenized card number is being presented (section 2.9) for a CVV only transaction.

The `Card` element may also be presented for payment transactions if using the AVSCV2 Service (section 2.4.1).

Element Name:	`Card`
Position:	`Request.Transaction.HpsTxn`

Elements of CardTxn				
Element Name	**Description**	**Values / Limitations**	**S**	**P**
`Cv2Avs`	Contains the AVSCV2 policy and address details, if using the AVSCV2 Service – section 2.4.1		-	O
`pan`	A tokenized card number created using the Card Tokenization service (section 2.9).	Mutually exclusive with card_details element. cvv_only must be 1.	R	-

Attributes of elements of Card				
Attribute Name	**Attribute of Element**	**Description**	**Values / Limitations**	**Required**
`type`	`pan`	The Card Token as captured using the Card Tokenization service (section 2.9)	`token`	R

Example Card element for setup

```
<Card>
 <pan type=”token”> 3C12DE55292A13227E14D92C6E8D8F4843D21654</method>
</Card>
```

Example Card element for a payment

```
<Card>
  <Cv2Avs>...</Cv2Avs>
</Card>
```

2.2.8.1.5 DynamicData

This optional element contains values that can be used to replace placeholder values in the card capture page.

Element Name:	`DynamicData`
Position:	`Request.Transaction.HpsTxn`

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Required**
`dyn_data_1`	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_1__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O
`dyn_data_2`	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_2__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O
`dyn_data_3`	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_3__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O
`dyn_data_4`	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_4__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O
`dyn_data_5`	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_5__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O

dyn_data_6	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_6__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O
dyn_data_7	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_7__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O
dyn_data_8	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_8__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O
dyn_data_9	The value intended to replace the placeholder __DYNAMIC_DATA_FIELD_9__ in the card capture page.	Max length: 2048 characters. The value must be enclosed in CDATA tags if it contains HTML.	O

Up to nine values are permitted. If a placeholder value is empty or not present, then the placeholder will be removed from the card capture page that the customer sees.

In order for HTML to be used in placeholder values, the content of the dyn_data element must be enclosed in CDATA tags.

Example DynaminData element containing of HTML enclosed by CDATA tags

```
<DynamicData>
  <dyn_data_1><![CDATA[some <b>dynamic</b> data]]></dyn_data_1>
  <dyn_data_2><![CDATA[more dynamic data]]></dyn_data_2>
</DynamicData>
```

2.2.8.1.1 HistoricTxn

This element is used when performing query transactions

Element Name:	HistoricTxn
Position:	Request.Transaction

Elements of HistoricTxn			
Element Name	**Description**	**Values / Limitations**	
method	The transaction type	query	R
reference	The datacash_reference of the HCC session setup request		R

Example XML Request Fragment for HistoricTxn complex elements

```
<HistoricTxn>
  <reference>3900900100010001</reference>
  <method>query</method>
</HistoricTxn>
```

2.2.8.2 Example XML Requests

2.2.8.2.1 Session setup requests

Example XML request to set up a session, including optional XML elements

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref-123456</merchantreference>
      <amount currency="GBP">100.00</amount>
    </TxnDetails>
    <HpsTxn>
      <method>setup</method>
      <page_set_id>1</page_set_id>
      <return_url>https://shop.example.com/process</return_url>
      <expiry_url>https://shop.example.com/expired</expiry_url>
    </HpsTxn>
  </Transaction>
</Request>
```

Example XML request to set up a session to only capture the cvv number, where the card has previously been captured and tokenized using the Payment Tokenization Service

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref-123456</merchantreference>
      <amount currency="GBP">100.00</amount>
    </TxnDetails>
    <HpsTxn>
      <method>setup</method>
      <page_set_id>1</page_set_id>
      <cvv_only>1</cvv_only>
      <card_details type="hps_prereg">2185999900000001</card_details>
      <return_url>https://shop.example.com/process</return_url>
      <expiry_url>https://shop.example.com/expired</expiry_url>
    </HpsTxn>
  </Transaction>
</Request>
```

Example XML request to set up a session to only capture the cvv number, where the card has previously been captured and tokenized using the Card Tokenization Service

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref-123456</merchantreference>
      <amount currency="GBP">100.00</amount>
    </TxnDetails>
    <HpsTxn>
      <method>setup</method>
      <page_set_id>1</page_set_id>
      <cvv_only>1</cvv_only>
      <Card>
        <pan type="token">
           8466A4B11D4F34227E50FF51A6B9CA946B4871FB</pan>
      </Card>
      <return_url>https://shop.example.com/process</return_url>
      <expiry_url>https://shop.example.com/expired</expiry_url>
    </HpsTxn>
  </Transaction>
</Request>
```

Example XML request to set up a session including DynamicData

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref-123456</merchantreference>
      <amount currency="GBP">100.00</amount>
    </TxnDetails>
    <HpsTxn>
      <method>setup</method>
      <page_set_id>1</page_set_id>
      <return_url>https://shop.example.com/process</return_url>
      <expiry_url>https://shop.example.com/expired</expiry_url>
      <DynamicData>
        <dyn_data_1>
          <![CDATA[some <b>dynamic</b> data]]>
        </dyn_data_1>
        <dyn_data_2>
          <![CDATA[more dynamic data]]>
        </dyn_data_2>
      </DynamicData>
    </HpsTxn>
  </Transaction>
</Request>
```

2.2.8.2.2 Query

Example XML Session Setup Query

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>3900900100010001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.2.8.2.3 Payments

Example XML Card Transaction Using Captured Data

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref123501</merchantreference>
      <amount>1000.00</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <CardTxn>
      <method>auth</method>
      <card_details type="from_hps">4000900012345671</card_details>
    </CardTxn>
  </Transaction>
</Request>
```

Example XML Card Transaction Using Captured Data with Standard CV2AVS policy

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref123501</merchantreference>
      <amount>1000.00</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <CardTxn>
      <method>auth</method>
      <card_details type="from_hps">4000900012345671</card_details>
      <Card>
        <Cv2Avs>
          <street_address1>Flat 7</street_address1>
          <street_address2>89 Jumble Street</street_address2>
          <street_address3>Mytown</street_address3>
          <policy>2</policy>
          <postcode>AV12FR</postcode>
        </Cv2Avs>
      </Card>
    </CardTxn>
  </Transaction>
</Request>
```

Example XML Card Transaction Using Captured Data with 3-D Secure and Standard AVSCV2 policy

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref123501</merchantreference>
      <amount>1000.00</amount>
      <capturemethod>ecomm</capturemethod>
      <ThreeDSecure>
        <verify>yes</verify>
        <merchant_url>https://www.mywebsite.com/</merchant_url>
        <purchase_desc>CDs and DVDs</purchase_desc>
        <purchase_datetime>20120201 23:59:59</purchase_datetime>
        <Browser>
          <accept_headers>*/*</accept_headers>
          <user_agent>IE/6.0</user_agent>
        </Browser>
      </ThreeDSecure>
    </TxnDetails>
    <CardTxn>
      <method>auth</method>
      <card_details type="from_hps">4000900012345671</card_details>
      <Card>
      <Cv2Avs>
        <street_address1>Flat 7</street_address1>
        <street_address2>89 Jumble Street</street_address2>
        <street_address3>Mytown</street_address3>
        <postcode>AV12FR</postcode>
        <policy>6</policy>
      </Cv2Avs>
      </Card>
    </CardTxn>
  </Transaction>
</Request>
```

2.2.8.3 Schema Elements for XML Response

The standard XML response elements are always returned as described within section 2.1.1.3 above.

Additional elements will also be present, depening upon the transaction type/method and outcome.

A successful `setup` is indicated by a status code of 1 being returned. Any another code indicates a rejected request or an error.

For `query` transactions, if the `status` returned has the value "1", then this indicates that the query has been successful. It does not indicate that the queried transaction was successful. A full list of the possible values for the information element are available in this FAQ:

https://datacash.custhelp.com/cgi-bin/datacash.cfg/php/enduser/std_adp.php?p_faqid=1037/

2.2.8.3.1 HpsTxn

This element will only be present for setup and query responses.

Element Name:	HpsTxn
Position:	Response

Elements of HpsTxn			
Element Name	**Description**	**Values**	**Limitations**
capture_status	The current status of the HCC transaction at the time of querying, e.g. "pending", "populated"	pending populated purged_used purged_unused	Only present for query
card_scheme	The Card Scheme, if known.	Possible values are listed in section 2.2.1.3.1	Only present for query if data is populated and scheme is known
country	The three-character ISO country code, indicating the card's country of issue, if known. E.g. "gbr"		Only present for query if data is populated and country is known
cv2_captured	Determines if a CV2 value has been captured during the process of the HCC transaction.	Yes No	Only present for query if data is populated
expirydate	The expiry date of the date in MMYY format		Only present for query if data is populated
hps_url	The HPS URL. This must be added by the merchant.		Only present for successful setup
issuer	The issuer of the card, if known e.g. "Halifax Plc"		Only present for query if data is populated

pan	An obscured version of the card number that shows only the first six and last four digits. The rest of the digits are replaced with asterisks.		Only present for query if data is populated
session_id	A unique value that corresponds to the session that has been set up within the HCC.		Only present for successful setup

The hps_url and session_id should be used by the merchant to re-direct the cardholder to the hosted page.

Example HpsTxn element for a successful session setup

```
<HpsTxn>
  <hps_url>https://dpg.example.com/hps/</hps_url>
  <session_id>1172</session_id>
</HpsTxn>
```

Example HpsTxn elements for query responses

```
<HpsTxn>
  <card_scheme>VISA</card_scheme>
  <country>gbr</country>
  <expirydate>1214</expirydate>
  <issuer>Halifax Plc</issuer>
  <pan>444433******1111</pan>
  <capture_status>populated</capture_status>
  <cv2_captured>No</cv2_captured>
</HpsTxn>

<HpsTxn>
  <capture_status>pending</capture_status>
</HpsTxn>
```

2.2.8.3.2 DynamicCapture

This element only applies for Merchants who have customised their capture page with Dynamic Capture fields. Additional information about Dynamic Capture fields is available in the FAQ:

https://datacash.custhelp.com/cgi-bin/datacash.cfg/php/enduser/std_adp.php?p_faqid=1036/

Note also that this element may only be present within the query response and will only be returned if data was captured.

Element Name:	`DynamicCapture`
Position:	`Response.HpsTxn`

Elements of DynamicCapture			
Element Name	**Description**	**Values / Limitations**	
capf1	Dynamically captured field 1, if entered.	32 chars (max)	URL encoded (except spaces)
capf2	Dynamically captured field 2, if entered.	32 chars (max)	URL encoded (except spaces)
capf3	Dynamically captured field 3, if entered.	32 chars (max)	URL encoded (except spaces)
capf4	Dynamically captured field 4, if entered.	32 chars (max)	URL encoded (except spaces)
capf5	Dynamically captured field 5, if entered.	32 chars (max)	URL encoded (except spaces)
capf6	Dynamically captured field 6, if entered.	32 chars (max)	URL encoded (except spaces)
capf7	Dynamically captured field 7, if entered.	32 chars (max)	URL encoded (except spaces)
capf8	Dynamically captured field 8, if entered.	32 chars (max)	URL encoded (except spaces)
capf9	Dynamically captured field 9, if entered.	32 chars (max)	URL encoded (except spaces)

Example DynamicCapture elements for query responses

```
<DynamicCapture>
  <capf1>John+Doe</capf1>
  <capf2>on</capf2>
</DynamicCapture>
```

2.2.8.4 Example XML Responses

2.2.8.4.1 Session Setup

The following example XML message would be returned in response to a successful session setup request.

Example XML response to a successful session setup

```
<Response>
  <HpsTxn>
    <hps_url>https://dpg.example.com/hps/</hps_url>
    <session_id>1172</session_id>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <merchantreference>mref-123456</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1258553216</time>
</Response>
```

The following XML demonstrates a response to an unsuccessful setup request.

Example XML response to an unsuccessful session setup

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <information>new_session is not a valid HPS method</information>
  <merchantreference>mref-123456</merchantreference>
  <mode>TEST</mode>
  <reason>Invalid transaction type</reason>
  <status>15</status>
  <time>1256046381</time>
</Response>
```

2.2.8.4.2 Query Response

Example XML Query Response For A Successful Data Capture

```
<Response>
  <HpsTxn>
    <card_scheme>VISA</card_scheme>
    <country>gbr</country>
    <expirydate>1214</expirydate>
    <issuer>Halifax Plc</issuer>
    <pan>444433******1111</pan>
    <capture_status>populated</capture_status>
    <cv2_captured>No</cv2_captured>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <information>You have queried an HPS transaction, which has stored
data that has not yet been used</information>
  <merchantreference>mref123401</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1256046399</time>
</Response>
```

Example XML Query Response For A Pending Data Capture

```
<Response>
  <HpsTxn>
    <capture_status>pending</capture_status>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <information>You have queried an HPS transaction, whose data capture
is pending</information>
  <merchantreference>mref123401</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1256046399</time>
</Response>
```

Example XML Query Response For A Successful Data Capture

```
<Response>
  <HpsTxn>
    <card_scheme>VISA</card_scheme>
    <country>gbr</country>
    <expirydate>1214</expirydate>
    <issuer>Halifax Plc</issuer>
    <pan>444433******1111</pan>
    <DynamicCapture>
      <capf1>A. N. Other</capf1>
      <capf3>%3Cid%3Ecat%3C%2Fid%3E</capf3>
      <capf6>cat</capf6>
      <capf9>87</capf9>
    </DynamicCapture>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <information>You have queried an HPS transaction, which has stored
data that has not yet been used</information>
  <merchantreference>mref123401</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1256046399</time>
</Response>
```

Example XML Query Response For A Pending Data Capture

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <information>You have queried an HPS transaction, whose data
capture is pending</information>
  <merchantreference>mref123401</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1256046399</time>
</Response>
```

2.2.8.4.3 Payment Response

There are no changes to the XML response where data captured with HCC has been used. See section 2.2.1.4 for example XML responses.

2.2.9 *Hosted Payment Service*

The Hosted Payment Service (HPS) enables DataCash to capture sensitive cardholder data and authorise payments on behalf of merchants. Unlike the HCC Service, the merchant does not need to send subsequent requests in order to authorise the payment. The session setup contains template values that the HPS system uses to process the payment choice that the customer makes on the HPS card capture page. This can include the data required to allow the customer to pay by card or by PayPal.

Further information on HPS is available on the website:

http://www.datacash.com/gettingproducts.php?id=Fully-Hosted-Payments-Pages-Overview/

2.2.9.1 Schema Elements for Request

In this section, the required fields for all transaction types are presented along with example XML for those fields.

HPS setup_full

The setup_full transaction iniciates the setup of the HPS session. The main sections of setup messages are shown below.

- Request
  - Authentication – section 2.1.1.2
  - Transaction
    - TxnDetails – see also section 2.2.9.1.1. This contains payment information that will be displayed to the customer.
      - ThreeDSecure – see also section 2.4.4.1.1. This contains contains all the details required to initiate the 3-D Secure check.
      - The3rdMan – see also section 2.4.7.1.1 This contains additional information about the customer to be used for Batched Fraud Screening.
    - CardTxn – see also section 2.2.1.1.2. This contains the type of card transaction and other information that will be used if the customer attempts to pay by card.
      - Card – see also section 2.2.1.1.1. In HPS Session Setup, this element is only used as a container for the Cv2Avs element.
        - Cv2Avs – see also section 2.4.3.1.8. This contains cv2 and address details.
    - PayPalTxn – see also section 2.8.1.1.2. This optional element contains all of the details specific to the PayPal transaction, if the customer chooses to pay by PayPal.
    - HpsTxn – this section contains all the details specific to the HPS session setup request, section 2.2.9.1.5

Query of HPS setup_full

At any time following a successful session `setup_full`, a `query` can be sent to determine the current state of the transaction. This can be used to determine which stage of the payment process the customer has reached, and whether a payment attempt has been made successfully:

- Request
  - Authentication – section 2.1.1.2
  - Transaction

- HistoricTxn – section 2.2.9.1.6

Query of Payment attempts

If a query has been submitted on the setup_full, one or more payment attempts may be present in the query response. To obtain detailed information about any of those payment attempts, the Merchant may submit additional query transactions against one or more of those payment attempts (as required). The XML Request elements and XML Requests are the same for both Bankcard and PayPal attempts and are discussed discussed within section 2.8.6.

Fulfillment of Payment attempts

Successful Payment attempts can be fulfilled (as required) as outlined in sections:

- Bankcard payments – use the `fulfill` transaction – section 2.2.1
- PayPal Auth Capture payments – use the `do_capture` transaction – section 2.8.1

Cancellation of Payment

Successful Payment attempts can be cancelled prior to settlement (were appropriate) as outlined in sections:

- Bankcard payments – use the `cancel` transaction – section 2.2.1
- PayPal Auth Capture payments – use the `do_void` transaction – section 2.8.1

Refunding Successful Payments

Successful Payment attempts can be cancelled prior to settlement (were appropriate) as outlined in sections:

- Bankcard payments – use the `txn_refund` transaction – section 2.2.1
- PayPal payments – use the `txn_refund` transaction – section 2.8.1

2.2.9.1.1 TxnDetails

All of the following elements and attributes are mandatory in an HPS session setup request.

Element Name:	TxnDetails
Position:	Request.Transaction

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
ThreeDSecure	as specified in section 2.4.4.1.1	
The3rdMan	as specified in section 2.4.7.1.1	
merchantreference	A unique reference number for each transaction	Minimum 6, maximum 30 alphanumeric characters. Must be unique.

amount	The value of the transaction	

Attributes for Elements of TxnDetails		
Attribute Name	**Attribute of Element**	**Values / Limitations**
currency	amount	Currency is passed in the 3 character ISO 4217 Alphabetic format (Default is GBP) e.g. GBP, USD, EUR

2.2.9.1.2 CardTxn

Element Name: `CardTxn`
Position: `Request.Transaction`

Elements of CardTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
Card	See section 2.2.9.1.3		
method	The transaction type	May only have the values “auth” or “pre”	R

This element is mandatory.

2.2.9.1.3 Card

Element Name: `Card`
Position: `Request.Transaction.CardTxn`

In a Full HPS Session Setup this element can only contain the Cv2Avs element. No other elements are permitted.

Elements of CvsAvs			
Element Name	**Description**	**Values / Limitations**	**Required**
Cv2Avs	as specified in section 2.4.3.1.8 . There are no additional restrictions		O

2.2.9.1.4 PayPalTxn

Element Name: `PayPalTxn`

Position: Request.Transaction

The PayPalTxn element in an HPS Session Setup Request can contain the elements that are specified in section 2.8.1.1.2 that are indicated as permitted in set_express_checkout, get_express_checkout_details, do_express_checkout_payment, do_authorization or do_void with the exceptions of return_url and cancel_url.

The following additional restrictions apply:

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Required**
method	The transaction type	When PayPalTxn is included in an HPS Session Setup, this must have the value set_express_checkout.	R
payment_action	Specifies the type of PayPal service to use (Express Checkout or Auth and Capture).	When PayPalTxn is included in an HPS Session Setup, this must have the value order.	R

The PayPalTxn element should be present if the payment page presented to the customer will have an option to pay by PayPal.

2.2.9.1.5 HpsTxn

Element Name: HpsTxn
Position: Request.Transaction

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Required**
method	The action that is being requested	Must have the value setup_full	R
page_set_id	An ID number that signifies the “page set” that should be used when presenting the data capture screen to the customer.	An integer value of a page set that has already been configured.	R
return_url	A URL from the customer’s website. If this value is supplied, then when the data capture process has been completed, the customer will be redirected to this URL instead of the default URL configured within HPS.	Max size 2083.	O

expiry_url	A URL from the customer's website. If this value is specified, the customer will be redirected to this URL instead of the default expiry URL configured within HPS on attempting to visit an expired session.	Max size 2083.	O

2.2.9.1.6 HistoricTxn

This element should only be presented for `query` transactions.

Element Name:	HistoricTxn
Position:	Request.Transaction

Elements of HistoricTxn			
Element Name	Description	Values / Limitations	
method	The transaction type	query	R
reference	The datacash_reference of the HPS session setup request		R

Example XML Request Fragment for HistoricTxn complex elements

```
<HistoricTxn>
  <reference>3900900100010001</reference>
  <method>query</method>
</HistoricTxn>
```

2.2.9.2 Example XML Requests

2.2.9.2.1 Example Session Setup XML Requests

Example XML request to set up a session, including optional XML elements

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref-123456</merchantreference>
      <amount currency="GBP">100.00</amount>
      <capturemethod>ecomm</capturemethod>
      <ThreeDSecure>
        <verify>yes</verify>
        <merchant_url>https://www.example-merchant.co.uk/</merchant_url>
        <purchase_datetime>20120121 09:31:40</purchase_datetime>
        <purchase_desc>goods</purchase_desc>
        <Browser>
          <accept_headers>*.*</accept_headers>
          <user_agent>Mozilla</user_agent>
        </Browser>
      </ThreeDSecure>
      <The3rdMan>
        ...
      </The3rdMan>
    </TxnDetails>
    <CardTxn>
      <method>pre</method>
      <Card>
        <Cv2Avs>
          <postcode>...</postcode>
          <street_address1>...</street_address1>
          <street_address2>...</street_address2>
          <street_address3>...</street_address3>
          <street_address4>...</street_address4>
          <policy>3</policy>
        </Cv2Avs>
      </Card>
    </CardTxn>
<PayPalTxn>
      <method>set_express_checkout</method>
      <email>foo@example.com</email>
      <max_amount>1000.00</max_amount>
      <description>Twenty NeverFail(tm) Widgets</description>
      <custom>UPS_ID=12345678</custom>
      <invnum>abc123</invnum>
      <req_confirmed_shipping>0</req_confirmed_shipping>
      <no_shipping>0</no_shipping>
      <override_address>0</override_address>
      <localecode>GB</localecode>
      <header_style img="https://www.example.com/header.png/"
bordercolor="black" bgcolor="red" />
      <page_style stylename="My Style" bgcolor="white" />
      <ShippingAddress>
        <name>Test User</name>
        <street_address1>1 Main Terrace</street_address1>
        <street_address2>Highgate</street_address2>
        <city>Wolverhampton</city>
        <region>West Midlands</region>
        <country_code>GB</country_code>
        <postcode>E12 4LQ</postcode>
        <telephone_number>0121 231 3122</telephone_number>
      </ShippingAddress>
    </PayPalTxn>
    <HpsTxn>
      <method>setup_full</method>
      <page_set_id>1</page_set_id>
      <return_url>https://shop.example.com/process/</return_url>
    </HpsTxn>
  </Transaction>
</Request>
```

2.2.9.2.2 Example Query Request

Example XML Session Setup Query

```
<Request>
  <Authentication>
    <password>********</password>
    <client>88000000</client>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>3900900100010001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.2.9.3 Schema Elements for Response

The standard XML response elements are always returned. See 2.1.1.3 above.

Note that for query transactions, if the `status` returned has the value "1", then this indicates that the query has been successful. It does not indicate that the queried transaction was successful.

A successful setup is indicated by a status code of 1 being returned. Any another code indicates a rejected request or an error.

When querying an HPS session setup request, the contents of the "information" element in the response indicate the status of the queried transaction. The values of these are shown in the FAQ:

https://datacash.custhelp.com/cgi-bin/datacash.cfg/php/enduser/std_adp.php?p_faqid=1074

2.2.9.4 HpsTxn

This element may appear for both `setup_full` and `query` Responses. For query responses, it will only appear if the customer has made at least one payment attempt.

Element Name:	`HpsTxn`
Position:	`Response`

Elements of HpsTxn				
Element Name	**Description**	**Limitations**	**S**	**Q**
`AuthAttempts`	See section 2.2.9.4.2		-	O
`datacash_reference`	The datacash_reference of the successful payment attempt	Will only be present if one of the payment attempts was successful	-	O

hps_url	The HPS URL.		O	-
session_id	A unique value that corresponds to the session that has been set up within the HPS.		O	-

The hps_url and session_id should be used by the merchant to re-direct the cardholder to the hosted page.

Example HpsTxn Element for a setup_full transactions

```
<HpsTxn>
   <hps_url>https://testserver.datacash.com/hps/</hps_url>
   <session_id>f2d1530f-bdb3-41f3-97b0-104dc2a48a32</session_id>
</HpsTxn>
```

Example HpsTxn Element for a query transactions

With successful payment:

```
<HpsTxn>
   <AuthAttempts>...</AuthAttempts>
   <datacash_reference>4700201011629830</datacash_reference>
</HpsTxn>
```

without successful attempts:

```
<HpsTxn>
    <AuthAttempts>...</AuthAttempts>
</HpsTxn>
```

2.2.9.4.1 AuthAttempts

This element contains a list of the payment attempts made during the session. This element will only appear if the customer has made at least one payment attempt.

Element Name:	AuthAttempts
Position:	Response.HpsTxn

Example AuthAttempts Element with a query with two payment attempts:

```
<AuthAttempts>
  <Attempt>...</Attempt>
  <Attempt>...</Attempt>
</AuthAttempts>
```

2.2.9.4.2 Attempt

This element provides details of a payment attempt made during the session.

Element Name:	`Attempt`
Position:	`Response.HpsTxn.AuthAttempts`

Elements of Attempt		
Element Name	**Description**	**Values / Limitations**
`datacash_reference`	The datacash reference of the auth attempt for the payment	
`dc_response`	The status code for the result of the attempt	
`reason`	The reason for the auth attempt	

Example AuthAttempt Element for a successful payment attempt:

```
<AuthAttempt>
  <datacash_reference>4700201011629830</datacash_reference>
  <dc_response>1</dc_response>
  <reason>ACCEPTED</reason>
</AuthAttempt>
```

Example AuthAttempt Element for an unsuccessful payment attempt:

```
<AuthAttempt>
  <datacash_reference>4700201011629830</datacash_reference>
  <dc_response>179</dc_response>
  <reason>3DS Payer failed Verification</reason>
</AuthAttempt>
```

2.2.9.4.3 PayPalTxn

This element will be present if submitting a query against a payment attempt which was made via PayPal. It provides details of a payment attempt made during the session.

Element Name:	`PayPalTxn`

Position: `Response`

Elements of HpsTxn		
Element Name	**Description**	**Values / Limitations**

`last_activity`	Indicates that last step of the PayPal express checkout process that was performed as part of the payment attempt.	`set_express_checkout`
		`get_express_checkout_details`
		`do_express_checkout_payment`
		`do_authorization`
		`do_void`
		`do_capture`

Example PayPalTxn XML element when querying a PayPal Attempt

```
  <PayPalTxn>
    <last_activity>get_express_checkout_details</last_activity>
  </PayPalTxn>
```

2.2.9.5 Example XML Responses

2.2.9.5.1 Example Session Setup XML Responses

Example XML response to a successful session setup

```
<Response>
  <HpsTxn>
    <hps_url>https://dpg.example.com/hps/</hps_url>
    <session_id>1172</session_id>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <merchantreference>mref-123456</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1258553216</time>
</Response>
```

Example XML response to an unsuccessful session setup

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <information>new_session is not a valid HPS method</information>
  <merchantreference>mref-123456</merchantreference>
  <mode>TEST</mode>
  <reason>Invalid transaction type</reason>
  <status>15</status>
  <time>1256046381</time>
</Response>
```

2.2.9.5.2 XML Example Query Responses

Example XML Query Response on a setup_full where a successful payment attempt has been made after 2 unsuccessful attempts:

```
<Response>
  <HpsTxn>
    <session_id>1172</session_id>
    <datacash_reference>4000900012345674</datacash_reference>
    <AuthAttempts>
      <Attempt>
       <datacash_reference>4000900012345672</datacash_reference>
        <reason>Declined</reason>
        <status>7</status>
      </Attempt>
      <Attempt>
       <datacash_reference>4000900012345673</datacash_reference>
        <reason>Declined</reason>
        <status>7</status>
      </Attempt>
      <Attempt>
       <datacash_reference>4000900012345674</datacash_reference>
        <reason>ACCEPTED</reason>
        <status>1</status>
      </Attempt>
    </AuthAttempts>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <merchantreference>mref-123456</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>_UNIX_TIME_</time>
</Response>
```

Example XML Query Response on a setup_full where all payment attempts have failed:

```
<Response>
  <HpsTxn>
    <session_id>1172</session_id>
    <AuthAttempts>
      <Attempt>
       <datacash_reference>4000900012345672</datacash_reference>
        <reason>Declined</reason>
        <status>7</status>
      </Attempt>
      <Attempt>
       <datacash_reference>4000900012345673</datacash_reference>
        <reason>Declined</reason>
        <status>7</status>
      </Attempt>
      <Attempt>
<datacash_reference>4000900012345674</datacash_reference>
        <reason>Declined</reason>
        <status>7</status>
      </Attempt>
    </AuthAttempts>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <information>You have queried an HPS transaction, where the all retry
attempts were exhausted.</information>
  <merchantreference>mref-123456</merchantreference>
  <mode>TEST</mode>
  <reason>HPS: The maximum number of retry transaction was
breached</reason>
  <status>822</status>
  <time>_UNIX_TIME_</time>
</Response>
```

2.2.9.5.3 XML Example PayPal Attempt Query Response

Example XML PayPal Attempt Query Response

```
<Response>
  <PayPalTxn>
    <last_activity>get_express_checkout_details</last_activity>
  </PayPalTxn>
  <datacash_reference>4000900012345673</datacash_reference>
  <reason>HPS: Paypal - Waiting for customer to confirm
payment.</reason>
  <status>846</status>
  <time>_UNIX_TIME_</time>
</Response>
```

2.2.10 *Verify Transactions*

The Verify transaction allows Bank Card details to be checked for validity without attempting to authorize a payment.

2.2.10.1.1Schema Elements for Request

2.2.10.1.1.1 TxnDetails

All of the following elements and attributes are mandatory in an HPS session setup request.

Element Name:	`TxnDetails`
Position:	`Request.Transaction`

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
`merchantreference`	A unique reference number for each transaction	Minimum 6, maximum 30 alphanumeric characters. Must be unique.
`amount`	The value of the transaction	Must be 0.00 for a verify transaction

Attributes for Elements of TxnDetails		
Attribute Name	**Attribute of Element**	**Values / Limitations**
`currency`	`amount`	Currency is passed in the 3 character ISO 4217 Alphabetic format (Default is GBP) e.g. GBP, USD, EUR

2.2.10.1.1.2 CardTxn

Element Name:	`CardTxn`
Position:	`Request.Transaction`

Elements of CardTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
`method`	The transaction type	May only have the values “verify”	R

This element is mandatory.

2.2.10.1.1.3 Card

Element Name:	`Card`
Position:	`Request.Transaction.CardTxn`

This element is as specified in 2.2.1.1.1.

2.2.10.1.1.4 Cv2Avs

Element Name:	`Cv2Avs`
Position:	`Request.Transaction.CardTxn.Card`

This element is as specified in section 2.4.3.1.8 . There are no additional restrictions.

Example XML request for Verify

```
<Request>
  <Authentication>
    <password>******</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>12345601</merchantreference>
      <amount currency="GBP">0.00</amount>
    </TxnDetails>
    <CardTxn>
      <method>verify</method>
      <Card>
        <expirydate>01/14</expirydate>
        <pan>4444********1111</pan>
      </Card>
    </CardTxn>
  </Transaction>
</Request>
```

2.2.10.1.2Schema Elements for Response

The response for a verify transaction may contain the same elements as for an auth or pre transaction. See section 2.2.1.3.

A status element of "1" indicates that the card details were successfully verified. Other statuses have the same meanings as for auth or pre transactions.

Example XML response for Verify

```
<Response>
  <CardTxn>
    <authcode>100000</authcode>
    <card_scheme>VISA</card_scheme>
    <country>United Kingdom</country>
  </CardTxn>
  <datacash_reference>4700903000000011</datacash_reference>
  <merchantreference>12345601</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1326294725</time>
</Response>
```

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2.3 Repeat Card Payments

2.3.1 *Payment Tokenization*

A technical introduction to this Service is available on the website:

http://www.datacash.com/gettingproducts.php?id=Payment-Tokenization-Pre-Registered-Card-

2.3.1.1 Schema Elements for Request

In this section the required fields for each transaction type will be presented, along with example XML for those fields. If a transaction type is specified in the XML, this is highlighted to indicate that other transaction types can be used in its place. This document assumes that the Credit and Debit Card Service has already been integrated and the reader is familiar with it.

The data for the Payment Tokenization Service is passed in these distinct places in the schema:

2.3.1.1.1 Request

- `Authentication` - section 2.1.1.2
- `Transaction`
  - `CardTxn` – the `type` and `datacash_reference` of the original transaction, section 2.7.1.1.2
  - `Secure` – to be used if the 3-D Secure check using a 3rd Party MPI is required, section 2.4.6.1.2
  - `Card`
    - `Cv2Avs` – to be used if the CV2AVS check is required, section 2.4.3.1.8
  - `TxnDetails` – section 2.2.1.1.3

- ThreeDSecure – to be used if the 3-D Secure check using the DataCash MPI is required, section 2.4.4.1.1

2.3.1.1.2 CardTxn

The details of the initial Credit and Debit Card transaction, plus the method to be used for the Payment Tokenization transaction are submitted in the CardTxn element. If the CV2AVS check is being used, this information is also presented within this element:

Element Name:	CardTxn
Position(s)	Request.Transaction

Elements of CardTxn		
Element Name	**Description**	**Values / Limitations**
Card	To be used if the CV2AVS check is required.	Please refer to section 2.7.1.1.5
method	The transaction type	auth pre refund erp
card_details	The datacash_reference of the initial transaction	Initial transaction must have taken place within the previous 13 months, and have a status=1

Attributes for Elements of CardTxn		
Attribute Name	**Attribute of element**	**Value**
type	card_details	preregistered

Example XML for CardTxn elements

```
<CardTxn>
   <method>pre</method>
   <card_details type="preregistered">2185999900000001</card_details>
</CardTxn>
```

Example XML for CardTxn elements

```
<CardTxn>
   <method>auth</method>
   <card_details type="preregistered">2185999900000008</card_details>
   <Card>…</Card>
</CardTxn>
```

2.3.1.2 XML Examples Requests

Example XML Request for pre

```
<Request>
  <Authentication>
    <password>******</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>123402</merchantreference>
      <amount currency="USD">249.99</amount>
    </TxnDetails>
    <CardTxn>
      <method>pre</method>
      <card_details type="preregistered">2185999900000001
        </card_details>
    </CardTxn>
  </Transaction>
</Request>
```

If the `method` is changed, the same XML could also be used for `auth`, `refund` and `erp` transactions.

It is also possible to use a Payment Token in conjunction with the HCC service – see section 2.2.9.

For examples with the CV2AVS check, please refer to section 2.4.3.1.8. Examples using 3-D Secure are available in section 2.4.4 (DataCash MPI) and section 2.4.6 (3rd Party MPI).

2.3.1.3 Schema Elements for Response

The Payment Tokenization Service will return same structure of Response as the Credit and Debit Card Service. Please refer to section 2.3.1 of this document.

2.3.1.4 XML Examples Responses

The Payment Tokenization Service will return the same structure of Response as the Credit and Debit Card Service. Examples of successful, declined and referred responses are given in section 2.3.1 of this document.

The initial transaction is older than 13 months, does not exist or was unsuccessful

```xml
<Response>
  <datacash_reference>2185999900005678</datacash_reference>
  <merchantreference>123402</merchantreference>
  <reason>Prereg: Invalid reference</reason>
  <status>250</status>
  <time>1071567305</time>
</Response>
```

The account is not currently configured for the Payment Tokenization Service

```xml
<Response>
  <datacash_reference>2185999900005679</datacash_reference>
  <information>This vTID is not configured to process
    pre-registered card transactions.</information>
  <merchantreference>123403</merchantreference>
  <reason>Prereg: Merchant Not Subscribed</reason>
  <status>251</status>
  <time>1074692433</time>
</Response>
```

2.3.2 *Capture Method Recurring Transactions*

A technical introduction to this Service is available on the website:
http://www.datacash.com/gettingproducts.php?id=Capture-Method-Recurring-Transactions

This service is utilised by sending a normal Credit and Debit Card Service Request with additional information. This section of the documentation assumes the reader is familiar with it. The Credit and Debit Card Service is described in section 2.2.1

2.3.2.1 Schema Elements for Request

In this section the required fields for each capture method type will be presented, along with example XML for those fields. If a capture method is specified in the XML, this is highlighted to indicate that other capture method types can be used in its place.

The data for the Capture Method Recurring Transactions Service is passed in three distinct places in the schema:

2.3.2.1.1 Request

- Authentication - section 2.1.1.2
- Transaction
  - CardTxn – the type and authorisation code, see section 2.2.1.1.2
    - Card – this contains all the information about the Card, section 2.2.1.1.1
  - TxnDetails – contains details of the transaction, see section 2.3.2.1.2

When using this Service, a single extra element is provided within the TxnDetails parent for transactions.

2.3.2.1.2 TxnDetails

Element Name:	TxnDetails
Position(s)	Request.Transaction

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
merchantreference	Please refer to section 2.2.1.1.3	
amount		
capturemethod	Specifies the environment of transaction	ecomm cnp cont_auth ivr

Please note that refund transaction types (including erp and txn_refund) cannot be processed in a cont_auth environment. These should instead be processed using your normal environment flag.

Example XML Elements

```
<TxnDetails>
   <merchantreference>123401</merchantreference>
   <amount currency="GBP">189.00</amount>
   <capturemethod>cont_auth</capturemethod>
</TxnDetails>

<TxnDetails>
   <merchantreference>123402</merchantreference>
   <amount currency="GBP">52.82</amount>
   <capturemethod>cnp</capturemethod>
</TxnDetails>
```

2.3.2.1.2.1 NatWest Merchants

If you are processing transactions through NatWest Streamline, the following additional information should also be presented:

Attributes of child elements in TxnDetails			
Attribute Name	**Element Name**	**Description**	**Values / Limitations**
Streamline_CA_environment	capturemethod	Specifies the environment of original transaction	ecomm cnp

Example XML Elements for NatWest merchants

```
<TxnDetails>
   <merchantreference>123403</merchantreference>
   <amount currency="GBP">249.99</amount>
   <capturemethod>ecomm</capturemethod>
</TxnDetails>


<TxnDetails>
   <merchantreference>123403</merchantreference>
   <amount currency="USD">249.99</amount>
   <capturemethod Streamline_CA_environment="ecomm">
        cont_auth</capturemethod>
</TxnDetails>
```

2.3.2.2 XML Example Request

2.3.2.2.1 Ecomm and CNP Transactions

Example XML Request for an initial ecomm transaction

```
<Request>
   <Authentication>
      <password>******</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>123404</merchantreference>
         <amount currency="GBP">100.00</amount>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>
      <CardTxn>
         <method>pre</method>
         <Card>
            <expirydate>02/06</expirydate>
            <issuenumber>01</issuenumber>
            <startdate>0199</startdate>
            <pan>444433*********1</pan>
         </Card>
      </CardTxn>
   </Transaction>
</Request>
```

If the `capturemethod` above is changed, the same XML could also be used for `cnp` transactions.

When a ‘refund of an existing transaction’ (`txn_refund`) is being performed, the DPG will automatically use the same `capturemethod` as the existing transaction. However, if the existing transaction is a `cont_auth` transaction, the capturemethod should be explicitly set to the normal (i.e. `ecomm` or `cnp`) value.

Example XML Request for a txn_refund

```
<Request>
  <Authentication>
    <password>******</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>123404</merchantreference>
      <amount currency="GBP">100.00</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <HistoricTxn>
      <method>txn_refund</method>
      <reference>4900200000000001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.3.2.2.2 Cont_Auth Transactions

2.3.2.2.2.1 Non-NatWest Merchants

To send a `cont_auth` transaction, non-NatWest merchants can use the same XML Request as shown in section 2.3.2.2.1, merely by changing the value of the `capturemethod`.

2.3.2.2.2.2 NatWest Merchants

Example XML Request for a NatWest recurring transaction

```
<Request>
   <Authentication>
      <password>******</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>123404</merchantreference>
         <amount currency="GBP">100.00</amount>
         <capturemethod
         Streamline_CA_environment="cnp">cont_auth</capturemethod>
      </TxnDetails>
      <CardTxn>
         <method>pre</method>
         <Card>
            <expirydate>02/06</expirydate>
            <issuenumber>01</issuenumber>
            <startdate>0199</startdate>
            <pan>444433*********1</pan>
         </Card>
      </CardTxn>
   </Transaction>
</Request>
```

2.3.3 *Historic Recurring Transactions*

A technical introduction to this Service is available on the website:
http://www.datacash.com/gettingproducts.php?id=Historic-Recurring-Cards

This section of the documentation assumes the reader is familiar with the Credit and Debit Card Service, which is discussed in section 2.2.1.

2.3.3.1 Schema Elements for Request

In this section the required fields for each transaction type will be presented, along with example XML for those fields.

For Recurring Account Setups

To authorise the first payment and setup an account for a card, information needs to be collected and set in the following places within the schema:

2.3.3.1.1 Request

- `Authentication` - section 2.1.1.2
- `Transaction`
    - `TxnDetails` – contains details of the transaction, see section 2.3.2.1.2
        - `CardTxn`
            - `Card` – this element contains the details about the card, for setups only. These details are the same as for one-off payments, which are covered in section 2.2.1.1.1
        - `ContAuthTxn` – section 2.3.3.1.2

For the Repeat Payments

Once the account has been setup, repeat payments can be taken from it.

- `Request`
    - `Authentication` – section 2.1.1.2
    - `Transaction`
        - `TxnDetails` – contains details of the transaction, section 2.4.2.1.2
    - `HistoricTxn` – section 2.3.3.1.3

For Cancellations of Payments and Accounts

Cancellations of accounts and payments are performed using the same data as for normal Bank Card cancellations:

- `Request`
    - `Authentication` – section 2.1.1.2
    - `Transaction`
        - `HistoricTxn` – section 2.3.3.1.3

2.3.3.1.2 ContAuthTxn

This element should be presented with setup and repeat payment Requests. It has one attribute and no children.

Element Name:	ContAuthTxn
Position	Request.Transaction

Attributes of ContAuthTxn			
Attributes	**Attribute of Element**	**Description**	**Values / Limitations**
type	ContAuthTxn	Indicates whether the transaction is a setup or a repeat payment	setup historic

Example XML ContAuthTxn elements

```
<ContAuthTxn type="setup"></ContAuthTxn>

<ContAuthTxn type="setup" />

<ContAuthTxn type="historic" />
```

2.3.3.1.3 HistoricTxn

This element is required for the repeat payments and cancellations of payments/accounts. It should not be presented with the setup transaction.

Element Name:	HistoricTxn
Position	Request.Transaction

Elements of HistoricTxn		
Element Name	**Description**	**Values / Limitations**
method	Indicates the transaction type	pre auth cancel
reference	Two references are returned from the initial setu request – the first payment reference and the ca_reference.	
	For Payments: the ca_reference of the account from which the payment is to be taken	Must be a valid account
	For Cancellations: the ca_reference of the account or payment to be cancelled	Must be a valid account or payment

Example XML HistoricTxn elements

```
<HistoricTxn>
   <method>auth</method>
   <reference>4700200040912890</reference>
</HistoricTxn>

<HistoricTxn>
   <method>cancel</method>
   <reference>4700200040919424</reference>
</HistoricTxn>
```

2.3.3.2 Example XML Requests

Example XML Request for account setup. The initial transaction will be processed as ecomm

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>mypasswd</password>
   </Authentication>
   <Transaction>
      <ContAuthTxn type="setup"/>
      <TxnDetails>
         <merchantreference>385036349305556</merchantreference>
         <amount currency="GBP">1001.00</amount>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>
      <CardTxn>
         <Card>
            <expirydate>01/06</expirydate>
            <issuenumber>1</issuenumber>
            <startdate>0199</startdate>
            <pan>444433*********1</pan>
         </Card>
         <method>auth</method>
      </CardTxn>
   </Transaction>
</Request>
```

Example XML Request for account setup. The initial transaction will be processed as cnp

```xml
<Request>
   <Authentication>
      <client>99000001</client>
      <password>mypasswd</password>
   </Authentication>
   <Transaction>
      <CardTxn>
         <Card>
            <expirydate>01/06</expirydate>
            <pan>444433*********1</pan>
         </Card>
         <method>pre</method>
      </CardTxn>
      <ContAuthTxn type="setup"/>
      <TxnDetails>
         <merchantreference>385036</merchantreference>
         <amount currency="AUD">56.52</amount>
         <capturemethod>cnp</capturemethod>
      </TxnDetails>
   </Transaction>
</Request>
```

Example XML Request for a repeat payment

```xml
<Request>
   <Transaction>
      <ContAuthTxn type="historic"/>
      <TxnDetails>
         <merchantreference>3851231</merchantreference>
         <capturemethod>cont_auth</capturemethod>
         <amount currency="GBP">18.50</amount>
      </TxnDetails>
      <HistoricTxn>
         <reference>4500200040925092</reference>
         <method>auth</method>
      </HistoricTxn>
   </Transaction>
   <Authentication>
      <client>99000001</client>
      <password>mypasswd</password>
   </Authentication>
</Request>
```

Example XML Request to cancel a payment or account

```
<Request>
   <Authentication>
      <password>mypasswd</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>cancel</method>
         <reference>4800200040644359</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.3.3.3 Schema Elements for Response

In addition to the elements covered in this section, responses for this service will contain the general response elements outlined in section 2.1.1.3.

The `CardTxn` element will also be present, as described in section 2.2.1.3.1.

2.3.3.3.1 ContAuthTxn

Element Name:	`ContAuthTxn`
Position	`Response`

Elements of ContAuthTxn	
Element Name	**Description**
`ca_reference`	The reference number of the account
`account_status`	Provides additional information about the account status

Example ContAuthTxn element

```
<ContAuthTxn>
   <account_status>Account setup. CNP transaction
    sent successfully</account_status>
   <ca_reference>4500200040151462</ca_reference>
</ContAuthTxn>
```

2.3.3.4 Example Responses

2.3.3.4.1 Successful Responses

Example XML Response for a successful setup

```
<Response>
   <CardTxn>
      <authcode>100001</authcode>
      <card_scheme>Mastercard</card_scheme>
      <country>United Kingdom</country>
   </CardTxn>
   <ContAuthTxn>
      <account_status>Account setup. ECOMM transaction sent
                        successfully</account_status>
      <ca_reference>4700200040641889</ca_reference>
   </ContAuthTxn>
   <datacash_reference>4700200040641890</datacash_reference>
   <merchantreference>setupreference12345680</merchantreference>
   <mode>…</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Response for a successful repeat payment

```
<Response>
   <CardTxn>
      <authcode>779099</authcode>
      <card_scheme>VISA</card_scheme>
      <country>United Kingdom</country>
   </CardTxn>
   <ContAuthTxn>
      <account_status>Using account ref 4500200040925092. CONT_AUTH
                        transaction complete</account_status>
   </ContAuthTxn>
   <datacash_reference>4000200040925117</datacash_reference>
   <merchantreference>385036359953704</merchantreference>
   <mode>…</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Response for a successfully cancelled account

```
<Response>
  <datacash_reference>4400200040943162</datacash_reference>
  <information>Continuous authority account cancelled</information>
  <merchantreference>4500200040925092</merchantreference>
  <mode>…</mode>
  <reason>CANCELLED</reason>
  <status>1</status>
</Response>
```

2.3.3.4.2 Failed or Rejected Responses

Example XML Response for a rejected setup. The initial payment was declined, so the account could not be set up.

```
<Response>
  <CardTxn>
    <authcode>DECLINED</authcode>
    <card_scheme>VISA Delta</card_scheme>
    <country>United Kingdom</country>
  </CardTxn>
  <ContAuthTxn>
    <account_status>Account not setup. CNP transaction was not
                  successfully authed</account_status>
  </ContAuthTxn>
  <datacash_reference>4500200040641890</datacash_reference>
  <merchantreference>…</merchantreference>
  <mode>…</mode>
  <reason>DECLINED</reason>
  <status>7</status>
  <time>…</time>
</Response>
```

Example XML Response where a recurring payment Request was declined

```
<Response>
  <CardTxn>
    <authcode>NOT AUTHORISED</authcode>
    <card_scheme>American Express</card_scheme>
  </CardTxn>
  <ContAuthTxn>
    <account_status>Using account ref 3900200040457927.
            CONT_AUTH transaction complete</account_status>
  </ContAuthTxn>
  <datacash_reference>3800200040465541</datacash_reference>
  <merchantreference>…</merchantreference>
  <mode>LIVE</mode>
  <reason>DECLINED</reason>
  <status>7</status>
  <time>…</time>
</Response>
```

Example XML Response where the account could not be found or has already been cancelled

```
<Response>
  <datacash_reference>4500200040373397</datacash_reference>
  <information>Failed to find live CA account with
               reference=4700200040579l371</information>
  <merchantreference>historicreference12345690</merchantreference>
  <reason>Failed to find corresponding CA account</reason>
  <status>192</status>
  <time>…</time>
</Response>
```

2.3.4 *Recurring Transaction Enquiry Service (VAU/ABU)*

This service is currently available as an addition to Historic Recurring Transactions through Lloyds for MasterCard and Visa recurring accounts only.

Submitting an RTES request will prompt an update on the cardholder details associated with the recurring account. Details of the status of the update and any changes made will be presented in response to a query against the recurring account.

2.3.4.1 Schema Elements for Request

In this section the required fields for each transaction type will be presented, along with example XML for those fields.

For RTES Requests

To request an RTES update on the recurring account, information needs to be collected and set in the following places within the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – contains details of the next predicted payment
  - `HistoricTxn` – contains the recurring account reference

Elements of HistoricTxn

Element Name	Description	Values / Limitations	
method	The transaction type	rtes_request	R
reference	The reference of the transaction to be queried	DataCash Reference of the recurring account	R

Example XML Request for HistoricTxn complex elements

```
<HistoricTxn>
  <reference>3900900100010001</reference>
  <method>rtes_request</method>
</HistoricTxn>
```

Elements of TxnDetails

Element Name	Description	Values / Limitations

`predicted_payment_date`	The date of the next expected payment	`YYYY-MM-DD`	R
`amount`	The predicted amount of the next payment	An amount and currency attribute, as standard	R

Example XML Request for TxnDetails complex elements

```
<TxnDetails>
 <predicted_payment_date>2012-01-15</predicted_payment_date>
 <amount currency="GBP">101.00</amount>
</TxnDetails>
```

2.3.4.1.1 XML Example – RTES Update Request

Example XML Query

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <predicted_payment_date>2012-01-15</predicted_payment_date>
         <amount currency="GBP">101</amount>
      </TxnDetails>
      <HistoricTxn>
         <method>rtes_request</method>
         <reference>3900900100010001</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.3.4.1.2 Schema Elements for RTES Request Response

There are no complex elements in the response – the information element will contain confirmation that the RTES request was accepted.

Querying the Recurring Account

Query transactions can be submitted against the DataCash reference of a recurring account, the results of which will include RTES update information.

- Request
  - Authentication – section 2.2.1.1
  - Transaction
    - HistoricTxn – contains the reference of the recurring account

Elements of HistoricTxn

Element Name	Description	Values / Limitations	
method	The transaction type	query	R
reference	The reference of the transaction to be queried	DataCash Reference of the recurring account	R

Example XML Request for HistoricTxn complex elements

```
<HistoricTxn>
  <reference>3900900100010001</reference>
  <method>query</method>
</HistoricTxn>
```

2.3.4.1.3 XML Example – Recurring Account Query Transaction

Example XML Query

```
<Request>
  <Authentication>
    <password>*****</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>3900900100010001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.3.4.1.4 Schema Elements for Recurring Account Query Response

Element Name:	`QueryTxnResult`
Position:	`Response`

The `QueryTxnResult` complex element contains the retrieved details for the transaction reference provided in the request. The contents of the following elements all relate to the original transaction being queried, and not the query transaction itself.

Elements of QueryTxnResult	
Element Name	**Description**
`ContAuthTxn`	Complex element containing details about the recurring account transaction being queried
`datacash_reference`	DataCash reference
`merchant_reference`	Merchant reference
`reason`	DataCash response message.
`status`	DataCash response code
`transaction_date`	Date of processing by DPG

Elements of ContAuthTxn	
Element Name	**Description**
`enquiry_date`	The date of the last enquiry against this account
`expirydate`	The expiry date of the currently associated card, MMYY
`pan`	The first six and last four digits of the currently associated card number (the intervening digits are obscured).
`response_date`	The date of the response from the VAU or ABU service to the RTES request.
`scheme`	The scheme associated with the account – MasterCard or Visa
`status`	Textual indication of the status of the update request / result

2.3.5 *Fire and Forget Recurring Transactions*

A technical introduction to this Service is available on the website:

http://www.datacash.com/gettingproducts.php?id=Bank-Card-Fire-Forget-

This section of the documentation assumes the reader is familiar with the Credit and Debit Card Service, which is discussed in section 2.2.1.

2.3.5.1 Schema Elements for Request

In this section the required fields for each transaction type will be presented, along with example XML for those fields. As not all fields are mandatory, the following key will be used:

- R - Required
- O - Optional

For Recurring Account Setups

The information required to set up an account is passed in several places in the schema:

All ElavonUS ContAuth Fire and Forget account interactions must be sent using XML request 'version 2'.

2.3.5.1.1 Request

- `Authentication` - section 2.1.1.2
- `Transaction`
  - `CardTxn` – the type and authorisation code, see section 2.2.1.1.2
    - `Card` – this contains all the information about the Card. These details are the same as for one-off payments, which are covered in section 2.2.1.1.1
  - `ContAuthTxn` – contains all the information about the payments which are to be taken from the account, section 2.3.3.1.2
    - `FirstPayment` – enables an initial payment to be specified, section 2.3.5.1.4
    - `LastPayment` – enables a final payment to be specified, section 2.3.5.1.5

For Cancellations of Payments and Accounts

Account and Payment Cancellations are performed using the same data as for normal Bank Card cancellations:

2.3.5.1.2 Request

- `Authentication` - section 2.1.1.2
- `Transaction`
  - `HistoricTxn` – – details the transaction method cancel, and the reference number of the payment/account to cancel, section 2.2.1.1.4

2.3.5.1.3 ContAuthTxn

This element must be presented when setting up an account.

Element Name:	`ContAuthTxn`
Position	`Request.Transaction`

Elements of ContAuthTxn

Element Name	Description	Values / Limitations	
`method`	Indicates the transaction type	`pre` (not supported for For accounts that are acquired by ElavonUS) `auth`	R
`start_date`	The date on which the first regular payment will be taken. Subsequent payments will be based from this date. Must be at least the day after the transaction is sent.	For all acquirers except ElavonUS: dd/mm/yyyy. Must be at least one day ahead of either the current date or the FirstPayment date For accounts that are acquired by ElavonUS: ISO 8601 Ext (YYY-MM-DD). Must be at least one day ahead of either the current date or the FirstPayment date	R
`period`	The frequency of payments	weekly monthly quarterly annual	R
`amount`	The value of each regular payment		R
`number_of_payments`	Used to restrict the number of regular payments to be collected. Note: this is not the total number of payments if first and/or last payments have been set.	Must be an integer. If acquired by ElavonUS, cannot be more than 99 payments (including the first and final payments).	O
`FirstPayment`	Details of any initial payment to be made. This is in addition to the regular payments. See section 2.3.5.1.4		O
`LastPayment`	Details of any final payment to be made. This is in addition to the regular payments. See section 2.3.5.1.5		O

Attributes of ContAuthTxn			
Attributes	**Attribute of Element**	**Description**	**Values / Limitations**
`currency`	`amount`	Currency in the ISO 4217 Alphabetic format. E.g. GBP, USD, AUD	Will default to GBP if not specified

Example ContAuthTxn element. Monthly payments will be taken until the account is cancelled

```
<ContAuthTxn>
   <method>auth</method>
   <start_date>31/03/2005</start_date>
   <period>monthly</period>
   <amount>25.00</amount>
</ContAuthTxn>
```

Example ContAuthTxn element with first and last payments

```
<ContAuthTxn>
   <method>auth</method>
   <start_date>10/02/2003</start_date>
   <period>weekly</period>
   <number_of_payments>5</number_of_payments>
   <amount>10.00</amount>
   <FirstPayment>…</FirstPayment>
   <LastPayment>…</LastPayment>
</ContAuthTxn>
```

2.3.5.1.4 FirstPayment

This optional element enables an initial payment to be taken which varies in both value and timing from the regular transactions.

If this element is presented for a transaction, both its children must be populated.

Element Name:	`FirstPayment`
Position	`Request.Transaction.ContAuthTxn`

Elements of FirstPayment		
Element Name	**Description**	**Values / Limitations**

date	The date the first payment is to be taken	For all acquirers other than ElavonUS: dd/mm/yyyy Must be at least one day ahead of the current date For account acquired by ElavonUS: ISO 8601 Ext (YYY-MM-DD). Can be today or any date upto 13 months in the future.
amount	The value of the first payment. This may vary from the regular payments. Currency attribute may be specified if required	

Example FirstPayment element

```
<FirstPayment>
   <amount>30.00</amount>
   <date>29/06/2005</date>
</FirstPayment>
```

2.3.5.1.5 LastPayment

This optional element enables a final payment to be taken which varies in both value and timing from the regular transactions. The element may only be presented if the `number_of_payments` element has been specified (section 2.3.5.1.3). If this element is presented for a transaction, both its children must be populated.

Element Name:	`LastPayment`
Position	`Request.Transaction.ContAuthTxn`

Elements of LastPayment

Element Name	Description	Values / Limitations
date	The date the last payment is to be taken	For all acquirers other than ElavonUS: dd/mm/yyyy For accounts acquired by ElavonUS: ISO 8601 Ext (YYY-MM-DD) Must be at least one day after the last regular payment

amount	The value of the last payment. This may vary from the regular payments. Currency attribute may be specified if required	

Example LastPayment element

```
<LastPayment>
   <amount>20.00</amount>
   <date>12/01/2016</date>
</LastPayment>
```

2.3.5.2 Example XML Requests

Example Request for an initial charge of £7.50, followed by regular weekly payments of £5 until a cancellation Request is received

```
<Request>
   <Authentication>
      <client>99106700</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <CardTxn>
         <Card>
            <expirydate>01/06</expirydate>
            <pan>444433*********1</pan>
         </Card>
      </CardTxn>
      <ContAuthTxn>
         <method>auth</method>
         <start_date>15/07/2005</start_date>
         <period>weekly</period>
         <amount>5.00</amount>
         <FirstPayment>
            <amount>7.50</amount>
            <date>09/07/2005</date>
         </FirstPayment>
      </ContAuthTxn>
      <TxnDetails>
         <merchantreference>383914410763889</merchantreference>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>
   </Transaction>
</Request>
```

Example Request for nine quarterly payments of £69.99

```
<Request>
   <Authentication>
      <client>99106700</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <CardTxn>
         <Card>
            <expirydate>06/13</expirydate>
            <pan>3434*********3</pan>
         </Card>
      </CardTxn>
      <ContAuthTxn>
         <method>auth</method>
         <start_date>31/07/2005</start_date>
         <period>quarterly</period>
         <amount currency="GBP">69.99</amount>
         <number_of_payments>9</number_of_payments>
      </ContAuthTxn>
      <TxnDetails>
         <merchantreference>annual0000432432a</merchantreference>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>
   </Transaction>
</Request>
```

Example Request for an initial charge of $30, twelve regular payments of $10 on the first of each month and a final payment of $20

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>mypasswd</password>
  </Authentication>
  <Transaction>
    <CardTxn>
      <Card>
        <expirydate>01/06</expirydate>
        <pan>444433*********1</pan>
      </Card>
    </CardTxn>
    <ContAuthTxn>
      <method>auth</method>
      <start_date>01/10/2005</start_date>
      <period>monthly</period>
      <amount currency="USD">10.00</amount>
      <number_of_payments>12</number_of_payments>
      <FirstPayment>
        <amount currency="USD">30.00</amount>
        <date>01/09/2005</date>
      </FirstPayment>
      <LastPayment>
        <amount currency="USD">20.00</amount>
        <date>31/10/2006</date>
      </LastPayment>
    </ContAuthTxn>
    <TxnDetails>
      <merchantreference>382684637615741</merchantreference>
      <capturemethod>cnp</capturemethod>
    </TxnDetails>
  </Transaction>
</Request>
```

As above, but acquired by ElavonUS (Example Request for an initial charge of $30, twelve regular payments of $10 on the first of each month and a final payment of $20)

```
<Request version='2'>
  <Authentication>
    <client>99000001</client>
    <password>mypasswd</password>
  </Authentication>
  <Transaction>
    <CardTxn>
      <Card>
        <expirydate>01/06</expirydate>
        <pan>444433*********1</pan>
      </Card>
    </CardTxn>
    <ContAuthTxn>
      <method>auth</method>
      <start_date>2005-10-01</start_date>
      <period>monthly</period>
      <amount currency="USD">10.00</amount>
      <number_of_payments>12</number_of_payments>
      <FirstPayment>
        <amount currency="USD">30.00</amount>
        <date>2005-09-01</date>
      </FirstPayment>
      <LastPayment>
        <amount currency="USD">20.00</amount>
        <date>2006-10-31</date>
      </LastPayment>
    </ContAuthTxn>
    <TxnDetails>
      <merchantreference>382684637615741</merchantreference>
      <capturemethod>cnp</capturemethod>
    </TxnDetails>
  </Transaction>
</Request>
```

2.3.5.3 Schema Elements for Response

In addition to the elements covered in this section, responses for this service will contain the general response elements outlined in section 2.1.1.3.

Accounts that will acquire by ElavonUS will have a card verify transaction processed against the card at the time of the setup. If that fails, the Contauth account will not be setup and further information will be returned in the response.

2.3.5.3.1 ContAuthTxn

Element Name:	ContAuthTxn
Position	Response

Elements of ContAuthTxn	
Element Name	**Description**
account_status	Returns information about the status of the account

Example XML element ContAuthTxn

```
<ContAuthTxn>
  <account_status>Account setup. First transaction due to be
                batched on 30/06/2005</account_status>
</ContAuthTxn>
```

2.3.5.4 Example XML Responses

Example XML Response for an account which has been successfully set up

```
<Response>
  <ContAuthTxn>
    <account_status>Account setup. First transaction due to be
                  batched on 09/10/2006</account_status>
  </ContAuthTxn>
  <datacash_reference>4200200040373186</datacash_reference>
  <information>Continuous Authority account set up</information>
  <merchantreference>382684637615741</merchantreference>
  <mode>…</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>…</time>
</Response>
```

Example XML Response for a card type which is not supported by the service

```
<Response>
  <datacash_reference>4200200040609090</datacash_reference>
  <information>Continuous authority is not supported on
             this card</information>
  <merchantreference>383914408564815</merchantreference>
  <mode>…</mode>
  <reason>CA Not Supported</reason>
  <status>92</status>
  <time>…</time>
</Response>
```

Example XML Response for an invalid start date

```
<Response>
  <datacash_reference>4600200040609088</datacash_reference>
  <information>The date of the first payment must be from
            tomorrow onwards</information>
  <merchantreference>12345612</merchantreference>
  <mode>…</mode>
  <reason>Invalid Date</reason>
  <status>94</status>
  <time>…</time>
</Response>
```

Example XML Response for a ElavonUS rejected account setup

```
<Response version='2'>
  <CardTxn>
    <card_scheme>VISA</card_scheme>
    <country>United Kingdom</country>
  </CardTxn>
  <ContAuthTxn>
    <account_status>Account was not setup. The initial payment was
    not successful.</account_status>
  </ContAuthTxn>
  <acquirer>ElavonUS</acquirer>
  <datacash_reference>4800903000000001</datacash_reference>
  <information>SERV NOT ALLOWED</information>
  <merchantreference>1234560</merchantreference>
  <mid>12345678912345</mid>
  <mode>TEST</mode>
  <reason>DECLINED</reason>
  <status>7</status>
  <time>_</time>
</Response>
```

2.3.5.5 Notifications

Whenever a payment is taken from an account, an email will be generated containing the results of the payment(s). The email will contain up to five attachments. Each attachment will take the form of a CSV file and be named one of:

- declined.csv – for declined payments
- error.csv – payments which generated an error message
- expiring.csv – payments on cards which will expire before the next payment date
- referred.csv – for referred payments
- authorized.csv – for successful payments

These notifications can also be downloaded from Reporting.

Format for CSV files		
Name		Description
1	Account Reference	The DataCash reference of the account from which the payment was requested.
2	Merchant Reference	Your reference for the account. As supplied when you setup the account.
3	DataCash Reference	The DataCash reference of the payment that failed. This is not supplied for `referred.csv`

Example CSV file

```
Account Reference,Merchant Reference,DataCash Reference
37707655,acc000045452,4300200040945208
37699077,SMITH0001245432,4100200040945209
37699081,Green458934,4900200040945210
37701359,qwerty12345,4700200040945211
37709097,rtuier49rsw,4500200040945212
37709891,egr3t434,4300200040945213
```

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2.4 FRAUD PREVENTION

2.4.1 *AVSCV2*

A technical introduction to this Service is available on the website: http://www.datacash.com/gettingproducts.php?id=Address-and-Security-Code-Verification

This section covers the elements to be populated with the cv2 and address details. It also covers the sending of standard and extended policy information within the transaction.

This service is utilised by sending a normal Credit and Debit Card Service Request with additional information. This section of documentation assumes the Credit and Debit Card Service has already been integrated and the reader is familiar with it. The Credit and Debit Card Service is described in section 2.2.1.

It may also be used in conjunction with the Pre-Registered Card Service, which is described in section 2.3.1.

2.4.1.1 Schema Elements for Request

In this section the fields that can be submitted when using the AVSCV2 service will be presented, along with example XML for those fields.

Each field will be labelled with the following key:

- O - Optional
- R - Required, field must be presented
- C - Checked, the optional field will be checked if presented
- M - Mandatory if available, if the information is available, it should be presented

The following additional schema elements can be presented when performing an AVSCV2 check:

2.4.1.1.1 Request

- `Transaction`
  - `CardTxn`
    - `Card`
      - `Cv2Avs` – see section 2.4.1.1.2
        - `ExtendedPolicy` – see section 2.4.1.1.3

2.4.1.1.2 Cv2Avs

This parent element should be populated with the information that you require to be checked. When using the either Standard or Extended Policy, this information is also passed here – only one of these elements should be presented. If you wish to use the default policy, neither element should be presented.

Please remember that if you are only presenting a particular subset of the AVSCV2 data to be checked, you must choose a policy that does not require the all fields to be checked – this would otherwise result in all transactions being rejected.

None of the child elements of Cv2Avs are mandatory. If the `cv2` element is presented, the length of its contents will be checked to ensure the number is the correct length for the card type. American Express cards have four digits and all other card types have three. An empty cv2 number will cause the rejection of the transaction.

Element Name:	`Cv2Avs`
Position	`Request.Transaction.CardTxn.Card.Cv2Avs`

Elements of Cv2Avs

Element Name	Description	Values / Limitations	Required
`street_address1`	The statement address (excluding postcode) of the customer.	Though only the numeric data can be checked, the full details can be submitted if required. Any non-numeric data will be stripped out and the numeric data will be concatenated prior to checking.	C
`street_address2`			
`street_address3`			
`street_address4`			
`city`	The statement city	Must be alphanumeric.	C
`state_province`	The statement state/province	Must be alphanumeric.	C
`country`	The statement country	Use the numeric country codes	C
`postcode`	The statement postcode	A maximum of 9 alphanumeric characters.	C
`cv2`	The cv2 number from the card	Must be 4 digits for Amex, or 3 digits for all other card types.	C
`policy`	The Standard Policy required for the transaction.	1, 2, 3, 5, 6, 7. Please refer to the website for definitions	O[1]
`ExtendedPolicy`	For use with Extended Policy only. See section 2.4.1.1.3		

[1] Either of the `policy` or `ExtendedPolicy` elements can be presented. To use the default policy configured on the account, neither element should be presented. If a transaction contains both standard and extended policy information, it will be rejected.

Example Cv2Avs elements for default, standard and extended policy transactions respectively. In each example, the numeric data for the address and postcode is identical and so would return the same result from the bank.

```
<Cv2Avs>
   <street_address1>1 High Street</street_address1>
   <street_address2>This Town</street_address2>
   <street_address3>Somewhere</street_address3>
   <street_address4>United Kingdom</street_address4>
   <postcode>S01 2CD</postcode>
   <cv2>123</cv2>
</Cv2Avs>

<Cv2Avs>
   <street_address1>1 High Street</street_address1>
   <city>This Town</city>
   <state_province>Somewhere</state_province>
   <country>826</country>
   <postcode>S01 2CD</postcode>
   <cv2>123</cv2>
</Cv2Avs>


<Cv2Avs>
   <street_address1>1 High Street,
        This Town, Somewhere,
        United Kingdom</street_address1>
   <postcode>S01 2CD</postcode>
   <cv2>123</cv2>
   <policy>3</policy>
</Cv2Avs>

<Cv2Avs>
   <street_address1>1</street_address1>
   <postcode>012</postcode>
   <cv2>123</cv2>
   <ExtendedPolicy>…</ExtendedPolicy>
</Cv2Avs>
```

2.4.1.1.3 ExtendedPolicy

When using the extended policy, each element and attribute must be presented.

Element Name:	ExtendedPolicy
Position	Request.Transaction.CardTxn.Card.Cv2Avs.ExtendedPolicy

Elements of ExtendedPolicy			
Element Name	**Description**	**Values / Limitations**	**Required**
cv2_policy	Each of these elements has five attributes – see below.		R
postcode_policy			R
address_policy			R

Attributes for the child elements of ExtendedPolicy				
Attribute Name	**Element Name**	**Description**	**Values / Limitations**	**Required**
notprovided	postcode_policy cv2_policy address_policy	Specifies whether to accept or reject each of the five possible bank responses for the three individual elements	accept reject	R
notchecked				R
matched				R
notmatched				R
partialmatch				R

Example Extended policy element

```
<ExtendedPolicy>
  <cv2_policy notprovided="reject"
    notchecked="accept"
    matched="accept"
    notmatched="reject"
    partialmatch="reject"/>
  <postcode_policy notprovided="reject"
    notchecked="accept"
    matched="accept"
    notmatched="reject"
    partialmatch="accept"/>
  <address_policy notprovided="reject"
    notchecked="accept"
    matched="accept"
    notmatched="reject"
    partialmatch="accept"/>
</ExtendedPolicy>
```

2.4.1.2 XML Example Requests

2.4.1.2.1 Default Policy

Example Default Policy Request

```
<Request>
  <Authentication>
    <client>99000000</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>123456</merchantreference>
      <amount currency="EUR">10.00</amount>
    </TxnDetails>
    <CardTxn>
      <Card>
        <pan>4444********1111</pan>
        <expirydate>03/04</expirydate>
        <Cv2Avs>
          <street_address1>Flat 7</street_address1>
          <street_address2>89 Jumble
           Street</street_address2>
          <street_address3>Mytown</street_address3>
          <postcode>AV12FR</postcode>
          <cv2>123</cv2>
        </Cv2Avs>
      </Card>
      <method>auth</method>
    </CardTxn>
  </Transaction>
</Request>
```

Example Default Policy with Payment Tokenization Cards

```
<Request>
  <Authentication>
    <client>99000000</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>123456</merchantreference>
      <amount currency="EUR">10.00</amount>
    </TxnDetails>
    <CardTxn>
      <card_details type="preregistered">
        2185999900000001</card_details>
      <Card>
        <Cv2Avs>
          <street_address1>Flat 7</street_address1>
          <street_address2>89 Jumble
           Street</street_address2>
          <street_address3>Mytown</street_address3>
          <postcode>AV12FR</postcode>
          <cv2>123</cv2>
        </Cv2Avs>
      </Card>
      <method>auth</method>
    </CardTxn>
  </Transaction>
</Request>
```

See also section 2.2.8.2.3 for examples using HCC and default policy

2.4.1.2.2 Extended Policy

Example Extended Policy Request

```
<Request>
  <Authentication>
    <client>99000000</client>
    <password>*******</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>123456</merchantreference>
      <amount currency="EUR">10.00</amount>
    </TxnDetails>
    <CardTxn>
      <Card>
        <pan>4444********1111</pan>
        <expirydate>03/04</expirydate>
        <Cv2Avs>
          <street_address1>Flat 7</street_address1>
          <street_address2>89 Jumble
              Street</street_address2>
          <street_address3>Mytown</street_address3>
          <postcode>AV12FR</postcode>
          <cv2>123</cv2>
          <ExtendedPolicy>
            <cv2_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="reject"/>
            <postcode_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
            <address_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
          </ExtendedPolicy>
        </Cv2Avs>
      </Card>
      <method>auth</method>
    </CardTxn>
  </Transaction>
</Request>
```

Example Extended Policy Request when using a Payment Token in place of the Card details

```
<Request>
  <Authentication>
    <client>99000000</client>
    <password>*******</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>123456</merchantreference>
      <amount currency="EUR">10.00</amount>
    </TxnDetails>
    <CardTxn>
      <card_details type="preregistered">
       4800200052555666</card_details>
      <Card>
        <Cv2Avs>
          <street_address1>Flat 7</street_address1>
          <street_address2>89 Jumble
             Street</street_address2>
          <street_address3>Mytown</street_address3>
          <postcode>AV12FR</postcode>
          <cv2>123</cv2>
          <ExtendedPolicy>
            <cv2_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="reject"/>
            <postcode_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
            <address_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
          </ExtendedPolicy>
        </Cv2Avs>
      </Card>
      <method>auth</method>
    </CardTxn>
  </Transaction>
</Request>
```

See also section 2.2.8.2.3 for examples using HCC and extended policy

2.4.1.3 Schema Elements for Response

AVSCV2 results are returned in the Cv2Avs element for successfully authorised or referred transactions. If a transaction is DECLINED, the AVSCV2 results will not be available either in the XML response or on the Reporting pages.

2.4.1.3.1 Cv2Avs

Element Name:	Cv2Avs
Position	Response.CardTxn

Most child elements and attributes of Cv2Avs are dependent upon whether the default/standard or extended policy checks where used.

Attributes of child elements in Cv2Avs			
Attribute Name	**Element Name**	**Description**	**Values / Limitations**
reversal	cv2avs_status	The result of the reversal request for transactions failing to meet the chosen policy	0 – failed 1 - successful

2.4.1.3.1.1 Standard and Default Policies

Elements of Cv2Avs		
Element Name	**Description**	**Values / Limitations**
cv2avs_status	The overall result of the transaction	NO DATA MATCHES ADDRESS MATCH ONLY SECURITY CODE MATCH ONLY ALL MATCH DATA NOT CHECKED
Policy	The policy the transaction was checked against.	

Example Response elements for a transaction checked using either the default or standard policy

```
<Cv2Avs>
  <cv2avs_status reversal="1">SECURITY CODE MATCH
      ONLY</cv2avs_status>
  <policy>3</policy>
</Cv2Avs>

<Cv2Avs>
  <cv2avs_status reversal="0">ADDRESS MATCH ONLY</cv2avs_status>
  <policy>2</policy>
</Cv2Avs>

<Cv2Avs>
  <cv2avs_status>ALL MATCH</cv2avs_status>
  <policy>6</policy>
</Cv2Avs>
```

2.4.1.3.1.2 For Extended Polices

Elements of Cv2Avs		
Element Name	**Description**	**Values / Limitations**
cv2avs_status	The overall result of the transaction	ACCEPTED REJECTED
address_result	The result of the check for that particular element	One of: notprovided notchecked matched notmatched partialmatch
cv2_result		
postcode_result		
address_policy	The policy the transaction was checked against. These have the same format as in the Request – see section 2.4.1.1.2.	
cv2_policy		
postcode_policy		

Attributes of child elements within Cv2Avs			
Attribute Name	**Element Name**	**Description**	**Values / Limitations**
numeric	address_result cv2_result postcode_result	The numerical result returned by the bank for each element.	0 – not provided 1 – not checked 2 – matched 4 - not matched 8 – partial match

Example Response Elements for extended policy transactions

```
<Cv2Avs>
  <address_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
  <address_result numeric='0'>notprovided</address_result>
  <cv2_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="reject"/>
  <cv2_result numeric='2'>matched</cv2_result>
  <cv2avs_status reversal='1'>REJECTED</cv2avs_status>
  <postcode_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
  <postcode_result numeric='4'>notmatched</postcode_result>
</Cv2Avs>

<Cv2Avs>
  <address_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
  <address_result numeric='2'>matched</address_result>
  <cv2_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="reject"/>
  <cv2_result numeric='1'>not checked</cv2_result>
  <cv2avs_status>ACCEPTED</cv2avs_status>
  <postcode_policy notprovided="reject"
              notchecked="accept"
              matched="accept"
              notmatched="reject"
              partialmatch="accept"/>
  <postcode_result numeric='2'>matched</postcode_result>
</Cv2Avs>
```

2.4.1.4 XML Example Responses

2.4.1.4.1 Successful AVSCV2 Responses

An example response for transactions successfully passing the standard or default policy AVSCV2 check

```
<Response>
  <CardTxn>
    <authcode>3956</authcode>
    <card_scheme>VISA</card_scheme>
    <Cv2Avs>
      <cv2avs_status>SECURITY CODE MATCH ONLY</cv2avs_status>
      <policy>2</policy>
    </Cv2Avs>
  </CardTxn>
  <datacash_reference>4000000098765888</datacash_reference>
  <merchantref>…</merchantref>
  <mode>…</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>…2</time>
</Response>
```

An example response for transactions successfully passing the extended policy AVSCV2 check

```
<Response>
  <CardTxn>
    <authcode>4382</authcode>
    <card_scheme>VISA</card_scheme>
    <Cv2Avs>
      <address_policy notprovided="reject"
         notchecked="accept" matched="accept"
         notmatched="reject" partialmatch="accept"/>
      <address_result numeric='2'>matched</address_result>
      <cv2_policy notprovided="reject"
         notchecked="accept" matched="accept"
         notmatched="reject" partialmatch="reject"/>
      <cv2_result numeric='1'>not checked</cv2_result>
      <cv2avs_status>ACCEPTED</cv2avs_status>
      <postcode_policy notprovided="reject"
         notchecked="accept" matched="accept"
         notmatched="reject" partialmatch="accept"/>
      <postcode_result numeric='2'>matched</postcode_result>
    </Cv2Avs>
  </CardTxn>
  <datacash_reference>4000000098765433</datacash_reference>
  <merchantref>…</merchantref>
  <mode>…</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>…</time>
</Response>
```

2.4.1.4.2 AVSCV2 Declined Responses

An example response for transactions failing to match the standard or default policy chosen

```
<Response>
  <CardTxn>
    <authcode>3956</authcode>
    <card_scheme>VISA</card_scheme>
    <Cv2Avs>
      <cv2avs_status reversal="1">ADDRESS MATCH ONLY
       </cv2avs_status>
      <policy>3</policy>
    </Cv2Avs>
  </CardTxn>
  <datacash_reference>4000000098765889</datacash_reference>
  <merchantref>123998</merchantref>
  <mode>LIVE</mode>
  <reason>CV2AVS DECLINED</reason>
  <status>7</status>
  <time>1234567812</time>
</Response>
```

An example response for transactions failing to match the extended policy chosen

```
<Response>
  <CardTxn>
    <authcode>2893</authcode>
    <card_scheme>VISA</card_scheme>
    <country>United Kingdom</country>
    <Cv2Avs>
      <address_policy notprovided="reject" notchecked="accept"
       matched="accept" notmatched="reject" partialmatch="accept"/>
      <address_result numeric="1">notchecked</address_result>
      <cv2_policy notprovided="reject" notchecked="accept"
       matched="accept" notmatched="reject" partialmatch="reject"/>
      <cv2_result numeric="2">matched</cv2_result>
      <cv2avs_status reversal="1">REJECTED</cv2avs_status>
      <postcode_policy notprovided="reject"
      notchecked="accept" matched="accept" notmatched="reject"
      partialmatch="accept"/>
      <postcode_result numeric="4">notmatched</postcode_result>
    </Cv2Avs>
  </CardTxn>
  <datacash_reference>4000000098765432</datacash_reference>
  <merchantref>123456</merchantref>
  <mode>LIVE</mode>
  <reason>CV2AVS DECLINED</reason>
  <status>7</status>
  <time>1234567890</time>
</Response>
```

2.4.1.4.3 Referred Transactions

If a transaction is referred by the bank, AVSCV2 information will still be available. If the transaction failed AVSCV2 checking, then any attempt to submit an `authorize_referral_request` or `fulfill` transaction with a new authorisation code will be declined.

An example response for referred transactions successfully passing the standard or default policy AVSCV2 check

```
<Response>
   <CardTxn>
      <authcode>CALL AUTH CENTRE</authcode>
      <card_scheme>VISA</card_scheme>
      <Cv2Avs>
         <cv2avs_status>SECURITY CODE MATCH ONLY</cv2avs_status>
         <policy>2</policy>
      </Cv2Avs>
   </CardTxn>
   <datacash_reference>4000000098765888</datacash_reference>
   <merchantref>…</merchantref>
   <mode>…</mode>
   <reason>REFERRED</reason>
   <status>7</status>
   <time>…2</time>
</Response>
```

Example XML Response for a successful authorize_referral_request

```
<Response>
   <CardTxn>
      <Cv2Avs>
         <cv2avs_status>SECURITY CODE MATCH ONLY</cv2avs_status>
         <policy>2</policy>
      </Cv2Avs>
   </CardTxn>
   <datacash_reference>3900200000000001</datacash_reference>
   <merchantreference>…</merchantreference>
   <mode>…</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1071567356</time>
</Response>
```

An example response for referred transactions failing to match the standard or default policy chosen

```
<Response>
   <CardTxn>
      <authcode>CALL AUTH CENTRE</authcode>
      <card_scheme>VISA</card_scheme>
      <Cv2Avs>
       <cv2avs_status>ADDRESS MATCH ONLY
         </cv2avs_status>
       <policy>3</policy>
      </Cv2Avs>
   </CardTxn>
   <datacash_reference>4000000098765889</datacash_reference>
   <merchantref>…</merchantref>
   <mode>…</mode>
   <reason>REFERRED</reason>
   <status>7</status>
   <time>1234567812</time>
</Response>
```

Example XML Response for a declined authorize_referral_request

```
<Response>
  <CardTxn>
    <Cv2Avs>
      <cv2avs_status>ADDRESS MATCH ONLY
        </cv2avs_status>
      <policy>3</policy>
    </Cv2Avs>
  </CardTxn>
  <datacash_reference>4000000098765889</datacash_reference>
  <merchantreference>…</merchantreference>
  <mode>…</mode>
  <reason>CV2AVS DECLINED</reason>
  <status>7</status>
  <time>1071567356</time>
</Response>
```

2.4.1.4.4 Declined Transactions

If a transaction is declined by the bank, no AVSCV2 information will be available. The transaction `Response` will therefore be the same as a declined transaction with no AVSCV2 checking. Please refer to section 2.2.1.4 for examples.

2.4.2 *URU®*

A technical introduction to this Service is available on the website: http://www.datacash.com/gettingproducts.php?id=Age-Identity-Verification-Overview

This Service allows an individual's identity and personal information to be authenticated against a number of databases, and the results of previous authentications to be retrieved.

Some data elements used in this service use the Universal Unique ID format (UUID). This format is xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx and unless otherwise indicated is hexadecimal.

2.4.2.1 Schema Elements for Request

In this section the required fields for URU® requests will be presented, along with example XML for those fields.

As the two transaction types do not use the same fields, each field will be labelled with the following key:

- O – Optional
- R – Required
- X – Excluded, presenting this field for the transaction type will cause the transaction to fail.

It should be noted that these indicate the status of the field within the DPG only. If you are integrating this service, we strongly advise that you discuss with URU® the fields that must be used in order to gain optimum results from the service.

Authentications

The information required to process an identity authentication - `authenticate` - is passed in several distinct places in the schema:

2.4.2.1.1 Request

- `Authentication` - section 2.1.1.2
- `Transaction`
  - `TxnDetails` – contains the merchantreference, section 2.4.2.1.2
  - `URUTxn` - contains the data relating to the individual being authenticated, along with the method authenticate, section 2.4.2.1.3
    - `Basic` – basic details about the customer, section 2.4.2.1.4
    - `UKData` – customer details for UK customers, section 2.4.2.1.5
    - `Address1`, `Address2`, `Address3` & `Address4` – details for up to four addresses, section 2.4.2.1.6
    - `Passport` – details for UK passports, section 2.4.2.1.7
    - `Electric` – details of the electricity bill, section 2.4.2.1.8
    - `Telephone` – details about the telephone number, section 2.4.2.1.9
    - `Driver` – details of the driving licence, section 2.4.2.1.11
    - `Birth` – details about the place of birth of the customer and mother's maiden name, section 2.4.2.1.11

- USData - customer details for US customers. Includes social security number, driving licence and telephone number. Section 2.4.2.1.12
- USAddress1, USAddress2, USAddress3 & USAddress4 – details for up to four addresses, section 2.4.2.1.13
- Employment – employment history, section 2.4.2.1.14
- CreditDebitCard – credit and debit card details, section 2.4.2.1.15
- InternationalPassport – details of the machine-readable international passport, section 2.4.2.1.17
- Authenticate – details of the URU account to be used for the transaction, section 2.4.2.1.18

Log Requests

The log of a previous authentication may be retrieved using this method, get_log_by_authentication_id

- Request
  - Authentication – section 2.1.1.2
  - Transaction
    - TxnDetails - contains the merchantreference, section 2.4.2.1.2.
    - URUTxn - contains the query reference for the authentication being retrieved, along with the method get_log_by_authentication_id, section 2.4.2.1.3

2.4.2.1.2 TxnDetails

Element Name:	TxnDetails
Position(s)	Request.Transaction

Elements of TxnDetails				
Element Name	**Description**	**Values / Limitations**	**Authenticate**	**Log Request**
merchantreference	A unique reference number for each transaction	Between six and thirty alphanumeric characters	R	R

Example XML for TxnDetails elements

```
<TxnDetails>
  <merchantreference>123402ABCDE12</merchantreference>
</TxnDetails>
```

2.4.2.1.3 URUTxn

This is the base element for submission of URU specific information. As well as holding information about an individual for authentication, it contains the transaction type and, in the case of log requests, the original authentication ID.

In the case of authentication transactions, only the `method` element is mandatory. However, at least one of the other user data sub-elements must be present.

Element Name:	`URUTxn`
Position(s)	`Request.Transaction`

Elements of URUTxn				
Element Name	**Description**	**Values / Limitations**	**Authenticate**	**Log Request**
`method`	Identifies the transaction type as an authentication, or a log request	`authenticate` `get_log_by_authentication_id`	R	R
`Basic`	Basic information about an individual's name and date of birth	See section 2.4.2.1.4	O	X
`Employment`	Information about an individual's employment	See section 2.4.2.1.14	O	X
`CreditDebitCard`	Information about an individual's Payment Card	See section 2.4.2.1.15	O	X
`InternationalPassport`	Information about an individual's international machine-readable passport	See section 2.4.2.1.17	O	X
`guid`	The query reference of the original transaction	UUID	X	R
`UKData`	Information for UK residents	See section 2.4.2.1.5	O	X
`USData`	Information for US Residents	See section 2.4.2.1.12	O	X
`Authenticate`	Information about the URU account which is to be used for the transaction	See section 2.4.2.1.18	O	X

Example XML Element URUTxn for an authentication

```
<URUTxn>
   <method>authenticate</method>
   <Basic>...</Basic>
   <UKData>...</UKData>
   <Employment>...</Employment>
   <CreditDebitCard>...</CreditDebitCard>
   <InternationalPassport>...</InternationalPassport>
</URUTxn>
```

Example XML Element URUTxn for a log request

```
<URUTxn>
   <method>get_log_by_authentication_id</method>
   <guid>01234567-89ab-dcef-0123-456789abcdef</guid>
</URUTxn>
```

2.4.2.1.4 Basic

This element holds information about an individual's name and date of birth. Unless otherwise specified, all string fields accept up to 256 characters. All sub-fields are optional.

Element Name:	`Basic`
Position(s)	`Request.Transaction.URUTxn`

Elements of Basic		
Element Name	**Description**	**Values / Limitations**
`dob_day`	The day of the month of the individual's birthday	int 1-31
`dob_month`	The month of the year of the individual's birthday	int 1-12
`dob_year`	The year of the individual's birth	int 0-9999
`forename`	The individual's forename	string

`gender`	The individual's gender	`Male`
		`Female`
		`Unknown`
		`Unspecified`

`middle_initial`	The individual's middle initial(s)	string

surname	The individual’s surname	string
title	The title of the individual (e.g. Mr, Miss)	string

Example XML Element Basic

```
<Basic>
   <dob_day>14</dob_day>
   <dob_month>12</dob_month>
   <dob_year>1972</dob_year>
   <forename>Joe</forename>
   <gender>Male</gender>
   <middle_initial>F</middle_initial>
   <surname>Bloggs</surname>
   <title>Mr</title>
</Basic>
```

2.4.2.1.5 UKData

This contains a number of complex elements – Address1 through to Address4, Electric, Telephone, Passport, Driver and Birth. All elements are complex (i.e. contain sub elements) and optional.

Element Name:	UKData
Position(s)	Request.Transaction.URUTxn

Elements of UKData

Element Name	Description	Values / Limitations
Address1	See section 2.4.2.1.6	
Address2		
Address3		
Address4		
Passport	See section 2.4.2.1.7	
Electric	See section 2.4.2.1.8	
Telephone	See section 2.4.2.1.9	
Driver	See section 2.4.2.1.11	
Birth	See section 2.4.2.1.11	

Example XML Element UKData

```
<UKData>
   <Address1>...</Address1>
   <Address2>...</Address2>
   <Passport>...</Passport>
   <Electric>...</Electric>
   <Telephone exdirectory="no">
          ...
       </Telephone>
   <Driver>...</Driver>
</UKData>
```

Example XML Element UKData

```
 <UKData>
   <Passport>...</Passport>
   <Telephone exdirectory="yes">...</Telephone>
   <Driver>...</Driver>
</UKData>
```

2.4.2.1.6 Address#*n*

Up to four addresses may be specified for addresses in the UK, labelled `Address1`, `Address2`, `Address3` and `Address4`. Each takes the same format. Unless otherwise specified, all string fields accept up to 256 characters. All sub-fields are optional.

Element Name:	`Address#n`
Position(s)	`Request.Transaction.URUTxn.UKData`

Elements of Address#n		
Element Name	**Description**	**Values / Limitations**
`postcode`	The postcode of the address	string
`building_name`	The building name of the address	string
`building_no`	The building number of the address	string
`sub_building`	The sub-building name/number of the address	string
`organisation`	The organisation name of the address	string
`street`	The street name of the address	string

`sub_street`	The sub-street name of the address	string
`town`	The town name of the address	string
`district`	The district name of the address	string
`first_year_of_residence`	The first year the individual was at this address	int 0-9999
`last_year_of_residence`	The last year the individual was at this address	int 0-9999

Example XML Element Address1

```
<Address1>
   <postcode>AB1 2CD</postcode>
   <building_name>Duncodin</building_name>
   <building_no>1</building_no>
   <sub_building>3F2</sub_building>
   <organisation>Company Ltd</organisation>
   <street>Main Street</street>
   <sub_street>East End</sub_street>
   <town>Littleton</town>
   <district>Central</district>
   <first_year_of_residence>2003</first_year_of_residence>
   <last_year_of_residence>2004</last_year_of_residence>
</Address1>
```

Example XML Element Address2

```
<Address2>
   <postcode>AB1 2CD</postcode>
   <building_no>8</building_no>
   <street>High Street</street>
   <town>My Town</town>
</Address2>
```

2.4.2.1.7 Passport

This block holds information about an individual's UK passport. International passports should use the `InternationalPassport` element, section 2.4.2.1.17. The passport number is split into six parts, and submitted as `number1` to `number6`. All sub-fields are optional.

Element Name:	`Passport`
Position(s)	`Request.Transaction.URUTxn`

Elements of Passport		
Element Name	**Description**	**Values / Limitations**
`number1`	The first 10 digits of the passport number (9 digit number plus checksum)	string, 10 characters
`number2`	The next 3 digits of the passport number (Issuing State code)	string, 3 characters
`number3`	The next 7 digits of the passport number, (date of birth plus checksum)	string, 7 characters
`number4`	The next 1 character of the passport number (gender)	string, 1 character
`number5`	The next 7 characters of the passport number (passport expiry date plus checksum)	string, 7 characters
`number6`	The final 2 digits of the passport number (checksum digits)	string, 2 characters
`expiry_day`	The day of the month of the passport expiry	int, 1-31
`expiry_month`	The month of the year of the passport expiry	int, 1-12
`expiry_year`	The year of the passport expiry	int, 0-9999

Example XML Passport elements

```
<Passport>
   <number1>1234567890</number1>
   <number2>GBR</number2>
   <number3>6201014</number3>
   <number4>M</number4>
   <number5>1231237</number5>
   <number6>12</number6>
   <expiry_day>12</expiry_day>
   <expiry_month>5</expiry_month>
   <expiry_year>2010</expiry_year>
</Passport>

<Passport>
   <number3>7506083</number3>
   <number4>F</number4>
   <number6>12</number6>
   <expiry_day>23</expiry_day>
   <expiry_month>9</expiry_month>
   <expiry_year>2008</expiry_year>
</Passport>
```

2.4.2.1.8 Electric

This block holds information about an individual's electricity bill. The bill number is split into four parts and submitted as `number1` to `number4`. Unless otherwise specified, strings accept a maximum of 256 characters. All sub-fields are optional.

Element Name:	`Electric`
Position(s)	`Request.Transaction.URUTxn`

Elements of Electric

Element Name	Description	Values / Limitations
`number1`	The first 2 digits of the bill number	string, 2 characters
`number2`	The next 4 digits of the bill number	string, 4 characters
`number3`	The next 4 digits of the bill number	string, 4 characters
`number4`	The final 3 digits of the bill number	string, 3 character
`mail_sort`	The mail sort code of the bill address	string
`postcode`	The postcode the bill is sent to	string

Example XML Electric elements

```
<Electric>
   <number1>12</number1>
   <number2>1234</number2>
   <number3>1234</number3>
   <number4>123</number4>
   <mail_sort>AB123</mail_sort>
   <postcode>AB12 3CD</postcode>
</Electric>

<Electric>
   <number1>56</number1>
   <number2>8318</number2>
   <number3>1234</number3>

</Electric>
```

2.4.2.1.9

2.4.2.1.10 Telephone

This block holds information about an individual's telephone number. An optional attribute will be accepted that indicates whether or not the number is ex-directory. Unless otherwise specified, strings accept a maximum of 256 characters. All sub-fields are optional.

Element Name:	Telephone
Position(s)	Request.Transaction.URUTxn

Attributes of Telephone		
Attribute Name	**Description**	**Values / Limitations**
exdirectory	Whether or not the telephone is ex-directory	yes no

Elements of Telephone		
Element Name	**Description**	**Values / Limitations**
number	The telephone number, including STD code	String. May be specified with or without space between STD code and number
active_month	The month the telephone number became active	int, 1-12
active_year	The year the telephone number became active	int, 0-9999

Example XML Telephone elements

```
<Telephone ex-directory="yes">
   <number>0123 4567890</number>
   <active_month>12</active_month>
   <active_year>2000</active_year>
</Telephone>

<Telephone ex-directory="no">
   <number>0123 4567892</number>
</Telephone>
```

2.4.2.1.11 Driver

This block holds information about an individual's driving licence. The licence number is split into four parts and submitted as `number1` to `number4`. Unless otherwise specified, strings accept a maximum of 256 characters. All sub-fields are optional.

Element Name:	`Driver`
Position(s)	`Request.Transaction.URUTxn`

Elements of Driver		
Element Name	**Description**	**Values / Limitations**
`number1`	The first 5 digits of the licence number	string, 5 characters
`number2`	The next 6 digits of the licence number	string, 6 characters
`number3`	The next 3 digits of the licence number	string, 3 characters
`number4`	The last 2 digits of the licence number	string, 2 characters
`mail_sort`	The mail sort code of the licence address	string
`postcode`	The postcode of the licence address	string

Example XML Driver elements

```
<Driver>
   <number1>HENDE</number1>
   <number2>123456</number2>
   <number3>123</number3>
   <number4>12</number4>
   <mail_sort>AB123</mail_sort>
   <postcode>AB1 2CD</postcode>
</Driver>

<Driver>
   <number2>589231</number2>
   <number4>48</number4>
</Driver>
```

2.4.2.1.12 Birth

This block holds information about an individual's birth details. Both elements are optional.

Element Name:	`Birth`
Position(s)	`Request.Transaction.URUTxn.UKData`

Elements of Birth		
Element Name	**Description**	**Values / Limitations**
`mothers_maiden_name`	Mother's maiden name	String, max 256 characters

`country_of_birth`	Country of birth	`ENGLANDWALES`
		`OTHER`
		`UNSPECIFIED`

Example XML Birth elements

```
<Birth>
  <mothers_maiden_name>Smith</mothers_maiden_name>
  <country_of_birth>UNSPECIFIED</country_of_birth>
</Birth>
```

2.4.2.1.13 USData

This contains various details for customers based in the USA.

Element Name:	`USData`
Position(s)	`Request.Transaction.URUTxn`

Elements of USData		
Element Name	**Description**	**Values / Limitations**
`USAddress1`	See 2.4.2.1.6	
`USAddress2`		
`USAddress3`		
`USAddress4`		

social_security_number	Social security number	string
telephone_number	Telephone number	string
driving_licence	The driver's licence number	string

Example XML USData elements

```
<USData>
  <USAddress1>...</USAddress1>
  <USAddress2>...</USAddress2>
  <USAddress3>...</USAddress3>
  <USAddress4>...</USAddress4>
  <social_security_number>string</social_security_number>
  <telephone_number>string</telephone_number>
  <driving_licence>string</driving_licence>
</USData>
```

2.4.2.1.14 USAddress#n

Up to four addresses may be specified for addresses in the USA, labelled `USAddress1`, `USAddress2, USAddress3 and USAddress4`. Each takes the same format. Unless otherwise specified, all string fields accept up to 256 characters. All sub-fields are optional.

Element Name:	`USAddress#n`
Position(s)	`Request.Transaction.URUTxn.USData`

Elements of Address#n		
Element Name	**Description**	**Values / Limitations**
building1	Address line 1	string
building2	Address line 2	string
building3	Address line 3	string
builidng4	Address line 4	string
zip_code	Postal code of the building	string
street	The street name of the building	string
city_town	Town or City	string
state_district	The state or district	string

Example XML USAddress#n elements

```
<USAddress1>
   <building1>Apt 312</building1>
   <building2>Block B</building2>
   <building3>Manhattan Heights</building3>
   <building4>44532</building4>
   <zip_code>CHF6666</zip_code>
   <street>Fake Street</street>
   <city_town>New York</city_town>
   <state_district>New York</state_district>
</USAddress1>
```

2.4.2.1.15 Employment

This block holds information about an individual’s employment status and residence.

Element Name:	Employment
Position(s)	Request.Transaction.URUTxn

Elements of Employment		
Element Name	**Description**	**Values / Limitations**
residence_type	The residence status of the individual	HomeOwnerOutright HomeOwnerMortgage Tenant LivingWithRelatives
employment_status	The employment status of the individual	FTPerm PTPerm SelfEmployed Retired Homemaker Unemployed Student ArmedForces
current_time	The length of time the individual has been in their current employment	Years0to2 Years2to5 Years5Plus

Example XML Employment elements

```
<Employment>
   <residence_type>HomeOwnerMortgage</residence_type>
   <employment_status>FTPerm</employment_status>
   <current_time>Years0to2</current_time>
</Employment>

<Employment>
   <residence_type>Tenant</residence_type>
   <employment_status>Student</employment_status>
</Employment>
```

2.4.2.1.16 CreditDebitCard

This block holds information about an individual's payment card. If this block is present, it must take an attribute specifying the card type. Although the block is optional as a whole, if it is present then many of its sub-fields become mandatory as indicated below.

Element Name:	`CreditDebitCard`
Position(s)	`Request.Transaction.URUTxn`

Attributes of CreditDebitCard			
Attribute Name	**Description**	**Values / Limitations**	**Mandatory**
cardtype	The card type	VISA MASTERCARD DELTA AMEX JCB MAESTRO DINERS SOLO ELECTRON	R

Elements of CreditDebitCard			
Element Name	**Description**	**Values / Limitations**	**Mandatory**
card_number	The card number	string, up to 19 characters	R
card_expiry_date	The card expiry date	MMYY	R
card_issue_number	The card issue number	int, 1-9	O

card_verification_code	The CV2 number	int, 3 digits for non-Amex, 4 for Amex	R

Example XML Element CreditDebitCard

```
<CreditDebitCard cardtype="SOLO">
   <number>6759000000000000</number>
   <card_expiry_date>1209</card_expiry_date>
   <card_issue_number>3</card_issue_number>
   <card_verification_code>123</card_verification_code>
</CreditDebitCard>
```

2.4.2.1.17 InternationalPassport

This block holds information about an individual's international machine-readable passport. This element can be used for UK machine-readable passports if required, instead of the Passport element - section 2.4.2.1.7.

The passport number is split into nine parts and entered as number1 to number9. All sub-fields are optional.

Element Name:	InternationalPassport
Position(s)	Request.Transaction.URUTxn

Elements of InternationalPassport		
Element Name	**Description**	**Values / Limitations**
number1	The first 9 digits of the passport number	string, 9 characters
number2	The next 1 digit of the passport number, a checksum digit for number1	string, 1 character
number3	The next 3 digits of the passport number, Issuing State code	string, 3 characters
number4	The next 7 digits of the passport number, date of birth plus checksum	string, 7 characters
number5	The next 1 digit of the passport number, gender	string, 1 character
number6	The next 7 digits of the passport number, passport expiry date and checksum	string, 7 characters

number7	The next 14 digits of the passport number	string, 14 characters
number8	The next 1 digit of the passport number	string, 1 character
number9	The last 1 digit of the passport number, checksum of entire passport number	string, 1 character
expiry_day	The day of the month of the passport expiry	int, 1-31
expiry_month	The month of the year of the passport expiry	int, 1-12
expiry_year	The year the passport expires	int, 0-9999
country_of_origin	The country of origin of the passport	string, a maximum of 256 characters

Example XML InternationalPassport elements

```
<InternationalPassport>
   <number1>123456789</number1>
   <number2>1</number2>
   <number3>123</number3>
   <number4>1234567</number4>
   <number5>1</number5>
   <number6>1234567</number6>
   <number7>12345678901234</number7>
   <number8>1</number8>
   <number9>1</number9>
   <expiry_day>21</expiry_day>
   <expiry_month>12</expiry_month>
   <expiry_year>2010</expiry_year>
   <country_of_origin>UK</country_of_origin>
</InternationalPassport>

<InternationalPassport>
   <number7>12345678901234</number7>
   <country_of_origin>Germany</country_of_origin>
</InternationalPassport>
```

2.4.2.1.18 Authenticate

This block holds information about the URU account that is to be used for this transaction. This allows the specification of a URU account other than the default account that may be set up. The block itself is optional, but if it is presented all sub fields are required.

Element Name:	Authenticate
Position(s)	Request.Transaction.URUTxn

Elements of Authenticate		
Element Name	**Description**	**Values / Limitations**
profile_id	The profile identifier – the UUID of the profile	String
account_name	The email address that acts as the account user name	String
password	The URU login password	String

Example XML Authenticate element

```
<Authenticate>
  <profile_id>332c87be-aac8-42e3-9039-6b93ce1a04b8
    </profile_id>
  <account_name>no.one@nowhere.com</account_name>
  <password>password</password>
</Authenticate>
```

2.4.2.2 XML Example Requests

Example XML Request for an authentication, with full details

```
<Request>
      <Authentication>
     <password>password</password>
     <client>99000000</client>
  </Authentication>
  <Transaction>
     <TxnDetails>
       <merchantreference>12345678</merchantreference>
     </TxnDetails>
     <URUTxn>
       <method>authenticate</method>
       <Basic>
          <forename>Jane</forename>
          <middle_initial>R</middle_initial>
          <surname>Smith</surname>
          <dob_day>18</dob_day>
          <dob_month>12</dob_month>
          <dob_year>1972</dob_year>
          <gender>Female</gender>
          <title>Ms</title>
       </Basic>
       <UKData>
          <Address1>
            <postcode>AB1 2CD</postcode>
            <building_name>Duncodin</building_name>
            <building_no>1</building_no>
            <sub_building>3F2</sub_building>
            <organisation>Company Ltd</organisation>
            <street>Main Street</street>
            <sub_street>East End</sub_street>
            <town>Littleton</town>
            <district>Central</district>
            <first_year_of_residence>2003 </first_year_of_residence>
          </Address1>
          <Address2>
            <postcode>EF3 4GH</postcode>
            <building_no>1</building_no>
            <street>North Street</street>
            <town>Bigton</town>
            <first_year_of_residence>2002 </first_year_of_residence>
            <last_year_of_residence>2003</last_year_of_residence>
          </Address2>
          <Address3>
            <postcode>IJ5 6KL</postcode>
            <building_no>1</building_no>
            <street>South Street</street>
            <town>Upper Bigton</town>
            <first_year_of_residence>2001 </first_year_of_residence>
            <last_year_of_residence>2002</last_year_of_residence>
          </Address3>
          <Address4>
            <postcode>MN7 8OP</postcode>
            <building_no>1</building_no>
            <street>Market Street</street>
            <town>Lower Littleton</town>
            <first_year_of_residence>2000 </first_year_of_residence>
            <last_year_of_residence>2001</last_year_of_residence>
          </Address4>
          <Passport>
            <number1>1234567890</number1>
            <number2>USA</number2>
            <number3>1234567</number3>
            <number4>M</number4>
            <number5>1234567</number5>
            <number6>12</number6>
            <expiry_day>31</expiry_day>
            <expiry_month>12</expiry_month>
            <expiry_year>2010</expiry_year>
          </Passport>
          <Electric>
            <number1>12</number1>
            <number2>1234</number2>
            <number3>1234</number3>
            <number4>123</number4>
            <mail_sort>12345</mail_sort>
            <postcode>AB1 2CD</postcode>
          </Electric>
          <Telephone exdirectory="no">
            <number>0123 456 7890</number>
            <active_month>12</active_month>
            <active_year>2000</active_year>
          </Telephone>
          <Driver>
            <number1>12345</number1>
            <number2>123456</number2>
            <number3>123</number3>
            <number4>1234</number4>
            <mail_sort>6789</mail_sort>
            <postcode>AB1 2CD</postcode>
          </Driver>
          <Birth>
            <mothers_maiden_name>Smith</mothers_maiden_name>
            <country_of_birth>ENGLANDWALES</country_of_birth>
          </Birth>
        </UKData>
        <Employment>
          <residence_type>Tenant</residence_type>
          <employment_status>FTPerm</employment_status>
          <current_time>Years0to2</current_time>
        </Employment>
        <CreditDebitCard cardtype="VISA">
          <card_number>5521480000000003</card_number>
          <card_expiry_date>1009</card_expiry_date>
          <card_issue_number>1</card_issue_number>
          <card_verification_code>321</card_verification_code>
        </CreditDebitCard>
        <InternationalPassport>
          <number1>123456789</number1>
          <number2>1</number2>
          <number3>USA</number3>
          <number4>1234567</number4>
          <number5>M</number5>
          <number6>1234567</number6>
          <number7>12345678901234</number7>
          <number8>1</number8>
          <number9>1</number9>
          <expiry_day>21</expiry_day>
          <expiry_month>2</expiry_month>
          <expiry_year>2009</expiry_year>
          <country_of_origin>Scotland</country_of_origin>
        </InternationalPassport>
     </URUTxn>
      </Transaction>
</Request>
```

Example XML Request for an authentication, with partial details

```
<Request>
   <Authentication>
      <password>password</password>
      <client>99000000</client>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>123456789</merchantreference>
      </TxnDetails>
      <URUTxn>
         <method>authenticate</method>
         <Basic>
            <title>Dr</title>
            <forename>Ian</forename>
            <surname>Smith</surname>
            <dob_day>29</dob_day>
            <dob_month>11</dob_month>
            <dob_year>1968</dob_year>
         </Basic>
         <UKData>
            <Address1>
               <postcode>AB1 2CD</postcode>
               <building_no>46</building_no>
               <street>Middle Road</street>
               <town>Leeds</town>
               <first_year_of_residence>1992
                  </first_year_of_residence>
            </Address1>
            <Telephone exdirectory="no">
               <number>0123 456 7890</number>
               <active_month>12</active_month>
               <active_year>1992</active_year>
            </Telephone>
         </UKData>
      </URUTxn>
   </Transaction>
</Request>
```

Example XML Request for a log request

```
<Request>
  <Authentication>
    <client>99000000</client>
    <password>password</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>1357924680</merchantreference>
    </TxnDetails>
    <URUTxn>
      <method>get_log_by_authentication_id</method>
      <guid>12345678-9abc-def0-1234-56789abcdef0</guid>
    </URUTxn>
  </Transaction>
</Request>
```

2.4.2.3 Schema Elements for Response

In addition to the elements covered in this section, responses for this service will contain the general response elements, covered in section 2.1.1.3

2.4.2.3.1 URUTxn

This element holds all URU specific data. Elements may be relevant only to authentications, to log requests, or to both.

Element Name:	URUTxn
Position(s)	Response

Elements of URUTxn

Element Name	Description	Values / Limitations	Authentication	Log Request
authentication_id	The query reference of the authentication being retrieved	UUID	N	Y
authentication_count	The number of authentications submitted on the URU account	int	Y	Y
customer_ref	The merchantreference element submitted with the authentication	string	Y	Y
profile_id	The profile id submitted with the authentication	UUID	Y	Y
provile_version	The major version number of the profile used for the authentication	int	Y	Y
profile_revision	The minor version number of the profile used for the authentication	int	Y	Y
profile_name	The name of the profile used for the authentication	string	N	Y
query_ref	An authentication reference for future log requests	UUID	Y	N

state	The state the profile was in at time of authentication	PS_TST PS_PRE PS_EFF PS_RET	N	Y
Results	The results of the authentication	See section 2.4.2.3.2	Y	Y
UserData	The original user data supplied with the authentication		N	Y*
score	The score for this request based on values set by the URU account holder	int	Y	Y
cc_basic_score	Credit card basic score – based on values set by the URU account holder	int	Y	Y
timestamp	Value indicating the date/time of the authentication	string	Y	Y
SanctionMatches	Match information returned from the Sanctions Items check (if processed)	See Section 2.4.2.3.4	Y	Y
band_text	Values returned when scoring and banding are included in the URU profile	string	Y	Y

* The URU service definition provides the facility to return the original user data. However, it is not clear whether this functionality has been implemented at the URU side. If the DPG receives this data in the URU response, it will be returned in the DataCash response.

Example XML Element URUTxn for an authentication Response

```
<URUTxn>
   <authentication_count>2</authentication_count>
   <authentication_id>332c87be-aac8-42e3-9039-6b93ce1a04b8
    </authentication_id>
   <cc_basic_score>5</cc_basic_score>
   <customer_ref>123401</customer_ref>
   <profile_id>332c87be-aac8-42e3-9039-6b93ce1a04b8</profile_id>
   <profile_revision>0</profile_revision>
   <profile_version>1</profile_version>
   <Results>
    ...
  </Results>
   <score>2</score>
   <timestamp>_SOAP_DATE_</timestamp>
</URUTxn>
```

Example XML Element URUTxn for a log request Response

```
<URUTxn>
   <authentication_id>0bcb541d-8b7a-46a0-86d2-1e6a521fef5a
     </authentication_id>
   <customer_ref>1234501</customer_ref>
   <profile_id>332c87be-aac8-42e3-9039-6b93ce1a04b8
     </profile_id>
   <profile_name>Default</profile_name>
   <profile_revision>0</profile_revision>
   <profile_version>1</profile_version>
   <Results>
    ...
  </Results>
   <state>PS_EFF</state>
</URUTxn>
```

2.4.2.3.2 Results

This element holds a collection of result blocks. In an authentication response, these results will each be contained in `URUResult2` blocks, whilst in the response from a log request they will be in `URULogResult` blocks.

Element Name:	`Results`
Position(s)	`Response.URUTxn`

Elements of Results				
Element Name	**Description**	**Values / Limitations**	**Authentication**	**Log Request**
`URUResult2`	Information about a single aspect of one of the checks performed by the URU server during an authentication	See section 2.4.2.3.3	Y	N
`URULogResult`	Information about a single aspect of one of the checks performed by the URU server during an authentication	See section 2.4.2.3.3	N	Y

Example XML Element Results for a authentication transaction Response

```
<Results>
   <URULogResult2>
     ...
  </URULogResult2>
   <URULogResult2>
     ...
  </URULogResult2>
   <URULogResult2>
     ...
  </URULogResult2>
   <URULogResult2>
     ...
  </URULogResult2>
</Result
```

Example XML Element Results for a log request Response

```
<Results>
   <URULogResult>
    ...
  </URULogResult>
   <URULogResult>
    ...
  </URULogResult>
</Results>
```

2.4.2.3.3 URUResult2, URULogResult

Both the `URUResult2` element, found in the response from an authentication, and the `URULogResult` element, found in the response from a log request, have the same basic format, and so are dealt with together.

Element Name:	`URUResult2`
Position(s)	`Response.URUTxn.Results`

Element Name:	`URULogResult`
Position(s)	`Response.URUTxn.Results`

Elements of URUResult2, URULogResult		
Element Name	**Description**	**Values / Limitations**
`uru_id`	A number representing the check to which this part-result belongs	int
`code`	A numeric code describing one aspect of the check referred to by the `uru_id`	int
`text`	A textual description of the code within the context of the check referred to by the `uru_id`	string

Example XML Element URUResult2 for a log request

```
<URUResult2>
   <code>1001</code>
   <text>Address #1 is valid</text>
   <uru_id>1</uru_id>
</URUResult2>
```

Example XML Element URULogResult for a log request

```
<URULogResult>
   <code>1001</code>
   <text>Address #1 is valid</text>
   <uru_id>1</uru_id>
</URULogResult>
```

2.4.2.3.4 SanctionMatches

This element holds a collection of `SanctionMatch` blocks.

Element Name:	`SanctionMatches`
Position(s)	`Response.URUTxn`

Elements of SanctionMatches		
Element Name	**Description**	**Values / Limitations**
`SanctionMatch`	Information about each of the sanction match checks performed	See section 2.4.2.3.5

Example XML Element SanctionMatches

```
<SanctionMatches>
   <SanctionMatch>…</SanctionMatch>
   <SanctionMatch>…</SanctionMatch>
</SanctionMatches>
```

2.4.2.3.5 SanctionMatch

Element containing information regarding each of the sanction match checks performed. Will only appear where the URU account is configured for perform these checks.

Element Name:	`SanctionMatch`
Position(s)	`Response.URUTxn.SanctionMatches`

Elements of SanctionMatch		
Element Name	**Description**	**Values / Limitations**
id	A value representing the check to which this part-result belongs	string
`url`	The URL of the URU transaction	string
`score`	A numeric score describing the check referred to by the `id`	int

Example XML Elements SanctionMatch

```
<SanctionMatch>
   <id>Second result</id>
   <score>4</score>
   <url>https://localhost:8180/axis/</url>
</SanctionMatch>

<SanctionMatch>
   <id>First result</id>
   <score>2</score>
   <url>https://localhost:8180/axis/</url>
</SanctionMatch>
```

2.4.2.4 XML Example Responses

Example XML Response for an authentication

```
<Response>
      <datacash_reference>4000900012345671</datacash_reference>
   <merchantreference>sanction_match</merchantreference>
   <mode>TEST</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1134662619</time>
   <URUTxn>
      <authentication_count>2</authentication_count>
```

```
     <authentication_id>5C64C6F0-6D84-11DA-AC9A-9A8DBF8F5DE4
    </authentication_id>
     <cc_basic_score>5</cc_basic_score>
     <customer_ref>sanction_match</customer_ref>
     <profile_id>332c87be-aac8-42e3-9039-6b93ce1a04b8</profile_id>
     <profile_revision>0</profile_revision>
     <profile_version>1</profile_version>
     <Results>
        <URUResult2>
          <code>260</code>
          <text>Part 6 was not sufficiently supplied by user</text>
          <uru_id>3</uru_id>
        </URUResult2>
        <URUResult2>
          <code>1001</code>
          <text>Address #1 is valid</text>
          <uru_id>4</uru_id>
        </URUResult2>
        <URUResult2>
          <code>110</code>
          <text>Telephone number not specified by user</text>
          <uru_id>6</uru_id>
        </URUResult2>
        <URUResult2>
          <code>101</code>
          <text>Drivers license number was not specified in
          full</text>
          <uru_id>7</uru_id>
        </URUResult2>
     </Results>
     <SanctionMatches>
        <SanctionMatch>
          <id>Second result</id>
          <score>4</score>
          <url>https://localhost:8180/axis</url>
        </SanctionMatch>
        <SanctionMatch>
          <id>First result</id>
          <score>2</score>
          <url>https://localhost:8180/axis</url>
        </SanctionMatch>
     </SanctionMatches>
     <score>2</score>
     <timestamp>2005-12-15T16:03:41.568Z</timestamp>
      </URUTxn>
</Response>
```

Example XML Response for a log response

```
<Response>
      <datacash_reference>4600900012345673</datacash_reference>
  <merchantreference>123403</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1134662157</time>
  <URUTxn>
```

```
<authentication_id>26238d77-02fe-4177-8752-029a0d384e2a
 </authentication_id>
<customer_ref>customerRef_datacash1@uru.com</customer_ref>
<profile_id>332c87be-aac8-42e3-9039-6b93ce1a04b8</profile_id>
<profile_name>Default</profile_name>
<profile_revision>0</profile_revision>
<profile_version>1</profile_version>
<Results>
   <URULogResult>
      <code>110</code>
      <text>Telephone number not specified by user</text>
      <uru_id>6</uru_id>
   </URULogResult>
   <URULogResult>
      <code>101</code>
      <text>Drivers license number was not specified in
        full</text>
      <uru_id>7</uru_id>
   </URULogResult>
   <URULogResult>
      <code>260</code>
      <text>Part 6 was not sufficiently supplied by user</text>
      <uru_id>3</uru_id>
   </URULogResult>
   <URULogResult>
      <code>1001</code>
      <text>Address #1 is valid</text>
      <uru_id>4</uru_id>
   </URULogResult>
</Results>
<state>PS_EFF</state>
<UserData>
   <Basic>
      <dob_day>10</dob_day>
      <dob_month>12</dob_month>
      <dob_year>1980</dob_year>
      <forename>Joe</forename>
      <gender>Male</gender>
      <surname>Bloggs</surname>
   </Basic>
   <CreditDebitCard>
      <card_expiry_date>0109</card_expiry_date>
      <card_issue_number>1</card_issue_number>
      <card_number>6333000000000005</card_number>
      <card_verification_code>123</card_verification_code>
      <cardtype>SOLO</cardtype>
   </CreditDebitCard>
   <Employment>
      <current_time>Years0to2</current_time>
      <employment_status>ArmedForces</employment_status>
      <residence_type>HomeOwnerMortgage</residence_type>
   </Employment>
   <InternationalPassport>
      <number1>123456789</number1>
      <number2>1</number2>
      <number3>123</number3>
      <number4>1234567</number4>
```

```
          <number5>1</number5>
          <number6>1234567</number6>
          <number7>12345678901234</number7>
          <number8>1</number8>
          <number9>1</number9>
        </InternationalPassport>
        <UKData>
          <Address1>
             <building_no>10</building_no>
             <postcode>AB1 2CD</postcode>
             <street>Easy Street</street>
             <town>Bigton</town>
          </Address1>
          <Driver>
             <number1>12345</number1>
             <number2>123456</number2>
             <number3>123</number3>
             <number4>12</number4>
          </Driver>
          <Electric>
             <mail_sort>1234</mail_sort>
             <number1>12</number1>
             <number2>1234</number2>
             <number3>1234</number3>
             <number4>123</number4>
             <postcode>AB1 2CD</postcode>
          </Electric>
          <Passport>
             <expiry_day>1</expiry_day>
             <expiry_month>1</expiry_month>
             <expiry_year>2010</expiry_year>
             <number1>1234567890</number1>
             <number2>123</number2>
             <number3>1234567</number3>
             <number4>1</number4>
             <number5>1234567</number5>
             <number6>12</number6>
          </Passport>
          <Telephone>
             <active_month>5</active_month>
             <active_year>2002</active_year>
             <exdirectory>false</exdirectory>
          </Telephone>
        </UKData>
     </UserData>
      </URUTxn>
</Response>
```

2.4.3 *ReD Fraud Screening*

This section of the documentation assumes the reader is familiar with the Credit and Debit Card Service, which is discussed in section 2.2.1.

2.4.3.1 Schema Elements for Request

In this section the required fields for each transaction type will be presented, along with example XML for those fields. The following key will be used:

- R – Required
- MS – Market Sector merchants should consider this field as mandatory
- O – Optional for Market Sector merchants
- I – Ignored if presented

If you are using a bespoke model – instead of the Market Sector model – please ensure that you are providing the correct data to enable each rule to be triggered.

Authorisation Requests

For authorisation requests, the *additional* information for fraud screening is passed in several different places in the schema. Most of these are located within the `Request.Transaction.TxnDetails` element:

2.4.3.1.1 TxnDetails

- o `Order` – see section 2.4.3.1.11
    - ▪ `Customer` – see section 2.4.3.1.6
        - `Address` – the customer’s address, section 2.4.3.1.3
        - `Company` for corporate orders, section 2.4.3.1.5
            - o `Address` – the company’s address, section 2.4.3.1.5
        - `CustomerHistory` – see section 2.4.3.1.7
    - ▪ `BillingAddress` – the card billing address, if different from the customer’s address, section 2.4.3.1.4
- o `Shipping` – see section 2.4.3.1.14
- o `OrderDetails` – see section 2.4.3.1.11
    - ▪ `LineItem` – see section 3.3.2.1.6
        - `Shipping` – see section 2.4.3.1.14
- o `Recipient` – see section 2.4.3.1.13
    - ▪ `Address` – see section 2.4.3.1.3
    - ▪ `LineItem` – see section 3.3.2.1.6
        - `Shipping` – see section 2.4.3.1.14

If you are also using the AVSCV2 Service, an additional element may be submitted in the Cv2Avs element, please see section 2.4.3.1.8.

Over-riding Challenges

To over-ride a Fraud Challenged Response, information is passed in these places in the schema:

2.4.3.1.2 Request

- `Authentication` – see section 2.1.1.2
- `Transaction`
  - `HistoricTxn` – see section 2.6.2.3.2.1

2.4.3.1.3 Address

The Address element is found in several different contexts, as the customer, customer's company and the recipients may all have different addresses. For orders being shipped to more than one address, each Address can be specified using multiple `Recipient.Address elements.` The `CustomerAddress` element will only be fraud screened if there are no `Recipient` elements present.

Element Name:	`Address`

Position(s)	`Request.Transaction.TxnDetails.Order.Customer`
	`Request.Transaction.TxnDetails.Order.Customer.Company`
	`Request.Transaction.TxnDetails.Order.Recipient`

Elements of Address			
Element Name	**Description**	**Values / Limitations**	
`apartment`	Apartment, Suite or Flat Number	Maximum 6 characters	O
`streetaddress`	street address	Maximum 30 characters	R
`city`	City or town	Maximum 30 characters	R
`postcode`	Postcode	Maximum 30 characters	R
`region`	US State or Canadian Province code	For addresses in USA and Canada only, must be excluded for other countries	O
`country`	Country	Use the numeric country codes	R
`moreaddress`	Additional space for address if required	Maximum 30 characters	O

Example XML element for Address

```
<Address>
   <city>New York</city>
   <country>840</country>
   <postcode>12345</postcode>
   <region>NY</region>
   <streetaddress>123 Some Street </streetaddress>
</Address>
```

Example XML element for Address

```
<Address>
   <city>Dover</city>
   <country>826</country>
   <moreaddress>Kent</moreaddress>
   <postcode>XX12 3AA</postcode>
   <streetaddress>56 Kings Road</streetaddress>
</Address>
```

Example XML element for Address

```
<Address>
   <apartment>3/1</apartment>
   <city>Edinburgh</city>
   <country>826</country>
   <moreaddress>Great Michael House</moreaddress>
   <postcode>EH6 7EZ</postcode>
   <streetaddress>14 Links Place</streetaddress>
</Address>
```

2.4.3.1.4 BillingAddress

This element must be provided if the customer's address is not the address to which the card is registered – for example if the customer has moved house & has not yet informed their bank.

If you are performing the AVS check, the card address needs to be entered in both the `Cv2AVS` (section 2.4.3.1.8) and `BillingAddress` elements.

Element Name:	`BillingAddress`
Position(s)	`Request.Transaction.TxnDetails.Order`

The child elements within this parent are the same as for `Address` (section 2.4.3.1.3).

Example XML elements for BillingAddress

```
<BillingAddress>
   <apartment>6</apartment>
   <city>London</city>
   <country>826</country>
   <moreaddress>Newtown</moreaddress>
   <postcode>W1 2ZZ</postcode>
   <streetaddress>Main Street</streetaddress>
</BillingAddress>
```

2.4.3.1.5 Company

This element should be provided if the order is a company purchase.

Element Name:	Company
Position(s)	Request.Transaction.TxnDetails.Order.Customer

Elements of Company

Element Name	Description	Values / Limitations	
Address	See section 2.4.3.1.3		O
fax	The company fax number	1-12 numerics only	O
name	The company name	Maximum 30 characters	O
purchase_description	A description of corporate purchase	Maximum 160 characters	O
telephone	The company phone number	1-12 numerics only	O

Example XML element for Company

```
<Company>
   <Address>
     …
  </Address>
   <fax>111122223001</fax>
   <purchase_description>Hardware</purchase_description>
   <name>My Company Ltd</name>
   <telephone>111122223000</telephone>
</Company>
```

2.4.3.1.6 Customer

This element contains various details about the customer.

Element Name:	`Customer`
Position(s)	`Request.Transaction.TxnDetails.Order`

Elements of Customer			
Element Name	**Description**	**Values / Limitations**	
`Address`	see 0		
`age`	Age	minimum value: 0 maximum value: 150 This value will be ignored if presented for `Recipient`	O
`alt_telephone`	Home telephone number	A maximum of twelve numerics International numbers: include Country code, exclude access code	MS
`Company`	See section 2.4.3.1.5		O
`CustomerHistory`	See section 2.4.3.1.7		O
`date_of_birth`	date of birth	CCYY-MM-DD	O
`email`	email address	60 characters max	MS
`fax`	Fax number	as for `alt_telephone`	O
`forename`	First name	30 characters max	MS
`ip_address`	The IP address of the computer placing the order	Minimum 7 characters (e.g. 1.2.3.4) Maximum of 17 (e.g. 255.255.255.255)	MS
`max_age`	Maximum age	minimum value: 0 maximum value: 150 This value will be ignored if presented for `Recipient`	O
`middlename`	Middle name or initial	30 characters max	O
`min_age`	Minimum age	minimum value: 0 maximum value: 150 This value will be ignored if presented for `Recipient`	O

national_id	Nationally recognised individual identification number	12 characters maximum	O
pctime	time on the Customer's PC	HH:MM:SS	O
salutation	Title	5 characters max	O
surname	Surname / family name	30 characters max	MS
telephone	Work / day phone number of Customer, or main number for Company / Recipient	A maximum of twelve numerics International numbers: include Country code, exclude the International dialling/access code	O

Example XML element for Customer

```
<Customer>
  <age>43/<age>
  <email>me@hotmail.com</email>
  <Address>…</Address>
  <surname>Brown</surname>
  <forename>Mark</forename>
  <salutation>Dr</salutation>
  <ip_address>1.2.3.255</ip_address>
</Customer>
```

Example XML element for Customer

```
<Customer>
   <date_of_birth>1965-01-31</date_of_birth>
   <Address>…</Address>
   <surname>Patel</surname>
   <forename>Sanjay</forename>
   <CustomerHistory>…</CustomerHistory>
</Customer>
```

Example XML element for Customer

```
<Customer>
   <min_age>18</min_age>
   <max_age>25</max_age>
   <forename>Mary</forename>
   <surname>O’Connor</surname>
   <telephone>…</telephone>
   <alt_telephone>…</alt_telephone>
</Customer>
```

2.4.3.1.7 CustomerHistory

This element enables information about the customer history to be passed. Most of the elements within this parent will only be applicable for e-Commerce transactions – for example `cookies` and `website`, though MoTo merchants may find some elements of use (e.g. `previous_cust`). Flagging MoTo and e-Commerce is covered in section 2.4.3.1.15.

Element Name:	`CustomerHistory`
Position(s)	`Request.Transaction.TxnDetails.Order.Customer`

Elements of CustomerHistory

Element Name	Description	Values / Limitations	
`account`	username, userid etc.	max 64	O
`cookies`	cookies enabled on customers PC	XML Boolean	O
`forgot_password`	did customer require the password to be reset	XML Boolean	O
`formfill`	The degree to which the online purchase form filled automatically	`E` - All fields filled automatically `M` - All fields filled automatically but some fields modified manually `N` – None, all manually filled	O
`loyalty`	Has customer registered for a loyalty program	XML Boolean	O
`password_access`	Did customer enter a password to access the account?	XML Boolean	O
`previous_cust`	Has customer previously bought products	XML Boolean	O
`promos`	Is customer registered for promotions	XML Boolean	O
`website`	URL of website the purchase was made on. Particularly useful for merchants with more than one website	max 60	O

Example XML element for CustomerHistory

```
<CustomerHistory>
   <previous_cust>false</previous_cust>
</CustomerHistory>
```

Example XML element for CustomerHistory

```
<CustomerHistory>
   <account>johnsmith99</account>
   <promos>false</promos>
   <loyalty>false</loyalty>
   <previous_cust>true</previous_cust>
   <password_access>true</password_access>
   <forgot_password>false</forgot_password>
   <formfill>E</formfill>
   <website>http://www.computershop.com/</website>
   <cookies>true</cookies>
</CustomerHistory>
```

Example XML element for CustomerHistory

```
<CustomerHistory>
   <account>userXXX</account>
   <previous_cust>false</previous_cust>
   <formfill>N</formfill>
   <website>http://www.XXX.com/</website>
</CustomerHistory>
```

2.4.3.1.8 Cv2Avs

If you are using both the ReD and AVSCV2 services, the `cv2_present` element must be considered to be mandatory. The other child elements of Cv2Avs are described in section 2.4.1.

Element Name:	`Cv2Avs`
Position(s)	`Request.Transaction.CardTxn.Card`

Elements of Cv2Avs

Element Name	Description	Values / Limitations	
`cv2_present`	Gauges whether the customer had the opportunity to enter the cv2 number	`0` - requested from the customer, but not provided `1` - entered by customer `2` - not legible on the card `8` - cv2 details were not requested on the website `9` - card had no cv2 number	R

Example XML elements for Cv2Avs

```
<Cv2Avs>
   <cv2>123</cv2>
   <cv2_present>1</cv2_present>
</Cv2Avs>

<Cv2Avs>
   <street_address1>1 High Street</street_address1>
   <street_address2>This Town</street_address2>
   <street_address3>Somewhere</street_address3>
   <street_address4>United Kingdom</street_address4>
   <postcode>S01 2CD</postcode>
   <cv2_present>0</cv2_present>
</Cv2Avs>

<Cv2Avs>
   <street_address1>54 Kings Road</street_address1>
   <street_address2>This Village</street_address2>
   <street_address3>Derbyshire</street_address3>
   <postcode>DE1 1AA</postcode>
   <cv2_present>8</cv2_present>
   <ExtendedPolicy>…</ExtendedPolicy>
</Cv2Avs>
```

2.4.3.1.9 HistoricTxn

This element is required to over-ride Fraud Challenged Responses. It should not be presented for authorisations.

Element Name:	HistoricTxn
Position(s)	Request.Transaction

Elements of HistoricTxn

Element Name	Description	Values / Limitations	
method	The transaction method	accept_fraud	R
reference	The datacash_reference of the challenged transaction	Must be a successfully authorised challenge received within the previous seven days	R

Example XML element for HistoricTxn

```
<HistoricTxn>
   <method>accept_fraud</method>
   <reference>4900200040157301</reference>
</HistoricTxn>
```

2.4.3.1.10 LineItem

This element enables information about each item within the order to be presented. Multiple `LineItem` elements can be presented. Each distinct product within the order should be submitted within its own `LineItem` element.

Element Name:	`LineItem`
Position(s)	`Request.Transaction.TxnDetails.Order.OrderDetails` `Request.Transaction.TxnDetails.Order.Recipient`

Elements of LineItem			
Element Name	**Description**	**Values / Limitations**	
`description`	a description of the product	160 max	O
`gift`	For gifts, any message attached to item. May instead be specified for the order as a whole in the `Order` element (section 2.4.3.1.11)	160 max	O
`Shipping`	See section 2.4.3.1.14		O

Attributes of LineItem				
Attribute Name	**Attribute of**	**Description**	**Values / Limitations**	
`card`	`gift`	gift occasion	See Appendix 5 for values	O
`category`	`LineItem`	category of offer	`S` - Standard `P` - Promotion	O
`manpartno`	`LineItem`	manufacturers part number	30 characters max, inc spaces	O
`manufacturer`	`LineItem`	manufacturers name	50 characters max, inc spaces	O
`product_code`	`LineItem`	your product code	18 characters max, inc spaces	O
`quantity`	`LineItem`	number of items ordered	12 digits max	O
`sku`	`LineItem`	product ID or SKU	18 characters max, inc spaces	O
`type`	`LineItem`	Product type	`P` - physical goods `D` - digital goods, e.g. software `C` - digital content, e.g. images `S` - shareware `M` - a mixture of the above	O
`unit_price`	`LineItem`	Cost per item	If a decimal point is included, it must be followed by two digits	O

upc	LineItem	product UPC	12 characters max, inc spaces	O
wrapped	gift	Is the item/order wrapped?	XML Boolean	O

Example XML for LineItem with one item

```
<LineItem category="S" quantity="1" type="P" unit_price="499.99">
   <gift card="G" wrapped="false">Congratulations!</gift>
</LineItem>
```

Example XML for LineItem with eight copies of one product

```
<LineItem category="S" quantity="8" type="P" unit_price="5.58"/>
```

Example XML for an order with two products

```
<LineItem category="S" manpartno="part number 1J800" manufacturer="Dell"
product_code="DELL-1J800" quantity="1" type="P" unit_price="900">
   <description>Desktop</description>
   <Shipping>
     …
  </Shipping>
</LineItem>
<LineItem category="P" manpartno="CD0001" manufacturer="Sony"
product_code="SONY-CD0001" quantity="20" sku="sku 2" unit_price="0.50"
upc="upc 2">
   <description>CD boxes</description>
   <Shipping>
     …
  </Shipping>
</LineItem>
```

2.4.3.1.11 Order

The majority of the extra information is contained within this element.

Elements of Order			
Element Name	**Description**	**Values / Limitations**	
`Customer`	See section 2.4.3.1.6		MS
`BillingAddress`	See section 2.4.3.1.4		MS
`Recipient`	See section 2.4.3.1.13		O
`OrderDetails`	See section 2.4.3.1.12		O
`Shipping`	See section 2.4.3.1.14		O
`returns_allowed`	Indicates if you enable the customer to return goods to you	XML Boolean	O
`gift`	For gifts, any message attached to the entire order. May also be specified on a per item basis in the `LineItem` element (section 3.3.2.1.6)	160 max	O

Attributes of Order				
Attribute Name	**Attribute of**	**Description**	**Values / Limitations**	
`wrapped`	`gift`	Is the item/order wrapped?	XML Boolean	O
`card`	`gift`	Gift occasion	See Appendix 5	O

Example XML elements for Order

```
<Order>
   <Customer>…</Customer>
   <OrderDetails>…</OrderDetails>
   <returns_allowed>true</returns_allowed>
   <gift card="B" wrapped="true"/>
</Order>

<Order>
   <Customer>…</Customer>
   <Recipient>…</Recipient>
   <BillingAddress/>
</Order>
```

2.4.3.1.12 OrderDetails

Element Name:	OrderDetails
Position(s)	Request.Transaction.TxnDetails.Order

Elements of OrderDetails			
Element Name	Description	Values / Limitations	
handling	Shipping and handling charges	If a decimal point is included it must be followed by two digits	O
subtotal	Order subtotal, without tax, shipping and handling		O
tax	Order tax		O
LineItem	See section 3.3.2.1.6		O

Example XML element for OrderDetails

```
<OrderDetails>
   <handling>5.00</handling>
   <subtotal>26.99</subtotal>
   <tax>5.60</tax>
   <LineItem>…</LineItem>
   <LineItem>…</LineItem>
</OrderDetails>
```

2.4.3.1.13 Recipient

This element enables information about the recipients of the order to be submitted. For example, if the customer is placing the order on behalf of a third party, details of that person can be passed for screening. Orders that are being shipped to several people can be presented by using one Recipient element for each person.

Element Name:	Recipient
Position(s)	Transaction.TxnDetails.Order.Recipient

Elements in the PartyType box are common to both Customer and Recipient are described in section 2.4.3.1.6

Elements of Recipient		
Element Name	Description	Values / Limitations
Address	See 2.4.3.1.3	R
age	See 2.4.3.1.6	I
alt_telephone		O
email		O
fax		O
forename		O
max_age		I

middlename		O
min_age		I
salutation		O
surname		O
telephone		O
LineItem	See 3.3.2.1.6	O

Example XML element for Recipient

```
<Recipient>
   <Address>…</Address>
   <forename>Julia</forename>
   <tracking_number>123</tracking_number>
   <instructions>A</instructions>
   <comments>FAO Mrs Jane White</comments>
</Recipient>
```

2.4.3.1.14 Shipping

This element enables information about the method of shipment to be entered. It may be presented in one of three places in the schema.

Element Name:	Shipping
Position(s)	Request.Transaction.TxnDetails.Order.OrderDetails.LineItem Request.Transaction.TxnDetails.Order.Recipient.LineItem Request.Transaction.TxnDetails.Order

If all items within the order are being shipped within the same parcel, the Order.Shipping element should be used. If the items are being shipped to the customer as they become available, the OrderDetails.LineItem.Shipping elements should be used for each item within the order. For orders which are being shipped to several different recipients, the Recipient.LineItem.Shipping element should be used for each item within the order.

Elements of Shipping

Element Name	Description	Values / Limitations	
carrier	Shipment carrier for order/item	F - FedEx P - USPS U - UPS L – Purolator G - Greyhound D - DHL O - Other	O

comments	Additional text for shipment of order/item	160 max	O
instructions	When the shipment is to be made	C - when order is complete A - as items become available D - on a specified date	O
method	The delivery method	N - Next Day/Overnight T - Two Day Service W - Three Day Service C - Lowest Cost D - Carrier designated by Customer I - International M - Military P - Store delivery service O - Other	O
tracking_number	shipment tracking number for item/order	max 19	O

Example XML element for Shipping

```
<Shipping>
   <method>N</method>
   <carrier>O</carrier>
   <tracking_number>123</tracking_number>
   <instructions>A</instructions>
   <comments>FAO Mrs Jane White</comments>
</Shipping>
```

2.4.3.1.15 TxnDetails

Element Name:	TxnDetails
Position(s)	Request.Transaction

Elements of TxnDetails

Element Name	Description	Values / Limitations	
transactionsource	The environment in which the transaction was made. Particularly important if a single ReD account is used to screen transactions from several sources	ecommerce mail-order/telephone-order	O
Order	0		R

Example XML elements for TxnDetails

```
<TxnDetails>
   <transactionsource>ecommerce</transactionsource>
   <Order>…</Order>
</TxnDetails>

<TxnDetails>
   <transactionsource>mail-order/telephone-order</transactionsource>
   <Order>…</Order>
</TxnDetails>
```

2.4.3.2 Example XML Request

Example XML Request where the order is being shipped to two different recipients

```
<Request>
   <Authentication>...</Authentication>
   <Transaction>
      <TxnDetails>
         <Order>
            <Customer>
               <salutation>Mrs</salutation>
               <forename>J</forename>
               <surname>Brown</surname>
               <Address>
                  <apartment>1</apartment>
                  <streetaddress>10 Front Street</streetaddress>
                  <city>Edinburgh</city>
                  <region>Lothian</region>
                  <country>826</country>
                  <postcode>EH9 9ZZ</postcode>
               </Address>
               <email>j.brown@compuserve.com</email>
               <alt_telephone>44 131 999 8888</alt_telephone>
            </Customer>
            <Recipient>
               <forename>Jenny</forename>
               <surname>Black</surname>
               <Address>
                  <streetaddress>26 The High Street</streetaddress>
                  <city>Cardiff</city>
                  <country>826</country>
               </Address>
               <LineItem manufacturer="CO Q" quantity="1"
                unit_price="20.00">
                  <description>Present</description>
                  <gift card="R" wrapped="true">Happy Christmas</gift>
               </LineItem>
            </Recipient>
            <Recipient>
               <forename>Laura</forename>
               <surname>Green</surname>
               <Address>
                  <streetaddress>99 Royal York Crescent</streetaddress>
                  <city>London</city>
                  <country>826</country>
               </Address>
               <LineItem manufacturer="ABC" quantity="2"
                unit_price="10.00">
                  <description>Present</description>
                  <gift card="R" wrapped="true">Happy Christmas</gift>
               </LineItem>
            </Recipient>
         </Order>
     </TxnDetails>
      <CardTxn>…</CardTxn>
   </Transaction>
</Request>
```

Example XML Request where ReD and AVSCV2 checks are being used

```
<Request>
   <Authentication>...</Authentication>
   <Transaction>
      <TxnDetails>
         <Order>
            <Customer>
               <salutation>Ms</salutation>
               <forename>Sandra</forename>
               <middlename>K</middlename>
               <surname>Littlejohn</surname>
               <Address>
                  <streetaddress>37 Queen Street</streetaddress>
                  <city>Oxford</city>
                  <country>826</country>
                  <postcode>OX20 8FP</postcode>
               </Address>
               <email>slittlejohn@ox.co.uk</email>
               <alt_telephone>0870 1234 4566</alt_telephone>
               <ip_address>48.12.3.4</ip_address>
            </Customer>
            <OrderDetails>…</OrderDetails>
         </Order>
       …
     </TxnDetails>
      <CardTxn>
         <Card>
            <Cv2Avs>
               <cv2_present>1</cv2_present>
               <cv2>453</cv2>
               <street_address1>37 Queen Street</street_address1>
               <street_address2>Oxford</street_address2>
               <postcode>OX20 8FP</postcode>
               <ExtendedPolicy>…</ExtendedPolicy>
            </Cv2Avs>
            <pan>4444**********11</pan>
            <expirydate>12/06</expirydate>
         </Card>
      </CardTxn>
   </Transaction>
</Request>
```

Example XML Request where the billing address is not the same as the customer's address

```
<Request>
   <Authentication>...</Authentication>
   <Transaction>
      <TxnDetails>
         <Order>
            <Customer>
               <salutation>Mr</salutation>
               <forename>Joe</forename>
               <middlename>K</middlename>
               <surname>Brown</surname>
               <Address>
                  <apartment>1</apartment>
                  <streetaddress>10 Front Street</streetaddress>
                  <city>Edinburgh</city>
                  <region>Lothian</region>
                  <country>826</country>
                  <postcode>EH9 9ZZ</postcode>
               </Address>
               <email>joe.brown@compuserve.com</email>
               <alt_telephone>44 131 999 8888</alt_telephone>
               <ip_address>231.0.0.1</ip_address>
            </Customer>
            <BillingAddress>
               <apartment>6</apartment>
               <streetaddress>Main Street</streetaddress>
               <moreaddress>Newtown</moreaddress>
               <city>London</city>
               <country>826</country>
               <postcode>W1 2ZZ</postcode>
            </BillingAddress>
         </Order>
    ...
    </TxnDetails>
      <CardTxn/>
   </Transaction>
</Request>
```

Example XML Request element to override a fraud challenged transaction

```
<Request>
  <Authentication>
    <client>21859999</client>
    <password>thepassword</password>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>accept_fraud</method>
      <reference>99106703363948 37</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.4.3.3 Schema Elements for Response

When a transaction is screened using this service, the general Response elements (section 2.1.1.3) and CardTxn elements (section 2.2.1.3.1) elements will be present. An additional element will also be present for authorisation Responses.

2.4.3.3.1 EbitGuard

This element contains the results of the fraud screening.

Element Name:	EbitGuard
Position(s)	Response.CardTxn

Elements of EbitGuard		
Element Name	**Description**	**Values**
orderid	The ReD order ID. This uniquely identifies the order	
fraud_status	The overall result of the transaction	Accept Deny Challenge

Attributes for Elements of EbitGuard			
Attribute Name	**Attribute of element**	**Description**	**Values**
score	fraud_status	The ReD return code	4 digit numeric

Example XML elements for EbitGuard

```
<EbitGuard>
   <fraud_status score="0150">Accept</fraud_status>
   <orderid>0000000000000000000001060764550</orderid>
</EbitGuard>

<EbitGuard>
   <fraud_status score="0800">Deny</fraud_status>
   <orderid>00000100000ADC000000001118324936</orderid>
</EbitGuard>
```

2.4.3.4 Example Responses

Example XML Response XML element for fraud declined transaction

```
<Response>
   <CardTxn>
      <card_scheme>VISA Delta</card_scheme>
      <country>United States</country>
      <EbitGuard>
         <fraud_status score="0200">Deny</fraud_status>
         <orderid>0000000000000000000001060764550</orderid>
      </EbitGuard>
   </CardTxn>
   <datacash_reference>4700200040952107</datacash_reference>
   <merchantreference>…</merchantreference>
   <mode>…</mode>
   <reason>FRAUD DECLINED 0200</reason>
   <status>7</status>
   <time>…</time>
</Response>
```

Example XML Response XML element for fraud challenged transaction, authorised by the bank

```
<Response>
   <CardTxn>
      <authcode>278052</authcode>
      <EbitGuard>
         <fraud_status score="0600">Challenge</fraud_status>
         <orderid>0000000000000000000001060764524</orderid>
      </EbitGuard>
    …
  </CardTxn>
   <datacash_reference>4600200040952400</datacash_reference>
   <merchantreference>00000007</merchantreference>
   <mode>…</mode>
   <reason>FRAUD CHALLENGED 0600</reason>
   <status>7</status>
   <time>…</time>
</Response>
```

Example XML Response XML element for fraud challenged transaction, declined by the bank

```
<Response>
   <CardTxn>
      <authcode>NOT AUTHORISED</authcode>
      <EbitGuard>
         <fraud_status score="0600">Challenge</fraud_status>
         <orderid>0000000000000000000001060764524</orderid>
      </EbitGuard>
    …
  </CardTxn>
   <datacash_reference>4600200040500007</datacash_reference>
   <merchantreference>00000007</merchantreference>
   <mode>…</mode>
   <reason>DECLINED</reason>
   <status>7</status>
   <time>…</time>
</Response>
```

Example XML Response XML element for an accepted transaction

```
<Response>
   <CardTxn>
      <authcode>743065</authcode>
      <card_scheme>VISA</card_scheme>
      <country>United Kingdom</country>
      <EbitGuard>
         <fraud_status score="0100">Accept</fraud_status>
         <orderid>0000000000000000000001060694599</orderid>
      </EbitGuard>
   </CardTxn>
   <datacash_reference>4600200040500130</datacash_reference>
   <merchantreference>00000006</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML. A successful accept_fraud transaction

```
<Response>
   <datacash_reference>4600200040952400</datacash_reference>
   <merchantreference>4600200040952400</merchantreference>
   <mode>…</mode>
   <reason>ACCEPT FRAUD CHALLENGE OK</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML. A failed accept_fraud

```
<Response>
  <datacash_reference>4300200040500382</datacash_reference>
  <merchantreference>4600200040500007</merchantreference>
  <mode>…</mode>
  <reason>accept_fraud attempted on CV2AVS DECLINED
       transaction</reason>
  <status>19</status>
  <time>…</time>
</Response>
```

2.4.4 *3-D Secure, with DataCash MPI*

This service enables you to perform a 3-D Secure check using the DataCash MPI and then authorize the payment via the DPG. A technical introduction to this Service is available on the website: http://www.datacash.com/gettingproducts.php?id=3D-Secure-MPI-Service

The DataCash MPI service is utilised by sending a normal Credit and Debit Card Service Request with several pieces of extra information. This section of the documentation assumes the reader is familiar with the Credit and Debit Card Service, as described in section 2.2.1.

It is also possible to use this service in conjunction with the Pre-Registered Card Service, as outlined in section 2.3.1.

The following key will be used in this section of the document:

- R – Required
- M –Mandatory if 3D-Secure check is to be performed
- O – Optional

Cardholder Verification Check
The `auth` and `pre` transaction types require the same information about the transaction to be provided.
This data is passed using the following schema elements:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `CardTxn` - details about the card, section 2.2.1.1.2
    - `TxnDetails` - contains details of the transaction, section 2.4.2.1.2
      - `ThreeDSecure` – contains all the details required to initiate the 3-D Secure check, section 2.4.4.1.1
        - `Browser` – details of the browser the cardholder is using, section 2.4.4.1.2

Authorization and Referred Authorization
The `threedsecure_authorization_request` and `threedsecure_authorize_referral_request` transaction types require information to be provided in the `HistoricTxn` element:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `HistoricTxn` – section 2.4.4.1.2

2.4.4.1 Schema Elements for Request

2.4.4.1.1 ThreeDSecure

This element contains all of the extra details which are required for the 3-D Secure check to be initiated and should be provided for auth and pre Requests.

Element Name:	ThreeDSecure
Position:	Request.Transaction.TxnDetails

Elements of ThreeDSecure			
Element Name	**Description**	**Values / Limitations**	**Required**
verify	Indicates whether the transaction should be checked for enrolment in the 3-D Secure system	yes no	R
merchant_url	The URL of the website on which the payment is being made. Will be displayed to cardholder by ACS	1-2048 characters. Must be fully qualified (i.e. include https://)	M
purchase_desc	A short description of what has been purchased. This is shown to the card holder by the ACS.	1-125 characters	M
purchase_datetime	The date and time of the transaction	YYYYMMDD HH:MM:SS format	M
Browser	See section 2.4.4.1.2		M

Example XML for ThreeDSecure complex elements

```
<ThreeDSecure>
   <verify>yes</verify>
   <merchant_url>https://www.widgets.com/</merchant_url>
   <purchase_desc>DVD</purchase_desc>
   <purchase_datetime>20120731 21:59:42</purchase_datetime>
   <Browser>…</Browser>
</ThreeDSecure>

<ThreeDSecure>
   <verify>no</verify>
</ThreeDSecure>
```

2.4.4.1.2 Browser

The Browser element contains all the information about the browser the cardholder is using to access your website, and must be provided for auth and pre requests where the 3-D Secure check is to be performed.

Element Name: `Browser`
Position: `Request.Transaction.TxnDetails.ThreeDSecure`

Elements of Browser			
Element Name	**Description**	**Values / Limitations**	**Required**
`accept_headers`	The MIME types of the headers accepted by this device		R
`user_agent`	The User Agent associated with the device		R

Example XML for Browser complex elements

```
<Browser>
   <accept_headers>*/*</accept_headers>
   <user_agent>IE/6.0</user_agent>
</Browser>

<Browser>
   <accept_headers>txt/xml, application/xml, application/xhtml+xml,
       text/html;q=0.9, text/plain;q=0.8,video/x-mng, image/png,
       image/jpeg, image/gif;q=0.2, text/css, */*;q=0.1
  </accept_headers>
   <user_agent>Mozilla/5.0 (Macintosh; U; PPC Mac OS X; en)
       AppleWebKit/417.9 (KHTML, like Gecko) Safari/417.9.2
  </user_agent>
</Browser>
```

2.4.4.1.3 HistoricTxn

The `HistoricTxn` element is used for `threedsecure_authorization_request`, `threedsecure_authorize_referral_request` and `fulfill` transactions. It enables these transactions to be tied back to the original transaction.

Element Name: `HistoricTxn`
Position: `Request.Transaction`

Elements of HistoricTxn					
Element Name	**Description**	**Values / Limitations**	**3DS ref[1]**	**3DS aut[2]**	**3DS ful[3]**
`reference`	The datacash_reference number for the transaction	16 digits	R	R	R
`authcode`	The authorisation code provided by your Bank's Authorisation Centre	-	R	n/a	R

`Method`	The transaction type	See bullets below	R	R	R
`pares_message`	The Payer Authentication Response (PARes) returned by the ACS	As returned by the ACS	O	O	n/a

[1] `threedsecure_authorize_referral_request`

[2] `threedsecure_authorization_request`

[3] `fulfill`

Attributes of elements within HistoricTxn				
Attribute Name	**Attribute of Element**	**Description**	**Values / Limitations**	**Required**
`tx_status_u`	`method`	Accepts the transaction if the ACS is unable to complete the validation of the card holder	`accept`	O

Example XML for HistoricTxn complex elements

```
<HistoricTxn>
   <reference>4400200042810513</reference>
   <method>threedsecure_authorization_request</method>
   <pares_message>uyt45t89cnwu3rhc98a4hterjklth4o8c
       tsrjzth4</pares_message>
</HistoricTxn>

<HistoricTxn>
   <reference>4400200042810513</reference>
   <method tx_status_u="accept">
      threedsecure_authorization_request</method>
   <pares_message>4o7sbvohyv8s4075mytudriotu0359ucmi
      udtoyuu</pares_message>
</HistoricTxn>
```

Example XML for HistoricTxn complex elements for transactions which cannot be 3-D Secure checked (e.g. card scheme not supported, non-enrolled cards)

```
<HistoricTxn>
   <reference>4400200042810513</reference>
   <method>threedsecure_authorization_request</method>
</HistoricTxn>
```

Example XML for HistoricTxn complex elements for referred authorisation

```
<HistoricTxn>
   <reference>4400200042810513</reference>
   <authcode>12AB52</authcode>
   <method>threedsecure_authorize_referral_request</method>
   <pares_message>w5670w5689kg74u76490wf
        uvaero5ielktekt=vre</pares_message>
</HistoricTxn>
```

Example XML for HistoricTxn complex elements for a fulfill

```
<HistoricTxn>
   <reference>4400200042810513</reference>
   <authcode>12AB52</authcode>
   <method>fulfill</method>
</HistoricTxn>
```

2.4.4.2 XML Example Requests

2.4.4.2.1 Cardholder Verification Requests

Example XML for pre transactions which by-pass the 3-D Secure check

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>387545924AdkWdd</merchantreference>
         <amount currency="GBP">10.04</amount>
         <ThreeDSecure>
            <verify>no</verify>
         </ThreeDSecure>
      </TxnDetails>
      <CardTxn>
         <Card>
            <pan>4444************</pan>
            <expirydate>06/12</expirydate>
         </Card>
         <method>pre</method>
      </CardTxn>
   </Transaction>
</Request>

<Request>
   <Authentication>
      <client>99000001</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>4564234523</merchantreference>
         <amount currency="AUD">59.45</amount>
         <capturemethod>ecomm</capturemethod>
         <ThreeDSecure>
            <verify>no</verify>
            <merchant_url>https://www.mywebsite.com/12/</merchant_url>
            <purchase_desc>CDs and DVDs</purchase_desc>
            <purchase_datetime>20120531 13:06:28</purchase_datetime>
            <Browser>
               <accept_headers>*/*</accept_headers>
               <user_agent>IE/6.0</user_agent>
            </Browser>
         </ThreeDSecure>
      </TxnDetails>
      <CardTxn>
         <Card>
            <pan>4444************</pan>
            <expirydate>06/18</expirydate>
         </Card>
         <method>pre</method>
      </CardTxn>
   </Transaction>
</Request>
```

Example XML for an auth request, requesting verification

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>387545924537037</merchantreference>
         <amount currency="GBP">10.04</amount>
         <capturemethod>ecomm</capturemethod>
         <ThreeDSecure>
            <verify>yes</verify>
            <merchant_url>https://www.mywebsite.com/</merchant_url>
            <purchase_desc>CDs and DVDs</purchase_desc>
            <purchase_datetime>20120206 23:59:59</purchase_datetime>
            <Browser>
               <accept_headers>*/*</accept_headers>
               <user_agent>IE/6.0</user_agent>
            </Browser>
         </ThreeDSecure>
      </TxnDetails>
      <CardTxn>
         <Card>
            <pan>4444************</pan>
            <expirydate>06/18</expirydate>
         </Card>
         <method>auth</method>
      </CardTxn>
   </Transaction>
</Request>
```

Example XML for a Pre-Registered Card request, requesting verification

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>387545924537037</merchantreference>
         <amount currency="GBP">10.04</amount>
         <capturemethod>ecomm</capturemethod>
         <ThreeDSecure>
            <verify>yes</verify>
            <merchant_url>https://www.mywebsite.com/</merchant_url>
            <purchase_desc>CDs and DVDs</purchase_desc>
            <purchase_datetime>20120201 23:59:59</purchase_datetime>
            <Browser>
               <accept_headers>*/*</accept_headers>
               <user_agent>IE/6.0</user_agent>
            </Browser>
         </ThreeDSecure>
      </TxnDetails>
      <CardTxn>
         <card_details type="preregistered">
           4100200043070870</card_details>
         <method>auth</method>
      </CardTxn>
   </Transaction>
</Request>
```

2.4.4.2.2 Historic Transactions

Example XML for a threedsecure_authorization_request, with PARes

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <reference>4900200042810407</reference>
         <method tx_status_u="accept">
          threedsecure_authorization_request</method>
         <pares_message>w48gj6s5ty45ty8cviozdtrjgd </pares_message>
      </HistoricTxn>
   </Transaction>
</Request>
```

Example XML for a threedsecure_authorization_request without a PARes. E.g. for a non-enrolled card, or a card scheme which is not supported by 3-D Secure

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <reference>4100200043070078</reference>
         <method>threedsecure_authorization_request</method>
      </HistoricTxn>
   </Transaction>
</Request>
```

Example XML for a threedsecure_authorize_referral_request

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>********</password>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <reference>4100200043070078</reference>
      <authcode>ZY987A</authcode>
      <method>threedsecure_authorize_referral_request</method>
    </HistoricTxn>
  </Transaction>
</Request>
```

Please refer to section 2.2.1.2.2 for an example `fulfill` request.

2.4.4.3 Schema Elements for Response

2.4.4.3.1 ThreeDSecure

This element will be returned in response to a card enrolment check, if the card is enrolled. If the card is not enrolled or is not supported, this element will not be present.

Element Name:	ThreeDSecure
Position:	Response.CardTxn

Elements of ThreeDSecure	
Element Name	**Description**
pareq_message	The PAReq
acs_url	The URL of the ACS, to which the cardholder needs to be re-directed. In the test environment this will be the URL of the testserver ACS. In the live environment this will be the URL of the Issuing Bank's ACS.

Example XML for ThreeDSecure complex elements

```
<ThreeDSecure>
   <acs_url>https://secure.barclaycard.co.uk/barclays/tdsecure/pa.jsp?
         partner=barclaycard.visa&amp;VAA=B/</acs_url>
   <pareq_message>eJxdUltugzAQ/M8pUA+AHyEQKscSLR/NB1HU5AKWsypIBRIb
     StrT14Y4JkGAdnYWdjRjdiwVQH4A2SvgiyBgBWgtviCoTpuXswgjuiZ4tU
     xeLGnoffYJl6k26AeUrtqGkxCHlCEHHV2AkqVoOtcwLSEvb9sdj5MkSglD
     N+j5GtQ252lKcJxgzNCEPd+IGvhBKFEyNNaekm3fdOqXr2nMkAOe7tU3H4
     YhPIlOSKHLULY1Q7br5KJnvWzf24aeb7lWJ17k2TB/dvk2Ko4ZKf7khiE7
     4efNOuAU4xhTTAK6fF2l5mZo7M98qa1gTnCII2PLhDx9tkIyN2NH5p2ZB7
     1S0Ehngk7ntgHzjYnrXs/Ugpa8A90Zgba8W/PsBHv/eEhVdiYmowwv7Wu6
     xnxH4mF/ZWIh1LI3cF/i/mnWuWNmQxkPJF8w9HhY/w</pareq_message>
</ThreeDSecure>
```

2.4.4.4 XML Example Responses

2.4.4.4.1 Cardholder Verification Response

Example XML Response for a card which is not enrolled

```
<Response>
  <CardTxn>
    <card_scheme>Visa</card_scheme>
    <country>United Kingdom</country>
    <issuer>Prudential Banking PLC</issuer>
  </CardTxn>
  <datacash_reference>4300200042810617</datacash_reference>
  <merchantreference>387546093287037</merchantreference>
  <mode>…</mode>
  <reason>3DS Card not Enrolled</reason>
  <status>162</status>
  <time>…</time>
</Response>
```

Example XML Response for a card which is enrolled

```
<Response>
  <CardTxn>
    <card_scheme>Mastercard</card_scheme>
    <country>United Kingdom</country>
    <ThreeDSecure>
      <acs_url>https://www.clicksafe.lloydstsb.com/Lloyds/
       tdsecure/pa.jsp?partner=mc&amp;VAA=B/</acs_url>
      <pareq_message>eJxdUltugzAQ/M8pUA+AHyEQKscSLR/NB1H
       U5AKWsypIBRIbStrT14Y4JkGAdnYWdjRjdiwVQH4A2Svgiy
       BgBWgtviCoTpuXswgjuiZ4tUxeLGnoffYJl6k26AeUrtqGk
       xCHlCEHHV2AkqVoOtcwLSEvb9sdj5MkSglDN+j5GtQ252lK
       cJxgzNCEPd+IGvhBKFEyNNaekm3fdOqXr2nMkAOe7tU3H4Y
       hPIlOSKHLULY1Q7br5KJnvWzf24aeb7lWJ17k2TB/dvk2Ko
       4ZKf7khiE74efNOuAU4xhTTAK6fF2l5mZo7M98qa1gTnCII
       2PLhDx9tkIyN2NH5p2ZB71S0EhngkN+AK7ntgHzjYnrXs/U
       gpa8A90Zgba8W/PsBHv/eEhVdiYmowwv7Wu6xnxH4mF/ZWI
       h1LI3cF/i/mnWuWNmQxkPJF8w9HhY/wFTsbsh
     </pareq_message>
    </ThreeDSecure>
  </CardTxn>
  <datacash_reference>4300200042810537</datacash_reference>
  <merchantreference>387546049537037</merchantreference>
  <mode>…</mode>
  <reason>3DS Payer Verification Required</reason>
  <status>150</status>
  <time>…</time>
</Response>
```

2.4.4.4.2 Cardholder Authorisation Responses

Example XML Response when the PARes returned is invalid

```
<Response>
   <datacash_reference>3000100226001681</datacash_reference>
   <information>[2:Error] Expected PARes node: got
      &apos;Error&apos;</information>
   <merchantreference>3200100226001675</merchantreference>
   <mode>…</mode>
   <reason>3DS invalid pares</reason>
   <status>176</status>
   <time>…</time>
</Response>
```

Example XML Response were a referral response is received

```
<Response>
   <CardTxn>
      <card_scheme>Visa</card_scheme>
      <country>United Kingdom</country>
      <issuer>Prudential Banking PLC</issuer>
   </CardTxn>
   <datacash_reference>3000100226001681</datacash_reference>
   <merchantreference>13542DSDWK21</merchantreference>
   <mode>…</mode>
   <reason>3DS call auth centre</reason>
   <status>161</status>
   <time>…</time>
</Response>
```

2.4.4.4.3 Authorisation of Referred Cards

Example XML Response were a referral response to a three3dsecure_authorize_referral_request

```
<Response>
   <datacash_reference>4900200043070079</datacash_reference>
   <merchantreference>13542DSDWK21</merchantreference>
   <mode>…</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

2.4.4.5 Using inline “Redirect Page”

Due to the increasing use of software known as “Popup Killers”, Visa and MasterCard are recommending that merchants be aware that a “Popup” window may not be the best way to direct cardholders to their issuer for authentication. Indeed, the 3-D Secure specifications have explicitly banned the use of “Popup” windows as of October 2004. The recommended way to allow Cardholders to authenticate themselves is via an in-line Redirect Page generated either via an `<iframe />` type system or as a separate “framed” page.

Example using the <iframe /> mechanism

```
<html>
 <head>
  <title>Please Authenticate</title>
 </head>
 <body OnLoad="OnLoadEvent();" >
  <form name="downloadForm"
   action="https://mybank.com/vbyv/verify/" method="POST">
   <textarea name="PaReq"
style="display:none">thePaReqWithBreaks</textarea>
   <input type="hidden" name="TermUrl" value="https://www.
MyWidgits.Com/next.cgi/">
   <input type="hidden" name="MD" value="200304012012a">
  </form>
  <script language="Javascript" >
   <!--
    function OnLoadEvent(){
    document.downloadForm.target = "ACSframe";
    document.downloadForm.submit();
    }
   //-->
  </script>
  <!-- MERCHANT TO FILL IN THEIR OWN BRANDING HERE -->
  <iframe src="blank.htm" name="ACSframe" width="390"
     height="450" frameborder="0"> </iframe>
  <!-- MERCHANT TO FILL IN THEIR OWN BRANDING HERE -->
 </body>
</html>
```

In this example, no Popup window is created. The ACS dialogue takes place within a floating frame on your page. After the cardholder has authenticated themselves they will be returned to your site by their issuers ACS posting the results to the script defined in the TermURL variable.

2.4.4.6 ACS Simulator & Magic Card Functionality

Please refer to the Developer’s Guide Appendices (Appendix 2 & Appendix 3) for detailed information on the DataCash ACS Simulator and Magic Card Functionality. It is intended that these are used during merchant integration of 3DS With DataCash MPI as well as MPI Only integration, see section 2.4.5.

2.4.5 *MPI Only*

2.4.5.1 Summary of Service

Using this service, it is possible for merchants to perform 3-D Secure authentication of a transaction using the DataCash MPI, and authorize the transaction with a 3rd party Payment Gateway.

In order to use the decoupled DataCash MPI for 3-D Secure transactions a variety of different transaction types are required. Initially an enrolment check transaction must be performed which will contain all details required to initiate the 3-D Secure authentication process as well as transaction details relating to the MPI-Only transaction. The response to this message will indicate whether the cardholder is enrolled.

If the cardholder is enrolled this can be followed by a validation authentication transaction containing the PARes message returned from the ACS and a historic reference. A successful response to this transaction will provide the merchant with enough 3-D Secure information to allow the merchant to authorize the transaction with a 3rd party Payment Gateway.

Alternatively, a merchant can optionally authorize the transaction using the DPG.

2.4.5.2 Schema elements for Request

This element contains all of the extra details which are required for the 3-D Secure check to be initiated and should be provided for `auth` and `pre` Requests.

Element Name:	`MpiTxn`
Position:	`Request.Transaction`

Elements of MpiTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
`method`	The method of the transaction	`mpi`	R
`Card`	The card details of the transaction to be authenticated. This element contains sub elements. See 2.1.1.1 for more information	See 2.1.1.1 for more information	M

`card_details`	If subscribed to the preregistered card service, this element can be used instead of the `Card` block above. See 0 for an example. See 2.3.1 for more information about the preregistered card service.	XML Attribute `type="preregistered"` should be supplied in the opening tag. The value contained should be the datacash_reference of the card transaction.	M

2.4.5.3 End to end walkthrough: Cardholder enrolled

The following scenario uses the DataCash MPI to successfully authorize a 3-D Secure transaction where the cardholder is enrolled.

2.4.5.3.1 Enrolment Check

The first stage of 3-D Secure authentication is to perform an enrolment check. The enrolment check transaction is similar to the existing Cardholder Verification Check message type as used to perform normal (i.e. coupled with Card Authorization) 3-D Secure transactions with the DataCash MPI. The main difference between these two transaction types being that the enrolment check transaction holds card details within the MpiTxn block.

It should be noted that neither Cv2Avs data, nor the Verify element will be allowed in the enrolment check transaction. CV2/AVS data can be provided in a subsequent authorization transaction if required.

Example Enrolment Check Request

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>387545924537037</merchantreference>
         <amount currency="GBP">10.04</amount>
         <ThreeDSecure>
            <merchant_url>http://www.mywebsite.com/</merchant_url>
            <purchase_desc>CDs and DVDs</purchase_desc>
            <purchase_datetime>20060201 3:59:59</purchase_datetime>
            <Browser>
               <accept_headers>*/*</accept_headers>
               <user_agent>IE/6.0</user_agent>
            </Browser>
         </ThreeDSecure>
      </TxnDetails>
      <MpiTxn>
         <method>mpi</method>
         <Card>
            <pan>4444************</pan>
            <expirydate>06/12</expirydate>
            <startdate>06/12</startdate>
            <issuenumber>06/12</issuenumber>
         </Card>
      </MpiTxn>
   </Transaction>
</Request>
```

The following is an example of the xml message response for an enrolled card. The response contains the encoded PAReq message along with an ACS URL link.

Example Enrolment Check Response

```
<Response>
   <status>150</status>
   <reason>3DS Payer Verification Required</reason>
   <merchantreference>387546049537037</merchantreference>
   <datacash_reference>4300200042810537</datacash_reference>
   <time>…</time>
   <mode>…</mode>
   <CardTxn>
      <ThreeDSecure>
         <pareq_message>eJxdUltugzAQ/M8pUA+AHyEQKscSLR/NB1H
             U5AKWsypIBRIbStrT14Y4JkGAdnYWdjRjdiwVQH4A2Svgiy
             BgBWgtviCoTpuXswgjuiZ4tUxeLGnoffYJl6k26AeUrtqGk
             xCHlCEHHV2AkqVoOtcwLSEvb9sdj5MkSglDN+j5GtQ252lK
             cJxgzNCEPd+IGvhBKFEyNNaekm3fdOqXr2nMkAOe7tU3H4Y
             hPIlOSKHLULY1Q7br5KJnvWzf24aeb7lWJ17k2TB/dvk2Ko
             4ZKf7khiE74efNOuAU4xhTTAK6fF2l5mZo7M98qa1gTnCII
             2PLhDx9tkIyN2NH5p2ZB71S0EhngkN+AK7ntgHzjYnrXs/U
             gpa8A90Zgba8W/PsBHv/eEhVdiYmowwv7Wu6xnxH4mF/ZWI
             h1LI3cF/i/mnWuWNmQxkPJF8w9HhY/wFTsbsh
        </pareq_message>
         <acs_url>https://www.clicksafe.lloydstsb.com/Lloyds/
            tdsecure/pa.jsp?partner=mc&amp;VAA=B/</acs_url>
      </ThreeDSecure>
   </CardTxn>
</Response>
```

2.4.5.3.2 Validate Authentication

In order to authenticate an enrolled card, the merchant is required to submit a '`threedsecure_validate_authentication`' transaction. This request will use the `datacash_reference` from the enrolment check as the historic reference along with the resulting PARes message received from the ACS.

An example `threedsecure_validate_authentication` transaction is shown below:

Example Validate Authentication Request

```
<Request>
   <Authentication>
      <client>99000001 </client>
      <password>********</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <reference>4300200042810537</reference>
         <method>threedsecure_validate_authentication</method>
         <pares_message>
         uyt45t89cnwu3rhc98a4hterjklth4o8ctsrjzth4</pares_message>
      </HistoricTxn>
   </Transaction>
</Request>
```

The response to a `threedsecure_validate_authentication` where the cardholder was successfully authenticated is shown below. This response contains the necessary fields should the merchant wish to authorise the transaction using a 3rd Party Payment Gateway.

Example Validate Authentication Response

```
<Response>
   <CardTxn>
      <ThreeDSecure type="visa">
         <cardholder_registered>yes</cardholder_registered>
         <eci>05</eci>
         <security_code>Q0FWVkNBVlZDQVZWQ0FWVkNBVlY=</security_code>
         <xid>MDAwMDAwMDAwMDAwMTIzNDU2NzE=</xid>
      </ThreeDSecure>
   </CardTxn>
   <datacash_reference>3200900012345671</datacash_reference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>_UNIX_TIME_</time>
</Response>
```

Validate Authentication Requests support multiple versions. Where the request version is not supplied or is equal to 1 then the above functionality will be in effect. Version 2 functionality differs from version 1 in the formatting of the Response. When supplied version greater than 1 then an additional elements are returned: '`mid`' and '`acquirer`' are added to the response element. All MPI transactions return the ThreeDSecure block in the response. '`cavvAlgorithm`' is added to the `ThreeDSecure` element of the response and the '`security_code`' element is replaced with the '`aav`' element.

Example Validate Authentication Response from version 2 request

```
<Response version=”2”>
   <CardTxn>
      <ThreeDSecure type="visa">
         <cardholder_registered>yes</cardholder_registered>
         <eci>05</eci>
         <cavvAlgorithm>1</cavvAlgorithm>
         <aav>Q0FWVkNBVlZDQVZWQ0FWVkNBVlY=</aav>
         <xid>MDAwMDAwMDAwMDAwMTIzNDU2NzE=</xid>
      </ThreeDSecure>
   </CardTxn>
   <datacash_reference>3200900012345671</datacash_reference>
   <mode>LIVE</mode>
   <mid>3658684685</mid>
   <acquirer>Rbs</acquirer>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>_UNIX_TIME_</time>
</Response>
```

If you use the version 2 for a Chase or Omnipay acquirer, 2 additional fields will be returned by the Payment Gateway:

- ‘*extended_status*’ : containing the extended status code obtained from the acquirer.

- ‘*extended_response_message*’: containing the extended description or reason obtained from the acquirer.

Example of transaction using Chase and version 2:

```
<Response version=”2”>
   <CardTxn>
      <ThreeDSecure type="visa">
         <cardholder_registered>yes</cardholder_registered>
         <eci>05</eci>
         <cavvAlgorithm>1</cavvAlgorithm>
         <aav>Q0FWVkNBVlZDQVZWQ0FWVkNBVlY=</aav>
         <xid>MDAwMDAwMDAwMDAwMTIzNDU2NzE=</xid>
      </ThreeDSecure>
   </CardTxn>
   <datacash_reference>3200900012345671</datacash_reference>
   <mode>LIVE</mode>
   <mid>3658684685</mid>
   <acquirer>Chase Paymentech</acquirer>
    <extended_status>100</extended_status>
    <extended_response_message>Approved</extended_response_message>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>_UNIX_TIME_</time>
</Response>
```

2.4.5.3.3 Authorization via the DPG

The subsequent authorization of an MPI Only transaction by the DPG is entirely optional. Enough information will have been returned to the merchant by the DPG in response to the validation authentication transaction to permit authorization using 3-D Secure with an alternative Payment Service Provider.

An example authorization request with the DPG is illustrated below. This authorization is similar to that used for pre-registered card transactions. The method types permitted for a subsequent authorization attempts are `auth` or `pre` and the type of the transaction must state `from_mpi`.

CV2/AVS details can be optionally provided with the authorization request as part of CardTxn details using the new Card element.

Additionally a transaction amount can also optionally be supplied. If a new amount is supplied, then the transaction currency must also be provided and must match the currency presented in the original enrolment check. Where a new amount is specified, that amount will be used instead of the amount supplied in the original enrolment check.

If the new amount is specified in an authorisation is greater than that specified in the original authentication transaction, it is at the discretion and risk of the merchant. DataCash make no claims with regard to liability shift.

Example Authorisation Request with the DPG

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>*******</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">1001.02</amount>
      <merchantreference>387545924AdkWdd</merchantreference>
    </TxnDetails>
    <CardTxn>
      <method>auth</method>
      <card_details type="from_mpi">3200900012345671</card_details>
      <Card>
        <Cv2Avs>
          <street_address1>1 High Street</street_address1>
          <street_address2>This Town Town</street_address2>
          <street_address3>Somewhere</street_address3>
          <street_address4>United Kingdom</street_address4>
          <postcode>S01 2CD</postcode>
          <cv2>123</cv2>
        </Cv2Avs>
      </Card>
    </CardTxn>
  </Transaction>
</Request>
```

The response to a subsequent authorization of an MPI Only transaction will be as per standard bankcard responses.

Example Authorisation Response from the DPG

```
<Response>
  <CardTxn>
    <authcode>100000</authcode>
    <card_scheme>VISA</card_scheme>
    <country>United Kingdom</country>
  </CardTxn>
  <datacash_reference>3000900012345672</datacash_reference>
  <merchantreference>4421000009</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>_UNIX_TIME_</time>
</Response>
```

2.4.5.4 End to end walkthrough: Cardholder not enrolled

As can be seen in the example xml response message below, where the cardholder is not enrolled the ECI value will be returned to the merchant. If the merchant wishes to continue with an authorization, they can do so using an alternative PSP or via the DPG.

2.4.5.4.1 Enrolment Check

An example response whereby the cardholder is not enrolled is shown below. This response will contain an ECI value indicating that the cardholder authentication could not be performed.

Example Enrolment Check Response – Cardholder not enrolled

```
<Response>
  <CardTxn>
    <ThreeDSecure type="visa">
      <cardholder_registered>no</cardholder_registered>
      <eci>06</eci>
    </ThreeDSecure>
  </CardTxn>
  <datacash_reference>4300200042810537</datacash_reference>
  <merchantreference>387546049537037</merchantreference>
  <mode>LIVE</mode>
  <status>162</status>
  <reason>3DS Card not Enrolled</reason>
  <time>__UNIX_TIME__</time>
</Response>
```

2.4.5.4.2 Validate Authentication

For an MPI Only transaction with a cardholder that is not enrolled, a ThreeDSecure validate authentication transaction will not be permitted. Such transactions will be rejected by the DPG.

The following example response message would be returned in response to a threedsecure_validate_authentication where the enrolment check determined that the cardholder is not enrolled.

Example Validate Authentication Response – Cardholder not enrolled

```
<Response>
   <datacash_reference>3200900012345671</datacash_reference>
   <mode>LIVE</mode>
   <reason>Authentication can only be performed for enrolled
cards</reason>
   <status>600</status>
   <time>_UNIX_TIME_</time>
</Response>
```

2.4.5.4.3 Authorization via the DPG

Authorization of an MPI Only transaction where the cardholder was not enrolled can optionally be performed via the DPG. The request and response messages for a successful authorization are as shown in 2.1.1.3, the section for the Authorization of an enrolled card.

2.4.5.5 Preregistered Card support

Preregistered cards can be used in the `MpiTxn` segment of the Enrolment check instead of the `Card` block.

The following scenario uses the MPI to authenticate a 3-D Secure transaction using preregistered card details.

The enrolment check specifies which earlier (successful) transaction to use to retrieve the card details as highlighted below:

Example Enrolment Check using Preregistered Card Details

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>fred</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>387545924537037</merchantreference>
      <amount currency="GBP">10.04</amount>
      <ThreeDSecure>
        <merchant_url>http://www.mywebsite.com/</merchant_url>
        <purchase_desc>CDs and DVDs</purchase_desc>
        <purchase_datetime>20080808 23:59:59</purchase_datetime>
        <Browser>
          <accept_headers>*/*</accept_headers>
          <user_agent>IE/6.0</user_agent>
        </Browser>
      </ThreeDSecure>
    </TxnDetails>
    <MpiTxn>
      <method>mpi</method>
      <card_details
      type="preregistered">4300200042810536</card_details>
    </MpiTxn>
  </Transaction>
</Request>
```

DataCash will use the specified transaction to retrieve the card details to be used for the new transaction.

The process of completing 3-D Secure authentication using the preregistered card service differs only in how the card details are specified in the initial enrolment check transaction. All responses will be as if the card details had been supplied explicitly with the exception of the additional return code of 250 indicating that the details for the supplied reference cannot be found.

2.4.5.6 ACS Simulator & Magic Card Facility

Please refer to the Developer's Guide Appendices (Appendix 2 & Appendix 3) for detailed information on the DataCash ACS Simulator and Magic Card Functionality. It is intended that these are used during merchant integration of the MPI Only service as well as 3DS with DataCash MPI service as described in section 2.4.4.1.1.

2.4.6 *3-D Secure, with 3rd party MPI*

This service enables you to authorize a payment via the DPG which has already been 3-D Secure checked by a 3rd party MPI. A technical introduction to this Service is available on the website:

http://www.datacash.com/gettingproducts.php?id=3D-Secure-Third-Party-MPI-Service

This service is utilised by sending a normal Credit and Debit Card Service Request with up to four pieces of extra information. This section of the documentation assumes the reader is familiar with the Credit and Debit Card Service, as described in section 2.2.1.

The service may also be used in conjunction with the Pre-Registered Card service, as outlined in section 2.3.1

2.4.6.1 Schema Elements for Request

The data for the service is passed in five distinct places in the schema. The additional information for this Service is all passed in the `Secure` element:

2.4.6.1.1 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `CardTxn` – as described in 2.7.1.1.2
    - `Card` – section 2.2.1.1.1
    - `Secure` – up to four extra pieces of information about the card transaction, section 2.4.6.1.2
  - `TxnDetails` – see section 2.4.2.1.2

2.4.6.1.2 Secure

The `Secure` element contains the extra information for the 3-D Secure transaction. The data within this element is obtained from your MPI.

Element Name:	`Secure`
Position:	`Request.Transaction.TxnDetails.CardTxn`

Elements of Secure			
Element Name	**Description**	**Values / Limitations**	
security_code	The Cardholder Authentication Verification Value (CAVV) for Visa cards, or Universal Cardholder Authentication Field (UCAF) for MasterCard, (Amex) for American Express		M
cardholder_registered	Indicates whether the cardholder was registered for 3-D Secure and the PARes / VERes status	yes no attempted – enrolled, PARes status ‘A’ ch_enrolled_u – VERes status ‘U’ tx_status_u – enrolled, PARes status ‘U’	R

eci	The Electronic Commerce Indicator (ECI) obtained from your MPI	01 02 05 06 00	M
transactionID	The XID from PARes.Purchase.xid	As copied from the PARes	M

Example Secure complex element

```
<Secure>
   <cardholder_registered>no</cardholder_registered>
</Secure>

<Secure>
   <security_code>AAABAwRzYAAAAAAAAAAAAAAAAAA=</security_code>
   <cardholder_registered>yes</cardholder_registered>
   <eci>06</eci>
   <transactionID>TbwiW8VLThG3TjDuI7KS5wAJCAI=</transactionID>
</Secure>
```

2.4.6.2 XML Example Requests

Example Request XML for 3-D Secure with a 3rd party MPI, for a registered card

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>123456</merchantreference>
         <amount currency="GBP">10.00</amount>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>
      <CardTxn>
         <Card>
            <pan>4444********1111</pan>
            <expirydate>12/09</expirydate>
         </Card>
         <method>pre</method>
         <Secure>
            <security_code>BwABCEYiBQAAAAAGViIFAAA
            AAAA=</security_code>
            <cardholder_registered>yes</cardholder_registered>
            <eci>06</eci>
            <transactionID>TbwiW8VLThG3TjDuI7KS5wAJ
            CAI=</transactionID>
         </Secure>
      </CardTxn>
   </Transaction>
</Request>
```

Example Request XML for 3-D Secure with a 3rd party MPI, for a registered card using the Pre-Registered Card service

```xml
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>123456</merchantreference>
         <amount currency="GBP">10.00</amount>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>
      <CardTxn>
         <card_details type="preregistered">
                     4900200053281123</card_details>
         <method>pre</method>
         <Secure>
            <security_code>BwABCEYiBQAAAAAGViIFAAA
            AAAA=</security_code>
            <cardholder_registered>yes</cardholder_registered>
            <eci>06</eci>
            <transactionID>TbwiW8VLThG3TjDuI7KS5wAJ
            CAI=</transactionID>
         </Secure>
      </CardTxn>
   </Transaction>
</Request>
```

Example Request XML for 3-D Secure with a 3rd party MPI, for an un-registered card

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>123456</merchantreference>
      <amount currency="GBP">56.26</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <CardTxn>
      <Card>
        <pan>5374********0001</pan>
        <expirydate>01/08</expirydate>
      </Card>
      <method>pre</method>
      <Secure>
        <cardholder_registered>no</cardholder_registered>
      </Secure>
    </CardTxn>
  </Transaction>
</Request>
```

Example Request XML for a card scheme which is not supported for the 3-D Secure check

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>45786906</merchantreference>
      <amount currency="GBP">23.45</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <CardTxn>
      <Card>
        <pan>6759********9999</pan>
        <expirydate>12/07</expirydate>
        <startdate>12/04</startdate>
        <issuenumber>03</issuenumber>
      </Card>
      <method>auth</method>
    </CardTxn>
  </Transaction>
</Request>
```

2.4.6.3 Schema Elements for Response

This service does not have any service-specific elements in the response. Please refer to the Bank Card Service (section 2.2.1) and General Response Elements (section 2.1.1.3) for details of the generic elements returned for credit and debit card transaction.

2.4.7 *Batched Fraud Screening*

The Batched Fraud Screening Service is utilised by sending a normal Bank Card or PayPal XML Request with additional information.

Details of XML Request and Response elements which are not specific to the Batched Fraud Screening Service are available in sections 2.1 and 2.8.1

For Bank Card

The Batched Fraud Service check is carried out after authorisation for any pre and auth transactions.

For Paypal

The Batched Fraud Service check is carried out after authorisation for any do_express_checkout_payment , do_authorization and do_reference transactions. The additional information should be presented within the do_express_checkout_payment or do_reference transaction. When used with PayPal, some of the fields which would normally be provided specifically for the fraud screening service should not be used as they conflict with information which is available from PayPal or via fields provided by the Merchant in the PayPalTxn element. These fields will be highlighted within this document.

2.4.7.1 Schema Elements For Batched Screening Request

While all of the fields described within this document are optional, to ensure the Merchant obtains the best results from the Batched Fraud Screening Service, certain fields are recommended. These fields vary depending upon the sector the Merchant is operating in:

- R – Retail and General
- H – Hotels
- T – Travel
- G - Gaming

The data is passed within the The3rdMan element in the schema:

- The3rdMan
  - CustomerInformation – additional details about the customer, section 2.4.7.1.2
  - DeliveryAddress – details the delivery address for the order, section 2.4.7.1.3
  - BillingAddress – details of the Payer Billing Address, section 2.4.7.1.4
  - AdditionalDeliveryAddress – to be used if the order is being delivered to multiple locations, section 2.4.7.1.5
    - DeliveryAddress – up to four additional delivery addresses, section 2.4.7.1.3

- AccountInformation – contains details of any account the Payer may have with the Merchant, section 2.4.7.1.6
    - Address – as held on the Payers account with the Merchant, section 2.4.7.1.7
    - BankInformation – information related to any bank details which may be held by the Merchant, section 2.4.7.1.8
    - PreviousDetails – section 2.4.7.1.9
    - PurchaseInformation – section 2.4.7.1.10
    - UserDetails – section 2.4.7.1.11
- AltPayment – to be used if alternative payment methods have been used in addition to the Card/PayPal used for the transaction, section 2.4.7.1.12
    - BillingAddress – the Billing Address used for the alternative payment, section 2.4.7.1.4
    - Card – details of any card used for alternative payment, section 2.4.7.1.13
    - CustomerInformation - section 2.4.7.1.2Response – the result of the alternative payment, section 2.4.7.1.14
    - Secure – details of the 3-D Secure check used for the alternative payment, section 2.4.7.1.15
- OrderInformation – details about the order, section 2.4.7.1.16
    - Products – a container element for each product, section 2.4.7.1.17
        - Product – details about the individual products within the order, section 2.4.7.1.18
            - AirlineInformation – for Airline Merchants only, section 2.4.7.1.19
- AdditionalInformation – extra information. To be used only by prior agreement, section 2.4.7.1.20

2.4.7.1.1 The 3rdMan

Element Name:	The3rdMan
Position:	Request.Transaction.TxnDetails

Elements of The3rdMan		
Element Name	**Description**	**Values / Limitations**
CustomerInformation	See section 2.4.7.1.2	
DeliveryAddress	See section 2.4.7.1.3. N/A for PayPal – use PayPalTxn.ShippingAddress instead	
BillingAddress	See section 2.4.7.1.3. N/A for PayPal. To receive the full billing address in the response and automatically send the biling address to GateKeeper, you need to set the req_billing_address element in the set_express_checkout message to 1.	
AltPayment	See section 2.4.7.1.12	

OrderInformation	See section 2.4.7.1.16

Example XML for The3rdMan complex elements

```
<The3rdMan>
  <AltPayment>...</AltPayment>
  <BillingAddress...</BillingAddress>
  <CustomerInformation>...</CustomerInformation>
  <DeliveryAddress>...</DeliveryAddress>
  <OrderInformation>...</OrderInformation>
</The3rdMan>

<The3rdMan>
  <CustomerInformation>...</CustomerInformation>
</The3rdMan>
```

2.4.7.1.2 CustomerInformation

This element contains details of the customer. It may be provided within two places in the XML Request schema:

- The3rdMan
  - CustomerInformation – the main customer information
  - AltPayment – if a second (alternative) payment method is used, this element provides the details specific to that transaction, see section 2.4.7.1.12
    - CustomerInformation – for the alternative payment. May all be provided for PayPal transactions.

Element Name:	CustomerInformation
Position:	Request.Transaction.TxnDetails.The3rdMan Request.Transaction.TxnDetails.The3rdMan.AltPayment

Unless otherwise stated, all child elements may only be presented within the The3rdMan.CustomerInformation position in the schema.

Elements of CustomerInformation

Element Name	Description	Values / Limitations	Sectors
alt_telephone	Alternative Telephone Number	Max 20 characters *International numbers*: include Country code, exclude access code	RHTG
customer_dob	Customer Date Of Birth	YYYY-MM-DD format	G
customer_reference	Customer reference	Max 50 characters. N/A for PayPal. Gateway will automatically use TxnDetails.merchantreference	RHTG

delivery_forename	The first name of the person to which the order is being delivered	Max 50 characters. N/A for PayPal, use PayPalTxn.ShippingAddress.name.	R
delivery_phone_number	The phone number of the person to which the order is being delivered	Max 20 characters. N/A for PayPal, use PayPalTxn.ShippingAddress.telephone_number	-
delivery_surname	The surname of the person to which the order is being delivered	Max 50 characters. N/A for PayPal, use PayPalTxn.ShippingAddress.name.	R
delivery_title	The title of the person to which the order is being delivered	Max 10 characters. N/A for PayPal, use PayPalTxn.ShippingAddress.name	R
driving_licence_number	Driving Licence Number	Max 30 characters. N/A for PayPal	-
email	Email Address.	Max 50 characters N/A for PayPal. Gateway will automatically use the email returned by PayPal	RHTG
first_purchase_date	First Purchase Date By Customer	YYYY-MM-DD format	G
forename	Customer first name	Max 50 characters. Gateway will automatically use the firstname returned by PayPal	RHTG
		For AltPayment: Max 50 characters.	-
introduced_by	Customer Ref Of Introducing Customer	Max 50 characters	-

ip_address	IP Address	Must be in "dotted-quad" notation	RHTG
order_number	Order Number	Max 60 characters. N/A for PayPal, Gateway will automatically use the PayPal.invum.	RHTG
previous_purchases	Previous Purchases	See below	
sales_channel	Type of sale	1 – Mail order 2 – Telephone order 3 – Internet 4 - Other 5 – In store 6 - Kiosk 7 – Mobile N/A for PayPal transactions – Gateway will automatically use 4	RHTG
surname	Customer Surname	Max 50 characters. Gateway will automatically use the lastname returned by PayPal	RHTG
		For AltPayment: Max 50 characters	-
telephone	Telephone Number	A maximum of 20 characters. *International numbers*: include Country code, exclude access code.	RHTG
time_zone	Customer's time zone	Customer's time zone. Should be of the form "GMT", "GMT+1", "CET", etc. Websites such as http://wwp.greenwichmeantime.com/ list possible time zones.	-
title	Customer Title (Mr, Mrs etc)	Max 10 characters. Gateway will automatically use the salutation returned by PayPal	RHTG
		For AltPayment: Max 10 characters	-

Attributes for Elements of CustomerInformation

Attribute Name	Attribute of element	Value / Limitations	Sector
count	previous_purchases	Number of previous purchases. Numeric	G
amount	previous_purchases	Total value of previous purchases. Max 15 numeric including decimal point	G

Example XML for CustomerInformation complex elements

```
<CustomerInformation>
   <customer_reference>CUSTREF000001</customer_reference>
   <title>Mr</title>
   <forename>John</forename>
   <surname>Smith</surname>
   <telephone>0131 123 1234</telephone>
   <alt_telephone>0131 123 1234</alt_telephone>
   <email>jsmith@devnull.co.uk</email>
   <ip_address>192.168.0.1</ip_address>
   <customer_dob>1980-03-12</customer_dob>
   <first_purchase_date>2004-02-21</first_purchase_date>
   <previous_purchases count="5" value="58.94"/>
   <introduced_by>CUSTREF0004444</introduced_by>
   <driving_license_number>SMITH0987654321</driving_license_number>
       <time_zone>GMT</time_zone>
</CustomerInformation>

<CustomerInformation>
   <forename>John</forename>
   <surname>Smith</surname>
   <telephone/>
   <email/>
   <delivery_forename>Alice</delivery_forename>
   <delivery_surname>Smith</delivery_surname>
   <delivery_phone_number/>
</CustomerInformation>
```

2.4.7.1.3 DeliveryAddress

This element contains the delivery details. It has two places within the Request Schema:

- The3rdMan
  - DeliveryAddress – for the main delivery address. Should not be provided for PayPal transactions – use PayPalTxn.ShippingAddress instead.
  - AdditionalDeliveryAddress – to be used if items are being shipped to multiple addresses. May be provided for PayPal transactions. See section 2.4.7.1.5
    - DeliveryAddress - Up to four additional delivery addresses can be provided within the AdditionalDeliveryAddresses element. Each DeliveryAddress element should have the "number" attribute set with a value of 1 to 4. May be provided for PayPal transactions.

Element Name:	DeliveryAddress
Position:	Request.Transaction.TxnDetails.The3rdMan Request.Transaction.TxnDetails.The3rdMan.AdditionalDeliveryAddresses

Unless otherwise stated, all child elements may be presented within either position in the schema.

The Sector recommendation only applies for The3rdMan.DeliveryAddress. This recommendation does not apply for `AdditionalDeliveryAddress` elements.

Elements of `DeliveryAddress`			
Element Name	**Description**	**Values / Limitations**	**Sectors (see above)**
`title`		For additional delivery addresses only. Max 10 characters	-
`forename`		For additional delivery addresses only. Max 50 characters	-
`surname`		For additional delivery addresses only. Max 50 characters	-
`street_address_1`	First address line	Max 100 characters. For PayPal, use `ShippingAddress.street_address1`	RHT
`street_address_2`	Second address line	Max 100 characters. For PayPal, use `ShippingAddress.street_address2`	RHT
`city`	City	Max 20 characters. For PayPal, use `ShippingAddress.city`	RHT
`county`	County	Max 30 characters. For PayPal, use `ShippingAddress.region`	RHT
`postcode`	Postcode	Max 9 characters (or 10 for Amex transactions). For PayPal, use `ShippingAddress.postcode`	RHT
`country`	Country Code	Use the numeric country codes. For PayPal, use `ShippingAddress.country_code`	RHT

Example XML for DeliveryAddress complex elements

```
<DeliveryAddress>
  <street_address_1>10 Stratford Road</street_address_1>
  <street_address_2>Windsor</street_address_2>
  <city>London</city>
  <county>London</county>
  <country>826</country>
  <postcode>AB1 2CD</postcode>
</DeliveryAddress>
```

Example XML for DeliveryAddress complex elements

```
<AdditionalDeliveryAddresses>
  <DeliveryAddress number=”1”>
    <title>MR</title>
    <forename>D</forename>
    <surname>Jones</surname>
    <street_address_1>10 Stratford Road</street_address_1>
    <street_address_2>Windsor</street_address_2>
    <city>London</city>
    <country>826</country>
    <postcode>AB1 2CD</postcode>
  </DeliveryAddress>
  <DeliveryAddress number=”2”>
    <title>MR</title>
    <forename>P</forename>
    <surname>Sutherland</surname>
    <street_address_1>12 Stratford Road</street_address_1>
    <street_address_2>Windsor</street_address_2>
    <city>London</city>
    <country>826</country>
    <postcode>AB1 2CD</postcode>
  </DeliveryAddress>
</AdditionalDeliveryAddresses>
```

Example XML for PayPalTxn ShippingAddress complex elements

```
<Transaction>
      <TxnDetails>
            <The3rdMan>
            </The3rdMan>
      </TxnDetails>
      <PayPalTxn>
            <Items>
                  <Item id="0">
                  <name>RT</name>
                  <number>123</number>
                  <quantity>1</quantity>
                  <amount>25.99</amount>
                  </Item>
            </Items>
            <ShippingAddress>
                  <street_address2>Fraud Street</street_address2>
                  <street_address1>Stark's Park</street_address1>
                  <country_code>GB</country_code>
                  <postcode>WC1B6ST</postcode>
                  <name>Mr Fraud Ster</name>
                  <city>London</city>
                  <region>Fife</region>
            </ShippingAddress>
      </PayPalTxn
</ Transaction>
```

2.4.7.1.4 BillingAddress

The BillingAddress element has two places within the Request Schema:

- The3rdMan
  - BillingAddress – for the main billing address. For PayPal transactions, you must set the req_billing_address element in the set_express_checkout message to 1. This will return the full billing address to the merchant in the response from the get_express_checkout message and will automatically pass the address to GateKeeper as the billing address. If you don't set the element and pass a shipping address, only the shipping address will be displayed in GateKeeper and GateKeeper will assume it is both the billing and shipping address. If you don't pass a Shipping Address, PayPal will return the shipping address as selected by the buyer on the PayPal page. If you wish to use the billing address feature for PayPal, you will need to contact them and request that the billing address request is enabled on your PayPal account. All elements within BillingAddress are recommended for Merchants in all sectors, including Gaming.
  - AltPayment – to be used multiple payment methods are being used. May be provided for PayPal transactions. See section 2.4.7.1.12.
    - BillingAddress - if an Alternative Payment is being made, this element contains the Billing Address details supplied with that payment. These elements may all be provided with PayPal transactions.

Element Name:	BillingAddress
Position:	Request.Transaction.TxnDetails.The3rdMan Request.Transaction.TxnDetails.The3rdMan.AltPayment

Elements of **BillingAddress**			
Element Name	**Description**	**Values / Limitations**	**Sectors (see above)**
street_address_1	First address line	Max 100 characters. For PayPal, use ShippingAddress.street_address1	RHTG
		For AltPayment: Max 100 characters.	-
street_address_2	Second address line	Max 100 characters. For PayPal, use ShippingAddress.street_address2	RHTG
		For AltPayment: Max 100 characters.	-
city	City	Max 20 characters. For PayPal, use ShippingAddress.city	RHTG
		For AltPayment: Max 20 characters	-
county	County	Max 30 characters. For PayPal, use ShippingAddress.region	RHTG
		For AltPayment: Max 30 characters.	-
postcode	Postcode	Max 9 characters (or 10 for Amex transactions). For PayPal, use ShippingAddress.postcode	RHTG

		For AltPayment: Max 9 characters (or 10 for Amex transactions).	-
country	Country Code	Use the numeric country codes. For PayPal, use ShippingAddress.country_code	RHTG
		For AltPayment: Use the numeric country codes.	-

Example XML for BillingAddress complex elements

```
<BillingAddress>
  <street_address_1>Mulberry House</street_address_1>
  <street_address_2>15 Acacia Place</street_address_2>
  <city>Edinburgh</city>
  <county>Lothian</county>
  <country>826</country>
  <postcode>EH6 7EZ</postcode>
</BillingAddress>

<BillingAddress>
  <street_address_1>10 Banana Gardens</street_address_1>
  <city>Chepstowe</city>
  <county>Lothian</county>
  <country>826</country>
  <postcode>CH11 4XX</postcode>
</BillingAddress>
```

2.4.7.1.5 AdditionalDeliveryAddresses

Up to four additional delivery addresses can be provided within the AdditionalDeliveryAddresses element. Each DeliveryAddress element should have the “number” attribute set with a value of 1 to 4.

Element Name:	AdditionalDevliveryAddresses
Position:	Request.Transaction.TxnDetails.The3rdMan

Elements of AdditionalDeliveryAddresses		
Element Name	**Description**	**Values / Limitations**
DeliveryAddress	See section 2.4.7.1.3	

2.4.7.1.6 AccountInformation

Element Name:	AccountInformation
Position:	Request.Transaction.TxnDetails.The3rdMan

Elements of `AccountInformation`

Element Name	Description	Values / Limitations	Sector
`Address`	See section 2.4.7.1.7		G
`BankInformation`	See section 2.4.7.1.8		
`PreviousDetails`	See section 2.4.7.1.9		
`PurchaseInformation`	See section 2.4.7.1.10		
`UserDetails`	See section 2.4.7.1.11		
`account_profit_loss`		Format NNNNNNNNNNNN.NN	
`account_status`		Max 50 characters	
`alt_email`		Max 50 characters.	
`authentication_method`	KYC check	Max 30 characters.	
`balance`	This field supports the currency attribute. See example below.	Format NNNNNNNNNNNN.NN	
`browser_language`		Max 30 characters	
`current_use`		Max 30 characters	
`derived_language`		Max 30 characters	
`discount_amount`		Format NNNNNNNNNNNN.NN	
`exposure_amount`		Format NNNNNNNNNNNN.NN	
`forename`		Max 50 characters	G
`fraud_status`		Max 30 characters	
`games_most_played`		Max 50 characters	
`loyalty`		Max 50 characters	
`number_bonus_taken`		Numeric	
`number_cards_registered`		Numeric	
`numbers`		Max 50 characters	
`open_date`		Format YYYY-MM-DD	G
`order_status`		Max 30 characters	
`phone`		Max 20 characters	
`previous_guest`		Max 10 characters	
`previous_use`		Max 30 characters	
`proposition_date`		Format YYYY-MM-DD	
`rake`		Max 30 characters	
`remaining`		Max 30 characters	
`session_id`		Max 100 characters	

surname		Max 50 characters	G
title		Max 10 characters	G
total_account_withdrawal		Format NNNNNNNNNNNN.NN	
vendor_id		Max 30 characters	

Example XML for AccountInformation complex elements

```
<AccountInformation>
  <Address>...</Address>
  <BankInformation>...</BankInformation >
  <PreviousDetails>...</PreviousDetails >
  <PurchaseInformation>...</PurchaseInformation >
  <UserDetails>...</UserDetails>
  <title>Mr</title>
  <forename>Steven</forename>
  <surname>Benson</surname>
  <phone>01505000000</phone>
  <loyalty>Tier 1</loyalty>
  <numbers>1235</numbers>
  <open_date>2010-12-02</open_date>
  <current_use>usage</current_use>
  <previous_use>previous</previous_use>
  <remaining>remaining</remaining>
  <balance currency="EUR">22.55</balance>
  <account_profit_loss>600.53</account_profit_loss>
  <account_status>Active</account_status>
  <alt_email>test@datacash.com</alt_email>
  <authentication_method>POST</authentication_method>
  <browser_language>EN</browser_language>
  <derived_language>EN</derived_language>
  <discount_amount>5.50</discount_amount>
  <exposure_amount>2.50</exposure_amount>
  <fraud_status>OK</fraud_status>
  <games_most_played>Bejewelled</games_most_played>
  <number_bonus_taken>5</number_bonus_taken>
  <number_cards_registered>2</number_cards_registered>
  <order_status>SENT</order_status>
  <previous_guest>Yes</previous_guest>
  <proposition_date>2010-11-15</proposition_date>
  <rake>rake</rake>
  <session_id>1IHKD32</session_id>
  <total_account_withdrawal>55.55</total_account_withdrawal>
  <vendor_id>123</vendor_id>
</AccountInformation>
```

2.4.7.1.7 Address

The elements within the `AccountInformation.Address` element are recommended for Gaming Merchants. They may all be provided with PayPal transactions.

Element Name:	Address
Position:	Request.Transaction.TxnDetails.The3rdMan.AccountInformation

The child elements of Address are the same as DeliveryAddress. See section 2.4.7.1.3 for a description of these elements.

2.4.7.1.8 BankInformation

These elements may all be provided for PayPal transactions.

Element Name:	BankInformation
Position:	Request.Transaction.TxnDetails.The3rdMan.AccountInformation

Elements of BankInformation

Element Name	Description	Values / Limitations	Sectors
account_number		Max 30 characters	-
bank_address		Max 100 characters	-
bank_country			-
bank_name		Max 50 characters	-
customer_name		Max 50 characters	-
sort_code		Max 20 characters	-

Example XML for BankInformation element

```
<BankInformation>
  <account_number>00000000</account_number>
  <bank_address>12 Bank Street</bank_address>
  <bank_country>Scotland</bank_country>
  <bank_name>Santander</bank_name>
  <customer_name>MR J K BANK</customer_name>
  <sort_code>00-00-00</sort_code>
</BankInformation>
```

2.4.7.1.9 PreviousDetails

This container element holds up to five PreviousDetail elements. This element is described in the table below. The “number” attribute should be provided on each PreviousDetail element. Please see the example XML at the end of this section for typical usage. These elements may all be provided for PayPal transactions.

Element Name:	PreviousDetails
Position:	Request.Transaction.TxnDetails.The3rdMan.AccountInformation

Elements of `PreviousDetail`			
Element Name	**Description**	**Values / Limitations**	**Sector**
`amount_in`		Format NNNNNNNNNNNN.NN	-
`amount_out`		Format NNNNNNNNNNNN.NN	-
`currency`	ISO currency code standard (ISO 4217)	(e.g. GBP, EUR, USD). Max 3 characters	-
`date`		YYYY-MM-DD HH:MM:SS	-
`details`		Max 100 characters	-

Example XML for PreviousDetails complex element

```
<PreviousDetails>
  <PreviousDetail number=”1”>
    <amount_in>52.52</amount_in>
    <amount_out>30.65</amount_out>
    <currency>GBP</currency>
    <date>2010-10-12 11:12:58</date>
    <details>Detail text</details>
  </PreviousDetail>
  <PreviousDetail number=”2”>
    <amount_in>552.63</amount_in>
    <amount_out>125.25</amount_out>
    <currency>EUR</currency>
    <date>2010-12-01 15:27:46</date>
    <details>Detail text</details>
  </PreviousDetail>
</PreviousDetails>
```

2.4.7.1.10 PurchaseInformation

These elements may all be provided for PayPal transactions.

Element Name:	`PurchaseInformation`
Position:	`Request.Transaction.TxnDetails.The3rdMan.AccountInformation`

Elements of `PurchaseInformation`			
Element Name	**Description**	**Values / Limitations**	**Sector**
avg		Format NNNNNNNNNNNN.NN	-
max		Format NNNNNNNNNNNN.NN	-
min		Format NNNNNNNNNNNN.NN	-

Example XML for PreviousDetails element

```
<AccountInformation>
  <PurchaseInformation>
    <avg>52.47</avg>
    <max>100.52</max>
    <min>10.28</min>
  </PurchaseInformation>
</AccountInformation>
```

2.4.7.1.11 UserDetails

These elements may all be provided for PayPal transactions.

Element Name:	`UserDetails`
Position:	`Request.Transaction.TxnDetails.The3rdMan.AccountInformation`

Elements of `UserDetails`			
Element Name	**Description**	**Values / Limitations**	**Sector**
`alias`		Max 50 characters	-
`id`		Max 50 characters	G
`profile`	This field supports the “number” attribute which allows the profile number to be specified (1-3). See example below. For Gaming: "withdrawal" for card withdrawals or "refund" for refunds	Max 100 characters	G
`machine_id`		Max 100 characters	G

Example XML for UserDetails element

```
<AccountInformation>
  <UserDetails>
    <alias>rtr</alias>
    <id>testid</id>
    <profile number="1">profile1</profile>
    <profile number="2">profile2</profile>
    <profile number="3">profile3</profile>
    <machine_id>xc334sv</machine_id>
  </UserDetails>
</AccountInformation>
```

2.4.7.1.12 AltPayment

Details of any additional card payment the Card Holder has used in the transaction. These elements may all be provided for PayPal transactions.

Element Name:	`AltPayment`
Position:	`Request.Transaction.TxnDetails.The3rdMan`

Elements of `AltPayment`			
Element Name	**Description**	**Values / Limitations**	**Sector**
`BillingAddress`	See section 2.4.7.1.4		-
`Card`	See section 2.4.7.1.13		-
`CustomerInformation`	See section 2.4.7.1.2		-
`Response`	See section 2.4.7.1.14		-
`Secure`	See section 2.4.7.1.15		-
`amount`	The transaction amount.	Format NNNNNNNNNNNN.NN	-
`payment_method`			-

Example XML for AltPayment element

```
<AltPayment>
  <BillingAddress>...</BillingAddress>
  <Card>...</Card>
  <CustomerInformation>...</CustomerInformation>
  <Card>...</Card>
  <Response>...</Response>
  <Secure>...</Secure>
  <amount>55.55</amount>
</AltPayment>
```

2.4.7.1.13 Card

If an Alternative Payment is being made, this element contains the details of the card supplied with that payment. These elements may all be provided with PayPal transactions.

Element Name:	`Card`
Position:	`Request.Transaction.TxnDetails.The3rdMan.AltPayment`

Elements of `Card`		
Element Name	**Description**	**Values / Limitations**
`alt_pan`	The full card number. If you prefer not to provide this you can provide alt_bin, alt_last_4_digits and alt_pan_sha1 instead.	Numeric. Max length 19
`alt_bin`	First 8 digits of card number	Numeric. Max length 8.
`alt_last_4_digits`	Last 4 digits of card number	Numeric. Max length 4.

alt_pan_sha1	May be provided as an alternative to the alt_pan field. Please contact support for additional data to be added to each card prior to SHA-1 hashing.	Upper case Hex. Max length 50
alt_expirydate	The card expiry date.	MMYY Format
alt_issuenumber_or_startdate	The card issue number or start_date	Numberic. Max length 2

Example XML for Card element

```
<AltPayment>
  <Card>
    <alt_pan>0000000000000000</alt_pan>
    <alt_expirydate>1012</alt_expirydate>
  </Card>
</AltPayment>
```

2.4.7.1.14 Response

If an Alternative Payment is being made, this element contains the CV2/CSC, AVS and Bank Response for that payment. These elements may all be provided for PayPal transactions.

Element Name:	Response
Position:	Request.Transaction.TxnDetails.The3rdMan.AltPayment

Elements of Response		
Element Name	**Description**	**Values / Limitations**
auth_code	The bank authorisation code may be null if not applicable and is represented as the empty string. If the transaction type is Update, bank authorisation code should contain the status of the transaction (either OK, Rejected, Chargeback or Chargeback Fraud)	Max 30 characters
avs_address_response		0 = not given 1 = not checked 2 = pass 4 = fail

`avs_postcode_response`		0 = not given 1 = not checked 2 = pass 4 = fail
`bank_response_code`	The response code as received from the bank	Numeric. Max length 2
`bank_response_message`	The authorisation message as received from the bank	Max 100 characters
`cv2_response`	Security code response	0 = not given 1 = not checked 2 = pass 4 = fail

2.4.7.1.15 Secure

If an Alternative Payment is being made, this element contains the outcome of the 3-D Secure check which may have been performed with that payment. These elements may all be provided for PayPal transactions.

Element Name: `Secure`
Position: `Request.Transaction.TxnDetails.The3rdMan.AltPayment`

Elements of `Response`		
Element Name	**Description**	**Values / Limitations**
`eci`	Transaction ECI Status.	Numeric. Max length 2
`security_code`	Visa transactions – CAVV Mastercard transactions –AVV	Max 50 characters

2.4.7.1.16 OrderInformation

Element Name: `OrderInformation`
Position: `Request.Transaction.TxnDetails.The3rdMan`

Elements of `OrderInformation`			
Element Name	**Description**	**Values / Limitations**	**Sector**
`Products`	See section 2.4.7.1.17. N/A for PayPal – use `PayPalTxn.Items` elements instead.		RHT

brand	The brand, if the sales channel supports multiple brands	Max 30 characters	
consumer_opt_in	Customer opt-in flag	0 – no 1 - yes	
destination_location	Used for travel and ticketing. Route codes may be used and defined as required.	Max 50 characters	
distribution_channel	The distribution channel	Max 30 characters	
event_date	The date the event takes place, e.g. date of travel, or date of show or delivery date	YYYY-MM-DD format	R
event_location	The event location	Max 50 characters	
gift_message	Message entered on gift card	Max 100 characters	
installation_requested	Whether goods are to be supplied together with physical installation	Yes No	
loyalty_card_number	The loyalty card number, if held by customer	Max 50 characters	
operator_id		Max 30 characters	
payment_method			
route_via_location	Routing information	Max 50 characters	

Example XML for OrderInformation complex elements

```
<OrderInformation>
  <distribution_channel>First Class Post</distribution_channel>
  <Products count="6">…</Products>
</OrderInformation>
```

XML Example for PayPalTxn Items complex elements

```
<Transaction>
      <TxnDetails>
            <The3rdMan>
            </The3rdMan>
      </TxnDetails>
      <PayPalTxn>
            <Items>
                  <Item id="0">
                  <name>RT</name>
                  <number>123</number>
                  <quantity>1</quantity>
                  <amount>25.99</amount>
                  </Item>
            </Items>
            <ShippingAddress>
                  <street_address2>Fraud Street</street_address2>
                  <street_address1>Stark's Park</street_address1>
                  <country_code>GB</country_code>
                  <postcode>WC1B6ST</postcode>
                  <name>Mr Fraud Ster</name>
                  <city>London</city>
                  <region>Fife</region>
            </ShippingAddress>
      </PayPalTxn>
</Transaction>
```

2.4.7.1.17 Products

This element enables details of the items within the order to be passed. Should not be provided for PayPal transaction – use `PayPalTxn.Items` elements instead.

Element Name:	`Products`
Position:	`Request.Transaction.TxnDetails.The3rdMan.OrderInformation`

Elements of `Products`			
Element Name	**Description**	**Values / Limitations**	**Sector**
`Product`	See section 2.4.7.1.18	One element for each distinct item ordered	RHT

Attributes of Products			
Attribute name	**Description**	**Values / Limitations**	**Sector**
`count`	Total number of items in the order	Must match the total of the items specified in the `Product.count` fields.	RHT

Example XML for Products complex elements

```
<Products count="1">
  <Product>…</Product>
</Products>

<Products count="2">
  <Product>…</Product>
  <Product>…</Product>
</Products>
```

Example XML for PayPal Items complex elements

```
<Transaction>
      <TxnDetails>
            <The3rdMan>
            </The3rdMan>
      </TxnDetails>
      <PayPalTxn>
            <Items>
                  <Item id="0">
                  <name>RT</name>
                  <number>123</number>
                  <quantity>1</quantity>
                  <amount>25.99</amount>
                  </Item>
            </Items>
            <ShippingAddress>
                  <street_address2>Fraud Street</street_address2>
                  <street_address1>Stark's Park</street_address1>
                  <country_code>GB</country_code>
                  <postcode>WC1B6ST</postcode>
                  <name>Mr Fraud Ster</name>
                  <city>London</city>
                  <region>Fife</region>
            </ShippingAddress>
      </PayPalTxn
</Transaction>
```

2.4.7.1.18 Product

This enables specific information about each distinct item within the order to be presented. If the Products element is specified, at least one Product element must be present.

This element enables details of the items within the order to be passed. Should not be provided for PayPal transaction – use `PayPalTxn.Items` elements instead.

Element Name:	`Product`
Position:	`Request.Transaction.TxnDetails.The3rdMan.OrderInformation.Products`

Elements of `Product`

Element Name	Description	Values / Limitations	Sector
`AirlineInformation`	See section 2.4.7.1.19		T
`code`	The product code for the item. For PayPal, use `Item.number`.	Max 30 characters	RHT
`price`	The unit cost of a single item. For PayPal, use `Item.amount`.	Numeric with decimal point	RHT
`prod_category`	The product category, hotel name or departure airport. There is no equivalent for PayPal.	Max 50 characters	HT
`prod_description`	The product description. For travel use departure date in DD MMM YYYY HH:MM (e.g. 27 Feb 2014 17:50). For Hotel use the check-in to check-out date (e.g. 24 Sep 2012 – 29 Sep 2012). For PayPal, use `Item.name`	Max 100 characters	RHT
`prod_id`	The product ID, supports the type attribute. See example below.		
`prod_risk`	The level of risk associated with the product. For Hotel, use the hotel city.	Max 50 characters	H
`prod_type`	The type of product. For Travel please use 3 character IATA airport code (E.g. CDG) for the departure airport. For Hotel, please use the hotel country.	Max 50 characters	HT
`quantity`	The number of items of this product ordered. For PayPal, use `Item.quantity`	Non-negative integer	R

Example XML for Product complex element

```
<Product>
  <code>32231</code>
  <prod_id type="a">125</prod_id>
  <quantity>2</quantity>
  <price>22.99</price>
</Product>

<Product>
  <code>Double ensuite</code>
  <prod_id type="a">125</prod_id>
  <quantity>2</quantity>
  <price>22.99</price>
</Product>
```

Example XML for PayPalTxn Product complex elements

```
<Transaction>
      <TxnDetails>
            <The3rdMan>
            </The3rdMan>
      </TxnDetails>
      <PayPalTxn>
            <Items>
                  <Item id="0">
                  <name>RT</name>
                  <number>123</number>
                  <quantity>1</quantity>
                  <amount>25.99</amount>
                  </Item>
            </Items>
            <ShippingAddress>
                  <street_address2>Fraud Street</street_address2>
                  <street_address1>Stark's Park</street_address1>
                  <country_code>GB</country_code>
                  <postcode>WC1B6ST</postcode>
                  <name>Mr Fraud Ster</name>
                  <city>London</city>
                  <region>Fife</region>
            </ShippingAddress>
      </PayPalTxn
</Transaction>
```

2.4.7.1.19 AirlineInformation

This element cannot be provided for PayPal transactions

Element Name:	`AirlineInformation`
Position:	`...The3rdMan.OrderInformation.Products.Product`

Elements of `AirlineInformation`			
Element Name	**Description**	**Values / Limitations**	**Sectors**
`flight_carrier`	This should be a 2 character IATA airline code.	Max 30 characters	
`dob`	The passengers date of birth.	YYYY-MM-DD	
`fare_class`	The fare class for the airline ticket.	Max 30 characters	
`flight_number`	The flight number.	Max 30 characters	
`loyalty_indicator`	The loyalty indicator for the passenger.	Max 30 characters	

`loyalty_number`	The passenger loyalty number	Max 30 characters	
`nationality`	The passenger nationality.	Max 30 characters	
`passport_or_ssn`	The passengers passport or social security number.	Max 50 characters	
`route_via`	If multiple points then separate with - (e.g. LHR-DUB). Do not supply departure and destination points	Max 50 characters	T

Example XML for AirlineInformation elements

```
<AirlineInformation>
  <flight_carrier>BA</flight_carrier>
  <dob>1970-06-16</dob>
  <fare_class>Y</fare_class>
  <flight_number>059</flight_number>
  <loyalty_indicator>Y</loyalty_indicator>
  <loyalty_number>9876</loyalty_number>
  <nationality>SA</nationality>
  <passport_or_ssn>456789032</passport_or_ssn>
  <route_via>LHR-DUB</route_via>
</AirlineInformation>
```

2.4.7.1.20 AdditionalInformation

The following additional elements can be used to send additional information to the Batched Fraud Screening Service. The contents of these fields should be agreed with the Batched Fraud Screening Service Provider before they are used. These elements may all be provided for PayPal transactions.

Element Name: `AdditionalInformation`
Position: `Request.Transaction.TxnDetails.The3rdMan`

Elements of `AdditionalInformation`

Element Name	Description	Values / Limitations
`count`	Requires the "number" attribute to be set (see example). Up to 3 separate counts can be provided (1-3).	Numeric
`generic`	Requires the "number" attribute to be set (see example). Up to 17 generic fields can be provided (1-14 16-18). Number 15 is reserved.	Max 100 characters

Example XML for AdditionalInformation elements

```
<AdditionalInformation>
  <count number="1">155576</count>
  <count number="2">18521</count>
  <count number="3">12568</count>
  <generic number="1">Data as agreed</generic>
  <generic number="2">Data as agreed</generic>
  <generic number="3">Data as agreed</generic>
  <generic number="4">Data as agreed</generic>
  <generic number="5">Data as agreed</generic>
</AdditionalInformation>
```

2.4.7.2 Example PayPal Request

```
<Request>
      <Transaction>
            <TxnDetails>
                  <The3rdMan>
                        <CustomerInformation>
                              <alt_telephone>0987 654654</alt_telephone>
                              <telephone>01234 456789</telephone>
                              <ip_address>212.188.171.55</ip_address>
                        </CustomerInformation>
                        <AccountInformation>
                              <surname>Fraudster</surname>
                              <forename>Jack</forename>
                              <alt_email>accept@datacash.com</alt_email>
                        </AccountInformation>
                        <OrderInformation>
                              <event_date>2013-02-26</event_date>
                        </OrderInformation>
                  </The3rdMan>
                  <merchantreference>rt_do_exp_chk07</merchantreference>
                  <amount currency="GBP">25.99</amount>
            </TxnDetails>
            <PayPalTxn>
                  <Items>
                        <Item id="0">
                        <name>RT</name>
                        <number>123</number>
                        <quantity>1</quantity>
                        <amount>25.99</amount>
                        </Item>
                  </Items>
                  <ShippingAddress>
                        <street_address2>FraudStreet</street_address2>
                        <street_address1>Stark's Park</street_address1>
                        <country_code>GB</country_code>
                        <postcode>WC1B6ST</postcode>
                        <name>Mr Fraud Ster</name>
                        <city>London</city>
                        <region>Fife</region>
                  </ShippingAddress>
                  <method>do_express_checkout_payment</method>
                  <reference>3600900010001070</reference>
                  <invnum>rt_do_07</invnum>
                  <payment_action>order</payment_action>
            </PayPalTxn>
      </Transaction>
</Request>
```

2.4.7.3 Schema Elements for Batched XML Response

As the results of the service will be returned to you directly by the DCFS, there are no additional XML Response elements for this service.

2.4.7.4 HTTPS Responses, Batched and Realtime

Responses for each transaction are posted back to your server on a transaction-by-transaction basis. This is referred to as a callback. The server the callback response is sent to is configured on your GateKeeper account.
This will be in the form of an HTTP POST which contains the following fields in XML or as Name=Value fields separated by '&'.

The Merchant system must acknowledge the callback response within 1 second. This will then enable the Batched Fraud Screening system to record a successful post. An acknowledge mean can take the form of simply passing back the word "ok" or "successful"

If the initial post does fail then the system will re-try 10 times with a 2 minute pause in-between. If the system still doesn't record a successful post after the 10th try, a report will be generated to the support team to try a manual re-send at a later date.

If you wish to use HTTPS you must have a signed certificate to accept SSL authentication.

Additional fields can be added to the existing response – please request these before starting the implementation process or as soon into the process as possible.

2.4.7.5 Schema Elements for HTTPS Response, Batched and Realtime

	Description	**Format (maximum length)**
aggregator_identifier	Unique identifier for an aggregator (for example a PSP).	15
merchant_identifier	gatekeeper client ID	15
merchant_order_ref	The reference number the merchant gives to the order	250
unique_id	3rd Man internal identifier. Used for later calls such as the rules string request.	
Score	Score	-999 to +999

recommendation	Recommendation	0=Release 1=Hold 2=Reject 9=Under Investigation

2.4.7.5.1 Example Responses

2.4.7.5.1.1 XML Response

```
<RealTimeResponse xmlns="T3MCallback">
  <aggregator_identifier/>
  <merchant_identifier>5567</merchant_identifier>
  <merchant_order_ref>12345</merchant_order_ref>
  <t3m_id>333333333</t3m_id>
  <score>0</score>
  <recommendation>1</recommendation>
  <message_digest></message_digest>
</RealTimeResponse>
```

2.4.7.5.1.2 Key Value Pair Response

```
merchant_identifier=30000&merchant_order_ref=12345&t3m_id=333333333&score
=0&recommendation=1&message_digest=
```

2.4.8 *Realtime Fraud Screening*

The Real Time Fraud Screening Service is utilised by sending a normal Bank Card or PayPal XML Request with additional information.

Details of XML Request and Response elements which are not specific to the Real Time Fraud Screening Service are available in section 2.1

Bank Card XML Requests

This documentation assumes the Bank Card has already been integrated and the reader is familiar with it.

When subscribed to this service, additional information about the customer needs to be presented with the transaction in order to trigger the screening. The Real Time Fraud Service check is carried out after authorisation for any `pre` and `auth` transactions.

PayPal XML Requests

The Realtime Fraud Service check is carried out after authorisation for any do_express_checkout_payment , do_authorization and do_reference transactions. The additional information should be presented within the do_express_checkout_payment or do_reference transaction.

When used with PayPal, certain fields that would normally be provided specifically for the fraud screening service should not be used. These fields conflict with information available from PayPal or via fields provided by the Merchant in the PayPalTxn element. These conflicting fields are highlighted throughout the developer’s guide.

2.4.8.1 Schema Elements for Realtime Request

All of the elements outlined for Batched Fraud Screening in section 2.4.7.1 can be used for Real Time Fraud Screening.

For Real Time Fraud Screening, there is one additional elements within the The3rdMan element in the schema:

- The3rdMan
  - RealTime – details for Real Time Callback, section 2.4.8.1.2

Please refer to section 2.4.7.1 for details of the other elements.

2.4.8.1.1 The3rdMan

To enable a transaction to be screened in Real Time, it must be flagged using the realtime attribute.

Additional Elements of The3rdMan		
Element Name	**Description**	**Values / Limitations**
RealTime	See section 2.4.8.1.2	Optional

Attributes for Elements of The3rdMan		
Attribute Name	**Attribute of Element**	**Values / Limitations**
type	The3rdman	realtime

Example XML for The3rdMan complex elements

```
<The3rdMan type=”realtime”>
  <CustomerInformation>...</CustomerInformation>
  <DeliveryAddress>...</DeliveryAddress>
  <BillingAddress>...</BillingAddress>
  <OrderInformation>...</OrderInformation>
  <Realtime>...</Realtime>
</The3rdMan>
```

2.4.8.1.2 RealTime

When sending a request in for Realtime Fraud Checking, an additional complex element can be supplied. This element is only valid for:

- HPS - setup_full requests
- HCC – pre or auth requests
- Direct Submission – pre or auth requests

If presented, the information within it will be used instead of the default settings configured on the Merchant Account.

Element Name:	Realtime
Position:	Request.Transaction.TxnDetails.The3rdMan

Elements of Realtime		
Element Name	**Description**	**Values / Limitations**
`real_time_callback_format`	The interface used to call the realtime system. Defaults to HTTP.	`XML`
`real_time_callback`	The callback URL used by this transaction if applicable	Max length 200
`real_time_callback_options`		2

Example XML for Realtime complex elements

```
<Realtime>
 <real_time_callback_format>XML</real_time_callback_format>
 <real_time_callback>http://www.callback.com/cgibin/
callback.cgi/</real_time_callback>
 <real_time_callback_options>2</real_time_callback_options>
</Realtime>
```

2.4.8.2 Schema Elements for Realtime Response

2.4.8.2.1 AuthAttempts

This element provides details of a payment attempt made during the HPS session. This element may be present in the XML Response to a `query` performed against a `setup_full`.

Element Name:	`AuthAttempts`
Position:	`Response.HpsTxn`

Elements of AuthAttempt		
Element Name	**Description**	**Values / Limitations**
`Attempt`	Will be present for each attempt the Card Holder has made. See section 2.4.8.2.2.	

Example XML for AuthAttempts element, with two attempts

```
<AuthAttempts>
  <Attempt>...</Attempt>
  <Attempt>...</Attempt>
<AuthAttempts>
```

2.4.8.2.2 Attempt

This element provides details of a payment attempt made during the HPS session. This element may be present in the XML Response to a query performed against a `setup_full`.

Element Name:	`Attempt`
Position:	`Response.HpsTxn.AuthAttempts`

Elements of Attempt		
Element Name	**Description**	**Values / Limitations**
`The3rdManRealtime`	See section 2.4.8.2.3	Will only be present if fraud screened
`datacash_reference`	The datacash_reference of the auth attempt for the payment	
`dc_response`	A numeric response code	
`reason`	Text string expanding on the `dc_response`	

Example XML for Attempt element

```
<Attempt>
  <The3rdManRealtime>...</The3rdManRealtime>
  <datacash_reference>4100203001856542</datacash_reference>
  <dc_response>7</dc_response>
  <reason>DECLINED</reason>
</Attempt>

<Attempt>
  <datacash_reference>4400203001856550</datacash_reference>
  <dc_response>179</dc_response>
  <reason>3DS Payer failed Verification</reason>
</Attempt>

<Attempt>
  <The3rdManRealtime>...</The3rdManRealtime>
  <datacash_reference>4700203001856619</datacash_reference>
  <dc_response>1</dc_response>
  <reason>ACCEPTED</reason>
</Attempt>
```

2.4.8.2.3 The 3rdManRealtime

This element has several positions within the schema, depending upon how the response is generated:

- `Response`
  - `The3rdManRealtime` – for responses to pre or auth XML requests
  - `QueryTxnResult`
    - `The3rdManRealtime` – for responses to query XML Requests which

are submitted against pre or auth transaction

- HpsTxn
  - AuthAttempts
    - Attempt
      - The3rdManRealtime – for responses to query XML Requests which are submitted against HPS setup_full transactions

Element Name:	The3rdManRealtime
Position:	Response Response.QueryTxnResult Response.HpsTxn.AuthAttempts.Attempt

Elements of Attempt		
Element Name	**Description**	**Values / Limitations**
score	The risk score	-999 to 999
recommendation	The action recommendation	0, 1, 2 (accept, refer, reject)
error	If an error message is received in response to the fraud check, this element will appear, populated with the error message.	

Example XML for The3rdManRealtime element

```
<The3rdManRealtime>
  <score>500</score>
  <recommendation>1</recommendation>
</The3rdManRealtime>

<The3rdManRealtime>
  <score>0</score>
  <recommendation>1</recommendation>
  <error>UnknownCustomer</error>
</The3rdManRealtime>
```

2.4.8.2.4 QueryTxnResult

The QueryTxnResult complex element contains the retrieved details for the transaction reference provided in the request. It will only be present in response to a query transaction when querying a payment attempt. It will not be present when querying a setup_full.

Element Name:	QueryTxnResult
Position:	Response

Elements of QueryTxnResult	
Element Name	**Description**
Card	See DPG_DataCash_Developers_Reference_v3.2.docx
The3rdManRealtime	See section 2.4.8.2.3
ThreeDSecure	See DPG_DataCash_Developers_Reference_v3.2.docx
acquirer	Acquiring bank
authcode	Bank authorisation response
datacash_reference	The unique Gateway reference for the transaction
environment	Processing environment
fulfill_date	Date of fulfillment. If empty, transaction has not yet been fulfilled
fulfill_timestamp	UNIX timestamp value at the point of fulfillment. If empty, the transaction has not yet been fulfilled.
cancel_date	Date of cancellation. Only present if the transaction was cancelled.
cancel_timestamp	UNIX timestamp associated with the cancellation. Only present if the transaction was cancelled.
merchant_reference	Merchant reference
reason	Response message. For a 'duplicate transaction' reason this will also contain the datacash_reference of the original, which may then be queried.
sent	Sent status – indicates whether the transaction was sent for settlement
status	Numeric response code
transaction_date	Date of processing by gateway
transaction_timestamp	UNIX timestamp at the point the gateway processed the transaction.

Example XML Response for QueryTxnResult complex elements

```
<QueryTxnResult>
  <Card>…</Card>
  <The3rdManRealtime>…</The3rdManRealtime>
  <ThreeDSecure>…</ThreeDSecure
  <acquirer>HSBC</acquirer>
  <authcode>100000</authcode>
  <datacash_reference>4000900012345671</datacash_reference>
  <environment>ecomm</environment>
  <fulfill_date/>
  <merchant_reference>123401</merchant_reference>
  <reason>ACCEPTED</reason>
  <sent>not sent</sent>
  <status>1</status>
  <transaction_date>2009-12-08 11:35:48</transaction_date>
</QueryTxnResult>

<QueryTxnResult>
  <Card>…</Card>
  <The3rdManRealtime>…</The3rdManRealtime>
  <ThreeDSecure>…</ThreeDSecure>
  <acquirer>RBS</acquirer>
  <authcode>360955</authcode>
  <datacash_reference>4000203001855883</datacash_reference>
  <environment>ecomm</environment>
  <fulfill_date>2011-07-20 15:38:20</fulfill_date>
  <merchant_reference>14bab328bf6cd337a3</merchant_reference>
  <reason>FULFILLED OK</reason>
  <sent>Settled</sent>
  <status>1</status>
  <transaction_date>2011-07-19 14:51:35</transaction_date>
</QueryTxnResult>
```

2.4.9 *Fraud Only Transactions*

A Fraud Only transaction type exists which allows information to be sent to the DataCash Fraud Service (DCFS). As the name suggests, this transaction type exists purely to send information to The DCFS, and will not result in any bank communication / authorisations taking place.

Element Name:	`FraudOnlyTxn`
Position:	`Request.Transaction.FraudOnlyTxn`

Elements of FraudOnlyTxn		
Attribute name	**Description**	**Values / Limitations**
`Card`	See section 2.4.7.1.13	
`response`	See section 2.4.7.1.14	
`secure`	See section 2.4.7.1.15	
`amount`	The transaction amount.	Supports the currency attribute.
`tran_type`	The payment transaction type associated with a transaction	FraudOnly Auth Refund Pre-auth Deferred Manual Repeat Repeat Deferred Void Cancel Update SuperSearch Account Registration Account Amendment Buyer Registration Seller Registration KYC Withdrawal Amendment Bank Response Update Other

alt_tran_type	The payment transaction type associated with a transaction. If the transaction is being passed to T3M to notify them of a status (e.g. an order has been set to Rejected, OK, Chargeback or Chargeback Fraud - a transaction type of Update should be given)	FraudOnly Auth Refund Pre-auth Deferred Manual Repeat Repeat Deferred Void Cancel Update SuperSearch Account Registration Account Amendment Buyer Registration Seller Registration KYC Withdrawal Amendment Bank Response Update Other
acquirer	The merchant acquirer's name	Max 30

Example XML for FraudOnlyTxn element

```
<Request>
...
  <Transaction>
    <TxnDetails>
      <merchantreference>12345</merchantreference>
    </TxnDetails>
    <FraudOnlyTxn>
      <Card>...</Card>
      <Response>...</Response>
      <Secure>...</Secure>
      <amount currency="GBP">12.50</amount>
      <tran_type>...</tran_type>
      <acquirer>...</acquirer>
    </FraudOnlyTxn>
  </Transaction>
...
</Request>
```

2.4.9.1 Card

Element Name: `Card`
Position: `Request.Transaction.FraudOnlyTxn`

Elements of Card		
Element Name	**Description**	**Values / Limitations**
Pan	The full card number. If you prefer not to provide this you can provide alt_bin, alt_last_4_digits and alt_pan_sha1 instead.	Numeric. Max length 19
Bin	First 8 digits of card number	Numeric. Max length 8.
last_4_digits	Last 4 digits of card number	Numeric. Max length 4.
pan_sha1	May be provided as an alternative to the alt_pan field. Please contact support for additional data to be added to each card prior to SHA-1 hashing.	Upper case Hex. Max length 50
expirydate	The card expiry date.	MMYY Format
issuenumber_or_startdate	The card issue number or start_date	Issue Number (Numeric 2) Start Date (MMYY)(Numeric 4)

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2.4.10 *Risk Services Gateway (RSG)*

Note that in order to use the RSG service, you must first be subscribed. If you require additional information, please contact support. The RSG service cannot be used in conjunction with any other fraud screening services that have been enabled for your vTID, such as ReD or T3M.

This section of documentation assumes the reader is familiar with the Credit and Debit Card Service, which is discussed in section

2.4.10.1 Service Overview

The RSG service provides the merchant with the ability to send their transaction information to Risk Systems for fraud screening. It is also possible to send a number of additional data fields containing information relevant to the transaction in order to aid the screening process. These additional fields will be explained in detail throughout the sections that follow.

2.4.10.2 Formulating a Request

The following sections explain the additional XML Elements that should be sent in the request in order to use the RSG service.

2.4.10.2.1 Risk Element

The Risk element acts as a container for all additional transaction information which will be passed to Risk Systems for fraud screening. This element can be presented to the DPG within the TxnDetails Element of a transaction. Note that the Risk element can only be provided when using the "pre", "auth, or "refund" for MasterCard Payment Of Winnings) methods. No other methods are supported.

The RSG supports fraud screening for Fire and Forget Continuous Authority and Historic Continuous Authority. For transactions processed by the DPG and screened for fraud, Fire and Forget Continuous Authority and Historic Continuous Authority are not supported.

Element Name:	`Risk`
Position:	`Request.Transaction.TxnDetails`

2.4.10.2.2 Action Element

The Action container is defined as containing the service instruction, as well as all relevant data containers in order to execute the actions related to the services requested.

Element Name:	`Action`
Position:	`Request.Transaction.TxnDetails.Risk`

Attributes of Action		
Attribute name	**Description**	**Values / Limitations**
`Service`	This will indicate the action(s) to be performed, based on a set of predefined services. Values can be: • "1" for pre-authorisation fraud screening request • "2" for post-authorisation fraud screening request	Must be either "1" or "2"

2.4.10.2.3 Modes of Operation / Service Instruction

The DPG supports two modes of operation. Pre-Auth or Post-Auth fraud checking. There is an important distinction in behaviour between these two modes which will be explained below.

2.4.10.2.3.1 Post-Auth Fraud Checking Mode

In Post-Auth fraud checking mode, your transaction will be sent to the bank for authorisation in the normal manner. Your transaction details including any additional data fields are then sent to the Risk Services Gateway along with the bank response for the authorisation. The transaction response XML returned to you will include the screening response generated by the RSG.

You can examine this response and determine whether or not to continue with the transaction. It is important to note that in Post-Auth fraud checking mode, the RSG response acts as an aid in determining the best course of action for a particular transaction. If you decide that a particular transaction is too risky based on the information returned in the RSG response, the responsibility lies with you and/or your systems to correctly follow up on any decisions (e.g. cancel the transaction by sending a "cancel" request to the DPG).

2.4.10.2.3.2 Pre-Auth Fraud Checking Mode

In Pre-Auth fraud checking mode, the DPG takes an active role in managing potentially risky transactions. Your transaction details, including any additional data fields will be sent to the Risk Services Gateway **before** it is sent to the bank for authorisation.

Please note that pre-auth fraud checking is the only mode supported for refund transactions.

The DPG will then analyse the response from the Risk Services Gateway and take 1 of 3 actions:

If the response from the RSG indicates that the transaction is of relatively low risk. The DPG will continue as normal by sending the transaction to the bank for authorisation. The RSG screening response will be present in the DPG response XML, which you can store for your records.

If the response from the RSG indicates that the transaction is of a medium risk, the DPG will mark the transaction for review and it will **not** be sent for authorisation at this time. You will receive response code 1127 "RSG: review" in the DPG response XML along with the screening response from the RSG. Transactions which have been marked for review can be inspected manually by yourself and/or systems and continued by sending a follow up "accept_review" transaction. The DPG will then proceed to send an authorisation message to the bank in the usual manner. It should be noted that this behaviour can be overridden by our support team on a merchants request , preventing transactions being marked for review, thus requiring no manual intervention.

If the RSG has indicated in it's response that the transaction is extremely risky, the DPG will outright reject the transaction and it will **not** be sent for authorisation. You will receive response code 1126 "RSG: rejected" in the DPG response XML. It is important to note that transactions which have been rejected with this response cannot be continued.

2.4.10.2.4 Data Elements / Containers

Element Name(s):	MerchantConfiguration CustomerDetails VerificationDetails
Position:	Request.Transaction.TxnDetails.Risk.Action

Each message type has distinct data requirements needed to process the requested message.

The current API supports 3 different types of request message structures for service requests 1 and 2, these message structures depend on the industry which the merchant has been setup for, i.e. gaming, telephony, e-wallet funding, retail or airline.

The gaming message structure is a basic, generic structure and also serves to be used by telephony merchants and e-wallet providers where the funding of the e-wallet is screened (from here on referred to as e-wallet funding).

The gaming model is the most generic and serves as a base model for retail and airline, where additional data containers have been added that are retail and airline specific.

The data for screening service requests ("1" & "2") must be supplied under the following headings:

- Merchant Configured Details
- Verification Details
    - Profile ID
- Customer Details
    - Risk Details
    - Personal Details
    - Address Details
    - Shipping Details **
    - Payment Details
    - Order Details
    - Line Item Details **
    - Journey Details ***
    - Leg Items ***
    - Passenger Items ***

Note: The data sections displayed in black above are the basic data structures that should be used for all screening requests (service 1 and 2) for gaming, telephony, e-wallet funding, retail and airline, unless otherwise indicated in the field descriptions, where it might state that a field is only required for airline or retail.

Note: These data sections must only be included when sending screening requests for merchants that have been configured as **retail merchants (in addition to the basic data containers shown in black above). Where multiple items are ordered, multiple item detail headings should be sent, one for each distinct line item, as appropriate.

***Note: These sections are airline industry specific message sections, and only need to be included when sending a screening request for a merchant that has been configured as an **airline merchant** (in addition to the basic data containers shown in black above).

The following table describes all the data fields that can be used across all actions and is applicable to incoming messages. The table also indicates the required data fields for each incoming message.

Additionally, there is an indication of requirements around each field, where the following criteria were applied:

Key	Description
●	Tag is required and needs to be populated with a value.
○	Tag or value is not required.

2.4.11 *Pre & Post Authorisation Fraud Screening*

		Industry			
		Gaming	**Telephony**	**Retail**	**Airline**
Merchant Configuration		●	●	●	●
Field	**Type**				
tag name: `channel` definition: This reflects the manner in which the customer transaction has been captured. (This will be used to distinguish the 'ticketless' on-line purchaser, from Moto taken orders directly by a booking system) possible values: `P` = Physical `M` = Moto `W` = Web `K` = Kiosk `I` = In-Store `S` = Mail Order `O` = Other	Char (1)			○	●
tag name: `merchant_location` definition: This represents the location of stores or outlets for a reseller or airline.	Varchar (30)			○	●
Merchant Configuration		●	●	●	●
- Callback Configuration				○	
Field	**Type**				

tag name: `callback_format`
definition:
possible values:
`HTTP`
`XML`
`SOAP`
	Varchar(4)			○	

tag name: `callback_url` definition: The callback URL used by this transaction if applicable.	Varchar(200)			○	

tag name: callback_options definition: Use either/or both the response and the customer/aggregator registered callback. possible values: 0 = Immediate real-time callback or 1 = Customer 2 = This callback (default) 3 = Both 4 = Polled when not available or combination of the two. i.e. 02 would be realtime callback and callback on backend response.	Char(2)			○	
Verification Details				○	
Field	**Type**				
tag name: `profile_id` definition: a GUID passed by the merchant which will determine which rules the verification service provider will run when verifying the transactions.	Varchar (40)			○	
Customer Details		●	●	●	●
- Risk Details		●	●	●	●
Field	**Type**				
tag name: `account_number` definition: An account number/unique ref number at the Merchant associated with the individual who is transacting with the merchant.	Varchar (30)	●	●	○	●
tag name: `email_address` definition: Customer's Email Address. Note: These are generally associated with the individual who is transacting with the merchant.	Varchar (64)	○	○	○	○

tag name: `alt_email_address` definition: Alternative e-mail address Note: These are generally associated with the individual who is transacting with the merchant.	Varchar(64)			○	
tag name: `session_id` definition: a web server generated session id.	Varchar (255)			○	○
tag name: `ip_address` definition: Customer's IP Address.	Varchar (15) Format 255.255.255.2	○	○	○	○
tag name: `user_id` definition: This is a Merchant configurable data field typically used to identify a customer uniquely within the system, regardless of the amount of accounts that the customer has.	Varchar (36)	○	○		○
tag name: `usermachine_id` definition: This is an ID used to identify the computer (actual hardware) uniquely within the system, regardless of the amount of customers or accounts that's using the computer. Examples of the User Machine ID are Motherboard ID, Hard drive ID, CPU ID, etc.	Varchar (255)	○	○		○
tag name: `user_profile` definition: This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant. (e.g. VIP flag, Indication whether the transaction is part of a promotion, a confidence level around the identity of the customer, etc.)	Varchar (20)	○	○		○

tag name: `user_profile_2` definition: This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant. (See above examples.)	Varchar (20)	○	○		○
tag name: `user_profile_3` definition: This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant. (See above examples.)	Varchar (20)	○	○		○
tag name: `register_consumer_watch` definition: Register the consumer associated with this transaction for the consumer product. possible values: `Y` = Yes `N` = No	Char(1)			○	
tag name: `browser_language` definition: Language setting of the respective browser	Varchar(30)			○	
tag name: `execution_order` definition: Execution order for fraud screening and verification requests. Possible values: `1` = screening only `2` = screening, then verification `3` = verification, then screening (blank) = default execution order for merchant	Int			○	
Customer Details		●	●	●	●
- Personal Details		●	●	●	●

Note - these are generally associated with the individual who consents to the merchant's customer terms & conditions and is transacting with the merchant.					
Field	**Type**				
tag name: `first_name` definition: Customer's name. Note: The `first_name` field and the `surname` field combined should not exceed 32 characters.	Varchar (32)	●	●	●	●
tag name: `surname` definition: Customer's surname Note: The *first_name* field and the *surname* field combined should not exceed 32 characters.	Varchar (32)	●	●	●	●
tag name: `telephone` definition: Customer's telephone number.	Varchar (20)	●	●	○	●
tag name: `telephone_2` definition: Alternative telephone number.	Varchar (20)	○	○	○	○
tag name: `date_of_birth` definition: Customer's date of birth.	Datetime Format yyyy-mm-dd	○	○	○	○
tag name: `nationality` definition: Customer's nationality, represented by a 2-character code. Please reference Appendix 11 for further details. Note: This is generally used in respect of certain 3rd party electronic ID verification services.	Char (2)	○	○	○	○

tag name: `id_number` definition: Passport, ID, or other verification document number. Note: This is generally used in respect of certain 3rd party electronic ID verification services.	Varchar (40)	○	○	○	○
tag name: `id_type` definition: A code that defines the type of verification document supplied. possible values: 1 = Passport 2 = Personal ID 3 = Identity Card 4 = Driver's License 8 = Travel Document 12 = Residence Permit 13 = Identity Certificate 16 = Registro Federal de Contribuyentes 17 = Credential de Elector Note: This is generally used in respect of certain 3rd party electronic ID verification services.	Int	○	○	○	○
tag name: `ssn` definition: Last 4 digits of the SSN number (US residents). Note: This is generally used in respect of certain 3rd party electronic ID verification services.	Int	○	○	○	○
Customer Details		•	•	•	•
- Address Details		□	□	□	□
Note - these are generally associated with the individual who consents to the merchant's customer terms & conditions and is transacting with the merchant.					
Field	**Type**				
tag name: `address_line1` definition: Customer's address line 1.	Varchar (60)	•	•	•	•

tag name: `address_line2` definition: Customer's address line 2.	Varchar (60)	○	○	○	○
tag name: `city` definition: Customer's City.	Varchar (25)	●	●	●	●
tag name: `state_province` definition: Customer's State/Province/District/ County. Note: For USA and Ireland, Canada and the UK, a 2-character code needs to be supplied where the Merchant requests verification services in these countries. Please reference Appendix 25.	Varchar (25)	○	○	○	○
tag name: `country` definition: Customer's Country. Note: This is a 2-character code that needs to be supplied. Please reference Appendix 11 for further details.	Char (2)	●	●	○	○
tag name: `zip_code` definition: Customer's Zip/Postal code.	Varchar (10)	○	○	○	○
Customer Details		●	●	●	●
- Shipping Details				●	
Note - these are generally associated with the dispatch of goods/services to intended recipients.					
Field	**Type**				
tag name: `title` definition: Recipient's title	Varchar(10)			○	
tag name: `first_name` definition: Recipient's first name.	Varchar (50)			○	
tag name: `surname` definition: Recipient's surname.	Varchar (50)			○	

tag name: `address_line1` definition: Customer's shipping address line 1.	Varchar (60)			○	
tag name: `address_line2` definition: Customer's shipping address line 2.	Varchar (60)			○	
tag name: `city` definition: Customer's shipping city.	Varchar (25)			○	
tag name: `state_province` definition: Customer's shipping state or province. Note: For USA, Ireland, Canada and UK a 2-character code can be supplied for verification purposes, if additional verification checks are required on billing address (verification checks use primary address details). Please reference Appendix 25.	Varchar (25)			○	
tag name: `country` definition: Customer's shipping country. Note: This is a 2-character code that needs to be supplied. Please reference Appendix 11 for further details.	Char (2)			○	
tag name: `zip_code` definition: Customer's shipping zip code.	Varchar (10)			○	
tag name: `delivery_date` definition: Delivery date	Datetime Format yyyy-mm-dd			○	
tag name: `delivery_method` definition: Method of delivery	Varchar(30)			○	

tag name: `installation_requested` definition: Indicates whether goods are supplied together with a physical installation. possible values: `Y` = Yes `N` = No	Char(1)			○	
Customer Details		●	●	●	●
- Payment Details		●	●	●	●
Field	**Type**				

tag name: `transaction_type`
definition: The payment transaction type associated with a transaction.
possible values:
`Auth`
`Blank`
`Instant`
`Other`
	Varchar(20)			○	

tag name: `payment_method` definition: This is the mechanism with which the client chooses to purchase. Note: For the screening of non-card based payments, please consult with DataCash as new options will be added. possible values: please refer to Appendix 26 Payment Method Codes.	Varchar (2)	●	●	●	●
Customer Details		●	●	●	●
- Payment Details		●	●	●	●
- - Wallet Details		●	●	●	●
Note – this is for any funding account details other than cards.					
Field	**Type**				

tag name: `acquirer_number` definition: Customer's electronic wallet account number or bank account used for purchasing. The value will be associated with the `payment_method` used for the transaction.	Varchar (60)	○	○	○	○
Customer Details		●	●	●	●
- Order Details		●	●	●	●
Field	**Type**				
tag name: `discount_value` definition: The discount amount relevant to the transaction in the smallest unit of the currency i.e. cents or pence, e.g. US$100.01 = 10001 or ¥100 = 100.	Int			○	
tag name: `time_zone` definition: Local time zone, GMT +/- hours (GMT = 0) example: +01:00	Time format (+/-hh:mm)			○	
tag name: `proposition_date` definition: Similar to a picking date, can be used to prioritise the referral queue so that delivery deadlines are met.	Datetime Format yyyy-mm-dd			○	
Customer Details		●	●	●	●
- Order Details		●	●	●	●
- - Billing Details		●	●	●	●
Note - these are associated with the owner of the card number or acquirer number used to fund the respective purchase.					
Field	**Type**				
tag name: `name` definition: The billing account owner's name associated with the transaction.	Varchar (50)	○	○	○	○
tag name: `address_line1` definition: The billing account owner's billing address line 1.	Varchar (60)	○	○	○	○

tag name: `address_line2` definition: The billing account owner's billing address line 2.	Varchar (60)	○	○	○	○
tag name: `city` definition: The billing account owner's billing city.	Varchar (25)	○	○	○	○
tag name: `state_province` definition: The billing account owner's state or province. Note: For USA, Ireland, Canada and UK a 2-character code can be supplied for verification purposes, if additional verification checks are required on billing (verification checks use primary address details). Please reference Appendix 25.	Varchar (25)	○	○	○	○
tag name: `country` definition: The billing account owner's billing country. Note: This is a 2-character code that needs to be supplied. Please reference Appendix 11 for further details.	Char (2)	●	●	○	●
tag name: `zip_code` definition: The billing account owner's billing zip code	Varchar (10)	○	○	○	○
Customer Details		●	●	●	●
- Order Details		●	●	●	●
- - Line Items				○	
Note - these are generally associated with shopping cart details within the retail sector where it is important to screen the items being purchased.					
- - - Item				●	
Field	**Type**				
tag name: `product_code` definition: Line item product code. Note: If any one of the Line Item fields is submitted, then all Line Item fields become mandatory.	Varchar (50)			○	

tag name: product_description definition: Line item description.	Varchar (50)			○	
tag name: product_category definition: Type of item, as classified by the Merchant.	Varchar (80)			○	
tag name: product_risk definition: Indication of how susceptible the product is to fraud. possible values: High Medium Low	Varchar(50)			○	
tag name: order_quantity definition: Number of items ordered. Note: If any one of the Line Item fields is submitted, then all Line Item fields become mandatory.	Int			○	
tag name: unit_price definition: The amount of the transaction in the smallest unit of the currency i.e. cents or pence, e.g. US$100.01 = 10001 or ¥100 = 100.	Int			○	
Customer Details		•	•	•	•
- Airline Details					•
- - Journey					•
Field	**Type**				
tag name: ticket_number definition: the ticket number assigned to the journey.	Varchar (30)				○

tag name: `payer_travelling` definition: an indication whether the person paying is also travelling on the ticket. possible values: `Y` = Yes `N` = No	Char(1)				○
tag name: `pnr` definition: Passenger Name Record	Varchar(10)				○
Customer Details		•	•	•	•
- Airline Details					•
- - Journey					•
Note - A journey is a connected series of one or more legs that are sold as a unit. A one-way trip consists of a single leg. A round trip consists of two legs (outbound and return). There may be more than two legs. Legs should be presented in the sequence of travel, starting with the first leg of the journey.					
- - - Legs					•
- - - - Leg					•
Field	**Type**				
tag name: `depart_airport` definition: Departure point airport. Note: this is a 3 character code IATA airport code that needs to be supplied. http://www.iata.org/	Char (3)				•
tag name: `depart_country` definition: Departure Country. Note: This is a 2-character code that needs to be supplied. Please reference Appendix 11 for further details.	Char (2)				○
tag name: `depart_datetime` definition: Local Date & time of scheduled departure.	Datetime Format yyyy-mm-dd hh:mm:ss				•
tag name: `depart_airport_timezone` definition: Local time zone, GMT +/- hours. example: +01:00	Time format (+/- hh:mm)				•

tag name: `arrival_airport` definition: Arrival point. Note: this is a 3 character code IATA airport code that needs to be supplied. For more information on these codes visit http://www.iata.org/	Char (3)				•
tag name: `carrier` definition: Flight carrier for the journey. Note: this is a 2 character IATA airline code that needs to be supplied. For more information on these codes visit http://www.iata.org/	Char (2)				•
tag name: `flight_number` definition: Flight number for the journey. (Data Capture – not fed into rules engine)	Char (4)				•
tag name: `fare_basiscode` definition: The fare basis code provides information about the specific fare in addition to the class of service required for booking. example: HL7LNR	Char (10)				•

tag name: fare_class definition: Class of flight. example: F (=Unrestricted First Class) FR (=Restricted First Class) F (=Unrestricted Business Class) CR (=Restricted Business Class) Y (=Unrestricted Coach/Economy Class) YD (=Restricted Coach/Economy Class) (Data Capture – not fed into rules engine)	Char (3)				●
tag name: base_fare definition: The amount of the transaction, excluding taxes and fees, in the smallest unit of the currency i.e. cents or pence. (e.g. US$100.01 = 10001 OR ¥100 = 100). (Data Capture – not fed into rules engine. For reporting/review purposes. Fraud screening and related velocity calculations will initially be based upon the total value of the purchase transaction)	Int				○
tag name: currency_code definition: This is the ISO numeric code for the currency in which the transaction should be processed. See Appendix 10 for applicable codes. This is mandatory if a *base_fare* is supplied. (Data Capture – not fed into rules engine. For reporting/review purposes)	Char (3)				○
Customer Details		●	●	●	●
- Airline Details					●
- - Journey					●
- - - Passengers					●
- - - - Passenger					●
Field	**Type**				

tag name: `first_name` definition: Passenger's name. Note: The first-name field and the surname field combined should not exceed 32 characters. If any passenger details are submitted, then the first-name field become Mandatory.	Varchar (32)				○
tag name: `surname` definition: Passenger's surname Note: The first-name field and the surname field combined should not exceed 32 characters. If any passenger details are submitted, then the surname field become Mandatory.	Varchar (32)				○
tag name: `passenger_type` definition: The type of passenger travelling, e.g. Adult, Child, Infant. possible values: `A` = Adult `C` = Child `I` = Infant	Char (1)				●
tag name: `nationality` definition Customer's Nationality, represented by a 2-character code. Please reference Appendix 11 for further details.	Char (2)				○
tag name: `id_number` definition: Passport, ID, or other verification document number. Note: fraud screening block lists may include a composite nationality and *`id_number`* value.	Varchar (40)				○
tag name: `loyalty_number` definition: Passenger's loyalty scheme number.	Varchar (20)				○

tag name: loyalty_type definition: Passenger's loyalty scheme (e.g. .... Voyager,)	Varchar (20)				○
tag name: loyalty_tier definition: Passenger's loyalty scheme status or level possible values: 1 = highest tier level e.g. platinum 2 = second highest tier level e.g. gold 3 = third highest tier level e.g. silver…,etc	Int				●

2.4.11.1.1 Example XML Request

The XML below serves as an example of sending all possible information fields to be risk screened.

Example XML Element Risk for an RSG Transaction

```
 <Risk>
     <Action service="1">
     <MerchantConfiguration>
       <merchant_location>Edinburgh</merchant_location>
       <channel>W</channel>
   </MerchantConfiguration>
     <CustomerDetails>
     <RiskDetails>
       <account_number>24972343</account_number>
       <email_address>email@example.com</email_address>
       <session_id>FJW35798FHI</session_id>
       <ip_address>127.0.0.1</ip_address>
       <user_id>333</user_id>
       <usermachine_id>38744</usermachine_id>
       <user_profile>profile</user_profile>
       <user_profile_2>profile1</user_profile_2>
       <user_profile_3>profile2</user_profile_3>
   </RiskDetails>
     <PersonalDetails>
       <first_name>Steven</first_name>
       <surname>Partridge</surname>
       <telephone>555-3937</telephone>
       <telephone_2>032749874738</telephone_2>
       <date_of_birth>1978-03-10</date_of_birth>
       <nationality>GB</nationality>
       <id_number>43579</id_number>
```

```
        <id_type>1</id_type>
        <ssn>0000</ssn>
    </PersonalDetails>
      <AddressDetails>
        <address_line1>123 Brick Lane</address_line1>
        <address_line2>South Brickford</address_line2>
        <city>Livingston</city>
        <state_province>West Lothian</state_province>
        <country>GB</country>
        <zip_code>LI43 0SA</zip_code>
    </AddressDetails>
      <ShippingDetails>
        <address_line1>123 Brick Lane</address_line1>
        <address_line2>Brickford South</address_line2>
        <city>Livingston</city>
        <state_province>West Lothian</state_province>
        <country>GB</country>
        <zip_code>EH7 8EA</zip_code>
    </ShippingDetails>
      <PaymentDetails>
        <payment_method>CC</payment_method>
         <WalletDetails>
           <acquirer_number>458</acquirer_number>
       </WalletDetails>
    </PaymentDetails>
      <OrderDetails>
         <BillingDetails>
           <name>Mr Steven Partridge</name>
           <address_line1>34 Fake Street</address_line1>
           <address_line2>District 7</address_line2>
           <city>Terminalville</city>
           <state_province>Western Docklands</state_province>
           <country>TZ</country>
           <zip_code>347595</zip_code>
       </BillingDetails>
         <LineItems>
            <Item>
              <product_code>PRN383</product_code>
              <product_description>Pair of socks</product_description>
              <product_category>Clothing</product_category>
              <order_quantity>11</order_quantity>
              <unit_price>411</unit_price>
          </Item>
            <Item>
              <product_code>FHEUF</product_code>
              <product_description>Model dog</product_description>
              <product_category>Keepsake</product_category>
              <order_quantity>2</order_quantity>
              <unit_price>5.32</unit_price>
          </Item>
       </LineItems>
    </OrderDetails>
      <AirlineDetails>
         <Journey>
           <ticket_number>478935793</ticket_number>
            <Legs>
               <Leg>
                 <depart_airport>EDI</depart_airport>
                 <depart_country>UK</depart_country>
                 <depart_datetime>2030-10-01 13:23:11</depart_datetime>
                 <depart_airport_timezone>+00:00</depart_airport_timezone>
                 <arrival_airport>WRO</arrival_airport>
                 <carrier>BA</carrier>
                 <flight_number>508</flight_number>
                 <fare_basiscode>LWC</fare_basiscode>
                 <fare_class>Y</fare_class>
                 <base_fare>3000</base_fare>
                 <currency_code>GBP</currency_code>
             </Leg>
               <Leg>
                 <depart_airport>JHB</depart_airport>
                 <depart_country>SA</depart_country>
                 <depart_datetime>2030-08-01 13:23:11</depart_datetime>
                 <depart_airport_timezone>+01:00</depart_airport_timezone>
                 <arrival_airport>LHW</arrival_airport>
                 <carrier>SuperJet</carrier>
                 <flight_number>404</flight_number>
                 <fare_basiscode>FR</fare_basiscode>
                 <fare_class>Buisiness</fare_class>
                 <base_fare>7844.00</base_fare>
                 <currency_code>ZAR</currency_code>
             </Leg>
          </Legs>
            <Passengers>
               <Passenger>
                 <first_name>Daniel</first_name>
                 <surname>Moore</surname>
                 <passenger_type>A</passenger_type>
                 <nationality>GB</nationality>
                 <id_number>666</id_number>
                 <loyalty_number>32974</loyalty_number>
                 <loyalty_type>Super Loyal</loyalty_type>
                 <loyalty_tier>3</loyalty_tier>
            </Passenger>
              <Passenger>
                <first_name>Fed</first_name>
                <surname>McFed</surname>
                <passenger_type>A</passenger_type>
                <nationality>CA</nationality>
                <id_number>574</id_number>
                <loyalty_number>433</loyalty_number>
                <loyalty_type>Disloyal</loyalty_type>
                <loyalty_tier>1</loyalty_tier>
           </Passenger>
        </Passengers>
       </Journey>
    </AirlineDetails>
   </CustomerDetails>
    </Action>
  </Risk>
```

2.4.11.2 XML Response

The following sections detail the response returned from the DPG and RSG respectively.

2.4.11.2.1 Pre-Authorisation Fraud Screening RSG Response

On receiving a pre-auth fraud screening request message, the Risk Services Gateway will send a response message back to the Merchant. The following table describes the return values of the response message:

Field Name	**Description**
Screening Response	
transaction_id	This is the DataCash reference of the original transaction which was sent for risk screening.
response_code	This is a status/return code. It indicates whether the transaction was received and/or the result of the screening process. 00 – reflecting that the transaction was accepted by Risk Services 01 – reflecting that the transaction was rejected by Risk Services 02 – reflecting that the transaction was flagged for review by Risk Services For the full set of response codes, refer to Appendix 24
response_message	This is a text field used to give a short text description of the status/return code. Transaction Approved Transaction not Approved Transaction marked for Review For the full set of response codes, refer to Appendix 24
cpi_value	This is a Risk assessment score for a customer, available within select industries. Values can be 1-5 and will be based on definition discussed between the Merchant and DataCash.
Additional Messages	
message	This field will display any additional relevant response information. There can be more than one message tag for this purpose.
Verification Response	

response_code	This is a status/return code. It indicates whether the transaction was received and/or the result of the verification process. 00 – reflecting that the transaction was approved 01 – reflecting that the transaction was not approved 02 – reflecting that the transaction was marked for review
response_message	This is a text field used to give a short text description of the status/return code. Transaction Approved Transaction not Approved Transaction marked for Review
response_reference	This is the reference from the verification service provider.
Additional Messages	
message	This field will display any additional relevant response information. There can be more than one message tag for this purpose.

2.4.11.2.2 Example Pre-Auth Response XML

Example XML Response for an RSG transaction.

```
<Response>
   <CardTxn>
      <authcode>640519</authcode>
      <card_scheme>VISA</card_scheme>
   </CardTxn>
   <Risk>
      <action_response>
         <bankresult_response>
            <cpi_value>-1</cpi_value>
            <response_code>00</response_code>
            <response_message>Successful</response_message>
            <transaction_id>3200900010000275</transaction_id>
         </bankresult_response>
         <screening_response>
            <cpi_value>0</cpi_value>
            <response_code>00</response_code>
            <response_message>Transaction Approved</response_message>
            <transaction_id>3200900010000275</transaction_id>
         </screening_response>
     </action_response>
  </Risk>
  <datacash_reference>3200900010000275</datacash_reference>
  <merchantreference>1aa5c31170306f1504</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1288683112</time>
</Response>
```

2.4.11.2.3 Post- Authorisation Fraud Screening RSG Response

On receiving a post-auth fraud screening request message, the Risk Services Gateway will send a response message back to the Merchant. The following table describes the return values of the response message:

Field Name	Description
Screening Response	
transaction_id	This is the DataCash reference of the original transaction which was sent for risk screening.
response_code	This is a status/return code. It indicates whether the transaction was received and/or the result of the screening process. 00 – reflecting that the transaction was accepted by Risk Services 01 – reflecting that the transaction was rejected by Risk Services 02 – reflecting that the transaction was flagged for review by Risk Services For the full set of response codes, refer to Appendix 24
response_message	This is a text field used to give a short text description of the status/return code. Transaction Approved Transaction not Approved Transaction marked for Review
cpi_value	This is a Risk assessment score for a customer, available within select industries. Values can be 1-5 and will be based on definition discussed between the Merchant and DataCash.
Additional Messages	
message	This field will display any additional relevant response information. There can be more than one message tag for this purpose.
Bank Result Response	
response_code	This is a status/return code. It indicates whether the transaction was received and/or the result of the screening process. 00 – reflecting that the bank result was updated successfully 01 – reflecting that the bank result was not updated successfully
response_message	This is a text field used to give a short text description of the status/return code. Successful Unsuccessful
Additional Messages	
message	This field will display any additional relevant response information. There can be more than one message tag for this purpose.
Verification Response	

response_code	This is a status/return code. It indicates whether the transaction was received and/or the result of the verification process. 00 – reflecting that the transaction was approved 01 – reflecting that the transaction was not approved 02 – reflecting that the transaction was marked for review
response_message	This is a text field used to give a short text description of the status/return code. Transaction Approved Transaction not Approved Transaction marked for Review
response_reference	This is the reference from the verification service provider.
Additional Messages	
message	This field will display any additional relevant response information. There can be more than one message tag for this purpose.

2.4.11.2.4 Accepting a Transaction Marked for Review

If you have sent a Pre-Authorisation service instruction and receive response code 1127 “RSG: review”, you can accept/continue this transaction by sending a follow up “accept_review” transaction.

A typical response indicating a transaction has been marked for review is shown below:

Example XML Response for an RSG transaction which has been marked for review.

```
 <Response>
     <CardTxn>
        <card_scheme>VISA</card_scheme>
     </CardTxn>
     <Risk>
        <action_response>
           <screening_response>
             <cpi_value>0</cpi_value>
             <response_code>02</response_code>
             <response_message>Transaction marked for
   Review</response_message>
             <transaction_id>3200900010000124</transaction_id>
            </screening_response>
        </action_response>
   </Risk>
    <datacash_reference>3200900010000124</datacash_reference>
    <information>Transaction marked for review by the RSG</information>
    <merchantreference>3cb4b5ca105c388ea6</merchantreference>
    <mode>LIVE</mode>
    <reason>Transaction marked for review</reason>
    <status>1127</status>
    <time>1288167601</time>
  </Response>
```

Example XML Request for an "accept_fraud" transaction.

```
   <Request>
         <Authentication>
         <password>*****</password>
         <client>99000001</client>
    </Authentication>
      <Transaction>
         <HistoricTxn>
            <method>accept_review</method>
            <reference>123412345</reference>
         </HistoricTxn>
     </Transaction>
  </Request>
```

2.4.12 *HTTPS Responses*

Responses for each transaction are posted back to your server on a transaction-by-transaction basis. This is referred to as a callback.
This will be in the form of an HTTP POST which contains the following fields in XML or as Name=Value fields separated by '&'.

CallBack response will look as follows:

	Description	**Format (maximum length)**
aggregator_identifier	Unique identifier for an aggregator (for example a PSP).	15
merchant_identifier	gatekeeper client ID	15
merchant_order_ref	The reference number the merchant gives to the order	250
t3m_id	3rd Man internal identifier. Used for later calls such as the rules string request.	
Score	Score	-999 to +999
Recommendation	Recommendation	0=Release 1=Hold 2=Reject 9=Under Investigation

2.4.12.1 XML Response

```
<?xml version="1.0" ?>
              <RealTimeResponse xmlns="T3MCallback">
                   <aggregator_identifier/>
                     <merchant_identifier>5567</merchant_identifier>
                       <merchant_order_ref>12345</merchant_order_ref>
                           <t3m_id>333333333</t3m_id>
                           <score>0</score>
                           <recommendation>1</recommendation>
                          <message_digest></message_digest>
              </RealTimeResponse>
```

2.4.12.2 Key Value Pair Response

```
merchant_identifier=30000&merchant_order_ref=12345&t3m_id=333333333&score
=0&recommendation=1&message_digest=
```

2.4.12.3 Considerations

Customer systems must acknowledge the callback response within 1 second. This will then enable Datacash Fraud Systems to record a successful post. An acknowledge mean can take the form of simply passing back the word "ok" or "successful"

If the initial post does fail then the system will re-try 10 times with a 2 minute pause in-between. If the system still doesn't record a successful post after the 10th try, a report will be generated to the support team to try a manual re-send at a later date.

If you wish to use HTTPS you must have a signed certificate to accept SSL authentication.

Additional fields can be added to the existing response – please request these before starting the implementation process or as soon into the process as possible.

2.4.12.4 Additional Information

A full list of RSG response codes can be found in the appendix.

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2.5 BACS Service

2.5.1 *Direct Debit*

Additional non-technical information about this Service is available on the website: http://www.datacash.com/gettingproducts.php?id=Direct-Credit-Direct-Credit-Overview

2.5.1.1 Schema Elements for Request

In this section the required fields for each stage in the Direct Debit process will be presented, along with example XML for those fields. The XML is presented in italics for those fields that are not required for all situations. In the XML examples where a field has been highlighted fields, this indicates a situation in which other values can be presented in its place – for example `setup` in place of `presetup`.

Optional fields for each transaction type are indicated with an *O*, required fields with an *R*.

Please refer to the website for definitions of the transaction types and examples of when you may wish to implement them.

The Initial Setup –Setup and Presetup

The `setup` and `presetup` methods both require the same fields to be populated. This information is passed in two distinct places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `DirectDebitTxn` – contains all the information about the customer and the `method`, section 2.5.1.1.1
    - `TxnDetails` - section 2.5.1.1.2

Updating Setups – Confirm and Revoke

If you are using the two stage model, you will need to confirm the `presetup` in order to activate it. Once all payments on a DDI have been completed, the DDI can be cancelled by submitting a `revoke` request.

Both of these transaction types update the existing DDI and the information is passed in two distinct schema paths:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `HistoricTxn` – the `datacash_reference` of the original `setup` or `presetup` plus the method, section 2.5.1.1.3
    - `TxnDetails` - contains the reference number, section 2.5.1.1.2

Taking Payments
Once a DDI is active, a drawdown can then be processed against it. A drawdown may also be cancelled, if required, using a cancel.

- Request
    - Authentication – section 2.1.1.2
    - Transaction
        - HistoricTxn – the datacash_reference of the original transaction, plus the method and for drawdowns (optionally) the due date and transaction code, section 2.5.1.1.3
        - TxnDetails - for drawdowns only, contains the reference number and the amount, section 2.5.1.1.2

2.5.1.1.1 DirectDebitTxn

The DirectDebitTxn element contains the details of the customer and their bank account. It also contains the method which allows you to choose the one stage setup or two stage presetup models. Each element is required for both models.

Element Name:	DirectDebitTxn
Position(s)	Request.Transaction

Elements of DirectDebitTxn			
Element Name	**Description**	**Values / Limitations**	
sortcode	The sort code of the customer's bank	Six digits Can contain additional hyphens and spaces	R
accountnumber	The customer's account number	Eight digits Can contain additional hyphens and spaces	R
accountname	The name of the account holder	A maximum of 18 alphanumerics	R
method	determines the processing model to be used	setup - for one stage processing presetup - for two stage processing	R

In addition to these elements, there are also two attributes that may be populated - these are both optional:

Optional Attributes of DirectDebitTxn		
Attribute Name	**Description**	**Values / Limitations**

active	Enables an existing setup to be transferred to the DataCash system	true	O
type	Enables a non_AUDDIS DDI to be converted into an AUDDIS DDI	conversion	O

Example XML for DirectDebitTxn elements

```
<DirectDebitTxn type="conversion">
   <sortcode>123456</sortcode>
   <accountnumber>12345678</accountnumber>
   <accountname>Mr A. N. Other</accountname>
   <method>setup</method>
</DirectDebitTxn>

<DirectDebitTxn>
   <sortcode>123457</sortcode>
   <accountnumber>12345678</accountnumber>
   <accountname>Mr A. N. Other</accountname>
   <method>presetup</method>
</DirectDebitTxn>
```

2.5.1.1.2 TxnDetails

Element Name:	TxnDetails
Position(s)	Request.Transaction

Elements of TxnDetails

Element Name	Description	Values / Limitations	Confirm	Draw down	Revoke	Setup & Preset up	Cancel
merchantreference	The reference number of the DDI mandate	Must be of the format agreed with your Sponsoring Bank. Character limitations apply	R	R	R	R	-
amount	The drawdown value		-	R	-	-	-

Example XML Request for TxnDetails elements

```
<TxnDetails>
   <merchantreference>123402</merchantreference>
   <amount>30.00</amount>
</TxnDetails>
```

2.5.1.1.3 HistoricTxn

Element Name:	HistoricTxn
Position(s)	Request.Transaction

Elements of HistoricTxn						
Element Name	**Description**	**Values / Limitations**	**Confirm**	**Revoke**	**Drawdown**	**Cancel**
method	Allows the type of HistoricTxn to be set	confirm revoke drawdown	R	R	R	R
reference	The datacash_reference of the original transaction		R	R	R	R
duedate	Allows a future date for the drawdown to be set if required. If this field is not presented, the next available date will be used	yyyymmdd format Must be at least 3 working days in the future	-	-	O	-

The DataCash service automatically calculates the BACS Transaction Code for all drawdown transactions. If the drawdown is the first made against a new DDI setup, the transaction code is set to 01, otherwise the transaction code is set to 17.

You may need to set the transaction code yourself however, depending upon whether the drawdown is a representation of a previously rejected drawdown, or if this is the last drawdown to be made against a DDI setup.

Optional Attribute of duedate		
Attribute Name	**Description**	**Values / Limitations**

tran_code	The Transaction Code for the drawdown	01 – the first drawdown 17 18 - a drawdown that is being re-presented 19 - the final drawdown. The drawdown will be processed and then the mandate will be cancelled

Example XML Request for HistoricTxn elements

```
<HistoricTxn>
   <method>confirm</method>
   <reference>12345679</reference>
</HistoricTxn>

<HistoricTxn>
   <method>drawdown</method>
   <reference>12345678</reference>
</HistoricTxn>

<HistoricTxn>
   <method>drawdown</method>
   <reference>12345678</reference>
   <duedate tran_code="18">20070101</duedate>
</HistoricTxn>

<HistoricTxn>
   <method>drawdown</method>
   <reference>12345678</reference>
   <duedate>20070131</duedate>
</HistoricTxn>

<HistoricTxn>
   <method>cancel</method>
   <reference>42912928</reference>
</HistoricTxn>
```

2.5.1.2 XML Example Requests

2.5.1.2.1 The Initial DataCash Setup

Example XML Request for presetup

```
<Request>
   <Authentication>
      <password>******</password>
      <client>99000000</client>
   </Authentication>
   <Transaction>
      <DirectDebitTxn>
         <sortcode>123456</sortcode>
         <accountnumber>12345678</accountnumber>
         <accountname>Mr A. N. Other</accountname>
         <method>presetup</method>
      </DirectDebitTxn>
      <TxnDetails>
         <merchantreference>123402</merchantreference>
      </TxnDetails>
   </Transaction>
</Request>
```

Example XML Request for setup transferring an existing mandate to DataCash

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000000</client>
   </Authentication>
   <Transaction>
      <DirectDebitTxn active="true">
         <sortcode>123456</sortcode>
         <accountnumber>12345678</accountnumber>
         <accountname>Mr A. N. Other</accountname>
         <method>setup</method>
      </DirectDebitTxn>
      <TxnDetails>
         <merchantreference>123402</merchantreference>
      </TxnDetails>
   </Transaction>
</Request>
```

Example XML Request for a setup

This will convert an existing non-AUDDIS mandate to AUDDIS

```
<Request>
  <Authentication>
    <password>*****</password>
    <client>99000000</client>
  </Authentication>
  <Transaction>
    <DirectDebitTxn type="conversion">
      <sortcode>123456</sortcode>
      <accountnumber>12345678</accountnumber>
      <accountname>Mr A. N. Other</accountname>
      <method>setup</method>
    </DirectDebitTxn>
    <TxnDetails>
      <merchantreference>123402</merchantreference>
    </TxnDetails>
  </Transaction>
</Request>
```

2.5.1.2.2 Updating Setups

Example XML Request for confirm

```
<Request>
   <Authentication>
      <password>******</password>
      <client>99000000</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>confirm</method>
         <reference>12345679</reference>
      </HistoricTxn>
      <TxnDetails>
         <merchantreference>123401</merchantreference>
      </TxnDetails>
   </Transaction>
</Request>
```

If the `method` was changed, the same XML could be used for a `revoke`.

2.5.1.2.3 Taking Payments

Example XML Request for a drawdown

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>drawdown</method>
         <reference>12345678</reference>>
    </HistoricTxn>
      <TxnDetails>
         <merchantreference>123401</merchantreference>
         <amount>10.00</amount>
      </TxnDetails>
   </Transaction>
</Request>
```

Example XML Request for a drawdown with a duedate

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>drawdown</method>
         <reference>12345678</reference>
         <duedate>20070922</duedate>
      </HistoricTxn>
      <TxnDetails>
         <merchantreference>123401</merchantreference>
         <amount>10.00</amount>
      </TxnDetails>
   </Transaction>
</Request>
```

Example XML Request for a drawdown with a tran_code

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>drawdown</method>
         <reference>12345678</reference>
          <duedate tran_code="18">20070815</duedate>
      </HistoricTxn>
      <TxnDetails>
         <merchantreference>123401</merchantreference>
         <amount>10.00</amount>
      </TxnDetails>
   </Transaction>
</Request>
```

2.5.1.2.4 Cancelling Payments

Example XML Request for a drawdown cancellation

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>cancel</method>
         <reference>123412345</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.5.1.3 XML Example Responses

In addition to the standard fields, each Response will contain a DirectDebitTxn element.

Element Name:	DirectDebitTxn
Position(s)	Response

Not all elements will be returned for all transaction types, for successful Responses these are outlined below.

Failures will generally contain less of these elements - additional information about the reason for failure will be returned in the reason and information elements. Examples of failures are available in the Support Centre.

Elements of DirectDebitTxn Response

Element Name	Description	Values / Limitations	Setup	Presetup	Confirm	Revoke	Drawdown	Cancel
stage	The current stage of the mandate	See Support Centre	yes	yes	yes	yes	n/a	n/a
method	The method sent through with the Request		yes	yes	yes	yes	yes	yes
startdate	Indicates the first date that a drawdown can be submitted	Will be five working days hence	yes	n/a	yes	n/a	n/a	n/a
duedate	The date the drawdown will be taken from the account		n/a	n/a	n/a	n/a	yes	n/a

Once a successful Response for a setup or presetup has been received, the datacash_reference must be stored, as this must be presented with any future transactions referring to that mandate.

2.5.1.3.1 The Initial DataCash Setup

Example XML Response for a successful setup

```
<Response>
   <datacash_reference>12345672</datacash_reference>
   <DirectDebitTxn>
      <method>setup</method>
      <stage>active DDI</stage>
      <startdate>20020313</startdate>
   </DirectDebitTxn>
   <merchantreference>123402</merchantreference>
   <mode>TEST</mode>
   <reason>ACKNOWLEDGEMENT</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Response for a successful presetup

```
<Response>
   <datacash_reference>12345672</datacash_reference>
   <DirectDebitTxn>
      <method>presetup</method>
      <stage>confirm required</stage>
   </DirectDebitTxn>
   <merchantreference>123402</merchantreference>
   <mode>ACCREDITATION</mode>
   <reason>ACKNOWLEDGEMENT</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Response for a successful setup of an existing DDI

```
<Response>
   <datacash_reference>12345672</datacash_reference>
   <DirectDebitTxn>
      <method>setup</method>
      <stage>existing</stage>
      <startdate>20020306</startdate>
   </DirectDebitTxn>
   <merchantreference>123402</merchantreference>
   <mode>LIVE</mode>
   <reason>ACKNOWLEDGEMENT</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

2.5.1.3.2 Updating Setups

Example XML Response for a successful confirm

```
<Response>
   <DirectDebitTxn>
      <method>confirm</method>
      <stage>active DDI</stage>
      <startdate>20020315</startdate>
   </DirectDebitTxn>
   <merchantreference>123401</merchantreference>
   <reason>ACKNOWLEDGEMENT</reason>
   <status>1</status>
</Response>
```

Example XML Response for a successful revoke

```
<Response>
   <DirectDebitTxn>
      <method>revoke</method>
      <stage>revoked</stage>
   </DirectDebitTxn>
   <merchantreference>123402</merchantreference>
   <reason>ACKNOWLEDGEMENT</reason>
   <status>1</status>
</Response>
```

2.5.1.3.3 Taking Payments

Example XML Response for a successful drawdown

```
<Response>
   <datacash_reference>12345672</datacash_reference>
   <DirectDebitTxn>
      <duedate tran_code="01">20070130</duedate>
      <method>drawdown</method>
   </DirectDebitTxn>
   <merchantreference>123402</merchantreference>
   <mode>TEST</mode>
   <reason>OK</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Response for a successful drawdown

```
<Response>
   <datacash_reference>12345672</datacash_reference>
   <DirectDebitTxn>
      <duedate tran_code="19">20060924</duedate>
      <method>drawdown</method>
   </DirectDebitTxn>
   <merchantreference>123402</merchantreference>
   <mode>TEST</mode>
   <reason>OK</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

2.5.1.3.4 Cancelling Payments

Example XML Response for a successful drawdown cancellation

```
<Response>
   <datacash_reference>12345671</datacash_reference>
   <DirectDebitTxn>
      <method>cancel</method>
   </DirectDebitTxn>
   <merchantreference>12345671</merchantreference>
   <mode>LIVE</mode>
   <reason>CANCELLED OK</reason>
   <status>1</status>
   <time>...</time>
</Response>
```

2.5.1.4 Notifications

This section is only applicable if you have completed the relevant paperwork at your Sponsoring Bank, enabling DataCash to collect notifications of any rejections, cancellations and changes of your setups. These changes will be automatically reflected in the DataCash System.

To allow your system to also be kept up to date and prevent drawdown submission on cancelled mandates, these will be mailed to you in a standard format attachment.

The following information will be included in the attachment:

- `merchant_ref` – your setup reference
- `uniq_ref` – the `datacash_reference` of the mandate
- `reason_code` – the ADDACS / AUDDIS reason code
- `reason_code_text` – further information about the `reason_code`
- `effective_date` – the date on which the notification takes affect

Full details about the reason codes are available in the Originators Guide and Rules to the Direct Debit Scheme which is available from your bank. These are also detailed in the Support Centre.

Email notifying of nine modifications to Direct Debits

```
Direct Debit Advices: BACS ID 556622

Please find attached your CSV file containing Direct Debit advices.

Total updated:    9
Total cancelled:  6
Total changed:    2
Total reinstated: 1
```

Example attachment with six cancellations, two changes and one reinstatement - the changes are reason_codes C and E

```
merchant_ref,uniq_ref,reason_code,reason_code_text,effective_date
"ABC001","99990001","1","Instruction Cancelled by Payer","2010-01-30"
"ABCDE1","99990000","0","Instruction Cancelled - Refer to
     Payer","2010-01-30"
"ABC053","99992222","2","Payer deceased","2010-02-01"
"ABC296","89898989","1","Instruction Cancelled by Payer","2010-02-03"
"ABC00A","99995555","1","Instruction Cancelled by Payer","2010-01-31"
"ABC009","99991111","C","Account transferred to a different
     account/branch of Bank/Building Society","2010-01-30"
"ABCDE9","99993333","G","Bank will not accept Direct Debit on
     Account","2010-02-22"
"ABC921","99966633","E","Instruction Amended","2010-01-31"
"ABC828","99779977","R","Instruction Reinstated","2010-01-30"
```

2.5.1.5 Returned Drawdown Notifications

This section is only applicable if you have completed the relevant paperwork at your Sponsoring Bank, enabling DataCash to collect ARUDD notifications (Automated Return of Unpaid Direct Debits) on your behalf.

To allow your system to also be kept up to date, these will be mailed to you in a standard format attachment.

The following information will be included in the attachment:

- `Reference` – merchant's reference
- `datacash_ref` – full 16-digit `datacash_reference` (please refer to 2.1.1.3)
- `uniq_ref` – the DataCash OTR (please refer to the Support Centre)
- `return_code` – ARUDD reason code
- `return_code_text` – further information about the `return_code`
- `original_processing_date` – original BACS processing date
- `due_date` – The date the drawdown was due to be taken from the account
- `amount` – the drawdown value
- `currency` – the drawdown currency

Full details about the reason codes are available in the Originators Guide and Rules to the Direct Debit Scheme which is available from your bank. These are also detailed in the Support Centre.

Email notifying of nine returned debit items

```
Direct Debit ARUDDS Reports: BACS ID 766000
Please find attached your CSV file containing a list of returned debit
items.

Total Returned Debit Items:    9

Please contact our Technical Support desk if you have any queries
relating to this advice.
```

Example attachment

```
Reference,datacash_ref,uniq_ref,return_code,return_code_text,original_pro
cessing_date,due_date,amount,currency
"ABCDEF368","3200100963845000","963845000","1","Instruction
Cancelled","06/25/2010","06/28/2010","238.19","GBP"
"ABCDEF956","3500100963845001","963845001","0","Refer to
Payer","06/25/2010","06/28/2010","238.19","GBP"
"ABCDEF905","3300100963845002","963845002","0","Refer to
Payer","06/25/2010","06/28/2010","87.76","GBP"
"ABDFR3749","3500100973919000","973919000","0","Refer to
Payer","07/02/2010","07/09/2010","84.01","GBP"
"ABCR93037","3800100969104000","969104000","0","Refer to
Payer","07/08/2010","07/05/2010","274.26","GBP"
"ABCD38303","3900100969104001","969104001","B","Account
Closed","07/08/2010","07/05/2010","137","GBP"
"3802JFDEW","3300100974762000","974762000","1","Instruction
Cancelled","06/29/2010","07/12/2010","74.07","GBP"
"84ABC3935","3800100974762001","974762001","0","Refer to
Payer","06/29/2010","07/12/2010","80.63","GBP"
"23445ABC2","3200100980386000","980386000","1","Instruction
Cancelled","07/12/2010","07/13/2010","82","GBP"
```

2.5.2 *Direct Debit Continuous Authority*

This Service allows drawdowns to be automatically created against a DDI.

A technical introduction to this Service is available on the website:

http://www.datacash.com/gettingproducts.php?id=Direct-Debit

2.5.2.1 Schema Elements for Request

In this section the required fields for Direct Debit refunds will be presented, along with example XML for those fields. The XML is presented in italics for those fields that are not required for all situations. In the XML examples where a field has been highlighted fields, this indicates a situation in which other values can be presented in its place – for example `weekly` in place of `monthly`.

Optional fields for each transaction type are indicated with an O, required fields with an R.

Setting up a Direct Debit Continuous Authority Account

The information required to set up a Direct Debit Continuous Authority Account is passed in these distinct places in the schema:

- `Request`
    - `Authentication` – section 2.1.1.2
    - `Transaction`
        - `ContAuthTxn` – details of the account to be set up and its regular payments, section 2.5.2.1.1
            - `FirstPayment` – optional first payment date & amount, section 2.5.2.1.2
            - `LastPayment` – optional last payment date & amount, section 2.5.2.1.3
        - `TxnDetails` – your reference number for the account, section 2.5.2.1.4
        - `HistoricTxn` – details of the DDI to create an account for, section 2.5.1.1.3

Cancelling a Continuous Authority Account

The Direct Debit Continuous Authority Account can also be cancelled by using the `cancel` transaction type. This transaction type requires information passed in one distinct place in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `HistoricTxn` – the `datacash_reference` of the account, plus the `method`, section 2.5.1.1.3

2.5.2.1.1 ContAuthTxn

The elements within this parent may only be presented for `drawdown` transactions. They are excluded for `cancel` transactions.

Element Name:	`ContAuthTxn`
Position(s)	`Request.Transaction`

Elements of ContAuthTxn			
Element Name	**Description**	**Values / Limitations**	
`start_date`	The date on which the first regular payment will be taken. Subsequent payments will be based on this date.	Must be more than three days after the transaction is sent. Date in the format `dd/mm/yyyy`	R
`number_of_payments`	Number of regular payments to be collected.	Payments will be taken until the Continuous Authority account is cancelled if a value is not specified	O
`FirstPayment`	Details of any initial payment to be taken. This is in addition to the regular payments. See section 2.5.2.1.2		O
`LastPayment`	Details of any final payment to be taken. This is in addition to the regular payments. See section 2.5.2.1.3		O

`period`	The frequency of payments	`weekly`
		`monthly`
		`quarterly`
		`annually`
			R

`method`	The transaction method	`drawdown`	R

amount	The value of the drawdown	Must be specified to two decimal places. GBP only	R
flagging	This element has two attributes. If the element is supplied, both attributes must be supplied. See table below for more information		O

Attributes of Flagging			
Element Name	**Description**	**Values / Limitations**	
first	Indicates whether the first payment made using the Cont Auth account is to be flagged as the first drawdown	yes no	O
last	Indicates whether the last payment made using the Cont Auth account is to be flagged as the last drawdown	yes no	O

For further information about drawdown flagging, please refer to section 2.5.1.1.3.

Example XML for ContAuthTxn elements

```
<ContAuthTxn>
   <method>drawdown</method>
   <start_date>26/02/2006</start_date>
   <period>weekly</period>
   <amount>35.00</amount>
</ContAuthTxn>

<ContAuthTxn>
   <method>drawdown</method>
   <start_date>01/04/2005</start_date>
   <period>annually</period>
   <amount>100.00</amount>
   <number_of_payments>3</number_of_payments>
   <flagging first="yes" last="no"/>
   <FirstPayment>…</FirstPayment>
</ContAuthTxn>
```

2.5.2.1.2 FirstPayment

The elements within this parent may only be presented for `drawdown` transactions, in which case both child elements must be completed.

This element is excluded for `cancel` transactions.

Element Name:	`FirstPayment`
Position(s)	`Request.Transaction.ContAuthTxn`

Elements of FirstPayment		
Element Name	**Description**	**Values / Limitations**
`date`	The date the first payment is to be taken	Must be in `dd/mm/yyyy` format. Must be at least three days from the current date. It must also be at least one day ahead of the `start_date`
`amount`	The value of the first payment	If a currency is supplied, it must be GBP

Example XML for FirstPayment element

```
<FirstPayment>
   <amount>50.00</amount>
   <date>25/02/2006</date>
</FirstPayment>
```

2.5.2.1.3 LastPayment

The elements within this parent may only be presented for `drawdown` transactions, in which case both child elements must be completed.

This element is excluded for `cancel` transactions.

The `LastPayment` element can only be used if a set number of drawdowns have been specified.

Element Name:	`LastPayment`
Position(s)	`Request.Transaction.ContAuthTxn`

Elements of LastPayment		
Element Name	**Description**	**Values / Limitations**
`date`	The date the last payment is to be taken	Must be in `dd/mm/yyyy` format; must be a minimum of one date after the last regular payment

amount	The value of the last payment	If a currency is supplied, it must be GBP

Example XML for LastPayment

```
<LastPayment>
   <amount>50.00</amount>
   <date>25/03/2008</date>
</LastPayment>
```

2.5.2.1.4 TxnDetails

The elements within this parent may only be presented for drawdown transactions. They are excluded for cancel transactions.

Element Name:	TxnDetails
Position(s)	Request.Transaction

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
merchantreference	A unique reference number to identify the individual Direct Debit Continuous Authority account	Between 6 and 26 alphanumeric characters

Example XML for TxnDetails elements

```
<TxnDetails>
   <merchantreference>123402</merchantreference>
</TxnDetails>
```

2.5.2.1.5 HistoricTxn

Element Name:	HistoricTxn
Position(s)	Request.Transaction

Elements of HistoricTxn				
Element Name	**Description**	**Values / Limitations**	**Drawdown**	**Cancel**
method	cancellations only	cancel	-	R

reference	The datacash_reference of the original transaction		R	R

Example XML element for cancel

```
<HistoricTxn>
   <method>cancel</method>
   <reference>3000123412345678</reference>
</HistoricTxn>
```

Example XML element for drawdown

```
<HistoricTxn>
   <reference>12345678</reference>
</HistoricTxn>
```

2.5.2.2 XML Example Requests

2.5.2.2.1 Payments

Example XML Request for a five weekly payments of 10.00

```
<Request>
   <Authentication>
      <client>21859999</client>
      <password>*********</password>
   </Authentication>
   <Transaction>
      <ContAuthTxn>
         <method>drawdown</method>
         <start_date>10/02/2005</start_date>
         <period>weekly</period>
         <number_of_payments>5</number_of_payments>
         <amount>10.00</amount>
      </ContAuthTxn>
      <TxnDetails>
         <merchantreference>12345678</merchantreference>
      </TxnDetails>
      <HistoricTxn>
         <reference>12345678</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

Example XML Request for an unknown number of payments to be taken on the 31st of each month

```
<Request>
  <Authentication>
    <client>21859999</client>
    <password>********</password>
  </Authentication>
  <Transaction>
    <ContAuthTxn>
      <method>drawdown</method>
      <start_date>31/03/2005</start_date>
      <period>monthly</period>
      <amount>25.00</amount>
    </ContAuthTxn>
    <TxnDetails>
      <merchantreference>12345678</merchantreference>
    </TxnDetails>
    <HistoricTxn>
      <reference>12345678</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

Example XML Request for eight payments: six regular payments, and separate first and last payments
The first payment is a one off administration fee of £30, followed by 6 monthly payments of £25 and a final payment of £20. The first and last payments are to be flagged with "01" and "19" respectively, which will cancel the underlying DDI after the final payment.

```
<Request>
  <Authentication>
    <client>21859999</client>
    <password>********</password>
  </Authentication>
  <Transaction>
    <ContAuthTxn>
      <method>drawdown</method>
      <start_date>31/05/2005</start_date>
      <period>monthly</period>
      <amount>25.00</amount>
      <number_of_payments>6</number_of_payments>
      <FirstPayment>
        <amount>30.00</amount>
        <date>20/04/2005</date>
      </FirstPayment>
      <LastPayment>
        <amount>20.00</amount>
        <date>30/11/2005</date>
      </LastPayment>
      <flagging first="yes" last="yes"/>
    </ContAuthTxn>
    <TxnDetails>
      <merchantreference>12345678</merchantreference>
    </TxnDetails>
    <HistoricTxn>
      <reference>12345678</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.5.2.2.2 Cancellations

Example XML Request for cancel

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>cancel</method>
         <reference>4900200000000001</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

Merchants using the Credit and Debit Card Services may note that this XML structure is the same as for cancelling a card payment – section 2.2.1.4.2.

2.5.2.3 Schema Elements for Response

There are no Response elements specific to this service. The general Response elements are returned, these are discussed in section 2.1.1.3.

2.5.2.4 XML Example Responses

Example XML Response for a successful account setup

```
<Response>
   <datacash_reference>9910670039375669</datacash_reference>
   <information>Direct Debit Continuous Authority account
      set up</information>
   <merchantreference>ABC00005</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
</Response>
```

2.5.2.5 Notifications

There are two types of notifications, one for batched drawdowns and one for account cancellations.

2.5.2.5.1 Batched Drawdowns

Each day a payment is taken from an account, you will receive an email summarising the payments taken that day, in a standard CSV format attachment.

The following information will be included in the attachment:

- `Account Reference` – the last 11 digits of the `datacash_reference` number of the account
- `Merchant Reference` – the DDI mandate number (`merchantreference`) against which the drawdown will be processed
- `DataCash Reference` – the `datacash_reference` of the drawdown

Email notifying of batched drawdowns

```
Drawdown Results for Mon 17-Oct-2010
Attachments: batched.csv

This email contains details of drawdowns which have been processed on
Live production site by DataCash on your behalf, for 2185**** Mon 17-
Oct-2010.

If you have any questions please contact our support team.
```

Example attachment with two drawdowns

```
Account Reference,Merchant Reference,DataCash Reference
41740256,1823362AHC,4200200040467707
41756562,1825472RHP,4400200040373171
```

2.5.2.5.2 Account Cancellations

If a DDI is cancelled or revoked, the account will be automatically cancelled.

To allow your system to also be kept up to date, details of these will be mailed to you in a standard format CSV attachment.

The following information will be included in the attachment:

- `Account reference` – the last 11 digits of the `datacash_`reference number of the account
- `Merchant Reference` – the `merchantreference` of the account
- `Cancel DataCash Reference` – the `datacash_reference` number of the transaction which cancelled the account. If the account was automatically cancelled when a DDI `revoke` is submitted, this field will be the same as `DDI`

Setup Reference

- DDI Setup Reference – the datacash_reference number of the DDI setup
- DDI Merchant Reference – your mandate number
- DDI Stage – the stage of the DDI

Email notifying of account cancellations

```
Account Cancellations for Mon 17-Oct-2010
Attachments: cancelled.csv

This email contains details of Direct Debit Recurring Transaction
accounts which have been cancelled on Live production site by DataCash
on your behalf, for 2185*** Mon 17-Oct-2010, where the associated DDI
setup is no longer active.
```

Example attachment with four cancellation notifications

```
Account Reference,Merchant Reference,Cancel DataCash Reference,DDI
Setup Reference,DDI Merchant Reference,DDI Stage
46453486,EFG987456,4600200040488736,4600200040488741,ABC1234562,revoked
47453828,EFG453454,4200200040493495,4000200040493496,ABC483,cancelled
at source
47455267,EFG456454,4300200040493522,4400200040493526,SJI45l,cancelled
at source
47511296,EFG15648,4100200041248347,4800200041260637,HUR45423,revoked
```

2.5.3 *Direct Credit – Direct Debit Refunds*

This Service allows funds to be returned to any DDI held within the DPG.

A technical introduction to this service is available on the website:

http://www.datacash.com/gettingproducts.php?id=Direct-Debit-Refunds

2.5.3.1 Schema Elements for Request

In this section the required fields for Direct Debit refunds will be presented, along with example XML for those fields.

Refunding Direct Debits
The information required to process a direct debit refund - `ddrefund` - is passed in these distinct places in the schema:

2.5.3.1.1 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `TxnDetails` – contains the `merchantreference` number and the `amount`, section 2.5.2.1.4
  - `HistoricTxn` – the `datacash_reference` of the original mandate and the `method`, section 2.5.1.1.3.

Cancelling Direct Debit Refunds
The information required to `cancel` a ddrefund is passed in these distinct places in the schema:

2.5.3.1.2 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `HistoricTxn` – the `datacash_reference` of the original `ddrefund` and the `method`, section 2.5.1.1.3.

2.5.3.1.3 TxnDetails

The elements within this parent are required for `ddrefund` transactions. They are excluded for `cancel` transactions.

Element Name:	`TxnDetails`
Position(s)	`Request.Transaction`

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
`merchantreference`	The reference number of the DDI mandate	Between six and eighteen alphanumeric characters
`amount`	The value of the refund	

Example XML for TxnDetails elements

```
<TxnDetails>
   <merchantreference>123402</merchantreference>
   <amount>30.00</amount>
</TxnDetails>
```

2.5.3.1.4 HistoricTxn

The elements within this parent are required for both `cancel` and `ddrefund` transaction types.

Element Name:	`HistoricTxn`
Position(s)	`Request.Transaction`

Elements of HistoricTxn		
Element Name	**Description**	**Values / Limitations**
`method`	Identifies the transaction type as a refund of a direct debit	`ddrefund` `cancel`
`reference`	The `datacash_reference` of the original transaction	

Example XML for HistoricTxn element for a ddrefund

```
<HistoricTxn>
   <method>ddrefund</method>
   <reference>12345678</reference>
</HistoricTxn>
```

Example XML for HistoricTxn element for a cancel

```
<HistoricTxn>
   <method>cancel</method>
   <reference>4000000012345678</reference>
</HistoricTxn>
```

2.5.3.2 XML Example Requests

Example XML Request for a ddrefund

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>*******</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>ddrefund</method>
         <reference>12345678</reference>
      </HistoricTxn>
      <TxnDetails>
         <merchantreference>ABCDEF456</merchantreference>
         <amount>10.00</amount>
      </TxnDetails>
   </Transaction>
</Request>
```

Example XML Request for a cancel

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>cancel</method>
         <reference>4000000059832490</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.5.3.3 Schema Elements for Response

There are no additional XML elements returned for specifically for this Service. The general XML elements in the Response are covered in section 2.1.1.3.

2.5.3.4 XML Example Responses

2.5.3.4.1 Refunds

Example XML Response for a successful ddrefund

```
<Response>
  <datacash_reference>4800200040644359</datacash_reference>
  <merchantreference>ABCDEF456</merchantreference>
  <mode>LIVE</mode>
  <reason>Accepted</reason>
  <status>1</status>
  <time>…</time>
</Response>
```

Example XML Response for an unsuccessful ddrefund

```
<Response>
  <datacash_reference>4000000059832491</datacash_reference>
  <information>Unable to locate matching DDI
     transaction</information>
  <merchantreference>123411</merchantreference>
  <mode>TEST</mode>
  <reason>Unable to locate matching DDI transaction</reason>
  <status>137</status>
  <time>…</time>
</Response>
```

2.5.3.4.2 Cancellations

Example XML Response for a successfully cancelled Direct Credit

```
<Response>
  <datacash_reference>39375274</datacash_reference>
  <merchantreference>4800200040644359</merchantreference>
  <reason>CANCELLED OK</reason>
  <status>1</status>
  <time>…</time>
</Response>
```

Example XML Response for an unsuccessful Direct Credit cancellation

```
<Response>
  <information>Direct Credit has already been
    cancelled</information>
  <merchantreference>4800200040644359</merchantreference>
  <mode>TEST</mode>
  <reason>Already Cancelled</reason>
  <status>128</status>
  <time>…</time>
</Response>
```

2.5.4 *Direct Credit – Standard*

This Service allows funds to be returned to a customer by placing them directly into their bank account.

A technical introduction to this service is available on the website: http://www.datacash.com/gettingproducts.php?id=Direct-Credit

2.5.4.1 Schema Elements for Request

In this section the required fields for Standard Direct Credit will be presented, along with example XML for those fields. The XML is presented in italics for those fields that are not required for all situations.

Optional fields for each transaction type are indicated with an O, required fields with an R.

Performing Direct Credits
The information required to process a direct credit - `directcredit` - is passed in these distinct places in the schema:

2.5.4.1.1 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `TxnDetails` – contains the `merchantreference` number and the `amount`, section 2.5.2.1.4
  - `DirectCreditTxn` - the details of the customers bank account, plus the `method`, section 2.5.1.1.1

Cancelling Direct Debit Refunds
The information required to `cancel` a directcredit is passed in these distinct places in the schema:

2.5.4.1.2 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `HistoricTxn` - the `datacash_reference` of the original `directcredit` and the `method`, section 2.5.1.1.3

2.5.4.1.3 DirectCreditTxn

The elements within this parent may only be presented for `directcredit` transactions. They are excluded for `cancel` transactions.

Element Name:	`DirectCreditTxn`
Position(s)	`Request.Transaction`

Elements of DirectCreditTxn			
Element Name	**Description**	**Values / Limitations**	**Required?**
`method`	Identifies the transaction type as a standard Direct Credit	`directcredit`	R
`sortcode`	The sort code of the account to be credited	Valid UK sortcode	R
`accountnumber`	The account number to be credited	Valid UK account number	R
`accountname`	The name of the account holder(s)	Up to 18 characters, alpha numerics and spaces only	R
`bankreference`		Up to 18 characters, alpha numerics and spaces only	O

Example XML Element DirectCredit

```
<DirectCreditTxn>
   <sortcode>000001</sortcode>
   <accountnumber>12345609</accountnumber>
   <accountname>Julia McDonald</accountname>
   <method>directcredit</method>
</DirectCreditTxn>

<DirectCreditTxn>
   <sortcode>000222</sortcode>
   <accountnumber>12340000</accountnumber>
   <accountname>Michael Johnson</accountname>
   <bankreference>return of goods</bankreference>
   <method>directcredit</method>
</DirectCreditTxn>
```

2.5.4.1.4 TxnDetails

The elements within this parent are required for `directcredit` transactions, but excluded for `cancel` transactions.

Element Name:	`TxnDetails`
Position(s)	`Request.Transaction`

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
`merchantreference`	A unique reference number for each transaction	Up to 30 characters
`amount`	The value of the refund	

Example XML for TxnDetails elements

```
<TxnDetails>
   <merchantreference>123402</merchantreference>
   <amount>30.00</amount>
</TxnDetails>
```

2.5.4.1.5 HistoricTxn

The elements within this parent must be presented for `cancel` transactions. They are excluded for `directcredit` transactions.

Element Name:	`HistoricTxn`
Position(s)	`Request.Transaction.HistoricTxn`

Elements of HistoricTxn		
Element Name	**Description**	**Values / Limitations**
`method`	Identifies the transaction type as a cancellation	`cancel`
`reference`	The `datacash_reference` of the original transaction	16 digits

Example XML Element HistoricTxn for a cancel

```
<HistoricTxn>
   <method>cancel</method>
   <reference>9999999912345678</reference>
</HistoricTxn>
```

2.5.4.2 XML Example Requests

Example XML Request

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>123402</merchantreference>
         <amount>1000.01</amount>
      </TxnDetails>
      <DirectCreditTxn>
         <method>directcredit</method>
         <sortcode>123456</sortcode>
         <accountnumber>12345678</accountnumber>
         <accountname>Greg Kane</accountname>
      </DirectCreditTxn>
   </Transaction>
</Request>
```

Example XML Request with optional bankreference

```
<Request>
   <Authentication>
      <password>******</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>ABDYC003</merchantreference>
         <amount>49.68</amount>
      </TxnDetails>
      <DirectCreditTxn>
         <method>directcredit</method>
         <sortcode>123456</sortcode>
         <accountnumber>12340000</accountnumber>
         <accountname>Jane Smith</accountname>
         <bankreference>Money for Petrol</bankreference>
      </DirectCreditTxn>
   </Transaction>
</Request>
```

Example XML Request for a cancel

```
<Request>
   <Authentication>
      <client>99000001</client>
      <password>******</password>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>cancel</method>
         <reference>4000000059832490</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.5.4.3 Schema Elements for Response

The XML Responses for this Service only contain those elements that are discussed in section 2.1.1.3. There are no additional XML elements returned specifically for this Service

2.5.4.4 XML Example Responses

Example XML Response for a successful directcredit

```
<Response>
   <datacash_reference>4803000012345672</datacash_reference>
   <merchantreference>ABDYC003</merchantreference>
   <mode>TEST</mode>
   <reason>Accepted</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Response for an unsuccessful directcredit

```
<Response>
   <information>Invalid format for Account Name</information>
   <merchantreference>384086694791667</merchantreference>
   <mode>TEST</mode>
   <reason>Invalid format for Account Name</reason>
   <status>134</status>
   <time>…</time>
</Response>
```

Examples of directcredit cancellations are available in section 2.5.3.4.2.

2.5.5 *Direct Credit – Card Collection Accounts*

This Service allows funds to be returned to a cardholder by using their card collection account.

A technical introduction to this service is available on the website:
http://www.datacash.com/gettingproducts.php?id=Payments-to-Card-Collection-Accounts

2.5.5.1 Schema Elements for Request

In this section the required fields for Direct Credit to Card Collection Accounts will be presented, along with example XML for those fields. The XML is presented in italics for those fields that are not required for all situations.

Optional fields for each transaction type are indicated with an *O*, required fields with an R.

Performing Card Account Payments
The information required to process a direct debit refund - `cardaccountpayment` - is passed in these distinct places in the schema:

2.5.5.1.1 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `TxnDetails` – contains the `merchantreference` number and the `amount`, section 2.5.5.1.4
  - `DirectCreditTxn` – details of the customers `card`, plus the `method`, section 2.5.1.1.1.

Cancelling Direct Debit Refunds
The information required to `cancel` a `cardaccountpayment` is passed in these distinct places in the schema:

2.5.5.1.2 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `HistoricTxn` - the `datacash_reference` of the `cardaccountpayment` and the `method`, section 2.5.5.1.5.

2.5.5.1.3 DirectCreditTxn

The elements within this parent may only be presented for `cardaccountpayment` transactions. They are excluded for `cancel` transactions.

Element Name:	`DirectCreditTxn`
Position(s)	`Request.Transaction`

Elements of DirectCreditTxn			
Element Name	**Description**	**Values / Limitations**	**Required?**
`method`	Identifies the transaction type as a refund to a card collection account	`cardaccountpayment`	R
`pan`	The card number	Card must be Visa or MasterCard branded and issued in the UK	R
`expirydate`	The card expiry date	MM/YY format	O
`cardname`	The card holder's name	Up to 18 characters. "`COLLECTION ACCOUNT`" will be automatically used if this element is not presented	O

2.5.5.1.4 TxnDetails

Element Name:	`TxnDetails`
Position(s)	`Request.Transaction`

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
`merchantreference`	A unique reference number for each transaction	Up to 30 characters
`amount`	The value of the refund	

Example XML for TxnDetails elements

```
<TxnDetails>
  <merchantreference>123402</merchantreference>
  <amount>30.00</amount>
</TxnDetails>
```

2.5.5.1.5 HistoricTxn

Element Name:	`HistoricTxn`
Position(s)	`Request.Transaction.HistoricTxn`

Elements of HistoricTxn		
Element Name	**Description**	**Values / Limitations**
`method`	Identifies the transaction type as a cancellation	`cancel`
`reference`	The `datacash_reference` of the original transaction	16 digits

Example XML Element HistoricTxn for a cancel

```
<HistoricTxn>
   <method>cancel</method>
   <reference>3009999912345678</reference>
</HistoricTxn>
```

2.5.5.2 XML Example Requests

Example XML Request for cardaccountpayment

```
<Request>
   <Authentication>
      <password>****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <TxnDetails>

   <merchantreference>10397897589</merchantreference>
         <amount>59.00</amount>
      </TxnDetails>
      <DirectCreditTxn>
         <method>cardaccountpayment</method>
         <pan>5473********0007</pan>
      </DirectCreditTxn>
   </Transaction>
</Request>
```

Example XML Request for cardaccountpayment

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>****</password>
  </Authentication>
  <Transaction>
    <TxnDetails>

  <merchantreference>B00123895</merchantreference>
      <amount>23.50</amount>
    </TxnDetails>
    <DirectCreditTxn>
      <method>cardaccountpayment</method>
      <pan>4444********0001</pan>
      <cardname>Wes Scantlin</cardname>
      <expirydate>03/09</expirydate>
    </DirectCreditTxn>
  </Transaction>
</Request>
```

Example XML Request for a cancel

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>******</password>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>cancel</method>
      <reference>4000000059832490</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.5.5.3 Schema Elements for Response

The XML Responses for this Service only contain those elements that are discussed in section 2.1.1.3. There are no additional XML elements returned specifically for this Service.

2.5.5.4 XML Example Responses

Example XML Response for a successful cardaccountpayment

```
<Response>
   <datacash_reference>4000200045345250</datacash_reference>
   <merchantreference>390726429629630</merchantreference>
   <mode>…</mode>
   <reason>Accepted</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Requests for unsuccessful cardaccountpayment

```
<Response>
   <datacash_reference>4900200043479577</datacash_reference>
   <information>The card number does not pass the standard
                Luhn checksum test</information>
   <merchantreference>384084003240741</merchantreference>
   <mode>…</mode>
   <reason>Bad checksum</reason>
   <status>25</status>
   <time>…</time>
</Response>


<Response>
   <datacash_reference>3600200044366081</datacash_reference>
   <information>No payment details for this card</information>
   <merchantreference>389377230555556</merchantreference>
   <mode>…</mode>
   <reason>Unknown Payment Details</reason>
   <status>126</status>
   <time>…</time>
</Response>
```

Examples of cancellations are available in section 2.5.3.4.2.

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2.6 BATCH INPUT

The Batch Input Service allows many of the DPG Services to be utilised via batch process, instead of submitting the transactions in real time. Further non-technical information about this service is available on the website: http://www.datacash.com/services/batch/overview.shtml

The transaction data may be presented in either a XML or a CSV file format. This file will be referred to in this document as the *Batch Request* XML (or CSV). This file must then be Zlib-compressed and Base64 encoded.

The compressed and encoded *Batch Request* file is then placed within the *Batch Submission* Request document, which is itself an XML document. The *Batch Submission* Request is then sent to DataCash and a *Batch Submission* Response is returned.

To collect the results of the batch, a *Batch Query* Request is sent to DataCash. A *Batch Query* Response will be returned. This will contain the results of the batch, which have been Zlib –compressed and Base64 encoded. These results will be referred to as the *Batch Response* XML (or CSV). The format of the *Batch Response* document will match that of the *Batch Request*.

Naturally, the data you need to supply will depend upon the particular service you are using. However there are certain aspects of Batch Input that are common to each service that it can be used with. The features common to all services will be covered first

Available DPG Services – section 2.6.1

Common Elements - each of these elements are independent of the service used, section 2.6.2

File Formats Attributes, section 2.6.2.1

Batch Submission elements - also independent of format, section 2.6.2.2

Batch Query elements - also independent of format, section 2.6.2.3

Batch Request elements - for both XML and CSV, section 2.6.2.5

Batch Response elements - for both XML and CSV, section 2.6.2.6

SERVIce Specific Elements – these are specific to both the service and the file format used, section 2.6.3.1

The following key will be used for this section:

- *O* - Optional
- *R* - Required, field must be presented
- *M* - Mandatory if Available, if the information is available, it should be presented

2.6.1 *Available DPG Services*

Various DPG Services can be accessed via the Batch Input Service using both the XML and CSV file formats. These are outlined in the table below.

Service Type	DPG Service Name	Restrictions	Additional Information
Credit and Debit Cards	**Bank Card**	-	Section 2.2.1
	Pre-Registered Cards	Account must be configured for this service	Section 2.3.1
	Recurring Transactions – Capture Method	Account must be configured for this service	Section 2.3.2
	Chip and PIN	Account must be configured for this service. Transaction method must be auth or refund.	Section 2.7.1.1
BACS Services	**Standard Direct Debit**	Account must be configured for this service	Section 2.5.1.1
	Direct Credit: DDrefunds	Account must be configured for this service	Section 2.5.3
	Standard Direct Credit	Account must be configured for this service	Section 2.5.4
	Direct Credit: Card Collection Accounts	Account must be configured for this service	Section 2.5.5

In addition, the following Fraud Screening Services may be used in conjunction with the Credit and Debit Card Services:

Service Type	DPG Service Name	Restrictions	Additional Information
Fraud Prevention for Cards	**ReD**	Account must be configured for this service. The extended dataset cannot be provided.	Section 2.4.3
	AVSCV2	AVS check only. Not available for Chip and PIN	Section 2.4.1

2.6.2 *Overview of Common Elements and Attributes*

2.6.2.1 File Formats Attributes

The individual transactions within each file may be presented in either XML or CSV format. Each format has a name, which is passed within both the Batch Submission document and the Batch Request. The file names are presented below.

XML File Formats		
Format	**Service**	**Details in**
`xml_cardtxn`	Credit and Debit Cards	Section 2.6.3.1
`xml_chp_cardtxn`	Cardholder Present Cards	Section 2.6.3.2
`xml_directcredit`	BACS – Direct Credit	Section 2.6.3.3
`xml_directdebit`	BACS - Direct Debit	Section 2.6.3.1

CSV file Formats			
Format	**Service**	**Used for**	**Details in**
`csv_avs_card_txn`	Credit and Debit Cards	Authorisations with standard AVS checking	Section 2.6.3.6
`csv_card_txn`	Credit and Debit Cards	Authorisations	Section 2.6.3.4
`csv_chp_card_txn`	Cardholder Present	`auth` and `refund` transactions	Section 2.6.3.2
`csv_historic`	Credit and Debit Cards	Historic transactions: `fulfill, txn_refund, cancel, accept_fraud authorize_referral_request`	Section 2.6.3.8
`csv_prereg`	Credit and Debit Cards	Pre-Registered Cards	Section 2.6.3.9
`csv_dc_cc_account`	BACS Services	Direct Credit `cardaccountpayment`	Section 2.6.3.10
`csv_dc_ddrefund`	BACS Services	Direct Credit `ddrefunds`	Section 2.6.3.11
`csv_dc_std`	BACS Services	Standard Direct Credit	Section 2.6.3.12
`csv_dd_drawdown`	BACS Services	Direct Debit `drawdown`	Section 2.6.3.13
`csv_dd_setup`	BACS Services	Direct Debit `setup` and `presetup`	Section 2.6.3.14
`csv_dd_setup_edit`	BACS Services	Direct Debit `confirm` and `revoke`	Section 2.6.3.15

2.6.2.2 Batch Submission Elements

These elements are common to all of the Batch Input Services, regardless of the service or format used.

2.6.2.2.1 Schema Elements for Batch Submission

Each batch contains header information:

2.6.2.2.2 Request

- `Authentication` – each Batch Submission can contain transactions for only one DataCash account (vTID). The Authentication element is covered in section 2.1.1.2
- `Transaction`
  - `BatchInputTxn` – section 2.6.2.2.2.1

2.6.2.2.2.1 BatchInputTxn

Element Name:	`BatchInputTxn`
Position:	`Request.Transaction`

Elements of BatchInputTxn

Element Name	Description	Values / Limitations	
`batchfile`	The Batch Request, compressed using Zlib compression, then Base64 encoded	Uncompressed Batch Request must be less than 1MB	R
`txn_count`	The total number of transactions in the batchfile	Must be an integer > 0.	R
`total_amount`	The total gross value of transactions in the batchfile, regardless of currency and transaction type	Tolerant to 0.001. If the format of the transactions within the Batch Request does not contain an amount, the `total_amount` must be set to zero	R

Attributes of batchfile

Element Name	Description	Values / Limitations	
`format`	The format of the file you are submitting	Please refer to section 2.6.2	R

XML Examples of Batch Submission for BatchInputTxn complex elements

```
<BatchInputTxn>
   <batchfile format="xml_cardtxn">…</batchfile>
   <txn_count>3</txn_count>
   <total_amount>395.99</total_amount>
</BatchInputTxn>

<BatchInputTxn>
   <batchfile format="csv_historic">…</batchfile>
   <txn_count>16</txn_count>
   <total_amount>0</total_amount>
</BatchInputTxn>

<BatchInputTxn>
   <batchfile format="xml_directdebit">…</batchfile>
   <txn_count>4</txn_count>
   <total_amount>75.60</total_amount>
</BatchInputTxn>

<BatchInputTxn>
   <batchfile format="csv_dd_setup">…</batchfile>
   <txn_count>29</txn_count>
   <total_amount>0</total_amount>
</BatchInputTxn>

<BatchInputTxn>
   <batchfile format="csv_dd_drawdown">…</batchfile>
   <txn_count>63</txn_count>
   <total_amount>1565.09</total_amount>
</BatchInputTxn>
```

2.6.2.2.3 XML Example Batch Submission

Example XML Batch Submission for a Batch Request in XML format containing three transactions

```
<Request>
   <Authentication>
      <password>******</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <BatchInputTxn>
         <batchfile format="xml_cardtxn">…</batchfile>
         <txn_count>3</txn_count>
         <total_amount>395.99</total_amount>
      </BatchInputTxn>
   </Transaction>
</Request>
```

Example XML Batch Submission for a Batch Request in CSV format containing five transactions

```
<Request>
   <Authentication>
      <password>******</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <BatchInputTxn>
         <batchfile format="csv_historic">…</batchfile>
         <txn_count>5</txn_count>
         <total_amount>2501.00</total_amount>
      </BatchInputTxn>
   </Transaction>
</Request>
```

Example XML Batch Submission for a Batch Request in XML format containing five transactions

```
<Request>
  <Authentication>
    <password>******</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <BatchInputTxn>
      <batchfile format="xml_directdebit">…</batchfile>
      <txn_count>5</txn_count>
      <total_amount>395.99</total_amount>
    </BatchInputTxn>
  </Transaction>
</Request>
```

Example XML Batch Submission for a Batch Request in CSV format containing eighteen transactions

```
<Request>
  <Authentication>
    <password>******</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <BatchInputTxn>
      <batchfile format="csv_dd_drawdown">…</batchfile>
      <txn_count>18</txn_count>
      <total_amount>156.00</total_amount>
    </BatchInputTxn>
  </Transaction>
</Request>
```

2.6.2.2.4 Schema Elements for Response

The Response for Batch Submission contains the normal Response fields. These are covered in section 2.1.1.3

The `datacash_reference` returned is the reference number for the Batch Submission. This should be stored to allow a Batch Query (section 2.6.2.3) to be performed. The `merchantreference` returned is extracted from within the Batch Request.

2.6.2.2.5 XML Example Batch Submission Response

Two Batch Submission Responses are shown below.

A full list of return codes for this service is available on the website here.

Example XML Batch Submission Responses for a successful and a rejected batch submission

```
<Response>
   <datacash_reference>3900900100010001</datacash_reference>
   <merchantreference>batch_ABCDEF</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>…</time>
</Response>

<Response>
   <datacash_reference>3800900100010006</datacash_reference>
   <information>Supplied and actual transaction counts do
       not match</information>
   <merchantreference>batch_XYZ</merchantreference>
   <mode>LIVE</mode>
   <reason>BatchInput: Error in batch data</reason>
   <status>262</status>
   <time>…</time>
</Response>
```

2.6.2.3 Batch Query

The Batch Query allows you to receive the results of each transaction within the Batch Submission.

2.6.2.3.1 Schema Elements for Batch Submission Query

2.6.2.3.2 Request

- `Authentication` – section 2.1.1.2
- `Transaction`
  - `HistoricTxn` – see section 2.6.2.3.2.1.

2.6.2.3.2.1 HistoricTxn

Element Name:	`HistoricTxn`
Position:	`Request.Transaction`

Elements of HistoricTxn			
Element Name	**Description**	**Values / Limitations**	
method	The transaction type	query	R
reference	The datacash_reference of the Batch Submission		R

Example XML Request for HistoricTxn complex elements

```
<HistoricTxn>
  <reference>3900900100010001</reference>
  <method>query</method>
</HistoricTxn>
```

2.6.2.3.3 XML Example Batch Submission Query

Example XML Batch Query

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>query</method>
         <reference>3900900100010001</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.6.2.4 Schema Elements for Query Response

2.6.2.4.1.1 BatchInputTxn

Element Name:	BatchInputTxn
Position:	Response

The element BatchInputTxn contains the Zlib compressed and Base64 encoded results of the Batch Request.

2.6.2.4.2 XML Example Query Response

Two Example XML Batch Query Responses

```
<Response>
   <BatchInputTxn>…</BatchInputTxn>
   <datacash_reference>3900900100010001</datacash_reference>
   <merchantreference>batch_ABCDEF</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>…</time>
</Response>


<Response>
   <datacash_reference>3400900100010008</datacash_reference>
   <information>You have queried a Batch Input Transaction,
       which is currently being processed</information>
   <merchantreference>batch_ABCDEG</merchantreference>
   <mode>LIVE</mode>
   <reason>BatchInput: Processing</reason>
   <status>273</status>
   <time>…</time>
</Response>
```

2.6.2.5 Batch Input Request and Response - Common XML Elements

2.6.2.5.1 Schema Elements for Batch Request

2.6.2.5.2 BatchInputRequest

- `Header` – see section 2.6.2.5.2.1
- `Transactions` – see section 2.6.2.5.2.2

2.6.2.5.2.1 Header

Element Name:	`Header`
Position:	`BatchInputRequest`

Elements of Header

Element Name	Description	Values / Limitations	
`format`	The name of the file format used	See section 2.6.2 for list. Must match that listed in the Batch Submission	R
`reference`	A reference number for the entire Batch	Must be between six and thirty alphanumeric in length	R

Example XML Request for Header complex elements

```
<Header>
   <format>xml_cardtxn</format>
   <reference>mybatch0002</reference>
</Header>

<Header>
   <format>xml_directdebit</format>
   <reference>mybatch_0003</reference>
</Header>
```

2.6.2.5.2.2 Transactions

Element Name:	Transactions
Position:	BatchInputRequest

Elements of Transactions			
Element Name	Description	Values / Limitations	
Request	One Request element per transaction	Each Request must have identical Authentication elements, which must also be the same as those supplied in the Authentication element of the Batch Submission	R

Example XML for Transactions complex elements. There are 3 transactions.

```
<Transactions>
   <Request>
    ...
  </Request>
   <Request>
    ...
  </Request>
   <Request>
    ...
  </Request>
</Transactions>
```

2.6.2.5.3 Example XML Batch Request

```
<BatchInputRequest>
   <Header>
      <format>xml_cardtxn</format>
      <reference>batchref1234</reference>
   </Header>
   <Transactions>
      <Request>
       ...
     </Request>
      <Request>
       ...
     </Request>
      <Request>
       ...
     </Request>
   </Transactions>
</BatchInputRequest>
```

2.6.2.5.4 Schema Elements for Batch Response

2.6.2.5.5 BatchInputResponse

`Header` – this element is currently unpopulated

`Transactions` – see section 2.6.2.5.2.2

2.6.2.5.5.1 Transactions

Element Name:	Transactions
Position:	BatchInputResponse

Elements of Transactions	
Element Name	**description**
Response	One Response element per original transaction

Example XML for Transactions complex elements. There are 2 transactions present

```
<Transactions>
   <Response>
    ...
  </Response>
   <Response>
    ...
  </Response>
</Transactions>
```

2.6.2.5.6 Example XML Batch Response

Example XML for a Batch Response, without the transaction details shown

```
<BatchInputResponse>
   <Header/>
   <Transactions>
      <Response>...</Response>
      <Response>...</Response>
   </Transactions>
</BatchInputResponse>
```

An Example XML Response, with 3 transactions

```
<BatchInputResponse>
   <Header/>
   <Transactions>
      <Response>
         <CardTxn>
            <authcode>183425</authcode>
            <card_scheme>Mastercard</card_scheme>
            <country>United Kingdom</country>
            <Cv2Avs>
               <cv2avs_status>ADDRESS MATCH ONLY</cv2avs_status>
               <policy>1</policy>
            </Cv2Avs>
            <issuer>BARCLAYS BANK PLC</issuer>
         </CardTxn>
         <datacash_reference>3300900100010037</datacash_reference>
         <merchantreference>1000001</merchantreference>
         <mode>LIVE</mode>
         <reason>ACCEPTED</reason>
         <status>1</status>
         <time>1067274153</time>
      </Response>
      <Response>
         <datacash_reference>3300900100010037</datacash_reference>
         <merchantreference>123402</merchantreference>
         <reason>Prereg: Merchant Not Subscribed</reason>
         <status>251</status>
         <time>1067274153</time>
      </Response>
      <Response>
         <CardTxn>
            <authcode>100000</authcode>
         </CardTxn>
         <datacash_reference>3300900100010037</datacash_reference>
         <merchantreference>123402</merchantreference>
         <reason>ACCEPTED</reason>
         <status>1</status>
         <time>1067274153</time>
      </Response>
   </Transactions>
</BatchInputResponse>
```

2.6.2.6 Batch Request and Response - Common CSV Elements

2.6.2.6.1 CSV File Format Definition

The definition of CSV format used is as follows

- Allowable characters within a CSV field include 0x09 (tab) and the inclusive range of 0x20 (space) through 0x7E (tilde).
- A field within CSV may be surrounded by double-quotes. Double quoting is used by default to surround fields in CSV format responses.
- A field within CSV must be surrounded by double-quotes to contain a comma.
- A field within CSV must be surrounded by double-quotes to contain an embedded double-quote, represented by a pair of consecutive double-quotes.
- A CSV field may be terminated by 0x0A (line feed) or by 0x0D, 0x0A (carriage return, line feed).
- Blank lines and lines starting with 0x23 (#) are ignored.

2.6.2.6.2 CSV Request Headers

Each CSV file contains should contain a header line containing these fields:

Headers for CSV format, in order			
Element Name	**Description**	**Values / Limitations**	
`format`	The name of the file format used	See section 2.6.2 for list. Must match that listed in the Batch Submission	R
`reference`	A reference number for the entire Batch	Must be between six and thirty alphanumeric in length	R
`client`	The vTID of the account the batch is to be processed against	Must be the same as those supplied in the Authentication element of the Batch Submission	R
`password`	The password of the account the batch is to be processed against		R

Two CSV Examples for a Batch Request Headers

```
csv_card_txn,batch_csv_card_txn_6,99000001,mypasswd

csv_prereg,batch_csv_prereg_3,99000001,mypasswd
```

2.6.2.6.3 CSV Response

The Response elements returned will be the same for each file format. These are:

Fields for CSV responses			
	Element Name	**Description**	**XML equivalent**
1	`merchant_ref`	The `merchant_ref` of the original transaction	`merchant_reference`
2	`datacash_ref`	The `datacash_reference` of the transaction	`datacash_reference`
3	`response_code`	The DataCash Response Code	`status`
4	`status_message`	Additional information about the `response_code`	`reason`
5	`authcode`	The result of the authorisation request, for transactions submitted for authorisation only –otherwise blank	`authcode`
6	`time`	The Unix Timestamp of the transaction	`time`

Example CSV responses

```
“ABCD9876”,“3000900100010005”,“7”,“REFERRED”,“CALL AUTH”,“1080920429”

“3400900100010008”,“3400900100010008”,“1”,“CANCELLED
OK”,“”,“1080920429”

“payment_1223”,“3600900100010889”,“1”,“ACCEPTED”,“896786”,“1080920430”

“ACBD9877”,“3600900100010890”,“1”,“ACCEPTED”,“548620”,“1080920431”

"valid_ddrefund","3000900100010048","1","ACCEPTED","","1080920435"

"ddrefund_no_setup","3800900100010049","137","Unable to locate
matching DDI transaction","","1080920436"
```

2.6.3 *Example Batch Requests*

This section covers the Batch Request file, for all services.

Please note that the maximum size of a single Batch Request – before compression – is 1MB (1024KB). Any files larger than this will be rejected.

2.6.3.1 xml_cardtxn

An example file with three transactions is shown below. The file contains three transactions, one Pre-Registered and two Credit and Debit Card (a `pre` with AVS data and a `cancel`). The transactions could be screened using either the ReD or T3M services if the account is configured for this at DataCash. A Batch Submission example for this file is shown in section 2.6.2.2.

Example XML Batch Request containing three transactions with a total value of 395.99

```
<BatchInputRequest>
   <Header>
      <format>xml_cardtxn</format>
      <reference>batchref1234</reference>
   </Header>
   <Transactions>
      <Request>
         <Authentication>
            <client>99000001</client>
            <password>******</password>
         </Authentication>
         <Transaction>
            <CardTxn>
               <Card>
                  <expirydate>04/06</expirydate>
                  <startdate>01/04</startdate>
                  <pan>633300*********1</pan>
                  <Cv2Avs>
                     <street_address1>1 High Street, UK </street_address1>
                     <postcode>S01 2CD</postcode>
                     <policy>1</policy>
                  </Cv2Avs>
               </Card>
               <method>pre</method>
            </CardTxn>
            <TxnDetails>
               <amount currency="GBP">146.00</amount>
               <merchantreference>1000001</merchantreference>
            </TxnDetails>
         </Transaction>
      </Request>
      <Request>
         <Authentication>
            <password>******</password>
            <client>99000001</client>
         </Authentication>
      <Transaction>
        <TxnDetails>
          <merchantreference>123402</merchantreference>
          <amount currency="USD">249.99</amount>
        </TxnDetails>
        <CardTxn>
          <method>auth</method>
          <card_details type="preregistered">
           3100000088888881212</card_details>
        </CardTxn>
      </Transaction>
    </Request>
    <Request>
      <Authentication>
        <client>99000001</client>
        <password>******</password>
      </Authentication>
      <Transaction>
        <HistoricTxn>
          <reference>3100000088888888</reference>
          <method>txn_refund</method>
        </HistoricTxn>
      </Transaction>
    </Request>
  </Transactions>
</BatchInputRequest>
```

2.6.3.2 xml_chp_cardtxn

Example XML Batch Request containing three transactions with a total value of 120.72 in two currencies

```
<BatchInputRequest>
  <Header>
    <format>xml_chp_cardtxn</format>
    <reference>batchref1234</reference>
  </Header>
  <Transactions>
    <Request>
      <Authentication>
        <password>*******</password>
        <client>99000001</client>
      </Authentication>
      <Transaction>
        <TxnDetails>
          <capturemethod>parked</capturemethod>
          <merchantreference>1234567890blahh</merchantreference>
          <amount currency="GBP">54.00</amount>
        </TxnDetails>
        <CardTxn>
          <card_details type="track2_data">
            ****************</card_details>
          <Terminal id="82000062">
            <terminal_capabilities ic_reader="true"
            magnetic_stripe_reader="true" manual_card_entry="true"/>
            <features_capabilities pin_pad_available="true"/>
          </Terminal>
```

```
               <method>auth</method>
               <reason_online_code>10</reason_online_code>
               <receipt_no>000123</receipt_no>
               <ICC>
                  <seq_or_issue_number>*</seq_or_issue_number>
                  <auth_response_code>00</auth_response_code>
                  <crypto_txn_amount>54.00</crypto_txn_amount>
                  <crypto_tran_type>00</crypto_tran_type>
                  <term_txn_date>031107</term_txn_date>
                  <txn_currency_code>826</txn_currency_code>
                  <txn_country_code>826</txn_country_code>
                  <arqc>****************</arqc>
                  <aip>****</aip>
                  <atc>****</atc>
                  <unpredictable>********</unpredictable>
                  <tvr>**********</tvr>
                  <issuer_app_data>**************</issuer_app_data>
                  <app_usage_control>****</app_usage_control>
                  <crypto_info_data>**</crypto_info_data>
                  <cvm>******</cvm>
                  <aid>**********</aid>
                  <term_app_ver_no>****</term_app_ver_no>
                  <txn_status_info>****</txn_status_info>
                  <term_type>**</term_type>
                  <term_capabilities>******</term_capabilities>
                  <pos_entry_mode>32</pos_entry_mode>
                  <other_card_data>**************</other_card_data>
               </ICC>
            </CardTxn>
         </Transaction>
      </Request>
      <Request>
         <Authentication>
            <password>*******</password>
            <client>99000001</client>
         </Authentication>
         <Transaction>
            <TxnDetails>
               <capturemethod>keyed</capturemethod>
               <merchantreference>1234560002</merchantreference>
               <amount currency="EUR">30.00</amount>
            </TxnDetails>
            <CardTxn>
               <Terminal id="82000062">
                  <terminal_capabilities ic_reader="true"
                  magnetic_stripe_reader="true" manual_card_entry="true"/>
                  <features_capabilities pin_pad_available="true"/>
               </Terminal>
               <method>auth</method>
               <receipt_no>000124</receipt_no>
               <ICC>
                  <term_type>**</term_type>
               </ICC>
               <Card>
                  <pan>444433*********1</pan>
                  <expirydate>12/09</expirydate>
               </Card>
```

```
    </CardTxn>
  </Transaction>
</Request>
<Request>
  <Authentication>
    <password>*******</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <capturemethod>swiped</capturemethod>
      <merchantreference>1234560002</merchantreference>
      <amount currency="GBP" cashback="20.00">26.23</amount>
    </TxnDetails>
    <CardTxn>
      <card_details type="track2_data">
        ****************</card_details>
      <Terminal id="82000062">
        <terminal_capabilities ic_reader="true"
        magnetic_stripe_reader="true" manual_card_entry="true"/>
        <features_capabilities pin_pad_available="true"/>
      </Terminal>
      <method>auth</method>
      <receipt_no>000125</receipt_no>
      <ICC>
        <term_type>**</term_type>
      </ICC>
    </CardTxn>
  </Transaction>
</Request>
<Request>
  <Authentication>
    <password>*******</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <capturemethod>keyed</capturemethod>
      <merchantreference>1234560002</merchantreference>
      <amount currency="GBP">10.49</amount>
    </TxnDetails>
    <CardTxn>
      <Terminal id="82000062">
        <terminal_capabilities ic_reader="true"
        magnetic_stripe_reader="true" manual_card_entry="true"/>
        <features_capabilities pin_pad_available="true"/>
      </Terminal>
      <method>refund</method>
      <receipt_no>000126</receipt_no>
      <ICC>
        <term_type>**</term_type>
      </ICC>
      <Card>
        <pan>444433*********1</pan>
        <expirydate>12/09</expirydate>
      </Card>
    </CardTxn>
```

```
         </Transaction>
      </Request>
   </Transactions>
</BatchInputRequest>
```

2.6.3.3 xml_direct_credit

Example XML Batch Request xml_directcredit containing two transactions with a total value of 80.00

```
<BatchInputRequest>
   <Header>
      <format>xml_directcredit</format>
      <reference>45356132</reference>
   </Header>
   <Transactions>
      <Request>
         <Authentication>
            <password>fred</password>
            <client>21850000</client>
         </Authentication>
         <Transaction>
            <TxnDetails>
               <merchantreference>standardDC0000054</merchantreference>
               <amount>45.00</amount>
            </TxnDetails>
            <DirectCreditTxn>
               <method>directcredit</method>
               <sortcode>826300</sortcode>
               <accountnumber>80000990</accountnumber>
               <accountname>Jo Bloggs</accountname>
            </DirectCreditTxn>
         </Transaction>
      </Request>
      <Request>
         <Authentication>
            <password>fred</password>
            <client>21850000</client>
         </Authentication>
         <Transaction>
            <TxnDetails>
               <merchantreference>ddrefund00434582</merchantreference>
               <amount>35.00</amount>
            </TxnDetails>
            <HistoricTxn>
               <method>ddrefund</method>
               <reference>3600900100010007</reference>
            </HistoricTxn>
         </Transaction>
      </Request>
   </Transactions>
</BatchInputRequest>
```

2.6.3.4 xml_directdebit

An example `xml_directdebit` file with four transactions is shown below. The file contains one `setup`, one `revoke`, two `drawdowns` and a `confirm`. A Batch Submission example for this file is shown in section □o.

Example XML Batch Request containing five transactions with a total value of 395.99

```
<BatchInputRequest>
  <Header>
    <format>xml_directdebit</format>
    <reference>batchref1236</reference>
  </Header>
  <Transactions>
    <Request>
      <Authentication>
        <client>99000001</client>
        <password>******</password>
      </Authentication>
      <Transaction>
        <DirectDebitTxn>
          <sortcode>938611</sortcode>
          <accountnumber>02149187</accountnumber>
          <accountname>Mr A. N. Other</accountname>
          <method>setup</method>
        </DirectDebitTxn>
        <TxnDetails>
          <merchantreference>1000001</merchantreference>
        </TxnDetails>
      </Transaction>
    </Request>
    <Request>
      <Authentication>
        <password>******</password>
        <client>99000001</client>
      </Authentication>
      <Transaction>
        <TxnDetails>
          <merchantreference>123402</merchantreference>
          <amount>100.99</amount>
        </TxnDetails>
        <HistoricTxn>
          <method>drawdown</method>
          <reference>90000005</reference>
        </HistoricTxn>
      </Transaction>
    </Request>
    <Request>
      <Authentication>
        <password>******</password>
        <client>99000001</client>
      </Authentication>
      <Transaction>
        <TxnDetails>
          <merchantreference>123402</merchantreference>
          <amount>295.00</amount>
        </TxnDetails>
        <HistoricTxn>
          <method>drawdown</method>
          <reference>90000005</reference>
          <duedate>20050929</duedate>
        </HistoricTxn>
      </Transaction>
    </Request>
    <Request>
      <Authentication>
        <client>99000001</client>
        <password>******</password>
      </Authentication>
      <Transaction>
        <HistoricTxn>
          <method>revoke</method>
          <reference>40488707</reference>
        </HistoricTxn>
        <TxnDetails>
          <merchantreference>383285870486111</merchantreference>
        </TxnDetails>
      </Transaction>
    </Request>
    <Request>
      <Authentication>
        <client>99000001</client>
        <password>********</password>
      </Authentication>
      <Transaction>
        <HistoricTxn>
          <method>confirm</method>
          <reference>40502431</reference>
        </HistoricTxn>
        <TxnDetails>
          <merchantreference>383366196990741</merchantreference>
        </TxnDetails>
      </Transaction>
    </Request>
  </Transactions>
</BatchInputRequest>
```

2.6.3.5 csv_card_txn

This CSV file format should be used to obtain authorisation for Credit and Debit Card transactions using the Bank Card Service. It can be used for both the one stage processing model and the first stage of the two stage processing model.

If you are using the Capture Method model of Recurring Transactions, this file format can be used. For this Service, the `capturemethod` should be specified.

Fields for format csv_card_txn

	Element Name	Description	Values / Limitations	
1	pan	As described in section 2.2.1.1.1		R
2	expiry_date			R
3	start_date			M
4	issue			M
5	amount	As described in section 2.2.1.1.3		R
6	currency			R
7	merchant_ref			R
8	method	The transaction type	auth pre refund erp	R
9	capturemethod	As described in section 2.8.3.10.2		M[1]
10	authcode	The authorisation code received from the bank	If presented, must be value received from Banks Authorisation centre	O

[1] Mandatory if the account is configured with multiple merchant ID environments

Example csv_card_txn file – six transactions with a value of 2697.31

```
csv_card_txn,batch_csv_card_txn_6, 99000001,mypasswd
4444333322221111,01/09,,,99.99,GBP,myref0000023,pre,ecomm,
5473000000000007,01/09,,,530.01,GBP, myref0000024,auth,ecomm,
343434343434343,01/09,,,13.00,USD, myref0000025,pre,,
4936000000000000001,01/09,,2,9.95,GBP,
myref0000026,erp,ecomm,
6759000000000026,01/09,01/01,,44.36,GBP,
myref0000027,refund,ecomm,
5473000000000007,01/09,,,2000.00,GBP,
myref123,auth,ecomm,123456
```

2.6.3.6 csv_avs_card_txn

This CSV file format is similar to `csv_card_txn` format (section 2.6.3.5), but it also allows AVS information to be provided with the Credit and Debit Card transactions if required. CV2 information cannot be provided as the CV2 number should not be stored.

Fields for format csv_avs_card_txn

	Element Name	**Description**	**Values / Limitations**	
1-10	As described in section 2.6.3.5			
11	address_line_1	As described in section 2.4.1.1.2		O
12	address_line_2			O
13	address_line_3			O
14	address_line_4			O
15	postcode			O
16	policy_number	The Standard Policy against which the transaction is to be checked against	See website[1]	O[2]

[1] While all of these values are valid, as only the AVS check can be carried out, only policies 1 or 5 should be chosen.

[2] The default policy registered against the account will be used if not value is set

Example csv_avs_card_txn file – two transactions for a total value of 3.96

```
csv_avs_card_txn,batch_csv_avs_card_txn_2,99000001,mypasswd
4444333322221111,01/09,,,1.98,GBP,ABC123,auth,,,Flat 12,345 Main
     Street,Putney,,A9 87XY,5
5473000000000007,01/09,,,1.98,GBP,ABC124,auth,ecomm,,Flat 12,345
     Main Street,Putney,,X1 23AB,5

# Note: the line wrapping is this example should not
# be used in a real file
```

2.6.3.7 csv_chp_card_txn

This CSV file format is used for Cardholder Present transactions.

Fields for format csv_chp_card_txn

	Element Name	Description	Values / Limitations	
1-7	As described in section 2.6.3.5			
8	`method`	The transaction type	`auth` `refund`	R
9	`capturemethod`	Indicates how the transaction was accepted at the POS	`keyed` `swiped`	R
10	`authcode`	The authorisation code generated for the transaction	-	R

11	`authcode_method`	Indicates how the authcode was obtained	`terminal`
			`online`
			`telephone`
				O

12	`cashback`	The amount of cashback required by the customer	Amount in `Major.Minor` currency units (i.e. 10.98)	O
13	`tid`	The Terminal ID (TID) used for the transaction	DataCash will advise	R

14	`hot_card_file`	Indicates which Hot Card File was used during the transaction	`none`
			`reserved`
			`Switch 400`
			`Switch 8000`
				O

15	`ic_reader`	Whether the Terminal has Chip reading capability	`true` `false`	R
16	`magnetic_stripe_reader`	Whether the Terminal has magnetic stripe reading capability	`true` `false`	R
17	`manual_card_entry`	Whether the Terminal has the facility to enable card details to be manually entered	`true` `false`	R
18	`pin_pad_available`	Whether the Terminal has a keypad to enable the PIN to be entered	`true` `false`	R

Example csv_chp_card_txn file containing three transactions with a value of 643

```
csv_chp_card_txn,batch_csv_chp_card_txn_0008,99000001,mypasswd
4444333322221111,01/09,,,99.99,GBP,myref0000023,refund,keyed,482135,ter
minal,
      85621087,,true,true,true,true
5473000000000007,01/09,,,530.01,GBP,myref0000024,auth,swiped,955AU3,tel
ephone,
      85621087,,true,true,true,true
343434343434343,01/09,,,13.00,USD,myref0000025,auth,swiped,FLDURN,termi
nal,
      85621086,,true,true,true,true

# Note: the line wrapping is this example should not
# be used in a real file
```

2.6.3.8 csv_historic

This CSV file format is used for the Credit and Debit Card Services to complete two stage processing using the `fulfill`transaction and to perform `cancel`, `txn_refund`, `accept_fraud and authorize_referral_request` transactions.

Fields for format csv_historic

	Element Name	Description	Values / Limitations	
1	reference	DataCash unique reference of the original transaction	-	R
2	method	The transaction type	fulfill txn_refund cancel accept_fraud authorize_referral_request	R
3	authcode	The authorisation code of the original `pre` or `erp` transaction, or the value obtained from the Banks Authorisation centre if the transaction was referred.	For `fulfill or authorize_referral_request` only	R
4	amount	The value of the transaction	For `fulfill` or `txn_refund` only	O[1]

[1] Transactions will be fulfilled/refunded for the full value of the original transaction if this field is empty.

Example csv_historic file containing five transactions with a value of 2501.00

```
csv_historic,batch_csv_historic_0008,99000001,mypasswd
# fulfill supplying amount
3000900100010005,fulfill,100000,1001.00
# cancel
3400900100010008,cancel,,
# fulfill, for the full value of the original txn
3800900100010025, ,100001,

# txn_refund, two refunds to the same original txn
3600900100010026,txn_refund,,1000.00
3600900100010026,txn_refund,,500.00
```

2.6.3.9 csv_prereg

This CSV file format allows the Pre-Registered Card Service to be utilised.

Fields for format csv_prereg

	Element Name	Description	Values / Limitations
1	merchant_ref	As described in section 2.7.1.1.2	R
2	reference	DataCash unique reference of the original transaction	R
3	amount	As described in section 2.7.1.1.5	R
4	currency		R
5	method		R
6	capturemethod		O
7	authcode		O

Example csv_prereg file containing three transactions for a total value of 2023.34

```
csv_prereg,batch_csv_prereg_3,99000001,mypasswd

# card txns using card details from previous historic txns
prereg_230006,2185000198760000,1000.00,GBP,auth,ecomm,
prereg_230007,3200900100010014,1000.00,USD,refund,,

# using prereg to carry out manual auth of previous
# referred txn
prereg_230008,3700900100010021,23.34,GBP,pre,ecomm,123123
```

2.6.3.10 csv_dc_cc_account

This CSV file format enables the Direct Credit Card Collection Account Service to be accessed.

Fields for format csv_dc_cc_account				
	Element Name	**Description**	**Values / Limitations**	
1	merchant_ref	The reference number of the drawdown	See limitations	R
2	pan	The card number		R
3	amount	The value to credit	Major.minor currency units (i.e. (10.99)	R
4	card_name	The card holders name		O
5	expiry_date	The card expiry date	-	O

Example csv_dc_cc_account file containing two transactions with a value of 20.00

```
csv_dc_cc_account,batch000134,99000001,mypasswd
valid_cardaccountpayment,4560720000000007,10.00,,
optional_fields,4560720000000007,10.00,MR FOO BAR,12/09
```

2.6.3.11 csv_dc_ddrefund

This CSV format supports Direct Credit ddrefund transactions.

Fields for format csv_dc_ddrefund				
	Element Name	**Description**	**Values / Limitations**	
1	merchant_ref	The reference number of the DDI	See limitations	R
2	reference	The datacash_reference of the original transaction	-	R
3	amount	The amount to credit	Major.minor currency units (i.e. (10.99)	R

Example csv_dc_ddrefund file containing two transactions with a value of 25.00

```
csv_dc_ddrefund,batch000131,99000001,mypasswd
ddrefundABCD000345,10000003,10.00
45347ACBD,3400900100010008,15.00
```

2.6.3.12 csv_dc_std

This CSV format enables the Standard Direct Credit service to be used.

Fields for format csv_dc_standard

	Element Name	Description	Values / Limitations	
1	`merchant_ref`	The reference number of the drawdown	See limitations	R
2	`amount`	The value to credit	`Major.minor` currency units (i.e. (10.99)	R
3	`sort_code`	The customer's sort code	6 digits	R
4	`acc_num`	The customer's account number	-	R
5	`acc_name`	The customer's account name	Maximum of 18 characters	R
6	`bank_ref`		See limitations	O

Example csv_dc_std file containing two transactions with a value of 60.00

```
csv_dc_standard,batch000130,99000001,mypasswd
directcredit00006,30.00,826300,80000990,Bert Weiss,
credit00009,30.00,826300,80000990,Bert Weiss,Money for petrol
```

2.6.3.13 csv_dd_drawdown

This CSV file format supports `drawdown` transactions for the Standard Direct Debit Service.

Fields for format csv_dd_drawdown

	Element Name	Description	Values / Limitations	
1	`merchant_ref`	The reference number of the drawdown	See limitations	R
2	`reference`	The datacash_reference number of the DDI	-	R
3	`amount`	The value to debit	`Major.minor` currency units (i.e. (10.99)	R
4	`duedate`	The date to perform the drawdown	`yyyymmdd` format	O

5	`bacs_tran_code`	Enables the BACS transaction code to be explicitly set	`01`
			`17`
			`18`
			`19`
				O

Example csv_dd_drawdown file containing three transactions with a value of 30.00

```
csv_dd_drawdown,batch000130,99000001,mypasswd
drawdown_BE30006,10000003,10.00,,
drawdown_HI90135,10000004,10.00,20041212,
drawdown_JG00042,10000005,10.00,,18
```

2.6.3.14 csv_dd_setup

This CSV format is used for the Standard Direct Debit Service to perform `setup` and `presetup` transactions.

Fields for format csv_dd_setup				
	Element Name	**Description**	**Values / Limitations**	
1	`merchant_ref`	The reference number of the DDI	Must be of the format agreed with your Sponsoring bank. See limitations.	R
2	`sort_code`	The sort code of the customer's bank	6 digits	R
3	`acc_num`	The customer's account number	-	R
4	`acc_name`	The name of the account holder	Maximum of 18 characters	R
5	`method`	Determines the processing model to be used	`setup` `presetup`	R
6	`active`	Enables an existing setup to be transferred to the DataCash system	`true`	O
7	`type`	Enables a non_AUDDIS DDI to be converted to an AUDDIS DDI	`conversion`	O

Example csv_dd_setup file containing four transactions with a value of 0.00 (no amount values present)

```
csv_dd_setup,batch000128,99000001,mypasswd
valid_setup,938611,02149187,MR F BAR,setup,,
setup_active,938612,02149188,MR A N OTHER,setup,true,
setup_conversion,938613,02149189,MR A N
OTHER,setup,,conversion
# DD presetup transaction
valid_presetup,938611,02149187,MR F BAR,presetup,,
valid_presetup456, 938611,02149236,”J, M & P
Smith‟,presetup,,
```

2.6.3.15 csv_dd_setup_edit

This CSV file format is used with the Direct Debit Service to perform for `confirm` and `revoke` transactions.

Fields for format csv_dd_setup_edit

	Element Name	Description	Values / Limitations	
1	`merchant_ref`	The reference number of the DDI	As supplied for the original	R
2	`reference`	The `datacash_reference` of the original transaction	-	R
3	`method`	The operation required	`confirm` `revoke`	R

Example csv_dd_setup_edit file containing four transactions with a value of 0.00 (no amount values present)

```
csv_dd_setup_edit,batch000129,99000001,mypasswd
# confirm presetup with 8 digit Unique Reference
confirm_presetup,12345678,confirm
# revoke setup with 8 digit Unique Reference
revoke_setup,12345679,revoke
# confirm presetup with 16 digit DataCash Reference returned
by previous query response
confirm_presetup2,3400900100010008,confirm
# revoke previous setup in the same batch
revoke_previous_setup,3400900100010008,revoke
```

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2.7 CARD HOLDER PRESENT

2.7.1 *Chip and Pin*

A technical introduction to this service is available on the website:

http://www.datacash.com/gettingproducts.php?id=Chip-PIN

2.7.1.1 Schema Elements for Request

As different fields may be presented in different situations, each field will be labelled with the following key:

- O - Optional
- R - Required, field must be presented
- M – Mandatory, field must be presented if it is available
- X – Excluded, field is excluded in specific situations

Transactions with Card Details

The `creditcheck` and `auth` transaction types require certain information to be presented. This is passed in several places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` - section 2.7.1.1.1
    - `CardTxn` – section 2.7.1.1.2
      - `Card` – section 2.7.1.1.5
      - `ICC` – section 2.7.1.1.4
      - `Terminal` – section 2.7.1.1.3

Historic Transactions

The `cancel` and `authorize_referral_request` transaction types require information to be passed in:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `HistoricTxn` - section 2.4.3.1.9

2.7.1.1.1 TxnDetails

Element Name: `TxnDetails`
Position: `Request.Transaction`

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Required?**
merchantreference	A unique reference number to distinguish each transaction	See Answer	R
amount	The value of the transaction		R
capturemethod	Indicates how the transaction was accepted at the POS	parked keyed swiped	R

Attributes of TxnDetails			
Attribute Name	**Attribute of element**	**Description**	**Required?**
cashback	amount	The amount of cashback requested by the customer (Cannot be supplied with cashadvance attribute)	O
cashadvance	amount	Indicates whether the transaction was a Cash Advance (Cannot be supplied with cashback attribute)	O

Example XML for TxnDetails element

```
<TxnDetails>
   <merchantreference>123402</merchantreference>
   <amount currency="GBP" cashback="30.00">59.99</amount>
   <capturemethod>parked</capturemethod>
</TxnDetails>

<TxnDetails>
   <merchantreference>AB78324293452</merchantreference>
   <amount currency="EUR">26.50</amount>
   <capturemethod>swiped</capturemethod>
</TxnDetails>

<TxnDetails>
   <merchantreference>AB78324293452</merchantreference>
   <amount currency="GBP" cashadvance="true">26.50</amount>
   <capturemethod>swiped</capturemethod>
</TxnDetails>
```

2.7.1.1.2 CardTxn

Element Name: `CardTxn`
Position: `Request.Transaction`

Elements of CardTxn					
Element Name	**Description**	**Values / Limitations**	**Keyed**	**Swiped**	**Parked**
`authcode`	The authorisation code, if on-line authorisation is not required	See note below	O	X	X
`Card`	See section 2.7.1.1.5		R	X	X
`card_details`	Data read from the magnetic stripe of the card, or equivalent from the ICC	Must be Base64 encoded	-	X	X
`hotcardfile`	Indicates which Hot Card File was used during the transaction	-	O	O	O
`ICC`	See section 2.7.1.1.4		-	-	R
`method`	The transaction method	`auth` `creditcheck`	R	R	R
`reason_online_code`	For on-line transactions: the reason for being on-line. As defined by APACs		O	O	O
`Terminal`	See section 2.7.1.1.3		R	R	R

Note: For swiped and parked transactions, card details may be presented in either the `Card` element or the `card_details` element:

1. The `Card` element is required if an authorisation code is submitted.
2. The `card_details` element is required if the authorisation code is not submitted.

Attributes of CardTxn				
Attribute Name	**Attribute of element**	**Description**	**Values / Limitations**	**Required?**

`method`	`authcode`	Indicates how the authcode was obtained.	Must be present if authcode element is presented:
			`online`
			`terminal`
			`telephone`
				R

auth_datetime	authcode	The actual date & time of the transaction	As a unixtimestamp	R[1]
type	card_details	Indicates the type of data	track2_data	R

[1] Field is required for merchants using NatWest Streamline. For other Acquiring Banks this field is optional.

Example XML for CardTxn element, for a parked transaction

```
<CardTxn>
   <Terminal id="…">…</Terminal>
   <card_details type="track2_data">
        NDkyOTQ5ODMxMTQwMDAwMj0wODAzMjAxMDA5ODgwMDAwMDAwMR8wMA==
  </card_details>
   <hotcardfile>…</hotcardfile>
   <ICC>…</ICC>
   <method>creditcheck</method>
   <reason_online_code>10</reason_online_code>
</CardTxn>
```

Example XML for CardTxn element, for a swiped transaction without an authcode

```
<CardTxn>
   <Terminal id="…">…</Terminal>
   <card_details type="track2_data">
        NDkyOTQ5ODMxMTQwMDAwMj0wODAzMjAxMDA5ODgwMDAwMDAwMR8wMA==
  </card_details>
   <method>creditcheck</method>
</CardTxn>
```

Example XML for CardTxn element, for a swiped or parked transaction with authcode

```
<CardTxn>
   <Terminal id="…">…</Terminal>
   <Card>…</Card>
   <method>creditcheck</method>
   <authcode method="terminal"
auth_datetime="1164821283">451576</authcode>
</CardTxn>
```

Example XML for CardTxn element, for a keyed transaction

```
<CardTxn>
   <Terminal id="…">…</Terminal>
   <Card>…</Card>
   <method>auth</method>
</CardTxn>
```

2.7.1.1.3 Terminal

Element Name: `Terminal`
Position: `Request.Transaction.CardTxn`

Elements of Terminal
Element Name
terminal_capabilities
features_capabilities
message_capabilities

Attributes of Terminal and its children				
Attribute Name	**Attribute of element**	**Description**	**Values**	**Required?**
id	Terminal	The terminal or TID number	DataCash will advise	R
ic_reader	terminal_capabilities	Chip reading functionality	true false	R
magnetic_stripe_reader	terminal_capabilities	Magnetic stripe reading functionality	true false	R
manual_card_entry	terminal_capabilities	Facility to manually enter card details	true false	R
cardholders_device	features_capabilities	Cardholder’s device (eg. personal computer, mobile phone, digital TV or similar device)	true false	O
card_capture_device	features_capabilities	Terminal or operator able to capture cards	true false	O
pin_pad_available	features_capabilities	Keypad to enable PIN to be entered	true false	R

unattended_ device	features_ capabilities	Indicates whether transaction is processed from an unattended terminal	true false	O
downline_load_ floor_limit	message_ capabilities	As per APACS standard 70 book 2 appendix A.9	true false	O
downline_ load_referral	message_ capabilities		true false	O
hold_capability	message_ capabilities		true false	O
response_additional _data_support	message_ capabilities		true false	O

Example XML for Terminal element

```
<Terminal id="82000062">
  <terminal_capabilities ic_reader="true"
    magnetic_stripe_reader="true"
    manual_card_entry="true"/>
  <features_capabilities pin_pad_available="true"/>
  <message_capabilities downline_load_floor_limit="false"
  downline_load_referral="false"
  hold_capability="false"
  response_additional_data_support="true"/>
</Terminal>
```

2.7.1.1.4 ICC

This parent element contains the data relating to the Chip & Pin functionality. All elements within this parent are mandatory. Please refer to APACS29 v18 (page 77) and APACS30 v18 (page 73) for definitions of these elements.

Element Name:	ICC
Position:	Request.Transaction.CardTxn

2.7.1.1.5 Card

This element is only required for keyed transactions.

Element Name:	Card
Position:	Request.Transaction.CardTxn

Elements of Card		
Element Name	**Description**	**Values / Limitations**

pan	The card number	Must be a valid card number	R
expiry_date	expiry date for the card	MM/YY format	R
start_date	start date for the card	MM/YY format	M
issue_number	issue number of the card	One or two digits	M

Example XML for Card element

```
<Card>
   <expirydate>01/12</expirydate>
   <pan>444433*********1</pan>
</Card>

<Card>
   <expirydate>01/06</expirydate>
   <issuenumber>1</issuenumber>
   <startdate>01/99</startdate>
   <pan>446281*********2</pan>
</Card>
```

2.7.1.1.6 HistoricTxn

This element should be presented for cancel or authorize_referral_request transactions only.

Element Name: HistoricTxn
Position: Request.Transaction

Elements of HistoricTxn

Element Name	Description	Values / Limitations	cancel	authorize _referral _request
method	The transaction type	cancel authorize_referral_request	R	R
datacash_reference	The datacash_reference of the transaction to be cancelled	Must be valid transaction	R	R
authcode	Value received from Banks Authorisation centre		X	R

Attributes of Elements in HistoricTxn

Attribute Name	Attribute of element	Description	Values / Limitations	cancel	authorize _referral _request

reversal	method	Indicates whether a reversal should be attempted	true false	O	X
method	authcode	Indicates how the authcode was obtained.	online terminal telephone	X	R
auth_datetime	authcode	The actual date & time of the transaction	As a unixtimestamp	X	R[1]

[1] Field is required for merchants using NatWest Streamline. For other Acquiring Banks this field is optional.

Example XML for HistoricTxn element

```
<HistoricTxn>
   <method reversal="true">cancel</method>
   <reference>4600200040913258</reference>
</HistoricTxn>

<HistoricTxn>
   <method>cancel</method>
   <reference>4500200040913862</reference>
</HistoricTxn>

<HistoricTxn>
   <reference>4500200040913862</reference>
   <authcode method="telephone" auth_datetime="1164821283">A6</authcode>
   <method>authorize_referral_request</method>
</HistoricTxn>
```

2.7.1.2 Example XML Requests

Example XML Request for a parked transaction

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>mypasswd</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>57483573457gegrreg</merchantreference>
      <amount currency="GBP">54.00</amount>
      <capturemethod>parked</capturemethod>
    </TxnDetails>
    <CardTxn>
      <Terminal id="82000062">
        <terminal_capabilities ic_reader="true"
        magnetic_stripe_reader="true" manual_card_entry="true"/>
        <features_capabilities pin_pad_available="true"/>
      </Terminal>
      <reason_online_code>10</reason_online_code>
      <card_details type="track2_data">NDkyOTQ5ODMxMTQwMDAwMj
              0wODAzMjAxMDA5ODgwMDAwMDAwMR8wMA==</card_details>
      <ICC>
        <seq_or_issue_number>00</seq_or_issue_number>
        <crypto_tran_type>00</crypto_tran_type>
        <txn_currency_code>826</txn_currency_code>
        <term_country_code>826</term_country_code>
        <arqc>ED128CAB559EC54C</arqc>
        <aip>5C00</aip>
        <atc>0CF3</atc>
        <unpredictable>81B72731</unpredictable>
        <tvr>0000008000</tvr>
        <issuer_app_data>06FE0A03A4A800</issuer_app_data>
        <crypto_info_data>80</crypto_info_data>
        <cvm>410302</cvm>
        <aid>A0000000031010</aid>
        <term_app_ver_no>0084</term_app_ver_no>
        <term_capabilities>7546</term_capabilities>
      </ICC>
      <method>creditcheck</method>
    </CardTxn>
  </Transaction>
</Request>
```

Example XML Request for a swiped transaction

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>mypasswd</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>924100120050503165050 </merchantreference>
      <amount currency="GBP">40.01</amount>
      <capturemethod>swiped</capturemethod>
    </TxnDetails>
    <CardTxn>
      <Terminal id="82000062">
        <terminal_capabilities magnetic_stripe_reader="true"
         manual_card_entry="true" ic_reader="true"/>
        <features_capabilities pin_pad_available="true"/>
      </Terminal>
      <card_details type="track2_data">OzQ5Mjk0OTgzMTE0MDAwMDI9MDg
       wMzIwMTAwOTg4MDAwMDAwMDE/Pw==</card_details>
      <method>creditcheck</method>
    </CardTxn>
  </Transaction>
</Request>
```

Example XML Request for a cancellation

```
<Request>
  <Authentication>
    <client>99000001</client>
    <password>mypasswd</password>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method reversal="true">cancel</method>
      <merchantreference>575600720050517212621</merchantreference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.7.1.3 Schema Elements for Response

2.7.1.3.1 Response

The following additional elements returned in the Response element. Please refer to section 2.1.1.3 for descriptions of the general elements.

Additional Elements of Response	
Element Name	**Description**
referral_tel_no	As described in the APACS30 Response
floorlimit	
issuer_auth_data	
issuer_script_data	
authorising_entity	Indicates (where available) the party who provided the authorisation. Only returned for creditcheck transactions. The returned value will be one of: • card acceptor • acquirer • card scheme • card issuer

Attributes of Elements in Response		
Attribute Name	**Attribute of element**	**Description**
reversal	reason	Indicates the status of reversal requests

2.7.1.4 Example XML Responses

Example XML Response to an auth or creditcheck

```
<Response>
  <acquirer_message>AUTH CODE:100100</acquirer_message>
  <acquirer_response_code>00</acquirer_response_code>
  <CardTxn>
    <authcode>100100</authcode>
    <card_scheme>VISA</card_scheme>
    <country>United Kingdom</country>
  </CardTxn>
  <datacash_reference>…</datacash_reference>
  <floor_limit>020</floor_limit>
  <mode>…</mode>
  <reason>ACCEPTED</reason>
  <referral_telephone_number>MDIyMjQ0=</referral_telephone_number>
  <status>1</status>
  <time>…</time>
</Response>
```

Example XML Responses to Cancellation Requests

```
<Response>
   <datacash_reference>…</datacash_reference>
   <information>Too much time has elapsed between the original
               txn and the reversal request.</information>
   <merchantreference>…</merchantreference>
   <mode>…</mode>
   <reason reversal="not attempted">CANCELLED OK</reason>
   <status>1</status>
   <time>…</time>
</Response>

<Response>
   <datacash_reference>…</datacash_reference>
   <information>Reversal ACCEPTED status=1
               authcode=100100</information>
   <merchantreference>…</merchantreference>
   <mode>…</mode>
   <reason reversal="success">CANCELLED OK</reason>
   <status>1</status>
   <time>…</time>
</Response>
```

Example XML Response for an authorize_referral_request

```
<Response>
   <datacash_reference>…</datacash_reference>
   <merchantreference>…</merchantreference>
   <mode>…</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1071567356</time>
</Response>
```

2.7.2 *Preallocated References*

Additional non-technical information about this service is available on the website: http://www.datacash.com/gettingproducts.php?id=Pre-allocated-Reference-Transactions-Chip-PIN-

2.7.2.1 Schema Elements for Request

In this section the fields required to preallocate references will be given.

Preallocations

The information required to preallocate a DataCash reference is passed in two places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – contains the merchants reference, section 2.7.2.1.1
    - `CardTxn` – contains the mehod `allocate_reference`

Performing Transactions

The information required to use a preallocated transaction is very similar to a normal transaction:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – section 2.7.2.1.1
    - `CardTxn` – section 2.7.1.1.2
      - `Card` – section 2.7.1.1.5
      - `ICC` – section 2.7.1.1.4
      - `Terminal` – section 2.7.1.1.3

Cancellations and Reversals

The `cancel` transaction type is the same as for the normal CHP transactions:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `HistoricTxn` – section 2.4.3.1.9

2.7.2.1.1 TxnDetails

These elements are only required for payments made with the allocated reference – they are not required for the allocate_reference transactions.

Element Name:	TxnDetails
Position(s)	Request.Transaction

Elements of TxnDetails		
Element Name	**Description**	**Values / Limitations**
allocated_reference	The datacash_reference returned from an allocate_reference transaction	16 digit number
amount	The value of the transaction	

Example XML Element TxnDetails for a preallocated reference transaction

```
<TxnDetails>
   <allocated_reference>3000100012345671</allocated_reference>
   <amount>100.00</amount>
</TxnDetails>
```

2.7.2.1.2 CardTxn

This section shows the fields required for the allocate_reference transactions. Please refer to section 2.7.1.1.2 for those required for auth and creditcheck transactions.

Element Name:	CardTxn
Position(s)	Request.Transaction

Elements of CardTxn		
Element Name	**Description**	**Values / Limitations**
method	The transaction type	allocate_reference

Example XML CardTxn element

```
<CardTxn>
   <method>allocate_reference</method>
</CardTxn>
```

2.7.2.2 Example Request

Example XML Request for allocate_reference

```
<Request>
  <Transaction>
    <TxnDetails>
      <merchantreference>123402</merchantreference>
    </TxnDetails>
    <CardTxn>
      <method>allocate_reference</method>
    </CardTxn>
  </Transaction>
</Request>
```

Example XML Request

```
<Request>
  <Authentication>…</Authentication>
  <Transaction>
    <TxnDetails>
      <allocated_reference>4800200040913907</allocated_reference>
      <amount currency="GBP">54.00</amount>
      <capturemethod>parked</capturemethod>
    </TxnDetails>
    <CardTxn>
      <Terminal id="82000062">
        <terminal_capabilities ic_reader="true"
        magnetic_stripe_reader="true" manual_card_entry="true"/>
        <features_capabilities pin_pad_available="true"/>
      </Terminal>
      <card_details type="track2_data">NDkyOTQ5ODMxMTQwMDAwMj
       0wODAzMjAxMDA5ODgwMDAwMDAwMR8wMA==</card_details>
      <ICC>
        <reason_online_code>10</reason_online_code>
        <seq_or_issue_number>00</seq_or_issue_number>
        <crypto_tran_type>00</crypto_tran_type>
        <txn_currency_code>826</txn_currency_code>
        <term_country_code>826</term_country_code>
        <arqc>ED128CAB559EC54C</arqc>
        <aip>5C00</aip>
        <atc>0CF3</atc>
        <unpredictable>81B72731</unpredictable>
        <tvr>0000008000</tvr>
        <issuer_app_data>06FE0A03A4A800</issuer_app_data>
        <crypto_info_data>80</crypto_info_data>
        <cvm>410302</cvm>
        <aid>A0000000031010</aid>
        <term_app_ver_no>0084</term_app_ver_no>
        <term_capabilities>7546</term_capabilities>
      </ICC>
      <method>creditcheck</method>
    </CardTxn>
  </Transaction>
</Request>
```

2.7.2.3 Schema Elements for Response

The response to transactions performed using this service contains no fields beyond the CHP response elements, covered in section 2.1.1.3

2.7.2.4 Example Response

Example XML Request for an allocate_reference request

```
<Response>
   <datacash_reference>3000100012345671</datacash_reference>
   <merchantreference>123402</merchantreference>
   <mode>LIVE</mode>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1107190133</time>
</Response>
```

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2.8 OTHER DPG SERVICES

2.8.1 *PayPal*

This service allows you to process Express Checkout and Auth and Capture PayPal transactions via your DataCash account. Successful payments can be refunded back to the customer's PayPal account. The service can be seamlessly integrated into your systems, enabling your customers and Customer Service teams to experience fast and efficient processing and management of transactions.

An introduction to this service, including the transaction types, is available on the website:

http://www.datacash.com/gettingproducts.php?id=PayPal---Express-Checkout

2.8.1.1 Schema Elements for Request

In this section the required fields for each transaction type will be presented, along with example XML for those fields.

The data for the PayPal Service is passed in these distinct places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – section 2.8.1.1.1
    - `PayPalTxn` – this section contains all of the details specific to the PayPal transaction, see section 2.8.1.1.2
- `Items` – details of all items in the order, section 2.8.1.1.4
  - `Item` – details of each item within the order, section 2.8.1.1.5
- `ShippingAddress` – details of the shipping address, section 2.8.1.1.6
- `AirlineItineraryData` – details of flights for Airline transactions, section 2.8.1.1.7
  - `FlightDetails` – details of flight legs, section 2.8.1.1.8

2.8.1.1.1 TxnDetails

Note that most fields are only available for specific transaction types.

- `S – set_express_checkout`
- `G – get_express_checkout_details`
- `D – do_express_checkout_payment`
- `X – txn_refund`, used to perform refunds of existing payments
- `A – do_authorization`
- `C – do_capture`
- `CB – create_billing_agreement`
- `UB – update_billing_agreement`
- `DR – do_reference_transaction`

Element Name:	`TxnDetails`
Position(s)	`Request.Transaction`

Elements of TxnDetails

Element Name	Description	Values / Limitations	Required								
			S	**G**	**D**	**X**	**A**	**C**	**CB**	**UB**	**DR**
`amount`	The value of the transaction	May be ‘0’ only for **D**, where a Billing Agreement is to be created with no initial payment taken. For **DR** it may be ‘0’ for **S** if no initial payment is to be taken.	R	-	R	O	R	R	-	-	R
`merchantreference`	A unique reference number for each transaction	Minimum 6, maximum 30 alphanumeric characters. Must be unique	R	R	R	O	-	-	R	R	R

For a `txn_refund`, an `amount` may be specified if the refund is for a smaller amount than the original transaction. The value must be less than or equal to the value of the original transactions, minus any previous partial refunds.

Attributes of elements of TxnDetails			
Attribute name	**Attribute of Element**	**Description**	**Values / Limitations**
currency	amount	The currency for the payment	AUD DKK HUF PLN CAD EUR JPY SEK CHF GBP NOK SGD CZK HKD NZD USD May not be specified for txn_refund, do_authorization or do_capture

Example XML for TxnDetails element

```
<TxnDetails>
   <amount currency="GBP">19.26</amount>
   <merchantreference>123ABC</merchantreference>
</TxnDetails>

<TxnDetails>
   <merchantreference>46548tretr</merchantreference>
</TxnDetails>
```

2.8.1.1.2 PayPalTxn

All data specifically relating to PayPal transactions are submitted in this element and associated sub-elements. Note that most fields are only available for specific transaction types.

- S – set_express_checkout
- G – get_express_checkout_details
- D – do_express_checkout_payment
- R – txn_refund
- A – do_authorization
- C – do_capture
- V – do_void
- CB – create_billing_agreement
- UB – update_billing_agreement
- DR – do_reference_transaction

Element Name:	PayPalTxn
Position(s)	Request.Transaction

Elements of PayPalTxn												
Element Name	Description	Values / Limitations	Required									
			S	G	D	R	A	C	V	CB	UB	DR
cancel_url	URL to which the customer is returned if (s)he does not approve the use of PayPal	URL should be URL-encoded	R	-	-	-	-	-	-	-	-	-
method	The transaction type	set_express_checkout get_express_checkout_details do_express_checkout_payment txn_refund do_authorization do_capture do_void create_billing_agreement update_billing_agreement do_reference_transaction	R	R	R	R	R	R	R	R	R	R
reference	The 16 digit datacash_reference, referring to a previous successfully processed transaction	**G** uses ref from **S** **D** uses ref from **S** **R** uses ref from either **D** or **C** **A** uses ref from **S** **C** uses ref from **A** **V** uses ref from **A** (or **D** when payment_action is order) **CB** uses ref from **S** **UB** uses ref from **D** or **CB** **DR** uses ref from **D** or **CB**	-	R	R	R	R	R	R	R	R	R

`return_url`	URL to which the customer's browser is returned. Recommended to be the final review page on which the customer confirms the order and payment/billing agreement	URL should be URL-encoded	R	-	-	-	-	-	-	-	-	-
`billing_type`	Type of billing agreement.	`MerchantInitiatedBilling` – creates a billing agreement even if there is an existing billing agreement `MerchantInitiatedBillingSingleSource` – creates a billing agreement only if there is no existing billing agreement with the buyer	R	-	-	-	-	-	-	-	-	-
`billing_agreement_status`	The new/current status of the billing agreement	`Active` `Cancelled` Note: an agreement which has a status of Cancelled can not be further updated.	-	-	-	-	-	-	-	-	O	-
`billing_agreement_description`	Description of goods or services associated with the billing agreement	127 single-byte characters	O	-	-	-	-	-	-	-	O	-
`billing_agreement_custom`	Custom annotation field for your own use	255 single-byte characters	O	-	-	-	-	-	-	-	O	-
`buttonsource`	An identification code for use by third party applications to identify transactions	32 single-byte alphanumeric characters	-	-	O	-	-	-	-	-	-	-
`channel_type`	Type of channel	Merchant – non-auction seller eBayItem - ebay auction	O	-	-	-	-	-	-	-	-	-

completed	Indicates the final do_capture being processed against a successful do_authorization, thus completing the authorisation	Yes	-	-	-	-	-	O	-	-	-	-
custom	A free-form field for your own use, such as a tracking number of other value you want PayPal to return on get_express_checkout_details and do_express_checkout_payment	255 single-byte alphanumeric characters	O	-	O	-	-	-	-	-	-	O
description	Description of the items the customer is purchasing	127 single-byte characters	O	-	O	-	-	-	-	-	-	O
email	Email address of the buyer. Used to pre-fill the PayPal membership sign-up portion of the PayPal login page		O	-	-	-	-	-	-	-	-	O
handling_total	Total handling costs for this order		-	-	O	-	-	-	-	-	-	O
header_style	Defines the image, border colour and background colours for the image in the header of the payment page. Header space is 750px wide by 90 px high.	See attributes table below	O	-	-	-	-	-	-	-	-	-

invnum	Your own unique invoice or tracking number. Is returned in the do_express_checkout_payment response		O	-	O	-	-	O	-	-	-	O
Items	Please refer to section 2.8.1.1.5	Alphanumerics - (dash) * (asterisk) . (period) {space}	-	-	O	-	-	-	-	-	-	-
item_total	Sum of cost of all items in this order	Numeric with two decimal places. Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	O	-	-	-	-	-	-	O

localecode	Locale of pages displayed by PayPal during checkout	Character length and limitations: 2-character country code • AU – Australia • AT – Austria • BE – Belgium • BR – Brazil • CA – Canada • CH – Switzerland • CN – China • DE – Germany • ES – Spain • GB – United Kingdom • FR – France • IT – Italy • NL – Netherlands • PL – Poland • PT – Portugal • RU – Russia • US – United States The following 5-character codes are also supported for languages in specific countries: • da_DK – Danish (for Denmark only) • he_IL – Hebrew (all) • id_ID – Indonesian (for Indonesia only) • jp_JP – Japanese (for Japan only) • no_NO – Norwegian (for Norway only) • pt_BR – Brazilian Portuguese (for Portugal and Brazil only) • ru_RU – Russian (for Lithuania, Latvia, and Ukraine only) • sv_SE – Swedish (for Sweden only) • th_TH – Thai (for Thailand only) • tr_TR – Turkish (for Turkey only) • zh_CN – Simplified Chinese (for China only)	O	-	-	-	-	-	-	-	-	-

		• zh_HK – Traditional Chinese (for Hong Kong only) • zh_TW – Traditional Chinese (for Taiwan only) For the most current list, please refer to the following link: https://cms.paypal.com/us/cgi-bin/?cmd=_render-content&content_ID=developer/e_howto_api_nvp_r_SetExpressCheckout										
`max_amount`	The expected maximum total amount of the complete order, including shipping and tax	Numeric with two decimal places. Must not exceed $10,000 in any currency. Max value 9,999,999.99	O	-	-	-	-	-	-	-	-	-
`no_shipping`	Indicates whether the shipping address fields should be displayed on the PayPal pages	0 - fields displayed (default) 1 - fields not displayed	O	-	-	-	-	-	-	-	-	-
`note`	Custom memo about the refund	255 single-byte alphanumeric characters 22 single-byte characters comprised of: Alphanumerics - (dash) * (asterisk) . (period) {space}	-	-	-	O	-	O	O	-	-	-

notify_url	Your URL for receiving Instant Payment Notification (IPN) about this transaction	2048 single-byte alphanumeric characters	-	-	O	-	-	-	-	-	-	O
override_address	Indicates whether the shipping address fields (as set by you) should be displayed on the PayPal pages, rather than the shipping address details held on file at PayPal	0 – displays details held on file (default) 1 – displays details set by you	O	-	-	-	-	-	-	-	-	-
payment_action	Specifies the type of PayPal service to use `sale` - will use Express Checkout instant payment (default) `order` - will use Auth Capture	sale (default) order order **must** be supplied during **S** for Auth and Capture txns. An order may be converted to a sale during the **D** txn. For Auth and Capture must be order for **S** may be order for **D**, or sale if wishing to convert the existing txn	O	-	O	-	-	-	-	-	-	O
page_style	Sets the Custom Payment Page Style of the payment pages. This corresponds to the HTML variable page_style for customising payment pages	Value must be equal to the Page Style Name as chosen by you when adding/editing the page style from the My Profile → Profile subtab of your PayPal Account	O	-	-	-	-	-	-	-	-	-
payment_type	Specifies type of PayPal payment you require for the billing agreement	Any InstantOnly	O	-	-	-	-	-	-	-	-	-
req_billing_address	Specifies whether you require the customers billing address from PayPal. This is returned the get_express_checkout_details response.	0 – Billing address not required (default) 1 – Billing address required	O	-	-	-	-	-	-	-	-	-

req_confirmed_shipping	Indicates whether the customer’s shipping address on file with PayPal must be a confirmed address	0 – need not be confirmed (default) 1 – must be confirmed	O	-	-	-	-	-	-	-	-	-
shipping_total	Total shipping cost for this order		-	-	O	-	-	-	-	-	-	O
soft_descriptor	Per transaction description of the payment that is passed to the consumer’s credit card	255 single-byte alphanumeric characters 22 single-byte characters comprised of: Alphanumerics - (dash) * (asterisk) . (period) {space}	-	-	-	-	-	O	-	-	-	O
solution_type	Type of checkout flow	Sole – for Express Checkout auctions Mark – normal Express Checkout	O	-	-	-	-	-	-	-	-	-
tax_total	Sum of tax for all items in this order	255 single-byte alphanumeric characters 22 single-byte characters comprised of: Alphanumerics - (dash) * (asterisk) . (period) {space}	-	-	O	-	-	-	-	-	-	O

token	Time stamped token – token expires after three hours Normally this is generated by PayPal and does not need to be supplied.	20 single-byte characters max	O	-	-	-	-	-	-	-	-	-
ShippingAddress	Please refer to section 2.8.1.1.6	255 single-byte alphanumeric characters	-	-	O	-	-	-	-	-	-	-
AirlineItineraryData	Please refer to section 2.8.1.1.7	22 single-byte characters comprised of: Alphanumerics - (dash) * (asterisk) . (period) {space}	-	-	-	-	-	O	-	-	-	O

Attributes for Elements of PayPalTxn			
Attribute Name	**Attribute of element**	**Value / limitations**	**Require d**
bgcolor	header_style	Background colour for the payment page header. Six character HTML hexadecimal colour code in ASCII.	O
bordercolor	header_style	Sets the colour of the 2px border around the header of the payment page. Six character HTML hexadecimal colour code in ASCII.	O
img	header_style	URL of the image to appear on the top left of the payment page. Max image size 750px wide by 90px high. Recommended to be HTTPS link. 127 single-byte characters max, URL-encoded.	O
stylename	page_style	Used to select the style of checkout pages. Styles are configurable in PayPal account settings.	O

Example XML for PayPal elements

```
 <PayPalTxn>
      <method>set_express_checkout</method>
<return_url>https://www.example.com/myshoppingcard?action=
complete&sale_id=xyz123/</return_url>

<cancel_url>https://www.example.com/myshoppingcard?action=
cancel&sale_id=xyz123/</cancel_url>

<payment_action>order</payment_action>

</PayPalTxn>
```

Example XML for PayPal elements for txn_refund

```
<PayPalTxn>
   <method>txn_refund</method>
   <reference>4000900012345671</reference>
</PayPalTxn>

<PayPalTxn>
   <method>txn_refund</method>
   <reference>4000900012345671</reference>
   <note>Refund of half the order, as promised</note>
</PayPalTxn>
```

Example XML for PayPal elements for do_authorization

```
<PayPalTxn>
   <method>do_authorization</method>
   <reference>4000900012345671</reference>
</PayPalTxn>
```

Example XML for PayPal elements for get_express_checkout_details

```
<PayPalTxn>
   <method>get_express_checkout_details</method>
   <reference>4000900012345671</reference>
</PayPalTxn>
```

Example XML for PayPal elements for do_express_checkout_payment

```
<PayPalTxn>
   <method>do_express_checkout_payment</method>
   <reference>4000900012345671</reference>
</PayPalTxn>

<PayPalTxn>
   <method>do_express_checkout_payment</method>
   <reference>4000900012345671</reference>
   <description>Twenty NeverFail(tm) Widgets</description>
   <custom>UPS_ID=12345678</custom>
   <invnum>abc123</invnum>
   <buttonsource>foobar</buttonsource>
   <notify_url>http://www.example.com/mynotifyurl?id=abc123/
     </notify_url>
   <item_total>85.00</item_total>
   <shipping_total>10.00</shipping_total>
   <handling_total>5.00</handling_total>
   <tax_total>11.97</tax_total>
   <Items>…</Items>
   <ShippingAddress>…</ShippingAddress>
</PayPalTxn>

<PayPalTxn>
   <method>do_express_checkout_payment</method>
   <reference>4000900012345671</reference>
   <Items>…</Items>
</PayPalTxn>
```

Example XML for PayPal elements for do_capture

```
<PayPalTxn>
  <method>do_capture</method>
  <reference>4000900012345671</reference>
</PayPalTx

<PayPalTxn>
  <method>do_capture</method>
  <reference>4000900012345671</reference>
  <invnum>inv1234</invnum>
  <note>Finally, I have captured some funds</note>
  <soft_descriptor>FooCorp LLC</soft_descriptor>
</PayPalTxn>

<PayPalTxn>
  <method>do_capture</method>
  <reference>4000900012345671</reference>
  <completed>yes</completed>
  <invnum>inv1234</invnum>
  <note>This is the last capture for this
     authorization</note>
  <soft_descriptor>FooCorp LLC</soft_descriptor>
</PayPalTxn>
```

Example XML for PayPal elements for do_void

```
<PayPalTxn>
  <method>do_void</method>
  <reference>4000900012345671</reference>
</PayPalTxn>

<PayPalTxn>
  <method>do_void</method>
  <reference>4000900012345671</reference>
  <note>Excess funds released</note>
</PayPalTxn>
```

Example XML for PayPal elements for create_billing_agreement

```
<PayPalTxn>
  <method>create_billing_agreement</method>
  <reference>4000900012345671</reference>
</PayPalTxn>
```

Example XML for PayPal elements for update_billing_agreement

```
<PayPalTxn>
  <method>update_billing_agreement</method>
  <reference>4000900012345671</reference>
  <billing_agreement_status>Cancelled
    </billing_agreement_status>
</PayPalTxn>

<PayPalTxn>
  <method>update_billing_agreement</method>
  <reference>4000900012345671</reference>
  <billing_agreement_description>Subscription to FOO
    Magazine</billing_agreement_description>
  <billing_agreement_custom>Part of our CHEAP09
    promotion</billing_agreement_custom>
</PayPalTxn>
```

2.8.1.1.3 Example XML for PayPal elements for do_reference_transaction

```
<PayPalTxn>
  <method>do_reference_transaction</method>
  <reference>4000900012345671</reference>
  <description>Twenty NeverFail(tm) Widgets</description>
  <custom>UPS_ID=12345678</custom>
  <invnum>abc123</invnum>
  <buttonsource>foobar</buttonsource>
  <notify_url>http://www.example.com/mynotifyurl?id=abc123/
    </notify_url>
  <item_total>85.00</item_total>
  <shipping_total>10.00</shipping_total>
  <handling_total>5.00</handling_total>
  <tax_total>11.97</tax_total>
  <Items>...</Items>
  <ShippingAddress>...</ShippingAddress>
</PayPalTxn>
```

2.8.1.1.4 Items

The Items element is optional. It contains an Item child element for each individual product or service purchased.

Element Name:	`Items`
Position(s)	`Request.Transaction.PayPalTxn`

Elements of Items							
Element Name	**Description**	**Values / Limitations**	**Required**				
			S	**G**	**D**	**R**	**DR**
`Item`	See section 2.8.1.1.5		-	-	O	-	O

Example XML for Items element

```
<Items>
   <Item id="0">…</Item>
   <Item id="1">…</Item>
   <Item id="2">…</Item>
   <Item id="3">…</Item>
</Items>
```

2.8.1.1.5 Item

The Item elements contain details of each product within the order.

Element Name:	`Item`
Position(s)	`Request.Transaction.PayPalTxn.Items`

Elements of Item							
Element Name	**Description**	**Values / Limitations**	**Required**				
			S	**G**	**D**	**R**	**DR**
`amount`	Cost of item	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	O	-	O
`ebay_item_auction_txn_id`	Auction transaction identification number	225 single-byte characters	-	-	O	-	O
`ebay_item_number`	Auction item number	765 single-byte characters	-	-	O	-	O

ebay_item_order_id	Auction identification number	64 single-byte characters	-	-	O	-	O
name	The item name	127 single-byte characters	-	-	O	-	O
number	The item number		-	-	O	-	O
quantity	The item quantity	Positive integer	-	-	O	-	O
taxamt	Item sales tax	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	O	-	O

Attributes for Elements of Item			
Attribute Name	**Attribute of element**	**Value / Limitations**	**Required**
id	Item	Must start from 0 and be contiguous	R

Example XML for Item elements for do_express_checkout_payment

```
<Item id="0">
   <name>Widgets</name>
   <number>1230212-A</number>
   <quantity>20</quantity>
   <amount>73.03</amount>
   <taxamt>11.97</taxamt>
</Item>
```

Example XML for Item elements for do_express_checkout_payment

```
<Item id="0">
   <ebay_item_number>9988775544</ebay_item_number>
   <ebay_item_auction_txn_id>123456123</ebay_item_auction_txn_id>
   <ebay_item_order_id>abc123def890</ebay_item_order_id>
</Item>
```

2.8.1.1.6 ShippingAddress

This parent element is used to present information about the shipping address. While the parent element itself is optional, if it is sent certain elements must be provided.

Element Name:	`ShippingAddress`
Position(s)	`Request.Transaction.PayPalTxn`

Elements of ShippingAddress			
Element Name	**Description**	**values / limitations**	**Required**
`city`	The name of the city	40 single-byte characters max	R
`country_code`	The country code, as defined in ISO 3166-1	2 character	R
`name`	The person's name associated with the shipping address	32 single-byte characters max	R
`postcode`	UK postcode, US ZIP code or other country-specific postal code	20 single-byte characters max	R
`region`	The state, province or region	40 single-byte characters max	R for US addresses only
`street_address1`	The first line of the address	100 single-byte characters max	R
`street_address2`	The second line of the address	100 single-byte characters max	O
`telephone_number`	Phone number	20 single-byte characters max	O

Example XML for ShippingAddress elements

```
<ShippingAddress>
   <name>Joe Bloggs</name>
   <street_address1>3 Fish Street</street_address1>
   <street_address2>Castle Street</street_address2>
   <city>Hull</city>
   <country_code>GB</country_code>
   <postcode>HU1 1AA</postcode>
   <telephone_number>01234 345 6789</telephone_number>
</ShippingAddress>

<ShippingAddress>
   <name>John Smith</name>
   <street_address1>144 Main Street</street_address1>
   <city>San Jose</city>
   <region>CA</region>
   <country_code>US</country_code>
   <postcode>99221</postcode>
</ShippingAddress>
```

2.8.1.1.7 AirlineItineraryData

This parent element is used to present flight data for Airline transactions. While this element itself is optional, if it is sent then certain elements must be provided.

This element is supported for the following transaction types, depending on the value of the `payment_action` element.

- `D – do_express_checkout_payment`
- `C – do_capture`

Where the `payment_action` of a transaction is sale, Airline data should be provided in the `do_express_checkout_payment` request.

Where the `payment_action` is order, Airline Data should be provided in the `do_capture` request.

Element Name:	`AirlineItineraryData`
Position(s)	`Request.Transaction.PayPalTxn`

Elements of AirlineItineraryDetails

Element Name	Description	Values / Limitations	Required	
			D	C
`clearing_count`	Numeric code to identify each clearing record message in those cases where multiple clearing messages are allowed per authorized transaction. Applicable to multiple captures against an authorization. In the case of single capture against an authorization, the value should be 1	Positive integer	R	R
`clearing_sequence`	Numeric code to identify each clearing record message in cases where multiple clearing messages are allowed per authorised transaction. Applicable to multiple captures against an authorisation. In the case of single capture against an authorisation, the value should be 1	Positive integer	R	R
`FlightDetails`	Please refer to section 2.8.1.1.8		-	R

issuing_carrier_code	Airline code for the airline issuing the ticket. Obtain the airline code from the official *Airline Guide* or its equivalent	4 single-byte characters max	R	R
passenger_name	Name of the passenger	25 single-byte characters max	R	R
restricted_ticket	Indicated whether the ticket is restricted (refundable)	0 – Ticket is not restricted 1 – Ticket is restricted	R	R
ticket_number	The ticket number. If multiple tickets are purchased with one transaction, you should provide the primary ticket number	16 single-byte characters max	R	R
customer_code	A code that the cardholder supplied to you. Can be used for passing in the frequent flyer number of the customer	17 single-byte characters max	O	O
issue_date	Date of issue recorded in the airline system. In case of multiple issuances of the same ticket, use the last ticket date	YYYYMMDD format	O	O
total_fare	Total fare for all legs on this ticket, excluding taxes and fees	Numeric with two decimal places. Must not exceed $10,000 in any currency. Max value 9,999,999.99	O	O
total_fee	Total fee for all legs on the ticket		O	O
total_taxes	Total taxes for all legs on the ticket		O	O
travel_agency_code	The travel agency code. In an integration by the airline, this is the airline code from the official *Airline Guide* or its equivalent	8 single-byte characters max	O	O
travel_agency_name	Name of the travel agency issuing the ticket. In an integration by an airline, this is the airline name	25 single-byte characters max	O	O

Example XML for AirlineItineraryData elements

```
<AirlineItineraryData>
   <passenger_name>Joseph Bloggs</passenger_name>
   <issue_date>20090701</issue_date>
   <travel_agency_name>Super Agents</travel_agency_name>
   <travel_agency_code>SUPER1</travel_agency_code>
   <ticket_number>BLAH1234567890</ticket_number>
   <issuing_carrier_code>ABCD</issuing_carrier_code>
   <customer_code>JBLOGGS09713</customer_code>
   <total_fare>85.00</total_fare>
   <total_taxes>10.00</total_taxes>
   <total_fee>5.00</total_fee>
   <restricted_ticket>0</restricted_ticket>
   <clearing_sequence>1</clearing_sequence>
   <clearing_count>1</clearing_count>
   <FlightDetails leg_id="0">
     ...
  </FlightDetails>
   <FlightDetails leg_id="1">
     ...
  </FlightDetails>
</AirlineItineraryData>

<AirlineItineraryData>
   <passenger_name>Joseph Bloggs</passenger_name>
   <ticket_number>BLAH1234567890</ticket_number>
   <issuing_carrier_code>ABCD</issuing_carrier_code>
   <restricted_ticket>0</restricted_ticket>
   <clearing_sequence>1</clearing_sequence>
   <clearing_count>1</clearing_count>
   <FlightDetails leg_id="0">
     ...
  </FlightDetails>
</AirlineItineraryData>
```

2.8.1.1.8 FlightDetails

The FlightDetails elements contain details of each leg of the trip.

Element Name:	`FlightDetails`
Position(s)	`Request.Transaction.PayPalTxn.AirlineItineraryData`

Elements of FlightDetails

Element Name	Description	Values / Limitations	Required	
			D	C
`arrival_airport_code`	The arrival airport code. Obtain the code from the official *Airline Guide* or its equivalent	5 single-byte characters max	R	R
`carrier_code`	Standard abbreviation for airline carrier. Obtain the code from the official *Airline Guide* or its equivalent	2 single-byte characters	R	R
`departure_airport_code`	The departure airport code. Obtain the code from the official *Airline Guide* or its equivalent	5 single-byte characters max	R	R
`departure_time`	The departure time in local time at the departure airport	HH:MM format, between 00:00 and 23:59	R	R
`fare_basis_code`	The alphanumeric code that carriers assign to a particular ticket type, such as business class, discounted, or non-refundable	15 single-byte characters max	R	R
`flight_number`	The flight number assigned by the airline carrier	5 single-byte characters max	R	R
`service_class`	The type of service; for example, first class or coach. Obtain the service class from the official *Airline Guide* or equivalent	2 single-byte characters	R	R
`stopover_code`	A code indicating a non-direct flight or route on the same ticket number	0 – Stopover not permitted 1 – Stopover permitted	R	R
`travel_date`	The date of travel in local time at the departure airport	YYYYMMDD format	R	R

conjunction_ticket	Ticket issued to a passenger in conjunction with another ticket that constitutes a single contract of carriage	14 single-byte characters max	O	O
coupon_number	The coupon number associated with this leg of the trip. A ticket can contain several legs of travel, and each leg of travel requires a separate coupon	1 single-byte character	O	O
endorsement_or_restrictions	An endorsement can be an agency-added notation or a mandatory government required notation such as value added tax. A restriction is a limitation based on the type of fare such as a ticket with a non-refundable or 3-day minimum stay.	20 single-byte characters max	O	O
exchange_ticket	New ticket number that is issued when a ticket is exchanged	15 single-byte characters max	O	O
fare	Amount of the ticket for this leg of the trip excluding taxes and fees	Numeric with two decimal places. Must not exceed $10,000 in any currency. Max value 9,999,999.99	O	O
fee	Fee amount for this leg of the trip		O	O
taxes	Amount of the taxes for this leg of the trip		O	O

Attributes for Elements of FlightDetails

Attribute Name	Attribute of element	Value / limitations	Required
leg_id	FlightDetails	Must start from 0 and be contiguous	R

Example XML for FlightDetails elements

```
<FlightDetails leg_id="0">
   <conjunction_ticket>CONTKT12345678</conjunction_ticket>
   <exchange_ticket>EXTKT123456789</exchange_ticket>
   <coupon_number>X</coupon_number>
   <service_class>A1</service_class>
   <travel_date>20090801</travel_date>
   <carrier_code>AB</carrier_code>
   <stopover_code>0</stopover_code>
   <departure_airport_code>EDI</departure_airport_code>
   <arrival_airport_code>LHR</arrival_airport_code>
   <flight_number>FOO12</flight_number>
   <departure_time>12:34</departure_time>
   <arrival_time>13:37</arrival_time>
   <fare_basis_code>CHEAP1</fare_basis_code>
   <fare>15.00</fare>
   <taxes>5.00</taxes>
   <fee>2.00</fee>
<endorsement_or_restrictions>non-
refundable</endorsement_or_restrictions>
</FlightDetails>

<FlightDetails leg_id="1">
   <service_class>A1</service_class>
   <travel_date>20090801</travel_date>
   <carrier_code>AB</carrier_code>
   <stopover_code>0</stopover_code>
   <departure_airport_code>EDI</departure_airport_code>
   <arrival_airport_code>LHR</arrival_airport_code>
   <flight_number>FOO12</flight_number>
   <departure_time>12:34</departure_time>
   <fare_basis_code>CHEAP1</fare_basis_code>
</FlightDetails>
```

2.8.1.2 XML Example Requests

This section provides full XML examples for each transaction type.

2.8.1.2.1 set_express_checkout

Example XML Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">100.00</amount>
      <merchantreference>12345601</merchantreference>
    </TxnDetails>
    <PayPalTxn>
      <method>set_express_checkout</method>
      <return_url>https://www.example.com/myshoppingcard?
       action=complete&amp;sale_id=xyz123/</return_url>
      <cancel_url>https://www.example.com/myshoppingcard?
       action=cancel&amp;sale_id=xyz123/</cancel_url>
      <email>homer@example.com</email>
      <max_amount>1000.00</max_amount>
      <description>Twenty NeverFail(tm) Widgets</description>
      <custom>UPS_ID=12345678</custom>
      <invnum>abc123</invnum>
      <req_confirmed_shipping>0</req_confirmed_shipping>
      <no_shipping>0</no_shipping>
      <override_address>0</override_address>
      <localecode>GB</localecode>
    <header_style img="https://www.example.com/header.png/"
bordercolor="black" bgcolor="red"/>
      <page_style stylename="My Style" bgcolor="white"/>
      <ShippingAddress>
        <name>Test User</name>
        <street_address1>1 Main Terrace</street_address1>
        <street_address2>Highgate</street_address2>
        <city>Wolverhampton</city>
        <region>West Midlands</region>
        <country_code>GB</country_code>
        <postcode>E12 4LQ</postcode>
        <telephone_number>0121 231 3122</telephone_number>
      </ShippingAddress>
    </PayPalTxn>
  </Transaction>
</Request>
```

Example XML for Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">100.00</amount>
      <merchantreference>12345601</merchantreference>
    </TxnDetails>
    <PayPalTxn>
      <method>set_express_checkout</method>
      <return_url>https://www.example.com/myshoppingcard?
       action=complete&amp;sale_id=xyz123/</return_url>
      <cancel_url>https://www.example.com/myshoppingcard?
       action=cancel&amp;sale_id=xyz123/</cancel_url>
      <header_style img="https://www.example.com/header.png/"
bordercolor="black" bgcolor="red"/>
      <page_style stylename="My Style" bgcolor="white"/>
    </PayPalTxn>
  </Transaction>
</Request>
```

Example XML for Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">100.00</amount>
      <merchantreference>12345601</merchantreference>
    </TxnDetails>
    <PayPalTxn>
      <method>set_express_checkout</method>
      <return_url>https://www.example.com/myshoppingcard?
       action=complete&amp;sale_id=xyz123/</return_url>
      <cancel_url>https://www.example.com/myshoppingcard?
       action=cancel&amp;sale_id=xyz123/</cancel_url>
      <channel_type>Merchant</channel_type>
      <solution_type>Mark</solution_type>
      <billing_type>MerchantInitiatedBilling</billing_type>
      <billing_agreement_description>Delivery by 10pm
        Tuesday</billing_agreement_description>
      <billing_agreement_custom>Remember to tell
        Bob</billing_agreement_custom>
      <payment_type>InstantOnly</payment_type>
    </PayPalTxn>
  </Transaction>
</Request>
```

2.8.1.2.2 get_express_checkout_details

Example XML for Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>46548tretr</merchantreference>
    </TxnDetails>
    <PayPalTxn>
      <method>get_express_checkout_details</method>
      <reference>4000900012345671</reference>
    </PayPalTxn>
  </Transaction>
</Request>
```

2.8.1.2.3 do_express_checkout_payment

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">100.00</amount>
      <merchantreference>12345601</merchantreference>
    </TxnDetails>
    <PayPalTxn>
      <method>do_express_checkout</method>
      <reference>4000900012345671</reference>
      <Items>
        <Item id="0">
          <ebay_item_number>9988775544</ebay_item_number>
          <ebay_item_auction_txn_id>123456123
           </ebay_item_auction_txn_id>
          <ebay_item_order_id>abc123def890</ebay_item_order_id>
        </Item>
      </Items>
      <ShippingAddress>
        <name>Test User</name>
        <street_address1>1 Main Terrace</street_address1>
        <city>Wolverhampton</city>
        <country_code>GB</country_code>
        <postcode>E12 4LQ</postcode>
      </ShippingAddress>
    </PayPalTxn>
  </Transaction>
</Request>
```

Example XML for Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">100.00</amount>
      <merchantreference>12345601</merchantreference>
    </TxnDetails>
    <PayPalTxn>
      <method>do_express_checkout_payment</method>
      <reference>4000900012345671</reference>
    </PayPalTxn>
  </Transaction>
</Request
```

Example XML for Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">100.00</amount>
      <merchantreference>12345601</merchantreference>
    </TxnDetails>
    <PayPalTxn>
      <method>do_express_checkout_payment</method>
      <reference>4000900012345671</reference>
      <description>Twenty NeverFail(tm) Widgets</description>
      <custom>UPS_ID=12345678</custom>
      <invnum>abc123</invnum>
      <buttonsource>foobar</buttonsource>
      <notify_url>http://www.example.com/mynotifyurl?id=
       abc123/</notify_url>
      <item_total>85.00</item_total>
      <shipping_total>10.00</shipping_total>
      <handling_total>5.00</handling_total>
      <tax_total>11.97</tax_total>
    </PayPalTxn>
  </Transaction>
</Request>
```

Example XML for Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">100.00</amount>
         <merchantreference>12345601</merchantreference>
      </TxnDetails>
      <PayPalTxn>
         <method>do_express_checkout_payment</method>
         <reference>4000900012345671</reference>
         <AirlineItineraryData>
            <passenger_name>Joseph Bloggs</passenger_name>
            <ticket_number>BLAH1234567890</ticket_number>
            <issuing_carrier_code>ABCD</issuing_carrier_code>
            <restricted_ticket>0</restricted_ticket>
            <clearing_sequence>1</clearing_sequence>
            <clearing_count>1</clearing_count>
            <FlightDetails leg_id="0">
               <service_class>A1</service_class>
               <travel_date>20090801</travel_date>
               <carrier_code>AB</carrier_code>
               <stopover_code>0</stopover_code>
               <departure_airport_code>EDI</departure_airport_code>
               <arrival_airport_code>LHR</arrival_airport_code>
               <flight_number>FOO12</flight_number>
               <departure_time>12:34</departure_time>
               <fare_basis_code>CHEAP1</fare_basis_code>
            </FlightDetails>
         </AirlineItineraryData>
      </PayPalTxn>
   </Transaction>
</Request>
```

Example XML for Request without initial payment to be processed via the PayPal Auth Capture Service

```
<Request>
      <Authentication>
            <client>xxxxxxxx</client>
            <password>xxxxxxxx</password>
      </Authentication>
      <Transaction>
            <TxnDetails>
                  <amount currency="GBP">0</amount>
                  <merchantreference>12345601</merchantreference>
            </TxnDetails>
            <PayPalTxn>
                  <method>set_express_checkout</method>
                  <return_url>https://www.example.com/myshoppingcard?
        action=complete&amp;sale_id=xyz123/</return_url>
                  <cancel_url>https://www.example.com/myshoppingcard?
        action=cancel&amp;sale_id=xyz123/</cancel_url>
                  <billing_type>MerchantInitiatedBilling</billing_type>
                  <billing_type>MerchantInitiatedBilling</billing_type>
           <billing_agreement_description>Subscription to
       Magazine</billing_agreement_subscription>
            </PayPalTxn>
      </Transaction>
</Request>
```

2.8.1.2.4

Example XML for Request with initial payment of £45.99 to be processed via the PayPal Auth Capture Service

```
<Request>
      <Authentication>
            <client>xxxxxxxx</client>
            <password>xxxxxxxx</password>
      </Authentication>
      <Transaction>
            <TxnDetails>
                  <amount currency="GBP">45.99</amount>
                  <merchantreference>12345601</merchantreference>
            </TxnDetails>
            <PayPalTxn>
                  <method>set_express_checkout</method>
                  <return_url>https://www.example.com/myshoppingcard?
        action=complete&amp;sale_id=xyz123/</return_url>
                  <cancel_url>https://www.example.com/myshoppingcard?
        action=cancel&amp;sale_id=xyz123/</cancel_url>

      <billing_type>MerchantInitiatedBillingSingleSource</billing_type>
            </PayPalTxn>
      </Transaction>
</Request>
```

2.8.1.2.5

Example XML for Request with initial payment of £45.99 to be processed via the PayPal Auth Capture Service

```
<Request>
      <Authentication>
            <client>xxxxxxxx</client>
            <password>xxxxxxxx</password>
      </Authentication>
      <Transaction>
            <TxnDetails>
                  <amount currency="GBP">45.99</amount>
                  <merchantreference>12345601</merchantreference>
            </TxnDetails>
            <PayPalTxn>
                  <method>set_express_checkout</method>
                  <return_url>https://www.example.com/myshoppingcard?
        action=complete&amp;sale_id=xyz123/</return_url>
                  <cancel_url>https://www.example.com/myshoppingcard?
        action=cancel&amp;sale_id=xyz123/</cancel_url>

      <billing_type>MerchantInitiatedBillingSingleSource</billing_type>
            <payment_action>order</payment_action>
            </PayPalTxn>
      </Transaction>
</Request>
```

2.8.1.2.6 txn_refund

Example XML for a full refund

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <PayPalTxn>
      <method>txn_refund</method>
      <reference>4000900012345671</reference>
    </PayPalTxn>
    <TxnDetails>
      <merchantreference>4655eubtr</merchantreference>
    </TxnDetails>
  </Transaction>
</Request>
```

Example XML for a partial refund

```xml
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount>19.00</amount>
         <merchantreference>45gy7byrty</merchantreference>
      </TxnDetails>
      <PayPalTxn>
         <method>txn_refund</method>
         <reference>4000900012345671</reference>
         <note>Here's the refund I promised</note>
      </PayPalTxn>
   </Transaction>
</Request>
```

2.8.1.2.7 do_authorization

Example XML for do_authorization

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount>100.00</amount>
      </TxnDetails>
      <PayPalTxn>
         <method>do_authorization</method>
         <reference>4000900012345671</reference>
      </PayPalTxn>
   </Transaction>
</Request>
```

2.8.1.2.8 do_capture

Example XML for do_capture

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount>100.00</amount>
      </TxnDetails>
      <PayPalTxn>
         <method>do_capture</method>
         <reference>4000900012345671</reference>
      </PayPalTxn>
   </Transaction>
</Request>
```

Example XML for do_capture

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount>100.00</amount>
      </TxnDetails>
      <PayPalTxn>
         <method>do_capture</method>
         <reference>4000900012345671</reference>
         <completed>yes</completed>
         <invnum>inv1234</invnum>
         <note>Finally, I have captured some funds</note>
         <soft_descriptor>FooCorp LLC</soft_descriptor>
      </PayPalTxn>
   </Transaction>
</Request>
```

2.8.1.2.9 do_void

Example XML for do_void

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <PayPalTxn>
         <method>do_void</method>
         <reference>4000900012345671</reference>
      </PayPalTxn>
   </Transaction>
</Request>
```

Example XML for do_void

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <PayPalTxn>
         <method>do_void</method>
         <reference>4000900012345671</reference>
         <note>Excess funds released</note>
      </PayPalTxn>
   </Transaction>
</Request>
```

2.8.1.2.10 create_billing_agreement

Example XML for create_billing_agreement

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <PayPalTxn>
      <method>create_billing_agreement</method>
      <reference>4000900012345671</reference>
    </PayPalTxn>
  </Transaction>
</Request>
```

2.8.1.2.11 update_billing_agreement

Example XML for update_billing_agreement for cancelling a billing agreement

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <PayPalTxn>
      <method>update_billing_agreement</method>
      <reference>4000900012345671</reference>
      <billing_agreement_status>Cancelled</billing_agreement_status>
    </PayPalTxn>
  </Transaction>
</Request>
```

Example XML for update_billing_agreement to update the description and custom field

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <PayPalTxn>
      <method>update_billing_agreement</method>
      <reference>4000900012345671</reference>
      <billing_agreement_description>Subscription to FOO Magazine
        </billing_agreement_description>
      <billing_agreement_custom>Part of our CHEAP09 prom
        </billing_agreement_custom>
    </PayPalTxn>
  </Transaction>
</Request>
```

2.8.1.2.12 do_reference_transaction

Example XML for do_reference_transaction, with immediate settlement of funds.

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <PayPalTxn>
      <method>do_reference_transaction</method>
      <reference>4000900012345671</reference>
      <description>Twenty NeverFail(tm) Widgets</description>
      <custom>UPS_ID=12345678</custom>
      <invnum>abc123</invnum>
      <buttonsource>foobar</buttonsource>
      <notify_url>http://www.example.com/mynotifyurl?id=abc123/
        </notify_url>
      <item_total>85.00</item_total>
      <shipping_total>10.00</shipping_total>
      <handling_total>5.00</handling_total>
      <tax_total>11.97</tax_total>
      <Items>...</Items>
      <ShippingAddress>...</ShippingAddress>
    </PayPalTxn>
  </Transaction>
</Request>
```

Example XML for do_reference_transaction, with delayed settlement of funds

```
<Request>
      <Authentication>
        <client>xxxx</client>
        <password>xxxx</password>
    </Authentication>
      <Transaction>
        <TxnDetails>
      <amount currency="GBP">100.00</amount>
      </TxnDetails>
         <PayPalTxn>
           <method>do_reference_transaction</method>
           <reference>4000900012345671</reference>
           <payment_action>order</payment_action>
      </PayPalTxn>
    </Transaction>
  </Request>
```

2.8.1.3 Schema Elements for Response

The following section will highlight elements which are specific to PayPal transactions. In addition to these, some general elements will be returned. Please refer to section 2.1.1.3 of the Developers Guide for descriptions of these elements.

2.8.1.3.1 PayPalTxn

The PayPalTxn element returns all of the details which are specific to the PayPal Service. It should be noted that this document shows all possible fields which may be returned by PayPal. The fields that are actually returned will depend upon the data provided by your customer to PayPal, plus how your own merchant account at PayPal is set up. The following key will be used:

- R – always returned
- A – returned if available

Many fields are only available for specific transaction types:

- S – set_express_checkout
- G – get_express_checkout_details
- D – do_express_checkout_payment
- R – txn_refund
- A – do_authorization
- C – do_capture
- V – do_void
- CB – create_billing_agreement
- UB – update_billing_agreement
- DR – do_reference_transaction
- E – error messages

Element Name:	PayPalTxn
Position(s)	Response.Transaction

Elements of PayPalTxn

Element Name	Description	Values / Limitations	Provided (if available)?										
			S	G	D	R	A	C	V	CB	UB	DR	E
ack		Success SuccessWith Warning Failure FailureWithWarning Warning	A	A	A	A	A	A	A	A	A	A	A
addressid			-	A	-	-	-	-	-	-	-	-	-

addressstatus	Status of street address on file with PayPal	Confirmed None Unconfirmed	-	A	-	-	-	-	-	-	-	-	-
amt	The final amount charged, including any shipping and taxes from your PayPal Merchant Profile	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	A	-	A	A	A	-	-	A	-
billing_agreement_accepted	Whether or not the customer accepted the billing agreement	1 – the customer accepted the billing agreement 0 – the customer did not agree to the billing agreement	-	A	-	-	-	-	-	-	-	-	-
billing_agreement_id	The value of the Billing Agreement ID originally returned from do_express_checkout_payment or create_billing_agreement		-	-	A	-	-	-	-	A	A	-	-
billing_agreement_description	The description held by PayPal for the Billing Agreement	127 single-byte characters	-	-	-	-	-	-	-	-	A	-	-
billing_agreement_custom	The custom annotation field held by PayPal for the Billing Agreement	255 single-byte characters	-	-	-	-	-	-	-	-	A	-	-
build	A string representing the specific software build that processes the request and generated the response		A	A	A	A	A	A	A	A	A	A	A
business	Payer’s business name	127 single-byte characters	-	A	-	-	-	-	-	-	-	-	-
correlationid	A string that identifies the exact API request that produced this response	Max 41 characters	A	A	A	A	-	-	-	A	A	A	A

countrycode	Payer’s country of residence	As defined in ISO 3166-1	-	A	-	-	-	-	-	-	-	-	-
currencycode	The currency of the transaction		-	-	A	-	-	-	-	-	-	A	-
custom	As section 2.8.1.1		-	A	-	-	-	-	-	-	-	-	-
email	As section 2.8.1.1		-	A	-	-	-	-	-	-	-	-	-
Errors	Returned for error and warning transactions. Please refer to section 2.8.1.3.3												
exchangerate	Exchange rate if a currency conversion occurred. Relevant only if you are billing in the customer’s non-primary currency. If the customer chooses to pay with a currency other than the primary currency, the conversion occurs in the customer’s account.	Decimal. Max size 17 characters including decimal point	-	-	A	-	-	A	-	-	-	-	-
feeamt	PayPal fee amount charged for the transaction	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	A	-	-	A	-	-	-	A	-
feerefundamount	Transaction fee refunded to original recipient of payment		-	-	-	A	-	-	-	-	-	-	-
firstname	Payer’s first name	25 single-byte characters	-	A	-	-	-	-	-	-	-	-	-
grossrefundamt	Amount of money refunded to original payer	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	-	A	-	-	-	-	-	-	-
invnum	As section 2.8.1.1		-	A	-	-	-	-	-	-	-	-	-

lastname	Payer's last name	25 single-byte characters	-	A	-	-	-	-	-	-	-	-	-
middlename	Payer's middle name	25 single-byte characters	-	A	-	-	-	-	-	-	-	-	-
netrefundamt	Amount subtracted from PayPal balance of original recipient payment to make this refund	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	-	A	-	-	-	-	-	-	-
ordertime	Time/date stamp of the payment, in ISO 8601 (UTC/Zulu time)	YYYY-MM-DDTHH:MM:SSZ	-	-	A	-	-	A	-	-	-	A	-
payerid	Unique PayPal customer account identification number	13 single-byte characters	-	A	-	-	-	-	-	-	-	-	-
payerstatus	The status of the payer	verified unverified	-	A	-	-	-	-	-	-	-	-	-
paymentstatus	Status of the payment	See table below for values	-	-	A	-	-	A	-	-	-	A	-
paymenttype	Indicates whether the payment is instant or delayed	none echeck instant	-	-	A	-	-	A	-	-	-	A	-
pendingreason	The reason the payment is pending	See table below for possible values	-	-	A	-	-	-	-	-	-	A	-
phonenum	Payer's contact telephone number		-	A	-	-	-	-	-	-	-	-	-
reasoncode	The reason for the reversal, if `transactiontype` is reversal	See table below	-	-	A	-	-	-	-	-	-	-	-
refundtransactionid	Unique transaction ID for the refund	17 single-byte characters	-	-	-	A	-	-	-	-	-	-	-
salutation	Payer's salutation	20 single-byte characters	-	A	-	-	-	-	-	-	-	-	-

settleamt	Amount deposited in your PayPal account after currency conversion	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	A	-	-	A	-	-	-	A	-
ShippingAddress	If returned, this data will be in the same format as described in section 2.8.1.1.6												
suffix	Payer's suffix	12 single-byte characters	-	A	-	-	-	-	-	-	-	-	-
taxamt	Tax charged on the transaction	Must not exceed $10,000 in any currency. Max value 9,999,999.99	-	-	A	-	-	A	-	-	-	A	-
timestamp	Date/time of response in ISO 8601 (UTC/Zulu time)	YYYY-MM-DDTHH:MM:SSZ	A	A	A	A	A	A	A	A	A	A	A
token	A timestamped token by which you identify to PayPal that you are processing this payment with Express Checkout. Token expires after three hours	20 single-byte characters	R	A	A	-	-	-	-	-	-	-	-
transactionid	Unique transaction ID for the payment	19 single-byte characters	-	-	A	-	A	A	A	-	-	A	-
transactiontype	The type of transaction	express-checkout reversal merchtpmt	-	-	A	-	-	A	-	-	-	A	-
version	PayPal API service version number		A	A	A	A	A	A	A	A	A	A	A
authorizationid	Value of transactionid returned in response of do_authorization	19 single-byte characters	-	-	-	-	-	A	-	-	-	-	-

`parenttransactionid`	Value of transactionid returned in response of `do_authorization`	19 single-byte characters	-	-	-	-	-	A	-	-	-	-	-
`receipt`	Receipt identification number	19 single-byte characters	-	-	-	-	-	A	-	-	-	-	-

Values for paymentstatus	
Value	**Meaning**
`Completed`	The payment has been completed, and the funds have been added successfully to your account balance.
`Pending`	The payment is pending. See the `pendingreason` element for more information.

Values for pendingreason	
Value	**Meaning**
`none`	No pending reason.
`address`	The payment is pending because your customer did not include a confirmed shipping address and your `Payment Receiving Preferences` is set such that you want to manually accept or deny each of these payments. To change your preference, go to the Preferences section of your Profile.
`echeck`	The payment is pending because it was made by an eCheck that has not yet cleared.
`intl`	The payment is pending because you hold a non-U.S. account and do not have a withdrawal mechanism. You must manually accept or deny this payment from your `Account Overview`.
`multi-currency`	You do not have a balance in the currency sent, and you do not have your `Payment Receiving Preferences` set to automatically convert and accept this payment. You must manually accept or deny this payment.
`verify`	The payment is pending because you are not yet verified. You must verify your account before you can accept this payment.
`other`	The payment is pending for a reason other than those listed above. For more information, contact PayPal customer service.

Values for reasoncode	
Value	**Meaning**
`none`	No reason code
`chargeback`	A reversal has occurred on this transaction due to a chargeback by your customer.
`guarentee`	A reversal has occurred on this transaction due to your customer triggering a money-back guarantee.
`buyer-complaint`	A reversal has occurred on this transaction due to a complaint about the transaction from your customer.
`refund`	A reversal has occurred on this transaction because you have given the customer a refund.
`other`	A reversal has occurred on this transaction due to a reason not listed above.

Example XML for PayPal elements, for set_express_checkout

```
  <PayPalTxn>
      <method>set_express_checkout</method>
      <return_url>https://www.example.com/myshoppingcard?action=
complete&sale_id=xyz123/</return_url>
      <cancel_url>https://www.example.com/myshoppingcard?action=
cancel&sale_id=xyz123/</cancel_url>
      <payment_action>order</payment_action>
  </PayPalTxn>
```

Example XML for PayPal elements, for set_express_checkout

```
<PayPalTxn>
   <ack>Success</ack>
   <build>1.0006</build>
   <timestamp>2010-10-03T13:44:56Z</timestamp>
   <token>EC-4VL78907RS990801R</token>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for get_express_checkout_details

```
<PayPalTxn>
   <ack>Success</ack>
   <addressid>PayPal</addressid>
   <addressstatus>Confirmed</addressstatus>
   <billing_agreement_accepted>1
        </billing_agreement_accepted>
   <build>1.0006</build>
   <correlationid>6389c035b7785</correlationid>
   <countrycode>GB</countrycode>
   <custom>my_custom_data</custom>
   <email>abc_11_1191417836_per@example.com</email>
   <firstname>Test</firstname>
   <invnum>123-456-abc</invnum>
   <middlename>Arther</middlename>
   <lastname>User</lastname>
   <payerid>8PN3BJPN2WNDE</payerid>
   <payerstatus>unverified</payerstatus>
   <phonenum>+44 123 4567</phonenum>
   <salutation>Mr</salutation>
   <ShippingAddress>…</ShippingAddress>
   <suffix>Esq</suffix>
   <timestamp>2010-10-03T13:44:56Z</timestamp>
   <token>EC-4VL78907RS990801R</token>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for do_express_checkout_payment

```
<PayPalTxn>
   <ack>Success</ack>
   <amt>10.00</amt>
   <billing_agreement_id>billing123</billing_agreement_id>
   <build>1.0006</build>
   <correlationid>889dd330d54f0</correlationid>
   <currencycode>GBP</currencycode>
   <exchangerate>1.2222</exchangerate>
   <feeamt>0.54</feeamt>
   <ordertime>2010-10-03T13:45:17Z</ordertime>
   <paymentstatus>Completed</paymentstatus>
   <paymenttype>instant</paymenttype>
   <pendingreason>None</pendingreason>
   <reasoncode>None</reasoncode>
   <settleamt>13.22</settleamt>
   <taxamt>0.00</taxamt>
   <timestamp>2010-10-03T13:45:26Z</timestamp>
   <token>EC-4VL78907RS990801R</token>
   <transactionid>3YT66098JE5874747</transactionid>
   <transactiontype>expresscheckout</transactiontype>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for refund

```
<PayPalTxn>
   <build>1.0006</build>
   <feerefundamt>0.54</feerefundamt>
   <version>2.300000</version>
   <timestamp>2010-10-05T13:09:42Z</timestamp>
   <correlationid>5db496bf4454</correlationid>
   <refundtransactionid>83V1269821897443H</refundtransactionid>
   <grossrefundamt>10.00</grossrefundamt>
   <ack>Success</ack>
   <netrefundamt>9.4</netrefundamt>
</PayPalTxn>
```

Example XML for PayPal elements, for do_authorization

```
<PayPalTxn>
   <ack>Success</ack>
   <amt>10.00</amt>
   <build>1.0006</build>
   <timestamp>2010-10-03T13:45:26Z</timestamp>
   <transactionid>3YT66098JE5874747</transactionid>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for do_capture

```
<PayPalTxn>
   <ack>Success</ack>
   <amt>10.00</amt>
   <authorizationid>123456</authorizationid>
   <build>1.0006</build>
   <exchangerate>1.2222</exchangerate>
   <feeamt>0.54</feeamt>
   <ordertime>2010-10-03T13:45:17Z</ordertime>
   <parenttransactionid>J660-98E5-8747-473YT</parenttransactionid>
   <paymentstatus>Completed</paymentstatus>
   <paymenttype>instant</paymenttype>
   <receipt>34FB-SU1K-LAD9-SDA8</receipt>
   <settleamt>13.22</settleamt>
   <taxamt>0.00</taxamt>
   <timestamp>2010-10-03T13:45:26Z</timestamp>
   <transactionid>JE587-4747-3YT6-6098</transactionid>
   <transactiontype>express-checkout</transactiontype>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for do_void

```
<PayPalTxn>
   <ack>Success</ack>
   <amt>10.00</amt>
   <build>1.0006</build>
   <timestamp>2010-10-03T13:45:26Z</timestamp>
   <transactionid>3YT66098JE5874747</transactionid>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for create_billing_agreement

```
<PayPalTxn>
   <ack>Success</ack>
   <billing_agreement_id>B-4C465615S44462100
     </billing_agreement_id>
   <build>1.0006</build>
   <correlationid>3YT66098JE5874747</correlationid>
   <timestamp>2010-10-03T13:45:26Z</timestamp>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for update_billing_agreement

```
<PayPalTxn>
   <ack>Success</ack>
   <billing_agreement_custom>Part of our CHEAP09 promo
     </billing_agreement_custom>
   <billing_agreement_description>9.99 per month subscription to
     FOO Magazine</billing_agreement_description>
   <billing_agreement_id>B-4C465615S44462100
     </billing_agreement_id>
   <build>1.0006</build>
   <correlationid>3YT66098JE5874747</correlationid>
   <timestamp>2010-10-03T13:45:26Z</timestamp>
   <version>2.300000</version>
</PayPalTxn>
```

Example XML for PayPal elements, for do_reference_transaction

```
<PayPalTxn>
  <ack>Success</ack>
  <amt>30.00</amt>
  <authorizationid>HOFAOW8973H4FA</authorizationid>
  <build>1.0006</build>
  <correlationid>ABCD123EFGH456</correlationid>
  <feeamt>5.00</feeamt>
  <paymentstatus>Completed</paymentstatus>
  <paymenttype>instant</paymenttype>
  <settleamt>25.00</settleamt>
  <taxamt>5.00</taxamt>
  <timestamp>2010-11-01T12:34:56Z</timestamp>
  <transactionid>AUWEHRGLUH92374</transactionid>
  <transactiontype>merchtpmt</transactiontype>
  <version>58.000000</version>
</PayPalTxn>
```

Additional XML Example:

```
<Request>
      <Authentication>
            <client>xxxxxxxx</client>
            <password>xxxxxxxx</password>
      </Authentication>
      <Transaction>
         <TxnDetails>
             <amount currency="GBP">100.00</amount>
             <merchantreference>12345601</merchantreference>
         </TxnDetails>
         <PayPalTxn>
                <method>do_express_checkout_payment</method>
   <payment_action>order</payment_action>
                  <reference>4000900012345671</reference>
            </PayPalTxn>
      </Transaction>

</Request>
```

2.8.1.3.2 Errors

This element will only be returned if a PayPal error or warning occurs.

Elements of Errors	
Value	**Description**
Error	See section 2.8.1.3.3

Example XML for Errors element

```
<Errors>
   <Error id="0">…</Error>
   <Error id="1">…</Error>
    …
</Errors>
```

2.8.1.3.3 Error

This element will only be returned if a PayPal error or warning occurs. PayPal can return multiple Errors for a single transaction. The ID numbering of these errors will correspond to the number used by PayPal in their message response.

Elements of Errors
error_code
short_message
long_message
severity_code

Each error code which is returned will contain the short and long message. Please refer to Appendix A (page 159) of the *Name-Value Pair API Developer Guide and Reference* for a full list of error codes and their explanations.

Example XML for Error element

```
<Error id="0">
   <error_code>81104</error_code>
   <short_message>Missing Parameter</short_message>
   <long_message>CancelURL : Required parameter
       missing</long_message>
   <severity_code>severityCode</severity_code>
</Error>
<Error id="1">
   <error_code>10431</error_code>
   <short_message>Item amount is invalid</short_message>
   <long_message>Item amount is invalid</long_message>
</Error>
```

2.8.1.4 XML Example Responses

2.8.1.4.1 Successful Transactions

Example XML Response for a set_express_checkout transaction

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <merchantreference>12345601</merchantreference>
  <reason>ACCEPTED</reason>
  <mode>LIVE</mode>
  <time>1132843641</time>
  <PayPalTxn>
    <ack>Success</ack>
    <build>1.0006</build>
    <timestamp>2010-10-03T13:44:56Z</timestamp>
    <token>EC-4VL78907RS990801R</token>
    <version>2.300000</version>
  </PayPalTxn>
</Response>
```

Example XML Response for a get_express_checkout_details transaction

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <merchantreference>12345601</merchantreference>
  <reason>ACCEPTED</reason>
  <mode>LIVE</mode>
  <time>1132843641</time>
  <PayPalTxn>
    <ack>Success</ack>
    <addressid>PayPal</addressid>
    <addressstatus>Confirmed</addressstatus>
    <BillingAddress>
      <name>Test User</name>
      <street_address1>12 Boddingtons Road</street_address1>
      <street_address2>Regeant's Park</street_address2>
      <city>Wolverhampton</city>
      <region>West Midlands</region>
      <country>United Kingdom</country>
      <country_code>GB</country_code>
      <address_owner>Foobar Ltd</address_owner>
      <address_status>Confirmed</address_status>
    </BillingAddress>
    <billing_agreement_accepted>1
      </billing_agreement_accepted>
    <build>1.0006</build>
    <correlationid>6389c035b7785</correlationid>
    <countrycode>GB</countrycode>
    <custom>my_custom_data></custom>
    <email>abc_11_1191417836_per@example.com</email>
    <firstname>Test</firstname>
    <invnum>123-456-abc</invnum>
    <middlename>Arther</middlename>
    <lastname>User</lastname>
    <payerid>8PN3BJPN2WNDE</payerid>
    <payerstatus>unverified</payerstatus>
    <phonenum>+44 123 4567</phonenum>
    <salutation>Mr</salutation>
    <ShippingAddress>
      <name>Test User</name>
      <street_address1>1 Main Terrace</street_address1>
      <street_address2>Highgate</street_address2>
      <city>Wolverhampton</city>
      <region>West Midlands</region>
      <country>United Kingdom</country>
      <country_code>GB</country_code>
      <postcode>E12 4LQ</postcode>
      <telephone_number>0121 231 3122</telephone_number>
    </ShippingAddress>
    <suffix>Esq</suffix>
    <timestamp>2010-10-03T13:44:56Z</timestamp>
    <token>EC-4VL78907RS990801R</token>
    <version>2.300000</version>
  </PayPalTxn>
```

```
</Response>
```

Example XML Response for do_express_checkout_payment transaction

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>12345601</merchantreference>
   <reason>ACCEPTED</reason>
   <mode>LIVE</mode>
   <time>1132843641</time>
   <PayPalTxn>
      <ack>Success</ack>
      <amt>10.00</amt>
      <billing_agreement_id>billing123</billing_agreement_id>
      <build>1.0006</build>
      <correlationid>889dd330d54f0</correlationid>
      <currencycode>GBP</currencycode>
      <exchangerate>1.2222</exchangerate>
      <feeamt>0.54</feeamt>
      <ordertime>2010-10-03T13:45:17Z</ordertime>
      <paymentstatus>Completed</paymentstatus>
      <paymenttype>instant</paymenttype>
      <pendingreason>None</pendingreason>
      <reasoncode>None</reasoncode>
      <settleamt>13.22</settleamt>
      <taxamt>0.00</taxamt>
      <timestamp>2010-10-03T13:45:26Z</timestamp>
      <token>EC-4VL78907RS990801R</token>
      <transactionid>3YT66098JE5874747</transactionid>
      <transactiontype>expresscheckout</transactiontype>
      <version>2.300000</version>
   </PayPalTxn>
</Response>
```

Example XML Response for a refund

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>12345601</merchantreference>
   <reason>ACCEPTED</reason>
   <mode>LIVE</mode>
   <time>1132843641</time>
   <PayPalTxn>
      <build>1.0006</build>
      <feerefundamt>0.54</feerefundamt>
      <version>2.300000</version>
      <timestamp>2010-10-05T13:09:42Z</timestamp>
      <correlationid>5db496bf4454</correlationid>
      <refundtransactionid>83V1269821897443H</refundtransactionid>
      <grossrefundamt>10.00</grossrefundamt>
      <ack>Success</ack>
      <netrefundamt>9.4</netrefundamt>
   </PayPalTxn>
</Response>
```

Example XML Response for a do_authorization

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>12345601</merchantreference>
   <reason>ACCEPTED</reason>
   <mode>LIVE</mode>
   <time>1132843641</time>
   <PayPalTxn>
      <ack>Success</ack>
      <amt>10.00</amt>
      <build>1.0006</build>
      <timestamp>2010-10-03T13:45:26Z</timestamp>
      <transactionid>3YT66098JE5874747</transactionid>
      <version>2.300000</version>
   </PayPalTxn>
</Response>
```

Example XML Response for a do_capture.which cancels any remaining funds received against the payers account

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>12345601</merchantreference>
   <reason>ACCEPTED</reason>
   <mode>LIVE</mode>
   <time>1132843641</time>
   <PayPalTxn>
      <ack>Success</ack>
      <amt>10.00</amt>
      <authorizationid>123456</authorizationid>
      <build>1.0006</build>
      <exchangerate>1.2222</exchangerate>
      <feeamt>0.54</feeamt>
      <ordertime>2010-10-03T13:45:17Z</ordertime>
   <parenttransactionid>J660-98E5-8747-473YT</parenttransactionid>
      <paymentstatus>Completed</paymentstatus>
      <paymenttype>instant</paymenttype>
      <receipt>34FB-SU1K-LAD9-SDA8</receipt>
      <settleamt>13.22</settleamt>
      <taxamt>0.00</taxamt>
      <timestamp>2010-10-03T13:45:26Z</timestamp>
      <transactionid>JE587-4747-3YT6-6098</transactionid>
      <transactiontype>express-checkout</transactiontype>
      <version>2.300000</version>
   </PayPalTxn>
</Response>
```

Example XML Response for a do_void

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>12345601</merchantreference>
   <reason>ACCEPTED</reason>
   <mode>LIVE</mode>
   <time>1132843641</time>
   <PayPalTxn>
      <ack>Success</ack>
      <amt>10.00</amt>
      <build>1.0006</build>
      <timestamp>2010-10-03T13:45:26Z</timestamp>
      <transactionid>3YT66098JE5874747</transactionid>
      <version>2.300000</version>
   </PayPalTxn>
</Response>
```

Example XML Response for a create_billing_agreement

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <merchantreference>12345601</merchantreference>
  <reason>ACCEPTED</reason>
  <mode>LIVE</mode>
  <time>1132843641</time>
  <PayPalTxn>
    <ack>Success</ack>
    <billing_agreement_id>B-4C465615S44462100
      </billing_agreement_id>
    <build>1.0006</build>
    <correlationid>abc123correlationIDftw</correlationid>
    <timestamp>2010-11-01T12:34:56Z</timestamp>
    <version>58.000000</version>
  </PayPalTxn>
</Response>
```

Example XML Response for an update_billing_agreement

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <merchantreference>12345601</merchantreference>
  <reason>ACCEPTED</reason>
  <mode>LIVE</mode>
  <time>1132843641</time>
  <PayPalTxn>
    <ack>Success</ack>
    <billing_agreement_custom>Part of our CHEAP09 promo
      </billing_agreement_custom>
    <billing_agreement_description>9.99 per month subscription
      to FOO Magazine</billing_agreement_description>
    <billing_agreement_id>B-4C465615S44462100
      </billing_agreement_id>
    <billing_agreement_status>Active</billing_agreement_status>
    <build>1.0006</build>
    <correlationid>abc123correlationIDftw</correlationid>
    <timestamp>2010-11-01T12:34:56Z</timestamp>
    <version>58.000000</version>
  </PayPalTxn>
</Response>
```

Example XML Response for a do_reference_transaction

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <merchantreference>12345601</merchantreference>
  <reason>ACCEPTED</reason>
  <mode>LIVE</mode>
  <time>1132843641</time>
  <PayPalTxn>
    <ack>Success</ack>
    <amt>30.00</amt>
    <authorizationid>HOFAOW8973H4FA</authorizationid>
    <build>1.0006</build>
    <correlationid>ABCD123EFGH456</correlationid>
    <feeamt>5.00</feeamt>
    <paymentstatus>Completed</paymentstatus>
    <paymenttype>instant</paymenttype>
    <settleamt>25.00</settleamt>
    <taxamt>5.00</taxamt>
    <timestamp>2010-11-01T12:34:56Z</timestamp>
    <transactionid>AUWEHRGLUH92374</transactionid>
    <transactiontype>merchtpmt</transactiontype>
    <version>58.000000</version>
  </PayPalTxn>
</Response>
```

2.8.1.4.2 PayPal Warning and Errors

Example XML Response for an error

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <merchantreference>12345601</merchantreference>
   <mode>LIVE</mode>
   <time>1132843641</time>
   <status>561</status>
   <reason>PayPal: Error returned in response</reason>
   <information>The transaction response from PayPal indicated that
      an error has occurred - see the extended PayPal
      information</information>
   <PayPalTxn>
      <ack>Failure</ack>
      <timestamp>2010-10-03T13:45:26Z</timestamp>
      <correlationid>889dd330d54f0</correlationid>
      <version>2.300000</version>
      <build>1.0006</build>
      <Errors>
         <Error id="0">
            <error_code>81104</error_code>
            <short_message>Missing Parameter</short_message>
            <long_message>CancelURL : Required parameter
            missing</long_message>
            <severity_code>severityCode</severity_code>
         </Error>
      </Errors>
   </PayPalTxn>
</Response>
```

2.8.1.4.3 Invalid Transactions

When DataCash is sent a transaction, it will be validated before forwarding the information to PayPal. If a transaction fails this validation, the response will not have a `PayPalTxn` element. Examples are shown below.

A full list of error codes is available in the Developers Area. Additional examples - and suggestions for how to prevent the errors re-occurring - are published in the Support Centre.

Example XML Response for an invalid transaction

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <merchantreference>12345601</merchantreference>
   <status>560</status>
   <reason>PayPal: Not configured for service</reason>
   <information>Merchant is not configured for the PayPal
      service</information>
   <mode>LIVE</mode>
   <time>1132843641</time>
</Response>
```

Example XML Response for an invalid transaction

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <merchantreference>12345601</merchantreference>
   <status>565</status>
   <reason>PayPal: Invalid reference</reason>
   <information>Referenced transactions is not a
    PayPalTxn</information>
   <mode>LIVE</mode>
   <time>1132843641</time>
</Response>
```

2.8.1.5 Re-Directing the Customer

This section describes how to re-direct your customer from your website to PayPal.

In order to complete this process, you must have submitted a `set_express_checkout` transaction to DataCash, and received a successful response. This response will provide you with a token (section 2.1.1.3):

Example Successful XML Response for set_express_checkout, highlighting the token

```
<Response>
  <datacash_reference>…</datacash_reference>
  <status>1</status>
  <merchantreference>…</merchantreference>
  <reason>ACCEPTED</reason>
  <mode>LIVE</mode>
  <time>…</time>
  <PayPalTxn>
    <token>EC-4VL78907RS990801R</token>
  </PayPalTxn>
</Response>
```

This token is used to construct the URL to which you will re-direct your customer, as shown below:

Example URL for re-direct

```
https://www.paypal.com/cgi-bin/webscr?cmd=_express-checkout
    &token=EC-4VL78907RS990801R/
https://www.sandbox.paypal/
```

When redirecting the customer’s browser to the PayPal login page, PayPal recommends that you use the HTTPS response 302 “Object Moved” with the URL above as the value of the Location header in the HTTPS response. Ensure that you use an SSL-enabled server to prevent browser warnings about a mix of secure and insecure graphics.

2.8.1.6 Query Transaction for PayPal

Query transactions can be submitted against the DataCash reference of a PayPal transaction to obtain information about that transaction.

2.8.1.6.1 Schema Elements For Request

- `Request`
  - `Authentication` – section 2.2.1.1
  - `Transaction`
    - `HistoricTxn` – see section 2.6.2.3.2.1.

Elements of HistoricTxn			
Element Name	**Description**	**Values / Limitations**	
method	The transaction type	query	R
reference	The reference of the transaction to be queried	DataCash Reference of a previous PayPal transaction on the same client.	R

Example XML Request for HistoricTxn complex elements

```
<HistoricTxn>
  <reference>3900900100010001</reference>
  <method>query</method>
</HistoricTxn>
```

2.8.1.6.2 XML Example - PayPal Query Transaction

Example XML PayPal Query

```
<Request>
  <Authentication>
    <password>*****</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>3900900100010001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.8.1.6.3 Schema Elements for PayPal Query Response

Element Name:	QueryTxnResult
Position:	Response

The QueryTxnResult complex element contains the retrieved details for the transaction reference provided in the request. The contents of the following elements all relate to the original transaction being queried, and not the query transaction itself.

Elements of QueryTxnResult	
Element Name	**Description**
PayPalTxn	Complex element containing details about the PayPal transaction being queried
datacash_reference	DataCash reference
merchant_reference	Merchant reference
reason	DataCash response message.
status	DataCash response code
transaction_date	Date of processing by DPG

Elements of PayPalTxn	
Element Name	**Description**
method	The method of the PayPal transaction being queried
status_update	Indicates whether the transaction status was updated as a result of the query (see 2.8.1.6.5)
Captures	Complex element returned when the queried transaction was an Authorization (method do_authorization), containing details of any captures (method do_capture) that were associated with that transaction

Elements of Captures	
Element Name	**Description**
Capture	Complex element containing details of a single capture. An element of this type will appear for each capture associated with the authorization.

Elements of Capture

Element Name	Description
`datacash_reference`	The DataCash reference of the capture transaction. This can be used to query the capture transaction directly.
`dc_response`	The DataCash response code of the capture transaction.

2.8.1.6.4 XML Example - PayPal Query Response

Example XML Response for basic PayPal Query Txn

```
<Response>
  <QueryTxnResult>
    <PayPalTxn>
      <method>do_express_checkout_payment</method>
    </PayPalTxn>
    <datacash_reference>4600900012345673</datacash_reference>
    <merchant_reference>mref12345680</merchant_reference>
    <reason>ACCEPTED</reason>
    <status>1</status>
    <transaction_date>2011-07-04 14:57:11</transaction_date>
  </QueryTxnResult>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1309787852</time>
</Response>
```

Example XML Response for PayPal Query Txn on an Authorization

```
<Response>
  <QueryTxnResult>
    <PayPalTxn>
      <Captures>
        <Capture>
          <datacash_reference>4100900012345675</datacash_reference>
          <dc_response>1</dc_response>
        </Capture>
        <Capture>
          <datacash_reference>4900900012345676</datacash_reference>
          <dc_response>1</dc_response>
        </Capture>
      </Captures>
      <method>do_authorization</method>
    </PayPalTxn>
    <datacash_reference>4400900012345674</datacash_reference>
    <merchant_reference>mref12345678</merchant_reference>
    <reason>ACCEPTED</reason>
    <status>1</status>
    <transaction_date>2011-07-04 15:01:40</transaction_date>
  </QueryTxnResult>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1309788159</time>
</Response>
```

2.8.1.6.5 Status Updates

In the event that a PayPal transaction fails with a reason indicating that no response was received from PayPal, if the transaction had method do_express_checkout_payment, txn_refund, do_authorization or do_capture then submitting a Query against that transaction will cause the payment gateway to attempt to determine an updated status for the transaction by communicating with PayPal. In the response to the Query the element status_update will indicate the outcome of this attempt.

Example XML Response for PayPal Query Txn with status update

```
<Response>
  <QueryTxnResult>
    <PayPalTxn>
      <method>txn_refund</method>
      <status_update>Transaction status has been updated</status_update>
    </PayPalTxn>
    <datacash_reference>4100900012345675</datacash_reference>
    <merchant_reference>mref12345677</merchant_reference>
    <reason>ACCEPTED</reason>
    <status>1</status>
    <transaction_date>2011-07-04 15:06:12</transaction_date>
  </QueryTxnResult>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1309788432</time>
</Response>
```

2.8.1.7 Instant Payment Notification (IPN)

If subscribed to the PayPal service you can also be set up to receive Notification Messages from DataCash alerting you to when a Transaction is updated. In addition, this update will also be reflected in DataCash Reporting.

The Notification Message will be an XML document sent to a URL you have provided. This URL should respond with an Acknowledgement of the Notification.

See below for schemas and examples

2.8.1.7.1 Schema of a Notification Message

Element Name:	`Notify`
Position:	`Notification`

Elements of Notify	
Element Name	**Description**
`datacash_reference`	The DataCash reference of the update transaction
`sequence_number`	This corresponds to the number of times a Notification has been sent for this update. This field will auto increment with each attempt
`PayPalTxn`	This contains the transaction information

Elements of PayPalTxn	
Element Name	**Description**
`datacash_reference`	The DataCash reference of the transaction that has been updated
`merchantreference`	The reference sent in with the original transaction
`txn_status`	The current status of the transaction
`raw_ipn`	The original, unaltered IPN message from PayPal

2.8.1.7.2 Example of a Notification Message

Example XML Message for PayPal IPN Message

```
<Notification>
  <Notify>
    <PayPalTxn>
      <datacash_reference>4000900001134560</datacash_reference>
      <merchantreference>myref1234</merchantreference>
      <txn_status>reversed</txn_status>
      <raw_ipn><![CDATA[ original IPN msg ]]></raw_ipn>
    </PayPalTxn>
    <datacash_reference>4000900012345671</datacash_reference>
    <sequence_number>1</sequence_number>
  </Notify>
</Notification>
```

2.8.1.7.3 Schema of a Notification Acknowledgement

Element Name: `Acknowledge`
Position: `Notification`

Elements of Notify

Element Name	Description
`datacash_reference`	The DataCash reference of the update transaction from the Notification. Contents of Notification.Notify.datacash_reference
`sequence_number`	The sequence_number from the Notification being acknowledged. Contents of Notification.Notify.sequence_number

2.8.1.7.4 Example of a Notification Acknowledgement

Example XML Message for an Acknowledgement

```
<Notification>
  <Acknowledge>
    <datacash_reference>4000900012345671</datacash_reference>
    <sequence_number>1</sequence_number>
  </Acknowledge>
</Notification>
```

2.8.2 *Variable End of Day*

This section describes the Variable End of Day service for the dynamic processing model only. If you are using the Static processing model, no transactions need to be sent to the DPG.

2.8.2.1 Schema Elements for Request

In this section, the fields that can be submitted when using the variable end of day (dynamic) service will be presented, along with sample XML for those fields.

When presenting an eod transaction, the following schema elements should be presented:

- `Request`
  - `Authentication` – section 2.1.1.1
  - `Transaction`
    - `TxnDetails` – the merchant reference – section 2.8.2.1.1
    - `EoDTxn` – the method eod – section 2.8.2.1.2

All elements are required, unless otherwise stated.

2.8.2.1.1 TxnDetails

There is one element to be presented in this parent element

Elements in TxnDetails		
Element Name	**Description**	**Values / Limitations**
`merchantreference`	A unique reference number for each transaction	Minimum 6, maximum 30 alphanumeric characters. Must be unique

Example XML for EoDTxn elements

```
<TxnDetails>
   <merchantreference>48tv3498wy3c4dt</merchantreference>
</TxnDetails>
```

2.8.2.1.2 EoDTxn

There is one element to be presented in this parent element.

1Elements in EoDTxn

Element Name	Description	Values / Limitations
method	The transaction type	eod

Example XML for EoDTxn elements

```
<EoDTxn>
   <method>eod</method>
</EoDTxn>
```

2.8.2.2 Example Requests

Example XML Request

```
<Request>
   <Authentication>
      <client>...</client>
      <password>...</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>...</merchantreference>
      </TxnDetails>
      <EoDTxn>
         <method>eod</method>
      </EoDTxn>
   </Transaction>
</Request>
```

2.8.2.3 Schema Elements for Response

Please refer to section 2.1.1.3. There are no additional elements which may be returned in the XML response for this service.

2.8.2.4 Example Responses

Example XML Response for a successful transaction

```
<Response>
  <datacash_reference>4900200047685356</datacash_reference>
  <merchantreference>117990881318233</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1179908813</time>
</Response>
```

Example XML Response for a rejected transaction

```
<Response>
  <datacash_reference>4000200047685351</datacash_reference>
  <merchantreference>117990875018165</merchantreference>
  <mode>LIVE</mode>
  <reason>VEoD: already received an EoD</reason>
  <status>532</status>
  <time>1179908750</time>
</Response>
```

2.8.3 *RBS Gift Card*

2.8.3.1 Summary of Service

The RBS Gift Card service provides the ability to perform a number of transaction types against RBS Gift Cards:

- Balance Enquiries: To determine the remaining balance
- Redemptions: To perform an authorisation against the card
- Refunds: To refund an amount to the card
- txn_refunds: To refund an amount to the card based on a previously authorized redemption.

2.8.3.2 Schema Elements for Request

Element Name:	`RbsGiftCardTxn`
Position:	`Request.Transaction`

Elements of RbsGiftCardTxn

Element Name	Description	Values / Limitations	Required

`method`	The method of the transaction.	`balance_enquiry`
		`redeem`
		`refund`
		`txn_refund`
			R

`Card`	The card details of the transaction to be authenticated. This element contains sub elements. See 2.2.1.1.1 for more information. This is not used in the case of a `txn_refund`.	See 2.2.1.1.1 for more information	M
`Reference`	When performing a `txn_refund`, this element should be used to indicate the transaction that is being refunded.	The value contained should be the datacash_reference of the original RBS gift card transaction to refund.	M

2.8.3.3 Balance Enquiry

The balance enquiry transaction is provided to allow the merchant to check the existing balance of an RBS Gift Card prior to performing a redemption request.

An example balance enquiry transaction is illustrated below:

Example Balance Enquiry Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>

  <Transaction>
    <TxnDetails>
      <merchantreference>12345601</merchantreference>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>

    <RbsGiftCardTxn>
      <method>balance_enquiry</method>
      <Card>
        <pan>xxxxxxxxxxxxxxxx</pan>
        <accesscode>xxxxxxxx</accesscode>
        <expirydate>04/06</expirydate>
        <startdate>01/99</startdate>
      </Card>
    </RbsGiftCardTxn>

  </Transaction>
</Request>
```

An example response to a balance enquiry is shown below:

Example Balance Enquiry Response

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>12345601</merchantreference>
   <reason>ACCEPTED</reason>

   <RbsGiftCardTxn>
      <authcode>100000</authcode>
      <balance>100.00</balance>
      <currency>GBP</currency>
   </RbsGiftCardTxn>

   <mode>TEST</mode>
   <time>1132843641</time>
</Response>
```

2.8.3.4 Redemption

The redemption transaction allows the merchant to collect funds from the gift card. An example redemption transaction is shown below:

Example Redemption Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">100.00</amount>
         <merchantreference>12345601</merchantreference>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>

      <RbsGiftCardTxn>
         <method>redeem</method>
         <Card>
            <pan>xxxxxxxxxxxxxxxx</pan>
            <accesscode>xxxxxxxx</accesscode>
            <expirydate>04/06</expirydate>
            <startdate>01/99</startdate>
            <Cv2Avs>
               <cv2>123</cv2>
            </Cv2Avs>
         </Card>
      </RbsGiftCardTxn>

   </Transaction>
</Request>
```

An example response to a redeem transaction where the card has sufficient funds to complete the transaction is shown below:

Example Redemption Response where card has sufficient funds

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <merchantreference>12345601</merchantreference>
  <reason>ACCEPTED</reason>

  <RbsGiftCardTxn>
    <authcode>100000</authcode>
    <balance>100.00</balance>
  </RbsGiftCardTxn>

  <mode>TEST</mode>
  <time>1132843641</time>
</Response>
```

The remaining balance is presented in the response XML as shown above.

Where the card contains insufficient funds, the response is slightly different. The available funds on the Gift Card will be deducted and the XML response will contain a negative balance. The negative balance will specify the difference between the requested amount and the card balance i.e. the outstanding balance required to complete the transaction.

The response below illustrates a negative balance being returned:

Example Redemption Response where card has insufficient funds

```
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <merchantreference>12345601</merchantreference>
  <reason>ACCEPTED</reason>

  <RbsGiftCardTxn>
    <authcode>100000</authcode>
    <balance>-41.00</balance>
  </RbsGiftCardTxn>

  <mode>TEST</mode>
  <time>1132843641</time>
</Response>
```

Where a negative balance is returned, the merchant must submit another transaction request using another card (either Gift Card or Credit/Debit card) to secure the outstanding balance.

See the developers guide for information on processing Credit / Debit card transactions.

2.8.3.5 Refunds

The refund transaction allows the merchant to refund the gift card. An example refund transaction is shown below:

Example Refund Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">10.59</amount>
         <merchantreference>12345601</merchantreference>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>

      <RbsGiftCardTxn>
         <method>refund</method>
         <Card>
            <pan>xxxxxxxxxxxxxxxx</pan>
            <accesscode>xxxxxxxx</accesscode>
            <expirydate>04/06</expirydate>
            <startdate>01/99</startdate>
         </Card>
      </RbsGiftCardTxn>

   </Transaction>
</Request>
```

An example response to a successful refund transaction is shown below:

Example Refund Response

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>12345601</merchantreference>
   <reason>ACCEPTED</reason>

   <RbsGiftCardTxn>
      <authcode>100000</authcode>
      <balance>100.00</balance>
   </RbsGiftCardTxn>

   <mode>TEST</mode>
   <time>1132843641</time>
</Response>
```

Note: the response formatting is identical to that for redemption transactions.

2.8.3.6 Txn Refunds

The txn_refund transaction allows the merchant to refund the gift card with a maximum amount equal to that contained within the original redemption transaction as identified by the 'reference' provided in the XML.

Note that where multiple txn_refund transactions are submitted against the same redemption, the sum of the refunded amounts must not exceed the originally authorised amount.

An example txn_refund transaction is shown below:

Example txn_refund Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount>10.59</amount>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>

      <RbsGiftCardTxn>
         <method>txn_refund</method>
         <reference>4100900012345675</reference>
      </RbsGiftCardTxn>

   </Transaction>
</Request>
```

If the amount is not provided, the amount refunded will be that of the original redemption transaction. Note that 'currency' is not permitted in a txn_refund.

An example response to a txn_refund is provided below:

Example txn_refund Response

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <status>1</status>
   <merchantreference>4000900012345670</merchantreference>
   <reason>ACCEPTED</reason>

   <RbsGiftCardTxn>
      <authcode>100000</authcode>
      <balance>100.00</balance>
   </RbsGiftCardTxn>

   <mode>TEST</mode>
   <time>1132843641</time>
</Response>
```

The 'merchantreference' returned in response to a txn_refund is the 'datacash_reference' of the original redemption transaction.

2.8.3.7 Unsuccessful Transactions

In the event of an unsuccessful transaction (where a valid response is received indicating failure at RBS), the balance may be returned, and additional data provided in the response message may be returned in the information field.

An example of an unsuccessful transaction can be seen below:

Example Response for a Unsuccessful Transaction

```
<Response>
   <datacash_reference>4000900012345672</datacash_reference>
   <status>7</status>
   <merchantreference>12345602</merchantreference>
   <reason>DECLINED</reason>

   <RbsGiftCardTxn>
      <balance>5.25</balance>
   </RbsGiftCardTxn>

   <information>CARD EXPIRED</information>
   <mode>TEST</mode>
   <time>1132843641</time>
</Response>
```

2.8.3.8 Invalid Transactions

In the event of a transaction being rejected by the DPG without going to RBS for processing, the RbsGiftCardTxn block will not be returned. A suitable status code and simple message will be returned, with additional details in the information field. This is in-line with the existing DataCash response format.

For example:

Example Response for a Invalid Transaction

```
<Response>
   <datacash_reference>4000900012345672</datacash_reference>
   <status>631</status>
   <merchantreference>12345602</merchantreference>
   <reason>Inappropriate card number</reason>
   <information>The card provided is not an RBS Gift
    Card</information>
   <mode>TEST</mode>
   <time>1132843641</time>
</Response>
```

Such responses will be received if the XML submitted contains unexpected elements, has missing elements or the data contained within those elements has failed to meet the validation rules.

2.8.3.9 Failed Transactions

A failed transaction is one where an attempt to submit a request to RBS was made, but a communication error has rendered the outcome either failed or unknown.

An example of a failed transaction is given below for completeness:

Example Response for a Failed Transaction

```
<Response>
   <datacash_reference>4000900012345672</datacash_reference>
   <status>6</status>
   <merchantreference>12345602</merchantreference>
   <reason>BANK DID NOT REPLY</reason>
   <mode>TEST</mode>
   <time>1132843641</time>
</Response>
```

2.8.3.10 Notes

2.8.3.10.1 Accesscode

This element is optional and if presented must be 8 digits in length. If provided, the ‘accesscode’ must match that held against the account otherwise the transaction will be declined.

2.8.3.10.2 Capturemethod

This can be one of ‘ecomm’ or ‘cnp’ for RBS Gift Card transactions. If this is not specified, the capturemethod will be set by determining the environment of a terminal configured on your account which is capable of processing the card and currency combination specified in the transaction.

Note that the ‘capturemethod’ is mandatory if the account is configured with multiple merchant ID environments.

2.8.4 *PrePay Technology (PPT)*

2.8.4.1 Summary of Service

The PrePay Technology service (hereafter referred to as PPT) provides the ability to perform a number of transaction types against PPT gift cards:

- Top Ups: To load the PPT gift card with funds
- Redemptions: To perform an authorization against the PPT gift card
- Refunds: To refund an amount to the PPT gift card
- Balance Enquiries: To determine the remaining balance on the PPT gift card
- Reversals: Reverse a previous top up, redemption or refund on the PPT gift card
- txn_refunds: To refund an amount to the card based on a previously authorized redemption.

PPT transactions can be performed in ecommerce or cardholder not present environments. Alternatively PPT cards can be swiped or keyed into a card terminal.

2.8.4.2 Schema Elements for Request

Element Name:	`PPTCardTxn`
Position:	`Request.Transaction`

Elements of PPTCardTxn

Element Name	Description	Values / Limitations	Required

`method`	The method of the transaction	`top_up`
		`redeem`
		`refund`
		`balance_enquiry`
		`reversal`
		`txn_refund`
			R

`pan`	The PPT card number. Element used for “ecomm”, “cnp” and “keyed” capturemethods.	The PPT card number	M
`pin`	A Pin number can optionally be supplied when performing “top-up”, “redeem” and “balance_enquiry” transactions.	4 digit pin number	O

reference	The datacash reference of the related transaction. This element is only valid for "reversal" or "txn_refund" methods.	Datacash reference of the related transaction	M
merchantreference	If subscribed to the merchant reference cancellations service, a "reversal" may be invoked with this element instead of reference	Merchant reference of the related transaction	O
card_details	For the "swiped" capturemethod only, this element is used instead of pan.	The track2 information from the PPT gift card	M
Terminal	For PPT transactions using a terminal ("keyed", "swiped" capturemethods), this element should be present.	See section 2.7.1.1.3	M

2.8.4.3 Schema Elements for Response

Element Name: PPTCardTxn
Position: Response

Elements of PPTCardTxn		
Element Name	**Description**	**Values / Limitations**
Authcode	The authcode of the transaction, this element can also contain messages from PPT e.g "INVALID PIN".	
card_activated	PPT may return information in their authorisation response that indicates that a card has been activated as a result of the transaction. This element will only be included where card activation has occurred.	"yes"
Balance	The balance remaining on the PPT gift card following the transaction, returned with major and minor units (i.e 0.00).	

2.8.4.4 Top Ups

Top up transactions are used to load funds onto the PPT gift card. An example of a "swiped" top up request is shown below:

Example PPT Top Up Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">100.00</amount>
         <merchantreference>12345601</merchantreference>
         <capturemethod>swiped</capturemethod>
      </TxnDetails>

      <PPTCardTxn>
         <Terminal id="xxxxxxxx">
            <terminal_capabilities ic_reader="true"
            magnetic_stripe_reader="true"
            manual_card_entry="true"/>
            <features_capabilities pin_pad_available="true"/>
         </Terminal>
         <method>top_up</method>
         <card_details
         type="track2">xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</card_det
         ails>
         <pin>xxxx</pin>
      </PPTCardTxn>

   </Transaction>
</Request>
```

An example of a DataCash response to a top up request is shown below. Note that in this case, this was the first use of the gift card and so the "card_activated" element is present.

Example PPT Top Up Response

```
<Response>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <currency>GBP</currency>
   <datacash_reference>4000900012345671</datacash_reference>
   <merchantreference>12345601</merchantreference>
      <PPTCardTxn>
      <authcode>100000</authcode>
      <balance>100.00</balance>
      <card_activated>yes</card_activated>
   </PPTCardTxn>
      <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.5 Redemption

Redeem transactions are used to authorise fund removal from the gift card. An example of a “keyed” redemption request is shown below:

Example PPT Redemption Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">40.00</amount>
         <merchantreference>12345602</merchantreference>
         <capturemethod>keyed</capturemethod>
      </TxnDetails>

      <PPTCardTxn>
         <Terminal id="xxxxxxxx">
            <terminal_capabilities ic_reader="true"
magnetic_stripe_reader="true" manual_card_entry="true"/>
            <features_capabilities pin_pad_available="true"/>
         </Terminal>
         <method>redeem</method>
         <pan>xxxxxxxxxxxxxxxx</pan>
         <pin>xxxx</pin>
      </PPTCardTxn>

   </Transaction>
</Request>
```

Note that the “pin” element is optional.

An example of a response to the above request is shown below:

Example PPT Redemption Response

```
<Response>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <currency>GBP</currency>
   <datacash_reference>4800900012345672</datacash_reference>
   <merchantreference>12345602</merchantreference>

   <PPTCardTxn>
      <authcode>100000</authcode>
      <balance>60.00</balance>
   </PPTCardTxn>

   <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.6 Refunds

Refund transactions are used to refund an amount to the gift card, where the refund doesn’t relate to an existing redemption on that gift card. An example of an e-commerce refund request is shown below:

Example PPT Refund Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">30.00</amount>
         <merchantreference>12345603</merchantreference>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>

      <PPTCardTxn>
         <method>refund</method>
         <pan>xxxxxxxxxxxxxxxx</pan>
      </PPTCardTxn>

   </Transaction>
</Request>
```

An example response to the above transaction is shown below:

Example PPT Refund Response

```
<Response>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <currency>GBP</currency>
   <datacash_reference>4800900012345673</datacash_reference>
   <merchantreference>12345603</merchantreference>

   <PPTCardTxn>
      <authcode>100000</authcode>
      <balance>90.00</balance>
   </PPTCardTxn>

   <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.7 Balance Enquiries

Balance enquiries are used query the amount of funds on the gift card. An example of an e-commerce balance enquiry request is shown below:

Example PPT Balance Enquiry Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <merchantreference>12345604</merchantreference>
         <capturemethod>ecomm</capturemethod>
      </TxnDetails>

      <PPTCardTxn>
         <method>balance_enquiry</method>
         <pan>xxxxxxxxxxxxxxxx</pan>
      </PPTCardTxn>

   </Transaction>
</Request>
```

An example response to the above transaction is shown below:

Example PPT Balance Enquiry Response

```
<Response>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <currency>GBP</currency>
   <datacash_reference>4800900012345674</datacash_reference>
   <merchantreference>12345604</merchantreference>

   <PPTCardTxn>
      <authcode>100000</authcode>
      <balance>90.00</balance>
   </PPTCardTxn>

   <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.8 Reversals

Reversals can be used to reverse a previous top up, redemption or refund on the PPT gift card, by using the `datacash_reference` (supplied in the response of the previous transaction). An example of an e-commerce reversal request is shown below:

Example PPT Reversal Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>

      <PPTCardTxn>
         <method>reversal</method>
         <reference>4800900012345673</reference>
      </PPTCardTxn>

   </Transaction>
</Request>
```

An example response to the above transaction is shown below:

Example PPT Reversal Response

```
<Response>
   <reason reversal="success">ACCEPTED</reason>
   <status>1</status>
   <currency>GBP</currency>
   <datacash_reference>4800900012345675</datacash_reference>
   <information>Reversal ACCEPTED status=1
authcode=100000</information>

   <PPTCardTxn>
      <authcode>100000</authcode>
      <balance>60.00</balance>
   </PPTCardTxn>

   <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.9 Txn_refunds

Txn_Refund transactions are used to refund an amount to the gift card, where the refund relates to an existing redemption on that gift card. The refund may be for the full amount of the transaction, or a partial amount (if the amount element is missing then the full amount will be assumed).

An example of an e-commerce `txn_refund` request is shown below:

Example PPT Txn_Refund Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">10.59</amount>
      </TxnDetails>

      <PPTCardTxn>
         <method>txn_refund</method>
         <reference>4800900012345672</reference>
      </PPTCardTxn>

   </Transaction>
</Request>
```

An example response to the above transaction is shown below:

Example PPT Txn_Refund Response

```
<Response>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <currency>GBP</currency>
   <datacash_reference>4800900012345675</datacash_reference>
   <merchantreference>12345602</merchantreference>

   <PPTCardTxn>
      <authcode>100000</authcode>
      <balance>79.41</balance>
   </PPTCardTxn>

   <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.10 Unsuccessful Transactions

2.8.4.10.1 Declined

In the event of a decline by PPT, the balance may or may not be returned, for example:

Example of a PPT Decline response

```
<Response>
   <reason>DECLINED</reason>
   <status>7</status>
   <currency>GBP</currency>
   <datacash_reference>4800900012345672</datacash_reference>
   <merchantreference>12345602</merchantreference>

   <PPTCardTxn>
      <authcode>DECLINED</authcode>
      <balance>5.25</balance>
   </PPTCardTxn>

   <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.10.2 Pin Mismatch

This scenario follows the same format as a `Decline` above, however the reason field indicates why the transaction was declined, for example:

Example of a PPT PIN mismatch response

```
<Response>
   <reason>PIN MISMATCH</reason>
   <status>7</status>
   <currency>GBP</currency>
   <datacash_reference>4800900012345672</datacash_reference>
   <merchantreference>12345602</merchantreference>

   <PPTCardTxn>
      <authcode>PIN MISMATCH 010000010000</authcode>
      <balance>5.25</balance>
   </PPTCardTxn>

   <mode>TEST</mode>
   <time>_UNIX_TIME_</time>
</Response>
```

2.8.4.11 Invalid Transactions

In the event of a transaction being rejected by the DPG without going to PPT for processing, the `PPTCardTxn` block will not be returned. A suitable status code and simple message will be returned, with additional details in the `information` field. It may not be possible to include currency information in such transactions. For example:

Example of a response to an Invalid PPT transaction

```
<Response>
   <datacash_reference>4000900012345672</datacash_reference>
   <status>492</status>
   <merchantreference>12345602</merchantreference>
   <reason>PPT: Inappropriate Request Element</reason>
   <information>Field LINEITEMDETAIL may not be included in a PPT 
transaction</information>
   <mode>TEST</mode>
   <time>1132843641</time>
</Response>
```

2.8.4.12 Failed Transactions

A failed transaction will be one where an attempt to submit a request to PPT was made, but a communication error has rendered the outcome either failed or unknown.

On behalf of a merchant, DataCash issue an automatic reversal in this case, and the `reversed` element is used to indicate whether the reversal was successful. This will only be applicable only to error 6 responses.

Elements of Response		
Element Name	**Description**	**Values / Limitations**

`reversed`	Indicates whether an automatic reversal issued by DataCash in the event of a communications failure was successful.	`Y – The original transaction was reversed`
		`N – The original transaction did not reach the acquirer so was not reversed`
		`F – A reversal was attempted but failed`

In the event of a `reversed` flag of `F`, it is not possible for DataCash to know the status of the transaction, and the merchant will have to investigate further with PPT. For example:

Example of DataCash Response on PPT communications failure

```
<Response>
  <datacash_reference>4000900012345672</datacash_reference>
  <status>6</status>
  <merchantreference>12345602</merchantreference>
  <reason>BANK DID NOT REPLY</reason>
  <information>Reversal attempt FAILED</information>
  <reversed>F</reversed>
  <currency>EUR</currency>
  <mode>TEST</mode>
  <time>1132843641</time>
</Response>
```

2.8.5 *Currency Conversion Service*

2.8.5.1 Summary of Service

Transactions placed using the Currency Conversion Service can charge a bank card in the currency of the account that the cardholder uses rather than the currency of the merchant processing the transaction. The amount charged to the customer is calculated using exchange rates provided by the merchant.

2.8.5.2 Schema Elements for Request

Element Name:	`CurrencyConversionTxn`
Position:	`Request.Transaction.TxnDetails`

Elements of CurrencyConversionTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
`exchange_currency`	The currency used by the card	Valid ISO 4217 alphabetic currency code	R
`exchange_amount`	The amount provided for the transaction in the exchange currency.		R
`exchange_rate`	The exchange rate provided for the transaction	Must contain a decimal point, and contain no more than 5 decimal places. The exchange rate goes from base -> exchange currency: base_amount x exchange_rate = exchange_amount	R

Whenever the CurrencyConversionTxn block is present in an XML transaction, the currency attribute of Request.Transaction.TxnDetails.amount is mandatory.

Note that Dynamic Currency Conversion (DCC) transactions can only be supplied in bank card transactions where the transaction method is either “auth”, “pre”, or “refund”. A “fulfil” after a DCC “pre” should not contain any DCC information.

2.8.5.3 Example XML Request

The following is an example authorisation. Note that the base amount and currency is specified in the amount element.

For example:

Example of a Currency Conversion Service Authorisation Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">100.00</amount>
      <merchantreference>12345601</merchantreference>
      <capturemethod>ecomm</capturemethod>

      <CurrencyConversionTxn>
        <exchange_currency>USD</exchange_currency>
        <exchange_amount>200.00</exchange_amount>
        <exchange_rate>2.0000</exchange_rate>
      </CurrencyConversionTxn>

    </TxnDetails>
    <CardTxn>
      <method>auth</method>
      <Card>
        <pan>xxxxxxxxxxxxxxxx</pan>
        <expirydate>12/15</expirydate>
      </Card>
    </CardTxn>
  </Transaction>
</Request>
```

2.8.5.4 Schema Elements for Response

Element Name:	`CurrencyConversionTxn`
Position:	`Response`

Elements of CurrencyConversionTxn		
Element Name	**Description**	**Values / Limitations**
`base_amount`	The amount that the merchant has requested for the transaction in their currency	
`exchange_currency`	The currency used by the card	Valid ISO 4217 alphabetic currency code
`exchange_amount`	The amount provided for the transaction in the exchange currency	
`exchange_rate`	The exchange rate provided for the transaction	Must contain a decimal point, and contain no more than 5 decimal places

2.8.5.5 Example XML Response

The following is an example of a response following a successful authorisation.

For example:

Example of a Currency Conversion Service Authorisation Response

```
<Response>
  <CurrencyConversionTxn>
    <base_amount currency=”GBP”>100.00</base_amount>
    <exchange_currency>USD</exchange_currency>
    <exchange_amount>200.00</exchange_amount>
    <exchange_rate>2.0000</exchange_rate>
  </CurrencyConversionTxn>
  <CardTxn>
    <authcode>100000</authcode>
    <card_scheme>VISA</card_scheme>
    <country>United Kingdom</country>
  </CardTxn>
  <datacash_reference>4800903000000001</datacash_reference>
  <merchantreference>1000000</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>...</time>
</Response>
```

2.8.6 *Fexco Dynamic Currency Conversion*

2.8.6.1 Summary of service

This service allows merchants to take international payments via Fexco's third party Dynamic Currency Conversion (herin referred to as DCC) product.

Transactions placed using the DCC service can charge a bank card in the currency of the account that the cardholder uses rather than the currency of the merchant processing the txn. The amount changed to the customer is calculated using exchange rates provided by Fexco to the merchant.

This service is deprecated in favour of the Currency Conversion Service (2.8.5).

2.8.6.2 Schema Elements for Request

Element Name:	`FexcoDCC`
Position:	`Request.Transaction.TxnDetails`

Elements of FexcoDCC			
Element Name	**Description**	**Values / Limitations**	**Required**
`BaseCurrency`	The currency that the merchant usually trades in	Valid ISO 4217 alphabetic currency code	R
`BaseAmount`	The amount that the merchant has requested for the transaction		R
`ExchangeRate`	The exchange rate provided by FEXCO for the transaction	Must contain a decimal point, and contain no more than 5 decimal places	R

Whenever the FexcoDCC block is present in an XML transaction, the currency attribute of Request.Transaction.TxnDetails.amount is mandatory.

Note that Fexco DCC transactions can only be supplied in bank card transactions where the transaction method is either "auth" or "pre".

The Fexco DCC service is compatiable with both DataCash MPI and Third Party MPI 3-D Secure transactions. In order to use the Fexco DCC service with these services, the FexcoDCC element must only be supplied in the initial stage (Where the transaction method is "auth" or "pre").

In the case of Airlines transactions, the per-passenger ticket prices can be in either the DCC (Post conversion) currency or the Base (Pre conversion) currency. No cross check on the totalling of these values against the transaction amount will be made for DCC transactions in the DPG.

2.8.6.3 Example Transaction

The following is an example authorisation. Note that the post conversion amount and currency is specified in the amount element.

For example:

Example of a Fexco DCC Authorisation Request

```
<Request>
   <Authentication>
      <client>xxxxxxxx</client>
      <password>xxxxxxxx</password>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="USD">200.00</amount>
         <merchantreference>12345601</merchantreference>
         <capturemethod>ecomm</capturemethod>

         <FexcoDCC>
            <BaseCurrency>GBP</BaseCurrency>
            <BaseAmount>100.00</BaseAmount>
            <ExchangeRate>2.0000</ExchangeRate>
         </FexcoDCC>

      </TxnDetails>
      <CardTxn>
         <method>auth</method>
         <Card>
            <pan>xxxxxxxxxxxxxxxx</pan>
            <expirydate>12/15</expirydate>
         </Card>
      </CardTxn>
   </Transaction>
</Request>
```

2.8.7 *Bankcard Query Transactions*

2.8.7.1 Service Overview

The Query Transaction service makes it possible to retrieve details of a previous Bankcard transaction by sending a request to the DataCash Payment Gateway. In addition to regular bankcard transactions, the service may be used to retrieve details for Fuels, RBS Giftcard and PPT transactions.

No additional subscription is required by merchants to use this service.

See also:

- BatchInput Query Transactions – section 6.6.2.3
- HCC Query Transactions – section 2.2.8.4.2
- HPS Query Transactions – section 2.2.9

Additional uses for the `query` transaction are outlined in the FAQ: https://datacash.custhelp.com/cgi-bin/datacash.cfg/php/enduser/std_adp.php?p_faqid=1037/

2.8.7.2 Schema Elements For Request

- `Request`
    - `Authentication –` section 2.2.1.1
    - `Transaction`
        - `HistoricTxn` – see section 2.6.2.3.2.1.

Elements of HistoricTxn			
Element Name	**Description**	**Values / Limitations**	
`method`	The transaction type	`query`	R
`reference`	The reference of the transaction to be queried	DataCash or Merchant Reference of a previous Bankcard transaction on the same client. If the Merchant Reference is used, only the details for the most recent transaction with that reference will be returned.	R

Attributes for Elements of HistoricTxn			
Attribute Name	**Attribute of Element**	**Values / Limitations**	
type	reference	datacash (default) merchant	O

Example XML Request for HistoricTxn complex elements

```
<HistoricTxn>
   <reference>3900900100010001</reference>
   <method>query</method>
</HistoricTxn>

<HistoricTxn>
   <reference type="merchant">abc12345678</reference>
   <method>query</method>
</HistoricTxn>
```

2.8.7.3 XML Example - Bankcard Query Transaction

Example XML Bankcard Query

```
<Request>
   <Authentication>
      <password>*****</password>
      <client>99000001</client>
   </Authentication>
   <Transaction>
      <HistoricTxn>
         <method>query</method>
         <reference>3900900100010001</reference>
      </HistoricTxn>
   </Transaction>
</Request>
```

2.8.7.4 Schema Elements for Bankcard Query Response

Element Name:	`QueryTxnResult`
Position:	`Response`

The `QueryTxnResult` complex element contains the retrieved details for the transaction reference provided in the request. The contents of the following elements all relate to the original transaction being queried, and not the query transaction itself.

Elements of QueryTxnResult

Element Name	Description
`Card`	Complex element containing details of the payment card used
`ThreeDSecure`	Complex element containing 3-D Secure details from the original transaction – only present where the original transaction used 3-D Secure
`acquirer`	Acquiring bank
`authcode`	Bank authorisation response
`datacash_reference`	DataCash reference
`environment`	Processing environment
`fulfill_date`	Date of fulfillment
`merchant_reference`	Merchant reference
`reason`	DataCash response message. For a 'duplicate transaction' reason this will also contain the DataCash reference of the original, which may then be queried.
`sent`	Sent status – indicates whether the transaction was sent for settlement
`status`	DataCash response code
`transaction_date`	Date of processing by DPG

Elements of Card

Element Name	Description
`expirydate`	Expiry date
`issuenumber`	Issue number or start date if available
`pan`	Card number (masked)

Elements of ThreeDSecure	
Element Name	**Description**
eci	ECI
security_code	CAVV
transactionID	XID

Example XML Response for QueryTxnResult complex elements

```
<QueryTxnResult>
  <Card>
    <expirydate>1214</expirydate>
    <pan>444433******1111</pan>
  </Card>
  <acquirer>natwest</acquirer>
  <authcode>100000</authcode>
  <datacash_reference>4000900012345671</datacash_reference>
  <environment>ecomm</environment>
  <fulfill_date>2009-12-08 11:35:48</fulfill_date>
  <merchant_reference>123401</merchant_reference>
  <reason>ACCEPTED</reason>
  <sent>1</sent>
  <status>1</status>
  <transaction_date>2009-12-08 11:35:48</transaction_date>
</QueryTxnResult>

<QueryTxnResult>
  <Card>
    <expirydate>0120</expirydate>
    <issuenumber>0101</issuenumber>
    <pan>633300******0005</pan>
  </Card>
  <ThreeDSecure>
    <eci>11</eci>
    <security_code>Q0FWVkNBVlZDQVZWQ0FWVkNBVlY=</security_code>
    <transactionID>MDAwMDAwMDAwMDAwMTIzNDU2NzE=</transactionID>
  </ThreeDSecure>
  <acquirer>natwest</acquirer>
  <authcode>100000</authcode>
  <datacash_reference>4000900012345671</datacash_reference>
  <environment>ecomm</environment>
  <fulfill_date>2009-12-08 11:56:53</fulfill_date>
  <merchant_reference>4421000008</merchant_reference>
  <reason>ACCEPTED</reason>
  <sent>1</sent>
  <status>1</status>
  <transaction_date>2009-12-08 11:56:53</transaction_date>
</QueryTxnResult>
```

2.8.7.5 XML Example - Bankcard Query Responses

Example XML Response for successful Query Txn

```
<Response>
  <QueryTxnResult>
    <Card>
      <expirydate>0120</expirydate>
      <issuenumber>0101</issuenumber>
      <pan>633300******0005</pan>
    </Card>
    <ThreeDSecure>
      <eci>11</eci>
      <security_code>Q0FWVkNBVlZDQVZWQ0FWVkNBVlY=</security_code>
      <transactionID>MDAwMDAwMDAwMDAwMTIzNDU2NzE=</transactionID>
    </ThreeDSecure>
    <acquirer>natwest</acquirer>
    <authcode>100000</authcode>
    <datacash_reference>4000900012345671</datacash_reference>
    <environment>ecomm</environment>
    <fulfill_date>2009-12-08 11:56:53</fulfill_date>
    <merchant_reference>4421000008</merchant_reference>
    <reason>ACCEPTED</reason>
    <sent>1</sent>
    <status>1</status>
    <transaction_date>2009-12-08 11:56:53</transaction_date>
  </QueryTxnResult>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1260273415</time>
</Response>
```

Example XML Response for unsuccessful Query Txn

```
<Response>
  <datacash_reference>4100900012345675</datacash_reference>
  <information>The transaction you are querying
    cannot be located</information>
  <mode>TEST</mode>
  <reason>Cannot locate transaction to query</reason>
  <status>274</status>
  <time>1260274296</time>
</Response>
```

2.8.8 *vTID Configuration Transactions*

2.8.8.1 Service Overview

The vTID Configuration service allows for the changing or generation of a new password for a vTID by submitting a transaction to the DataCash Payment Gateway. This service is constrained to transactions received from IP addresses specified in vTID IP filtering for the vTID being configured.

No additional subscription is required by merchants to use this service.

2.8.8.2 Schema Elements For Request

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `VtidConfigurationTxn` – contains the transaction type/method, section 2.8.8.2.1
      - `Password` – the new password, section 2.8.8.2.2

2.8.8.2.1 VtidConfigurationTxn

This element must be present with all transactions.

Element Name:	`VtidConfigurationTxn`
Position:	`Request.Transaction.VtidConfigurationTxn`

Elements of VtidConfigurationTxn			
Element Name	**Description**	**Values / Limitations**	
`Password`	See section 2.8.8.2.2		R
`method`	The transaction type	`vtidconfiguration`	R

2.8.8.2.2 Password

This element must be present with all transactions

Element Name:	`Password`
Position:	`Request.Transaction.VtidConfigurationTxn.Password`

Elements of Password		
Element Name	**Description**	**Values / Limitations**

`new_password`	The password to be assigned to the vTID.	May be blank in order to have the DataCash Payment Gateway generate a vTID password. Alternatively, a password may be specified and must meet the following specifications. • More than 8 characters • Made up of a combination of at least 2 of lowercase, uppercase, numeric and special characters. • Dissimilar to the current password. • Not too simplistic or repetitive. • Not contain whole or partial words from the dictionary.	R

Example XML Request for VtidConfigurationTxn with specified password

```
<VtidConfigurationTxn>
  <method>vtidconfiguration</method>
  <Password>
    <new_password>########</new_password>
  </Password>
</VtidConfigurationTxn>
```

2.8.8.3 Example XML Requests

Example XML Request for VtidConfigurationTxn for password generation

```
<Request>
  <Authentication>
    <password>...</password>
    <client>88008800</client>
  </Authentication>
  <Transaction>
    <VtidConfigurationTxn>
      <method>vtidconfiguration</method>
      <Password>
        <new_password/>
      </Password>
    </VtidConfigurationTxn>
  </Transaction>
</Request>
```

2.8.8.4 Schema Elements for Response

In the XML Response, there will be one additional element. The standard elements are outlined in section 2.1.1.3

Elements of Response

Element Name	Description
new_password	Contains the specified or generated password as acknowledgement that the password has been modified.

Example XML Response for VtidConfigurationTxn

```
<Response>
   <datacash_reference>4000900012345671</datacash_reference>
   <merchantreference>123400</merchantreference>
   <new_password>########</new_password>
   <reason>ACCEPTED</reason>
   <status>1</status>
   <time>1286959241</time>
</Response>
```

2.8.9 *PreCall Transaction*

2.8.9.1 Service Overview

The PreCall service analyses the input field (detailed below) and applys a set of rules to this information in order to determine the payment methods that are available for this particular transaction. The supported methods of payment are returned in the response. The rules applied to the input are configurable. Contact DataCash for more information regarding this service and to discuss the configuration of these rules.

2.8.9.2 Schema Elements for Request

2.8.9.2.1 Authentication

Element Name:	Authentication
Position:	Request

Elements of Authentication	
Element Name	**Description**
client	This is the vTID which has been configured for you by DataCash support.
password	This is the SHA1 hash, generated using the shared secret agreed with DataCash support. The SHA1 hash is generated by concatenating your vTID, client_reference and shared secret together and hashing the resultant string using SHA1.

2.8.9.2.2 Txn Details

Element Name:	`TxnDetails`
Position:	`Request.Transaction`

Elements of TxnDetails	
Element Name	**Description**
`amount`	This is the decimal amount of the transaction. The currency attribute must be provided as a 3 letter currency code. (See Example XML)
`merchantreference`	This is your unique reference for the transaction which can be up to 30 characters.

2.8.9.2.3 PreCall Txn

Element Name:	`PreCallTxn`
Position:	`Request.Transaction`

Elements of PreCallTxn	
Element Name	**Description**
`method`	Currently, the only supported method is “precall”, and you should populate this field with the latter value.

2.8.9.2.4 Client Data

Element Name:	`ClientData`
Position:	`Request.Transaction.PreCallTxn`

Elements of ClientData	
Element Name	**Description**
`client_reference`	This your reference for the PreCall transaction which can be used as part of the rule application process.
`client_order_id`	This is your reference of the customer order for which this transaction is being submitted.
`client_billing_id`	This is your client billing id reference.

client_pos	This is the point of sale or office identifier for the location in which the transaction is taking place.
client_country	The 2 letter country code in which the transaction is taking place.
client_site	The URI for the website from which the transaction originated. E.g. www.example.com

2.8.9.2.5 Custom Client Fields

Element Name:	CustomClientFields
Position:	Request.Transaction.PreCallTxn.ClientData

This block can be used to provide additional / custom client data on agreement with DataCash support.

Elements of CustomClientFields	
Element Name	**Description**
reference_1	To be agreed with DataCash.
reference_2	To be agreed with DataCash.
reference_3	To be agreed with DataCash.
reference_4	To be agreed with DataCash.

2.8.9.2.6 Order Details

Element Name:	OrderDetails
Position:	Request.Transaction.PreCallTxn

Elements of OrderDetails	
Element Name	**Description**
order_date_time	This is the date and time when the order took place. This should be presented as an ISO8601 formatted timestamp. E.g. 2011-01-14T14:22:23+01:00
delivery_date_time	This is the date and time when the goods/service will be delivered. If this transaction is related to the sale of Airline tickets, this is the time of flight. This should be presented as an ISO8601 formatted timestamp. E.g. E.g. 2011-01-14T14:22:23+01:00
billing_country	This is the country in which the customer will be billed.

customer_logged_in	Indicates whether or not the customer is an existing account holder, and was logged into this account at the time of the transaction.
sales_channel	The channel through which this transaction took place. E.g. ecommerce.
customer_ip_address	The IP address of the customer.
customer_language	The customers preferred language.

2.8.9.2.7 Airline Details

Element Name:	AirlineDetails
Position:	Request.Transaction.PreCallTxn

Elements of AirlineDetails	
Element Name	**Description**
airline_country	This is the two letter country code of the country in which the customer will be billed.
airline_booking_type	E.g. BOOK
customer_level	The customer loyalty level.
Legs	Contains up to 16 Leg elements representing each individual Leg of a journey.

2.8.9.2.8 Legs

The Legs complex element can contain up to 16 Leg elements. Each Leg element represents an individual leg of the overall journey. The Leg element is described below:

Element Name:	Leg
Position:	Request.Transaction.PreCallTxn.AirlineDetails.Legs

Elements of Leg	
Element Name	**Description**
depart_airport	This is the 3 letter IATA airport code for the departure airport.
depart_city	This is the 3 letter city code for the departure city.
depart_state	The departure state if applicable.
depart_country	This is the two letter country code for the departure country.
carrier	This is the 2 letter IATA airline code for the carrier.

`arrival_airport`	This is the 3 letter IATA airport code for the arrival/destination airport.
`arrival_city`	This is the 3 letter city code for the arrival/destination city.
`arrival_state`	The arrival/destination state if applicable.
`arrival_country`	This is the two letter country code for the arrival/destination country.

Example XML Request for PreCall Txn

```
<Request>
  <Authentication>
  <password
    type="SHA1">df855a23df855a23df855a23df855a23df855a23</password>
    <client>88008800</client>
  </Authentication>
  <Transaction>
  <TxnDetails>
      <amount currency="EUR">1000.00</amount>
      <merchantreference>00001239</merchantreference>
  </TxnDetails>
  <PreCallTxn>
      <method>precall</method>
    <ClientData>
        <client_reference>00001239</client_reference>
            <client_order_id>order-15-2011</client_order_id>
            <client_billing_id>cust12358</client_billing_id>
            <client_pos>FRALH010Z</client_pos>
            <client_country>IT</client_country>
            <client_site>agent.com</client_site>
            <CustomClientFields>
                <reference_1>xyz</reference_1>
                <reference_2>xyz</reference_2>
                <reference_3>xyz</reference_3>
                <reference_4>xyz</reference_4>
            </CustomClientFields>
    </ClientData>
    <OrderDetails>
        <order_date_time>2011-01-14T14:22:23+01:00</order_date_time>
        <delivery_date_time>2011-03-
          25T14:30:00+01:00</delivery_date_time>
        <billing_country>DE</billing_country>
        <customer_logged_in>true</customer_logged_in>
        <sales_channel>ecommerce</sales_channel>
        <customer_ip_address>112.118.128.253</customer_ip_address>
        <customer_language>fr</customer_language>
    </OrderDetails>
    <AirlineDetails>
        <airline_country>DE</airline_country>
        <airline_booking_type>BOOK</airline_booking_type>
        <customer_level>SEN</customer_level>
        <Legs>
            <Leg>
              <depart_airport>JFK</depart_airport>
              <depart_city>NYC</depart_city>
              <depart_state>NY</depart_state>
              <depart_country>US</depart_country>
              <carrier>LH</carrier>
              <arrival_airport>HAM</arrival_airport>
              <arrival_city>HH</arrival_city>
              <arrival_state>HH</arrival_state>
              <arrival_country>DE</arrival_country>
            </Leg>
        </Legs>
    </AirlineDetails>
   </PreCallTxn>
  </Transaction>
  </Request>
```

2.8.9.3 Example Request / Response XML

The following represents an example PreCall request and response.

Example XML Response for PreCallTxn

```
<Response>
  <PreCallTxn>
     <ClientData>
        <client_reference>00001239</client_reference>
        <client_order_id>order-15-2011</client_order_id>
        <client_billing_id>cust12358</client_billing_id>
        <CustomClientFields>
            <reference_1>xyz</reference_1>
            <reference_2>xyz</reference_2>
            <reference_3>xyz</reference_3>
            <reference_4>xyz</reference_4>
        </CustomClientFields>
    </ClientData>
    <PaymentMethods>
      <payment_method type="wallet" valid_thru="2011-01-
        14T22:50:00+01:00" airline_fee_level="A001">PL</payment_method>
      <payment_method type="creditCard" valid_thru="2011-01-
        14T22:50:00+01:00" airline_fee_level="A002">CC</payment_method>
    </PaymentMethods>
  </PreCallTxn>
  <datacash_reference>4600900012345673</datacash_reference>
  <merchantreference>00001239</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>_UNIX_TIME_</time>
</Response>
```

2.9 Card Tokenization

An overview of the Card Tokenization Service is available on the website:
http://www.datacash.com/gettingproducts.php?id=Card-Tokenization/

2.9.1 *Schema Elements for Request*

In this section the required fields for each transaction type will be presented, along with example XML for those fields. The XML is presented in italics for those fields that are not required for all transaction types. If the transaction type is specified in the XML, this is highlighted in the cases where other transaction types can be used in its place.

As not all transaction types use the same fields, each field will be labelled with the following key:

- O - Optional
- R - Required, field must be presented
- X - Excluded, presenting this field will cause the transaction to fail
- M - Mandatory if Available, if the information is available, it should be presented

Please refer to the website for definitions of the transaction types and examples of when you may wish to implement them.

Generating a Token – during Payment

When subscribed to this service, any transaction which results in payment taken being taken from or refunded a card will automatically generate a token. There is no change to the data is passed for these transactions if the Merchant is using the default shared secret configured on their account.

If the Merchant is using sending a shared secret with the transaction (to be used instead of the default configured on their account, one additional element is required to supply this shared secret. For most payment types, this is passed within the Card, section 2.9.1.2.

Generating a Token – without payment

When generating a token without payment a `tokenize` transaction is used. Existing tokens may also be retokenized using a `retokenize` transaction. For both of these, data is passed in these distinct places in the schema:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TokenizeTxn` – the type and authorisation code, section 2.9.1.1
      - `Card` – this contains the card number or an existing token – section 2.9.1.1
    - `TxnDetails` - contains details of the transaction, section 2.2.1.1.3

Generating a Token – via query transaction

Tokens for card numbers which have existing transactions may be retrieved using the query transation. This may be used to generate tokens for cards processed before Card Tokenization was configured on the account, or to obtain existing tokens. There is no change to the format of the request, see section 2.9.1

Payments using Tokens

When using a Card Token to make a payment, much of the XML Request is the same as if the card details where being presented. However, in place of the card number the token is presented instead. The position of this element within the schema will varydepending upon the transaction type in question – as documented in section 2.9.1.2.

2.9.1.1 TokenizeTxn

This element is required for `tokenize` and `retokenize` transactions.

Element Name:	`TokenizeTxn`
Position:	`Request.Transaction`

Elements of TokenizeTxn

Element Name	Description	Values/Limitations	
`Card`	See section 2.9.1.2		R
`method`	The type of Token generation	`tokenize` `retokenize`	R
`shared_secret`	Overrides the VTIDs shared secret	a 20 character string containing digits (0 to 9) or letters drawn from the Standard English (upper case) alphabet (A to Z)	O

Example XML for TokenizeTxn element

```
<TokenizeTxn>
  <Card>...</Card>
  <method>tokenize</method>
</TokenizeTxn>

<TokenizeTxn>
  <Card>...</Card>
  <method>retokenize</method>
  <shared_secret>1234567890ABCDEFGHIJ</shared_secret>
</TokenizeTxn>
```

2.9.1.2 pan

This element is not a Parent element, but a child element of several parents in the schema. It is required for `tokenize`, `retokenize` and payments made using tokens.

Element Name:	`pan`

Position:	`Request.Transaction.CardTxn.Card`
	`Request.Transaction.DirectDebitTxn`
	`Request.Transaction.FuelCardTxn.Card`
	`Request.Transaction.RbsGiftCardTxn.Card`
	`Request.Transaction.TokenizeTxn.CardTxn.Card`
	`Request.Transaction.DirectcreditTxn`

The pan element			
Element Name	**Description**	**Values/Limitations**	**Required for**
`pan`	The card number, or token	If the value supplied is a token, the attribute must be set appropriately (see below).	All transaction types

Attributes for pan		
Attribute Name	**Values / Limitations**	**Required for**
`type`	`token` – used to indicate a token is being provided.	`retokenize` and payments using tokens
	`hps_token` – used to indicate a token is being used for an HCC setup collecting CV2 and expiry only	HCC `setup`

It should be noted that if the payment method you are using requires additional elements within the parent element (e.g. expirydate), these should continue to be presented as documented within the appropriate section of this Guide. No additional elements are required for `tokenize` and `retokenize`.

Example XML for Card element, for a retokenize transaction

```
<Card>
  <pan type="token">3C12DE55292A13227E14D92C6E8D8F4843D21654</pan>
</Card>
```

Example XML for Card element, for a tokenize transaction

```
<Card>
  <pan>4444333322221111</pan>
</Card>
```

Example XML for Card complex elements for a payment using a token

```
<Card>
  <pan type="token">3C12DE55292A13227E14D92C6E8D8F4843D21654</pan>
  <expirydate>01/49</expirydate>
</Card>
```

Example XML for Card complex elements for a payment using a token, where HCC is being used to collect the CV2 and expiry date

```
<Card>
  <pan type="hps_token">
     3C12DE55292A13227E14D92C6E8D8F4843D21654</pan>
</Card>
```

2.9.2 *Example XML Requests*

2.9.2.1 Tokenize

Example XML Request to tokenize a card, using the default shared secret configured on the account

```
<Request>
  <Authentication>
    <password>*****</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TokenTxn>
      <Card>
        <pan>4444333322221111</pan>
      </Card>
      <method>tokenize</method>
    </TokenTxn>
    <TxnDetails>
      <merchantreference>SO20138588-067824</merchantreference>
    </TxnDetails>
  </Transaction>
</Request>
```

Example XML Request to tokenize a card, providing a new shared secret with the transaction

```
<Request>
  <Authentication>
    <password>*****</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TokenTxn>
      <Card>
        <pan>4444333322221111</pan>
        <shared_secret>0123456789abcdeFGHIJ</shared_secret>
      </Card>
      <method>tokenize</method>
    </TokenTxn>
    <TxnDetails>
      <merchantreference>SO20138588-067824</merchantreference>
    </TxnDetails>
  </Transaction>
</Request>
```

Example XML Request to tokenize a swiped card, using the default shared secret configured on the account

```
<Request>
  <Authentication>
    <password>*****</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <TokenTxn>
      <Card>
        <card_details type='track2_data'>
NDQ0NDMzMzMyMjIyMTExMT0yODA5MjAxMDAMDAwMU...YfMA==</card_details>
      </Card>
      <method>tokenize</method>
    </TokenTxn>
    <TxnDetails>
      <merchantreference>SO20138588-067826</merchantreference>
    </TxnDetails>
</Transaction>
</Request>
```

2.9.2.2 Tokenization during Payment, default shared secret

Once Card Tokenization is configured on the Merchant account, the XML Requests for payment are unchanged if the Merchant wishes to use the default shared secret configured on the account.

2.9.2.3 Tokenization during Payment, providing shared secret

To be used if the Merchant wishes to provide a shared_secret with the payment

Example XML Request for Bank Card payment, providing a new shared secret with the transaction

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <CardTxn>
      <Card>
        <pan>4444333322221111</pan>
        <expirydate>01/49</expirydate>
      </Card>
      <method>auth</method>
      <shared_secret>1234567890ABCDEFGHIJ</shared_secret>
    </CardTxn>
    <TxnDetails>
      <merchantreference>10000023</merchantreference>
      <amount currency="GBP">95.99</amount>
     </TxnDetails>
  </Transaction>
</Request>
```

Example XML Request for Direct Credit cardaccountpayment, providing a new shared secret with the transaction

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>10397897589</merchantreference>
      <amount>59.00</amount>
    </TxnDetails>
    <DirectCreditTxn>
      <method>cardaccountpayment</method>
      <pan>545460######1510</pan>
      <shared_secret>1234567890ABCDEFGHIJ</shared_secret>
    </DirectCreditTxn>
   </Transaction>
</Request>
```

Example XML Request for Bank Card payment via HCC, providing a new shared secret with the transaction

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <CardTxn>
      <card_details type="from_hps">4900203023045857
        </card_details>
      <method>auth</method>
      <shared_secret>1234567890ABCDEFGHIJ</shared_secret>
    </CardTxn>
    <TxnDetails>
      <merchantreference>10000023</merchantreference>
      <amount currency="GBP">95.99</amount>
     </TxnDetails>
  </Transaction>
</Request>
```

2.9.2.4 Using Tokens for Payments

Example XML Request for Bank Card payment using a token

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <CardTxn>
      <Card>
        <pan
type="token">3C12DE55292A13227E14D92C6E8D8F4843D21654</pan>
        <expirydate>01/49</expirydate>
      </Card>
      <method>auth</method>
    </CardTxn>
    <TxnDetails>
      <merchantreference>10000023</merchantreference>
      <amount currency="GBP">95.99</amount>
     </TxnDetails>
  </Transaction>
</Request>
```

Example XML Request for Bank Card payment with 3-D Secure using a token

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <CardTxn>
      <Card>
        <pan
type="token">3C12DE55292A13227E14D92C6E8D8F4843D21654</pan>
        <expirydate>01/49</expirydate>
      </Card>
      <method>auth</method>
    </CardTxn>
    <TxnDetails>
      <merchantreference>10000023</merchantreference>
      <amount currency="GBP">95.99</amount>
      <ThreeDSecure>
        <verify>yes</verify>
        ...
      </ThreeDSecure>
     </TxnDetails>
  </Transaction>
</Request>
```

Example XML Request for Direct Credit cardaccountpayment using a token

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <DirectCreditTxn>
      <method>cardaccountpayment</method>
      <pan type="token">3C12DE55292A13227E14D92C6E8D8F4843D21654
           </pan>
    </DirectCreditTxn>
    <TxnDetails>
      <merchantreference>10000023</merchantreference>
      <amount currency="GBP">95.99</amount>
     </TxnDetails>
  </Transaction>
</Request>
```

Example XML Request for Fuel Card payment using a token

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">145.74</amount>
      <merchantreference>74927489270</merchantreference>
      <capturemethod>keyed</capturemethod>
    </TxnDetails>
    <FuelCardTxn>
      <method>fuel_validate</method>
      <Terminal id="22920006">
        <terminal_capabilities ic_reader="true"
          magnetic_stripe_reader="true" manual_card_entry="true"/>
        <features_capabilities pin_pad_available="true"/>
      </Terminal>
      <ICC>
        <term_type>22</term_type>
      </ICC>
      <Card>
        <pan type="token">59307422C194A22332160C850F415A0164707908
          </pan>
        <expirydate>12/15</expirydate>
      </Card>
    </FuelCardTxn>
  </Transaction>
</Request>
```

Example XML Request for PPT using a token

```
<Request>
  <Authentication>
    <password>...</password>
    <client>...</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">145.74</amount>
      <merchantreference>74927489270</merchantreference>
      <capturemethod>keyed</capturemethod>
    </TxnDetails>
    <PPTCardTxn>
      <Terminal id="99027121">
        <terminal_capabilities ic_reader="true"
          magnetic_stripe_reader="true" manual_card_entry="true"/>
        <features_capabilities pin_pad_available="true"/>
      </Terminal>
      <method>top_up</method>
      <pan type=”token”> 781C5A1B53BBC9DEF17AF7334ADE0C9E31841EAC
        </pan>
      <pin>1234</pin>
    </PPTCardTxn>
  </Transaction>
</Request>
```

2.9.3 *Schema Elements for Response*

When using the Card Tokenization service, there is one additional element that may appear in the response for all transactions. This element will appear in different positions within the schema depending upon the transaction type in question

Element Name:	`token`

Position:	`Response`
	`Response.CardTxn`
	`Response.FuelCardTxn`
	`Response.PPTCardTxn`
	`Response.QueryTxn.CardTxn`
	`Response.RbsGiftCardTxn`
	`Response.TokenizeTxn`

The token element

Element Name	Position	Return with
`token`	`Response`	`cardaccountpayment`
	`Response.CardTxn`	`auth`, `pre`, `refund` and `erp`

	Response.FuelCardTxn	Fuels transactions
	Response.PPTCardTxn	PPT transactions
	Response.QueryTxn.CardTxn	query
	Response.RbsGiftCardTxn	RBS Giftcard transactions
	Response.TokenizeTxn	tokenize and retokenize

Example XML Response Elements containing token field

```
<TokenizeTxn>
  ...
  <token>00691FD152E4CE5582804FD94BBCD202E3966026</token>
</TokenizeTxn>

<CardTxn>
  ...
  <token>FE554B87039DAFCB9D03F6AFBB502028B33AA7A1</token>
</CardTxn>


<RbsGiftCardTxn>
  ...
  <token>781C5A1B53BBC9DEF17AF7334ADE0C9E31841EAC</token>
</RbsGiftCardTxn>
```

2.9.4 *Example XML Responses*

2.9.4.1 Tokenize and Retokenize

Example XML Response for tokenize or retokenize

```
<Response>
  <TokenizeTxn>
    <card_scheme>Mastercard</card_scheme>
    <country>United Kingdom</country>
    <issuer>National Westminster Bank Plc</issuer>
    <token>00691FD152E4CE5582804FD94BBCD202E3966026</token>
  </TokenizeTxn>
  <datacash_reference>4900203022056130</datacash_reference>
  <merchantreference>TT12010210185712341234</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>...</time>
</Response>
```

2.9.4.2 Tokenization During Payment

Example XML Responses to a successful Bank Card payment or refund

```
<Response>
  <CardTxn>
    <authcode>347721</authcode>
    <card_scheme>Mastercard</card_scheme>
    <country>Poland</country>
    <token>FE554B87039DAFCB9D03F6AFBB502028B33AA7A1</token>
  </CardTxn>
  <datacash_reference>4400203020266707</datacash_reference>
  <merchantreference>...</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>...</time>
</Response>
```

```
<Response>
  <CardTxn>
    <Cv2Avs>
      <cv2avs_status>NO DATA MATCHES</cv2avs_status>
    </Cv2Avs>
    <authcode>795681</authcode>
    <card_scheme>VISA</card_scheme>
    <token>3C12DE55292A13227E14D92C6E8D8F4843D21654</token>
  </CardTxn>
  <datacash_reference>4800203023045872</datacash_reference>
  <merchantreference>...</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>...</time>
</Response>
```

Example XML Response to a DECLINED Bank Card payment or refund

```
<Response>
  <CardTxn>
    <authcode>DECLINED</authcode>
    <card_scheme>Maestro</card_scheme>
    <country>United Kingdom</country>
    <token>D4BD81D7C3E0A9563BBAE295BE0658885A6D2B5B</token>
  </CardTxn>
  <datacash_reference>4400203020266707</datacash_reference>
  <merchantreference>...</merchantreference>
  <mode>TEST</mode>
  <reason>DECLINED</reason>
  <status>7</status>
  <time>...</time>
</Response>
```

Example XML Response to a Bank Card Payment with 3-D Secure

```
<Response>
  <CardTxn>
    <ThreeDSecure>
      <acs_url>https://testserver.datacash.com/acs</acs_url>
      <pareq_message>eJxdUk1PwyAYvu9XEC9eTKFd.../</pareq_message>
    </ThreeDSecure>
    <card_scheme>VISA</card_scheme>
    <token>3C12DE55292A13227E14D92C6E8D8F4843D21654</token>
  </CardTxn>
  <datacash_reference>4700203022949886</datacash_reference>
  <merchantreference>...</merchantreference>
  <mode>TEST</mode>
  <reason>3DS Payer Verification Required</reason>
  <status>150</status>
  <time>...</time>
</Response>
```

Example XML Response to a Direct Credit cardaccountpayment transaction

```
<Response>
  <datacash_reference>4600203020658851</datacash_reference>
  <merchantreference>10397897589</merchantreference>
  <mode>TEST</mode>
  <reason>Accepted</reason>
  <status>1</status>
  <time>1321351846</time>
  <token>21351D9FB59E54D4B404E5819D7B8F4151BD2D78</token>
</Response>
```

Example XML Response to a RBS Giftcard balance_enquiry transaction

```
<Response>
  <RbsGiftCardTxn>
    <balance>0.00</balance>
    <currency>GBP</currency>
    <token>781C5A1B53BBC9DEF17AF7334ADE0C9E31841EAC</token>
  </RbsGiftCardTxn>
  <datacash_reference>4100203023047327</datacash_reference>
  <merchantreference>12345601</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328623617</time>
</Response>
```

Example XML Response to a PPT transaction

```
<Response>
  <PPTCardTxn>
    <authcode>CARD HAS NOT BEEN ACTIVATED</authcode>
    <card_activated>no</card_activated>
    <token>3746E646A09F2AB421933C7B719BD446D0B25F55</token>
  </PPTCardTxn>
  <currency>EUR</currency>
  <datacash_reference>4800203023047201</datacash_reference>
  <merchantreference>12345601</merchantreference>
  <mode>TEST</mode>
  <reason>DECLINED</reason>
  <status>7</status>
  <time>...</time>
</Response>
```

Example XML Response to a Fuels Card transaction

```
<Response>
  <FuelCardTxn>
    <authcode>075216</authcode>
    <card_scheme>CHJones Fuel Card</card_scheme>
    <country>gbr</country>
    <issuer>Key Fuels Bunker+</issuer>
    <token>59307422C194A22332160C850F415A0164707908</token>
  </FuelCardTxn>
  <acquirer_message>AUTH CODE:075216</acquirer_message>
  <acquirer_response_code>00</acquirer_response_code>
  <datacash_reference>4800203023047017</datacash_reference>
  <merchantreference>74927489273</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <referral_telephone_number>MTIzNA==</referral_telephone_number>
  <status>1</status>
  <time>...</time>
</Response>
```

2.9.4.3 Tokenization during Query

Example XML Responses to query transactions

```
<Response>
  <QueryTxnResult>
    <Card>
      <card_category>Unknown</card_category>
      <expirydate>01/13</expirydate>
      <issuer>Unknown</issuer>
      <pan>444433******1111</pan>
      <scheme>VISA</scheme>
      <token>3C12DE55292A13227E14D92C6E8D8F4843D21654</token>
    </Card>
    <acquirer>RBS</acquirer>
    <amount currency="GBP">55.00</amount>
    <authcode>602509</authcode>
    <datacash_reference>4200203020699556</datacash_reference>
    <environment>ecomm</environment>
    <fulfill_date/>
    <merchant_reference>...</merchant_reference>
    <reason>ACCEPTED</reason>
    <sent>Not sent</sent>
    <status>1</status>
    <transaction_date>2011-11-16 13:41:18</transaction_date>
  </QueryTxnResult>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>...</time>
</Response>

<Response>
  <QueryTxnResult>
    <Card>
      <Cv2Avs>...</Cv2Avs>
      <card_category>Unknown</card_category>
      <country>gbr</country>
      <expirydate>01/49</expirydate>
      <issuer>Allocated to Switch</issuer>
      <pan>675900****0006</pan>
      <scheme>Maestro</scheme>
      <token>D4BD81D7C3E0A9563BBAE295BE0658885A6D2B5B</token>
    </Card>
    <acquirer>RBS</acquirer>
    <amount currency="GBP">10.00</amount>
    <authcode>DECLINED</authcode>
    <datacash_reference>4000203020277500</datacash_reference>
    <environment>ecomm</environment>
    <fulfill_date/>
    <merchant_reference>...</merchant_reference>
    <reason>DECLINED</reason>
    <sent>Not sent</sent>
    <status>7</status>
    <transaction_date>2012-02-01 16:55:19</transaction_date>
  </QueryTxnResult>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>...</time>
</Response>
```

2.10 Switch to Issuer Transactions

2.10.1 *Versioning*

All Switch to Issuer transactions are version 2.

2.10.2 *Standard transaction - response elements*

When submitting a standard transaction through Switch to Issuer, five extra response elements are provided by the DPG. These are:

Elements of Response	
Element Name	Description
response_code	Contains the response code returned by Switch to Issuer.
response_text	Contains the response message returned by Switch to Issuer.
aiic	Acquiring Institution ID Code – 6 digits
stan	System Trace Audit Number – 6 digits
rrn	Retrieval Reference Number – 12 digits

Example XML:

Response

```
<Response version=”2”>
  ...
  <datacash_reference>3900100821792328</datacash_reference>
  <CardTxn>
    ...
    <response_code>0</response_code>
    <response_text>Approved or completed successfully</response_text>
  </CardTxn>
  ...
  <aiic>55555</aiic>
  <stan>000001</stan>
  <rrn>115010000001</rrn>
</Response>
```

2.10.3 *Query transaction – response elements*

When making a query transaction against Switch to Issuer, three new response elements are provided by the DPG. These are:

Elements of Response	
Element Name	Description
`aiic`	Acquiring Institution ID Code – 6 digits
`stan`	System Trace Audit Number – 6 digits
`rrn`	Retrieval Reference Number – 12 digits

Example XML:

Query Response

```
<Response version=”2”>
  ...
  <QueryTxnResult>
    <datacash_reference>3900100821792328</datacash_reference>
    ...
  </QueryTxnResult>
  ...
  <aiic>55555</aiic>
  <stan>000001</stan>
  <rrn>115010000001</rrn>
</Response>
```

2.10.4 *Transactions including CSC data*

For Switch to Issuer, CSC (CV2) data is to be supplied in an alternative structure, under a CSC block (part of CardTxn).

As well as the CSC (CV2) number, a policy can optionally be supplied, or an ExtendedPolicy (unlike non-Switch to Issuer transactions, CSC.ExtendedPolicy can only contain a single element, csc_policy).

Example XML:

```
<Request version=”2”>
  ...
  <CardTxn>
    <Card>
      <CSC>
        <csc>123</csc>
      </CSC>
    </Card>
    ...
  </CardTxn>
  ...
</Request>


<Request version=”2”>
  ...
  <CardTxn>
    <Card>
      <CSC>
        <csc>123</csc>
        <policy>123</policy>
      </CSC>
    </Card>
    ...
  </CardTxn>
  ...
</Request>

<Request version=”2”>
  ...
  <CardTxn>
    <Card>
      <CSC>
        <csc>123</csc>
        <ExtendedPolicy>
         <csc_policy notprovided='reject' notchecked='reject'
matched='accept' notmatched='reject' partialmatch='reject' />
        </ExtendedPolicy>
      </CSC>
    </Card>
    ...
  </CardTxn>
  ...
</Request>
```

2.10.5 *Transactions including AVS data*

For Switch to Issuer, AVS data is to be supplied in an alternative structure, under an AVS block (part of CardTxn).

As well as the address data, a policy can optionally be supplied, or an ExtendedPolicy (unlike non-Switch to Issuer transactions, AVS.ExtendedPolicy can only contain the two elements, postcode_policy and address_policy).

Example XML:

```
<Request version=”2”>
  ...
  <CardTxn>
    <Card>
      <AVS>
        <street_address1>1 High Street</street_address1>
        <street_address2>Town</street_address2>
        <street_address3>County</street_address3>
        <street_address4>United Kingdom</street_address4>
        <postcode>AA1 1AA</postcode>
      </AVS>
    </Card>
    ...
  </CardTxn>
  ...
</Request>

<Request version=”2”>
  ...
  <CardTxn>
    <Card>
      <AVS>
        <street_address1>1 High Street</street_address1>
        <street_address2>Town</street_address2>
        <street_address3>County</street_address3>
        <street_address4>United Kingdom</street_address4>
        <postcode>AA1 1AA</postcode>
        <policy>1</policy>
      </AVS>
    </Card>
    ...
  </CardTxn>
  ...
</Request>
```

```
<Request version=”2”>
  ...
  <CardTxn>
    <Card>
      <AVS>
        <street_address1>1 High Street</street_address1>
        <street_address2>Town</street_address2>
        <street_address3>County</street_address3>
        <street_address4>United Kingdom</street_address4>
        <postcode>AA1 1AA</postcode>

        <ExtendedPolicy>
         <postcode_policy notprovided='reject' notchecked='reject'
matched='accept' notmatched='reject' partialmatch='reject' />
         <address_policy notprovided='reject' notchecked='reject'
matched='accept' notmatched='reject' partialmatch='reject' />

        </ExtendedPolicy>
      </AVS>
    </Card>
    ...
  </CardTxn>
  ...
</Request>
```

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2.11 LOCAL DIRECT DEBIT

2.11.1 *Service Overview*

In Germany the ELV system (Elektronisches Lastschriftverfahren - Direct Debit) is the most popular method of payment among customers in an online environment. The ELV process is a simple one and can be utilised by anyone who is in possession of a German cheque account. This payment method allows the customer to authorise a merchant to withdraw money directly from their bank account.

Schema Elements for Request

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `LocalDDTxn` – section 2.11.2
    - `TxnDetails` – section 2.11.3

The following keys will be used for each transaction type:

- B – `localdd_buy`
- A – `localdd_authorise`
- C – `localdd_capture`
- L – `localdd_cancel`
- R – `localdd_refund`

Each field will be labelled with the following key:

- O – Optional.
- R – Required, field must be presented.
- X – Excluded, presenting this field will cause the transaction to fail.

2.11.2 *LocalDDTxn*

Element Name:	`LocalDDTxn`
Position(s)	`Request.Transaction`

Attributes of LocalDDTxn							
Attribute Name	**Attribute of Element**	**Values / Limitations**	**B**	**A**	**C**	**L**	**R**
`type`	`LocalDDTxn`	Currently this should only be 'elv'.	R	R	X	X	X

Elements of LocalDDTxn							
Element Name	**Description**	**Values/ Limitations**	**B**	**A**	**C**	**L**	**R**
`billing_name`	The name of the account holder	Alphanumeric	R	R	X	X	X
`method`	Determines the processing model to be used	`localdd_buy` - for one stage processing `localdd_authorise` - for two stage processing	R	R	X	X	X
`profile`	The respective profile controls which payment and transaction methods can be selected.	Numeric	R	R	X	X	X
`customer_ip`	The customer's IP address.	Valid IP address	R	R	X	X	X

One of the following payment elements must be included. Please note, `sortcode` and `accountnumber` are supplied as a pair.

Elements of LocalDDTxn		
Attribute Name	**Description**	**Values / Limitations**
`sortcode`	The sort code of the customer's bank	Six digits
`accountnumber`	The customer's account number	Eight digits
`iban`	An International Bank Account Number. Standard for indentifying bank accounts across national borders.	A valid IBAN
`paymentreference`	Merchant configurable data field typically used to identify a customer uniquely within the system, regardless of the amount of accounts that the customer has.	A valid Payment Reference

When the method in use is `localdd_buy` one of the following elements is required.

Elements of LocalDDTxn		
Attribute Name	**Description**	**Values / Limitations**
`delaydays`	The number of days on which the direct debit must be actioned.	Numeric

debitdate	The date on which the direct debit must be auctioned.	yyyy-mm-dd

Example XML for LocalDDTxn complex elements:

localdd_buy

```
<LocalDDTxn>
   <customer_ip>192.168.1.1</customer_ip>
   <profile>1</profile>
   <method>localdd_buy</method>
   <delaydays>2</delaydays>
   <sortcode>123456</sortcode >
   <accountnumber>87654321</accountnumber >
   <billing_name>A Customer<method>
</LocalDDTxn>
```

localdd_authorise

```
<LocalDDTxn>
   <customer_ip>192.168.1.1</customer_ip>
   <profile>1</profile>
   <method>localdd_authorise</method>
   <sortcode>123456</sortcode >
   <accountnumber>87654321</accountnumber >
   <billing_name>A Customer<method>
</LocalDDTxn>
```

2.11.3 *TxnDetails*

Element Name: TxnDetails
Position: Request.Transaction

Elements of TxnDetails							
Element Name	**Description**	**Values/ Limitations**	**B**	**A**	**C**	**L**	**R**
merchantreference	A unique reference number for each transaction	Min 6, max 30 alphanumeric characters. Must be unique.	R	R	X	X	X
amount	The value of the transaction		R	R	O	O	O

Attributes for Elements of TxnDetails

Attribute Name	Attribute of Element	Values / Limitations	B	A	C	L	R
currency	amount	Currency is passed in the 3 character ISO 4217 Alphabetic format e.g. GBP, USD, EUR.	R	R	X	X	X

Example XML for TxnDetails complex elements:

Transaction

```
<TxnDetails>
   <merchantreference>myreference123459988</merchantreference>
   <amount currency="EUR">146.99</amount>
</TxnDetails>
```

Historic Transaction

```
<TxnDetails>
   <amount>146.99</amount>
</TxnDetails>
```

2.11.4 *HistoricTxn*

This element is the direct equivalent of the `Card` element (for transactions using card details).

Element Name:	HistoricTxn
Position:	Request.Transaction

Elements of HistoricTxn					
Element Name	**Description**	**Values / Limitations**	**C**	**L**	**R**
reference	DataCash unique reference of the original transaction	must be a valid transaction	R	R	R
method	The transaction type	localdd_capture localdd_cancel localdd_refund	R	R	R

Example XML Request for HistoricTxn complex elements

```
<HistoricTxn>
   <reference>4100200039275407</reference>
   <method>localdd_capture</method>
</HistoricTxn>
```

Successful localdd_authorise

```
<Response>
  <LocalDDTxn type="elv">
    <apg_reference_id>150968437</apg_reference_id>
    <apg_response_code>100</apg_response_code>
    <apg_response_desc>Transaction successfull</apg_response_desc>
    <method>localdd_authorise</method>
  </LocalDDTxn>
  <datacash_reference>3300900010000208</datacash_reference>
  <merchantreference>1c464467c61b2321</merchantreference>
  <mode>LIVE</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>1321541659</time>
</Response>
```

Successful localdd_capture

```
<Response>
  <LocalDDTxn type="elv">
    <apg_payment_id>DD1354319267000</apg_payment_id>
    <apg_reference_id>150968507</apg_reference_id>
    <apg_response_code>100</apg_response_code>
    <apg_response_desc>Transaction successfull</apg_response_desc>
    <method>localdd_capture</method>
  </LocalDDTxn>
  <datacash_reference>3300900010000208</datacash_reference>
  <merchantreference>1c464467c61b2321</merchantreference>
  <mode>LIVE</mode>
  <reason>CAPTURED OK</reason>
  <status>1</status>
  <time>1321541698</time>
</Response>
```

Unsuccessful localdd_buy

```
<Response>
  <LocalDDTxn type="elv">
    <method>localdd_buy</method>
  </LocalDDTxn>
  <datacash_reference>3900900010000210</datacash_reference>
  <information>Field 'delaydays' or 'debitdate' are required for
localdd_buy txns</information>
  <merchantreference>94ed40155dd418f6</merchantreference>
  <mode>LIVE</mode>
  <reason>Field not supported in APG transaction</reason>
  <status>1442</status>
  <time>1321541775</time>
</Response>
```

Unsuccessful localdd_capture

```
<Response>
  <LocalDDTxn type="elv">
    <apg_error_code>211</apg_error_code>
    <apg_error_description>Modification.DPGReferenceId refers to 
transaction that cannot be captured</apg_error_description>
    <method>localdd_capture</method>
  </LocalDDTxn>
  <datacash_reference>3500900010000207</datacash_reference>
  <mode>LIVE</mode>
  <reason>The APG rejected the transaction</reason>
  <status>1447</status>
  <time>1321541644</time>
</Response>
```

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2.12 Alternative Payment Methods

The DataCash Payment Gateway has built in support for the following Alternative Payment Methods:

- iDeal
- Sofort
- La Caixa
- Nordea
- Web Money
- MisterCash
- Alipay
- Giropay

If you are interested in using one or more of the supported alternative payment methods, please contact DataCash support.

The following sections detail the request / response XML elements used to process alternative payments using the DataCash Payment Gateway:

2.12.1 *Common Request Elements*

The following request elements are common across all of the alternative payment methods listed above. Billing information is optional (O), whereas all other common fields are required / mandatory (R).

Element Names:	`IdealTxn`
	`SofortTxn`
	`LaCaixaTxn`
	`NordeaTxn`
	`WebMoneyTxn`
	`MisterCashTxn`
	`AlipayTxn`
	`GiropayTxn`

Position:	`Request.Transaction`

Elements of [PaymentMethod]Txn			
Element Name	**Description**	**Values/Limitations**	
`method`	The type of request.	A constant value of "payment" (this is currently the only method supported)	R
`language`	The customer's language	IETF Language Tag	R
`customer_email`	The customer's E-Mail address.	64 Characters Maximum, must contain @ and .	R
`customer_ip`	The IPv4 address of the customer.	nnn.nnn.nnn.nnn	R
`title`	The customer's title/honorific.	E.g. Mr, Mrs, Sir, Miss, Lord	R
`first_name`	The customer's first name.	Alphanumeric. Between 1 and 31 characters (2 to 31 if fraud screening to be carried out)	R

last_name	The customer's last name / surname.	Alphanumeric. Between 1 and 31 characters (2 to 31 if fraud screening to be carried out).	R
country	The customer's country. In the case of an airlines transaction, this would usually be the country of departure.	(ISO 3166-1 Alpha-2)	R
billing_street1	The billing address (1st line)	Alphanumeric	O
billing_street2	The billing address (2nd line)	Alphanumeric	O
billing_city	The billing city	Alphanumeric	O
billing_postcode	The billing postal code	Alphanumeric	O
billing_state_province	The billing state / province	Alphanumeric	O
billing_country	The billing country.	Alphanumeric	O

2.12.2 *iDeal Transactions*

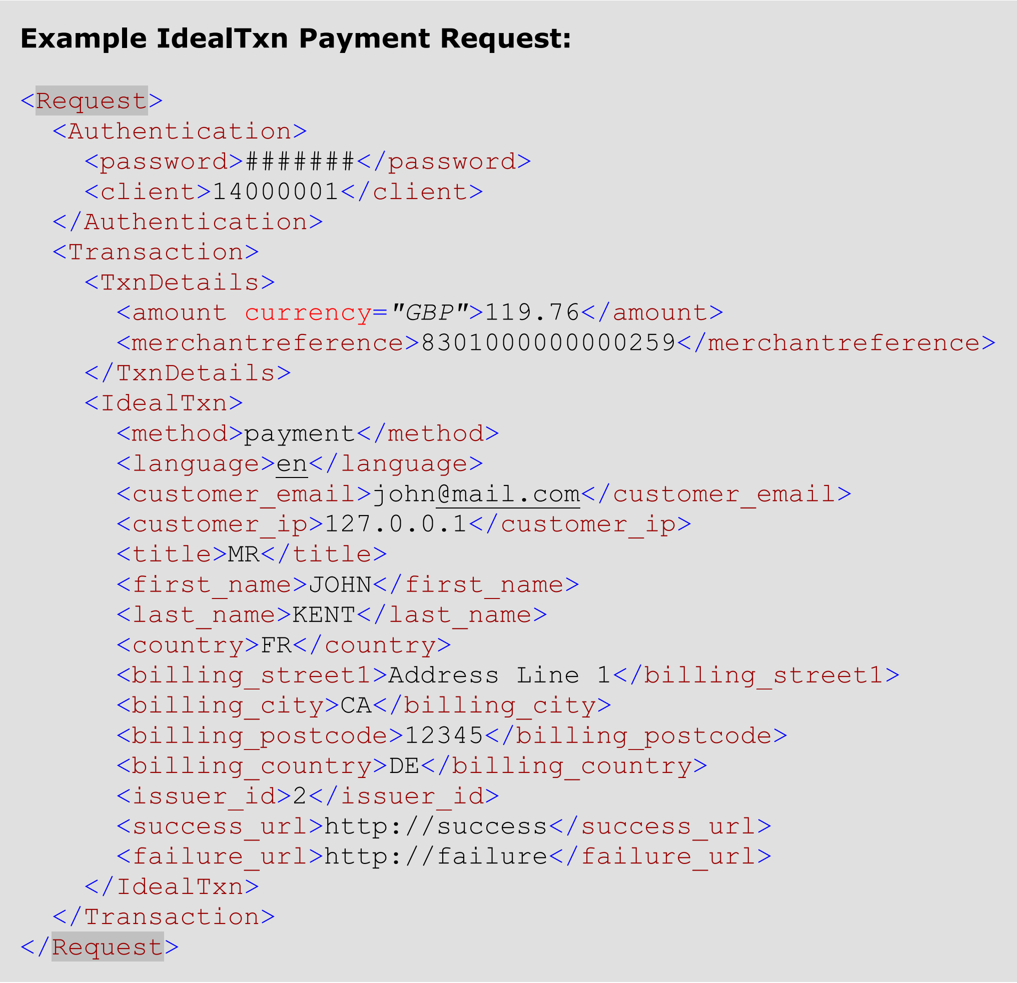
2.12.2.1 Payment Transactions

The following request elements are specific to iDeal payment transactions (in addition to the common elements described above).

Element Names:	IdealTxn
Position:	Request.Transaction

Elements of IdealTxn			
Element Name	**Description**	**Values/Limitations**	
method	The type of request.	For payment transactions this must be "payment".	R
issuer_id	The issuer id	Alphanumeric	R
success_url	The success URL (customer will be redirected in the event of a successful payment)	Alphanumeric	R

failure_url	The failure URL (customer will be redirected in the event of a failed payment / error)	Alphanumeric	R



Example IdealTxn Payment Request:

```
<Request>
  <Authentication>
    <password>#######</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">119.76</amount>
      <merchantreference>8301000000000259</merchantreference>
    </TxnDetails>
    <IdealTxn>
      <method>payment</method>
      <language>en</language>
      <customer_email>john@mail.com</customer_email>
      <customer_ip>127.0.0.1</customer_ip>
      <title>MR</title>
      <first_name>JOHN</first_name>
      <last_name>KENT</last_name>
      <country>FR</country>
      <billing_street1>Address Line 1</billing_street1>
      <billing_city>CA</billing_city>
      <billing_postcode>12345</billing_postcode>
      <billing_country>DE</billing_country>
      <issuer_id>2</issuer_id>
      <success_url>http://success</success_url>
      <failure_url>http://failure</failure_url>
    </IdealTxn>
  </Transaction>
</Request>
```

Example IdealTxn Payment Response:

```
<Response>
  <IdealTxn>
    <RedirectParams>
      <redirect_param param_name="param1">value1</redirect_param>
      <redirect_param param_name="param2">value2</redirect_param>
    </RedirectParams>
    <apg_ref>123456789</apg_ref>
    <apg_status>REDIRECT</apg_status>
    <content_type>application/x-www-form-urlencoded</content_type>
    <display_message>Please wait</display_message>
    <http_method>POST</http_method>
    <redirect_url>http://redirecthost</redirect_url>
  </IdealTxn>
  <datacash_reference>4200903000000481</datacash_reference>
  <merchantreference>8301000000000259</merchantreference>
  <mode>TEST</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>1320327371</time>
</Response>
```

2.12.2.2 Txn Refund Transactions

iDeal supports multiple partial refunds up to 100% of the original refund amount. An amount can be specified in the `Request.Transaction.TxnDetails.amount` element.

Element Names:	`IdealTxn`
Position:	`Request.Transaction`

Elements of IdealTxn			
Element Name	**Description**	**Values/Limitations**	
`method`	The type of request.	For txn refund transactions this must be "txn_refund".	R
`reference`	The historic reference of a previously completed IdealTxn payment.	Numeric	R
`note`	A description of the transaction.	Alphanumeric	O

Example IdealTxn Txn Refund Request:

```
<Request>
  <Authentication>
     <password>******</password>
    <client>88100002</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount>50.00</amount>
    </TxnDetails>
    <IdealTxn>
      <method>txn_refund</method>
      <reference>4700900010000485</reference>
      <note>Refund note</note>
    </IdealTxn>
  </Transaction>
</Request>
```

Example IdealTxn Txn Refund Response:

```
<Response>
  <IdealTxn>
    <apg_bank_ref>221236068</apg_bank_ref>
    <apg_ref>84695</apg_ref>
    <apg_status>REFUNDED</apg_status>
  </IdealTxn>
  <datacash_reference>4500900010000486</datacash_reference>
  <merchantreference>4700900010000485</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1350465960</time>
</Response>
```

2.12.2.3 Bank List Transactions

A list of banks supported by iDeal can be retrieved by sending a Bank List request to the DPG.

Element Names: `IdealTxn`
Position: `Request.Transaction`

Elements of IdealTxn			
Element Name	**Description**	**Values/Limitations**	
method	The type of request.	For bank list transactions this must be "idealbanklistitem"	R

Example IdealTxn Bank List Request:

```
<Request>
  <Authentication>
     <password>******</password>
    <client>88100002</client>
  </Authentication>
  <Transaction>
    <IdealTxn>
      <method>idealbanklistitem</method>
    </IdealTxn>
  </Transaction>
</Request>
```

Example IdealTxn Bank List Response:

```
<Response>
  <IdealTxn>
    <Banks>
      <Bank listtype="short">
        <issuer_id>1</issuer_id>
        <name>iDeal Bank A</name>
      </Bank>
      <Bank listtype="short">
        <issuer_id>2</issuer_id>
        <name>iDeal Bank B</name>
      </Bank>
      ...
    </Banks>
  </IdealTxn>
  <datacash_reference>4000900010000498</datacash_reference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1350466636</time>
</Response>
```

2.12.3 *Sofort Transactions*

2.12.3.1 Payment Transactions

The following request elements are specific to Sofort payment transactions (in addition to the common elements described above).

Element Names:	`SofortTxn`
Position:	`Request.Transaction`

Elements of SofortTxn			
Element Name	**Description**	**Values/Limitations**	
method	The type of request	For payment transactions this must be "payment".	
issuer_id	The issuer id	Alphanumeric	R
success_url	The success URL (customer will be redirected in the event of a successful payment)	Alphanumeric	R
failure_url	The failure URL (customer will be redirected in the event of a failed payment / error)	Alphanumeric	R

Example Sofort Payment Request:

```
<Request>
  <Authentication>
    <password>#######</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">119.76</amount>
      <merchantreference>8303000000000258</merchantreference>
    </TxnDetails>
    <SofortTxn>
      <method>payment</method>
      <language>en</language>
      <customer_email>john@mail.com</customer_email>
      <customer_ip>127.0.0.1</customer_ip>
      <title>MR</title>
      <first_name>JOHN</first_name>
      <last_name>KENT</last_name>
      <country>FR</country>
      <billing_street1>Address Line 1</billing_street1>
      <billing_city>CA</billing_city>
      <billing_postcode>12345</billing_postcode>
      <billing_country>DE</billing_country>
      <profile>1</profile>
      <success_url>http://success</success_url>
      <failure_url>http://failure</failure_url>
    </SofortTxn>
  </Transaction>
</Request>
```

Example Sofort Payment Response:

```
<Response>
  <SofortTxn>
    <RedirectParams>
      <redirect_param param_name="user_id">12345</redirect_param>
      <redirect_param param_name="project_id">56789</redirect_param>
      <redirect_param param_name="amount">119.76</redirect_param>
      <redirect_param param_name="currency_id">GBP</redirect_param>
      <redirect_param
param_name="reason_1">SU1234567890123</redirect_param>
      <redirect_param param_name="reason_2">12345</redirect_param>
      <redirect_param
param_name="user_variable_0">123456789</redirect_param>
      <redirect_param
param_name="user_variable_1">X4M75U</redirect_param>
      <redirect_param
param_name="user_variable_2">127.0.0.1</redirect_param>
      <redirect_param
param_name="user_variable_4">https://epi.expercash.net/3rdPartyNotifica
tion/su_success.php?taid=123456789/</redirect_param>
      <redirect_param
param_name="user_variable_5">https://epi.expercash.net/3rdPartyNotifica
tion/su_failure.php/</redirect_param>
      <redirect_param
param_name="hash">0123456789ABCDEF0123456789ABCDEF01234567</redirect_pa
ram>
    </RedirectParams>
    <apg_ref>123456789</apg_ref>
    <apg_status>REDIRECT</apg_status>
    <content_type>application/x-www-form-urlencoded</content_type>
    <http_method>GET</http_method>
    <redirect_url>http://testdb:8180/dc-apg-
simulator/payment/</redirect_url>
  </SofortTxn>
  <datacash_reference>4600903000000479</datacash_reference>
  <merchantreference>8303000000000258</merchantreference>
  <mode>TEST</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>1320327367</time>
</Response>
```

2.12.3.2 Txn Refund Transactions

The following request elements are specific to Sofort txn refund transactions. Sofort supports multiple partial refunds up to 100% of the original refund amount. An amount can be specified in the `Request.Transaction.TxnDetails.amount` element.

Element Names:	`SofortTxn`
Position:	`Request.Transaction`

Elements of IdealTxn			
Element Name	**Description**	**Values/Limitations**	
method	The type of request.	For txn refund transactions this must be "txn_refund".	R
reference	The historic reference of a previously completed SofortTxn payment.	Numeric	R
note	A description of the transaction.	Alphanumeric	O

Example SofortTxn Txn Refund Request:

```
<Request>
  <Authentication>
     <password>******</password>
    <client>88100002</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount>30.00</amount>
    </TxnDetails>
    <SofortTxn>
      <method>txn_refund</method>
      <reference>4100900010000539</reference>
      <note>Refund note</note>
    </SofortTxn>
  </Transaction>
</Request>
```

Example SofortTxn Txn Refund Response:

```
<Response>
  <SofortTxn>
    <apg_bank_ref>221260687</apg_bank_ref>
    <apg_ref>84718</apg_ref>
    <apg_status>REFUNDED</apg_status>
  </SofortTxn>
  <datacash_reference>4900900010000540</datacash_reference>
  <merchantreference>4100900010000539</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1350473381</time>
</Response>
```

2.12.4 *WebMoney Transactions*

The following request elements are specific to WebMoney transactions (in addition to the common elements described above).

Element Names:	`WebMoneyTxn`
Position:	`Request.Transaction`

Elements of WebMoneyTxn

Element Name	Description	Values/Limitations	
`success_url`	The success URL (customer will be redirected in the event of a successful payment)	Alphanumeric	R
`failure_url`	The failure URL (customer will be redirected in the event of a failed payment / error)	Alphanumeric	R

Example WebMoneyTxn Request:

```
<Request>
  <Authentication>
    <password>#######</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">119.76</amount>
      <merchantreference>8501000000000261</merchantreference>
    </TxnDetails>
    <WebMoneyTxn>
      <method>payment</method>
      <language>en</language>
      <customer_email>john@mail.com</customer_email>
      <customer_ip>127.0.0.1</customer_ip>
      <title>MR</title>
      <first_name>JOHN</first_name>
      <last_name>KENT</last_name>
      <country>FR</country>
      <billing_street1>Address Line 1</billing_street1>
      <billing_city>CA</billing_city>
      <billing_postcode>12345</billing_postcode>
      <billing_country>DE</billing_country>
      <success_url>http://success</success_url>
      <failure_url>http://failure</failure_url>
    </WebMoneyTxn>
  </Transaction>
</Request>
```

Example WebMoneyTxn Response:

```
<Response>
  <WebMoneyTxn>
    <RedirectParams>
      <redirect_param
param_name="LMI_PAYMENT_AMOUNT">119.76</redirect_param>
      <redirect_param
param_name="LMI_PAYEE_PURSE">pursename</redirect_param>
      <redirect_param param_name="LMI_PAYMENT_NO">payment
number</redirect_param>
      <redirect_param param_name="LMI_SIM_MODE">sim
mode</redirect_param>
    </RedirectParams>
    <apg_ref>123456789</apg_ref>
    <apg_status>REDIRECT</apg_status>
    <content_type>application/x-www-form-urlencoded</content_type>
    <display_message>Please wait while you are redirected to
WebMoney</display_message>
    <http_method>GET</http_method>
    <redirect_url>http://webmoneyurl</redirect_url>
  </WebMoneyTxn>
  <datacash_reference>4300903000000485</datacash_reference>
  <merchantreference>8501000000000261</merchantreference>
  <mode>TEST</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>1320327377</time>
</Response>
```

2.12.5 *MisterCash Transactions*

The following request elements are specific to MisterCash transactions (in addition to the common elements described above).

Element Names:	MisterCashTxn
Position:	Request.Transaction

Elements of MisterCashTxn

Element Name	Description	Values/Limitations	
success_url	The success URL (customer will be redirected in the event of a successful payment)	Alphanumeric	R

failure_url	The failure URL (customer will be redirected in the event of a failed payment / error)	Alphanumeric	R

Example MisterCashTxn Request:

```
<Request>
  <Authentication>
    <password>#######</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">119.76</amount>
      <merchantreference>8302000000000260</merchantreference>
    </TxnDetails>
    <MisterCashTxn>
      <method>payment</method>
      <language>en</language>
      <customer_email>john@mail.com</customer_email>
      <customer_ip>127.0.0.1</customer_ip>
      <title>MR</title>
      <first_name>JOHN</first_name>
      <last_name>KENT</last_name>
      <country>FR</country>
      <billing_street1>Address Line 1</billing_street1>
      <billing_city>CA</billing_city>
      <billing_postcode>12345</billing_postcode>
      <billing_country>DE</billing_country>
      <success_url>http://success</success_url>
      <failure_url>http://failure</failure_url>
    </MisterCashTxn>
  </Transaction>
</Request>
```

Example MisterCashTxn Response:

```
<Response>
  <MisterCashTxn>
    <RedirectParams>
      <redirect_param
param_name="merchantID">123456789</redirect_param>
      <redirect_param param_name="customerRef">X4M75U</redirect_param>
      <redirect_param param_name="country">UK</redirect_param>
      <redirect_param param_name="currency">GBP</redirect_param>
      <redirect_param param_name="recieveCurrency">GBP</redirect_param>
      <redirect_param param_name="email">john@mail.com</redirect_param>
      <redirect_param param_name="service">MISTERCASH</redirect_param>
      <redirect_param param_name="language">en</redirect_param>
    </RedirectParams>
    <apg_ref>123456789</apg_ref>
    <apg_status>REDIRECT</apg_status>
    <content_type>application/x-www-form-urlencoded</content_type>
    <display_message>Please wait while you are redirected to the Envoy
OneClick site</display_message>
    <http_method>GET</http_method>
    <redirect_url>http://envoy</redirect_url>
  </MisterCashTxn>
  <datacash_reference>4800903000000483</datacash_reference>
  <merchantreference>8302000000000260</merchantreference>
  <mode>TEST</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>1320327373</time>
</Response>
```

2.12.6 *La Caixa Transactions*

Only the common elements described above are applicable to La Caixa transactions.

Element Names:	`LaCaixaTxn`
Position:	`Request.Transaction`

Example LaCaixaTxn Request:

```
<Request>
  <Authentication>
    <password>#######</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">119.76</amount>
      <merchantreference>8401000000000256</merchantreference>
    </TxnDetails>
    <LaCaixaTxn>
      <method>payment</method>
      <language>es</language>
      <customer_email>john@mail.com</customer_email>
      <customer_ip>127.0.0.1</customer_ip>
      <title>MR</title>
      <first_name>JOHN</first_name>
      <last_name>KENT</last_name>
      <country>FR</country>
      <billing_street1>Address Line 1</billing_street1>
      <billing_city>CA</billing_city>
      <billing_postcode>12345</billing_postcode>
      <billing_country>DE</billing_country>
    </LaCaixaTxn>
  </Transaction>
</Request>
```

Example LaCaixaTxn Response:

```
<Response>
  <LaCaixaTxn>
    <apg_account_name>Merchant account name</apg_account_name>
    <apg_account_number>1234567890</apg_account_number>
    <apg_bank>Bank of Bankeria</apg_bank>
    <apg_branch>BranchName</apg_branch>
    <apg_branch_address>123 Bank St, Banktown, Republic of
Bankeria</apg_branch_address>
    <apg_iban>RB01 CBCO 1234 1234 1234 56</apg_iban>
    <apg_ref>123456789</apg_ref>
    <apg_status>PENDING</apg_status>
    <apg_swift>CBCORB00XXX</apg_swift>
    <display_message>Display message</display_message>
  </LaCaixaTxn>
  <datacash_reference>4400903000000475</datacash_reference>
  <merchantreference>8401000000000256</merchantreference>
  <mode>TEST</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>1320327363</time>
</Response>
```

2.12.7 *Nordea Transactions*

Only the common elements described above are applicable to Nordea transactions.

Element Names:	NordeaTxn
Position:	Request.Transaction

Example NordeaTxn Request:

```
<Request>
  <Authentication>
    <password>#######</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount currency="GBP">119.76</amount>
      <merchantreference>8402000000000255</merchantreference>
    </TxnDetails>
    <NordeaTxn>
      <method>payment</method>
      <language>en</language>
      <customer_email>john@mail.com</customer_email>
      <customer_ip>127.0.0.1</customer_ip>
      <title>MR</title>
      <first_name>JOHN</first_name>
      <last_name>KENT</last_name>
      <country>FR</country>
      <billing_street1>Address Line 1</billing_street1>
      <billing_city>CA</billing_city>
      <billing_postcode>12345</billing_postcode>
      <billing_country>DE</billing_country>
    </NordeaTxn>
  </Transaction>
</Request>
```

xample NordeaTxn Response:

```
<Response>
  <NordeaTxn>
    <apg_account_name>Merchant account name</apg_account_name>
    <apg_account_number>1234567890</apg_account_number>
    <apg_bank>Bank of Bankeria</apg_bank>
    <apg_branch>BranchName</apg_branch>
    <apg_branch_address>123 Bank St, Banktown, Republic of
Bankeria</apg_branch_address>
    <apg_iban>RB01 CBCO 1234 1234 1234 56</apg_iban>
    <apg_ref>123456789</apg_ref>
    <apg_status>PENDING</apg_status>
    <apg_swift>CBCORB00XXX</apg_swift>
    <display_message>Display message</display_message>
  </NordeaTxn>
  <datacash_reference>4900903000000473</datacash_reference>
  <merchantreference>8402000000000255</merchantreference>
  <mode>TEST</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>1320327362</time>
</Response>
```

2.12.8 *Alipay Transactions*

2.12.8.1 Purchase Transactions

The following request elements are specific to Alipay purchase transactions (in addition to the common elements described above).

Element Name:	AlipayTxn
Position:	Request.Transaction

Elements of AlipayTxn			
Element Name	**Description**	**Values/Limitations**	
authorization_token	The secure token for accessing express login API.	Alphanumeric	O
buyer_id	The unique ID of the buyer for this transaction.	Alphanumeric	O
settlement_currency	The 3 digit currency code for the currency that will be used to settle the transaction.	Numeric	R
subject	The name of the goods.	Alphanumeric	R

supplier	The name of the supplier, these details are agreed between Alipay and the merchant.	Alphanumeric	O
body	A detailed description of the goods.	Alphanumeric	O
user_agent_header	This is a value indicating the browser type and operating system details of the user. This information can be retrieved from the HTTP_USER_AGENT header.	Alphanumeric	O
description	Use this field to supply descriptive text for the transaction.	Alphanumeric	O
success_url	The success URL (customer will be redirected in the event of a successful payment)	Alphanumeric	R
failure_url	The failure URL (customer will be redirected in the event of a failed payment / error)	Alphanumeric	R
billing_name	A descriptor for the billing details.	Alphanumeric	O

2.12.8.2 Refund Transactions

The following request elements are specific to Alipay refund transactions.

Element Name: AlipayTxn
Position: Request.Transaction

Elements of AlipayTxn			
Element Name	**Description**	**Values/Limitations**	
method	The type of request.	Must be 'txn_refund'	R
reference	DataCash transaction reference of the original transaction	Must reference a valid, Alipay purchase which has been successfully completed	R
note	A description of the transaction.	Alphanumeric	O

Notes:

- An Alipay refund can only be submitted against a completed Alipay Purchase Transaction which has had a Query Transaction completed against it returning a status code of "1".
- A successful Alipay refund will initially return a reason of "Sent for refund" with status code of "1832", it is necessary to send a subsequent Query Transaction at a later time to complete the refund. This will query Alipay to determine whether the refund was successfully processed. A successfully processed refund will return a status of "Refunded" and a status code of "1".
- When sending a Query Transaction against an outstanding Alipay refund the "reference" used should be that of the refund you are querying, and not the original purchase transaction.
- Alipay supports multiple partial refunds up to 100% of the original purchase amount, however it is necessary to ensure that the previous refund was successfully processed by means of a Query Transaction before attempting a subsequent refund.
  The optional currency supplied in the "TxnDetails" block must match that of the original payment transaction.

2.12.9 *Giropay Transactions*

2.12.9.1 Purchase Transactions

The following request elements are specific to Giropay purchase transactions (in addition to the common elements described above).

Element Names: `GiropayTxn`
Position: `Request.Transaction`

Elements of MisterCashTxn

Element Name	Description	Values/Limitations	
`description`	Use this field to supply descriptive text for the transaction.	Alphanumeric	O
`user_agent_header`	This is a value indicating the browser type and operating system details of the user. This information can be retrieved from the HTTP_USER_AGENT header.	Alphanumeric	O
`gender`	The individual's gender	M =male, F = Female	O
`telephone1`	Consumer's Local Home Telephone Number.	String (20); **US:** The 7 digit home telephone number must be supplied in this field. **CA:** The 7 digit home telephone number must be supplied in this field.	O

telephone_country_code	Country Code for Telephone1. The country code is the prefix to be used when dialling to a particular country from another country.	value must not be prefixed with a plus (+) e.g. 1 for United States.	O
telephone_area_code	Consumer's Telephone Area Code. This is the 3-digit area code for a particular region.	Short; **US:** 3 digit number (e.g. 619 for California). **CA:** 3 digit number (e.g. 867 for Northwest Territories).	O
success_url	The success URL (customer will be redirected in the event of a successful payment)	Alphanumeric	R
failure_url	The failure URL (customer will be redirected in the event of a failed payment / error)	Alphanumeric	R
billing_name	The name of the account holder	Alphanumeric	O
sort_code	The sort code of the customer's bank	Six digits	R
account_number	The customer's account number	Eight digits	O
iban	An International Bank Account Number. Standard for indentifying bank accounts across national borders.	A valid IBAN	O
payment_reference	Merchant configurable data field typically used to identify a customer uniquely within the system, regardless of the amount of accounts that the customer has.	A valid Payment Reference	O

Notes:

- A valid combination of billing details must be provided for Risk enabled merchants.See the note on ExperCash in section 3.3.2.1.2 for more information.
- The account_number element is optional but must be specified in order to process refunds. If the element is omitted an error will be returned when trying to refund the transaction.

2.12.9.2 Modification Transactions

The following request elements are specific to Giropay modification (cance/refund) transactions.

Element Names: `GiropayTxn`
Position: `Request.Transaction`

Elements of MisterCashTxn				
Element Name	**Description**	**Values/Limitations**	**C**	**R**
`method`	The type of request.	One of 'cancel' or 'txn_refund'	R	R
`reference`	DataCash unique reference of the original transaction	Must be a valid transaction	R	R
`note`	This is a description for the transaction	Alphanumeric	O	O

Example GiropayTxn Purchase Request:

```
<Request>
  <Authentication>
    <password>#######</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>7654321</merchantreference>
      <amount currency='GBP'>20.02</amount>
    </TxnDetails>
    <GiropayTxn>
      <method>payment / payout</method>
      <language>en</language>
      <description>foo</description>
      <user_agent_header>Mozilla/5.0 (Windows NT 6.1) AppleWebKit/536.5
(KHTML, like Gecko) Chrome/19.0.1084.52 Safari/536.5</user_agent_header>
      <customer_email>john@mail.com</customer_email>
      <customer_ip>127.0.0.1</customer_ip>
      <gender>M</gender>
      <title>MR</title>
      <first_name>JOHN</first_name>
      <last_name>KENT</last_name>
      <telephone1>1234567</telephone1>
      <telephone_country_code>44</telephone_country_code>
      <telephone_area_code>131</telephone_area_code>
      <country>UK</country>
      <success_url>http://success</success_url>
      <failure_url>http://failure</failure_url>
      <billing_name>John Kent</billing_name>
      <billing_street1>Address Line 1</billing_street1>
      <billing_street2>Address Line 2</billing_street2>
      <billing_city>CA</billing_city>
      <billing_postcode>12345</billing_postcode>
      <billing_country>DE</billing_country>
      <billing_state_province>province</billing_state_province>
      <sort_code>12345678</sort_code>
      <account_number>1234567890</account_number>
    </GiropayTxn>
</Request>
```

Example GiropayTxn Purchase Response:

```
<Response>
  <GiropayTxn>
    <RedirectParams>
      <redirect_param
param_name="redirectData">merchantID=123456789&customerRef=X4M75U&count
ry=UK&currency=GBP&recieveCurrency=GBP&email=john@mail.com&service=GIRO
PAY&language=en</redirect_param>
    </RedirectParams>
    <apg_ref>123456789</apg_ref>
    <apg_status>REDIRECT</apg_status>
    <content_type>application/x-www-form-urlencoded</content_type>
    <display_message>Please wait while you are redirected to the
Giropay site</display_message>
    <http_method>GET</http_method>
    <redirect_url>http://envoy</redirect_url>
  </GiropayTxn>
  <datacash_reference>4800903000000483</datacash_reference>
  <merchantreference>8302000000000260</merchantreference>
  <mode>...</mode>
  <reason>The APG accepted the transaction</reason>
  <status>1448</status>
  <time>...</time>
</Response>
```

Example GiropayTxn Modification Request:

```
<Request>
  <Authentication>
    <password>fred</password>
    <client>14000001</client>
  </Authentication>
  <Transaction>
    <GiropayTxn>
      <method>cancel</method>
      <reference>4500200040925092</reference>
      <note>foo</note>
    </GiropayTxn>
  </Transaction>
</Request>
```

Example GiropayTxn Modification Response:

```
<Response>
  <GiropayTxn>
    <apg_bank_ref>00000000000004594228</apg_bank_ref>
    <apg_ref>1002</apg_ref>
    <apg_status>CANCELLED</apg_status>
  </GiropayTxn>
  <mode>...</mode>
  <reason>CANCELLED OK</reason>
  <status>1</status>
  <time>...</time>
</Response>
```

2.12.10 *Common Response Elements*

The following response elements are common across all Alternative Payment Methods. The transaction type specific response fields will be contained in the [PaymentMethod]Txn complex element. For example, a response for a Sofort txn would contain a "Response.SofortTxn" block. See the examples above for more detail.

Element Names:	*[PaymentMethod]*Txn
Position:	Response

Elements of [PaymentMethod]Txn	
Element Name	**Description**
apg_ref	The apg reference for this transaction.
apg_status	The status of this transaction.
display_message	The recommended display message that should be displayed to the customer.

2.12.11 *Offline Bank Transfer (OBT) Response Elements*

The following elements are specific to OBT payment methods:

- Nordea
- La Caixa

The response elements detailed below should be displayed to the customer to enable them to complete the payment offline. The APG reference detailed above should also be displayed.

Element Names:	*[OBTPaymentMethod]*Txn
Position:	Response

Elements of [PaymentMethod]Txn	
Element Name	**Description**
apg_account_name	The merchant account name
apg_account_number	The account number with the APG (Alternative Payment Gateway).
apg_bank	
apg_branch	The name of the branch.
apg_branch_address	The address of the branch.
apg_iban	The International Bank Account Number (IBAN)
apg_swift	The SWIFT code for the bank.

2.12.12 *Redirect Response Elements*

The following response elements are specific to redirect payment types (where the customer is redirected to a 3rd party processor in order to complete the payment). Supported redirect payment types are:

- iDeal
- Sofort
- Web Money
- MisterCash

Element Names:	*[RedirectPaymentMethod]*Txn
Position:	Response

Elements of [RedirectPaymentMethod]Txn	
Element Name	**Description**
redirect_url	This is a URL on the 3rd party payment processors website to which the customer should be redirected.

http_method	This is the HTTP method that should be used to redirect the customer (GET or POST). In the case of a POST redirect, you might need to consider using JavaScript to automatically submit a form (and providing a button in the case where the customer has disabled / does not support JavaScript).
content_type	The content type that should be used.
RedirectParams	This complex element contains an arbitrary number of redirect parameters. These parameters must be used when redirecting the customer to the 3rd party payment processor.

2.12.12.1 Redirect Handling (Redirect Payment Types)

The XML response for a redirect type payment request will contain a RedirectParameters complex element containing an arbitrary number of redirect parameters. See the example snippet below:

Example of RedirectParams complex element:

```
<Response>
  <MisterCashTxn>
    <RedirectParams>
      <redirect_param param_name="customerRef">X4M75U</redirect_param>
      <redirect_param param_name="country">UK</redirect_param>
      <redirect_param param_name="currency">GBP</redirect_param>
      <redirect_param param_name="recieveCurrency">GBP</redirect_param>
      <redirect_param param_name="email">john@mail.com</redirect_param>
      <redirect_param param_name="service">MISTERCASH</redirect_param>
      <redirect_param param_name="language">en</redirect_param>
    </RedirectParams>
...
    <content_type>application/x-www-form-urlencoded</content_type>
    <http_method>GET</http_method>
    <redirect_url>http://envoy</redirect_url>
  </MisterCashTxn>
...
</Response>
```

When redirecting the customer to the 3rd party payment processor URL (*redirect_url*), you must extract the redirect parameters from the *RedirectParams* complex element and include these in the redirect (paying attention to the *content_type* and *http_method*). Note that the redirect parameters above are only an example.

2.12.13 *Compatibility With HPS*

The alternative payment methods described in the previous section can also be used in conjunction with HPS (Hosted Payment Service). Some examples of requests / responses are shown below. Note that the *success_url* and *failure_url* elements described in the sections above are **optional**. In the case where no *success_url* or *failure_url* is supplied, HPS will use the *return_url* instead.

For more information on HPS, please see the relevant section of this guide.

Example of HPS Setup Session Request for Sofort Txn:

```
<Request>
   <Authentication>
      <password>#######</password>
    <client>14000001</client>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">119.76</amount>
         <merchantreference>8303000000000265</merchantreference>
      </TxnDetails>
      <HpsTxn>
         <method>setup_full</method>
         <page_set_id>99999</page_set_id>
         <return_url>http://returnurl</return_url>
      </HpsTxn>
      <SofortTxn>
         <method>payment</method>
         <language>en</language>
         <customer_email>john@mail.com</customer_email>
         <customer_ip>127.0.0.1</customer_ip>
         <title>MR</title>
         <first_name>JOHN</first_name>
         <last_name>KENT</last_name>
         <country>FR</country>
         <billing_street1>Address Line 1</billing_street1>
         <billing_city>CA</billing_city>
         <billing_postcode>12345</billing_postcode>
         <billing_country>DE</billing_country>
         <profile>1</profile>
      </SofortTxn>
   </Transaction>
</Request>
```

Example of HPS Setup Session Response for Sofort Txn:

```
<Response>
  <HpsTxn>
    <hps_url>http://localhost:8180/hps/</hps_url>
    <session_id>ce0be36b-15c1-46e5-9f67-33ce39ad5dc7</session_id>
  </HpsTxn>
  <datacash_reference>4900903000000492</datacash_reference>
  <merchantreference>8303000000000265</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1320328631</time>
</Response>
```

Multiple Txn blocks can also be supplied in the context of an HPS Setup session. In this scenario, when the customer is redirected to HPS, they will be given a choice of payment methods. See the below request example below:

Example of HPS Setup Session Request with Multiple Txn Blocks:

```
<Request>
   <Authentication>
      <password>#######</password>
    <client>14000001</client>
   </Authentication>
   <Transaction>
      <TxnDetails>
         <amount currency="GBP">119.76</amount>
         <merchantreference>8303000000000265</merchantreference>
      </TxnDetails>
      <HpsTxn>
         <method>setup_full</method>
         <page_set_id>99999</page_set_id>
         <return_url>http://returnurl</return_url>
      </HpsTxn>
      <SofortTxn>
         <method>payment</method>
         <language>en</language>
         <customer_email>john@mail.com</customer_email>
         <customer_ip>127.0.0.1</customer_ip>
         <title>MR</title>
         <first_name>JOHN</first_name>
         <last_name>KENT</last_name>
         <country>FR</country>
         <billing_street1>Address Line 1</billing_street1>
         <billing_city>CA</billing_city>
         <billing_postcode>12345</billing_postcode>
         <billing_country>DE</billing_country>
         <profile>1</profile>
      </SofortTxn>
      <MisterCashTxn>
         <method>payment</method>
         <language>en</language>
         <customer_email>john@mail.com</customer_email>
         <customer_ip>127.0.0.1</customer_ip>
         <title>MR</title>
         <first_name>JOHN</first_name>
         <last_name>KENT</last_name>
         <country>FR</country>
         <billing_street1>Address Line 1</billing_street1>
         <billing_city>CA</billing_city>
         <billing_postcode>12345</billing_postcode>
         <billing_country>DE</billing_country>
      </MisterCashTxn>
   </Transaction>
</Request>
```

2.13 BIN LOOKUP SERVICE

This section of the documentation assumes the reader is familiar with the Card Tokenization Service, which is discussed in section 2.9.

2.13.1 *Service Overview*

The BIN Lookup service allows a merchant to submit a pan or tokenized pan and get the card BIN details in response.

2.13.2 *XML Schema for Request*

In the following section, the XML schema for the BINLookupTxn request is shown. Note that in the Card element, either a pan, or tokenized pan can be submitted. When a token is submitted, the attribute "type" must specified as "token".

Elements of [BINLookup]Txn Request			
Element Name	**Description**	**Values/Limitations**	
`Method`	The type of request.	A constant value of "`binlookup`" (this is currently the only method supported)	R
`Card`	Contains the card details / tokenized card details	Parent element of pan element	R
Pan	Card number or Tokenized Card number	When submitting a tokenized pan, the "type" attribute must be specified to "token".	R

```
<Request>
  <Transaction>
    <BINLookupTxn>
      <method>binlookup</method>
      <Card>
        <pan>4444333322221111</pan>
        OR
        <pan type="token">985B8AB922D42A8649904D7F3B5A437F545C32D0</pan>
      </Card>
    </BINLookupTxn>
    <TxnDetails>
      <merchantreference>999999999</merchantreference>
    </TxnDetails>
  </Transaction>
  <Authentication>
    <password>****</password>
    <client>11111111</client>
  </Authentication>

</Request>
```

2.13.3 *XML Schema for response*

In the following section, the XML schema for the BINLookupTxn response is shown. Note that the token element will only be returned if the VTID is a member of a VTID Tokenization group and the token is associated with the same VID tokenization group.

```
<Response>
  <BINLookupTxn>
    <card_scheme>VISA</card_scheme>
    <country>gbr</country>
    <issuer>Unknown</issuer>
    <token>538C8AB922D42A8649904F7F3B5A437F545C32D0</token>
  </BINLookupTxn>
  <datacash_reference>1111111111111111</datacash_reference>
  <merchantreference>999999999</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1329995762</time>
</Response>
```

2.14 China Union Pay

2.14.1 *Summary of Service*

The China Union Pay service provides the ability to perform several transaction types against the China Union Pay QuickPay system:

- Authorisation transactions
- Txn Refund transactions
- Cancel transactions

These transactions types will be represented by the letters A, T and C respectively in the table below which maps out the potential fields.

Authorisation requests can be submitted in two different modes, datacash-managed or merchant-managed. In merchant-manged mode, as with Txn Refund and Cancel transactions, they are submitted directly to the DPG. In datacash-managed mode, Authorisations are submitted to the DPG via the Hosted Payment Service (HPS). Section 2.14.3 shows the format in which the HPS setup request must be submitted in datacash-managed mode to begin an HPS session. Section 2.14.4 shows the format in which authorisation commencement requests must be submitted in merchant-managed mode. In the table below, letter A represents both of these authorisation requests.

2.14.2 *Schema Elements for Request*

Element Name:	`ChinaUnionPayTxn`
Position:	`Request.Transaction`

Elements of ChinaUnionPayTxn

Element Name	Description	Values / Limitations	Required		
			A	T	C

`method`	The method of the transaction.	`auth`
		`cancel`
		`txn_refund`
			R	R	R

`reference`	When performing a `txn_refund` or `cancel`, this element should be used to indicate the transaction that is being refunded or cancelled respectively.	The value contained should be the datacash_reference of the original CUP authorisation transaction. This value can be found by querying the HPS Setup used to initiate the authorisation transaction. It should not be confused with the reference of the HPS Setup transaction itself.	-	R	R
`mer_abbr`	The name of the merchant submitting the transaction.	Alphanumeric, up to 32 characters.	R	-	-

`order_time`	The time at which the transaction takes place.	The value should be in Chinese Standard Time (GMT+8) and formatted in the following style: yyyymmddHHMMSS	R	-	-
`customer_ip`	The IP address of the customer.	Valid IP address, max length 40.	R	-	-
`commodity_url`	The address of the item being purchased.	Valid URL, max length 1024.	O	-	-
`commodity_name`	The name of the item being purchased.	Alphanumeric, up to 256 characters.	O	-	-
`commodity_quantity`	The number of items bought.	Numeric, up to 10 digits.	O	-	-
`commodity_unit_price`	The individual price of each item.	Numeric, up to 12 digits.	O	-	-
`commodity_discount`	The discount value to be applied.	Numeric, up to 10 digits.	O	-	-
`transfer_fee`	The transfer fee to charge the customer.	Numeric, up to 12 digits.	O	-	-
`customer_name`	The name of the customer if it is known.	Alphanumeric, up to 20 characters.	O	-	-
`default_pay_type`	The default type of payment.	Alphanumeric, up to 8 characters.	O	-	-
`default_bank_number`	The default bank number to use.	Numeric, up to 11 characters.	O	-	-
`version`	The version number of the transaction.	This field should take the form, RO.RO.RO, so can vary between 0.0.0 and 99.99.99.	O	-	-
`mer_reserved`	The merchants own reference.	Text, up to 1024 characters. UTF-8 compatible.	O	-	-

2.14.3 *Authorisation transactions*

Transactions using the China Union Pay service are initiated in datacash-managed mode with a Hosted Payment Service (HPS) transaction. This causes the authorisation setup requests for this service to use the following format:

- Request
  - Authentication (section 2.1.1.2)
  - Transaction
    - CardTxn (section)
    - TxnDetails (section)
    - HpsTxn (section)
    - ChinaUnionPayTxn (section)

An example authorisation transaction is illustrated below:

Example China Union Pay HPS Setup Request

```
<Request>
  <Authentication>
    <password>xxxxxxxx</password>
    <client>xxxxxxxx</client>
  </Authentication>
  <Transaction>
    <CardTxn>
      <method>auth</method>
    </CardTxn>
    <TxnDetails>
      <merchantreference>1300f789b8d1be2381</merchantreference>
      <capturemethod>ecomm</capturemethod>
      <amount currency="GBP">1000.00</amount>
    </TxnDetails>
    <HpsTxn>
      <page_set_id>1</page_set_id>
      <return_url>http://www.merchant.com/paymentmade</return_url>
      <method>setup_full</method>
    </HpsTxn>
    <ChinaUnionPayTxn>
      <mer_abbr>abc</mer_abbr>
      <commodity_unit_price>100</commodity_unit_price>
      <order_time>20120203185332</order_time>
      <customer_name>Geoff Jefferson</customer_name>
      <commodity_quantity>10</commodity_quantity>
      <customer_ip>127.0.0.1</customer_ip>
      <commodity_url>http://www.merchant.com/item6103</commodity_url>
      <commodity_name>Face paint</commodity_name>
      <commodity_discount>0</commodity_discount>
      <version>1.0.0</version>
      <default_bank_number>1234</default_bank_number>
      <mer_reserved>merchref_12345</mer_reserved>
      <transfer_fee>0</transfer_fee>
      <method>auth</method>
      <default_pay_type>12</default_pay_type>
    </ChinaUnionPayTxn>
  </Transaction>
</Request>
```

An example response to a setup transaction is shown below:

Example China Union Pay HPS Setup Response

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
  <HpsTxn>
    <hps_url>https://dpg.example.com:8180/hps/</hps_url>
    <session_id>6f69e357-24b1-492d-ac21-898c83f25e5d</session_id>
  </HpsTxn>
  <datacash_reference>4000900012345671</datacash_reference>
  <merchantreference>1300f789b8d1be2381</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328266422</time>
</Response>
```

2.14.3.1

2.14.4 *Authorisation commencement transactions*

Merchant-managed China Union Pay authorisation transactions do not require a setup transaction. Instead they send an authorisation commencement transaction. These have the format

- Request
  - Authentication (section 2.1.1.2)
  - Transaction
    - TxnDetails (section)
    - ChinaUnionPayTxn (section)

An example authorisation commencement transaction is shown below

Example China Union Pay Authorisation Commencement Request

```
<Request>
  <Authentication>
    <password>xxxxxxxx</password>
    <client>xxxxxxxx</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>1300f789b8d1be2381</merchantreference>
      <capturemethod>ecomm</capturemethod>
      <amount currency="GBP">1000.00</amount>
    </TxnDetails>
    <ChinaUnionPayTxn>
      <mer_abbr>abc</mer_abbr>
      <commodity_unit_price>100</commodity_unit_price>
      <order_time>20120203185332</order_time>
      <customer_name>Geoff Jefferson</customer_name>
      <commodity_quantity>10</commodity_quantity>
      <customer_ip>127.0.0.1</customer_ip>
      <commodity_url>http://www.merchant.com/item6103</commodity_url>
      <commodity_name>Face paint</commodity_name>
      <commodity_discount>0</commodity_discount>
      <version>1.0.0</version>
      <default_bank_number>1234</default_bank_number>
      <mer_reserved>merchref_12345</mer_reserved>
      <transfer_fee>0</transfer_fee>
      <method>auth</method>
      <default_pay_type>12</default_pay_type>
    </ChinaUnionPayTxn>
  </Transaction>
</Request>
```

2.14.5 *Txn Refund and Cancel transactions*

The txn_refund transaction allows the merchant to refund the authorisation transaction with a maximum amount equal to that contained within the original transaction as identified by the 'reference' provided in the XML. The cancel transaction uses much the same process but cannot be supplied with an amount value; either the whole transaction is cancelled, or it is not cancelled at all.

Note that where multiple txn_refund transactions are submitted against the same redemption, the sum of the refunded amounts must not exceed the originally authorised amount.

An example txn_refund transaction is shown below:

Example Txn Refund Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <amount>10.59</amount>
    </TxnDetails>
    <ChinaUnionPayTxn>
      <method>txn_refund</method>
      <reference>4100900012345675</reference>
    </ChinaUnionPayTxn>
  </Transaction>
</Request>
```

If the amount is not provided, the amount refunded will be that of the original redemption transaction. Note that 'currency' is not permitted in a txn_refund.

An example cancel transaction is shown below:

Example Cancel Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <ChinaUnionPayTxn>
      <method>cancel </method>
      <reference>4100900012345675</reference>
    </ChinaUnionPayTxn>
  </Transaction>
</Request>
```

As can be seen, the transaction is similar to that of a txn_refund but does not include the TxnDetails block as no amount is necessary. Both transactions receive their responses in the same format though.

An example response to a txn_refund/cancel is provided below:

Example Txn Refund Response

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
  <datacash_reference>4000900012345671</datacash_reference>
  <status>1</status>
  <reason>ACCEPTED</reason>
  <ChinaUnionPayTxn>
    <qid>000010000200003000041</qid>
  </ChinaUnionPayTxn>
  <mode>TEST</mode>
  <time>1132843641</time>
</Response>
```

The 'qid' returned in response is the China Union Pay serial number of the submitted transaction. In the instance above, for example, the 'qid' shown is the serial number of the txn_refund transaction.

2.14.6 *Unsuccessful, Invalid or Failed Transactions*

In the event of a transaction being rejected by the DPG without going to China Union Pay for processing or the transaction receiving an error code from China Union Pay, the `ChinaUnionPayTxn` block will not be returned. A suitable status code and message will be returned, with additional details in the `information` field. This is in-line with the existing DataCash response format.

For example:

Example Response for a Invalid Transaction

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
  <datacash_reference>4000900012345672</datacash_reference>
  <status>1489</status>
  <reason>China Union Pay: Invalid Order Number</reason>
  <information>Specified transaction has not completed!</information>
  <mode>TEST</mode>
  <time>1132843641</time>
</Response>
```

Such responses will be received if the XML submitted contains unexpected elements, has missing elements or the data contained within those elements has failed to meet the validation rules.

2.14.7 *Query Transactions*

It is possible to query any of the China Union Pay transactions using a standard query transaction supplying the DataCash reference within a HistoricTxn block. This would look like the following example:

Example XML Batch Query

```
<Request>
  <Authentication>
    <password>*****</password>
    <client>99000001</client>
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>4000900012345671</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.14.7.1 Query Transaction Responses

As can be seen in the following examples, the query transaction returns the standard block outlining the details submitted as part of the original cancel, and also includes details of the China Union Pay confirmation which was performed upon it. All details of the transactions sent to China Union Pay are contained within the ChinaUnionPayTxn block.

If the query transaction has communicated with China Union Pay while verifying the status of the transaction, an InquiryResponse block will be included in the response.

This block can contain the following elements:

Elements of InquiryResponse		
Element Name	**Description**	**Values / Limitations**
`status`	The status of the inquiry sent to China Union Pay.	`successful` `error`
`info`	A message detailing the response received from CUP pertaining to the original transaction.	Message indicating the status of the transaction according to China Union Pay.
`transaction_updated`	Whether the transaction has just been updated by performing this query.	`true` `false`

2.14.7.2 Query of HPS Setup Transaction Submitting CUP Authorisation

The following example is the response to a query transaction on an HPS Setup transaction which has submitted an authorisation to China Union Pay.

Example Response for a Query Transaction

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
  <HpsTxn>
    <AuthAttempts>
      <Attempt>
        <ChinaUnionPayTxn>
          <InquiryResponse>
            <info>China Union Pay have indicated that the transaction was
successful</info>
            <status>successful</status>
            <transaction_updated>true</transaction_updated>
          </InquiryResponse>
          <acquirer_code>28180826</acquirer_code>
          <cup_reserved>{orderAmount=10000&orderCurrency=826}</cup_reserved>
          <customer_ip>127.0.0.1</customer_ip>
          <mer_abbr>dtest1</mer_abbr>
          <merchantreference>52d8a5c28afc8e</merchantreference>
          <method>auth</method>
          <order_amount>10000</order_amount>
          <order_currency>826</order_currency>
          <order_number>3300900010000128</order_number>
          <order_time>2012-02-06 18:16:18</order_time>
          <qid>201202061816187320872</qid>
          <resp_code>00</resp_code>
          <resp_time>20120206181605</resp_time>
          <settle_amount>10000</settle_amount>
          <settle_currency>826</settle_currency>
          <settle_date>0206</settle_date>
          <trace_number>732087</trace_number>
          <trace_time>0206181618</trace_time>
          <trans_timeout>300000</trans_timeout>
          <trans_type>1</trans_type>
          <version>1.0.0</version>
        </ChinaUnionPayTxn>
        <datacash_reference>3300900010000128</datacash_reference>
        <dc_response>1</dc_response>
        <reason>ACCEPTED</reason>
      </Attempt>
    </AuthAttempts>
    <datacash_reference>3300900010000128</datacash_reference>
  </HpsTxn>
  <datacash_reference>3500900010000127</datacash_reference>
  <information>You have queried a Full-HPS China Union Pay transaction, where the
payment was successfully collected</information>
  <merchantreference>52d8a5c28afc8e</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328523521</time>
</Response>
```

2.14.7.3 Query of Txn Refund/Cancel Transactions

The following example is the response to a query transaction for a cancel transaction performed for China Union Pay:

Example Response for a Query Transaction

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
  <QueryTxnResult>
    <ChinaUnionPayTxn>
      <InquiryResponse>
        <info>China Union Pay have indicated that the transaction was
successful</info>
        <status>successful</status>
        <transaction_updated>true</transaction_updated>
      </InquiryResponse>
      <acquirer_code>28180826</acquirer_code>
      <cup_reserved>{orderAmount=10000&orderCurrency=826}</cup_reserved>
      <customer_ip>127.0.0.1</customer_ip>
      <mer_abbr>dtest1</mer_abbr>
      <merchantreference>7bfc15ad69fc5181cc</merchantreference>
      <method>cancel</method>
      <order_amount>10000</order_amount>
      <order_currency>826</order_currency>
      <order_number>3500900010000113</order_number>
      <order_time>2012-02-04 00:48:02</order_time>
      <orig_qid>201202040042077318332</orig_qid>
      <qid>201202040048027318352</qid>
      <resp_code>00</resp_code>
      <resp_time>20120204004715</resp_time>
      <settle_amount>10000</settle_amount>
      <settle_currency>826</settle_currency>
      <settle_date>0203</settle_date>
      <trace_number>731835</trace_number>
      <trace_time>0204004802</trace_time>
      <trans_timeout>300000</trans_timeout>
      <trans_type>31</trans_type>
      <version>1.0.0</version>
    </ChinaUnionPayTxn>
  </QueryTxnResult>
  <datacash_reference>3500900010000113</datacash_reference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328287698</time>
</Response>
```

2.15 PAYPASS ONLINE

2.15.1 *Summary of Service*

The PayPass service allows merchants to integrate with the MasterCard PayPass OnLine wallet system.

There are three separate methods of sending transactions to PayPass now in place.

- HCC (section 2.15.2)
- Full HPS (section 2.15.3)
- Direct (section 2.15.4)

Sending queries and authorisations for each of these methods is covered in the following sections:

- Queries (2.15.5)
- Authorisations (2.15.6)

2.15.2 *Shipping Address Suppression*

The optional element suppress_shipping_address allows for the capture of the shipping address within the PayPass wallet to be suppressed should the capture/storage of the Consumer's shipping address occur on the Merchant's site. The new parameter can be used in the setup transactions for HCC, Full HPS and Direct.

If the new parameter = TRUE, then the address will be suppressed and shipping details will NOT be returned from PayPass. If the new parameter = FALSE then the shipping address will not be suppressed and shipping details WILL be returned from PayPass

Default: If the parameter is not sent within the PayPass request, then the shipping address details will be returned from PayPass by default.

2.15.3 *HCC*

The merchant initiates an HCC session, once their customer reaches the checkout stage of the payment cycle, by submitting a transaction to DataCash. The response to this transaction gives the merchant the URL of the HCC session to redirect their customer to. When the customer arrives on the HCC page, a *setup_paypass_online_session* transaction is sent to inform PayPass that a customer wishes to pay using PayPass. The customer is then redirected onwards to PayPass. On the PayPass site, the customer will choose which wallet details to use before being redirected back to HCC. A *get_customer_details* transaction is then sent by HCC to retrieve the details, chosen by the customer, from PayPass. The merchant can then query these details before sending in the authorisation request.

2.15.3.1 Schema Elements for HCC Setup Request

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – section 2.15.2.1.1
    - `HpsTxn` – section 2.15.2.1.2
    - `PayPassOnLineTxn` – section 2.15.2.1.3

Each field will be labelled with the following key:

- O – Optional.
- R – Required, field must be presented.
- X – Excluded, presenting this field will cause the transaction to fail.

2.15.3.1.1 TxnDetails

Element Name:	TxnDetails
Position:	Request.Transaction

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Required?**
merchantreference	A unique reference number to distinguish each transaction	Min 6, max 30 alphanumeric characters. Must be unique	R
amount	The value of the transaction		R
capturemethod	Indicates how the transaction was accepted at the POS	ecomm	R

Attributes for Elements of TxnDetails			
Attribute Name	**Attribute of Element**	**Values / Limitations**	**Required?**
currency	amount	Currency is passed in the 3 character ISO 4217 Alphabetic format (Default is GBP)	O

2.15.3.1.2 HpsTxn

This element must be present for all setup transactions. It should not be presented for other transaction types.

Element Name:	HpsTxn
Position:	Request.Transaction

Elements of HpsTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
method	The action that is being requested	Must have the value “setup_paypass_online”	R
page_set_id	An ID number that signifies the “page set” that should be used when presenting the data capture screen to the customer.	An integer value of a page set that has already been configured.	R

return_url	A URL from the customer's website. If this value is supplied, then when the data capture process has been completed, the customer will be redirected to this URL instead of the default URL configured within HCC.	Max size 2083.	R
expiry_url	A URL from the customer's website. If this value is specified, the customer will be redirected to this URL instead of the default expiry URL configured within HCC on attempting to visit an expired session.	Max size 208.	O
cvv_only	If this element is given the value 1, it signifies that this will be a CVV Only card capture. This means that either a pre-registered card or tokenized card number are being used. The merchant must be subscribed to the HCC CVV Only service for this type of card capture.	A value of 1 means true. A value of 0 means false.	O

2.15.3.1.3 PayPassOnlineTxn

This element is optional for setup transactions.

Element Name:	PayPassOnLineTxn
Position:	Request.Transaction

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Required**
suppress_shipping_address	Determines whether a customer will be prevented from selecting a shipping address within the PayPass wallet. If this parameter is not present the customer will be able to select a shipping address within the PayPass wallet.	"TRUE" or "FALSE", but case insensitive	O

2.15.3.1.4 Example HCC Setup Transaction

An example transaction is illustrated below:

Example PayPass HCC Setup Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>12345678</merchantreference>
      <amount currency="GBP">1000.00</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <HpsTxn>
      <method>setup_paypass_online</method>
      <page_set_id>1</page_set_id>
      <return_url>https://www.merchantexample.com/customer_return</return_url>
    </HpsTxn>
<PayPassOnlineTxn>
      <suppress_shipping_address>FALSE</suppress_shipping_address>
    </PayPassOnlineTxn>
  </Transaction>
</Request>
```

An example response to this setup transaction is shown below:

Example PayPass HCC Setup Response

```
<Response>
  <HpsTxn>
    <hps_url>https://dpg.example.com:8180/hps/</hps_url>
    <session_id>6f69e357-24b1-492d-ac21-898c83f25e5d</session_id>
  </HpsTxn>
  <datacash_reference>4800903000000001</datacash_reference>
  <merchantreference>4421000008</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328266422</time>
</Response>
```

2.15.4 *Full HPS*

To use the Full HPS integration, the merchant submits a setup request in a similar style as used by the HCC integration. The merchant will then receive a response containing the HPS URL to use for their customer redirect. Once the customer arrives on the HPS page, the *setup_paypass_online_session* transaction is sent to PayPass and the customer redirected to select their card details from PayPass. When PayPass redirect the customer back to HPS, a *get_customer_details* transaction is then sent to retrieve the details selected by the customer. The authorisation transaction for the request will then be automatically submitted based on the details received. The outcome of the authorisation will then be sent back sent back to the merchant so that a confirmation page can be displayed to the customer.

2.15.4.1 Schema Elements for Full HPS Setup Request

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – section 2.15.2.1.1
    - `PayPassOnLineTxn` – section 2.15.3.1.1
    - `HpsTxn` – section 2.15.3.1.2

Each field will be labelled with the following key:

- O – Optional.
- R – Required, field must be presented.
- X – Excluded, presenting this field will cause the transaction to fail.

2.15.4.1.1 PayPassOnLineTxn

This element must be present for all setup transactions. It should not be presented for other transaction types.

Element Name:	`PayPassOnLineTxn`
Position:	`Request.Transaction`

Elements of HpsTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
`method`	The action that is being requested	Must have the value "setup_paypass_online_ session"	R
`suppress_shipping_ address`	Determines whether a customer will be prevented from selecting a shipping address within the PayPass wallet. If this parameter is not present the customer will be able to select a shipping address within the PayPass wallet.	"TRUE" or "FALSE", but case insensitive	O

2.15.4.1.2 HpsTxn

This element must be present for all setup transactions. It should not be presented for other transaction types.

Element Name:	`HpsTxn`
Position:	`Request.Transaction`

Elements of HpsTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
`method`	The action that is being requested	Must have the value "setup_full"	R
`page_set_id`	An ID number that signifies the "page set" that should be used when presenting the data capture screen to the customer.	An integer value of a page set that has already been configured.	R
`return_url`	A URL from the customer's website. If this value is supplied, then when the data capture process has been completed, the customer will be redirected to this URL instead of the default URL configured within HCC.	Max size 2083.	R

expiry_url	A URL from the customer's website. If this value is specified, the customer will be redirected to this URL instead of the default expiry URL configured within HCC on attempting to visit an expired session.	Max size 208.	O

2.15.4.1.3 Example Full HPS Setup Transaction

An example transaction is illustrated below:

Example PayPass Full HPS Setup Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>12345678</merchantreference>
      <amount currency="GBP">1000.00</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <PayPassOnLineTxn>
      <method>setup_paypass_online_session</method>
      <suppress_shipping_address>FALSE</suppress_shipping_address>
    </PayPassOnLineTxn>
    <HpsTxn>
      <method>setup_full</method>
      <page_set_id>1</page_set_id>
      <return_url>https://www.merchantexample.com/customer_return</return_url>
    </HpsTxn>
  </Transaction>
</Request>
```

An example response to this setup transaction is shown below:

Example PayPass Full HPS Setup Response

```
<Response>
  <HpsTxn>
    <hps_url>https://dpg.example.com:8180/hps/</hps_url>
    <session_id>6f69e357-24b1-492d-ac21-898c83f25e5d</session_id>
  </HpsTxn>
  <datacash_reference>4800903000000001</datacash_reference>
  <merchantreference>4421000008</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328266422</time>
</Response>
```

2.15.5 *Direct*

The third integration option is for the merchant to directly send transactions to the DPG and to keep the customer on their own site. In this scenario, the merchant starts by submitting a *setup_paypass_online_session* transaction to the DPG to get the information necessary to redirect the customer to PayPass. The customer will then be handed over to PayPass to select card details, addresses to use, etc before being sent back to the merchant's site. The merchant can then submit a *get_customer_details* transaction to fetch the details chosen by the customer. Using this information, the merchant can then send in an authorisation request.

2.15.5.1 Schema Elements for Setup PayPass Online Session Request

- Request
  - Authentication – section 2.1.1.2
  - Transaction
    - TxnDetails – section 2.15.2.1.1
    - PayPassOnLineTxn – section 2.15.4.1.1

Each field will be labelled with the following key:

- O – Optional.
- R – Required, field must be presented.
- X – Excluded, presenting this field will cause the transaction to fail.

2.15.5.1.1 PayPassOnLineTxn

This element must be present for all setup transactions. It should not be presented for other transaction types.

Element Name:	PayPassOnLineTxn
Position:	Request.Transaction

Elements of HpsTxn

Element Name	Description	Values / Limitations	Required
method	The action that is being requested	Must have the value "setup_paypass_online_session"	R
paypass_callback_url	The address of the merchant website submitting the request.	Must be a valid URL.	R
suppress_shipping_address	Determines whether a customer will be prevented from selecting a shipping address within the PayPass wallet. If this parameter is not present the customer will be able to select a shipping address within the PayPass wallet.	"TRUE" or "FALSE", but case insensitive	O

2.15.5.1.2 Example Setup PayPass Online Session Transaction

An example transaction is illustrated below:

Example PayPass Setup PayPass Online Session Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>12345678</merchantreference>
      <amount currency="GBP">1000.00</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <PayPassOnLineTxn>
      <method>setup_paypass_online_session</method>
      <paypass_callback_url>http://www.merch.com/paypass</paypass_callback_url>
      <suppress_shipping_address>FALSE</suppress_shipping_address>
    </PayPassOnLineTxn>
  </Transaction>
</Request>
```

An example response to this setup transaction is shown below:

Example PayPass Setup PayPass Online Session Response

```
<Response>
    <PayPassOnLineTxn>
<paypass_redirect_url>https://sandbox.paypass.com/online/Checkout/Authorize?oaut
h_token=1234567890abcdef1234567890abcdef&amp;acceptable_cards=visa,maestro,jcb,m
aster&amp;checkout_identifier=123425334234235234</paypass_redirect_url>
<paypass_request_token>1234567890abcdef1234567890abcdef</paypass_request_token>
  </PayPassOnLineTxn>
  <datacash_reference>4800903000000001</datacash_reference>
  <merchantreference>4421000008</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328266422</time>
</Response>
```

2.15.5.2 Schema Elements for Get Customer Details Request

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – section 2.15.2.1.1
    - `PayPassOnLineTxn` – section 2.15.4.2.1

Each field will be labelled with the following key:

- O – Optional.
- R – Required, field must be presented.
- X – Excluded, presenting this field will cause the transaction to fail.

2.15.5.2.1 PayPassOnLineTxn

This element must be present for all setup transactions. It should not be presented for other transaction types.

Element Name:	`PayPassOnLineTxn`
Position:	`Request.Transaction`

Elements of HpsTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
`method`	The action that is being requested	Must have the value “get_customer_details”	R
`reference`	The reference to the *setup_paypass_online_session* transaction.	Must be a valid 16 digit DataCash reference.	R
`paypass_resource_url`	The checkout resource URL returned by PayPass when the customer is redirected back to the merchant site from PayPass.	Must be a valid URL.	R
`paypass_verifier`	Verifier code returned by PayPass when the customer completes choosing their details.	Must be a valid verifier code.	R

2.15.5.2.2 Example Get Customer Details Transaction

An example transaction is illustrated below. If the suppress_shipping_adddress parameter was used with the value “true” in the setup transaction, the shipping address will not appear.

Example PayPass Get Customer Details Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <PayPassOnLineTxn>
      <method>get_customer_details</method>
      <reference>4800903000000001</reference>
      <paypass_resource_url>http://www.merch.com/details</paypass_resource_url>
      <paypass_verifier>1234567890abcdef</paypass_verifier>
    </PayPassOnLineTxn>
  </Transaction>
</Request>
```

An example response to this transaction is shown below:

Example PayPass Get Customer Details Response

```
<Response>
  <PayPassOnLineTxn>
    <ShippingAddress>
      <City>Purchase</City>
      <Country>United States</Country>
      <CountrySubdivision>NY</CountrySubdivision>
      <Line1>2000 Purchase St</Line1>
      <Line2></Line2>
      <PostalCode>10577</PostalCode>
      <RecipientName>Joe Test</RecipientName>
      <RecipientPhoneNumber>1-2345678901</RecipientPhoneNumber>
    </ShippingAddress>
    <Card>
      <ExpiryMonth>02</ExpiryMonth>
      <ExpiryYear>2013</ExpiryYear>
      <LastFourDigits>1111</LastFourDigits>
      <BillingAddress>
        <City>Buffalo</City>
        <Country>United States</Country>
        <CountrySubdivision>NY</CountrySubdivision>
        <Line1>123 Bison Ln</Line1>
        <Line2></Line2>
        <PostalCode>10600</PostalCode>
      </BillingAddress>
    </Card>
    <Contact>
      <CardHolderName>Joe Test</CardHolderName>
      <EmailAddress>joe.test@email.com</EmailAddress>
      <FirstName>Joe</FirstName>
      <LastName>Test</LastName>
      <MiddleInitial></MiddleInitial>
      <PhoneNumber>1-2345678901</PhoneNumber>
    </Contact>
    <TransactionId>4400</TransactionId>
  </PayPassOnLineTxn>
  <datacash_reference>4600903000000002</datacash_reference>
  <merchantreference>123401</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328266422</time>
</Response>
```

2.15.6 *Query Transactions*

It is possible to query a PayPass transaction using a standard query transaction supplying the DataCash reference within a HistoricTxn block. This would look like the following example:

Example PayPass Query Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>4800903000000001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.15.6.1 Example Response

The following example response is based on the merchant querying a transaction shortly after the customer has selected or entered their details on the PayPass site, and the DPG has retrieved them. It is these retrieved details that the transaction is displaying as the card, contact and shipping information. If the suppress_shipping_adddress parameter was used with the value "true" in the setup transaction, the shipping address will not appear.

Example PayPass Query Response

```
<Response>
  <QueryTxnResult>
    <PayPassOnLineTxn>
      <SetupPayPassOnLine>
<paypass_redirect_url>http://paypass.mastercard.com/login</paypass_redirect_url>
        <paypass_request_token>aXHfwEYfwehHF23re23</paypass_request_token>
        <datacash_reference>4900900023456780</datacash_reference>
        <merchantreference>123401</merchantreference>
        <reason>ACCEPTED</reason>
        <status>1</status>
      </SetupPayPassOnLine>
      <GetCustomerDetails>
        <Card>
          <ExpiryMonth>02</ExpiryMonth>
          <ExpiryYear>2013</ExpiryYear>
          <LastFourDigits>1234</LastFourDigits>
        </Card>
        <Contact>
          <CardHolderName>Test User</CardHolderName>
          <EmailAddress>test@test.com</EmailAddress>
          <FirstName>Test</FirstName>
          <LastName>User</LastName>
          <MiddleInitial/>
          <PhoneNumber>1-1111111111</PhoneNumber>
        </Contact>
        <ShippingAddress>
          <City>Arlington</City>
          <Country>United States</Country>
          <CountrySubdivision>VA</CountrySubdivision>
          <Line1>11 Any Street</Line1>
          <Line2/>
          <PostalCode>22222</PostalCode>
          <RecipientName>Test User</RecipientName>
          <RecipientPhoneNumber>1- 1111111111</RecipientPhoneNumber>
        </ShippingAddress>
        <TransactionId>3</TransactionId>
        <datacash_reference>4900900023456781</datacash_reference>
        <reason>ACCEPTED</reason>
        <status>1</status>
      </GetCustomerDetails>
    </PayPassOnLineTxn>
  </QueryTxnResult>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1339600563<time>
</Response>
```

2.15.7 *Authorisation Transactions*

Authorisation transactions for PayPass are handled much the same as standard authorisation requests. The primary difference is that a reference to a successful PayPass setup transaction must be included in the authorisation request.

2.15.7.1 Schema Elements for Authorisation Request

PayPass authorisation transactions require the following sections and elements:

- Request
  - Authentication – section 2.1.1.2
  - Transaction
    - TxnDetails – section 1.1.1.1.2
    - CardTxn – section 2.15.6.1.1

2.15.7.1.1 CardTxn

Element Name:	Card
Position:	Request.Transaction.CardTxn

Elements of CardTxn		
Element Name	**Description**	**Values / Limitations**
card_details	Specifies the DataCash reference of a successful HCC session setup.	Required. Must be a 16-digit DataCash reference.
method	The transaction type	auth pre

Attributes for Elements of CardTxn		
Attribute Name	**Attribute of Element**	**Values / Limitations**
type	card_details	Specifies the nature of the supplied DataCash reference. For a PayPass transaction, it must have the value "from_paypass_online".

2.15.7.1.1.1 Example Request

The following example request demonstrates a basic PayPass authorisation request:

Example PayPass Authorisation Request

```
<Request>
  <Authentication>
    <password>xxxxxxxx</password>
    <client>xxxxxxxx</client>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>mref123501</merchantreference>
      <amount>1000.00</amount>
      <capturemethod>ecomm</capturemethod>
    </TxnDetails>
    <CardTxn>
      <method>auth</method>
      <card_details type="from_paypass_online">4000900012345671</card_details>
    </CardTxn>
  </Transaction>
</Request>
```

2.15.7.1.1.2 Example Response

Example PayPass Authorisation Response

```
<Response>
  <CardTxn>
    <authcode>100000</authcode>
    <card_scheme>VISA</card_scheme>
    <country>United Kingdom</country>
  </CardTxn>
  <datacash_reference>4200903000000001</datacash_reference>
  <merchantreference>mref123501</merchantreference>
  <mode>TEST</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1339600563</time>
</Response>
```

2.16 Boleto Bancario

2.16.1 *Summary of Service*

The Boleto Bancario service enables Redecard merchants to process Boleto Bancario transactions, a type of alternative payment method involving offline payments. In order to support Boletos we integrate into a third party provider called MaxiPago.

There are two separate methods for sending Boleto Bancario transactions:

- Full HPS – section 2.16.2
- Direct – section 2.16.3

Sending queries and authorisations for each of these methods is covered in the following sections:

- Queries – section 2.16.4
- Authorisations – sections 2.16.2.1.3 and 2.16.3.1.2

2.16.2 *Full HPS*

To use the Full HPS integration, the merchant submits a setup request. The merchant will then receive a response containing the HPS URL to use for their customer redirect. The authorisation transaction for the request will then be automatically submitted based on the details received. The outcome of the authorisation will then be sent back to the merchant so that a confirmation page can be displayed to the customer.

2.16.2.1 Schema Elements for Full HPS Setup Request

- Request
  - Authentication – section 2.1.1.2
  - Transaction
    - TxnDetails – section 2.16.2.1.1
    - BoletoBancarioTxn – section 2.16.2.1.2
    - HpsTxn – section 2.16.2.1.3

Each field will be labelled with the following key:

- O – Optional.
- R – Required, field must be presented.
- X – Excluded, presenting this field will cause the transaction to fail.

2.16.2.1.1 TxnDetails

Element Name:	TxnDetails
Position:	Request.Transaction

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Required**
merchantreference	A unique reference number to distinguish each transaction	Min 6, max 30 alphanumeric characters. Must be unique.	R
amount	The value of the transaction		R

Attributes for Elements of TxnDetails			
Attribute Name	**Attribute of Element**	**Values / Limitations**	**Required**
currency	amount	Currency is passed in the 3 character ISO 4217 Alphabetic format (Only BRL is accepted)	O

2.16.2.1.2 BoletoBancarioTxn

This element must be present for all the Boleto Bancario transactions.

Element Name:	BoletoBancarioTxn
Position:	Request.Transaction

Elements of BoletoBancarioTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
method	The action that is being requeste	Must have the value "payment"	R
expiry_date	The date that the boleto expires. Payment may have additional fees after expiry date.	Must be in the format YYYY-MM-DD	R
instructions	General instructions for the specific transaction	Maximum length of 350 characters	R
first_name	The customer's name		R
last_name	The customer's surnam		R
billing_street	The customer's billing street		O
billing_street2	Additional information for customer's billing address		O
billing_city	The customer's billing street		O
billing_state_province	The customer's billing state province		O
billing_postcode	The customer's billing postcode		O
billing_country	The customer's billing country		O
customer_email	The customer's email address		O
customer_phone	The customer's phone numer		O
processor_id	A unique ID set by merchant from Account Maintenance. It is overridden by the value submitted in the request.	3 digitis numerical. Valid values : 11 = Itau 12 = Bradesco OR a test transaction 13 = Banco do Brasil 14 = HSBC 15 = Santander 16 = Caixa	O
customer_ip	The customer's IP address	Needs to be a valid IP address	O

interest_per_day	Additional amount of interest that must be paid for every day after expiration date.	Needs to be in percentage format	O
overdue_fine	Overall fine that must be paid for transactions due after the expiration day.	Needs to be in percentage format	O

2.16.2.1.3 HpsTxn

This element must be present for all setup transactions. It should not be presented for other transaction types.

Element Name:	HpsTxn
Position:	Request.Transaction

Elements of HpsTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
method	The action that is being requested	Must have the value "setup_full"	R
page_set_id	An ID number that signifies the "page set" that should be used when presenting the data capture screen to the customer.	An integer value of a page set that has already been configured.	R
return_url	A URL from the customer's website. If supplied, the customer will be redirected to this URL instead of the default URL configured within HCC when the data capture process is completed.	Max size 2083.	R

2.16.2.1.4 Example Full HPS Setup Transaction

An example transaction is illustrated below:

Example Boleto Bancario Full HPS Setup Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>boletobancario123</merchantreference>
      <amount currency="BRL">123.56</amount>
    </TxnDetails>
    <HpsTxn>
      <method>setup_full</method>
      <page_set_id>50</page_set_id>
      <return_url>https://www.merchant-website.com/done</return_url>
    </HpsTxn>
    <BoletoBancarioTxn>
      <method>payment</method>
      <expiry_date>2013-12-01</expiry_date>
      <instructions>Faça o que fizer, não dê esse cara todo o dinheiro.
      </instructions>
      <first_name>John</first_name>
      <last_name>Doe</last_name>
    </BoletoBancarioTxn>
  </Transaction>
</Request>
```

An example response to this setup transaction is shown below:

Example Boleto Bancario Full HPS Setup Response

```
<Response>
  <HpsTxn>
    <hps_url>https://dpg.example.com:8180/hps/</hps_url>
    <session_id>6f69e357-24b1-492d-ac21-898c83f25e5d</session_id>
  </HpsTxn>
  <datacash_reference>4800903000000001</datacash_reference>
  <merchantreference>boletobancario123</merchantreference>
  <mode>LIVE</mode>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1328266422</time>
</Response>
```

2.16.3 *Direct*

The merchant may choose to to directly send transactions to the DPG and keep the customer on their own site. In this scenario, the merchant starts by submitting a payment transaction to the DPG and then DPG redirects that request to the MaxiPago.

Schema Elements for Boleto Bancario "payment" request:

- `Request`
  - `Authentication` – section 2.1.1.2
  - `Transaction`
    - `TxnDetails` – section 2.16.3.1.1
    - `BoletoBancarioTxn` – section 2.16.3.1.2

Each field will be labelled with the following key:

- O – Optional.
- R – Required, field must be presented.
- X – Excluded, presenting this field will cause the transaction to fail.

2.16.3.1.1 TxnDetails

Element Name:	`TxnDetails`
Position:	`Request.Transaction`

Elements of TxnDetails			
Element Name	**Description**	**Values / Limitations**	**Require d?**
`merchantreference`	Unique reference number to distinguish each transaction	Min 6, max 30 alphanumeric characters. Must be unique	R
`amount`	The value of the transaction		R
`capturemethod`	Indicates how the transaction was accepted at the POS	`ecomm`	R

Attributes for Elements of TxnDetails			
Attribute Name	**Attribute of Element**	**Values / Limitations**	**Required?**
`currency`	`amount`	Currency is passed in the 3 character ISO 4217 Alphabetic format (Only BRL is accepted)	O

2.16.3.1.2 BoletoBancarioTxn

This element must be present for all payment transactions. It should not be presented for other transaction types.

Element Name:	`BoletoBancarioTxn`
Position:	`Request.Transaction`

Elements of BoletoBancarioTxn			
Element Name	**Description**	**Values / Limitations**	**Required**
`method`	The action that is being requested	Must have the value “payment”	R
`expiry_date`	The date that the boleto expires. Payment may have additional fees after expiry date.	Must be in the format YYYY-MM-DD	R
`instructions`	General instructions for the specific transaction	Maximum length of 350 characters	R
`first_name`	The customer’s name		R
`last_name`	The customer’s surname		R
`billing_street`	The customer’s billing street		O
`billing_street2`	Additional information for customer’s billing address		O
`billing_city`	The customer’s billing street		O
`billing_state_province`	The customer’s billing state province		O
`billing_postcode`	The customer’s billing postcode		O
`billing_country`	The customer’s billing country		O
`customer_email`	The customer’s email address		O
`customer_phone`	The customer’s phone numer		O
`processor_id`	A unique ID set by merchant from the Account Maintenance. It is overridden by the value submitted in the request.	3 digitis numerical. Valid values : 11 = Itau 12 = Bradesco OR a test transaction 13 = Banco do Brasil 14 = HSBC 15 = Santander 16 = Caixa	O
`customer_ip`	The customer’s IP address	Needs to be a valid IP address	O

interest_per_day	Additional amount needs to be paid for every day after the expiration day	Needs to be in percentage format	O
overdue_fine	Overall fine needs to be paid for transactions paid after the expiration day.	Needs to be in percentage format	O

2.16.3.1.3 Example Boleto Bancario payment Transaction

An example transaction is illustrated below:

Example Boleto Bancario Payment Request

```
<?xml version="1.0" encoding="UTF-8"?>
<Request version="2">
  <Authentication>
    <client>88000000</client>
    <password>fred</password>
  </Authentication>
  <Transaction>
    <TxnDetails>
      <merchantreference>Boleto1234</merchantreference>
      <capturemethod>ecomm</capturemethod>
      <amount currency="BRL">123.56</amount>
    </TxnDetails>
    <BoletoTxn>
      <hps_setup_ref>4900900023456600</hps_setup_ref>
      <method>payment</method>
      <expiry_date>2013-12-01</expiry_date>
      <instructions>Faça o que fizer, não dê esse cara todo o
dinheiro.</instructions>
```

```
      <first_name>John</first_name>
      <last_name>Doe</last_name>
      <billing_street1>123 Example Street</billing_street1>
      <billing_street2>Apt. 123</billing_street2>
      <billing_city>Blahtown</billing_city>
      <billing_state_province>PA</billing_state_province>
      <billing_postcode>24000-123</billing_postcode>
      <billing_country>BR</billing_country>
      <customer_telephone>123456789099</customer_telephone>
      <customer_email>dude@example.com</customer_email>
      <processor_id>12</processor_id>
      <customer_ip>127.0.0.1</customer_ip>
      <interest_per_day>0.1</interest_per_day>
      <overdue_fine>5.00</overdue_fine>
    </BoletoTxn>
  </Transaction>
</Request>
```

2.16.3.1.4 Example Boleto Bancario payment Response

An example response to this payment transaction is shown below:

```
<?xml version="2.0" encoding="UTF-8"?>
<Response version="2">
  <BoletoTxn>
    <method>payment</method>
    <expiry_date>2013-12-01</expiry_date>
    <instructions>Faça o que fizer, não dê esse cara todo o
dinheiro.</instructions>
```

```
    <first_name>John</first_name>
    <last_name>Doe</last_name>
    <billing_street1>123 Example Street</billing_street1>
    <billing_street2>Apt. 123</billing_street2>
    <billing_city>Blahtown</billing_city>
    <billing_state_province>PA</billing_state_province>
    <billing_postcode>24000-123</billing_postcode>
    <billing_country>BR</billing_country>
    <customer_telephone>123456789099</customer_telephone>
    <customer_email>dude@example.com</customer_email>
    <processor_id>12</processor_id>
    <customer_ip>127.0.0.1</customer_ip>
    <interest_per_day>0.1</interest_per_day>
    <overdue_fine>5.00</overdue_fine>
    <boleto_url>http://example.com/something</boleto_url>
    <order_id>eb7b1eaf-eb6a-49fc-bf94-e175485d3bfa</order_id>
    <transaction_id>4568123581487</transaction_id>
    <payment_status>pending</payment_status>
  </BoletoTxn>
  <datacash_reference>4900900023456781</datacash_reference>
  <merchantreference>Boleto1234</merchantreference>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1339600563</time>
</Response>
```

2.16.4 *Query Boleto Bancario Transactions*

It is possible to query a Boleto Bancario transaction using a standard query transaction supplying the DataCash reference within a HistoricTxn block.

An example query request is shown below:

Example Boleto Bancario Query Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>4800903000000001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

2.16.4.1 Example Response – Pending Payment

The following example response is based on the merchant querying a transaction shortly after submitting the request and before MaxiPago provides the payment notification for the transaction.

Example Boleto Bancario Query Response – Pending Payment

```
<Response version="2">
  <QueryTxnResult>
    <BoletoTxn>
      <method>payment</method>
      <expiry_date>2013-12-01</expiry_date>
      <instructions>Faça o que fizer, não dê esse cara todo o
dinheiro.</instructions>
```

```
      <first_name>John</first_name>
      <last_name>Doe</last_name>
      <billing_street1>123 Example Street</billing_street1>
      <billing_street2>Apt. 123</billing_street2>
      <billing_city>Blahtown</billing_city>
      <billing_state_province>PA</billing_state_province>
      <billing_postcode>24000-123</billing_postcode>
      <billing_country>BR</billing_country>
      <customer_telephone>123456789099</customer_telephone>
      <customer_email>dude@example.com</customer_email>
      <processor_id>12</processor_id>
      <customer_ip>127.0.0.1</customer_ip>
      <interest_per_day>0.1</interest_per_day>
      <overdue_fine>5.00</overdue_fine>
      <boleto_url>http://example.com/something</boleto_url>
      <order_id>eb7b1eaf-eb6a-49fc-bf94-e175485d3bfa</order_id>
      <transaction_id>4568123581487</transaction_id>
      <payment_status>pending</payment_status>
    </BoletoTxn>
    <TxnDetails>
      <amount currency="BRL">123.56<amount>
    <TxnDetails>
    <datacash_reference>4800903000000001</datacash_reference>
    <merchantreference>boletobancario123</merchantreference>
    <reason>Payment pending</reason>
    <status>1911</status>
  </QueryTxnResult>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1339600563<time>
</Response
```

2.16.4.2 Example Response – Payment Received

The following example response is based on the merchant querying a transaction after submitting the request and after MaxiPago provides the payment notification for the transaction.

An example transaction is illustrated below:

Example Boleto Bancario Query Response – Payment Received

```
<Response version="2">
  <QueryTxnResult>
    <BoletoTxn>
      <method>payment</method>
      <expiry_date>2013-12-01</expiry_date>
      <instructions>Faça o que fizer, não dê esse cara todo o
dinheiro.</instructions>
      <first_name>John</first_name>
      <last_name>Doe</last_name>
      <billing_street1>123 Example Street</billing_street1>
      <billing_street2>Apt. 123</billing_street2>
      <billing_city>Blahtown</billing_city>
      <billing_state_province>PA</billing_state_province>
      <billing_postcode>24000-123</billing_postcode>
      <billing_country>BR</billing_country>
      <customer_telephone>123456789099</customer_telephone>
      <customer_email>dude@example.com</customer_email>
      <processor_id>12</processor_id>
      <customer_ip>127.0.0.1</customer_ip>
      <interest_per_day>0.1</interest_per_day>
      <overdue_fine>5.00</overdue_fine>
      <boleto_url>http://example.com/something</boleto_url>
      <order_id>eb7b1eaf-eb6a-49fc-bf94-e175485d3bfa</order_id>
      <transaction_id>4568123581487</transaction_id>
      <boleto_bank_code>001</boleto_bank_code>
      <transaction_id>73341232091557</transaction_id>
      <payment_date>2013-12-01</payment_date>
      <payment_amount>130.00</payment_amount>
      <payment_status>OVERPAID</payment_status>
    </BoletoTxn>
    <TxnDetails>
      <amount currency="BRL">123.56<amount>
    <TxnDetails>
    <datacash_reference>4800903000000001</datacash_reference>
    <merchantreference>boletobancario123</merchantreference>
    <reason>ACCEPTED</reason>
    <status>1</status>
  </QueryTxnResult>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1339600563<time>
</Response>
```

The payment_status element of such a transaction where payment has been received can have values of "UNDERPAID", "PAID", or "OVERPAID", depending on the overdue fees indicated in the original payment transaction.

2.16.5 *Query HPS Boleto Bancario Transactions*

It is possible to query a Boleto Bancario transaction sent via HPS using a standard query transaction supplying the DataCash reference within a HistoricTxn block.

This would look like the following example:

Example Boleto Bancario Query HPS Request

```
<Request>
  <Authentication>
    <client>xxxxxxxx</client>
    <password>xxxxxxxx</password
  </Authentication>
  <Transaction>
    <HistoricTxn>
      <method>query</method>
      <reference>4800903000000001</reference>
    </HistoricTxn>
  </Transaction>
</Request>
```

The following example response is based on the merchant querying a transaction after submitting the request and after MaxiPago provides the payment notification for the transaction.

Example HPS Boleto Bancario Query Response – Overpaid

```
<Response version=”2”>
  <QueryTxnResult>
    <BoletoTxn>
      <method>payment</method>
      <expiry_date>2013-12-01</expiry_date>
      <instructions>Faça o que fizer, não dê esse cara todo o
dinheiro.</instructions>
      <first_name>John</first_name>
      <last_name>Doe</last_name>
      <billing_street1>123 Example Street</billing_street1>
      <billing_street2>Apt. 123</billing_street2>
      <billing_city>Blahtown</billing_city>
      <billing_state_province>PA</billing_state_province>
      <billing_postcode>24000-123</billing_postcode>
      <billing_country>BR</billing_country>
      <customer_telephone>123456789099</customer_telephone>
      <customer_email>dude@example.com</customer_email>
      <processor_id>12</processor_id>
      <customer_ip>127.0.0.1</customer_ip>
      <interest_per_day>0.1</interest_per_day>
      <overdue_fine>5.00</overdue_fine>
      <boleto_url>http://example.com/something</boleto_url>
      <order_id>eb7b1eaf-eb6a-49fc-bf94-e175485d3bfa</order_id>
      <transaction_id>4568123581487</transaction_id>
      <boleto_bank_code>001</boleto_bank_code>
      <transaction_id>73341232091557</transaction_id>
      <payment_date>2013-12-01</payment_date>
      <payment_amount>130.00</payment_amount>
      <payment_status>OVERPAID</payment_status>
    </BoletoTxn>
    <HpsTxn>
      <datacash_reference>4800903000000002</datacash_reference>
    </HpsTxn>
    <TxnDetails>
      <amount currency="BRL">123.56<amount>
    <TxnDetails>
    <datacash_reference>4800903000000001</datacash_reference>
    <merchantreference>boletobancario123</merchantreference>
    <information>You have queried a Full-HPS transaction, where the payment was successfully collected</information>
    <reason>ACCEPTED</reason>
    <status>1</status>
  </QueryTxnResult>
  <reason>ACCEPTED</reason>
  <status>1</status>
  <time>1339600563<time>
</Response>
```

3. APG – ALTERNATIVE PAYMENT GATEWAY

3.1 INTRODUCTION TO APG

This section of the DataCash Developers Guide describes the Alternative Payment Gateway, which provides non card purchase and payout method processing (including Risk Screening) functionality.

The APG section of the document includes detailed descriptions of the process flow involved in the various Services provided by the APG.

3.1.1 *Glossary*

Abbreviation / Term	Description
APG	Alternative Payment Gateway
SOAP	Simple Object Access Protocol
WSDL	Web Service Definition Language
RSG	Risk Services Gateway
Processor	A generic reference to an electronic wallet provider / processing institution. The term "payment method" is also sometimes used interchangeably with the term "processor" in the APG. See Appendix 7 for a list of all the Processors that the APG provides access to.

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3.2 APG OVERVIEW

The APG exposes two interfaces that facilitate transaction flow: the SOAP Web Service and the Redirect Solution. A successful integration will involve using one or both of these.

The APG supports the UTF-8 Unicode encoding standard internally, but please note that not all purchase and payout methods support this standard.

3.2.1 APG SOAP Web Service

The APG Web Service is a standard SOAP web service to be called directly from the merchant's server.

The APG web service is RPC-based (Remote Procedure Call), which allows clients to make the synchronous invocation of DataCash's gateway seem like a local procedure call.

The web service integration offers several benefits:

- Service oriented standards based architecture;
- SOAP 1.1 and 1.2 based data encoding encapsulates transportation protocols;
- WSDL descriptor file allows easier integration and client side validation;
- The RPC-based interface allows developers to generate a web service client without having to manually encode and decode XML data.

This web service offers 7 methods:

- Purchase - see section 3.3.2
- Payout – see section 3.3.3
- TransactionQuery – see section 3.3.4.1
- TransactionQueryByTransactionId – see section 3.3.4.2
- RetrieveSettlementValue – see section 3.3.5
- GetInformation – see section 3.3.6
- Modification – see section 3.3.7.1

Web Service locations:

Live URL	https://DPG-CPT.datacash.com/Service/Production.wsdl
Staging URL	https://DPG-CPT.staging.datacash.com/Service/Staging.wsdl

3.2.2 *APG Redirect Solution*

Certain Processors' transactions make use of this interface. DataCash will provide the necessary information that needs to be sent to the Processor. When processing has been completed, the Processor will then redirect the end user to the redirect solution for the final step of the transaction.

Note that the Redirect Solution of the APG provides an interface between the APG and Processors, so Merchants do not need to integrate into the Redirect Solution (as they do into the Web Service).

Refer to the Transaction Flow descriptions (section 1) for more information.

3.2.3 *Security*

To keep the merchant information safe between the merchant and the DataCash Gateway, the following methods of security are in place:

- Communication Encryption.
- Digital certificates.
- Merchant Account.

In order to have a secure communication channel between the merchant site and the APG, use SSL version 3, with 1028-bit encryption.

For merchants integrating using Java, it is recommended that you install the client certification. Note: Java users can read more at http://www.oracle.com/technetwork/java/api-141528.html

DataCash will also supply the merchant with their account details: an Account Name, Company ID and PIN, which must be sent to the APG on a transactional basis in order to process successfully.

3.2.4 *Transaction Flow*

The flow of a transaction from a merchant's perspective may differ depending on whether the payment method requires a redirect, partial redirect or no redirect.

3.2.4.1 Non-Redirect Flow (Figure 1 - Purchase)

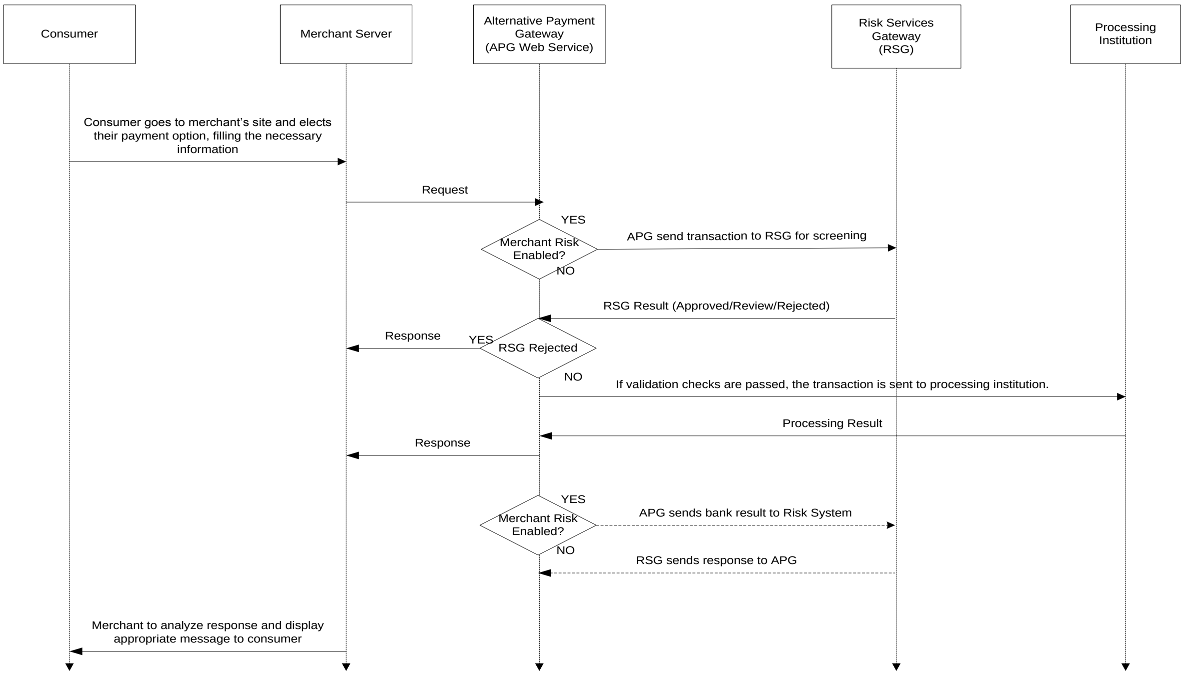
1. The client enters their purchase details on the merchant's site.
2. The merchant sends the relevant information to the APG using the Purchasemethod of the APG Web Service (see 0)
3. If the merchant is enabled for Risk, APG sends the transaction to RSG for screening – if the transaction is rejected by RSG, there is no further processing of the transaction so continue at step 6; if the transaction is not rejected by RSG, continue at the next step.
4. APG processes the transaction.
5. If the merchant is enabled for Risk, APG sends the bank result to RSG.
6. APG responds to the Purchase method request with the transaction's result details.
7. The result details must be analyzed and an appropriate message be displayed to the client on the merchant's site.

The following Processors use the non-redirect flow for Purchase transactions:

- AM – Amazon
- CL – Click2Pay
- EL – eCheck
- EV – ExperCash (ELV)
- NT – Neteller
- O3 – Offline Bank Transfer
- UK – Ukash

(Refer to Appendix 7 for descriptions of the various Processors.)

Figure 1


Consumer
Merchant Server
Alternative Payment Gateway (APG Web Service)
Risk Services Gateway (RSG)
Processing Institution
Consumer goes to merchant's site and elects their payment option, filling the necessary information
Request
YES
Merchant Risk Enabled?
NO
APG send transaction to RSG for screening
RSG Result (Approved/Review/Rejected)
Response
YES
RSG Rejected
NO
If validation checks are passed, the transaction is sent to processing institution.
Processing Result
Response
YES
Merchant Risk Enabled?
NO
APG sends bank result to Risk System
RSG sends response to APG
Merchant to analyze response and display appropriate message to consumer

3.2.4.2 Non-Redirect Flow (Figure 2 - Payout)

The client enters their payout details on the merchant's site.

The merchant sends the relevant information to the APG using the Payout method of the APG Web Service (see 0)

APG validates the payout request. If the transaction is rejected, there is no further processing of the transaction so continue at step 5; if the transaction is not rejected, continue at the next step.

APG processes the transaction.

APG responds to the Payout method request with the transaction's result details.

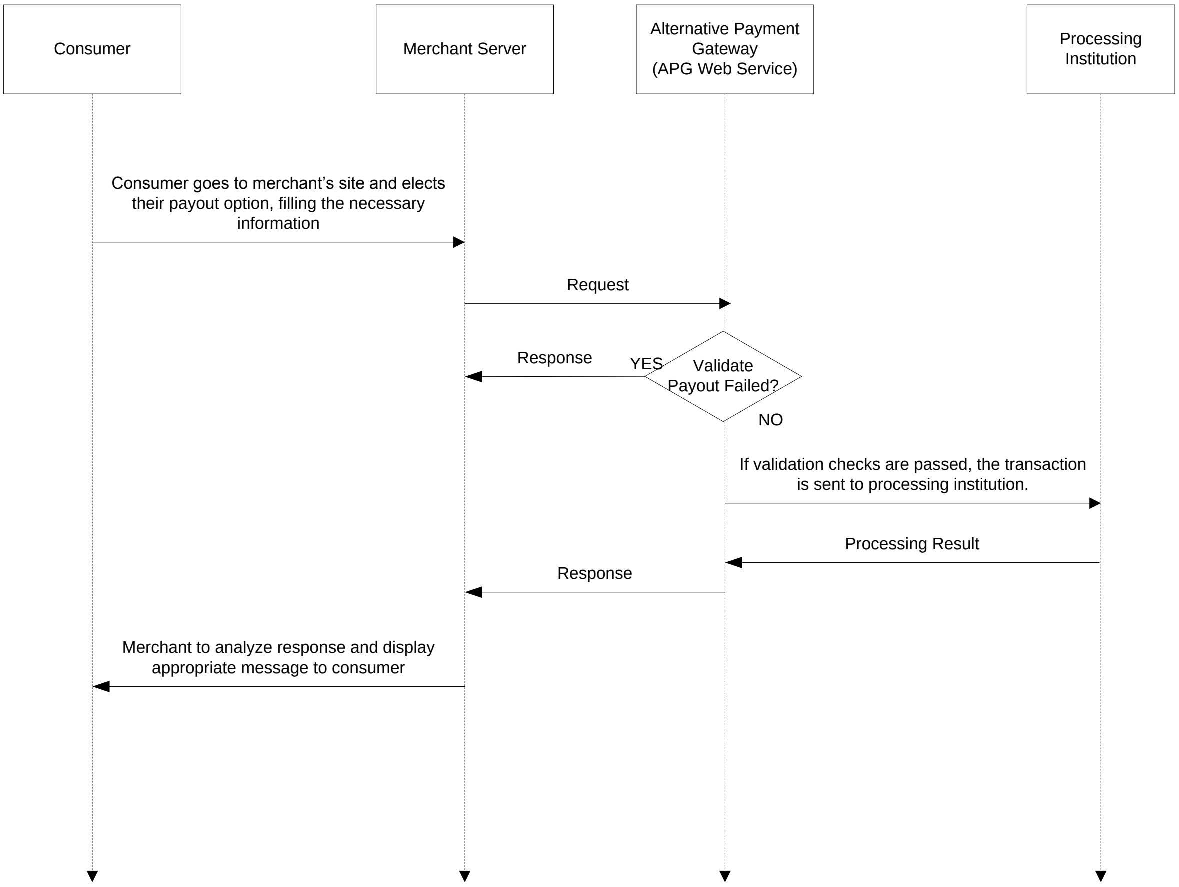
The result details must be analyzed and an appropriate message be displayed to the client on the merchant's site.

The following Processors use the non-redirect flow for Payout transactions:

- BU – ClickandBuy
- CL – Click2Pay
- EP – EntroPay
- IN – InstaDebit
- MB – MoneyBookers
- NT – Neteller
- OC – Envoy OneClick
- UK – Ukash

(Refer to Appendix 7 for descriptions of the various Processors.)

Figure 2


Consumer
Merchant Server
Alternative Payment Gateway (APG Web Service)
Processing Institution
Consumer goes to merchant's site and elects their payout option, filling the necessary information
Request
Response
YES
Validate Payout Failed?
NO
If validation checks are passed, the transaction is sent to processing institution.
Processing Result
Response
Merchant to analyze response and display appropriate message to consumer

3.2.4.3 Redirect Flow (Figure 3)

1. The client enters their purchase details on the merchant's site.
2. The merchant sends the relevant information to the APG using the Purchase method of the APG Web Service (see 0).
3. If the merchant is enabled for Risk, APG sends the transaction to RSG for screening – if the transaction is rejected by RSG, there is no further processing of the transaction and APG responds to merchant; if the transaction is not rejected by RSG, continue at the next step.
4. APG responds to the Purchase method request by returning the relevant set of redirect parameters.
5. Merchant needs to transform the redirect parameters into form variables and then redirect client to the Processor.
6. Client enters necessary information at the Processor's site and confirms transaction.
7. Processor will redirect the client to the Redirect Solution of the APG.
8. If the merchant is enabled for Risk, APG sends the bank result to RSG.
9. APG sends transaction result details notification to merchant's URL via a server-side post as detailed in Section 3.4.
10. The merchant acknowledges receipt of transaction result notification.
11. The result details must be analyzed by the merchant.
12. APG redirects the client to the merchant's success or failure page depending on the result.

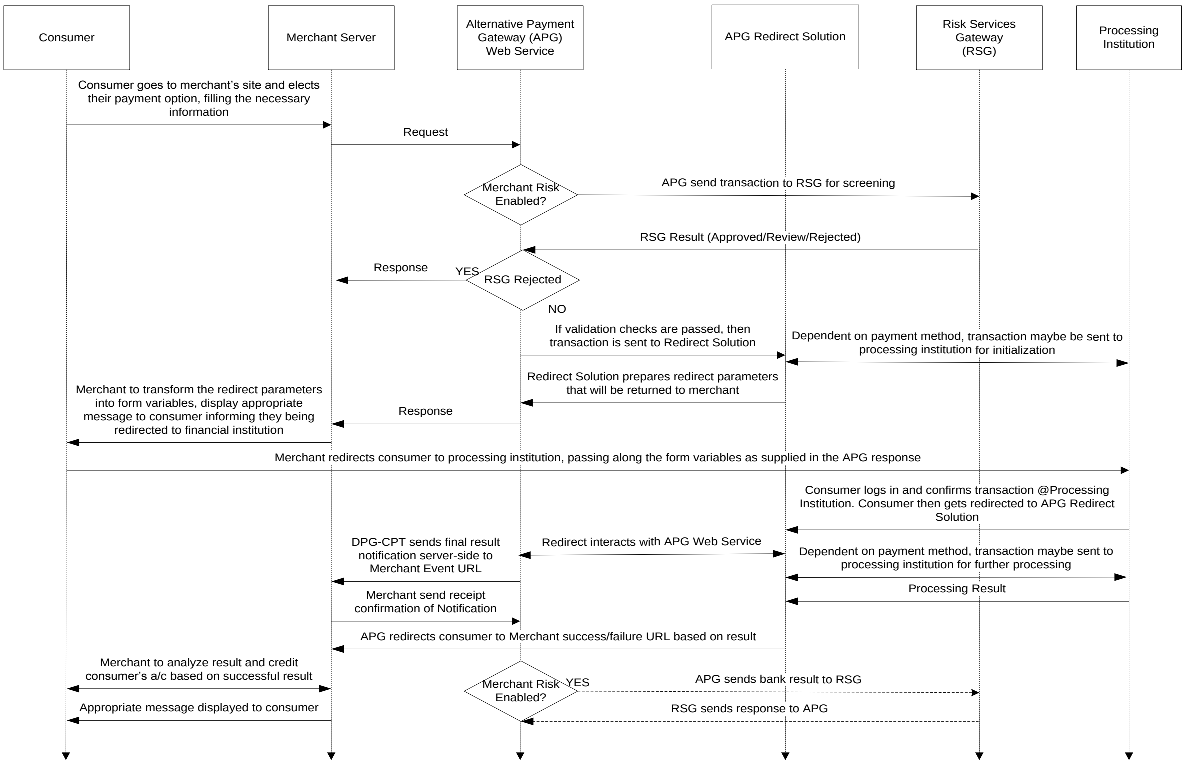
Note: Steps 9-10 happens simultaneously with step 12.

The following Processors use the redirect flow:

- A7 – AliPay
- BU – ClickAndBuy
- EN – eNETS
- EV – ExperCash (GiroPay and Sofort)
- I3 – iDeal
- IN – InstaDebit
- MB – Moneybookers
- NS – NPS
- OC – OneClick
- PF – PaysafeCard
- P5 - POLi
- W3 – WebMoney

(Refer to Appendix 7 for descriptions of the various Processors.)

Figure 3


Consumer
Merchant Server
Alternative Payment Gateway (APG) Web Service
APG Redirect Solution
Risk Services Gateway (RSG)
Processing Institution
Consumer goes to merchant's site and elects their payment option, filling the necessary information
Request
Merchant Risk Enabled?
APG send transaction to RSG for screening
RSG Result (Approved/Review/Rejected)
Response
YES
RSG Rejected
NO
If validation checks are passed, then transaction is sent to Redirect Solution
Dependent on payment method, transaction maybe be sent to processing institution for initialization
Redirect Solution prepares redirect parameters that will be returned to merchant
Merchant to transform the redirect parameters into form variables, display appropriate message to consumer informing they being redirected to financial institution
Response
Merchant redirects consumer to processing institution, passing along the form variables as supplied in the APG response
Consumer logs in and confirms transaction @Processing Institution. Consumer then gets redirected to APG Redirect Solution
DPG-CPT sends final result notification server-side to Merchant Event URL
Redirect interacts with APG Web Service
Dependent on payment method, transaction maybe sent to processing institution for further processing
Processing Result
Merchant send receipt confirmation of Notification
APG redirects consumer to Merchant success/failure URL based on result
Merchant to analyze result and credit consumer's a/c based on successful result
Merchant Risk Enabled?
YES
APG sends bank result to RSG
Appropriate message displayed to consumer
RSG sends response to APG

3.2.4.4 PARTIAL-Redirect Flow (Figure 4)

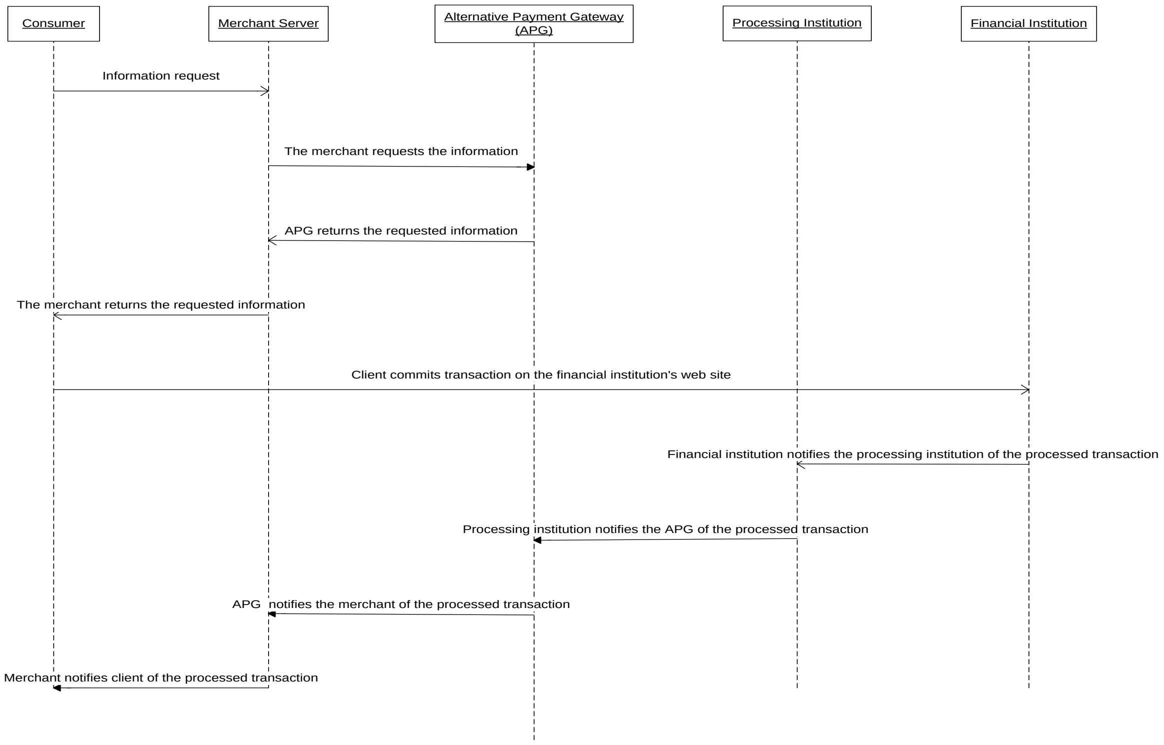
1. The client requests certain information (to be used for submitting a transaction) from the merchant.
2. The merchant requests the information from APG. APG gathers the requested information, and returns it to the merchant, who in turn provides it to the client.
3. The client enters the necessary information at the financial institution's site and confirms the transaction.
4. Financial institution will notify the Processor of the processed transaction.
5. The Processor notifies APG of the processed transaction.
6. APG receives this notification of the successful processed transaction.
7. APG sends transaction result details notification to merchant's URL via a server-side post.

The following payment methods / processors use the partial-redirect flow:

- BT – Direct Bank Transfer

(Refer to Appendix 7 for descriptions of the various payment methods / processors.)

Figure 4


Consumer
Merchant Server
Alternative Payment Gateway (APG)
Processing Institution
Financial Institution
Information request
The merchant requests the information
APG returns the requested information
The merchant returns the requested information
Client commits transaction on the financial institution's web site
Financial institution notifies the processing institution of the processed transaction
Processing institution notifies the APG of the processed transaction
APG notifies the merchant of the processed transaction
Merchant notifies client of the processed transaction

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3.3 APG SOAP Web Service

In order to call one of the web methods available in the web service, the following needs to happen:

- Specify the DataCash URL specified in section 3.2.1 as the web reference
- Create the proxy class
- Instantiate the proxy class
- Pass along the parameters to the specific web method

All the Web Service's Web Methods are discussed in detail in the following sections.

3.3.1 *Shared XML Request and Response elements*

There are certain XML complex structures in the Requests and Responses that are common to more than one of the APG Web Methods – these elements are covered in this section. Others are only used for a particular Web Methods – these elements will be covered within the documentation for those Web Methods.

3.3.1.1 Shared Request Structures

3.3.1.1.1 AccountDetails

This is a set of the merchant's authentication details which is required in order to access the APG.

Element Name	`AccountDetails`
Type	`AccountItem`

Position	`Purchase.purchaseDetails`
	`Payout.payoutDetails`
	`TransactionQuery`
	`RetrieveSettlementValue`
	`InformationRequest`
	`Modification`

Children	`Yes`
Attributes	`No`

Elements of AccountDetails			
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**
`AccountName`	The DataCash Account Name is the unique gateway-supplied identifier for the Merchant (applicable for all Merchants).	String (20)	Mandatory for all Payment Methods and Risk
`AccountPIN`	The DataCash Account PIN is the unique Gateway supplied password for the Merchant.	String (50)	Mandatory for all Payment Methods
`CompanyId`	The DataCash Company Id is the unique Gateway supplied identifier for the Merchant.	String (20)	Mandatory for all Payment Methods

Example XML for AccountDetails complex elements

```
<AccountDetails>
   <AccountName>TestAccount</AccountName>
   <AccountPIN>TestPIN</AccountPIN>
   <CompanyId>A99</CompanyId>
</AccountDetails>
```

3.3.1.1.2 AmountDetails

Element Name	AmountDetails
Type	AmountItem
Position	Purchase.purchaseDetails.BillingDetails Purchase.purchaseDetails.ShippingDetails Payout.payoutDetails.BillingDetails RetrieveSettlementValue Modification
Children	Yes
Attributes	No

Elements of AmountDetails

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details
Amount	This is the transaction amount.	Int This value must be sent as cents (e.g. US $100.01 = 10001).	Mandatory for all Payment Methods and Risk
Exponent	This is the transaction currency exponent. Please refer to Appendix 10.	Short	Mandatory for all Payment Methods and Risk
CurrencyCode	This is the transaction currency.	Short This value must be sent as the numeric ISO currency code (Please reference Appendix 10).	Mandatory for all Payment Methods and Risk

Example XML for AmountDetails complex elements

```
<AmountDetails>
   <Amount>725</Amount>
   <Exponent>2</Exponent>
   <CurrencyCode>826</CurrencyCode>
</AmountDetails>
```

3.3.1.1.3 SaleAmountDetails

Element Name	`SaleAmountDetails`
Type	`AmountItem`
Position	`Purchase.purchaseDetails.BillingDetails`
Children	`Yes`
Attributes	`No`

Elements of SaleAmountDetails			
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**
`Amount`	This is the transaction item sale amount.	Int This value must be sent as cents (e.g. US $100.01 = 10001).	# Optional for OC. N/A for all other Payment Methods
`Exponent`	This is the transaction item sale currency exponent. Please refer to Appendix 10.	Short	# Optional for OC. N/A for all other Payment Methods
`CurrencyCode`	This is the transaction item sale currency.	Short This value must be sent as the numeric ISO currency code (Please reference Appendix 10).	# Optional for OC. N/A for all other Payment Methods

# SaleAmount can be used if the merchant requires the APG to do a currency conversion from the Sale Amount to the merchant currency.

Example XML for AmountDetails complex elements

```
<SaleAmountDetails>
   <Amount>100</Amount>
   <Exponent>2</Exponent>
   <CurrencyCode>978</CurrencyCode>
</SaleAmountDetails>
```

3.3.1.2 Shared Response structures

3.3.1.2.1 Error

The result of an error encountered during processing will be displayed here.

Element Name:	`Error`

Position	`Response.Event.Purchase`
	`Response.Event.Payout`
	`Response.Event.Settlement`
	`Response.Event.Information`
	`Response.Event.Modification`

Children	`Yes`
Attributes	`No`

Elements of Error		
Element Name	**Description**	**Data type / Limitations**
`Code`	This is a return code which indicates the rejection reason, if applicable.	String (10)
`Description`	This is a text field used to give a short description of Code.	String (255)

Example XML for Error complex elements

```
<Error>
   <Code>020</Code>
   <Description>PurchaseDetails.AccountDetails.AccountPIN value
   invalid</Description>
</Error>
```

3.3.1.2.2 Event

Top-level container for the type of event that this Response refers to. This element applies to all transaction types.

Element Name:	`Event`
Position	`Response`
Children	`Yes`
Attributes	`No`

Elements of Event		
Element Name	**Description**	**Data type / Limitations**
Directly below the Event element will be one of the following complex XML structures: • `Payout` – see section 3.3.3.2 • `Purchase` – see section 3.3.2.3.4 • `Settlement` – see section 3.3.5.3.1 • `Information` – see section 3.3.6.3.6 • `Modification` – see section 3.3.7.1		

3.3.1.2.3 Response

The complete XML structure that will be returned to the Merchant during a transaction.

Element Name:	`Response`
Position	`Top-level`
Children	`Yes`
Attributes	`Yes`

Attributes involved in the Response element			
Attribute Name	**Located in which Element**	**Description**	**Data type / Limitations**
`version`	Response	Version of the APG response complex structure.	String
`AccountName`	Response	This is the account name that the merchant holds with the processor.	String (50)

Elements of Response		
Element Name	**Description**	**Data type / Limitations**
`Event`	Top-level container for the type of event that this Response refers to. This element appears in this position for all transaction types.	n/a

Example XML for Response complex elements

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      ...other complex structures here, e.g. <Purchase...> etc.
```

3.3.2 *Purchase*

A call to the Purchase web method of the APG Web Service is the first step in the lifecycle of a transaction.

Validation will occur during the call to the web method - see Appendix 6 for a list of possible validation errors.

The result of this request will determine if the transaction has completed processing, or whether the merchant should continue to process the transaction (by redirecting to the Processor, and passing along the redirect parameters returned by the response to the Purchase request).

A transaction that adheres to the partial-redirect flow is an exception to the standard Purchase web method arrangement, since the merchant will never call the Purchase web method in this scenario.

The Purchase web method accepts two parameters: `purchaseDetails` of type `PurchaseItem`, and `methodDetails` of type `PaymentMethodItem`. The two types are custom complex structures. For more information on the composition of these structures, please refer to the WSDL which can be downloaded from the URLs specified in section 3.2.1.

3.3.2.1 Schema Elements for Purchase Request

In this section, the fields that can be presented with Purchase transaction Requests will be presented along with example XML for those fields.

To submit Processor transaction information for a Purchase transaction, one should use the relevant PaymentMethodItem within the Purchase schema element:

- `Purchase`
    - `PurchaseDetails` – see section 3.3.2.1.1
        - `AccountDetails` – see section 3.3.1.1.1
        - `BillingDetails` – see section 3.3.2.1.3
            - `AddressDetails` – see section 3.3.2.1.2
            - `AmountDetails` – see section 3.3.1.1.2
            - `SaleAmountDetails` – see section 3.3.1.1.3
        - `PersonalDetails` – see section 3.3.2.1.8
        - `ShippingDetails` – see section 3.3.2.1.4
            - `AddressDetails` – see section 3.3.2.1.2
            - `AmountDetails` – see section 3.3.1.1.2
        - `RiskDetails` – see section 3.3.2.1.5
        - `LineItems` – see section 3.3.2.1.6
        - `CustomMerchantDetails` – see section 3.3.2.1.7
    - `MethodDetails` – see section 3.3.2.1.27
        - One of the following:
            - *`AliPayItem`* – section 3.3.2.1.26
            - *`AmazonItem`* – section 3.3.2.1.21
            - *`Click2PayItem`* – section 3.3.2.1.11
            - *`ClickAndBuyItem`* – section 3.3.2.1.14
            - *`ElectronicCheckItem`* – section 3.3.2.1.20
            - *`eNetsItem`* – section 3.3.2.1.16

- *ExperCashItem* – section 3.3.2.1.19
- *iDealItem* – section 3.3.2.1.22
- *InstaDebitItem* – section 3.3.2.1.18
- *MoneybookersItem* – section 3.3.2.1.12
- *NetellerItem* – section 3.3.2.1.10
- *NPSItem* – section 3.3.2.1.9
- *OBTItem* – section 3.3.2.1.25
- *OneClickItem* – section 3.3.2.1.17
- *PaySafeCardItem* – section 3.3.2.1.13
- *PoliItem* - section 3.3.2.1.26
- *UKashItem* – section 3.3.2.1.15
- WebMoneyItem – section 3.3.2.1.24

The "Required / Payment Method Specific" column lists the following details:

- *Mandatory* - This means that field cannot be empty.
- *Recommended* - The data is highly recommended. The fields are not mandated by APG since not all processors mandate them. Please note that if these fields are not supplied and the transaction is processed through a processor which does mandate them, the transaction will be rejected.
- *Optional* – The data is not required for processing but should be supplied if available.
- *Not Applicable* – The data is not applicable for this payment method and will be discarded if supplied.

If no data is available for Recommended or Optional fields, the field can simply be left out completely. Under no circumstances is the word 'NULL' to be used as a default value for blank fields; merchants should rather leave the field blank.

NOTE: If the value sent for a field should exceed the maximum length then the transaction may be rejected by the risk system or risk screening may be bypassed.

SOAP XML Purchase Request document:

```
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
      <soap:Body>
     <Purchase xmlns="http://DPG-CPT.datacash.com/">
                  <purchaseDetails>
          <TransactionId>string</TransactionId>
          <Description>string</Description>
          <TransactionDateTime>string</TransactionDateTime>
                        <WebBrowserSessionId>string</WebBrowserSessionId>
          <SuccessURL>string</SuccessURL>
          <FailureURL>string</FailureURL>
          <UserIP>string</UserIP>
          <UserAgentHeader>string</UserAgentHeader>
          <UserAcceptHeader>string</UserAcceptHeader>
                        <CustomerReference>string</CustomerReference>
          <AccountDetails>
            <AccountName>string</AccountName>
            <AccountPIN>string</AccountPIN>
            <CompanyId>string</CompanyId>
          </AccountDetails>
          <PersonalDetails>
            <FirstName>string</FirstName>
            <LastName>string</LastName>
            <Telephone1>string</Telephone1>
            <Telephone1_CountryCode>short</Telephone1_CountryCode>
            <Telephone1_AreaCode>short</Telephone1_AreaCode>
            <Telephone2>string</Telephone2>
            <Telephone2_CountryCode>short</Telephone2_CountryCode>
            <Telephone2_AreaCode>short</Telephone2_AreaCode>
            <DateOfBirth>dateTime</DateOfBirth>
            <Email>string</Email>
            <IDNumber>string</IDNumber>
            <TypeOfID>NONE or PASSPORT or PERSONAL_ID or IDENTITY_CARD or
            DRIVERS_LICENSE or TRAVEL_DOCUMENT or RESIDENCE_PERMIT or
            IDENTITY_CERTIFICATE_NUMBER or
            REGISTRO_FEDERAL_DE_CONTRIBUYENTES or
            CREDENTIAL_DE_ELECTOR</TypeOfID>
            <SSN>int</SSN>
            <CPF_CNPJ>string</CPF_CNPJ>
            <Nationality>string</Nationality>
          </PersonalDetails>
          <BillingDetails>
            <Name>string</Name>
            <AddressDetails>
              <StreetLine1>string</StreetLine1>
              <StreetLine2>string</StreetLine2>
              <City>string</City>
              <PostalCode>string</PostalCode>
              <StateProvince>string</StateProvince>
              <Country>string</Country>
            </AddressDetails>
            <AmountDetails>
              <Amount>int</Amount>
              <Exponent>short</Exponent>
```

```
               <CurrencyCode>short</CurrencyCode>
            </AmountDetails>
            <SaleAmountDetails>
               <Amount>int</Amount>
               <Exponent>short</Exponent>
               <CurrencyCode>short</CurrencyCode>
            </SaleAmountDetails>
          </BillingDetails>
          <ShippingDetails>
            <Name>string</Name>
            <AddressDetails>
               <StreetLine1>string</StreetLine1>
               <StreetLine2>string</StreetLine2>
               <City>string</City>
               <PostalCode>string</PostalCode>
               <StateProvince>string</StateProvince>
               <Country>string</Country>
            </AddressDetails>
            <AmountDetails>
               <Amount>int</Amount>
               <Exponent>short</Exponent>
               <CurrencyCode>short</CurrencyCode>
            </AmountDetails>
          </ShippingDetails>
          <RiskDetails>
            <MerchantId>short</MerchantId>
            <AccountName>string</AccountName>
            <AccountPassword>string</AccountPassword>
            <AccountNumber>string</AccountNumber>
            <UserId>string</UserId>
            <UserMachineId>string</UserMachineId>
            <UserProfile1>string</UserProfile1>
            <UserProfile2>string</UserProfile2>
            <UserProfile3>string</UserProfile3>
          </RiskDetails>
          <Language>string</Language>
        </purchaseDetails>
        <methodDetails/>
     </Purchase>
      </soap:Body>
</soap:Envelope>
```

3.3.2.1.1 PurchaseDetails

This is a set of fields and structures required for a transaction.

Element Name	`PurchaseDetails`
Type	`PurchaseItem`
Position	`Purchase`
Children	`Yes`
Attributes	`No`

Elements of PurchaseDetails				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
`TransactionId`	The TransactionId is a unique identifier generated by the integrating (Merchant) system. Usually this is the integrating system's internal payment order reference number.	String (16); We Recommend this value be be prefixed with the CompanyId plus an underscore e.g. ABC_1234567 (where the CompanyId is a value that will be supplied by DataCash).	All	Mandatory
`Description`	Use this field to supply descriptive text for the transaction.	String (255)	UK	Optional
`TransactionDateTime`	The Merchant's time stamp of the transaction.	String (19); Format "yyyy-mm-dd hh:mm:ss"	EN	Mandatory
			EV	Mandatory
			Risk	Mandatory
			UK	Mandatory
`UserAgentHeader`	This is a value indicating the browser type and operating system details of the user. This information can be retrieved from the HTTP_USER_AGENT header.	String (255)	All	Recommended

UserAcceptHeader	This is a value that contains the MIME types that a browser can accept. This information can be retrieved from the HTTP_ACCEPT header.	String (255)	All	Not Applicable
SuccessURL	This is the URL to which the merchant's consumer will be redirected to after a successful transaction.	String (255)	BU	Mandatory
			EN	Mandatory
			EV	Mandatory: for Giropay and Sofort only
			I3	Mandatory
			IN	Mandatory
			MB	Mandatory
			NS	Mandatory
			OC	Mandatory
			PF	Mandatory
			P5	Mandatory
			W3	Mandatory
FailureURL	This is the URL to which the merchant's consumer will be redirected to after an unsuccessful transaction.	String (255)	BU	Mandatory
			EN	Mandatory
			EV	Mandatory: for Giropay and Sofort only
			I3	Mandatory
			IN	Mandatory
			MB	Mandatory
			NS	Mandatory
			OC	Mandatory
			PF	Mandatory
			P5	Mandatory
			W3	Mandatory
Language	This field contains the language in which the client's user experience will take place. Please refer to Appendix 13 for supported languages. If no language is supplied, the value defaults to "en" (English).	String (20)	All	Recommended
			Risk	Not applicable
UserIP	Consumer's IP	String (26);	CL	Mandatory

	address.	(Format: 255.255.255.255)	EL	Mandatory
			EV	Mandatory
			P5	Mandatory
			Risk	Recommended
CustomerReference	This is the generic identifier of a customer.	String(70)	EV	Optional
			IN	Mandatory
			O3	Mandatory
			OC	Mandatory for InstantBank Purchase
AccountDetails	This is a set of the merchant's authentication details which is required in order to access the APG.	See section 3.3.1.1.1	All	Mandatory
PersonalDetails	This is a set of consumer specific details that are required by the Processors.	See section 3.3.2.1.8	All	Mandatory
			EV	Recommended see PersonalDeta stName PersonalDeta tName
BillingDetails	This is a set of the consumer's billing details that are required by the Processors.	See section 3.3.2.1.3	All	Mandatory
ShippingDetails	This is a set of consumer's shipping details that are required by the Processors.	See section 3.3.2.1.4	AM	Mandatory
			NS	Mandatory
RiskDetails	This is a set of specific details that are required by the Processors.	See section 3.3.2.1.5	All	If Risk is enabled on the merchant this element is mandatory
CustomMerchantDetails	Optional structure allowing Merchants to pass custom fields and values.	See section 3.3.2.1.7	All	Optional

`LineItems`	Merchants can provide detail on the purchased items. The items are passed as Line Items.	See Section 3.3.2.1.6	AM	Mandatory

Example XML for PurchaseDetails with all complex elements

```
<purchaseDetails>
   <TransactionId>string</TransactionId>
   <Description>string</Description>
   <TransactionDateTime>string</TransactionDateTime>
   <WebBrowserSessionId>string</WebBrowserSessionId>
   <SuccessURL>string</SuccessURL>
   <FailureURL>string</FailureURL>
   <UserIP>string</UserIP>
   <UserAgentHeader>string</UserAgentHeader>
   <UserAcceptHeader>string</UserAcceptHeader>
   <Language>string</Language>
   <AccountDetails>
      <AccountName>TestAccount</AccountName>
      <AccountPIN>TestPIN</AccountPIN>
      <CompanyId>A99</CompanyId>
   </AccountDetails>
   <PersonalDetails>
      <FirstName>Jerry</FirstName>
      <LastName>Anderson</LastName>
      <Telephone1>6149135</Telephone1>
      <Telephone1_CountryCode>44</Telephone1_CountryCode>
      <Telephone1_AreaCode>105</Telephone1_AreaCode>
      <Telephone2/>
      <Telephone2_CountryCode/>
      <Telephone2_AreaCode/>
      <DateOfBirth>1982-09-14</DateOfBirth>
      <Email>customer@email.com</Email>
      <IDNumber>123456789</IDNumber>
      <TypeOfID>PASSPORT</TypeOfID>
      <SSN/>
      <CPF_CNPJ/>
      <Nationality>GB</Nationality>
      <Gender>M</Gender>
   </PersonalDetails>
   <BillingDetails>
      <Name>Home</Name>
      <AddressDetails>
         <StreetLine1>404 Mulberry Court</StreetLine1>
         <StreetLine2>78 Praed Street</StreetLine2>
         <City>London</City>
         <PostalCode>W2 1NT</PostalCode>
         <StateProvince>EN</StateProvince>
         <Country>GB</Country>
      </AddressDetails>
      <AmountDetails>
         <Amount>725</Amount>
         <Exponent>2</Exponent>
         <CurrencyCode>826</CurrencyCode>
      </AmountDetails>
      <SaleAmountDetails>
         <Amount>650</Amount>
         <Exponent>2</Exponent>
         <CurrencyCode>826</CurrencyCode>
      </SaleAmountDetails>
   </BillingDetails>
   <ShippingDetails>
      <Name>Home</Name>
      <AddressDetails>
         <StreetLine1>404 Mulberry Court</StreetLine1>
         <StreetLine2>78 Praed Street</StreetLine2>
         <City>London</City>
         <PostalCode>W2 1NT</PostalCode>
         <StateProvince>EN</StateProvince>
         <Country>GB</Country>
      </AddressDetails>
      <AmountDetails>
         <Amount>725</Amount>
         <Exponent>2</Exponent>
         <CurrencyCode>826</CurrencyCode>
      </AmountDetails>
   </ShippingDetails>
   <RiskDetails>
      <MerchantId>123</MerchantId>
      <AccountName>TestAccount</AccountName>
      <AccountPassword>TestPwd</AccountPassword>
      <AccountNumber></AccountNumber>
      <UserId>CUST2468</UserId>
      <UserMachineId>DESKTOP13579</UserMachineId>
      <UserProfile1>is_vip_customer</UserProfile1>
      <UserProfile2>is_promotion</UserProfile2>
      <UserProfile3>is_good_customer</UserProfile3>
      <LineItems/>
   </RiskDetails>
   <CustomMerchantDetails>
      <CustomDetail>
         <FieldName>PaymentId</FieldName>
         <FieldValue>1234</FieldValue>
      </CustomDetail>
   </CustomMerchantDetails>
   <LineItems/>
</purchaseDetails>
```

3.3.2.1.2 AddressDetails

Element Name	`AddressDetails`
Type	`AddressItem`

Position	`Purchase.purchaseDetails.BillingDetails`
	`Purchase.purchaseDetails.ShippingDetails`
	`Payout.payoutDetails.BillingDetails`

Children	`Yes`
Attributes	`No`

Elements of AddressDetails				
Element Name	**Description**	**Data type / Limitations**	**Payment Applicable Requirements**	
`StreetLine1`	Consumer's address line1	String (60)	BU	Mandatory
			EP	Optional
			EV	Optional (refer to note below)
			IN	Optional
			MB	Optional
			NS	Mandatory
			O3	Optional
			OC	Optional – However is mandatory for some of the OC products.
			Risk	Mandatory
`StreetLine2`	Consumer's address line2	String (60)	BU	Optional
			EV	Optional (refer to note below)
			NS	Recommended
			O3	Optional
			OC	Optional – However is mandatory for some of the OC products.
			Risk	Recommended
`City`	Consumer's city	String (60) Only alpha characters (A – Z) and spaces are allowed in this field.	BU	Optional
			EP	Optional
			EV	Optional (refer to note below)
			IN	Optional
			MB	Optional
			NS	Mandatory
			O3	Optional
			OC	Optional – However is mandatory for some of the OC products.
			Risk	Mandatory

PostalCode	Consumer’s Postal code/zip.	String (10) China | China does not make use of a zip code, but does make use of a postal code e.g. Shanghai postal code = 200336. Please send through the postal code in this field. US | Digit number e.g. 77088 CA | Alphanumeric characters e.g. V3M3W5	BU	Optional
			EP	Optional
			EV	Optional (refer to note below)
			IN	Optional
			MB	Optional
			NS	Mandatory
			O3	Optional
			OC	Optional – However is mandatory for some of the OC products.
			Risk	Mandatory
StateProvince	Consumer’s State/Province	String (25) Please reference Appendix 8. For countries listed in Appendix 8, please send the value listed in the Code Column. For any other country, please send the full state name up to the max length specified.	CL	Mandatory
			EP	Optional
			IN	Mandatory
			MB	Optional
			NS	Mandatory
			O3	Optional
			OC	Optional – However is mandatory for some of the OC products.
			Risk	Recommended
Country	Consumer’s Country	String (60) This is a 2-character code that needs to be supplied. Please reference Appendix 9.	BU	Mandatory
			CL	Mandatory
			OC	Mandatory
			EP	Optional
			EV	Optional (refer to note below)
			IN	Optional
			MB	Optional
			NS	Mandatory
			NT	Optional
			O3	Mandatory
			OC	Optional – However is mandatory for some of the OC products.
			Risk	Mandatory

ExperCash Note: When submitting an ExperCash (ELV) transaction, either of the below combinations of customer data may be sent to APG or nothing at all.

Field	Combo 1	Combo 2	Combo 3	Combo 4	Combo 5	Combo 6
PersonalDetails.FirstName	x	x			x	
PersonalDetails.LastName	x	x	x	x	x	
StreetLine1	x	x	x			
StreetLine2	x			x	x	
City	x	x	x	x	x	
PostalCode	x	x	x	x	x	
Country	x	x	x	x	x	

If only partial data is supplied, then the transaction will be rejected.

The above fields are only applicable for ELV (Buy and Authorise). For GiroPay and Sofort, these can be left out completely or sent through with blank values. In the case where Risk is enabled, these values must be sent through.

Example XML for AddressDetails complex elements

```
<AddressDetails>
   <StreetLine1>404 Mulberry Court</StreetLine1>
   <StreetLine2>78 Praed Street</StreetLine2>
   <City>London</City>
   <PostalCode>W2 1NT</PostalCode>
   <StateProvince>EN</StateProvince>
   <Country>GB</Country>
</AddressDetails>
```

3.3.2.1.3 BillingDetails

This is a set of the consumer's billing details that are required by the Processors.

Element Name	BillingDetails
Type	BillingItem
Position	Purchase.purchaseDetails Payout.payoutDetails
Children	Yes
Attributes	No

Elements of BillingDetails

Element Name	Description	Purchase / Payout	Data type / Limitations	Payment Applicable Requirements	
`Name`	This is descriptor for the billing details. ***NB: This element should contain the bank account owner's name. It is used for debiting the account. Incorrect information could cause chargebacks and for larger amounts, there may be checks for the owner matching the account number.**	Purchase, Payout	String (50)	EV	Mandatory: Only for ELV (Buy and Authorise)
				EL	Mandatory
				O3	Optional
				OC	Optional
				Risk	Recommended
`AddressDetails`	These are line items of the address.	Purchase, Payout	See section 3.3.2.1.2		
`AmountDetails`	This is a set of billing amount details.	Purchase, Payout	See section 3.3.1.1.2		
`SaleAmountDetails`	This is a set of sale amount details.	Purchase	See section 3.3.1.1.3		

Example XML for BillingDetails complex elements

```
<BillingDetails>
   <Name>JohnDoe</Name>
   <AddressDetails>
      <StreetLine1>404 Mulberry Court</StreetLine1>
      <StreetLine2>78 Praed Street</StreetLine2>
      <City>London</City>
      <PostalCode>W2 1NT</PostalCode>
      <StateProvince>EN</StateProvince>
      <Country>GB</Country>
   </AddressDetails>
   <AmountDetails>
      <Amount>725</Amount>
      <Exponent>2</Exponent>
      <CurrencyCode>826</CurrencyCode>
   </AmountDetails>
   <SaleAmountDetails>
      <Amount>650</Amount>
      <Exponent>2</Exponent>
      <CurrencyCode>826</CurrencyCode>
   </SaleAmountDetails>
</BillingDetails>
```

3.3.2.1.4 ShippingDetails

This is a set of the consumer's shipping details that are required by the Processors.

Element Name	`ShippingDetails`
Type	`ShippingItem`
Position	`Purchase.purchaseDetails`
Children	`Yes`
Attributes	`No`

Elements of ShippingDetails				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
`Name`	This is descriptor for the shipping details.	String (50)	NS	Optional
			O3	Optional
			Risk	Optional
`AddressDetails`	These are line items of the address.	See section 3.3.2.1.2		
`AmountDetails`	This is a set of billing amount details.	See section 3.3.1.1.2		

Example XML for ShippingDetails complex elements

```
<ShippingDetails>
  <Name>Home</Name>
  <AddressDetails>
    <StreetLine1>404 Mulberry Court</StreetLine1>
    <StreetLine2>78 Praed Street</StreetLine2>
    <City>London</City>
    <PostalCode>W2 1NT</PostalCode>
    <StateProvince>EN</StateProvince>
    <Country>GB</Country>
  </AddressDetails>
  <AmountDetails>
    <Amount>725</Amount>
    <Exponent>2</Exponent>
    <CurrencyCode>826</CurrencyCode>
  </AmountDetails>
</ShippingDetails>
```

3.3.2.1.5 RiskDetails

This is a set of specific details that are required by for Risk Screening.

Element Name	RiskDetails
Type	RiskItem
Position	Purchase.purchaseDetails
Children	Yes
Attributes	No

Elements of RiskDetails			
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**

MerchantId	This is a unique gateway supplied risk identifier for merchants who require risk screening.	Short	Risk	#Optional
AccountName	This is the associated account name that goes with the MerchantId supplied by DataCash.	String (30)	Risk	#Optional
AccountPassword	This is the associated account password that goes with the MerchantId supplied by DataCash.	String (50)	Risk	#Optional
AccountNumber	A unique account number at the Merchant associated with individual that is transacting.	String (30)	Risk	Mandatory
UserId	This is a Merchant configurable data field typically used to identify a customer uniquely within the system, regardless of the amount of accounts that the customer has.	String (36)	Risk	Optional
UserMachineId	This is an ID used to identify the computer (actual hardware) uniquely within the system regardless of the amount of customers or accounts that's using the computer. Examples of the User Machine ID are Motherboard ID, Hard drive ID, CPU ID, etc.	String (25)	Risk	Optional
UserProfile1	This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant (e.g. VIP flag, indication whether the transaction is part of a promotion, a confidence level around the identity of the customer, etc).	String (20)	Risk	Optional

UserProfile2	This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant.	String (20)	Risk	Optional
UserProfile3	This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant.	String (20)	Risk	Optional
LineItems	Retail merchants can provide detail on the purchased items. The items are passed as Line Items.	See Section 3.3.2.1.6	Risk	Mandatory for Retail Risk Screening

# The Risk Authentication Fields (MerchantId, AccountName and AccountPassword) are by default setup on the APG Merchant Profile. However the default can be overridden. To override the default, values for all the authentication fields (MerchantId, AccountName and AccountPassword) are required on the RiskDetails element of the payment request.

Example XML for RiskDetails complex elements

```
<RiskDetails>
   <MerchantId>123</MerchantId>
   <AccountName>TestAccount</AccountName>
   <AccountPassword>TestPwd</AccountPassword>
   <AccountNumber></AccountNumber>
   <UserId>CUST2468</UserId>
   <UserMachineId>DESKTOP13579</UserMachineId>
   <UserProfile1>is_vip_customer</UserProfile1>
   <UserProfile2>is_promotion</UserProfile2>
   <UserProfile3>is_good_customer</UserProfile3>
   <LineItems/>
</RiskDetails>
```

3.3.2.1.6 Line Item

This is a set of specific details that are required by either the Risk Line Item or the Purchase Detail Line Item.

Element Name	LineItem
Type	LineItem
Position	Purchase.purchaseDetails.RiskDetails.LineItems Purchase.purchaseDetails.LineItems
Children	Yes

Attributes	No

3.3.2.1.6.1 Position: Purchase.purchaseDetails.RiskDetails.LineItems

Elements of a LineItem Structure				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
LineItemId	Unique line item ID	Int	ALL	Optional
ProductCode	Line item product code	String(50)	ALL	Optional
ProductDescription	Line item description	String(50)	ALL	Optional
ProductCategory	Type of item as classified by the merchant	String(50)	ALL	Optional
ProductRisk	Indication of how susceptible to product is to fraud. Possible values: High Medium Low	String(50)	ALL	Optional
OrderQuantity	Number of items ordered	Int	ALL	Optional
UnitPrice	The amount of the transaction in the smallest unit of the currency	Int	ALL	Optional

Example XML for LineItem complex elements

```
<LineItem>
   <LineItemId>1</LineItemId>
   <ProductCode>Sample</ProductCode>
   <ProductDescription>Sample Description</ProductDescription>
   <ProductCategory>Food</ProductCategory>
   <ProductRisk>Low</ProductRisk>
   <OrderQuantity>1</OrderQuantity>
   <UnitPrice>100</UnitPrice>
</LineItem>
```

3.3.2.1.6.2 Position: Purchase.purchaseDetails.LineItems

Elements of a LineItem Structure				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
LineItemId	Unique line item ID	Int	AM	Mandatory
ProductCode	Line item product code	String(50)	Risk	#Mandatory

ProductDescription	Line item description	String(50)	AM	Mandatory
ProductCategory	Type of item as classified by the merchant	String(50)	Risk	#Mandatory
ProductRisk	Indication of how susceptible to product is to fraud. Possible values: High Medium Low	String(50)	AM	Mandatory
OrderQuantity	Number of items ordered	Int	Risk	#Mandatory
UnitPrice	The amount of the transaction in the smallest unit of the currency	Int	AM	Mandatory

# – Line Items are only Mandatory for **Retail** Risk Screening if the merchant is set up to do risk.

Example XML for LineItem complex elements

```
<LineItem>
   <LineItemId>1</LineItemId>
   <ProductCode>Sample</ProductCode>
   <ProductDescription>Sample Description</ProductDescription>
   <ProductCategory>Food</ProductCategory>
   <OrderQuantity>1</OrderQuantity>
   <UnitPrice>100</UnitPrice>
</LineItem>
```

3.3.2.1.7 CustomMerchantDetails

This is a set of specific details that are required by a CustomDetail Item.

Element Name	CustomDetail
Type	CustomDetail
Position	Purchase.purchaseDetails.CustomMerchantDetails Payout.payoutDetails.CustomMerchantDetails
Children	Yes
Attributes	No

Elements of CustomDetail

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
`FieldValue`	Custom field name	String(20)	All	Optional
`FieldName`	Value associated with the custom field	String(100)	All	Optional

Example XML for CustomDetail complex elements

```
<CustomMerchantDetails>
   <CustomDetail>
      <FieldName>PaymentId</FieldName>
      <FieldValue>1234</FieldValue>
   </CustomDetail>
</CustomMerchantDetails>
```

Example XML Result for CustomDetail complex elements

```
<CustomMerchantDetails>
   <PaymentId>1234</PaymentId>
</CustomMerchantDetails>
```

3.3.2.1.8 PersonalDetails

This is a set of consumer specific details that are required by the Processors.

Element Name	`PersonalDetails`
Type	`PersonalItem`
Position	`Purchase.purchaseDetails` `Payout.payoutDetails`
Children	Yes
Attributes	No

Elements of Personal Details

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
`FirstName`	Consumer's First Name.	String (32)	BU	Recommended

		It must be at least 2 characters long.	EV	Optional - refer to note under PersonalDetails stName PersonalDetails tName
			IN	Optional
			MB	Recommended
			NS	Mandatory
			NT	Optional
			O3	Mandatory
			OC	Optional
			Risk	Recommended: The combined length of the FirstName and LastName fields may not exceed 31 characters
LastName	Consumer's Last Name.	String (32) It must be at least 2 characters long.	BU	Recommended
			EP	Optional
			EV	Optional - refer to note under 3.3.2.1.1
			IN	Optional
			MB	Recommended
			NS	Mandatory
			NT	Optional
			O3	Mandatory
			OC	Optional
			Risk	Recommended: The combined length of the FirstName and LastName fields may not exceed 31 characters
Telephone1_CountryCode	Consumer's Telephone Country Code for Telephone1. The country code is the prefix to be used when dialling to a particular country from another country.	Short. This value must not be prefixed with a plus (+) e.g. 1 for United States.	BU	Optional
			EP	Optional
			EV	Optional
			NS	Mandatory
			O3	Optional
			Risk	Recommended
Telephone1_AreaCode	Consumer's Telephone Area Code for Telephone1. This is the 3-digit area code for a particular region.	Short; **US:** 3 digit number (e.g. 619 for California). **CA:** 3 digit	BU	Optional
			EV	Optional
			IN	Optional
			NS	Mandatory
			O3	Optional

		number (e.g. 867 for Northwest Territories).	Risk	Recommended
`Telephone1`	Consumer’s Local Home Telephone Number.	String (20); **US:** The 7 digit home telephone number must be supplied in this field. **CA:** The 7 digit home telephone number must be supplied in this field.	BU	Optional
			EP	Optional
			EV	Optional
			IN	Optional
			NS	Mandatory
			O3	Optional
			Risk	Recommended
`Telephone2_CountryCode`	Consumer's Telephone Country Code for Telephone2. The country code is the prefix to be used when dialling to a particular country from another country.	Short; This value must not be prefixed with a plus (+) e.g. 1 for United States.	NS	Mandatory
			O3	Optional
			Risk	Optional
`Telephone2_AreaCode`	Consumer's Telephone Area Code for Telephone2. This is the 3-digit area code for a particular region.	Short; **US:** 3 digit number (e.g. 619 for California). **CA:** 3 digit number (e.g. 867 for Northwest Territories).	NS	Mandatory
			O3	Optional
			Risk	Optional
`Telephone2`	Consumer’s Secondary Telephone Number	String (20)	NS	Mandatory
			O3	Optional
			Risk	Optional

DateOfBirth	Consumer's date of birth.	String (10); Format “yyyy-mm-dd”. If a value is supplied, it must be a valid date larger than “1899-12-31”.	BU	Optional
			EL	Optional
			EP	Not applicable
			IN	Optional
			O3	Optional
			Risk	Recommended
Nationality	Consumer's nationality.	String (3)	BU	Optional
			O3	Optional
			Risk	Optional
Email	Consumer's Email Address.	String (64); The email address must contain an @ and a dot (.)	BU	Recommended
			EN	Recommended
			EP	Mandatory
			EV	Optional
			NS	Mandatory
			NT	Optional
			O3	Mandatory
			OC	Mandatory
			Risk	Recommended
IDNumber	The ID number required differs by country. Please see Appendix 11 for the list of countries and required ids.	String (40)	EP	Optional for Payouts
			Risk	Recommended
TypeOfID	This field indicates the type of ID sent through in the IDNumber field. The associated numeric code for the ID Type must be sent through e.g. If the consumer chose to enter in his passport registry number, then the value “1” must be submitted. If the IDNumber is not supplied, this field should be left blank. Appendix 12 lists the possible ID Types and their numeric codes.	Enum	Risk	Recommended
SSN	If the consumer’s country code is US (United States), the last 4 digits of the Social Security Number (SSN) must be provided, else if the consumer’s country code is CA (Canada), then the full 9 digit Social Insurance Number (SIN) must be provided in this field.	String (9)	Risk	Recommended

CPF_CNPJ	This is required for Brazilian transactions. • CPF – Brazilian individual taxpayer ID number. • CNPJ – ID Number of Brazilian companies.	String (20)	All	Not Applicable
Gender	Consumer's Gender (M = male, F = Female)	String(1)	EV	Recommended

Example XML for PersonalDetails with all complex elements

```
<PersonalDetails>
   <FirstName>Jerry</FirstName>
   <LastName>Anderson</LastName>
   <Telephone1>6149135</Telephone1>
   <Telephone1_CountryCode>44</Telephone1_CountryCode>
   <Telephone1_AreaCode>105</Telephone1_AreaCode>
   <Telephone2/>
   <Telephone2_CountryCode/>
   <Telephone2_AreaCode/>
   <DateOfBirth>1982-09-14</DateOfBirth>
   <Email>customer@email.com</Email>
   <IDNumber>123456789</IDNumber>
   <TypeOfID>PASSPORT</TypeOfID>
   <SSN/>
   <CPF_CNPJ/>
   <Nationality>GB</Nationality>
   <Gender>M</Gender>
</PersonalDetails>
```

3.3.2.1.9 NPSItem

These are the fields or structures contained within the NPSItem structure.

Element Name	NPSItem
Type	NPSItem
Position	Purchase.methodDetails
Children	No
Attributes	No

Structure is to be sent blank.

Example XML for NPSItem elements (note that it is to be sent blank, as shown in this small portion of the Purchase request)

```
  </purchaseDetails>
  <methodDetails xsi:type="NPSItem" />
</Purchase>
```

3.3.2.1.10 NetellerItem

These are the fields or structures contained within the NetellerItem structure.

Element Name	`NetellerItem`
Type	`NetellerItem`
Position	`Purchase.methodDetails`
Children	`Yes`
Attributes	`No`

Elements of NetellerItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
`AccountNumber`	Consumer's NETELLER Account ID	String (50)	*NT*	Mandatory
`AccountPIN`	Consumer's secure ID that was assigned, when they registered with NETELLER.	String (50)	*NT*	Mandatory
`PaymentInstrumentNumber`	This field contains an additional account number relating to the client's account at the financial institution (it is the consumer's last 4 digits of the bank account registered with NETELLER.) This needs to be provided if you would like to make use of NETELLER's instaCASH option.	String (50) This is only available for consumers with a US or Canadian bank account and the transaction currency (i.e. CurrencyCode) must be 840 or 124	*NT*	Optional

Example XML for NetellerItem complex elements

```
<AccountNumber>TestAccount</AccountNumber>
<AccountPIN>TestPIN</AccountPIN>
<PaymentInstrumentNumber>1234</PaymentInstrumentNumber>
```

3.3.2.1.11 Click2PayItem

These are the fields or structures contained within the Click2PayItem structure.

Element Name	`Click2PayItem`
Type	`Click2PayItem`
Position	`Purchase.methodDetails`
Children	`Yes`
Attributes	`No`

Elements of Click2PayItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
`AccountNumber`	Consumer's Click2Pay User Name (in the form of an email address).	String (50)	CL	Mandatory
`AccountPIN`	Consumer's Click2Pay Personal Account Number (PAN) that was assigned, when they registered with Click2Pay.	String (50)	CL	Mandatory

Example XML for Click2PayDetails complex elements

```
<AccountNumber>test.account@gmail.com</AccountNumber>
<AccountPIN>TestPIN</AccountPIN>
```

3.3.2.1.12 MoneybookersItem

These are the fields or structures contained within the MoneybookersItem structure.

Element Name	`MoneybookersItem`
Type	`MoneybookersItem`
Position	`Purchase.methodDetails`
Children	`Yes`
Attributes	`No`

Elements of MoneybookersItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
`AccountNumber`	Consumer's MoneyBookers User Name (in the form of an email address).	String (50)	MB	Mandatory

PaymentMethodType	Payment method for Moneybookers. For more information, please refer to Appendix 16.	Enum	MB	Optional

Example XML for MoneybookersItem complex elements

```
<AccountNumber>test.account@gmail.com</AccountNumber>
<PaymentMethodType>NONE</PaymentMethodType>
```

3.3.2.1.13 PaySafeCardItem

These are the fields or structures contained within the PaySafeCardItem structure.

Element Name	PaySafeCardItem
Type	PaySafeCardItem
Position	Purchase.methodDetails
Children	No
Attributes	No

Structure is to be sent blank.

Example XML for PaySafeCardItem elements (note that it is to be sent blank, as shown in this small portion of the Purchase request)

```
   </purchaseDetails>
   <methodDetails xsi:type="PaySafeCardItem" />
</Purchase>
```

3.3.2.1.14 ClickAndBuyItem

These are the fields or structures contained within the ClickAndBuyItem structure.

Element Name	ClickAndBuyItem
Type	ClickAndBuyItem
Position	Purchase.methodDetails
Children	Yes
Attributes	No

Elements of ClickAndBuyItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
AccountNumber	Consumer's ClickAndBuy account number.	String (50)	BU	Optional
Create Recurring	States whether to do a recurring purchase transaction	boolean	BU	Optional

Example XML for ClickAndBuyItem complex elements

```
<AccountNumber>123456789</AccountNumber>
<CreateRecurring>false</CreateRecurring>
```

3.3.2.1.15 UKashItem

These are the fields or structures contained within the UKashItem structure.

Element Name	UKashItem
Type	UKashItem
Position	Purchase.methodDetails
Children	Yes
Attributes	No

Elements of UKashItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
AccountNumber	Consumer's Ukash Voucher or Account number.	String (19)	UK	Mandatory
AccountPIN	Consumer's Ukash Account number PIN.	String (4)	UK	Optional. This is mandatory if the AccountNumber is 16 digits long.
AccountValue	Ukash voucher or account value.	Int	UK	Mandatory

TypeOfRedemption	This identifies the type of purchase transaction. Example: If the consumer wants to make a cash withdrawal then the value "CASH_WITHDRAWAL" must be passed. Refer to Appendix 15.	Enum	UK	Mandatory
AmountReference	This is the id returned from the 'RetrieveSettlementValue' web method.	String (50)	UK	Optional

Example XML for UKashItem complex elements

```
<AccountNumber>1234567891234567891</AccountNumber>
<AccountValue>1000</AccountValue>
<TypeOfRedemption>CASH_WITHDRAWAL</TypeOfRedemption>
<AmountReference />
```

3.3.2.1.16 eNetsItem

These are the fields or structures contained within the eNetsItem structure.

Element Name	`eNetsItem`
Type	`eNetsItem`
Position	`Purchase.methodDetails`
Children	`No`
Attributes	`No`

Structure is to be sent blank.

Example XML for eNetsItem complex elements (note that it is to be sent blank, as shown in this small portion of the Purchase request)

```
   </purchaseDetails>
   <methodDetails xsi:type="eNetsItem" />
</Purchase>
```

3.3.2.1.17 OneClickItem

These are the fields or structures contained within the OneClickItem structure.

Element Name	`OneClickItem`
Type	`OneClickItem`
Position	`Purchase.methodDetails`
Children	`Yes`
Attributes	`No`

Elements of OneClickItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
`AccountNumber`	N/A	String (50)	OC	N/A
`ServiceType`	This indicates the type of banking service available from Envoy OneClick. Refer to Appendix 17.	Enum	OC	Mandatory

Example XML for OneClickItem complex elements

```
<ServiceType>IDEAL</ServiceType>
```

3.3.2.1.18 InstaDebitItem

These are the fields or structures contained within the InstaDebitItem structure.

Element Name	InstaDebitItem
Type	InstaDebitItem
Position	Purchase.methodDetails
Children	No
Attributes	No

Structure is to be sent blank.

Example XML for InstaDebitItem elements (note that it is to be sent blank, as shown in this small portion of the Purchase request)

```
   </purchaseDetails>
   <methodDetails xsi:type="InstaDebitItem" />
</Purchase>
```

3.3.2.1.19 ExperCashItem

These are the fields or structures contained within the ExperCashItem structure.

Element Name	`ExperCashItem`
Type	`ExperCashItem`
Position	`Purchase.methodDetails`
Children	`Yes`
Attributes	`No`

Elements of ExperCashItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
`SortCode`	This is the Customer's bank sort code.	String (8)	EV	ELV: Mandatory. Either the Combination of (SortCode and AccountNumber), or IBAN or PaymentReference must be supplied, but not all values can be empty. GiroPay: SortCode is mandatory. Sofort: None of these fields are required.
`AccountNumber`	This is the Customer's bank account number	String (10)	EV	
`IBAN`	This is the International Bank Account Number. Standard for indentifying bank accounts across national borders..	String (34)	EV	
`PaymentReference`	This is a Merchant configurable data field typically used to identify a customer uniquelywithin the system, regardless of the amount of accounts that the customer has.	String (15)	EV	
`TypeOfAction`	This field indicates the type of purchase Action that the ExperCash gateway needs to perform. Please refer to Appendix 19 for a list of Actions that can be performed.	Enum	EV	Mandatory
`DelayDays`	This is the number of days on which the direct debit must be actioned. This only applies to 'BUY' type transactions.	Short	EV	Mandatory. If TypeOfAction is 'BUY', then either DelayDays or DebitDate is mandatory, but both

DebitDate	This is the date on which the direct debit must be actioned. Format "yyyy-mm-dd".	String (10)	EV	values must not be supplied.
Profile	The respective profile controls which payment and transaction methods can be selected.	Int	EV	Mandatory

Example XML for ExperCashItem complex elements

```
<SortCode>12345678</SortCode>
<AccountNumber>1234567890</AccountNumber>
<IBAN />
<PaymentReference />
<TypeOfAction>BUY</TypeOfAction>
<DelayDays>5</DelayDays>
<DebitDate />
<Profile>1</Profile>
```

3.3.2.1.20 ElectronicCheckItem

These are the fields or structures contained within the ElectronicCheckItem structure.

Element Name	ElectronicCheckItem
Type	ElectronicCheckItem
Position	Purchase.methodDetails
Children	Yes
Attributes	No

Elements of ElectronicCheckItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
FinancialAccountNumber	Customer's bank routing number	String (8)	EL	Mandatory
AccountNumber	This is the Customer's bank account number	String (8)	EL	Mandatory
AccountType	This is the type of the Customer's account. Please refer to Appendix 21 for a list of eCheck account types	Enum	EL	Mandatory

TypeOfAction	This is the type of the transaction. Please refer to Appendix 22 for a list of eCheck action types	Enum	EL	Mandatory
Recurring	This is to indicate that the transaction will be recurring	Booelan	EL	Optional
StartDate	Start date for recurring transactions. Date format is 'DD/MM/YYYY'.	Date	EL	For recurring transactions it is Mandatory. For non recurring transactions it is Optional.
EndDate	End date for recurring transactions. Date format is 'DD/MM/YYYY'.	Date	EL	Optional
Frequency	Recurrence pattern for the date on which clients will be billed every month. The frequency pattern uses a subset of a standard CRON expression, comprising 3 fields separated by a white space. Please refer to Appendix 20 for frequency pattern fields.	String(12)	EL	For recurring transactions it is Mandatory. For non recurring transactions it is Optional.

Example XML for ElectronicCheckItem complex elements

```
<FinancialAccountNumber>061000104</FinancialAccountNumber>
<AccountNumber>1432456</AccountNumber>
<AccountType>CONSUMER_SAVING</AccountType>
<TypeOfAction>AUTH_AND_CAPTURE</TypeOfAction>
<Recurring>true</Recurring>
<StartDate>05/13/2010</StartDate>
<EndDate>05/13/2011</EndDate>
<Frequency>? 3 WED</Frequency>
```

3.3.2.1.21 AmazonItem

These are the fields or structures contained within the AmazonItem structure.

Element Name	AmazonItem
Type	AmazonItem
Position	Purchase.methodDetails
Children	Yes

Attributes	No

Elements of AmazonItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
AmazonContractID	Amazon ContractID	String (255)	AM	Mandatory

Example XML for AmazonItem complex elements

```
<AmazonContractID>amzn1.contract.1.1.1.8a34d7a8db9a4e8be2b25d9e2e67fff1</
AmazonContractID>
```

3.3.2.1.22 iDealItem

These are the fields or structures contained within the iDealItem structure.

Element Name	iDealItem
Type	iDealItem
Position	Purchase.methodDetails
Children	Yes
Attributes	No

Elements of iDealItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
IssuerId	IssuerId the consumer has selected from the drop down on the merchant site.	Int	I3	Mandatory

Example XML for iDealItem complex elements

```
<methodDetails xsi:type="iDealItem">
  <IssuerId>121</IssuerId>
</methodDetails>
```

3.3.2.1.23 iDealBankListItem

These are the fields or structures contained within the iDealItem structure.

Element Name	iDealBankListItem
Type	iDealBankListItem
Position	GetInformation.methodDetails
Children	Yes
Attributes	No

Elements of iDealItem				
Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
None	-	-	-	-

Example XML for iDealBankListItem complex element

```
<iDealBankListItem>
```

3.3.2.1.24 WebMoney

These are the fields or structures contained within the WebMoney structure.

Element Name	WebMoneyItem
Type	WebMoneyItem
Position	Purchase.methodDetails
Children	Yes
Attributes	No

Elements of WebMoneyItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
None	-	-	-	-

Example XML for WebMoneyItem complex elements

```
<methodDetails xsi:type="WebMoneyItem">
</methodDetails>
```

3.3.2.1.25 OBTItem

These are the fields or structures contained within the OBTItem structure.

Element Name	OBTItem
Type	OBTItem
Position	Purchase.methodDetails
Children	Yes
Attributes	No

Elements of OBTItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
ServiceType	This indicates the type of banking service available. Refer to Appendix 27.	Enum	O3	Mandatory

Example XML for OBTItem complex elements

```
<methodDetails xsi:type="OBTItem">
   <ServiceType>LA_CAIXA</ServiceType>
</methodDetails>
```

3.3.2.1.26 AliPayItem

These are the fields or structures contained within the AliPayItem structure.

Element Name	AliPayItem
Type	AliPayItem
Position	Purchase.methodDetails
Children	Yes
Attributes	No

Elements of AliPayItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
AuthorizationToken	The secure token from accessing express login API Mandatory for express login	String	A7	Optional
Body	A detailed description of the goods	String (400)	A7	Optional
BuyerId	The unique ID of the buyer of this trade Mandatory for express login	String (16)	A7	Optional
SettlementCurrency	The Settlement curreny code. Please refer to Appendix 10.	Short	A7	Mandatory
Subject	The name of the goods	String(256)	A7	Mandatory
Supplier	The name of supplier	String(64)	A7	Optional

Example XML for PolItem complex elements

```
<methodDetails xsi:type="AliPayItem">
   <AuthorizationToken/>
   <Body>Test Body</Body>
   <BuyerId/>
   <SettlementCurrency>826</SettlementCurrency>
   <Subject>Test Subject</Subject>
   <Supplier/>
</methodDetails>
```

3.3.2.1.27 methodDetails (PaymentMethodItem)

This is a parent structure from which all the individual specific payment methods are inherited.

Element Name	`methodDetails`
Type	`PaymentMethodItem`
Position	`Purchase`
Children	`Yes`
Attributes	`Yes`

Elements of methodDetails			
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**
Please refer to the following sections for details relevant to each individual payment method: • A7 See section 3.3.2.1.26 • AM See section 3.3.2.1.21 • BU See section 3.3.2.1.14 • CL See section 3.3.2.1.11 • EL See section 3.3.2.1.20 • EN See section 3.3.2.1.16 • EV See section 3.3.2.1.19 • I3 See section 3.3.2.1.22 • IN See section 3.3.2.1.18 • MB See section 3.3.2.1.12 • NS See section 3.3.2.1.9 • NT See section 3.3.2.1.10 • O3 See section 3.3.2.1.25 • OC See section 3.3.2.1.17 • PF See section 3.3.2.1.13 • P5 See section 3.3.2.1.26 • UK See section 3.3.2.1.15 • W3 See section 3.3.2.1.24			

Attributes of methodDetails				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
`xsi:type`	This indicates the individual payment method involved in this transaction. Refer to Appendix 7 for the Payment Method Type options.	Enum	ALL	Mandatory

Example XML for methodDetails complex elements (no individual payment method structure involved e.g. eNets)

```
<methodDetails xsi:type="eNetsItem" />
```

Example XML for methodDetails complex elements (individual payment method structure involved e.g. Ukash)

```
<methodDetails xsi:type="UKashItem">
  <AccountNumber>1234567891234567891</AccountNumber>
  <AccountPIN />
  <AccountValue>1000</AccountValue>
  <TypeOfRedemption>CASH_WITHDRAWAL</TypeOfRedemption>
  <AmountReference />
</methodDetails>
```

3.3.2.2 Examples of XML for Purchase Requests

3.3.2.2.1 Ukash input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Purchase xmlns="http://DPG-CPT.datacash.com/">
      <purchaseDetails>
        <TransactionId>A99_080708134612</TransactionId>
        <Description></Description>
        <TransactionDateTime>2008-07-08 13:46:12</TransactionDateTime>
        <UserIP>10.0.0.1</UserIP>
        <Language>en</Language>
        <AccountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPIN</AccountPIN>
          <CompanyId>A99</CompanyId>
        </AccountDetails>
        <PersonalDetails/>
        <BillingDetails>
          <Name>Home</Name>
          <AddressDetails>
            <StreetLine1>Koningenplein 113</StreetLine1>
            <StreetLine2></StreetLine2>
            <City>Amsterdam</City>
            <PostalCode>1011 TG</PostalCode>
            <StateProvince>NH</StateProvince>
            <Country>NL</Country>
          </AddressDetails>
          <AmountDetails>
            <Amount>0</Amount>
            <Exponent>2</Exponent>
            <CurrencyCode>840</CurrencyCode>
          </AmountDetails>
```

```
            </BillingDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="UKashItem">
            <AccountNumber>633718009 xxxxxx 5236</AccountNumber>
            <AccountPIN></AccountPIN>
            <AccountValue>1000</AccountValue>
            <TypeOfRedemption>CASH_WITHDRAWAL</TypeOfRedemption>
            <AmountReference/>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.2 ClickAndBuy input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_080715150056</TransactionId>
            <Description/>
            <TransactionDateTime>2008-07-15 15:00:56</TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <Language>en</Language>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Bridgette</FirstName>
               <LastName>Robins</LastName>
               <Telephone1>65012781</Telephone1>
               <Telephone1_CountryCode>44</Telephone1_CountryCode>
               <Telephone1_AreaCode>20</Telephone1_AreaCode>
               <Telephone2/>
               <Telephone2_CountryCode>0</Telephone2_CountryCode>
               <Telephone2_AreaCode>0</Telephone2_AreaCode>
               <DateOfBirth>1975-11-23T00:00:00</DateOfBirth>
               <Email>customer@email.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>GB</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>51 Rocky Road</StreetLine1>
                  <StreetLine2/>
                  <City>London</City>
                  <PostalCode>SW1 1HM</PostalCode>
                  <StateProvince>EN</StateProvince>
                  <Country>GB</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>100</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <RiskDetails>
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="ClickAndBuyItem">
            <AccountNumber>123456789</AccountNumber>
            <CreateRecurring>false</CreateRecurring>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.3 Click2Pay input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_080717124604</TransactionId>
            <Description/>
            <TransactionDateTime>2008-07-17 12:46:04</TransactionDateTime>
```

```
<SuccessURL>MerchantSuccessURL</SuccessURL>
<FailureURL>MerchantFailureURL</FailureURL>
<UserIP>10.0.0.1</UserIP>
<Language>en</Language>
<AccountDetails>
   <AccountName>TestAccount</AccountName>
   <AccountPIN>TestPIN</AccountPIN>
   <CompanyId>A99</CompanyId>
</AccountDetails>
<PersonalDetails>
   <FirstName>Jerry</FirstName>
   <LastName>Anderson</LastName>
   <Telephone1>6149135</Telephone1>
   <Telephone1_CountryCode>44</Telephone1_CountryCode>
   <Telephone1_AreaCode>105</Telephone1_AreaCode>
   <Telephone2/>
   <Telephone2_CountryCode>0</Telephone2_CountryCode>
   <Telephone2_AreaCode>0</Telephone2_AreaCode>
   <DateOfBirth>1982-09-14T00:00:00</DateOfBirth>
   <Email>customer@email.com</Email>
   <TypeOfID>PASSPORT</TypeOfID>
   <SSN>0</SSN>
   <Nationality>GB</Nationality>
</PersonalDetails>
<BillingDetails>
   <Name>Home</Name>
   <AddressDetails>
      <StreetLine1>123 Roman Street</StreetLine1>
      <StreetLine2/>
      <City>London</City>
      <PostalCode>W4 1BT</PostalCode>
      <StateProvince>EN</StateProvince>
      <Country>GB</Country>
   </AddressDetails>
   <AmountDetails>
      <Amount>725</Amount>
      <Exponent>2</Exponent>
      <CurrencyCode>826</CurrencyCode>
   </AmountDetails>
</BillingDetails>
<RiskDetails>
   <MerchantId>1234</MerchantId>
   <AccountName>TestRiskAccount</AccountName>
   <AccountPassword>TestRiskPwd</AccountPassword>
   <AccountNumber>TestRiskAccountNum</AccountNumber>
   <UserId/>
   <UserMachineId/>
   <UserProfile1/>
   <UserProfile2/>
   <UserProfile3/>
   <LineItems/>
</RiskDetails>
<CustomMerchantDetails>
   <CustomDetail>
      <FieldName>PaymentId</FieldName>
      <FieldValue>1234</FieldValue>
   </CustomDetail>
```

```
        </CustomMerchantDetails>
        <LineItems/>
      </purchaseDetails>
      <methodDetails xsi:type="Click2PayItem">
        <AccountNumber>test.account@gmail.com</AccountNumber>
        <AccountPIN>TestMethodPIN</AccountPIN>
      </methodDetails>
    </Purchase>
  </soap:Body>
</soap:Envelope>
```

3.3.2.2.4 Neteller input values

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Purchase xmlns="http://DPG-CPT.datacash.com/">
      <purchaseDetails>
        <TransactionId>A99_080716134142</TransactionId>
        <Description/>
        <TransactionDateTime>2008-07-16 13:41:42</TransactionDateTime>
        <SuccessURL>MerchantSuccessURL</SuccessURL>
        <FailureURL>MerchantFailureURL</FailureURL>
        <UserIP>10.0.0.1</UserIP>
        <Language>en</Language>
        <AccountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPIN</AccountPIN>
          <CompanyId>A99</CompanyId>
        </AccountDetails>
        <PersonalDetails>
          <FirstName>Caylin</FirstName>
          <LastName>Williams</LastName>
          <Telephone1>6149135</Telephone1>
          <Telephone1_CountryCode>44</Telephone1_CountryCode>
          <Telephone1_AreaCode>105</Telephone1_AreaCode>
          <Telephone2/>
          <Telephone2_CountryCode>0</Telephone2_CountryCode>
          <Telephone2_AreaCode>0</Telephone2_AreaCode>
          <DateOfBirth>1982-09-14T00:00:00</DateOfBirth>
          <Email>customer@email.com</Email>
          <TypeOfID>PASSPORT</TypeOfID>
          <SSN>0</SSN>
          <Nationality>GB</Nationality>
        </PersonalDetails>
        <BillingDetails>
          <Name>Home</Name>
          <AddressDetails>
            <StreetLine1>78 Praed Street</StreetLine1>
            <StreetLine2/>
            <City>London</City>
            <PostalCode>W2 1NT</PostalCode>
            <StateProvince>EN</StateProvince>
            <Country>GB</Country>
```

```
               </AddressDetails>
               <AmountDetails>
                  <Amount>725</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <RiskDetails>
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="NetellerItem">
            <AccountNumber>TestMethodAccount</AccountNumber>
            <AccountPIN>TestMethodPIN</AccountPIN>
            <PaymentInstrumentNumber>6789</PaymentInstrumentNumber>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.5 MoneyBookers input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_080717124013</TransactionId>
            <Description/>
            <TransactionDateTime>2008-07-17 12:40:13</TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <Language>nl</Language>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Mary</FirstName>
               <LastName>Bakkers</LastName>
               <Telephone1>4512834</Telephone1>
               <Telephone1_CountryCode>31</Telephone1_CountryCode>
               <Telephone1_AreaCode>20</Telephone1_AreaCode>
               <Telephone2/>
               <Telephone2_CountryCode>0</Telephone2_CountryCode>
               <Telephone2_AreaCode>0</Telephone2_AreaCode>
               <DateOfBirth>1957-04-03T00:00:00</DateOfBirth>
               <Email>customer@email.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>NL</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>Koningenplein 113</StreetLine1>
                  <StreetLine2/>
                  <City>Amsterdam</City>
                  <PostalCode>1011 TG</PostalCode>
                  <StateProvince>NH</StateProvince>
                  <Country>NL</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>150</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>978</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <RiskDetails>
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="MoneybookersItem">
            <AccountNumber>test.account@gmail.com</AccountNumber>
            <PaymentMethodType>NONE</PaymentMethodType>
         </methodDetails>
      </Purchase>
```

```
  </soap:Body>
</soap:Envelope>
```

3.3.2.2.6 PaySafeCard input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Purchase xmlns="http://DPG-CPT.datacash.com/">
      <purchaseDetails>
        <TransactionId>A99_080715151418</TransactionId>
        <Description/>
        <TransactionDateTime>2008-07-15 15:14:18</TransactionDateTime>
        <SuccessURL>MerchantSuccessURL</SuccessURL>
        <FailureURL>MerchantFailureURL</FailureURL>
        <UserIP>10.0.0.1</UserIP>
        <Language>nl</Language>
        <AccountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPIN</AccountPIN>
          <CompanyId>A99</CompanyId>
        </AccountDetails>
        <PersonalDetails>
          <FirstName>Joost</FirstName>
          <LastName>Blom</LastName>
          <Telephone1>3129011</Telephone1>
          <Telephone1_CountryCode>31</Telephone1_CountryCode>
          <Telephone1_AreaCode>30</Telephone1_AreaCode>
          <Telephone2/>
          <Telephone2_CountryCode>0</Telephone2_CountryCode>
          <Telephone2_AreaCode>0</Telephone2_AreaCode>
          <DateOfBirth>1967-07-13T00:00:00</DateOfBirth>
          <Email>customer@email.com</Email>
          <TypeOfID>PASSPORT</TypeOfID>
          <SSN>0</SSN>
          <Nationality>NL</Nationality>
        </PersonalDetails>
        <BillingDetails>
          <Name>Tuis</Name>
          <AddressDetails>
            <StreetLine1>Kerkstraat 78</StreetLine1>
            <StreetLine2/>
            <City>Nieuwegein</City>
            <PostalCode>3278 HB</PostalCode>
            <StateProvince>ZH</StateProvince>
            <Country>NL</Country>
          </AddressDetails>
          <AmountDetails>
            <Amount>1</Amount>
            <Exponent>2</Exponent>
            <CurrencyCode>840</CurrencyCode>
          </AmountDetails>
        </BillingDetails>
        <RiskDetails>
```

```
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="PaySafeCardItem"/>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.7 NPS input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_080715162705</TransactionId>
            <Description/>
            <TransactionDateTime>2008-07-15 16:27:05</TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <Language>en</Language>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>William</FirstName>
               <LastName>Dickson</LastName>
               <Telephone1>81272781</Telephone1>
               <Telephone1_CountryCode>1</Telephone1_CountryCode>
               <Telephone1_AreaCode>205</Telephone1_AreaCode>
               <Telephone2>91272791</Telephone2>
               <Telephone2_CountryCode>2</Telephone2_CountryCode>
               <Telephone2_AreaCode>305</Telephone2_AreaCode>
               <DateOfBirth>1985-12-10T00:00:00</DateOfBirth>
               <Email>customer@email.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>US</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>51 Rocky Road</StreetLine1>
                  <StreetLine2/>
                  <City>San Diego</City>
                  <PostalCode>20091</PostalCode>
                  <StateProvince>EN</StateProvince>
                  <Country>US</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>125</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>156</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <ShippingDetails>
               <Name>Holiday House</Name>
               <AddressDetails>
                  <StreetLine1>Greenway Terraces</StreetLine1>
                  <StreetLine2>210 Bayside Road</StreetLine2>
                  <City>New York</City>
                  <PostalCode>10028</PostalCode>
                  <StateProvince>NY</StateProvince>
                  <Country>US</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>185</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>156</CurrencyCode>
               </AmountDetails>
            </ShippingDetails>
            <RiskDetails>
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
          </purchaseDetails>
          <methodDetails xsi:type="NPSItem"/>
          </Purchase>
       </soap:Body>
</soap:Envelope>
```

3.3.2.2.8 eNETS input values

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
mlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_080618153446</TransactionId>
            <Description/>
            <TransactionDateTime>2008-06-18 15:34:46 </TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Betty</FirstName>
               <LastName>Kheng Sing Peh</LastName>
               <Telephone1>5130771</Telephone1>
               <Telephone1_CountryCode>65</Telephone1_CountryCode>
               <Telephone1_AreaCode>6</Telephone1_AreaCode>
               <Telephone2/>
               <Telephone2_CountryCode>0</Telephone2_CountryCode>
               <Telephone2_AreaCode>0</Telephone2_AreaCode>
               <DateOfBirth>1957-04-03T00:00:00</DateOfBirth>
               <Email>customer@email.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>SG</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>1094 Lower Delta Road</StreetLine1>
                  <StreetLine2>#07-01 Motorway Building</StreetLine2>
                  <City>Singapore</City>
                  <PostalCode>169205</PostalCode>
                  <StateProvince/>
                  <Country>SG</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>100</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>702</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <ShippingDetails>
```

```
               <Name>Work</Name>
               <AddressDetails>
                  <StreetLine1>Waterview Park</StreetLine1>
                  <StreetLine2>Century City</StreetLine2>
                  <City>Cape Town</City>
                  <PostalCode/>
                  <StateProvince>WC</StateProvince>
                  <Country>ZA</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>100</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>702</CurrencyCode>
               </AmountDetails>
            </ShippingDetails>
            <Language>EN</Language>
            <RiskDetails>
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="eNetsItem"/>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.9 OneClick input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
mlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_080618153446</TransactionId>
            <Description/>
            <TransactionDateTime>2008-06-18 15:34:46 </TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
```

```
          <AccountDetails>
            <AccountName>TestAccount</AccountName>
            <AccountPIN>TestPIN</AccountPIN>
            <CompanyId>A99</CompanyId>
          </AccountDetails>
          <PersonalDetails>
            <FirstName>Betty</FirstName>
            <LastName>Kheng Sing Peh</LastName>
            <Telephone1>5130771</Telephone1>
            <Telephone1_CountryCode>65</Telephone1_CountryCode>
            <Telephone1_AreaCode>6</Telephone1_AreaCode>
            <Telephone2/>
            <Telephone2_CountryCode>0</Telephone2_CountryCode>
            <Telephone2_AreaCode>0</Telephone2_AreaCode>
            <DateOfBirth>1957-04-03T00:00:00</DateOfBirth>
            <Email>customer@email.com</Email>
            <TypeOfID>PASSPORT</TypeOfID>
            <SSN>0</SSN>
            <Nationality>SG</Nationality>
          </PersonalDetails>
          <BillingDetails>
            <Name>Home</Name>
            <AddressDetails>
              <StreetLine1>1094 Lower Delta Road</StreetLine1>
              <StreetLine2>#07-01 Motorway Building</StreetLine2>
              <City>Singapore</City>
              <PostalCode>169205</PostalCode>
              <StateProvince/>
              <Country>NL</Country>
            </AddressDetails>
            <AmountDetails>
              <Amount>100</Amount>
              <Exponent>2</Exponent>
              <CurrencyCode>702</CurrencyCode>
            </AmountDetails>
          </BillingDetails>
          <ShippingDetails>
            <Name>Work</Name>
            <AddressDetails>
              <StreetLine1>Waterview Park</StreetLine1>
              <StreetLine2>Century City</StreetLine2>
              <City>Cape Town</City>
              <PostalCode/>
              <StateProvince>WC</StateProvince>
              <Country>ZA</Country>
            </AddressDetails>
            <AmountDetails>
              <Amount>100</Amount>
              <Exponent>2</Exponent>
              <CurrencyCode>702</CurrencyCode>
            </AmountDetails>
          </ShippingDetails>
          <Language>EN</Language>
          <RiskDetails>
            <MerchantId>1234</MerchantId>
            <AccountName>TestRiskAccount</AccountName>
            <AccountPassword>TestRiskPwd</AccountPassword>
```

```
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="OneClickItem">
            <ServiceType>IDEAL</ServiceType>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.10 iDeal input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_091203142822</TransactionId>
            <TransactionDateTime>2009-12-03 14:28:22</TransactionDateTime>
            <UserIP>10.0.0.1</UserIP>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <Language>en</Language>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Wolfgang</FirstName>
               <LastName>Middendorp</LastName>
               <Telephone1>6149135</Telephone1>
               <Telephone1_CountryCode>49</Telephone1_CountryCode>
               <Telephone1_AreaCode>10</Telephone1_AreaCode>
               <Email>customer@email.com</Email>
               <Gender>M</Gender>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>Berliner Straße 213</StreetLine1>
                  <StreetLine2/>
                  <City>Berlin</City>
                  <PostalCode>10825</PostalCode>
                  <StateProvince/>
                  <Country>DE</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>5240</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>978</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <RiskDetails>
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="iDealItem">
            <IssuerId>123</IssuerId>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.11 InstaDebit input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_091014141919</TransactionId>
            <TransactionDateTime>2009-10-14 14:19:19</TransactionDateTime>
            <UserIP>10.0.0.1</UserIP>
            <CustomerReference>2345</CustomerReference>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
```

```
               <FirstName>Wolfgang</FirstName>
               <LastName>Middendorp</LastName>
               <Telephone1>6149135</Telephone1>
               <Telephone1_CountryCode>49</Telephone1_CountryCode>
               <Telephone1_AreaCode>10</Telephone1_AreaCode>
               <Email>customer@email.com</Email>
               <TypeOfID>NONE</TypeOfID>
               <SSN/>
            </PersonalDetails>
            <BillingDetails>
               <Name>Wolfgang Middendorp</Name>
               <AddressDetails>
                  <StreetLine1>Berliner Straße 213</StreetLine1>
                  <StreetLine2/>
                  <City>Berlin</City>
                  <PostalCode>10825</PostalCode>
                  <Country>DE</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>5240</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>978</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>de</Language>
            <RiskDetails>
               <MerchantId>1234</MerchantId>
               <AccountName>TestRiskAccount</AccountName>
               <AccountPassword>TestRiskPwd</AccountPassword>
               <AccountNumber>TestRiskAccountNum</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
               <LineItems/>
            </RiskDetails>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
         </purchaseDetails>
         <LineItems/>
         <methodDetails xsi:type="InstaDebitItem"/>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.12 ExperCash input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
```

```
<Purchase xmlns="http://DPG-CPT.datacash.com/">
   <purchaseDetails>
      <TransactionId>A99_091203142822</TransactionId>
      <TransactionDateTime>2009-12-03 14:28:22</TransactionDateTime>
      <UserIP>10.0.0.1</UserIP>
      <AccountDetails>
         <AccountName>TestAccount</AccountName>
         <AccountPIN>TestPIN</AccountPIN>
         <CompanyId>A99</CompanyId>
      </AccountDetails>
      <PersonalDetails>
         <FirstName>Wolfgang</FirstName>
         <LastName>Middendorp</LastName>
         <Telephone1>6149135</Telephone1>
         <Telephone1_CountryCode>49</Telephone1_CountryCode>
         <Telephone1_AreaCode>10</Telephone1_AreaCode>
         <Email>customer@email.com</Email>
         <Gender>M</Gender>
      </PersonalDetails>
      <BillingDetails>
         <Name>Home</Name>
         <AddressDetails>
            <StreetLine1>Berliner Straße 213</StreetLine1>
            <StreetLine2/>
            <City>Berlin</City>
            <PostalCode>10825</PostalCode>
            <StateProvince/>
            <Country>DE</Country>
         </AddressDetails>
         <AmountDetails>
            <Amount>5240</Amount>
            <Exponent>2</Exponent>
            <CurrencyCode>978</CurrencyCode>
         </AmountDetails>
      </BillingDetails>
      <RiskDetails>
         <MerchantId>1234</MerchantId>
         <AccountName>TestRiskAccount</AccountName>
         <AccountPassword>TestRiskPwd</AccountPassword>
         <AccountNumber>TestRiskAccountNum</AccountNumber>
         <UserId/>
         <UserMachineId/>
         <UserProfile1/>
         <UserProfile2/>
         <UserProfile3/>
         <LineItems/>
      </RiskDetails>
      <CustomMerchantDetails>
         <CustomDetail>
            <FieldName>PaymentId</FieldName>
            <FieldValue>1234</FieldValue>
         </CustomDetail>
      </CustomMerchantDetails>
      <Language>en</Language>
      <LineItems/>
   </purchaseDetails>
   <methodDetails xsi:type="ExperCashItem">
```

```
        <SortCode>12345678</SortCode>
        <AccountNumber>34567890</AccountNumber>
        <TypeOfAction>BUY</TypeOfAction>
        <DelayDays>5</DelayDays>
        <Profile>1</Profile>
      </methodDetails>
    </Purchase>
  </soap:Body>
</soap:Envelope>
```

3.3.2.2.13 ElectronicCheck input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Purchase xmlns="http://DPG-CPT.datacash.com/">
      <purchaseDetails>
        <TransactionId>T10_LENFRUCVQVQ1</TransactionId>
        <Description/>
        <TransactionDateTime>2010-10-13 06:13:20</TransactionDateTime>
        <SuccessURL>MerchantSuccessURL</SuccessURL>
        <FailureURL>MerchantFailureURL</FailureURL>
        <UserIP>10.0.0.1</UserIP>
        <AccountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPIN</AccountPIN>
          <CompanyId>A99</CompanyId>
        </AccountDetails>
        <PersonalDetails>
          <FirstName>Candy</FirstName>
          <LastName>Daniels</LastName>
          <Telephone1>6525971</Telephone1>
          <Telephone1_CountryCode>1</Telephone1_CountryCode>
          <Telephone1_AreaCode>212</Telephone1_AreaCode>
          <Telephone2/>
          <Telephone2_CountryCode>0</Telephone2_CountryCode>
          <Telephone2_AreaCode>0</Telephone2_AreaCode>
          <DateOfBirth>1987-08-27T00:00:00</DateOfBirth>
          <Email>Candy.daniels@hotmail.com</Email>
          <TypeOfID>NONE</TypeOfID>
          <SSN>3124</SSN>
          <Nationality>US</Nationality>
        </PersonalDetails>
        <BillingDetails>
          <Name>Home</Name>
          <AddressDetails>
            <StreetLine1>88 High Street</StreetLine1>
            <StreetLine2>Faulty Towers</StreetLine2>
            <City>New York</City>
            <PostalCode>10025</PostalCode>
            <StateProvince>NY</StateProvince>
            <Country>US</Country>
          </AddressDetails>
          <AmountDetails>
```

```
                  <Amount>950</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>840</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>en</Language>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
         </purchaseDetails>
         <methodDetails xsi:type="ElectronicCheckItem">
            <AccountNumber>1432456</AccountNumber>
            <AccountType>COMMERCIAL_CHECK</AccountType>
            <RoutingNumber>061000104</RoutingNumber>
            <TypeofAction>AUTH_AND_CAPTURE</TypeofAction>
            <Recurring>true</Recurring>
            <StartDate>10/10/2010</StartDate>
            <EndDate>10/12/2010</EndDate>
            <Frequency>L * ?</Frequency>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.14 Amazon input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>T10_111111111111</TransactionId>
            <Description/>
            <TransactionDateTime>2011-04-04 08:30:30</TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <AccountDetails>
               <AccountName>Test_DataCash</AccountName>
               <AccountPIN>xxxxxxxxxxx</AccountPIN>
               <CompanyId>X10</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Wolfgang</FirstName>
               <LastName>Middendorp</LastName>
               <Telephone1>6149135</Telephone1>
               <Telephone1_CountryCode>49</Telephone1_CountryCode>
               <Telephone1_AreaCode>10</Telephone1_AreaCode>
               <Telephone2/>
               <Telephone2_CountryCode>0</Telephone2_CountryCode>
               <Telephone2_AreaCode>0</Telephone2_AreaCode>
               <DateOfBirth>0001-01-01T00:00:00</DateOfBirth>
               <Email>test@hotmail.com</Email>
               <IDNumber/>
               <TypeOfID>NONE</TypeOfID>
               <SSN>0</SSN>
               <Nationality/>
               <Gender>M</Gender>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>Berliner Straße 213</StreetLine1>
                  <StreetLine2/>
                  <City>Berlin</City>
                  <PostalCode>10825</PostalCode>
                  <StateProvince/>
                  <Country>DE</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>5241</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <ShippingDetails>
               <Name>Work</Name>
               <AddressDetails>
                  <StreetLine1>Blue Moon Terraces</StreetLine1>
                  <StreetLine2>254 Paddington Road</StreetLine2>
                  <City>London</City>
                  <PostalCode>W1 3KB</PostalCode>
                  <StateProvince>EN</StateProvince>
                  <Country>GB</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>5240</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </ShippingDetails>
            <RiskDetails>
               <MerchantId>415</MerchantId>
               <AccountName>GamingTest</AccountName>
               <AccountPassword>password123</AccountPassword>
               <AccountNumber>danger</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
            </RiskDetails>
            <Language>en</Language>
            <LineItems>
               <LineItem>
                  <LineItemId>0</LineItemId>
                  <ProductCode>1</ProductCode>
                  <ProductDescription>1</ProductDescription>
                  <ProductCategory>1</ProductCategory>
                  <ProductRisk/>
```

```
                  <OrderQuantity>1</OrderQuantity>
                  <UnitPrice>1</UnitPrice>
               </LineItem>
            </LineItems>
         </purchaseDetails>
         <methodDetails xsi:type="AmazonItem">

   <AmazonContractID>amzn1.contract.1.1.1.8a34d7a8db9a4e8be2b25d9e2e67fff1
</AmazonContractID>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.15 WebMoney input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>T10_091014141919</TransactionId>
            <Description/>
            <TransactionDateTime>2009-10-14 14:19:19</TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <AccountDetails>
               <AccountName>Test_DataCash</AccountName>
               <AccountPIN>xxxxxxxxxxx</AccountPIN>
               <CompanyId>X10</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Jerry</FirstName>
               <LastName>Anderson</LastName>
               <Telephone1>6149135</Telephone1>
               <Telephone1_CountryCode>44</Telephone1_CountryCode>
               <Telephone1_AreaCode>105</Telephone1_AreaCode>
               <Telephone2/>
               <Telephone2_CountryCode>0</Telephone2_CountryCode>
               <Telephone2_AreaCode>0</Telephone2_AreaCode>
               <DateOfBirth>1982-09-14T00:00:00</DateOfBirth>
               <Email>candice_williams@hotmail.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>GB</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>David Williams</Name>
               <AddressDetails>
                  <StreetLine1>123 Roman Street</StreetLine1>
                  <StreetLine2/>
                  <City>London</City>
                  <PostalCode>W4 1BT</PostalCode>
                  <StateProvince>EN</StateProvince>
                  <Country>GB</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>725</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>en</Language>
            <RiskDetails>
               <MerchantId>1000</MerchantId>
               <AccountName>Test</AccountName>
               <AccountPassword>test123</AccountPassword>
               <AccountNumber>danger</AccountNumber>
               <UserId/>
               <UserMachineId/>
               <UserProfile1/>
               <UserProfile2/>
               <UserProfile3/>
            </RiskDetails>
         </purchaseDetails>
         <methodDetails xsi:type="WebMoneyItem"/>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.16 Offline Bank Transfer input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
mlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>A99_080618153446</TransactionId>
            <Description/>
            <TransactionDateTime>2008-06-18 15:34:46 </TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <CustomerReference>378KN430</CustomerReference >
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Betty</FirstName>
               <LastName>Kheng Sing Peh</LastName>
               <Telephone1>5130771</Telephone1>
               <Telephone1_CountryCode>65</Telephone1_CountryCode>
               <Telephone1_AreaCode>6</Telephone1_AreaCode>
               <Telephone2/>
               <Telephone2_CountryCode>0</Telephone2_CountryCode>
               <Telephone2_AreaCode>0</Telephone2_AreaCode>
               <DateOfBirth>1957-04-03T00:00:00</DateOfBirth>
               <Email>customer@email.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>SG</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>1094 Lower Delta Road</StreetLine1>
                  <StreetLine2>#07-01 Motorway Building</StreetLine2>
                  <City>Singapore</City>
                  <PostalCode>169205</PostalCode>
                  <StateProvince/>
                  <Country>NL</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>100</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>702</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <ShippingDetails>
               <Name>Work</Name>
               <AddressDetails>
                  <StreetLine1>Waterview Park</StreetLine1>
                  <StreetLine2>Century City</StreetLine2>
                  <City>Cape Town</City>
                  <PostalCode/>
                  <StateProvince>WC</StateProvince>
                  <Country>ZA</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>100</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>702</CurrencyCode>
               </AmountDetails>
            </ShippingDetails>
            <Language>EN</Language>
            <CustomMerchantDetails>
               <CustomDetail>
                  <FieldName>PaymentId</FieldName>
                  <FieldValue>1234</FieldValue>
               </CustomDetail>
            </CustomMerchantDetails>
            <LineItems/>
         </purchaseDetails>
         <methodDetails xsi:type="OBTItem">
            <ServiceType>LA_CAXIA</ServiceType>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.17 POLi Input Values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <purchaseDetails>
            <TransactionId>T10_111212121056</TransactionId>
            <Description/>
            <TransactionDateTime>2011-12-12 12:27:29</TransactionDateTime>
            <SuccessURL>MerchantSuccessURL</SuccessURL>
            <FailureURL>MerchantFailureURL</FailureURL>
            <UserIP>10.0.0.1</UserIP>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails/>
            <BillingDetails>
               <AmountDetails>
                  <Amount>100</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>36</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>en</Language>
         </purchaseDetails>
         <methodDetails xsi:type="PoliItem">
            <FinancialnstitutionCode>Bank01</FinancialnstitutionCode>
         </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.2.2.18 AliPay Input Values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Purchase xmlns="http://DPG-CPT.datacash.com/">
      <purchaseDetails>
        <TransactionId>A99_120320085307</TransactionId>
        <Description/>
        <TransactionDateTime>2012-03-20 08:53:07</TransactionDateTime>
        <SuccessURL>MerchantSuccessURL</SuccessURL>
        <FailureURL>MerchantFailureURL</FailureURL>
        <UserIP>10.0.0.1</UserIP>
        <AccountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPIN</AccountPIN>
          <CompanyId>A99</CompanyId>
        </AccountDetails>
        <PersonalDetails/>
        <BillingDetails>
          <AmountDetails>
            <Amount>1</Amount>
            <Exponent>2</Exponent>
            <CurrencyCode>826</CurrencyCode>
          </AmountDetails>
        </BillingDetails>
        <Language>en</Language>
      </purchaseDetails>
      <methodDetails xsi:type="AliPayItem">
        <Subject>Test Subject</Subject>
        <Body>Test Body</Body>
        <Supplier/>
        <AuthorizationToken/>
        <SettlementCurrency>826</SettlementCurrency>
        <BuyerId/>
      </methodDetails>
    </Purchase>
  </soap:Body>
</soap:Envelope>
```

3.3.2.3 Schema elements for Purchase Response

In this section, the fields that can be presented with Purchase transaction Responses will be presented along with example XML for those fields.

The top-level XML element is the `Response` element. This will be followed by the `Event` element, with the Purchase method's response details inside that, in the Purchase complex structure.

Note that various responses will result in various XML formats being returned -

the following list contains some of the response fields, but you should refer to the XML samples below and in Section 3.3.2.5 for further information.

- `Response` – see section 3.3.1.2.3
    - `Event` – see section 3.3.1.2.2
        - `Purchase` – see section 3.3.2.3.4
            - `PaymentMethod` – see section 3.3.2.1.27
                - `PaymentMethod –` *`specific fields`*
            - `Error` – see section 3.3.1.2.1
            - `RiskResult` – see section 3.3.2.3.1

3.3.2.3.1 RiskResult

The result of Risk Screening will be displayed here.

Element Name:	`RiskResult`
Position	`Response.Event.Purchase`
Children	`Yes`
Attributes	`No`

Elements of RiskResult		
Element Name	**Description**	**Data type / Limitations**
`StatusCode`	This returns the Risk Status Code.	Short
`StatusDescription`	This is a text field used to give a short description of the Risk Status Code.	String (255)

Example XML for RiskResult complex elements

```
<RiskResult>
  <StatusCode>0</StatusCode>
  <Message><![CDATA[Transaction Approved ]]></Message>
</RiskResult>
```

3.3.2.3.2 Redirect transaction specific elements

A variety of elements will appear in various positions, to serve different functions during a redirect transaction. Please refer to the individual "Position" descriptions in the following sections, for more information on all the Redirect details.

Redirect transaction responses are characterized with "REDIRECT" in the Status field. These Purchase Payment Methods are categorized as Redirect payment methods:

- A7
- BU
- EN

- EV (Giropay & Sofort)
- I3
- IN
- MB
- NS
- OC
- PF
- P5
- W3

For all non-redirect transactions except O3, these fields are not applicable. O3 makes use of the RecommendedDisplayMessage only.

Element name:	RecommendedDisplayMessage
Position	Response.Event.Purchase.PaymentMethod
See section	3.3.2.3.3
Element name	RedirectURL
Position	Response.Event.Purchase
See section	3.3.2.3.4
Element name	PopupBrowser
Position	Response.Event.Purchase
See section	3.3.2.3.4
Element name	RedirectParameters
Position	Response.Event.Purchase
See section	3.3.2.3.4
Element name	RedirectParameter
Position	Response.Event.Purchase.RedirectParameters
See section	3.3.2.3.4

3.3.2.3.3 PaymentMethod

The details involved in the specific Payment Method of this transaction are displayed here. The top-level element “PaymentMethod” will contain the payment method for the transaction, while the sub elements will contain the rest of the details.

Element Name:	PaymentMethod
Position	Response.Event.Purchase
Children	Yes
Attributes	Yes

Attributes involved in the PaymentMethod element			
Attribute Name	**Located in which Element**	**Description**	**Data type / Limitations**
`name`	PaymentMethod	Indicates the Payment Method (Processor) involved in this transaction. Refer to Appendix 7 for the possible values.	String
`isLeftToRight`	RecommendedDisplayMessage	Indicates the direction of the language used in the recommended display message.	Boolean ***ONLY relevant to Redirect transactions.***

Elements of PaymentMethod		
Element Name	**Description**	**Data type / Limitations**
`ReferenceId`	This is a value returned by the processor to uniquely identify the transaction.	String (50) ***NOT relevant to Redirect transactions.***
`ResponseCode`	This is a return code, which gets returned by the processor.	String (10) ***NOT relevant to Redirect transactions.***
`ResponseDescription`	This is a text field used to give a short text description of the response code from the processor.	String (255) ***NOT relevant to Redirect transactions.***
`RecommendedDisplayMessage`	This field contains the recommended display message that can be displayed to the consumer. The RecommendedDisplayMessage will be returned in the language which was passed through in Language field of original transaction. This is dependent on whether the language is supported by APG. If the language is not supported, the message will default to English.	String (1000) ***ONLY relevant to Redirect transactions.***

AmountReference	This is a value returned by the Ukash processor to uniquely identify the settlement amount transaction.	String (50) ***ONLY relevant to Retrieve Settlement Values transactions (See section 3.3.5)***
Payment-method specific elements	Note: More fields could be returned here, this is dependent on the payment method. Refer to the XML Samples for details (see section 3.3.2.5)	
CustomMerchantDetails	The merchant custom fields and values are returned in the element. The custom fields and values will be returned as follows: <FieldName>FieldValue</FieldValue>	

Examples of XML for PaymentMethod complex elements (*These examples are specifically for a successfully completed PaySafeCard transaction, with the payment method specific details displayed in italics. Example 1 is the redirect XML returned to the Merchant during the initial phase of the transaction, while Example 2 is the final result XML at the end of the transaction.*)

1:

```
<PaymentMethod name="PF">
  <RecommendedDisplayMessage isRightToLeft="False">Please wait while
  you are being redirected to the PaySafeCard
  website.</RecommendedDisplayMessage>
</PaymentMethod>
```

2:

```
<PaymentMethod name="PF">
  <ReferenceId>A99_090909123456</ReferenceId>
  <ResponseCode>0</ResponseCode>
  <ResponseDescription>Consumed</ResponseDescription>
  <SerialNumbers>
    <SerialNumber>
      <CardSerialNumber>7011300000701130</CardSerialNumber>
      <CardDispositionValue>3.50</CardDispositionValue>
    </SerialNumber>
  </SerialNumbers>
</PaymentMethod>
```

3.3.2.3.4 Purchase Response

The results of a Purchase transaction will be returned in this complex structure. Note that the details depend on the Payment Method involved – this is a very dynamic complex structure that can take on a variety of shapes, depending on the scenario.

Element Name:	Purchase
Position	Response.Event
Children	Yes
Attributes	Yes

Attributes involved in the Purchase element			
Attribute Name	**Located in which Element**	**Description**	**Data type / Limitations**
DPGReferenceId	Purchase	The DPGReferenceId is a unique APG transaction identifier which is generated by the APG for each merchant transaction.	Long
TransactionId	Purchase	This will return the original TransactionId that the Merchant sent through. This is for informational purposes only.	String (16)
CurrencyCode	Amount	This is the transaction currency. Please refer to Appendix 10.	Short
Exponent	Amount	This is the transaction currency exponent. Please refer to Appendix 10.	Short
CurrencyCode	SaleAmount	This is the transaction currency. Please refer to Appendix 10.	Short
Exponent	SaleAmount	This is the transaction currency exponent. Please refer to Appendix 10.	Short
Method	RedirectParameters	Indicates how the redirect parameters should be sent to the Processor. See section 3.3.2.5.	String “GET” or “POST”
contentType	RedirectParameters	Indicates how the redirect parameters should be sent to the Processor. See section 3.3.2.5.	String
Name	RedirectParameter	“Name” field of the specific Redirect parameter name-value pair.	String
Value	RedirectParameter	“Value” field of the specific Redirect parameter name-value pair.	String

Elements of Purchase

Element Name	Description	Data type / Limitations
Purchase	Top-level XML element indicating a Purchase transaction - the DPGReferenceId and TransactionId for the transaction are also returned as attributes of this field – refer to the Attributes table above for more information.)	
PaymentMethod	See section 3.3.2.3.3	
Status	This is the response, which indicates if the transaction was accepted, or not at the processor. See Appendix 6 for possible response messages.	String (20)
Error	See section 3.3.1.2.1. This element will appear in the Purchase XML if the Status = "ERROR".	
Amount	This field contains the amount taken from the client's account at the financial institution. The field type is a numeric value in cents. (The currency and exponent for the amount are also returned as attributes of this field – refer to the Attributes table above for more information.) Applicable to all Payment Types	Int
SaleAmount	This field contains the amount credited to the merchant account in the currency provided within the SaleAmount field in the merchant request. If no SaleAmount values were provided within the merchant request, the amount returned will be provided in the currency of the Amount field within the merchant request. Currently available for the following Payment Methods: OC	Int
RiskResult	See section 3.3.2.3.1	

RecommendedClientMessage	This field contains the recommended client message that can be displayed to the consumer. A list of these messages will be detailed in the Product Document. In certain instances, the exact nature of the error will be hidden from the consumer e.g. error relating to merchant account details. The true nature of the error can always be found in the ResponseDescription or Error Description response fields. Note: The RecommendedClientMessage field might contain end-of-line characters. Merchants should design their front-end systems in such a way that the end-of-line characters are correctly displayed to end-users. For example, if an HTML page is used as the display method in the front-end system, the merchant must replace the end-of-line characters in the RecommendedClientMessage field with the appropriate <BR> tags, otherwise the HTML front-end will not display the appropriate line breaks correctly. Alternatively, the contents of the RecommendedClientMessage can be included in <PRE> tags. The RecommendedClientMessage will be returned in the language which was passed through in Language field of original transaction. This is dependent on whether the language is supported by APG. If the language is not supported, the message will default to English.	String (1000)

RecommendedDisplayMessage	This field contains the recommended display message that can be displayed to the consumer. The RecommendedDisplayMessage will be returned in the language which was passed through in Language field of original transaction. This is dependent on whether the language is supported by APG. If the language is not supported, the message will default to English. Currently available for the following Payment Methods: • BU • EN • EV (Only for Giropay and Sofort) • I3 • IN • MB • NS • O3 • OC • PF • W3	String (1000)
RedirectURL	URL to which the merchant needs to redirect the consumer. This value might also contain redirect parameters. In this scenario, the RedirectParameters element would typically not contain any RedirectParameter child elements.	String (1000) ***ONLY relevant to Redirect transactions***
PopupBrowser	Merchant needs to popup a new browser depending on the value in this field. 'true' – Popup a new browser and then redirect to the website specified in the RedirectURL field in the popup browser. 'false' – Redirect to the website specified in the RedirectURL in the current browser session.	Boolean ***ONLY relevant to Redirect transactions***

RedirectParameters	A collection of RedirectParameters, which represent all the information necessary to successfully redirect the consumer to the RedirectURL. (The method and contentType are also returned as attributes of this field – refer to the Attributes table above for more information.)	RedirectParameter (see below) ***ONLY relevant to Redirect transactions***
RedirectParameter	This Element contains information in its Attributes, which the merchant needs to transform into form variables and post them to the RedirectURL (please refer to the Attributes table above for more information). If the `RedirectURL` element already contains the necessary values, then the `RedirectParameters` element would typically not contain any `RedirectParameter` child elements.	String name-value pairs (contained as Attributes) ***ONLY relevant to Redirect transactions***

Examples of XML for Purchase complex elements

Please refer to section 3.3.2.5 for examples per Payment Method.

3.3.2.4 Interpreting the Purchase Responses

There are various types of possible responses that can be returned from the APG to the Merchant. These include:

- Successful transaction
- Unsuccessful transaction
- Redirect transaction
- Event notification

Refer to section 2.1.1.3 for examples.

The APG can return multiple responses per transaction, and as a result the merchant needs to analyze these and perform the appropriate action. Appendix 6 details the various responses. The Status field will indicate the status of the transaction. The merchant should only credit the consumer's account when the Status=AUTHORISED, in all other cases the merchant should not credit the consumer's account.

In the case whereby the Status = REDIRECT, then the following needs to happen:

- Merchant to transform the RedirectParameter attributes into form variables
- Use the RedirectURL as the action of the form
- Display the suggested RecommendedDisplayMessage to the consumer

- Depending on the redirect the form variables needs to be posted or otherwise the Query string parameters need to be appended to the url before the consumer is redirected.

Here is an example of the Redirect response and parameters that the APG returns to the merchant:

Example of Redirect Response

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="234" TransactionId="A99_090909141714">
      <PaymentMethod name="OC">
        <RecommendedDisplayMessage isRightToLeft="False">Please wait
        while you are being redirected to the Envoy OneClick
        website.</RecommendedDisplayMessage>
      </PaymentMethod>
      <Status>REDIRECT</Status>
      <RedirectURL><![CDATA[https://test.envoytransfers.com]]>
      </RedirectURL>
      <PopupBrowser>false</PopupBrowser>
      <RedirectParameters method="POST" contentType="application/x-
      www-form-urlencoded">
        <RedirectParameter name="merchantID" value="123321"/>
        <RedirectParameter name="customerRef"
        value="A99_090909141714"/>
        <RedirectParameter name="country" value="GB"/>
        <RedirectParameter name="amount" value="1.00"/>
        <RedirectParameter name="currency" value="EUR"/>
        <RedirectParameter name="receiveCurrency" value="USD"/>
        <RedirectParameter name="email" value="customer@email.com"/>
        <RedirectParameter name="service" value="IDEAL"/>
        <RedirectParameter name="language" value="EN"/>
      </RedirectParameters>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
    </Purchase>
  </Event>
</Response>
```

Below is an example of a form the merchant needs to post to the Processor, following from the Response XML example above. The redirect can be done by creating a form and then using java script to submit it.

```
<form method=”post” Action=” https://test.envoytransfers.com ”
enctype="application/x-www-form-urlencoded">
<input type=" hidden" name="customerRef" value="A99_090909141714">
<input type=" hidden" name="amount" value="1.00">
<input type=" hidden" name="currency" value="EUR">
<input type="submit" name=”button” value="Submit payment">
</form>
```

The consumer will then authenticate themselves on the Processor’s website, and then they will be redirected to the APG Redirect Solution. At this stage the transaction will be processed further in the APG, or be passed onto the processor.

Once processing has completed, the APG will send a notification of the transaction result to the merchant’s Event_URL. On signing-up to the APG system, the merchant would have provided DataCash with the Event_URL. Merchant should expect to receive all out-of-process event notifications at this URL. Refer to section 3.3.2.5 for examples of event notifications (any of the responses, excluding Redirect responses, can be sent as event notifications).

3.3.2.5 Examples of XML for Purchase Responses

3.3.2.5.1 Ukash Return values

3.3.2.5.1.1 AUTHORISED

```
<Response version="1.0" AccountName="UKASHTESTMERCHANT">
  <Event>
    <Purchase DPGReferenceId="91598" TransactionId="A99_080708134612">
      <PaymentMethod name="UK">
        <ReferenceId>SV_2526_200807081146</ReferenceId>
        <ResponseCode>0</ResponseCode>
        <ResponseDescription>Accepted</ResponseDescription>
        <changeIssueAmount></changeIssueAmount>
        <changeIssueVoucherCurr></changeIssueVoucherCurr>
        <changeIssueVoucherNumber></changeIssueVoucherNumber>
        <changeIssueExpiryDate><changeIssueExpiryDate>
        <currencyConversion>TRUE</currencyConversion>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="840" Exponent="2">1909</Amount>
      <RiskResult>
      <StatusCode>0</StatusCode>
      <Message>
        <![CDATA[Transaction Approved ]]>
        </Message>
          </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.1.2 REFUSED

```
<Response version="1.0" AccountName="UKASHTESTMERCHANT">
  <Event>
    <Purchase DPGReferenceId="112622" TransactionId="A99_090331144404">
      <PaymentMethod name="UK">
        <ReferenceId>SV_1819_200903311244</ReferenceId>
        <ResponseCode>1</ResponseCode>
        <ResponseDescription>Declined</ResponseDescription>
        <changeIssueAmount/>
        <changeIssueVoucherCurr/>
        <changeIssueVoucherNumber/>
        <changeIssueExpiryDate/>
        <currencyConversion/>
      </PaymentMethod>
      <Status>REFUSED</Status>
      <Amount CurrencyCode="840" Exponent="2">150</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.1.3 ERROR

```
<Response version="1.0" AccountName="">
  <Event>
    <Purchase DPGReferenceId="112662" TransactionId="A99_090403102334">
      <PaymentMethod name="UK">
        <ReferenceId/>
        <ResponseCode>99</ResponseCode>
        <ResponseDescription>Failed</ResponseDescription>
        <changeIssueAmount/>
        <changeIssueVoucherCurr/>
        <changeIssueVoucherNumber/>
        <changeIssueExpiryDate/>
        <currencyConversion/>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Error>
        <Code>301</Code>
        <Description>Invalid Login and/or BrandID</Description>
      </Error>
      <Amount CurrencyCode="840" Exponent="2">150</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
```

```
</Response>
```

3.3.2.5.2 Click2Pay return values

3.3.2.5.2.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Purchase DPGReferenceId="91683" TransactionId="A99_080717124604">
       <PaymentMethod name="CL">
          <ReferenceId>30a0a9b50a01001169f94884ff1efa44</ReferenceId>
          <ResponseCode>000</ResponseCode>
          <ResponseDescription>Transaction is
           Acknowledged</ResponseDescription>
          <PaymentType>FUNDS</PaymentType>
       </PaymentMethod>
       <Status>AUTHORISED</Status>
       <Amount CurrencyCode="978" Exponent="2">1067</Amount>
       <RiskResult>
          <StatusCode>0</StatusCode>
          <Message><![CDATA[Transaction Approved ]]></Message>
       </RiskResult>
       <RecommendedClientMessage><![CDATA[Your transaction has been
       processed successfully.]]></RecommendedClientMessage>
     </Purchase>
  </Event>
</Response>
```

3.3.2.5.2.2 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Purchase DPGReferenceId="112623" TransactionId="A99_090331144718">
       <PaymentMethod name="CL">
          <ReferenceId/>
          <ResponseCode>200</ResponseCode>
          <ResponseDescription>You have provided invalid CLICK2PAY user
           data or the account is not active. Please check and try again.
           If the problem persists, please contact our helpdesk at
           service@click2pay.com.</ResponseDescription>
       </PaymentMethod>
       <Status>REFUSED</Status>
       <Amount CurrencyCode="826" Exponent="2">725</Amount>
       <RiskResult>
          <StatusCode>0</StatusCode>
          <Message><![CDATA[Transaction Approved ]]></Message>
       </RiskResult>
       <RecommendedClientMessage><![CDATA[Your request could not be
       completed. Please contact merchant customer service for more
       information.]]></RecommendedClientMessage>
     </Purchase>
  </Event>
</Response>
```

3.3.2.5.2.3 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112624" TransactionId="A99_090331144826">
         <PaymentMethod name="CL">
            <ReferenceId/>
            <ResponseCode>101</ResponseCode>
            <ResponseDescription>The supplied CLICK2PAY UserName is wrong.
             Please check and try again. If the problem should still exist,
             please contact our customer service at
             service@click2pay.com.</ResponseDescription>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code/>
            <Description/>
         </Error>
         <Amount CurrencyCode="826" Exponent="2">725</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your request could not be
         completed. Please contact merchant customer service for more
         information.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.3 ClickAndBuy return values

3.3.2.5.3.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="91671" TransactionId="A99_080715150056">
         <PaymentMethod name="BU">
            <ReferenceId>62018196</ReferenceId>
            <ResponseCode>True</ResponseCode>
            <ResponseDescription>success</ResponseDescription>
           <CreationDateTime>2000-01-20 12:00:00</CreationDateTime>
            <Crn>710706429</Crn>
            <EventID>175761</EventID>
            <MerchantAmount>100000</MerchantAmount>
            <MerchantCurrency>EUR</MerchantCurrency>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="978" Exponent="2">122</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your transaction has been
         processed successfully.]]></RecommendedClientMessage>
```

```
     </Purchase>
  </Event>
</Response>
```

3.3.2.5.3.2 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Purchase DPGReferenceId="91671" TransactionId="A99_080715150056">
       <PaymentMethod name="BU">
          <ReferenceId>62018196</ReferenceId>
  <ResponseCode>CREATED/PAYMENT_PENDING/BOOKED_OUT/BOOKED_OUT</ResponseCode>
          <ResponseDescription>Transaction Pending</ResponseDescription>
               <CreationDateTime>2000-01-20 12:00:00</CreationDateTime>
          <Crn>710706429</Crn>
          <EventID>175761</EventID>
          <MerchantAmount>100000</MerchantAmount>
          <MerchantCurrency>EUR</MerchantCurrency>
       </PaymentMethod>
       <Status>PENDING</Status>
       <Amount CurrencyCode="978" Exponent="2">122</Amount>
       <RiskResult>
          <StatusCode>0</StatusCode>
          <Message><![CDATA[Transaction Approved ]]></Message>
       </RiskResult>
       <RecommendedClientMessage><![CDATA[Your transaction has been
       processed successfully.]]></RecommendedClientMessage>
     </Purchase>
  </Event>
</Response>
```

3.3.2.5.3.3 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Purchase DPGReferenceId="91671" TransactionId="A99_080715150056">
       <PaymentMethod name="BU">
          <ReferenceId>62018196</ReferenceId>
          <ResponseCode>EXPIRED/ABORTED</ResponseCode>
          <ResponseDescription>Transaction
Unsuccessful</ResponseDescription>             <CreationDateTime>2000-01-
20 12:00:00</CreationDateTime>
          <Crn>710706429</Crn>
          <EventID>175761</EventID>
          <MerchantAmount>100000</MerchantAmount>
          <MerchantCurrency>EUR</MerchantCurrency>
       </PaymentMethod>
       <Status>ERROR</Status>
       <Amount CurrencyCode="978" Exponent="2">122</Amount>
       <RiskResult>
          <StatusCode>0</StatusCode>
          <Message><![CDATA[Transaction Approved ]]></Message>
       </RiskResult>
```

```
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.3.4 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="91671" TransactionId="A99_080715150056">
      <PaymentMethod name="BU">
        <ReferenceId>62018196</ReferenceId>
        <ResponseCode>DECLINED</ResponseCode>
        <ResponseDescription>Transaction Refused</ResponseDescription>
            <CreationDateTime>2000-01-20 12:00:00</CreationDateTime>
        <Crn>710706429</Crn>
        <EventID>175761</EventID>
        <MerchantAmount>100000</MerchantAmount>
        <MerchantCurrency>EUR</MerchantCurrency>
      </PaymentMethod>
      <Status>REFUSED</Status>
      <Amount CurrencyCode="978" Exponent="2">122</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.3.5 CANCELLED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="91671" TransactionId="A99_080715150056">
      <PaymentMethod name="BU">
        <ReferenceId>62018196</ReferenceId>
        <ResponseCode>CANCELLED</ResponseCode>
        <ResponseDescription>Transaction
Cancelled</ResponseDescription>              <CreationDateTime>2000-01-20
12:00:00</CreationDateTime>
        <Crn>710706429</Crn>
        <EventID>175761</EventID>
        <MerchantAmount>100000</MerchantAmount>
        <MerchantCurrency>EUR</MerchantCurrency>
      </PaymentMethod>
      <Status>CANCELLED</Status>
      <Amount CurrencyCode="978" Exponent="2">122</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.3.6 REFUNDED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="91671" TransactionId="A99_080715150056">
      <PaymentMethod name="BU">
        <ReferenceId>62018196</ReferenceId>
        <ResponseCode>REFUNDED</ResponseCode>
        <ResponseDescription>Transaction Refunded</ResponseDescription>
            <CreationDateTime>2000-01-20 12:00:00</CreationDateTime>
        <Crn>710706429</Crn>
        <EventID>175761</EventID>
        <MerchantAmount>100000</MerchantAmount>
        <MerchantCurrency>EUR</MerchantCurrency>
      </PaymentMethod>
      <Status>REFUNDED</Status>
      <Amount CurrencyCode="978" Exponent="2">122</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.3.7 REDIRECT

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112627" TransactionId="A99_090331152024">
      <PaymentMethod name="BU">
        <RecommendedDisplayMessage isRightToLeft="False">Please wait
        while you are being redirected to the ClickAndBuy
        website.</RecommendedDisplayMessage>
      </PaymentMethod>
      <Status>REDIRECT</Status>
      <RedirectURL><![CDATA[https://checkout.clickandbuy.com/checkout?
tx=8824001&s=399275BC6DBBEE60&h=9EE5252B5B23E902443771
F301E2C6D26E48709F]]></RedirectURL>
      <PopupBrowser>false</PopupBrowser>
      <RedirectParameters method="GET" contentType="application/x-www-
      form-urlencoded">
      </RedirectParameters>
      <RiskResult>
        <StatusCode>0</StatusCode>
```

```
          <Message><![CDATA[Transaction Approved ]]></Message>
        </RiskResult>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.4 Neteller return values

3.3.2.5.4.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="1760" TransactionId="A99_080716134142">
         <PaymentMethod name="NT">
            <ReferenceId>733389</ReferenceId>
            <ResponseCode>yes</ResponseCode>
            <ResponseDescription>yes</ResponseDescription>
            <FirstName>Test</FirstName>
            <LastName>Test</LastName>
            <Email>customer@email.com</Email>
            <FxRate>0.4870</FxRate>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="840" Exponent="2">1488</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your transaction has been
         processed successfully.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.4.2 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112670" TransactionId="A99_090403103728">
         <PaymentMethod name="NT">
            <ReferenceId/>
            <ResponseCode>no</ResponseCode>
            <ResponseDescription>no</ResponseDescription>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code>1007</Code>
            <Description>The Account ID or Secure ID you entered is not
             valid. Please enter your correct account
             information.</Description>
         </Error>
         <Amount CurrencyCode="826" Exponent="2">725</Amount>
         <RiskResult>
```

```
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.5 MoneyBookers return values

3.3.2.5.5.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="91682" TransactionId="A99_080717124013">
      <PaymentMethod name="MB">
        <ReferenceId>87712395</ReferenceId>
        <ResponseCode>2</ResponseCode>
        <ResponseDescription>2</ResponseDescription>
        <Email>test.account@gmail.com</Email>
        <AccountNumber>TestMethodAccount</AccountNumber>
        <PaymentType>WLT</PaymentType>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="710" Exponent="2">1818</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Uw transactie is
      geslaagd.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.5.2 CANCELLED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112629" TransactionId="A99_090331152315">
      <PaymentMethod name="MB">
        <ReferenceId/>
        <ResponseCode>-1</ResponseCode>
        <ResponseDescription>-1</ResponseDescription>
        <Email/>
        <AccountNumber/>
        <PaymentType/>
      </PaymentMethod>
      <Status>CANCELLED</Status>
      <Amount CurrencyCode="978" Exponent="2">150</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Uw transactie is op uw verzoek
      geannuleerd. Neem a.u.b. contact op met de verkoopklantenservice
      voor nadere informatie.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.5.3 REDIRECT

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112629" TransactionId="A99_090331152315">
      <PaymentMethod name="MB">
        <RecommendedDisplayMessage isRightToLeft="False">Even geduld
         graag. U wordt doorgeleid naar de MoneyBookers
         website.</RecommendedDisplayMessage>
      </PaymentMethod>
      <Status>REDIRECT</Status>
      <RedirectURL><![CDATA[https://www.moneybookers.com/app/payment.pl?
sid=fcce7ddb4f5a162b429e2ed0a206132]]></RedirectURL>
      <PopupBrowser>false</PopupBrowser>
      <RedirectParameters method="GET" contentType="application/x-www-
      form-urlencoded"/>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.5.4 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112636" TransactionId="A99_090331155455">
      <PaymentMethod name="MB">
        <ReferenceId>139561234</ReferenceId>
        <ResponseCode>0</ResponseCode>
        <ResponseDescription>0</ResponseDescription>
        <Email>test.account@gmail.com</Email>
        <AccountNumber>TestMethodAccount</AccountNumber>
        <PaymentType>PBT</PaymentType>
      </PaymentMethod>
      <Status>PENDING</Status>
      <Amount CurrencyCode="710" Exponent="2">18870</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not entirely
      be completed. Please check your account later for an updated
```

```
         status. You may also contact merchant customer service for more
         information.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.6 PaySafeCard return values

3.3.2.5.6.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="5990" TransactionId="A99_090519134105">
         <PaymentMethod name="PF">
            <ReferenceId>A99_090519134105</ReferenceId>
            <ResponseCode>0</ResponseCode>
            <ResponseDescription>Consumed</ResponseDescription>
            <SerialNumbers>
               <SerialNumber>
                  <CardSerialNumber>1234500000701130</CardSerialNumber>
                  <CardDispositionValue>3.50</CardDispositionValue>
               </SerialNumber>
            </SerialNumbers>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="978" Exponent="2">350</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw transactie is
         geslaagd.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.6.2 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112672" TransactionId="A99_090403104148">
         <PaymentMethod name="PF">
            <ReferenceId>A99_090403104148</ReferenceId>
            <ResponseCode>L</ResponseCode>
            <ResponseDescription>Closed</ResponseDescription>
         </PaymentMethod>
         <Status>REFUSED</Status>
         <Amount CurrencyCode="978" Exponent="2">350</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw verzoek kan niet afgehandeld
         worden. Neem a.u.b. contact op met de verkoopklantenservice voor
         nadere informatie.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.6.3 REDIRECT

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="1999" TransactionId="A99_091104101009">
         <PaymentMethod name="PF">
            <RecommendedDisplayMessage isRightToLeft="False">Even geduld
            graag. U wordt doorgeleid naar de PaySafeCard
            website.</RecommendedDisplayMessage>
         </PaymentMethod>
         <Status>REDIRECT</Status>
         <RedirectURL><![CDATA[https://customer.test.at.paysafecard.com/psc
customer/GetCustomerPanelServlet?cid=0&
currency=EUR&
mid=MerchAccount&
mtid=A99_091104101009&
amount=3.50&
language=nl]]></RedirectURL>
         <PopupBrowser>false</PopupBrowser>
         <RedirectParameters method="GET" contentType="application/x-www-
         form-urlencoded"/>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.7 NPS return values

3.3.2.5.7.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="91676" TransactionId="A99_080715162705">
         <PaymentMethod name="NS">
            <ReferenceId>953123</ReferenceId>
            <ResponseCode>2</ResponseCode>
            <ResponseDescription>2</ResponseDescription>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="156" Exponent="2">125</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your transaction has been
         processed successfully.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
```

```
</Response>
```

3.3.2.5.7.2 REDIRECT

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112673" TransactionId="A99_090403105139">
      <PaymentMethod name="NS">
        <RecommendedDisplayMessage isRightToLeft="False">Please wait
         while you are being redirected to NPS website. You will be
         given opportunity to choose your Chinese banking
         institution</RecommendedDisplayMessage>
      </PaymentMethod>
      <Status>REDIRECT</Status>
      <RedirectURL><![CDATA[https://payment.nps.cn/ReceiveMerchantAction
.do]]></RedirectURL>
      <PopupBrowser>false</PopupBrowser>
      <RedirectParameters method="GET" contentType="application/x-www-
      form-urlencoded">
        <RedirectParameter name="OrderMessage"
         value="12345645838A13F803F93333137D03C603B1331DC7B6452313910388
         F5C803949364034543 8A03F833F91333037D53C613B1331D93B6C7231391E28
         823C85394C7641345C78A86F847F94733077D37C6A3B1F21DF2B64623079176
         88D2C8469456646745E28A36F807F94733E27D46C616B1471D16B6362316913
         78886C8E2943664F645D68AF2F8E4F9F633477D96C666B1961D36B616234791
         9688F6C8E694F2642545568A46F896F92733567D36C647B1841D16B6E623469
         1C68856C827943764F245E48A05F835F9E233167D37C607B1871DC7B61323C7
         91758896C8C694C6649645168AD6F802F94433967D36C6B6B1371DF6B6E623C
         791538813C802942564F645368AB6F897F90233257DF6C616B1461D02B6C223
         0291358816C8E6940264444596 8A56F876F9F633C27D02C654B1E41DC2B6022
         355913588C7C8239403640345938A13F8C7F92333037D63C683B1131D23B673
         232391738883C81394C7647545968AC6F8C6F99633167DD6C6E2B1441D96B63
         623B6913788F6C8E69404647645C68AF6F826F91633C67DE2C636B1F61DD6B6
         C7238491F688C6C8969446641645978A02F884F9F633577D37C656B1C71D74B
         6272356915688E6C8779416649745028A45F856F92733277D16C636B1561D37
         B6022323911388 03C8029424641645978A37F896F94633567D02C625B1F61D1
         6B64623C2910288E4C8569477640245958AF6F827F9B633C27D02C6E4B1951D
         C2B6022355913588C7C8139403640345238A83F8C7F92333037D63C683B1131
         D23B673232391738883C81394C7647545968AC6F8C6F99633167DD6C6E2B144
         1D96B63623B6913788F6C8E69404647645C68AF6F826F91633C67DE2C636B1F
         61DD6B6C7234591138803C8F5940364934503 8A43F803F93333137D03C653B1
         131D33B69323C7910388C7C8239403640345938AD2F803F94333D27D03C633B
         1"/>
        <RedirectParameter name="digest"
         value="123A456B830273A80B52DDC0B"/>
        <RedirectParameter name="M_ID" value="MerchAccount"/>
      </RedirectParameters>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.8 eNETS return values

3.3.2.5.8.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="347856" TransactionId="A99_200808131326">
      <PaymentMethod name="EN">
        <ReferenceId>1234567892355 17339</ReferenceId>
        <ResponseCode>00008_000000</ResponseCode>
        <ResponseDescription>Success</ResponseDescription>
        <PaymentMode>DD</PaymentMode>
        <Tid>A99</Tid>
        <Mid>12345</Mid>
        <TransactionCurrencyCode>702</TransactionCurrencyCode>
        <TransactionAmount>100</TransactionAmount>
        <BANK_ID>7123</BANK_ID>
        <BANK_Ref_Code>181234563</BANK_Ref_Code>
        <BANK_Remarks>No Remarks</BANK_Remarks>
        <BANK_Status>00000</BANK_Status>
        <BANK_Currency_Code>702</BANK_Currency_Code>
        <BANK_Exchange_Rate>1.0</BANK_Exchange_Rate>
        <BANK_Transaction_Amount>100</BANK_Transaction_Amount>
        <BANK_Time_Zone>+08:00</BANK_Time_Zone>
        <BANK_Txn_Date>06/08/2008</BANK_Txn_Date>
        <BANK_Txn_Time>00:47:29</BANK_Txn_Time>
        <NETSExchangeRate>1.0<NETSExchangeRate>
        <NETSTimeZone>+08:00</NETSTimeZone>
        <NETSTransactionDate>06/08/2008</NETSTransactionDate>
        <NETSTransactionTime>00:48:57</NETSTransactionTime>
        <NETSTransactionDateTime>06/08/2008
        00:48:57</NETSTransactionDateTime>
        <NETSValueDate>06/08/2008</NETSValueDate>
      </PaymentMethod>
      <Status>SUCCESS</Status>
      <Amount CurrencyCode="702" Exponent="2">100</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage>><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.8.2 REDIRECT

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112681" TransactionId="A99_090403135837">
      <PaymentMethod name="EN">
        <RecommendedDisplayMessage isRightToLeft="False">Please wait
         while you are being redirected to the eNETS
         website.</RecommendedDisplayMessage>
      </PaymentMethod>
      <Status>REDIRECT</Status>
      <RedirectURL><![CDATA[https://test.enets.sg/enets2/PaymentListener
.do]]></RedirectURL>
      <PopupBrowser>true</PopupBrowser>
      <RedirectParameters method="POST" contentType="application/x-www-
      form-urlencoded">
        <RedirectParameter name="message"
         value="sdojfawfsCRUdJTiBQR1AgTUVTU0FHRS0tLS0tDQpWZXJzaW9uOiBTZW
         N1cmVCbGFja2JveCA1IChQR1BCbGFja2JveCkNCg0Kd2NCT0E5SE1VYTd5Z0UwS
         kVBUUF1bU9ORGdzS05KbVE3TkI1ZEt6M2ZCb001TVhtbDFUVXVjRnJZRm1KdFlB
         SQ0KNWE0QzdJOXNIWXlRQk1xZWVjejRCWlVFa0FFL0JzSkJSNUxuWld0NGtUc1d
         ZQmRPNFY5Nlo2VGViTUwrUnRUdQ0KNVZIbmF0bzdtZlNxQkt4UkdrVkNETHNRek
         FmTkcwUFNxL3pJaGxTZjBnODJIMjZCaWZ3M0RBM2RnVVNPSEFNRQ0KQVBvUnM2e
         XE2bVpnNFhjWTAzWWQ5eVJtaW1EK0UvWW5JREphODVGNnhibXlEcEt3Qk51c3Zh
         eEE4TnpabXFhWA0KQWxhd2tuemtxdnZZTWZmb1FYZ09JSGJid1IxeUthVXZ5Uld
         RWVp4V2xnTzFYOFNEUzllbk9kNHNaOHY2SWwrNg0KSHk0VnRoczBRWnc4OFZ4R0
         tMZnZwaG1PMExxqVVFYQTZHRGR2eGRReUNFWkUwc0ovQWVVUUtSbXZUc1QzQ2JpO
         Q0KRzNhT3lRQm0yTU0wVit0d2JYWUJDQjBpbzE0NUlmZk5BQUxpRnZ6c0VFTVV3
         eFVCQ3ZsYWJYMUZiaGozUm1qRg0KU2l3Sk5GaWwrWE94YkdNkxPMUFaR3R5YjZ
         MMHMvRURLM2swQTZnMGhzVlRrK0w0R3duVUN5TnVqdGI1Snd2aA0KazV5UWpIUW
         xtVVhldFgyem1WQ2pZS3NTeE5GOVQ4UndmcWFqYTRCL2ZDVldMWVFRWExxRMWYxT
         jUxdTVzb0p1Yw0KU3ErRHZ5VzR4cDFwNFRGa0xpd2svVGg0NFZ1WmhmbFAyU3pZ
         Q1hCZ2VKclE4dmNJa0tZdE4zMlNseEJJYmsraQ0KOUptSDRhajg3QS93WHVEaEI
         2WDVMSUNFbnFRS2hPMXZ6YnBySXAzdGFjMU9WOGsvV210OVdRtdHg0bHdoY3JOTw
         0KcytLLzBTUVc1T0xPUWhYektxQ245V0Rjd2lUNVRTYlI3QWxicGxCQ0JzdjMzN
         nluM1hyQmtZS1Z4TWhkUmZsRg0KeDQyeU9GNFI5Y1g2QzhmUHVaVnBNOTkyMnFH
         Sm80REpoeEU0SnZrRW9VUGdFcFFjOXJQUXpGSjFnNnk3cXptaQ0Kd2lDVHZ6Tit
         RcGJCTU5yREhCMCtoeDdFU0xNTzhlNStHSFNaVEE1QkhMTXM1OXhVMitoL0o3Vz
         dCRTVlemlLLw0KRmtNUXhqVTQyVE1RWUU4Q0ZVYU13WXhVL2dkMzVaaFB3R3ZDDe
         lZVUHdEOGt3U0srNkQ2RXluQnpsbkJFWXd0Rw0KSW5QRFQyVmVtZXRQWXpDcURz
         Q2NnV0JSYTJ0amNWYjhMUDVkcnp1Vkt1eW9CMWtXVjRlUlF6UVZpSlYwMDE5cA0
         KVmpBUlZFaVp1SktYQ2xtUFNzbnhadmtycjMxcWo2bm5oUWI0a3NjZ3VxWWs1Sk
         ZTSnUwRmJSaXV1T09SeElzSQ0KTUlQMEFpWkd0R0dtVmtudG1oM3B2eUtHeXJOV
         2FlOXVHNkpGUHZqSk1IQ1FlSzJuSC8ydFVpSUJWSndDYzBDTg0KOWdXZXExQlE4
         aGsyRXVObl B4c3pSdjFWUmpiN1ZQdU91dmNDVGFkM2Jwd2VSVnVicWl0R0tjVVB
         SK1JBcnQ2dQ0KNDhiaXZsSTQ2RE1VVTg1ZncxZWN4b1FVNFY2WnFXbjQ2OEhBMj
         dDdE40ZWEyMWFpOU9RV0Q2enN0bkVEallKaQ0KL0NxcndKUndoMW1QdXdrcDZtW
         VZRL1puZDAxM2g2MGlWUjdQKzJmVmhkTFdrTlloZG9YTnVRRjFXUkU2R2M2cw0K
         bGJWQzJyOEZqK1VHUHpkMnhXcXd5Y2VZNzRFZWh5S2IveFI0K2tTdWlJOG1SOVV
         zczc4QlN0dmVvbFNZcmlHUA0KRkRCZHJ1ZXJnM2hKWEpjYTNwUzlJNkNpandtOD
         JHc2lMd2xOa1hrMEJLVmlvdFgxak4vOHN1TEpSbnplUVVHLw0KdFVDZw0KPVR6M
         mkNCi0tLS0tRU5EIFBHUCBNRVNTQUdFLS0tLS0="/>
      </RedirectParameters>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.8.3 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112681" TransactionId="A99_090403135837">
      <PaymentMethod name="EN">
```

```
        <ReferenceId>12345678994628167</ReferenceId>
        <ResponseCode>99</ResponseCode>
        <ResponseDescription>Failure</ResponseDescription>
        <PaymentMode/>
        <Tid>A99</Tid>
        <Mid>12345</Mid>
        <TransactionCurrencyCode>702</TransactionCurrencyCode>
        <TransactionAmount>100</TransactionAmount>
        <BANK_ID>7123</BANK_ID>
        <BANK_Ref_Code/>
        <BANK_Remarks>Bank Remarks</BANK_Remarks>
        <BANK_Status>20001</BANK_Status>
        <BANK_Currency_Code/>
        <BANK_Exchange_Rate>1</BANK_Exchange_Rate>
        <BANK_Transaction_Amount>0</BANK_Transaction_Amount>
        <BANK_Time_Zone/>
        <BANK_Txn_Date>03/04/2009</BANK_Txn_Date>
        <BANK_Txn_Time>19:47:29</BANK_Txn_Time>
        <NETSExchangeRate>1</NETSExchangeRate>
        <NETSTimeZone>+08:00</NETSTimeZone>
        <NETSTransactionDate>03/04/2009</NETSTransactionDate>
        <NETSTransactionTime>19:46:28</NETSTransactionTime>
        <NETSTransactionDateTime/>
        <NETSValueDate>03/04/2009</NETSValueDate>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Error>
        <Code>000008_020001</Code>
        <Description/>
      </Error>
      <Amount CurrencyCode="702" Exponent="2">100</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.8.4 CANCELLED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="112682" TransactionId="A99_090403140653">
      <PaymentMethod name="EN">
        <ReferenceId>12345678919543616</ReferenceId>
        <ResponseCode>9</ResponseCode>
        <ResponseDescription>Cancel</ResponseDescription>
        <PaymentMode/>
        <Tid>A99</Tid>
        <Mid>12345</Mid>
        <TransactionCurrencyCode>702</TransactionCurrencyCode>
        <TransactionAmount>100</TransactionAmount>
        <BANK_ID/>
        <BANK_Ref_Code/>
        <BANK_Remarks/>
        <BANK_Status/>
        <BANK_Currency_Code/>
        <BANK_Exchange_Rate/>
        <BANK_Transaction_Amount>0</BANK_Transaction_Amount>
        <BANK_Time_Zone/>
        <BANK_Txn_Date/>
        <BANK_Txn_Time/>
        <NETSExchangeRate/>
        <NETSTimeZone>+08:00</NETSTimeZone>
        <NETSTransactionDate/>
        <NETSTransactionTime/>
        <NETSTransactionDateTime/>
        <NETSValueDate/>
      </PaymentMethod>
      <Status>CANCELLED</Status>
      <Amount CurrencyCode="702" Exponent="2">100</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      cancelled as per your request. Please contact merchant customer
      service for more information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.9 OneClick return values

3.3.2.5.9.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Purchase DPGReferenceId="23423" TransactionId="A99_200808131326">
      <PaymentMethod name="OC">
        <ReferenceId>F1IQS95A-1234-5678-B554-44E97F68F4SL</ReferenceId>
        <ResponseCode>0</ResponseCode>
        <ResponseDescription>Success</ResponseDescription>
        <uniqueReference>ASLUS1234561</uniqueReference>
        <postingDate>2006-05-26T11:35:01.33</postingDate>
        <bankCurrency>978</bankCurrency>
        <bankAmount>143.98</bankAmount>
        <countryCode>NL</countryCode>
        <bankInformation>Henrik Hamberger JSUE12349</bankInformation>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="978" Exponent="2">4655</Amount>
      <SaleAmount CurrencyCode="840" Exponent="2">6190</Amount>
      <RiskResult>
        <StatusCode>0</StatusCode>
        <Message><![CDATA[Transaction Approved ]]></Message>
      </RiskResult>
      <RecommendedClientMessage>string</RecommendedClientMessage>
    </Purchase>
```

```
   </Event>
</Response>
```

3.3.2.5.9.2 CANCELLED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112687" TransactionId="A99_090403141004">
         <PaymentMethod name="OC">
            <ReferenceId/>
            <ResponseCode>CANCELLED</ResponseCode>
            <ResponseDescription>CANCELLED</ResponseDescription>
            <uniqueReference>DM2US12345</uniqueReference>
            <language>nl</language>
            <country>NL</country>
            <email>test.account@gmail.com</email>
         </PaymentMethod>
         <Status>CANCELLED</Status>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw transactie is op uw verzoek
          geannuleerd. Neem a.u.b. contact op met de verkoopklantenservice
          voor nadere informatie.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.9.3 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112688" TransactionId="A99_090403141122">
         <PaymentMethod name="OC">
            <ReferenceId/>
            <ResponseCode>OPEN</ResponseCode>
            <ResponseDescription>OPEN</ResponseDescription>
            <uniqueReference>DM2US123456</uniqueReference>
            <language>nl</language>
            <country>NL</country>
            <email>test.account@gmail.com</email>
         </PaymentMethod>
         <Status>PENDING</Status>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw verzoek kan niet helemaal
         afgerond worden. Raadpleeg uw account voor de laatste informatie.
         U kunt ook contact opnemen met de verkoopklantenservice voor
         nadere informatie.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.9.4 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112690" TransactionId="A99_090403141723">
         <PaymentMethod name="OC">
            <ReferenceId/>
            <ResponseCode>FAILURE</ResponseCode>
            <ResponseDescription>FAILURE</ResponseDescription>
            <uniqueReference>DM2US123457</uniqueReference>
            <language>nl</language>
            <country>NL</country>
            <email>test.account@gmail.com</email>
         </PaymentMethod>
         <Status>REFUSED</Status>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw verzoek kan niet afgehandeld
         worden. Neem a.u.b. contact op met de verkoopklantenservice voor
         nadere informatie.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.9.5 REDIRECT

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112690" TransactionId="A99_090403141723">
         <PaymentMethod name="OC">
            <RecommendedDisplayMessage isRightToLeft="False">Even geduld
             graag. U wordt doorgeleid naar de Envoy OneClick
             website.</RecommendedDisplayMessage>
         </PaymentMethod>
         <Status>REDIRECT</Status>
         <RedirectURL><![CDATA[https://test.envoytransfers.com]]>
         </RedirectURL>
         <PopupBrowser>false</PopupBrowser>
         <RedirectParameters method="POST" contentType="application/x-www-
         form-urlencoded">
            <RedirectParameter name="merchantID" value="MerchAccount"/>
            <RedirectParameter name="customerRef"
value="A99_090403141723"/>
            <RedirectParameter name="country" value="NL"/>
            <RedirectParameter name="amount" value="1.00"/>
            <RedirectParameter name="currency" value="EUR"/>
            <RedirectParameter name="receiveCurrency" value="USD"/>
            <RedirectParameter name="email" value="test.account@gmail.com"/>
            <RedirectParameter name="service" value="IDEAL"/>
            <RedirectParameter name="language" value="NL"/>
         </RedirectParameters>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <Message><![CDATA[Transaction Approved ]]></Message>
         </RiskResult>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.9.6 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="9985" TransactionId="A99_091209114405">
         <PaymentMethod name="OC">
            <ReferenceId/>
            <ResponseCode>ERROR</ResponseCode>
            <ResponseDescription>Om technische redenen kan de bank uw
             betaling op dit moment niet verwerken. Probeert u het
             alstublieft later nog eens.</ResponseDescription>
            <uniqueReference>DC4GB9890955</uniqueReference>
            <language>nl</language>
            <country>NL</country>
            <email>test.account@gmail.com</email>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <StatusDescription><![CDATA[Transaction
            Approved]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw verzoek kan niet afgehandeld
         worden. Neem a.u.b. contact op met de verkoopklantenservice voor
         nadere informatie.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.10 InstaDebit return values

3.3.2.5.10.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="45253" TransactionId="A99_45723456249">
         <PaymentMethod name="IN">
            <ReferenceId>56235634</ReferenceId>
            <ResponseCode>S</ResponseCode>
            <ResponseDescription>Success</ResponseDescription>
            <user_id>test.user</user_id>
            <txn_type>T</txn_type>
            <merchant_user_id>34563DSFSDF</merchant_user_id>
            <txn_fee>0.10</txn_fee>
            <channel/>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <StatusDescription><![CDATA[Transaction
             Approved]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your transaction has been
         processed successfully..]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.10.2 ERROR

```

<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="4534" TransactionId="A99_345723494743">
         <PaymentMethod name="IN">
            <ReferenceId/>
            <ResponseCode/>
            <ResponseDescription/>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code>812</Code>
            <Description>The InstaDebit notification is
invalid</Description>
         </Error>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <StatusDescription><![CDATA[Transaction
             Approved]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your request could not be
         completed. Please contact merchant customer service for more
         information.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.10.3 REDIRECT

```

<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="45253" TransactionId="A99_45723456249">
         <PaymentMethod name="IN">
            <RecommendedDisplayMessage isRightToLeft="False">Even geduld
             graag. U wordt doorgeleid naar de InstaDebit
            website</RecommendedDisplayMessage>
         </PaymentMethod>
         <Status>REDIRECT</Status>

            <RedirectURL>https://staging.instadebit.com/instadebit/merGatew
          ay.do </RedirectURL>
         <PopupBrowser>false</PopupBrowser>
         <RedirectParameters method="POST" contentType="application/x-www-
         form-urlencoded">
            <RedirectParameter name="merchant_id" value="4SDFS"/>
            <RedirectParameter name="merchant_user_id" value="DFG4523"/>
            <RedirectParameter name="merchant_txn_num"
             value="A99_45723456249"/>
            <RedirectParameter name="txn_amount" value="1.00"/>
            <RedirectParameter name="txn_currency" value="EUR"/>
            <RedirectParameter name="first_name" value="John"/>
            <RedirectParameter name="last_name" value="Doe"/>
            <RedirectParameter name="addr_1" value="Unit 11, Forest Edge
             Villa"/>
            <RedirectParameter name="addr_2" value="Alpharetta"/>
            <RedirectParameter name="city" value="Atlanta"/>
            <RedirectParameter name="state" value="GA"/>
            <RedirectParameter name="zip" value="56476"/>
            <RedirectParameter name="country" value="US"/>
            <RedirectParameter name="hph_area_code" value="021"/>
            <RedirectParameter name="hph_local_number" value="7496734"/>
            <RedirectParameter name="dob_day" value="30"/>
            <RedirectParameter name="dob_month" value="11"/>
            <RedirectParameter name="dob_year" value="2009"/>
            <RedirectParameter name="return_url" value="https://dpg-
             cpt.datacash.com/Notification/RedirectHandlers/InstaDebit.aspx"
             />
            <RedirectParameter name="merchant_sub_id" value="123"/>
         </RedirectParameters>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <StatusDescription><![CDATA[Transaction
             Approved]]></StatusDescription>
         </RiskResult>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.10.4 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112690" TransactionId="A99_090403141723">
         <PaymentMethod name="IN">
            <ReferenceId>DSF57898SDF</ReferenceId>
            <ResponseCode>98</ResponseCode>
            <ResponseDescription>Transaction is terminated. The transaction
             is declined (generic error).</ResponseDescription>
            <user_id>test.user</user_id>
            <txn_type>T</txn_type>
            <merchant_user_id>34DSFSDF</merchant_user_id>
            <txn_fee>0.10</txn_fee>
            <channel/>
         </PaymentMethod>
         <Status>REFUSED</Status>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <StatusDescription><![CDATA[Transaction Approved
             ]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw verzoek kan niet afgehandeld
          worden. Neem a.u.b. contact op met de verkoopklantenservice voor
          nadere informatie.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.10.5 CANCELLED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="112687" TransactionId="A99_090403141004">
         <PaymentMethod name="IN">
            <ReferenceId/>
            <ResponseCode>99</ResponseCode>
            <ResponseDescription>The transaction is cancelled by the
             customer</ResponseDescription>
            <user_id>test.user</user_id>
            <txn_type>T</txn_type>
            <merchant_user_id>34DSFSDF</merchant_user_id>
            <txn_fee>0.10</txn_fee>
            <channel/>
         </PaymentMethod>
         <Status>CANCELLED</Status>
         <Amount CurrencyCode="978" Exponent="2">100</Amount>
         <RiskResult>
            <StatusCode>0</StatusCode>
            <StatusDescription><![CDATA[Transaction Approved
             ]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Uw transactie is op uw verzoek
          geannuleerd. Neem a.u.b. contact op met de verkoopklantenservice
          voor nadere informatie.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.11 ExperCash return values

3.3.2.5.11.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="113835" TransactionId="A99_091127161216">
         <PaymentMethod name="EV">
```

```
            <ReferenceId>0000000000040078700</ReferenceId>
            <ResponseCode>100</ResponseCode>
            <ResponseDescription>Transaction
             successfull</ResponseDescription>
            <TimeStamp>2009-11-27 15:12:25</TimeStamp>
            <PaymentId>DD0675275361000</PaymentId>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="978" Exponent="2">5240</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your transaction has been
          processed successfully..]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.11.2 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="113836" TransactionId="A99_091127163001">
         <PaymentMethod name="EV">
            <ReferenceId>0000000000040079890</ReferenceId>
            <ResponseCode>100</ResponseCode>
            <ResponseDescription>Transaction
             successfull</ResponseDescription>
            <TimeStamp>2009-11-27 15:30:19</TimeStamp>
         </PaymentMethod>
         <Status>PENDING</Status>
         <Amount CurrencyCode="978" Exponent="2">5240</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your request could not entirely
          be completed. Please check your account later for an updated
          status. You may also contact merchant customer service for more
          information. ]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.11.3 ERROR

```
<Response version="1.0" AccountName="">
   <Event>
      <Purchase DPGReferenceId="113843" TransactionId="A99091130134345">
         <PaymentMethod name="EV">
            <ReferenceId/>
            <ResponseCode/>
            <ResponseDescription/>
```

```
        </PaymentMethod>
        <Status>ERROR</Status>
        <Error>
          <Code>402</Code>
          <Description>Either SortCode and AccountNumber OR IBAN OR
           PaymentReference must be supplied - no other combinations
           permitted.</Description>
        </Error>
        <Amount CurrencyCode="978" Exponent="2">5240</Amount>
        <RiskResult>
          <StatusCode>100</StatusCode>
          <StatusDescription><![CDATA[No Risk]]></StatusDescription>
        </RiskResult>
        <RecommendedClientMessage><![CDATA[Your request could not be
         completed. Please contact merchant customer service for more
         information. ]]></RecommendedClientMessage>
     </Purchase>
   </Event>
</Response>
```

3.3.2.5.11.4 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
     <Purchase DPGReferenceId="113851" TransactionId="A99_091201111145">
        <PaymentMethod name="EV">
          <ReferenceId>00000000000040420664</ReferenceId>
          <ResponseCode>300</ResponseCode>
          <ResponseDescription>REJECTED: possibly wrong bank account
number or bank code</ResponseDescription>
          <TimeStamp>2009-12-01 10:12:01</TimeStamp>
        </PaymentMethod>
        <Status>REFUSED</Status>
        <Amount CurrencyCode="978" Exponent="2">5240</Amount>
        <RiskResult>
          <StatusCode>100</StatusCode>
          <StatusDescription><![CDATA[No Risk]]></StatusDescription>
        </RiskResult>
        <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
     </Purchase>
   </Event>
</Response>
```

3.3.2.5.11.5 REDIRECT (SOFORT)

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
     <Purchase DPGReferenceId="3832" TransactionId="A99_100423095517">
        <PaymentMethod name="EV">
          <RecommendedDisplayMessage isRightToLeft="False"/>
        </PaymentMethod>
        <Status>REDIRECT</Status>
   <RedirectURL><![CDATA[https://www.sofortueberweisung.de/payment/start]]
></RedirectURL>
        <PopupBrowser>true</PopupBrowser>
        <RedirectParameters method="POST" contentType="application/x-www-
form-urlencoded">
          <RedirectParameter name="user_id" value="123"/>
          <RedirectParameter name="project_id" value="7445"/>
          <RedirectParameter name="amount" value="52.40"/>
          <RedirectParameter name="currency_id" value="EUR"/>
          <RedirectParameter name="reason_1" value="SU1000"/>
          <RedirectParameter name="reason_2" value="3832"/>
          <RedirectParameter name="user_variable_0" value="1237755"/>
          <RedirectParameter name="user_variable_1" value=""/>
          <RedirectParameter name="user_variable_2" value="10.0.0.1"/>
          <RedirectParameter name="hash"
value="f1a51d213fe82b90037d6708035f46704cf6d353"/>
        </RedirectParameters>
        <RiskResult>
          <StatusCode>0</StatusCode>
          <StatusDescription><![CDATA[Transaction
Approved]]></StatusDescription>
        </RiskResult>
     </Purchase>
   </Event>
</Response>
```

3.3.2.5.11.6 REDIRECT (GIROPAY)

```
<Response version="1.0" AccountName="MerchantAccount">
   <Event>
     <Purchase DPGReferenceId="16078" TransactionId="A99_100524073622">
        <PaymentMethod name="EV">
          <RecommendedDisplayMessage isRightToLeft="False"/>
        </PaymentMethod>
        <Status>REDIRECT</Status>

   <RedirectURL><![CDATA[https://giropaytest1.fiducia.de/ShopSystem/bank/B
ankEntry]]></RedirectURL>
        <PopupBrowser>true</PopupBrowser>
        <RedirectParameters method="POST" contentType="application/x-www-
form-urlencoded">
          <RedirectParameter name="redirectData"><![CDATA[operatorId=002&
merchantId=MerchantAccount&
txId=F000007SOJ&
merchantTxId=56749466&
customerBankBLZ=44441111&
shopEndSuccessURL=https%3A%2F%2Fdpg-
cpt.datacash.com%2FNotification%2FRedirectHandlers%2FExperCash.aspx%3Ftai
d%3D56749466&
shopEndFailureURL=https%3A%2F%2Fdpg-
cpt.datacash.com%2FNotification%2FRedirectHandlers%2FExperCash.aspx%3Fabo
rted%3Dtrue&
beneficiaryName1=easyDebit&
beneficiaryName2=&
beneficiaryAcctNo=1234567890&
beneficiaryBankBLZ=44441111&
amount=5240&
currency=EUR&
paymentPurposeLine1=GP0808502474000&
paymentPurposeLine2=GIROPAY0028993390F000007SOJ&
operatorSignature=kZ7X72%2F88h9pJGx%2BulrJ7gX%2FjEwBOmC8HZlF%2FiG%2FJYXWt
W2fLRel2biJ1vkqB6%2FhPJfJVyTkoiGkcqdTy3lVWttJTvFQYe0YkurrAoOQA2k6wseVI6Ko
f2EaEy%2F7ofRVN6MziZrx6WJFjbQ8Bz3B%2FFJrFHrlhAmvFekN1SwyZy0%3D]]></Redire
ctParameter>
        </RedirectParameters>
        <RiskResult>
          <StatusCode>9</StatusCode>
          <StatusDescription><![CDATA[Error]]></StatusDescription>
        </RiskResult>
     </Purchase>
   </Event>
</Response>
```

3.3.2.5.12 iDeal return values

3.3.2.5.12.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
     <Purchase DPGReferenceId="113835" TransactionId="A99_091127161216">
        <PaymentMethod name="I3">
          <ReferenceId>0000000000040078700</ReferenceId>
          <ResponseCode>100</ResponseCode>
          <ResponseDescription>Transaction
           successfull</ResponseDescription>
          <TimeStamp>2009-11-27 15:12:25</TimeStamp>
          <PaymentId>DD0675275361000</PaymentId>
        </PaymentMethod>
        <Status>AUTHORISED</Status>
        <Amount CurrencyCode="978" Exponent="2">5240</Amount>
        <RiskResult>
          <StatusCode>100</StatusCode>
          <StatusDescription><![CDATA[No Risk]]></StatusDescription>
        </RiskResult>
        <RecommendedClientMessage><![CDATA[Your transaction has been
         processed successfully..]]></RecommendedClientMessage>
     </Purchase>
   </Event>
</Response>
```

3.3.2.5.12.2 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
     <Purchase DPGReferenceId="113836" TransactionId="A99_091127163001">
        <PaymentMethod name="I3">
          <ReferenceId>0000000000040079890</ReferenceId>
          <ResponseCode>100</ResponseCode>
          <ResponseDescription>Transaction
           successfull</ResponseDescription>
          <TimeStamp>2009-11-27 15:30:19</TimeStamp>
        </PaymentMethod>
```

```
         <Status>PENDING</Status>
         <Amount CurrencyCode="978" Exponent="2">5240</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your request could not entirely
          be completed. Please check your account later for an updated
          status. You may also contact merchant customer service for more
          information. ]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.12.3 ERROR

```
<Response version="1.0" AccountName="">
   <Event>
      <Purchase DPGReferenceId="113843" TransactionId="A99091130134345">
         <PaymentMethod name="I3">
            <ReferenceId/>
            <ResponseCode/>
            <ResponseDescription/>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code>451</Code>
            <Description>iDealItem.Issuer_Id is invalid.</Description>
         </Error>
         <Amount CurrencyCode="978" Exponent="2">5240</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your request could not be
          completed. Please contact merchant customer service for more
          information. ]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.12.4 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Purchase DPGReferenceId="113851" TransactionId="A99_091201111145">
         <PaymentMethod name="I3">
            <ReferenceId>0000000000040420664</ReferenceId>
            <ResponseCode>102</ResponseCode>
            <ResponseDescription>REJECTED: possibly wrong bank account
number or bank code</ResponseDescription>
            <TimeStamp>2009-12-01 10:12:01</TimeStamp>
         </PaymentMethod>
         <Status>REFUSED</Status>
      <Amount CurrencyCode="978" Exponent="2">5240</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.12.5 REDIRECT

```
<Response version="1.0" AccountName="50764">
  <Event>
    <Purchase DPGReferenceId="130212" TransactionId="T10_110705143745">
      <PaymentMethod name="I3">
        <RecommendedDisplayMessage isRightToLeft="False">Please wait
while you are being redirected to the iDeal
website.</RecommendedDisplayMessage>
      </PaymentMethod>
      <Status>REDIRECT</Status>
      <RedirectURL><![CDATA[https://some.ideal.url]]></RedirectURL>
      <PopupBrowser>true</PopupBrowser>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.13 ElectronicCheck return values

3.3.2.5.13.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
    <Purchase DPGReferenceId="41570" TransactionId="T10_SOCGYIEEMFZT">
      <PaymentMethod name="EL">
    <ReferenceId>4CB551629EFCC4A40CFAB958CF97A544DF9154E0</ReferenceId>
        <ResponseCode>1</ResponseCode>
        <ResponseDescription>Approved</ResponseDescription>
        <TimeStamp>20101013022746</TimeStamp>
        <PaymentId>123456</PaymentId>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="840" Exponent="2">950</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
    </Purchase>
```

```
   </Event>
</Response>
```

3.3.2.5.13.2 SENT FOR CAPTURE

```
<Response version="1.0" AccountName="MerchantAccount">
   <Event>
      <Purchase DPGReferenceId="41571" TransactionId="T10_ECSGE1A9JP8J">
         <PaymentMethod name="EL">
      <ReferenceId>4CB551EF4C6B600C6BD174ECBD2527925E2F547C</ReferenceId>
            <ResponseCode>1</ResponseCode>
            <ResponseDescription>Approved</ResponseDescription>
            <TimeStamp>20101013023008</TimeStamp>
            <PaymentId>123456</PaymentId>
         </PaymentMethod>
         <Status>SENT_FOR_CAPTURE</Status>
         <Amount CurrencyCode="840" Exponent="2">950</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage>><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.13.3 CAPTURED (Recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
   <Event>
      <Purchase DPGReferenceId="107369" TransactionId="T10_ZTOC44MTDZQ2">
         <PaymentMethod name="EL">
            <ReferenceId>20238.0426f</ReferenceId>
            <ResponseCode>Deposit</ResponseCode>
            <ResponseDescription>The funds have been captured
successfully.</ResponseDescription>
            <TimeStamp>08/31/2010</TimeStamp>
            <Recurring>True</Recurring>
   <OriginalTransactionId>T10_GUSWFMVR2PNW</OriginalTransactionId>
         </PaymentMethod>
         <Status>CAPTURED</Status>
         <Amount CurrencyCode="840" Exponent="2">950</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage>><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.13.4 CAPTURED (Non-recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
    <Purchase DPGReferenceId="107360" TransactionId="T10_GBCOWVOTNYDH">
      <PaymentMethod name="EL">
        <ReferenceId>20238.0426f</ReferenceId>
        <ResponseCode>Deposit</ResponseCode>
        <ResponseDescription>The funds have been captured
successfully.</ResponseDescription>
        <TimeStamp>08/31/2010</TimeStamp>
        <Recurring>False</Recurring>
      </PaymentMethod>
      <Status>CAPTURED</Status>
      <Amount CurrencyCode="840" Exponent="2">120000</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.13.5 ERROR

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
    <Purchase DPGReferenceId="95145" TransactionId="T10_F0MZ9MZUX71R">
      <PaymentMethod name="EL">
    <ReferenceId>4C91D9E75A8B2BD9B4771764B3FB555635855493</ReferenceId>
        <ResponseCode>0</ResponseCode>
        <ResponseDescription>Bad Account Number
Data</ResponseDescription>
        <TimeStamp>20100916044839</TimeStamp>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Amount CurrencyCode="840" Exponent="2">950</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.13.6 REFUSED (Recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
```

```
  <Event>
    <Purchase DPGReferenceId="122110" TransactionId="T10_GDGKAWWWLWAG">
      <PaymentMethod name="EL">
        <ReferenceId>62954.3642f</ReferenceId>
        <ResponseCode>REJECT</ResponseCode>
        <ResponseDescription>Failed a front-end
edit</ResponseDescription>
        <TimeStamp>09/01/2010</TimeStamp>
        <Recurring>True</Recurring>
        <OriginalTransactionId>T10_GUSWFMVR2PNW</OriginalTransactionId>
      </PaymentMethod>
      <Status>REFUSED</Status>
      <Amount CurrencyCode="840" Exponent="2">950</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.13.7 REFUSED (Non-recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
    <Purchase DPGReferenceId="122110" TransactionId="T10_GDGKAWWWLWAG">
      <PaymentMethod name="EL">
        <ReferenceId>62954.3642f</ReferenceId>
        <ResponseCode>REJECT</ResponseCode>
        <ResponseDescription>Failed a front-end
edit</ResponseDescription>
        <TimeStamp>09/01/2010</TimeStamp>
        <Recurring>False</Recurring>
      </PaymentMethod>
      <Status>REFUSED</Status>
      <Amount CurrencyCode="840" Exponent="2">950</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>

</Response>
```

3.3.2.5.13.8 REFUNDED (Recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
```

```
      <Purchase DPGReferenceId="122109" TransactionId="T10_FVBMSTLDAIER">
        <PaymentMethod name="EL">
          <ReferenceId>29759745</ReferenceId>
          <ResponseCode>R03</ResponseCode>
          <ResponseDescription>No account/unable to locate
account</ResponseDescription>
          <Recurring>True</Recurring>
          <OriginalTransactionId>T10_GUSWFMVR2PNW</OriginalTransactionId>
        </PaymentMethod>
        <Status>REFUNDED</Status>
        <Amount CurrencyCode="840" Exponent="2">950</Amount>
        <RiskResult>
          <StatusCode>100</StatusCode>
          <StatusDescription><![CDATA[No Risk]]></StatusDescription>
        </RiskResult>
        <RecommendedClientMessage><![CDATA[Your transaction has been
refunded. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
      </Purchase>
  </Event>
</Response>
```

3.3.2.5.13.9 REFUNDED (Non-recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
      <Purchase DPGReferenceId="122109" TransactionId="T10_FVBMSTLDAIER">
        <PaymentMethod name="EL">
          <ReferenceId>29759745</ReferenceId>
          <ResponseCode>R03</ResponseCode>
          <ResponseDescription>No account/unable to locate
account</ResponseDescription>
          <Recurring>False</Recurring>
        </PaymentMethod>
        <Status>REFUNDED</Status>
        <Amount CurrencyCode="840" Exponent="2">950</Amount>
        <RiskResult>
          <StatusCode>100</StatusCode>
          <StatusDescription><![CDATA[No Risk]]></StatusDescription>
        </RiskResult>
        <RecommendedClientMessage><![CDATA[Your transaction has been
refunded. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
      </Purchase>
  </Event>
</Response>
```

3.3.2.5.13.10 CHARGEBACK (Recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
      <Purchase DPGReferenceId="122108" TransactionId="T10_FONYYOIBFBRL">
        <PaymentMethod name="EL">
          <ReferenceId>29733229</ReferenceId>
          <ResponseCode>83</ResponseCode>
          <ResponseDescription>Fraudulent Transaction: Card Not Present 
Environment</ResponseDescription>
          <Recurring>True</Recurring>
          <OriginalTransactionId>T10_GUSWFMVR2PNW</OriginalTransactionId>
        </PaymentMethod>
        <Status>CHARGED_BACK</Status>
        <Amount CurrencyCode="840" Exponent="2">950</Amount>
        <RiskResult>
          <StatusCode>100</StatusCode>
          <StatusDescription><![CDATA[No Risk]]></StatusDescription>
        </RiskResult>
        <RecommendedClientMessage><![CDATA[Your transaction has been 
charged back. Please contact merchant customer service for more 
information.]]></RecommendedClientMessage>
      </Purchase>
  </Event>
</Response>
```

3.3.2.5.13.11 CHARGEBACK (Non-recurring transaction)

```
<Response version="1.0" AccountName="MerchantAccount">
  <Event>
    <Purchase DPGReferenceId="122108" TransactionId="T10_FONYYOIBFBRL">
      <PaymentMethod name="EL">
        <ReferenceId>29733229</ReferenceId>
        <ResponseCode>83</ResponseCode>
        <ResponseDescription>Fraudulent Transaction: Card Not Present 
Environment</ResponseDescription>
        <Recurring>False</Recurring>
      </PaymentMethod>
      <Status>CHARGED_BACK</Status>
      <Amount CurrencyCode="840" Exponent="2">950</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your transaction has been 
charged back. Please contact merchant customer service for more 
information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.14 Amazon return values

3.3.2.5.14.1 PENDING

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
  <Event>
    <Purchase DPGReferenceId="32604" TransactionId="T10_110404083030">
      <PaymentMethod name="AM">
        <ReferenceId>202-2262839-7923559</ReferenceId>
        <ResponseCode>100</ResponseCode>
        <ResponseDescription/>
```

```
            <TimeStamp>4/4/2011 8:30:57 AM</TimeStamp>
         </PaymentMethod>
         <Status>PENDING</Status>
         <Amount CurrencyCode="826" Exponent="2">5241</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your request could not entirely
be completed. Please check your account later for an updated status. You
may also contact merchant customer service for more
information.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.14.2 AUTHORISED

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
   <Event>
      <Purchase DPGReferenceId="32604" TransactionId="T10_110404083030">
         <PaymentMethod name="AM">
            <ReferenceId>202-2262839-7923559</ReferenceId>
            <ResponseCode>ReadyToShip</ResponseCode>
            <ResponseDescription/>
            <TimeStamp>2009-08-31</TimeStamp>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="826" Exponent="2">5241</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.14.3 SENT_FOR_CAPTURE

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
   <Event>
      <Modification DPGReferenceId="32604"
TransactionId="T10_110404083030">
         <PaymentMethod name="AM">
            <ReferenceId>202-2262839-7923559</ReferenceId>
            <ResponseCode>200</ResponseCode>
            <ResponseDescription/>
            <TimeStamp>4/4/2011 8:33:36 AM</TimeStamp>
         </PaymentMethod>
         <Status>SENT_FOR_CAPTURE</Status>
         <Amount CurrencyCode="978" Exponent="2">5240</Amount>
      </Modification>
   </Event>

</Response>
```

3.3.2.5.14.4 SENT_FOR_CANCEL

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
   <Event>
      <Modification DPGReferenceId="32604"
TransactionId="T10_110404083030">
         <PaymentMethod name="AM">
            <ReferenceId>202-2262839-7923559</ReferenceId>
            <ResponseCode>200</ResponseCode>
            <ResponseDescription/>
            <TimeStamp>4/4/2011 8:33:36 AM</TimeStamp>
         </PaymentMethod>
         <Status>SENT_FOR_CANCEL</Status>
         <Amount CurrencyCode="978" Exponent="2">5240</Amount>
      </Modification>
   </Event>
</Response>
```

3.3.2.5.14.5 SENT_FOR_REFUND

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
   <Event>
      <Modification DPGReferenceId="32604"
TransactionId="T10_110404083030">
         <PaymentMethod name="AM">
            <ReferenceId>202-2262839-7923559</ReferenceId>
            <ResponseCode>200</ResponseCode>
            <ResponseDescription/>
            <TimeStamp>4/4/2011 8:33:36 AM</TimeStamp>
         </PaymentMethod>
         <Status>SENT_FOR_REFUND</Status>
         <Amount CurrencyCode="978" Exponent="2">5240</Amount>
      </Modification>
   </Event>
</Response>
```

3.3.2.5.14.6 CAPTURED

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
   <Event>
      <Purchase DPGReferenceId="32604" TransactionId="T10_110404083030">
         <PaymentMethod name="AM">
            <ReferenceId>202-2262839-7923559</ReferenceId>
            <ResponseCode>OrderFulfilled</ResponseCode>
            <ResponseDescription/>
            <TimeStamp>4/4/2011 8:35:02 AM</TimeStamp>
            <FeedID>1564308162</FeedID>
         </PaymentMethod>
         <Status>CAPTURED</Status>
      <Amount CurrencyCode="826" Exponent="2">5241</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.14.7 CANCELLED

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
  <Event>
    <Purchase DPGReferenceId="32604" TransactionId="T10_110404083030">
      <PaymentMethod name="AM">
        <ReferenceId>202-2262839-7923559</ReferenceId>
        <ResponseCode>OrderFulfilled</ResponseCode>
        <ResponseDescription/>
        <TimeStamp>4/4/2011 8:35:02 AM</TimeStamp>
        <FeedID>1564308162</FeedID>
      </PaymentMethod>
      <Status>CANCELLED</Status>
      <Amount CurrencyCode="826" Exponent="2">5241</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.14.8 REFUNDED

```
<Response version="1.0" AccountName="A98E8GW3O4IUZ">
  <Event>
    <Purchase DPGReferenceId="32604" TransactionId="T10_110404083030">
      <PaymentMethod name="AM">
        <ReferenceId>202-2262839-7923559</ReferenceId>
        <ResponseCode>OrderFulfilled</ResponseCode>
        <ResponseDescription/>
        <TimeStamp>4/4/2011 8:35:02 AM</TimeStamp>
        <FeedID>1564308162</FeedID>
      </PaymentMethod>
      <Status>REFUNDED</Status>
      <Amount CurrencyCode="826" Exponent="2">5241</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[]]></RecommendedClientMessage>
    </Purchase>
  </Event>
```

```
</Response>
```

3.3.2.5.14.9 ERROR

```
<Response version="1.0" AccountName="">
  <Event>
    <Purchase DPGReferenceId="32608" TransactionId="T10_110404084800">
      <PaymentMethod name="AM">
        <ReferenceId/>
        <ResponseCode>InvalidParameterValue</ResponseCode>
        <ResponseDescription>Contract with id 1111 does not
exist.</ResponseDescription>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Amount CurrencyCode="826" Exponent="2">5241</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.15 WebMoney Return Values

3.3.2.5.15.1 Redirect Purchase Response

```
<Response version="1.0" AccountName="string">
  <Event>
    <Purchase DPGReferenceId="long" TransactionId="string">
      <PaymentMethod name="W3">
        <RecommendedDisplayMessage
isRightToLeft="False">string</RecommendedDisplayMessage>
      </PaymentMethod>
      <Status>string</Status>
      <RedirectURL>string</RedirectURL>
      <PopupBrowser>bool</PopupBrowser>
      <RedirectParameters method="string" contentType="string">
        <RedirectParameter name="LMI_PAYMENT_AMOUNT" value="double"/>
        <RedirectParameter name="LMI_PAYEE_PURSE" value="string"/>
        <RedirectParameter name="LMI_PAYMENT_NO" value="string"/>
        <RedirectParameter name="LMI_PAYMENT_DESC" value="string"/>
        <RedirectParameter name="LMI_SIM_MODE" value="string"/>
      </RedirectParameters>
      <RiskResult>
        <StatusCode>string</StatusCode>
        <StatusDescription>string</StatusDescription>
      </RiskResult>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.15.2 Successful Purchase Response

```
<Response version="1.0" AccountName="string">
   <Event>
      <Purchase DPGReferenceId="long" TransactionId="string">
         <PaymentMethod name="W3">
            <ReferenceId>string</ReferenceId>
            <ResponseCode>string</ResponseCode>
            <ResponseDescription>string</ResponseDescription>
            <TimeStamp>string</TimeStamp>
            <LMI_PAYEE_PURSE></LMI_PAYEE_PURSE>
            <LMI_SYS_INVS_NO></LMI_SYS_INVS_NO>
            <LMI_SYS_TRANS_NO></LMI_SYS_TRANS_NO>
            <LMI_PAYER_PURSE></LMI_PAYER_PURSE>
            <LMI_PAYER_WM></LMI_PAYER_WM>
            <LMI_SYS_TRANS_DATE></LMI_SYS_TRANS_DATE>
         </PaymentMethod>
         <Status>string</Status>
         <Amount CurrencyCode="short" Exponent="short">int</Amount>
         <RiskResult>
            <StatusCode>string</StatusCode>
            <StatusDescription>string</StatusDescription>
         </RiskResult>
         <RecommendedClientMessage>string</RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.15.3 UnSuccessful Purchase Response

```
<Response version="1.0" AccountName="string">
   <Event>
      <Purchase DPGReferenceId="long" TransactionId="string">
         <PaymentMethod name="W3">
            <ReferenceId/>
   ;        <ResponseCode>string</ResponseCode>
            <ResponseDescription>string</ResponseDescription>
            <LMI_PAYEE_PURSE></LMI_PAYEE_PURSE>
            <LMI_SYS_INVS_NO></LMI_SYS_INVS_NO>
            <LMI_SYS_TRANS_NO></LMI_SYS_TRANS_NO>
            <LMI_PAYER_PURSE></LMI_PAYER_PURSE>
            <LMI_PAYER_WM></LMI_PAYER_WM>
            <LMI_SYS_TRANS_DATE></LMI_SYS_TRANS_DATE>
         </PaymentMethod>
         <Status>string</Status>
         <Error>
            <Code>string</Code>
            <Description>string</Description>
         </Error>
         <Amount CurrencyCode="short" Exponent="short">int</Amount>
         <RiskResult>
            <StatusCode>string</StatusCode>
            <StatusDescription>string</StatusDescription>
         </RiskResult>
         <RecommendedClientMessage>string</RecommendedClientMessage>
```

```
    </Purchase>
  </Event>

</Response>
```

3.3.2.5.16 Offline Bank Transfer return values

3.3.2.5.16.1 AUTHORISED

```

<Response version="1.0" AccountName="000291XX">
  <Event>
    <Purchase DPGReferenceId="123124" TransactionId="T10_110630093650">
      <PaymentMethod name="O3">
        <ReferenceId>68dc5897-fca2-e011-b645-0026b979425c</ReferenceId>
        <ResponseCode>0</ResponseCode>
        <ResponseDescription>Success</ResponseDescription>
        <RequestDate>6/29/2011 9:37:38 AM</RequestDate>
        <FirstName>John</FirstName>
        <LastName>Doe</LastName>
        <Email>john.doe@amnesia.co.za</Email>
        <CustomerReference>435NSDVON252J3</CustomerReference>
        <uniqueReference>DC5EU9351351</uniqueReference>
        <postingDate>6/30/2011 9:43:38 AM</postingDate>
        <externalBankAccountNumber>31083899</externalBankAccountNumber>
        <bankName>Barclays London</bankName>
        <bankCurrency>USD</bankCurrency>
        <bankAmount>100.00</bankAmount>
        <appliedCurrency>978</appliedCurrency>
        <appliedAmount>7.25</appliedAmount>
        <countryCode>string</countryCode>
        <bankInformation>US</bankInformation>
        <merchantAccountNumber>0000330000000000</merchantAccountNumber>
      <envoyBankAccountNumber>0000330000000001</envoyBankAccountNumber>
        <statementNumber>385</statementNumber>
        <statementId>875576d1-5e99-43d2-98ed-faa28d8a7a33</statementId>
        <transferType>BANKIN</transferType>
        <refererType>BANKIN</refererType>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="826" Exponent="2">4932</Amount>
      <RecommendedClientMessage>Your transaction has been processed
successfully.</RecommendedClientMessage>
    </Purchase>
  </Event>

</Response>
```

3.3.2.5.16.2 MARKED FOR REFUND

```

<Response version="1.0" AccountName="000291XX">
  <Event>
    <Purchase DPGReferenceId="123124" TransactionId="T10_110630093650">
      <PaymentMethod name="O3">
        <ReferenceId>68dc5897-fca2-e011-b645-0026b979425c</ReferenceId>
        <ResponseCode>210</ResponseCode>
        <ResponseDescription>Incorrect amount
```

```
deposited</ResponseDescription>
          <RequestDate>6/29/2011 9:37:38 AM</RequestDate>
          <FirstName>John</FirstName>
          <LastName>Doe</LastName>
          <Email>john.doe@amnesia.co.za</Email>
          <CustomerReference>435NSDVON252J3</CustomerReference>
          <uniqueReference>DC5EU9351351</uniqueReference>
          <postingDate>6/30/2011 9:43:38 AM</postingDate>
          <externalBankAccountNumber>31083899</externalBankAccountNumber>
          <bankName>Barclays London</bankName>
          <bankCurrency>USD</bankCurrency>
          <bankAmount>100.00</bankAmount>
          <appliedCurrency>978</appliedCurrency>
          <appliedAmount>7.25</appliedAmount>
          <countryCode>string</countryCode>
          <bankInformation>US</bankInformation>
          <merchantAccountNumber>0000330000000000</merchantAccountNumber>
        <envoyBankAccountNumber>0000330000000001</envoyBankAccountNumber>
          <statementNumber>385</statementNumber>
          <statementId>875576d1-5e99-43d2-98ed-faa28d8a7a33</statementId>
          <transferType>BANKIN</transferType>
          <refererType>BANKIN</refererType>
        </PaymentMethod>
        <Status>MARKED_FOR_REFUND</Status>
        <Amount CurrencyCode="826" Exponent="2">4932</Amount>
        <RecommendedClientMessage><![CDATA[Your transaction has been marked
for refund. ]]></RecommendedClientMessage>
     </Purchase>
  </Event>
</Response>
```

3.3.2.5.16.3 MARKED FOR REFUND (Exception)

```
<Response version="1.0" AccountName="000291XX">
  <Event>
     <Purchase ExceptionId="123124" TransactionId="T10_110630093650">
        <PaymentMethod name="03">
          <ReferenceId>68dc5897-fca2-e011-b645-0026b979425c</ReferenceId>
          <ResponseCode>220</ResponseCode>
          <ResponseDescription>Duplicate deposit of correct
amount</ResponseDescription>
          <OriginalTransactionId>T13_3453V7SD9F</OriginalTransactionId>
          <RequestDate>6/29/2011 9:37:38 AM</RequestDate>
          <FirstName>John</FirstName>
          <LastName>Doe</LastName>
          <Email>john.doe@amnesia.co.za</Email>
          <CustomerReference>435NSDVON252J3</CustomerReference>
          <uniqueReference>DC5EU9351351</uniqueReference>
          <postingDate>6/30/2011 9:43:38 AM</postingDate>
          <externalBankAccountNumber>31083899</externalBankAccountNumber>
          <bankName>Barclays London</bankName>
          <bankCurrency>USD</bankCurrency>
          <bankAmount>100.00</bankAmount>
          <appliedCurrency>978</appliedCurrency>
          <appliedAmount>7.25</appliedAmount>
          <countryCode>string</countryCode>
          <bankInformation>US</bankInformation>
          <merchantAccountNumber>0000330000000000</merchantAccountNumber>
       <envoyBankAccountNumber>0000330000000001</envoyBankAccountNumber>
          <statementNumber>385</statementNumber>
          <statementId>875576d1-5e99-43d2-98ed-faa28d8a7a33</statementId>
          <transferType>BANKIN</transferType>
          <refererType>BANKIN</refererType>
       </PaymentMethod>
       <Status>MARKED_FOR_REFUND</Status>
       <Amount CurrencyCode="826" Exponent="2">4932</Amount>
       <RecommendedClientMessage><![CDATA[Your transaction has been marked
for refund. ]]></RecommendedClientMessage>
     </Purchase>
  </Event>
</Response>
```

3.3.2.5.16.4 PENDING

```
<Response version="1.0" AccountName="000291XX">
  <Event>
     <Purchase DPGReferenceId="123124" TransactionId="T10_110630093650">
       <PaymentMethod name="03">
          <ReferenceId>123US4532546</ReferenceId>
          <ResponseCode>SUCCESS</ResponseCode>
          <ResponseDescription>Bank Transfer Details
retrieved</ResponseDescription>
          <BankTransferDetails>
             <BankDetails>
                <bank>Werther Bank AG</bank>
             </BankDetails>
          </BankTransferDetails>
       </PaymentMethod>
       <Status>PENDING</Status>
       <Amount CurrencyCode="short" Exponent="short">int</Amount>
       <RecommendedDisplayMessage><![CDATA[<p>
<strong>1.</strong>&
nbsp;You can transfer funds from your personal bank account to the
account shown by using any of your banks fund transfer facilities e.g.
online banking, telephone banking or in person over-the-counter.</p>
<p>
<strong>2.</strong>&
nbsp;<b>Important: Quote your reference number when you do your transfer.
<font color="red">Inclusion of your reference with your deposit is
crucial to ensure your payment is processed timeously and is required in
order for your account balance to be updated at the merchant.</font>
</b>
</p>
<p>
<strong>3.</strong>&
nbsp;Once you have made your transfer, because of the local clearing
cycle, there will be a short delay before the funds are received at the
collecting bank. Usually this is in the order of a few days but depends
on the banking territory concerned.</p>
<p>
<strong>4.</strong>&
nbsp;It is recommended that all receipts and references are retained as
proof of payment for any future queries you might
have.</p>]]></RecommendedDisplayMessage>
     </Purchase>
  </Event>
</Response>
```

3.3.2.5.17 POLi return values

3.3.2.5.17.1 AUTHORISED

```

<Response version="1.0" AccountName="T0000001">
    <Event>
        <Purchase DPGReferenceId="0001" TransactionId="T10_123456789012">
            <PaymentMethod name="P5">
                <ReferenceId>999999999999</ReferenceId>
                <ResponseCode>Completed</ResponseCode>
                <ResponseDescription></ResponseDescription>
                <PaymentId>2JC+4IQqDA7HRHztqsBLoKVpVso+mJJJ</PaymentId>
                <timestamp>2011-12-21 02:04:44</timestamp>
                <BankReceipt>28742364-23605</BankReceipt>
                <BankReceiptDateTime>2011-12-21
11:04:26</BankReceiptDateTime>
                <CountryCode>AU</CountryCode>
                <CountryName>Australia</CountryName>
                <CurrencyCode>AUD</CurrencyCode>
                <CurrencyName>Australian Dollar</CurrencyName>
                <EndDateTime>2011-12-21 11:04:35</EndDateTime>
                <EstablishedDateTime>2011-12-21
11:01:25</EstablishedDateTime>

<FinancialInstitutionCode>iBankAU01</FinancialInstitutionCode>

<FinancialInstitutionCountryCode>AU</FinancialInstitutionCountryCode>
                <FinancialInstitutionName>iBank AU
01</FinancialInstitutionName>
                <MerchantDefinedData></MerchantDefinedData>
                <MerchantEstablishedDateTime>2011-12-21
02:01:15</MerchantEstablishedDateTime>
                <PaymentAmount>100.00</PaymentAmount>
                <StartDateTime>2011-12-21 11:01:25</StartDateTime>
                <TransactionRefNo>999999999999</TransactionRefNo>
            </PaymentMethod>
            <Status>AUTHORISED</Status>
            <Amount CurrencyCode="36" Exponent="2">100</Amount>
            <RiskResult>
                <StatusCode>9</StatusCode>
                <StatusDescription><![CDATA[Error]]></StatusDescription>
            </RiskResult>
            <RecommendedClientMessage><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
        </Purchase>
    </Event>
</Response>
```

3.3.2.5.17.2 CANCELLED

```
<Response version="1.0" AccountName=" T0000001">
    <Event>
        <Purchase DPGReferenceId="0001" TransactionId="T10_123456789012">
            <PaymentMethod name="P5">
                <ReferenceId>999999999999</ReferenceId>
                <ResponseCode>Cancelled</ResponseCode>
                <ResponseDescription></ResponseDescription>
                <PaymentId>1rwqaj4xDpFDIwDYQfTjCBehblM71yw1</PaymentId>
                <timestamp>2011-12-21 02:14:41</timestamp>
                <BankReceipt></BankReceipt>
                <BankReceiptDateTime></BankReceiptDateTime>
                <CountryCode>AU</CountryCode>
                <CountryName>Australia</CountryName>
                <CurrencyCode>AUD</CurrencyCode>
                <CurrencyName>Australian Dollar</CurrencyName>
                <EndDateTime>2011-12-21 11:14:35</EndDateTime>
                <EstablishedDateTime>2011-12-21
11:09:28</EstablishedDateTime>
<FinancialInstitutionCode>iBankAU01</FinancialInstitutionCode>
<FinancialInstitutionCountryCode>AU</FinancialInstitutionCountryCode>
                <FinancialInstitutionName>iBank AU
01</FinancialInstitutionName>
                <MerchantDefinedData></MerchantDefinedData>
                <MerchantEstablishedDateTime>2011-12-21
02:09:19</MerchantEstablishedDateTime>
                <PaymentAmount>100.00</PaymentAmount>
                <StartDateTime>2011-12-21 11:09:28</StartDateTime>
                <TransactionRefNo>99999999999</TransactionRefNo>
            </PaymentMethod>
            <Status>CANCELLED</Status>
            <Amount CurrencyCode="36" Exponent="2">100</Amount>
            <RiskResult>
                <StatusCode>9</StatusCode>
                <StatusDescription><![CDATA[Error]]></StatusDescription>
            </RiskResult>
            <RecommendedClientMessage><![CDATA[Your transaction has been
cancelled as per your request. Please contact merchant customer service
for more information.]]></RecommendedClientMessage>
        </Purchase>
    </Event>
</Response>
```

3.3.2.5.17.3 ERROR

```
<Response version="1.0" AccountName=" T0000001">
    <Event>
        <Purchase DPGReferenceId="0001" TransactionId="T10_123456789012">
            <PaymentMethod name="P5">
                <ReferenceId>99999999999</ReferenceId>
                <ResponseCode>ReceiptUnverified</ResponseCode>
                <ResponseDescription></ResponseDescription>
                <PaymentId>rDf3pZb5pqmCHpGPZqUDstR9QocVdtA8</PaymentId>
                <timestamp>2011-12-21 02:08:50</timestamp>
                <BankReceipt></BankReceipt>
                <BankReceiptDateTime></BankReceiptDateTime>
                <CountryCode>AU</CountryCode>
                <CountryName>Australia</CountryName>
                <CurrencyCode>AUD</CurrencyCode>
                <CurrencyName>Australian Dollar</CurrencyName>
                <EndDateTime>2011-12-21 11:08:39</EndDateTime>
                <EstablishedDateTime>2011-12-21
11:05:46</EstablishedDateTime>
<FinancialInstitutionCode>iBankAU01</FinancialInstitutionCode>
<FinancialInstitutionCountryCode>AU</FinancialInstitutionCountryCode>
                <FinancialInstitutionName>iBank AU
01</FinancialInstitutionName>
                <MerchantDefinedData></MerchantDefinedData>
                <MerchantEstablishedDateTime>2011-12-21
02:05:39</MerchantEstablishedDateTime>
                <PaymentAmount>100.00</PaymentAmount>
                <StartDateTime>2011-12-21 11:05:46</StartDateTime>
                <TransactionRefNo>99999999999</TransactionRefNo>
            </PaymentMethod>
            <Status>ERROR</Status>
            <Amount CurrencyCode="36" Exponent="2">100</Amount>
            <RiskResult>
                <StatusCode>9</StatusCode>
                <StatusDescription><![CDATA[Error]]></StatusDescription>
            </RiskResult>
            <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
        </Purchase>
    </Event>
</Response>
```

3.3.2.5.18 POLi return values

3.3.2.5.18.1 AUTHORISED

```
<Response version="1.0" AccountName="2088701536508513">
  <Event>
     <Purchase DPGReferenceId="141329" TransactionId="A99_120320085307">
       <PaymentMethod name="A7">
          <ReferenceId>2012032010413651</ReferenceId>
          <ResponseCode>TRADE_FINISHED</ResponseCode>
          <ResponseDescription>Transaction
successful</ResponseDescription>
       </PaymentMethod>
       <Status>AUTHORISED</Status>
       <Amount CurrencyCode="826" Exponent="2">1</Amount>
       <RiskResult>
          <StatusCode>100</StatusCode>
          <StatusDescription><![CDATA[No Risk]]></StatusDescription>
       </RiskResult>
       <RecommendedClientMessage><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
```

```
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.18.2 REDIRECTED

```
<Response version="1.0" AccountName="2088701536508513">
   <Event>
      <Purchase DPGReferenceId="141329" TransactionId="A99_120320085307">
         <PaymentMethod name="A7">
            <RecommendedDisplayMessage isRightToLeft="False"/>
         </PaymentMethod>
         <Status>REDIRECT</Status>

   <RedirectURL><![CDATA[https://www.alipay.com/cooperate/gateway.do]]></RedirectU
RL>
         <PopupBrowser>false</PopupBrowser>
         <RedirectParameters method="POST" contentType="application/x-www-form-
urlencoded">
            <RedirectParameter name="body" value="Test Body"/>
            <RedirectParameter name="currency" value="GBP"/>
            <RedirectParameter name="notify_url" value="MerchantNotificationURL"/>
            <RedirectParameter name="out_trade_no" value="A99_120320085307"/>
            <RedirectParameter name="partner" value="2088701536508513"/>
            <RedirectParameter name="return_url" value="DataCashRedirectHandler"/>
            <RedirectParameter name="seller_id" value="A99"/>
            <RedirectParameter name="seller_name" value="Test_Account"/>
            <RedirectParameter name="service" value="create_forex_trade"/>
            <RedirectParameter name="sign"
value="da1ecc0446519ef6add4b7f2cb975583"/>
            <RedirectParameter name="sign_type" value="MD5"/>
            <RedirectParameter name="subject" value="Test Subject"/>
            <RedirectParameter name="total_fee" value="0.01"/>
         </RedirectParameters>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.18.3 PENDING

```
<Response version="1.0" AccountName="2088701536508513">
   <Event>
      <Purchase DPGReferenceId="141311" TransactionId="A99_120316111001">
         <PaymentMethod name="A7">
            <ReferenceId>2012031630273054</ReferenceId>
            <ResponseCode>WAIT_BUYER_PAY</ResponseCode>
            <ResponseDescription>Transaction Pending</ResponseDescription>
         </PaymentMethod>
         <Status>PENDING</Status>
         <Amount CurrencyCode="826" Exponent="2">1</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[Your request could not entirely
be completed. Please check your account later for an updated status. You
may also contact merchant customer service for more
information.]]></RecommendedClientMessage>
    </Purchase>
  </Event>
</Response>
```

3.3.2.5.18.4 SENT FOR REFUND

```
<Response version="1.0" AccountName="2088701536508513">
  <Event>
    <Modification DPGReferenceId="141300"
TransactionId="T10_120315141257">
      <PaymentMethod name="A7">
        <ReferenceId>2012031517026954</ReferenceId>
        <ResponseCode>400</ResponseCode>
        <ResponseDescription>Send for Refund</ResponseDescription>
        <TimeStamp>3/15/2012 2:13:39 PM</TimeStamp>
      </PaymentMethod>
      <Status>SENT_FOR_REFUND</Status>
      <Amount CurrencyCode="826" Exponent="2">1</Amount>
    </Modification>
  </Event>
</Response>
```

3.3.2.5.18.5 REFUNDED

```
<Response version="1.0" AccountName="2088701536508513">
  <Event>
    <Purchase DPGReferenceId="141264" TransactionId="A99_120315100635">
      <PaymentMethod name="A7">
        <ReferenceId/>
        <ResponseCode>Refunded</ResponseCode>
        <ResponseDescription>Refunded</ResponseDescription>
        <PaymentTime>20120316093046</PaymentTime>
        <ServiceCharge>0.00</ServiceCharge>
        <Remark>Test Subject</Remark>
      </PaymentMethod>
      <Status>REFUNDED</Status>
      <Amount CurrencyCode="826" Exponent="2">2</Amount>
      <RiskResult>
        <StatusCode>100</StatusCode>
        <StatusDescription><![CDATA[No Risk]]></StatusDescription>
      </RiskResult>
      <RecommendedClientMessage><![CDATA[]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.2.5.18.6 ERROR

```
<Response version="1.0" AccountName="">
   <Event>
      <Purchase DPGReferenceId="141319" TransactionId="A99_120316160846">
         <PaymentMethod name="A7">
            <ReferenceId/>
            <ResponseCode/>
            <ResponseDescription/>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code>013</Code>
            <Description>PurchaseDetails.BillingDetails.AmountDetails.CurrencyCode
value invalid</Description>
         </Error>
         <Amount CurrencyCode="826" Exponent="2">1</Amount>
         <RiskResult>
            <StatusCode>100</StatusCode>
            <StatusDescription><![CDATA[No Risk]]></StatusDescription>
         </RiskResult>
         <RecommendedClientMessage><![CDATA[Your request could not be completed.
Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
      </Purchase>
   </Event>
</Response>
```

3.3.3 *Payout*

A call to the Payout web method of the APG Web Service is the first step in the lifecycle of a payout transaction.

Validation will occur during the call to the web method - see Appendix 6 for a list of possible validation errors.

The result of this request will determine if the transaction has completed processing.

The Payout web method accepts two parameters: `payoutDetails` of type `PayoutItem`, and `methodDetails` of type `PaymentMethodItem`. The two types are custom complex structures. For more information on the composition of these structures, please refer to the WSDL which can be downloaded from the URLs specified in section 3.2.1.

3.3.3.1 Schema Elements for Payout Request

In this section, the fields that can be presented with Payout transaction Requests will be presented along with example XML for those fields.

To submit Processor transaction information for a Payout transaction, one should use the relevant PaymentMethodItem within the Payout schema element:

- `Payout`
    - `PayoutDetails` – see section 3.3.3.1.1
        - `AccountDetails` – see section 3.3.1.1.1
        - `PersonalDetails` – see section 3.3.2.1.8
        - `BillingDetails` – see section 3.3.2.1.3
            - `AddressDetails` – see section 3.3.2.1.2
            - `AmountDetails` – see section 3.3.1.1.2
    - `MethodDetails` – see section 3.3.3.1.2
        - One of the following:
            - *`Click2PayItem`* – section 3.3.3.1.40
            - *`ClickandBuyItem`* – section 3.3.3.1.8
            - *`EntroPayItem`* – section 3.3.3.1.9
            - *`InstaDebitItem`* – section 3.3.3.1.6
            - *`MoneybookersItem`* – section 3.3.3.1.5
            - *`NetellerItem`* – section 3.3.3.1.3
            - *`OneClickItem`* – section 3.3.3.1.7
            - *`Ukash`* – section 3.3.2.1.15

The "Required / Payment Method Specific" column lists the following details:

- *Mandatory* - This means that field cannot be empty.
- *Recommended* - The data is highly recommended. The fields are not mandated by APG since not all processors mandate them. Please note that if these fields are not supplied and the transaction is processed through a processor which does mandate them, the transaction will be rejected.
- *Optional* – The data is not required for processing but should be supplied if available.
- *Not Applicable* – The data is not applicable for this payment method and will be discarded if supplied.

If no data is available for Recommended or Optional fields, the field can simply be left out completely. Under no circumstances is the word ‘NULL’ to be used as a default value for blank fields; merchants should rather leave the field blank.

NOTE: If the value sent for a field should exceed the maximum length then the transaction may be rejected.

SOAP XML Payout Request document:

```
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
      <soap:Body>
     <Payout xmlns="http://DPG-CPT.datacash.com/">
                  <payoutDetails>
          <TransactionId>string</TransactionId>
          <Description>string</Description>
          <TransactionDateTime>string</TransactionDateTime>
          <UserIP>string</UserIP>
          <Language>string</Language>
          <UserAgentHeader>string</UserAgentHeader>
          <CustomerReference>string</CustomerReference>
                        <AccountDetails>
             <AccountName>string</AccountName>
             <AccountPIN>string</AccountPIN>
             <CompanyId>string</CompanyId>
          </AccountDetails>
          <PersonalDetails>
             <FirstName>string</FirstName>
             <LastName>string</LastName>
             <Telephone1>string</Telephone1>
             <Telephone1_CountryCode>short</Telephone1_CountryCode>
             <Telephone1_AreaCode>short</Telephone1_AreaCode>
             <DateOfBirth>dateTime</DateOfBirth>
             <Email>string</Email>
             <IDNumber>string</IDNumber>
             <TypeOfID>NONE or PASSPORT or PERSONAL_ID or IDENTITY_CARD or
             DRIVERS_LICENSE or TRAVEL_DOCUMENT or RESIDENCE_PERMIT or
             IDENTITY_CERTIFICATE_NUMBER or
             REGISTRO_FEDERAL_DE_CONTRIBUYENTES or
             CREDENTIAL_DE_ELECTOR</TypeOfID>
             <SSN>int</SSN>
             <CPF_CNPJ>string</CPF_CNPJ>
             <Nationality>string</Nationality>
          </PersonalDetails>
          <BillingDetails>
             <Name>string</Name>
             <AddressDetails>
               <StreetLine1>string</StreetLine1>
               <StreetLine2>string</StreetLine2>
               <City>string</City>
               <PostalCode>string</PostalCode>
               <StateProvince>string</StateProvince>
               <Country>string</Country>
```

```
            </AddressDetails>
            <AmountDetails>
               <Amount>int</Amount>
               <Exponent>short</Exponent>
               <CurrencyCode>short</CurrencyCode>
            </AmountDetails>
                        </BillingDetails>
        </payoutDetails>
        <methodDetails/>
     </Payout>
      </soap:Body>
</soap:Envelope>
```

3.3.3.1.1 PayoutDetails

This is a set of fields and structures required for a transaction.

Element Name	PayoutDetails
Type	PayoutItem
Position	Payout
Children	Yes
Attributes	No

Elements of PayoutDetails

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
TransactionId	The TransactionId is a unique identifier generated by the integrating (Merchant) system. Usually this is the integrating system's internal payment order reference number.	String (16); We Recommend this value be be prefixed with the CompanyId plus an underscore e.g. ABC_1234567 (where the CompanyId is a value that will be supplied by DataCash).	Mandatory for all Payment methods	
Description	Use this field to supply descriptive text for the transaction.	String (255)	BU	Optional
			CL	Optional
			EP	Optional
			IN	Optional
			MB	Optional
			NT	Optional
			OC	Optional

TransactionDateTime	The Merchant's time stamp of the transaction.	String (19); Format "yyyy-mm-dd hh:mm:ss"	BU	Optional
			CL	Optional
			IN	Optional
			MB	Optional
			NT	Optional
			OC	Optional
			UK	Mandatory
UserAgentHeader	This is a value indicating the browser type and operating system details of the user. This information can be retrieved from the HTTP_USER_AGENT header.	String (255)	CL	Optional
			IN	Optional
			MB	Mandatory
			NT	Optional
Language	This field contains the language in which the client's user experience will take place. Please refer to Appendix 13 for supported languages. This includes the following Payment method's pages: MB If no language is supplied, the value defaults to "en" (English).	String (20)	CL	Optional
			EP	Optional
			IN	Optional
			MB	Recommended
			NT	Optional
UserIP	Consumer's IP address.	String (26); (Format: 255.255.255.255)	CL	Mandatory
			IN	Optional
			MB	Optional
			NT	Optional
CustomerReference	This is the generic identifier of a customer.	String(70)	CL	Optional
			IN	Mandatory
			MB	Optional
			NT	Optional
AccountDetails	This is a set of the merchant's authentication details which is required in order to access the APG.	See section 3.3.1.1.1		

PersonalDetails	This is a set of consumer specific details that are required by the Processors.	See section 3.3.2.1.8
BillingDetails	This is a set of the consumer's billing details that are required by the Processors.	See section 3.3.2.1.3
CustomMerchantDetails	Optional structure allowing Merchants to pass custom fields and values.	See section 3.3.2.1.7

Example XML for PayoutDetails complex elements

```
<payoutDetails>
   <TransactionId>string</TransactionId>
   <Description>string</Description>
   <TransactionDateTime>string</TransactionDateTime>
   <UserIP>string</UserIP>
   <UserAgentHeader>string</UserAgentHeader>
   <Language>string</Language>
   <CustomerReference>string</CustomerReference>
   <AccountDetails>
      <AccountName>TestAccount</AccountName>
      <AccountPIN>TestPIN</AccountPIN>
      <CompanyId>A99</CompanyId>
   </AccountDetails>
   <PersonalDetails>
      <FirstName>Jerry</FirstName>
      <LastName>Anderson</LastName>
      <Telephone1>6149135</Telephone1>
      <Telephone1_CountryCode>44</Telephone1_CountryCode>
      <Telephone1_AreaCode>105</Telephone1_AreaCode>
      <DateOfBirth>1982-09-14</DateOfBirth>
      <Email>customer@email.com</Email>
      <IDNumber>123456789</IDNumber>
      <TypeOfID>PASSPORT</TypeOfID>
      <SSN/>
      <CPF_CNPJ/>
      <Nationality>GB</Nationality>
      <Gender/>
   </PersonalDetails>
   <BillingDetails>
      <Name>Home</Name>
      <AddressDetails>
         <StreetLine1>404 Mulberry Court</StreetLine1>
         <StreetLine2>78 Praed Street</StreetLine2>
         <City>London</City>
         <PostalCode>W2 1NT</PostalCode>
         <StateProvince>EN</StateProvince>
         <Country>GB</Country>
      </AddressDetails>
      <AmountDetails>
         <Amount>725</Amount>
         <Exponent>2</Exponent>
         <CurrencyCode>826</CurrencyCode>
      </AmountDetails>
      </BillingDetails>
      <CustomMerchantDetails>
         <CustomDetail>
           <FieldName>PaymentId</FieldName>
           <FieldValue>1234</FieldValue>
         </CustomDetail>
      </CustomMerchantDetails>
   </payoutDetails>
</payoutDetails>
```

3.3.3.1.2 methodDetails (PaymentMethodItem)

This is a parent structure from which all the individual specific payout methods are inherited.

Element Name	`methodDetails`
Type	`PaymentMethodItem`
Position	`Payout`
Children	`Yes`
Attributes	`Yes`

Elements of methodDetails
Please refer to the following sections for details relevant to each individual payout method: • BU – ClickandBuy see section 3.3.3.1.8 • CL – Click2Pay see section 3.3.3.1.4 • EP – EntroPay see section 3.3.3.1.9 • IN – InstaDebit see section 3.3.3.1.6 • MB – MoneyBookers see section 3.3.3.1.5 • NT – Neteller see section 3.3.3.1.3 • OC – Envoy OneClick see section 3.3.3.1.7 • UK – Ukash see section 3.3.2.1.15

Attributes of methodDetails

Element Name	Description	Data type / Limitations	Required / Payout Method Specific details
xsi:type	This indicates the individual payout method involved in this transaction. Refer to Appendix 7 for the Payout Method Type options.	Enum	Mandatory for all Payment methods

Example XML for methodDetails complex elements (individual payout method structure involved e.g. Click2Pay)

```
<methodDetails xsi:type="Click2PayItem">
   <AccountNumber>string</AccountNumber>
   <AccountPIN>string</AccountPIN>
</methodDetails>
```

3.3.3.1.3 NetellerItem

These are the fields or structures contained within the NetellerItem structure.

Element Name	NetellerItem
Type	NetellerItem
Position	Payout.methodDetails
Children	Yes
Attributes	No

Elements of NetellerItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
AccountNumber	Consumer's NETELLER Account ID	String (50)	*NT*	Mandatory

Example XML for NetellerItem complex elements

```
<AccountNumber>TestAccount</AccountNumber>
```

3.3.3.1.4 Click2PayItem

These are the fields or structures contained within the Click2PayItem structure.

Element Name	Click2PayItem
Type	Click2PayItem
Position	Payout.methodDetails

Children	Yes
Attributes	No

Elements of Click2PayItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
AccountNumber	Consumer's Click2Pay User Name (in the form of an email address).	String (50)	CL	Mandatory
AccountPIN	Consumer's Click2Pay Personal Account Number (PAN) that was assigned, when they registered with Click2Pay.	String (50)	CL	Optional

Example XML for Click2PayDetails complex elements

```
<AccountNumber>test.account@gmail.com</AccountNumber>
<AccountPIN>TestPIN</AccountPIN>
```

3.3.3.1.5 MoneybookersItem

These are the fields or structures contained within the MoneybookersItem structure.

Element Name	MoneybookersItem
Type	MoneybookersItem
Position	Payout.methodDetails
Children	Yes
Attributes	No

Elements of MoneybookersItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payout Method Specific details**	
AccountNumber	Consumer's MoneyBookers User Name (in the form of an email address).	String (50)	MB	Mandatory

PaymentMethodType	Payment method for Moneybookers. For more information, please refer to Appendix 16.	Enum	MB	Optional

Example XML for MoneybookersItem complex elements

```
<AccountNumber>test.account@gmail.com</AccountNumber>
```

3.3.3.1.6 InstaDebitItem

These are the fields or structures contained within the InstaDebitItem structure.

Element Name	InstaDebitItem
Type	InstaDebitItem
Position	Payout.methodDetails
Children	Yes
Attributes	No

Elements of InstaDebitItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
AccountNumber	Consumer's InstaDebit User ID.	String (30)	IN	Mandatory

Example XML for InstaDebitItem complex elements

```
<AccountNumber>DEMO+CUSTOMER+PL6CDYYL</AccountNumber>
```

3.3.3.1.7 OneClickItem

These are the fields or structures contained within the OneClickItem structure.

Element Name	OneClickItem
Type	OneClickItem
Position	Payout.methodDetails
Children	Yes
Attributes	No

Elements of OneClickItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
AccountNumber	Consumer's OneClick account number (in the form of an email address or account number).	String (50)	OC	Mandatory
ServiceType	This indicates the type of banking service available from Envoy OneClick. Refer to Appendix 17.	Enum	OC	Mandatory
UseSaleCurrency	This is to indicate that the sales currency code and exponent must be used.	Boolean	OC	Optional

Example XML for OneClickItem complex elements

```
<AccountNumber>test.account@gmail.com</AccountNumber>
<ServiceType>EWIRE</ServiceType>
```

3.3.3.1.8 ClickAndBuyItem

These are the fields or structures contained within the ClickAndBuyItem structure.

Element Name	ClickAndBuyItem
Type	ClickAndBuyItem
Position	Payout.methodDetails
Children	Yes
Attributes	No

Elements of ClickAndBuyItem

Element Name	Description	Data type / Limitations	Required / Payment Method Specific details	
AccountNumber	Consumer's ClickAndBuy account number or account email.	String (50)	BU	Optional
CreateRecurring	This is not used by Payouts	Boolean	BU	Optional

Example XML for ClickAndBuyItem complex elements

```
<AccountNumber>123456789</AccountNumber>
<CreateRecurring></CreateRecurring>
```

3.3.3.1.9 EntroPayItem

These are the fields or structures contained within the EntroPayItem structure.

Element Name	EntroPayItem
Type	EntroPayItem
Position	Payout.methodDetails
Children	Yes
Attributes	No

Elements of EntroPayItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
AccountReference	Entropay Account Reference	String (7)	EP	Optional
CardNumber	Entropay CardNumber	String (24)	EP	Optional
Email	Entropay Email	String (255)	EP	Optional
ClaimCode	Entropay ClaimCode	String (15)	EP	Optional
PaymentType	This indicates which security details will be used for this transaction. Refer to Appendix 28.	Enum	EP	Mandatory

EntroPay Note: When submitting an EntroPay (EP) transaction, the below combinations are allowed per the PaymentType for the EntroPayItem.

Field	Combo 1	Combo 2	Combo 3
PaymentType	EMAIL	CARD_NUMBER	ACCOUNT_REFERENCE
AccountReference			x
CardNumber		x	
Email	x		
ClaimCode	x		

Example XML for EntroPayItem complex elements

```
<methodDetails xsi:type="EntroPayItem">
  <AccountReference/>
  <CardNumber/>
  <Email>testcustomer@datacash.co.za</Email>
  <ClaimCode>123456789</ClaimCode>
  <PaymentType>EMAIL</PaymentType>
</methodDetails>
```

3.3.3.2 Examples of XML for Payout Requests

3.3.3.2.1 Neteller input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Payout xmlns="http://DPG-CPT.datacash.com/">
      <payoutDetails>
        <TransactionId>A99_080716134142</TransactionId>
        <Description/>
        <TransactionDateTime>2008-07-16 13:41:42</TransactionDateTime>
        <UserIP>10.0.0.1</UserIP>
        <Language>en</Language>
        <AccountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPIN</AccountPIN>
          <CompanyId>A99</CompanyId>
        </AccountDetails>
        <PersonalDetails>
          <FirstName>Caylin</FirstName>
          <LastName>Williams</LastName>
          <Telephone1>6149135</Telephone1>
          <Telephone1_CountryCode>44</Telephone1_CountryCode>
          <Telephone1_AreaCode>105</Telephone1_AreaCode>
          <DateOfBirth>1982-09-14T00:00:00</DateOfBirth>
          <Email>customer@email.com</Email>
          <TypeOfID>PASSPORT</TypeOfID>
          <SSN>0</SSN>
          <Nationality>GB</Nationality>
        </PersonalDetails>
        <BillingDetails>
          <Name>Home</Name>
          <AddressDetails>
            <StreetLine1>78 Praed Street</StreetLine1>
            <StreetLine2/>
            <City>London</City>
            <PostalCode>W2 1NT</PostalCode>
            <StateProvince>EN</StateProvince>
            <Country>GB</Country>
```

```
               </AddressDetails>
               <AmountDetails>
                  <Amount>725</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <CustomMerchantDetails/>
         </payoutDetails>
         <methodDetails xsi:type="NetellerItem">
            <AccountNumber>TestMethodAccount</AccountNumber>
         </methodDetails>
      </Payout>
   </soap:Body>
</soap:Envelope>
```

3.3.3.2.2 Click2Pay input values

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Payout xmlns="http://DPG-CPT.datacash.com/">
         <payoutDetails>
            <TransactionId>A99_080717124604</TransactionId>
            <Description/>
            <TransactionDateTime>2008-07-17 12:46:04</TransactionDateTime>
            <UserIP>10.0.0.1</UserIP>
            <Language>en</Language>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Jerry</FirstName>
               <LastName>Anderson</LastName>
               <Telephone1>6149135</Telephone1>
               <Telephone1_CountryCode>44</Telephone1_CountryCode>
               <Telephone1_AreaCode>105</Telephone1_AreaCode>
               <DateOfBirth>1982-09-14T00:00:00</DateOfBirth>
               <Email>customer@email.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>GB</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>123 Roman Street</StreetLine1>
                  <StreetLine2/>
                  <City>London</City>
                  <PostalCode>W4 1BT</PostalCode>
                  <StateProvince>EN</StateProvince>
                  <Country>GB</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>725</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <CustomMerchantDetails/>
         </payoutDetails>
         <methodDetails xsi:type="Click2PayItem">
            <AccountNumber>test.account@gmail.com</AccountNumber>
            <AccountPIN>TestMethodPIN</AccountPIN>
         </methodDetails>
      </Payout>
   </soap:Body>
</soap:Envelope>
```

3.3.3.2.3 MoneyBookers input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Payout xmlns="http://DPG-CPT.datacash.com/">
         <payoutDetails>
            <TransactionId>A99_080717124013</TransactionId>
            <Description/>
            <TransactionDateTime>2008-07-17 12:40:13</TransactionDateTime>
            <UserIP>10.0.0.1</UserIP>
            <Language>nl</Language>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Mary</FirstName>
               <LastName>Bakkers</LastName>
               <Telephone1>4512834</Telephone1>
               <Telephone1_CountryCode>31</Telephone1_CountryCode>
               <Telephone1_AreaCode>20</Telephone1_AreaCode>
               <DateOfBirth>1957-04-03T00:00:00</DateOfBirth>
               <Email>customer@email.com</Email>
               <TypeOfID>PASSPORT</TypeOfID>
               <SSN>0</SSN>
               <Nationality>NL</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <AddressDetails>
                  <StreetLine1>Koningenplein 113</StreetLine1>
                  <StreetLine2/>
                  <City>Amsterdam</City>
                  <PostalCode>1011 TG</PostalCode>
                  <StateProvince>NH</StateProvince>
```

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```
                  <Country>NL</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>150</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>978</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <CustomMerchantDetails/>
         </payoutDetails>
         <methodDetails xsi:type="MoneybookersItem">
            <AccountNumber>test.account@gmail.com</AccountNumber>
            <PaymentMethodType>NONE</PaymentMethodType>
         </methodDetails>
      </Payout>
   </soap:Body>
</soap:Envelope>
```

3.3.3.2.4 InstaDebit input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Payout xmlns="http://DPG-CPT.datacash.com/">
         <payoutDetails>
            <TransactionId>A99_091014141919</TransactionId>
            <TransactionDateTime>2009-10-14 14:19:19</TransactionDateTime>
            <UserIP>10.0.0.1</UserIP>
            <CustomerReference>2345</CustomerReference>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Wolfgang</FirstName>
               <LastName>Middendorp</LastName>
               <Telephone1>6149135</Telephone1>
               <Telephone1_CountryCode>49</Telephone1_CountryCode>
               <Telephone1_AreaCode>10</Telephone1_AreaCode>
               <Email>customer@email.com</Email>
               <TypeOfID>NONE</TypeOfID>
               <SSN/>
            </PersonalDetails>
            <BillingDetails>
               <Name>Wolfgang Middendorp</Name>
               <AddressDetails>
                  <StreetLine1>Berliner Straße 213</StreetLine1>
                  <StreetLine2/>
                  <City>Berlin</City>
                  <PostalCode>10825</PostalCode>
                  <Country>DE</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>5240</Amount>
            <Exponent>2</Exponent>
            <CurrencyCode>978</CurrencyCode>
          </AmountDetails>
        </BillingDetails>
        <Language>de</Language>
        <CustomMerchantDetails/>
      </payoutDetails>
      <methodDetails xsi:type="InstaDebitItem">
        <AccountNumber>DEMO+CUSTOMER+PL6CDYYL</AccountNumber>
      </methodDetails>
    </Payout>
  </soap:Body>
</soap:Envelope>
```

3.3.3.2.5 Envoy OneClick input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Payout xmlns="http://DPG-CPT.datacash.com/">
      <payoutDetails>
        <TransactionId>T99_123456789012</TransactionId>
        <Description/>
        <TransactionDateTime>2010-10-01 01:02:03</TransactionDateTime>
        <UserIP>10.0.0.1</UserIP>
        <CustomerReference>test.user</CustomerReference>
        <AccountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPin</AccountPIN>
          <CompanyId>A99</CompanyId>
        </AccountDetails>
        <PersonalDetails>
          <FirstName>DEMO</FirstName>
          <LastName>CUSTOMER</LastName>
          <Telephone1_CountryCode>0</Telephone1_CountryCode>
          <Telephone1_AreaCode>0</Telephone1_AreaCode>
          <Telephone2_CountryCode>0</Telephone2_CountryCode>
          <Telephone2_AreaCode>0</Telephone2_AreaCode>
          <DateOfBirth>0001-01-01T00:00:00</DateOfBirth>
          <Email>consumer@email.com</Email>
          <TypeOfID>NONE</TypeOfID>
          <SSN>0</SSN>
        </PersonalDetails>
        <BillingDetails>
          <Name>Demo Customer</Name>
          <AddressDetails>
            <StreetLine1>Descartes House</StreetLine1>
            <StreetLine2>Centre-du- Québec-Sud</StreetLine2>
            <City>Quebec City</City>
            <PostalCode>HJ6JVG</PostalCode>
            <StateProvince>QC</StateProvince>
            <Country>DK</Country>
          </AddressDetails>
          <AmountDetails>
            <Amount>1000</Amount>
```

```
                  <Exponent>2</Exponent>
                  <CurrencyCode>208</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>EN</Language>
            <CustomMerchantDetails/>
         </payoutDetails>
         <methodDetails xsi:type="OneClickItem">
            <ServiceType>EWIRE</ServiceType>
            <AccountNumber>consumer@email.com</AccountNumber>
         </methodDetails>
      </Payout>
   </soap:Body>
</soap:Envelope>
```

3.3.3.2.6 ClickAndBuy input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Payout xmlns="http://DPG-CPT.datacash.com/">
         <payoutDetails>
            <TransactionId>A99_123456789012</TransactionId>
            <Description/>
            <TransactionDateTime>2010-10-01 01:02:03</TransactionDateTime>
            <UserIP>10.0.0.1</UserIP>
            <CustomerReference>test.user</CustomerReference>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPin</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Bridgette</FirstName>
               <LastName>Robins</LastName>
               <Telephone1>65012781</Telephone1>
               <Telephone1_CountryCode>44</Telephone1_CountryCode>
               <Telephone1_AreaCode>20</Telephone1_AreaCode>
               <Telephone2/>
               <Telephone2_CountryCode>0</Telephone2_CountryCode>
               <Telephone2_AreaCode>0</Telephone2_AreaCode>
               <DateOfBirth>1975-11-23T00:00:00</DateOfBirth>
               <Email>consumer@email.com</Email>
               <IDNumber/>
               <TypeOfID>NONE</TypeOfID>
               <SSN>0</SSN>
               <Nationality>GB</Nationality>
            </PersonalDetails>
            <BillingDetails>
               <Name>Home</Name>
               <StatementNarrative/>
               <AddressDetails>
                  <StreetLine1>51 Rocky Road</StreetLine1>
                  <StreetLine2/>
                  <City>London</City>
                  <PostalCode>SW1 1HM</PostalCode>
                  <StateProvince>EN</StateProvince>
                  <Country>GB</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>1</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>124</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>en</Language>
            <CustomMerchantDetails/>
         </payoutDetails>
         <methodDetails xsi:type="ClickAndBuyItem">
            <AccountNumber>100000000</AccountNumber>
            <CreateRecurring></CreateRecurring>
         </methodDetails>
      </Payout>
   </soap:Body>
</soap:Envelope>
```

3.3.3.2.7 EntroPay input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Payout xmlns="http://DPG-CPT.datacash.com/">
         <payoutDetails>
            <TransactionId>A99_091014141919</TransactionId>
            <TransactionDateTime>2009-10-14 14:19:19</TransactionDateTime>
            <UserIP>10.0.0.1</UserIP>
            <CustomerReference>2345</CustomerReference>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId>A99</CompanyId>
            </AccountDetails>
            <PersonalDetails>
               <FirstName>Wolfgang</FirstName>
               <LastName>Middendorp</LastName>
               <Telephone1>6149135</Telephone1>
               <Telephone1_CountryCode>49</Telephone1_CountryCode>
               <Telephone1_AreaCode>10</Telephone1_AreaCode>
               <Email>customer@email.com</Email>
               <TypeOfID>NONE</TypeOfID>
               <SSN/>
            </PersonalDetails>
            <BillingDetails>
               <Name>Wolfgang Middendorp</Name>
               <AddressDetails>
                  <StreetLine1>Berliner Straße 213</StreetLine1>
                  <StreetLine2/>
                  <City>Berlin</City>
                  <PostalCode>10825</PostalCode>
                  <Country>DE</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>5240</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>978</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>en</Language>
            <CustomMerchantDetails/>
         </payoutDetails>
         <methodDetails xsi:type="EntroPayItem">
            <AccountReference/>
            <CardNumber/>
            <Email>testcustomer@datacash.co.za</Email>
            <ClaimCode>123456789</ClaimCode>
            <PaymentType>EMAIL</PaymentType>
         </methodDetails>
      </Payout>
   </soap:Body>
</soap:Envelope>
```

3.3.3.2.8 Ukash input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <Purchase xmlns="http://DPG-CPT.datacash.com/">
         <payoutDetails>
            <TransactionId>A99_080708134612</TransactionId>
            <TransactionDateTime>2008-07-08 13:46:12</TransactionDateTime>
            <CustomerReference>Test</CustomerReference>
            <AccountDetails>
               <AccountName>TestAccount</AccountName>
               <AccountPIN>TestPIN</AccountPIN>
               <CompanyId> A99</CompanyId>
            </AccountDetails>
            <PersonalDetails/>
            <BillingDetails>
               <AddressDetails>
                  <StateProvince>EN</StateProvince>
                  <Country>GB</Country>
               </AddressDetails>
               <AmountDetails>
                  <Amount>1000</Amount>
                  <Exponent>2</Exponent>
                  <CurrencyCode>826</CurrencyCode>
               </AmountDetails>
            </BillingDetails>
            <Language>EN</Language>
         </payoutDetails>
         <methodDetails xsi:type="UKashItem">
            <AccountNumber>633718009</AccountNumber>
            <AccountPIN/>
            <AccountValue>1000</AccountValue>
            <TypeOfRedemption>ISSUE_VOUCHER</TypeOfRedemption>
```

```
          <AmountReference/>
        </methodDetails>
      </Purchase>
   </soap:Body>
</soap:Envelope>
```

3.3.3.3 Schema elements for Payout Response

In this section, the fields that can be presented with Payout transaction Responses will be presented along with example XML for those fields.

The top-level XML element is the `Response` element. This will be followed by the `Event` element, with the Payout method's response details inside that, in the Payout complex structure.

> Note that various responses will result in various XML formats being returned - the following list contains some of the response fields, but you should refer to the XML samples below and in section 3.3.2.5 for further information.

- `Response` – see section 3.3.1.2.3
    - `Event` – see section 3.3.1.2.2
        - `Payout` – see section 3.3.3.3.2
        - `PaymentMethod` – see section 3.3.3.3.1
            - `PaymentMethod` – *specific fields*
        - `Error` – see section 3.3.1.2.1

3.3.3.3.1 PaymentMethod

The details involved in the specific Payment Method of this transaction are displayed here. The top-level element "PaymentMethod" will contain the payment method for the transaction, while the sub elements will contain the rest of the details.

Element Name:	`PaymentMethod`
Position	`Response.Event.Payout`
Children	`Yes`
Attributes	`Yes`

Attributes involved in the PaymentMethod element			
Attribute Name	**Located in which Element**	**Description**	**Data type / Limitations**
Please refer to section 3.3.2.3.3			

Elements of PaymentMethod		
Element Name	**Description**	**Data type / Limitations**

Please refer to section 3.3.2.3.3

Example of XML for PaymentMethod complex elements (*The example is specifically for a successfully completed Neteller transaction*)

```
<PaymentMethod name="NT">
  <ReferenceId>1308228</ReferenceId>
  <ResponseCode>yes</ResponseCode>
  <ResponseDescription>yes</ResponseDescription>
  <FirstName>Test</FirstName>
  <LastName>Test</LastName>
  <Fee>0.20</Fee>
  <FxRate>0.6391</FxRate>
</PaymentMethod>
```

3.3.3.3.2 Payout

The results of a Payout transaction will be returned in this complex structure. Note that the details depend on the Payment Method involved – this is a very dynamic complex structure that can take on a variety of shapes, depending on the scenario.

Element Name:	Payout
Position	Response.Event
Children	Yes
Attributes	Yes

Attributes involved in the Payout element			
Attribute Name	**Located in which Element**	**Description**	**Data type / Limitations**
DPGReferenceId	Payout	The DPGReferenceId is a unique APG transaction identifier which is generated by the APG for each merchant transaction.	Long
TransactionId	Payout	This will return the original TransactionId that the Merchant sent through. This is for informational purposes only.	String (16)
CurrencyCode	Amount	This is the transaction currency. Please refer to Appendix 10.	Short
Exponent	Amount	This is the transaction currency exponent. Please refer to Appendix 10.	Short

Elements of Payout		
Element Name	**Description**	**Data type / Limitations**

Payout	Top-level XML element indicating a Payout transaction - the DPGReferenceId and TransactionId for the transaction are also returned as attributes of this field – refer to the Attributes table above for more information.)	
PaymentMethod	See section 3.3.2.3.3	
Status	This is the response, which indicates if the transaction was accepted, or not at the processor. See Appendix 6 for possible response messages.	String (20)
Error	See section 3.3.1.2.1. This element will appear in the Payout XML if the Status = "ERROR".	
Amount	This field contains the amount payed to the client's account at the financial institution. The field type is a numeric value in cents. (The currency and exponent for the amount are also returned as attributes of this field – refer to the Attributes table above for more information.) Currently available for the following Payout Methods: • BU • CL • EP • IN • MB • NT • OC • UK	Int

RecommendedClientMessage	This field contains the recommended client message that can be displayed to the consumer. A list of these messages will be detailed in the Product Document. In certain instances, the exact nature of the error will be hidden from the consumer e.g. error relating to merchant account details. The true nature of the error can always be found in the ResponseDescription or Error Description response fields. Note: The RecommendedClientMessage field might contain end-of-line characters. Merchants should design their front-end systems in such a way that the end-of-line characters are correctly displayed to end-users. For example, if an HTML page is used as the display method in the front-end system, the merchant must replace the end-of-line characters in the RecommendedClientMessage field with the appropriate <BR> tags, otherwise the HTML front-end will not display the appropriate line breaks correctly. Alternatively, the contents of the RecommendedClientMessage can be included in <PRE> tags. The RecommendedClientMessage will be returned in the language which was passed through in Language field of original transaction. This is dependent on whether the language is supported by APG. If the language is not supported, the message will default to English.	String (1000)

Examples of XML for Payout complex elements

Please refer to section 3.3.2.5 for examples per Payment Method.

3.3.3.4 Interpreting the Payout Responses

There are various types of possible responses that can be returned from the APG to the Merchant. These include:

- Successful transaction
- Unsuccessful transaction
- Event notification

Refer to section 3.3.2.5 for examples.

The APG can return multiple responses per transaction, and as a result the merchant needs to analyze these and perform the appropriate action. Appendix 6 details the various responses. The Status field will indicate the status of the transaction. The merchant should only credit the consumer’s account when the Status=AUTHORISED, in all other cases the merchant should not credit the consumer’s account.

3.3.3.5 Examples of XML for Payout Responses

3.3.3.5.1 Neteller return values

3.3.3.5.1.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="1760" TransactionId="A99_080716134142">
      <PaymentMethod name="NT">
        <ReferenceId>733389</ReferenceId>
        <ResponseCode>yes</ResponseCode>
        <ResponseDescription>yes</ResponseDescription>
        <FirstName>Test</FirstName>
        <LastName>Test</LastName>
        <Fee>0.00</Fee>
        <FxRate>0.4870</FxRate>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="840" Exponent="2">1488</Amount>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.1.2 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112670" TransactionId="A99_090403103728">
      <PaymentMethod name="NT">
        <ReferenceId/>
        <ResponseCode>no</ResponseCode>
        <ResponseDescription>no</ResponseDescription>
      </PaymentMethod>
      <Status>ERROR</Status>
```

```
       <Error>
          <Code>1007</Code>
          <Description>The Account ID or Secure ID you entered is not
           valid. Please enter your correct account
           information.</Description>
       </Error>
       <Amount CurrencyCode="826" Exponent="2">725</Amount>
       <RecommendedClientMessage><![CDATA[Your request could not be
       completed. Please contact merchant customer service for more
       information.]]></RecommendedClientMessage>
     </Payout>
  </Event>
</Response>
```

3.3.3.5.2 Click2Buy return values

3.3.3.5.2.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Payout DPGReferenceId="1760" TransactionId="A99_080716134142">
       <PaymentMethod name="BU">
          <ReferenceId>733389</ReferenceId>
          <ResponseCode>SUCCESS</ResponseCode>
          <ResponseDescription>yes</ResponseDescription>
          <CRN>123456</CRN>
       </PaymentMethod>
       <Status>AUTHORISED</Status>
       <Amount CurrencyCode="840" Exponent="2">1488</Amount>
       <RecommendedClientMessage><![CDATA[Your transaction has been
       processed successfully.]]></RecommendedClientMessage>
     </Payout>
  </Event>
</Response>
```

3.3.3.5.2.2 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Payout DPGReferenceId="112670" TransactionId="A99_090403103728">
       <PaymentMethod name="BU">
          <ReferenceId/>
          <ResponseCode>CREATED/IN_PROGRESS</ResponseCode>
          <ResponseDescription>pending</ResponseDescription>
          <CRN>123456</CRN>
       </PaymentMethod>
       <Status>PENDING</Status>
       <Amount CurrencyCode="826" Exponent="2">725</Amount>
       <RecommendedClientMessage><![CDATA[Your request could not be
       completed. Please contact merchant customer service for more
       information.]]></RecommendedClientMessage>
     </Payout>
  </Event>
</Response>
```

3.3.3.5.2.3 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112670" TransactionId="A99_090403103728">
      <PaymentMethod name="BU">
        <ReferenceId/>
        <ResponseCode>DECLINED</ResponseCode>
        <ResponseDescription>declined</ResponseDescription>
        <CRN>123456</CRN>
      </PaymentMethod>
      <Status>REFUSED</Status>
      <Amount CurrencyCode="826" Exponent="2">725</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.2.4 CANCELLED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112670" TransactionId="A99_090403103728">
      <PaymentMethod name="BU">
        <ReferenceId/>
        <ResponseCode>CANCELLED</ResponseCode>
        <ResponseDescription>cancelled</ResponseDescription>
        <CRN>123456</CRN>
      </PaymentMethod>
      <Status>CANCELLED</Status>
      <Amount CurrencyCode="826" Exponent="2">725</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.2.5 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112670" TransactionId="A99_090403103728">
      <PaymentMethod name="BU">
        <ReferenceId/>
        <ResponseCode>EXPIRED/ABORTED</ResponseCode>
        <ResponseDescription>error</ResponseDescription>
        <CRN>123456</CRN>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Amount CurrencyCode="826" Exponent="2">725</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.3 Click2Pay return values

3.3.3.5.3.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="91683" TransactionId="A99_080717124604">
      <PaymentMethod name="CL">
        <ReferenceId>30a0a9b50a01001169f94884ff1efa44</ReferenceId>
        <ResponseCode>000</ResponseCode>
        <ResponseDescription>Transaction is
         Acknowledged</ResponseDescription>
        <PaymentType>FUNDS</PaymentType>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="978" Exponent="2">1067</Amount>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.3.2 REFUSED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112623" TransactionId="A99_090331144718">
      <PaymentMethod name="CL">
        <ReferenceId/>
        <ResponseCode>200</ResponseCode>
        <ResponseDescription>You have provided invalid CLICK2PAY user
         data or the account is not active. Please check and try again.
         If the problem persists, please contact our helpdesk at
         service@click2pay.com.</ResponseDescription>
      </PaymentMethod>
      <Status>REFUSED</Status>
      <Amount CurrencyCode="826" Exponent="2">725</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.3.3 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112624" TransactionId="A99_090331144826">
      <PaymentMethod name="CL">
        <ReferenceId/>
        <ResponseCode>101</ResponseCode>
        <ResponseDescription>The supplied CLICK2PAY UserName is wrong.
         Please check and try again. If the problem should still exist,
         please contact our customer service at
         service@click2pay.com.</ResponseDescription>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Error>
        <Code/>
        <Description/>
      </Error>
      <Amount CurrencyCode="826" Exponent="2">725</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not be
      completed. Please contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.4 MoneyBookers return values

3.3.3.5.4.1 AUTHORISE

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="91682" TransactionId="A99_080717124013">
      <PaymentMethod name="MB">
        <ReferenceId>87712395</ReferenceId>
        <ResponseCode>2</ResponseCode>
        <ResponseDescription>processed</ResponseDescription>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="710" Exponent="2">1818</Amount>
      <RecommendedClientMessage><![CDATA[Uw transactie is
geslaagd.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.4.2 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112629" TransactionId="A99_090331152315">
      <PaymentMethod name="MB">
        <ReferenceId>56235634</ReferenceId>
        <ResponseCode>1</ResponseCode>
        <ResponseDescription>scheduled</ResponseDescription>
      </PaymentMethod>
```

```
         <Status>PENDING</Status>
         <Amount CurrencyCode="710" Exponent="2">764</Amount>
         <RecommendedClientMessage><![CDATA[Your request could not entirely
         be completed. Please check your account later for an updated
         status. You may also contact merchant customer service for more
         information.]]></RecommendedClientMessage>
      </Payout>
   </Event>
</Response>
```

3.3.3.5.4.3 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Payout DPGReferenceId="112629" TransactionId="A99_090331152315">
         <PaymentMethod name="MB">
            <ReferenceId/>
            <ResponseCode/>
            <ResponseDescription/>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code>800</Code>
            <Description>AccountNumber must be supplied</Description>
         </Error>
         <Amount CurrencyCode="124" Exponent="2">100</Amount>
         <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
      </Payout>
   </Event>

</Response>
```

3.3.3.5.5 MoneyBookers return values

3.3.3.5.5.1 AUTHORISE

```
<Response version="1.0" AccountName="MerchAccount">
   <Event>
      <Payout DPGReferenceId="91682" TransactionId="A99_080717124013">
         <PaymentMethod name="MB">
            <ReferenceId>87712395</ReferenceId>
            <ResponseCode>2</ResponseCode>
            <ResponseDescription>processed</ResponseDescription>
         </PaymentMethod>
         <Status>AUTHORISED</Status>
         <Amount CurrencyCode="710" Exponent="2">1818</Amount>
         <RecommendedClientMessage><![CDATA[Uw transactie is
geslaagd.]]></RecommendedClientMessage>
      </Payout>
   </Event>
</Response>
```

3.3.3.5.5.2 PENDING

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112629" TransactionId="A99_090331152315">
      <PaymentMethod name="MB">
        <ReferenceId>56235634</ReferenceId>
        <ResponseCode>1</ResponseCode>
        <ResponseDescription>scheduled</ResponseDescription>
      </PaymentMethod>
      <Status>PENDING</Status>
      <Amount CurrencyCode="710" Exponent="2">764</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not entirely
      be completed. Please check your account later for an updated
      status. You may also contact merchant customer service for more
      information.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.5.3 ERROR

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="112629" TransactionId="A99_090331152315">
      <PaymentMethod name="MB">
        <ReferenceId/>
        <ResponseCode/>
        <ResponseDescription/>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Error>
        <Code>800</Code>
        <Description>AccountNumber must be supplied</Description>
      </Error>
      <Amount CurrencyCode="124" Exponent="2">100</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.6 InstaDebit return values

3.3.3.5.6.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="45253" TransactionId="A99_45723456249">
      <PaymentMethod name="IN">
        <ReferenceId>56235634</ReferenceId>
        <ResponseCode>S</ResponseCode>
        <ResponseDescription>Success</ResponseDescription>
        <txn_fee>0.00</txn_fee>
      </PaymentMethod>
      <Status>AUTHORISED</Status>
      <Amount CurrencyCode="124" Exponent="2">100</Amount>
      <RecommendedClientMessage><![CDATA[Your transaction has been
      processed successfully..]]></RecommendedClientMessage>
    </Payout>
  </Event>
</Response>
```

3.3.3.5.6.2 ERROR

```


<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Payout DPGReferenceId="4534" TransactionId="A99_345723494743">
      <PaymentMethod name="IN">
        <ReferenceId/>
        <ResponseCode/>
        <ResponseDescription/>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Error>
        <Code>812</Code>
        <Description>The InstaDebit notification is
invalid</Description>
```

3.3.3.5.6.3 REFUSED

```

<Response version="1.0" AccountName="UkashTestMerchant">
  <Event>
    <Payout DPGReferenceId="136921" TransactionId="T10_110906134303">
              <PaymentMethod name="UK">
        <ReferenceId>SV_0070_201109061143</ReferenceId>
                   <ResponseCode>1</ResponseCode>
        <ResponseDescription>Declined</ResponseDescription>
        <IssuedAmount/>
        <IssuedVoucherCurr/>
        <IssuedVoucherNumber/>
        <IssuedExpiryDate/>
        <currencyConversion/>
      </PaymentMethod>
      <Status>REFUSED</Status>
      <Amount CurrencyCode="826" Exponent="2">1000</Amount>
      <RecommendedClientMessage><![CDATA[Your request could not be
completed. Please contact merchant customer service for more
information.]]></RecommendedClientMessage>
          </Payout>
  </Event>
</Response>
```

3.3.4 *Transaction Querying*

The TransactionQuery call to the APG Web Service is used to determine the current status of a transaction which was previously submitted. The result from the request will determine if the transaction has completed processing or not.

The APG exposes two web methods that allows the querying of transactions.

1. TransactionQuery – Allows transaction querying by “DPGReferenceId”.
2. TransactionQueryByTransactionId – Allows transaction querying by “TransactionId”, “TransactionType”, “PaymentMethod”

3.3.4.1 TransactionQuery

The TransactionQuery web method accepts two parameters: accountDetails of type AccountItem, and “DPGReferenceId” of type Long. The AccountItem type is a custom complex structure. For more information on the composition of this structure, please refer to the WSDL which can be downloaded from the URLs specified in section 3.2.1.

3.3.4.1.1 Schema Elements for TransactionQuery Request

In this section, the fields that can be presented with TransactionQuery transaction Requests will be presented along with example XML for those fields.

- TransactionQuery
    - Account Details – see section 3.3.1.1.1
    - DPGReferenceID

SOAP XML TransactionQuery Request document:

```
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
      <soap:Body>
     <TransactionQuery xmlns="http://DPG-CPT.datacash.com/">
                  <accountDetails>
         <AccountName>string</AccountName>
         <AccountPIN>string</AccountPIN>
         <CompanyId>string</CompanyId>
       </accountDetails>
       <DPGReferenceId>long</DPGReferenceId>
     </TransactionQuery>
      </soap:Body>
</soap:Envelope>
```

3.3.4.1.2 TransactionQuery Structure

Element Name	TransactionQuery
Type	TransactionQuery
Position	Soap:Body
Children	Yes

Attributes	Yes

Elements of TransactionQuery		
Element Name	**Description**	**Data type / Limitations**
accountDetails	This is a set of the merchant's authentication details which is required in order to access the APG.	AccountItem – see section 3.3.1.1.1
DPGReferenceID	The DPGReferenceId is a unique APG transaction identifier which is generated by the APG for each merchant transaction. This identifier is returned in the response to a Purchase or Payout transaction.	Long This value is mandatory at all times.

See the next section for an XML example.

3.3.4.1.3 Example of XML for TransactionQuery Requests

```
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
  <soap12:Body>
    <TransactionQuery xmlns="http://DPG-CPT.datacash.com/">
      <accountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <DPGReferenceId>12345</DPGReferenceId>
    </TransactionQuery>
  </soap12:Body>
</soap12:Envelope>
```

3.3.4.2 TransactionQueryByTransactionId

The TransactionQueryByTransactionId web method accepts four parameters: accountDetails of type AccountItem, "TransactionId" of type string, "TransactionType" of type enum, and "PaymentMethod" of type string. The AccountItem type is a custom complex structure. For more information on the composition of this structure, please refer to the WSDL which can be downloaded from the URLs specified in section 3.2.1

3.3.4.2.1 Schema Elements for TransactionQueryByTransactionId Request

In this section, the fields that can be presented with TransactionQueryByTransactionId transaction Requests will be presented along with example XML for those fields.

- `TransactionQueryByTransactionId`
  - `Account Details` – see section 3.3.1.1.1
  - `TransactionId`
  - `PaymentMethod`
  - `TransactionType`

SOAP XML TransactionQueryByTransactionId Request document:

```
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
      <soap12:Body>
     <TransactionQueryByTransactionId xmlns="http://DPG-
CPT.datacash.com/">
                  <accountDetails>
          <AccountName>TestAccount</AccountName>
          <AccountPIN>TestPIN</AccountPIN>
          <CompanyId>A99</CompanyId>
       </accountDetails>
                  <TransactionId>T10_1236547890</TransactionId>
       <TransactionType>PURCHASE</TransactionType>
       <PaymentMethod>MB</PaymentMethod>
     </TransactionQueryByTransactionId>
      </soap12:Body>
</soap12:Envelope>
```

3.3.4.2.2 TransactionQueryByTransactionId Structure

Element Name	`TransactionQueryByTransactionId`
Type	`TransactionQueryByTransactionId`
Position	`Soap:Body`
Children	`Yes`
Attributes	`Yes`

Elements of TransactionQuery		
Element Name	**Description**	**Data type / Limitations**
`accountDetails`	This is a set of the merchant's authentication details which is required in order to access the APG.	AccountItem – see section 3.3.1.1.1 Mandatory

TransactionID	The TransactionId is a unique identifier generated by the integrating (Merchant) system. Usually this is the integrating system's internal payment order reference number.	String (16) Mandatory
PaymentMethod	The payment method of the transaction.	String (3) Mandatory
TransactionType	This is a indicator as to what they of transaction should be searched for. Possible Values: • PURCHASE • PAYOUT	String Enum Mandatory

See the next section for an XML example.

3.3.4.2.3 Example of XML for TransactionQuery Request

```
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
  <soap12:Body>
    <TransactionQueryByTransactionId xmlns="http://DPG-
CPT.datacash.com/">
      <accountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <TransactionId>T10_1236547890</TransactionId>
      <TransactionType>PURCHASE</TransactionType>
      <PaymentMethod>MB</PaymentMethod>
    </TransactionQueryByTransactionId>
  </soap12:Body>
</soap12:Envelope>
```

3.3.4.3 Schema Elements and Example XML for TransactionQuery and TransactionQueryByTransactionId Response

The Response that is generated for a TransactionQuery and TransactionQueryByTransactionId Request is similar to the Response that is generated for a Purchase or Payout transaction.

See section 3.3.2.4 for details of the Purchase (and TransactionQuery) Response structure.
See section 3.3.2.5 for examples of these Responses.

See section 3.3.3.2 for details of the Payout (and TransactionQuery) Response structure.
See section 3.3.3.5 for examples of these Responses.

The following is a list of possible results that can be returned by the TransactionQuery or TransactionQueryByTransactionId web method's Status fields:

- AUTHORISED
- CANCELLED
- PENDING
- UNKNOWN
- ERROR
- NOTFOUND
- FRAUD_REJECTED
- REFUNDED
- REFUSED
- SENT_FOR_CAPTURE
- SENT_FOR_REFUND
- CAPTURED
- CHARGED_BACK

3.3.5 *RetrieveSettlementValue*

The RetrieveSettlementValue call to the APG Web Service is used to retrieve the settlement amount when the currency of the merchant account and the voucher/user account is different. This service is only available for the following payment method:

- UK

The RetrieveSettlementValue web method accepts six parameters: "TransactionId" of type string, "PaymentMethod" of type string, "AccountNumber" of type string, "Language" of type string, AccountDetails of type AccountItem and AmountDetails of type AmountItem. The AccountItem and AmountItem types are custom complex structures. For more information on the composition of this structure, please refer to the WSDL which can be downloaded from the URLs specified in section 3.2.1.

3.3.5.1 Schema Elements for RetrieveSettlementValue Request

In this section, the fields that can be presented with RetrieveSettlementValue transaction Requests will be presented along with example XML for those fields.

- `RetrieveSettlementValue`
  - `TransactionID`
  - `PaymentMethod`
  - `AccountNumber`
  - `Language`
  - `AccountDetails` – section 3.3.1.1.1
  - `AmountDetails` – section 3.3.1.1.2

SOAP XML RetrieveSettlementValue Request document:

```
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
      <soap12:Body>
     <RetrieveSettlementValue xmlns="http://DPG-CPT.datacash.com/">
       <TransactionId>string</TransactionId>
       <PaymentMethod>string</PaymentMethod>
       <AccountNumber>string</AccountNumber>
       <Language>string</Language>
       <AccountDetails>
          <AccountName>string</AccountName>
          <AccountPIN>string</AccountPIN>
          <CompanyId>string</CompanyId>
       </AccountDetails>
       <AmountDetails>
          <Amount>int</Amount>
          <Exponent>short</Exponent>
          <CurrencyCode>short</CurrencyCode>
       </AmountDetails>
            </RetrieveSettlementValue>
  </soap12:Body>
</soap12:Envelope>
```

3.3.5.1.1 RetrieveSettlementValue

Element Name	RetrieveSettlementValue
Type	RetrieveSettlementValue
Position	Soap:Body
Children	Yes
Attributes	Yes

Elements of RetrieveSettlementValue			
Element Name	**Description**	**Data type / Limitations**	**Required**
TransactionID	The TransactionId is a unique identifier generated by the integrating (Merchant) system. Usually this is the integrating system's internal payment order reference number.	String (16) This value must be prefixed with the CompanyId plus an underscore e.g. ABC_1234567 (where the CompanyId is a value that will be supplied by DataCash).	Mandatory
PaymentMethod	The payment method of the transaction.	String (3)	Mandatory
AccountNumber	Digits 7-9 of the consumer's Voucher or Account number.	String (3)	Mandatory
Language	This field contains the language in which the client's user experience will take place.	String (20)	Mandatory
AccountDetails	This is a set of the merchant's authentication details which is required in order to access the APG.	AccountItem – see section 3.3.1.1.1	Mandatory
AmountDetails	This is a set of amount details.	AmountItem – see section 3.3.1.1.2.	Mandatory

3.3.5.2 Example of XML for RetrieveSettlementValue Requests

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2xxxxxxxxxxxxxxx/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2xxxxxxxxxxxxxxx/XMLSchema">
  <soap:Body>
    <RetrieveSettlementValue xmlns="http://DPG-CPT.datacash.com/">
      <TransactionId>A99_090912112233</TransactionId>
      <PaymentMethod>UK</PaymentMethod>
      <AccountNumber>AccountNum</AccountNumber>
      <Language>EN</Language>
      <AccountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </AccountDetails>
      <AmountDetails>
        <Amount>1000</Amount>
        <Exponent>2</Exponent>
        <CurrencyCode>840</CurrencyCode>
      </AmountDetails>
    </RetrieveSettlementValue>
  </soap:Body>
</soap:Envelope>
```

3.3.5.3 Schema Elements for RetrieveSettlementValue Response

The following is a list of possible results that can be returned by the RetrieveSettlementValue web method in the Status field:

- INFORMATION_SUPPLIED
- ERROR

3.3.5.3.1 Settlement

The results of a RetrieveSettlementValue transaction will be returned in this complex structure.

Element Name:	Settlement
Position	Response.Event
Children	Yes
Attributes	Yes

Attributes involved in the Settlement element			
Attribute Name	**Located in which Element**	**Description**	**Data type / Limitations**
TransactionId	Settlement	This will return the original TransactionId that the Merchant sent through. This is for informational purposes only.	String (16)
CurrencyCode	Amount	This is the transaction currency. Please refer to Appendix 10.	Short

Exponent	Amount	This is the transaction currency exponent. Please refer to Appendix 10.	Short
name	PaymentMethod	This string value will be equal to "UK"	

Elements of Settlement		
Element Name	**Description**	**Data type / Limitations**
Settlement	Top-level XML element indicating a RetrieveSettlementValue transaction. The TransactionId for the transaction is also returned as an attribute of this field – refer to the Attributes table above for more information.)	
PaymentMethod	See section 3.3.3.3.1. The name for the payment method is also returned as an attribute of this field – refer to the Attributes table above for more information.) Note: This complex structure will contain the AmountReference field for this RetrieveSettlementValue transaction. This is a value returned by the Ukash processor to uniquely identify the settlement amount transaction.	
Status	This is the response to the RetrieveSettlementValue transaction.	String (20) These are the possible values: • INFORMATION_SUPPLIED • ERROR
Error	See section 3.3.1.2.1. This element will appear in the Settlement XML if the Status = "ERROR".	
Amount	This field contains the amount taken from the client's account at the financial institution. The field type is a numeric value in cents. (The currency and exponent for the amount are also returned as attributes of this field – refer to the Attributes table above for more information.)	Int
RecommendedClientMessage	See section 3.3.2.3.4 for more information.	

Example of XML for Settlement complex elements

```
<Settlement TransactionId="A99_090912112233">
  <PaymentMethod name="UK">
    <ResponseCode>0</ResponseCode>
    <ResponseDescription>Settlement Amount
    Retrieved</ResponseDescription>
    <amountReference>481236</amountReference>
    <voucherCurrency>826</voucherCurrency>
  </PaymentMethod>
  <Status>INFORMATION_SUPPLIED</Status>
  <Amount CurrencyCode="840" Exponent="2">1339</Amount>
  <RecommendedClientMessage><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
</Settlement>
```

3.3.5.4 Example XML for RetrieveSettlementValue Response

3.3.5.4.1 Successful transaction

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Settlement TransactionId="A99_090912112233">
      <PaymentMethod name="UK">
        <ResponseCode>0</ResponseCode>
        <ResponseDescription>Settlement Amount
         Retrieved</ResponseDescription>
        <amountReference>489123</amountReference>
        <voucherCurrency>826</voucherCurrency>
      </PaymentMethod>
      <Status>INFORMATION_SUPPLIED</Status>
      <Amount CurrencyCode="840" Exponent="2">1339</Amount>
      <RecommendedClientMessage><![CDATA[Your transaction has been
       processed successfully.]]></RecommendedClientMessage>
    </Settlement>
  </Event>
</Response>
```

3.3.5.4.2 Unsuccessful transaction

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
    <Settlement TransactionId="A99_090912112233">
      <PaymentMethod name="UK">
        <ResponseCode>400</ResponseCode>
        <ResponseDescription>Failed</ResponseDescription>
        <amountReference/>
        <voucherCurrency/>
      </PaymentMethod>
      <Status>ERROR</Status>
      <Error>
        <Code>400</Code>
        <Description>Required Currency Conversion not
```

```
           supported</Description>
        </Error>
        <Amount CurrencyCode="840" Exponent="2">1339</Amount>
        <RecommendedClientMessage><![CDATA[Your request could not be
         completed. Please contact merchant customer service for more
         information.]]></RecommendedClientMessage>
     </Settlement>
   </Event>
</Response>
```

3.3.6 *GetInformation*

The GetInformation call to the APG Web Service retrieves information that can be used for the processing of a transaction. This service is only available for the following payment methods

- AM
- BT
- EV
- I3
- MB

The GetInformation web method accepts 2 parameters: accountDetails of type AccountItem and methodDetails of type PaymentMethodItem. The AccountItem and PaymentMethodItem types are custom complex structures. For more information on the composition of this structure, please refer to the WSDL which can be downloaded from the URLs specified in section 3.2.1.

3.3.6.1 Schema Elements for GetInformation Request

In this section, the fields that can be presented with GetInformation transaction Requests will be presented along with example XML for those fields.

- `InformationRequest` – see section 3.3.6.1.4
  - `AccountDetails` – see section 3.3.1.1.1
  - `MethodDetails` – see section 3.3.2.1.27
    - `DBTItem` – see section 3.3.6.1.1
    - `ExperCashChargeBackItem` – see section 3.3.6.1.2
    - `iDealBankListItem` – see section 3.3.2.1.23
    - `MoneybookerItem` – see section 3.3.2.1.12

<u>SOAP XML GetInformation Request document:</u>

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
      <soap:Body>
     <InformationRequest xmlns="http://DPG-CPT.datacash.com/">
                  <accountDetails>
         <AccountName>string</AccountName>
         <AccountPIN>string</AccountPIN>
         <CompanyId>string</CompanyId>
       </accountDetails>
```

```
        <methodDetails xsi:type="DBTItem">
          <ServiceType> COUNTRY_LIST or
          BANK_TRANSFER_DETAILS</ServiceType>
          <Language>string</Language>
          <AccountNumber>string</AccountNumber>
          <Country>string</Country>
          <CurrencyCode>string</CurrencyCode>
          <FirstName>string</FirstName>
          <LastName>string</LastName>
        </methodDetails>
            </InformationRequest>
   </soap:Body>
</soap:Envelope>
```

3.3.6.1.1 DBTItem

These are the fields or structures contained within the DBTItem structure.

Element Name	DBTItem
Type	DBTItem
Position	InformationRequest.methodDetails
Children	Yes
Attributes	No

Elements of DBTItem				
Element Name	**Description**	**Data type / Limitations**	**Required / Payment Method Specific details**	
ServiceType	This indicates the type of transaction request for DBT. Refer to Appendix 18.	Enum	BT	Mandatory
Language	This is the ISO language code of the consumer. Refer to Appendix 13.	String (20)	BT	Mandatory
AccountNumber	Unique Account number assigned by the Merchant to identify a customer's account. If a unique number or username is not used, insert the Customer's email address into this field.	String (50)	BT	Optional. Mandatory if ServiceType = "BANK_TRANSFER_DETAILS".

Country	This is the country code of the consumer. Refer to Appendix 9.	String (60)	BT	Optional. Mandatory if ServiceType = "BANK_TRANSFER_DETAILS".
CurrencyCode	This is the ISO currency code of the account of the consumer. Refer to Appendix 10.	Short	BT	Optional. Mandatory if ServiceType = "BANK_TRANSFER_DETAILS".
FirstName	The first name of the merchant's customer	String (100)	BT	Optional. Mandatory if ServiceType = "BANK_TRANSFER_DETAILS".
LastName	The last name of the merchant's customer	String (100)	BT	Optional. Mandatory if ServiceType = "BANK_TRANSFER_DETAILS".

Example XML for DBTItem complex elements

```
<ServiceType>COUNTRY_LIST</ServiceType>
<Language>NL</Language>
<AccountNumber>TestMethodAccount</AccountNumber>
<Country></Country>
<CurrencyCode>826</CurrencyCode>
<FirstName>Joe</FirstName>
<LastName>Jackson</LastName>
```

3.3.6.1.2 ExperCashChargeBackItem

These are the fields or structures contained within the ExperCashChargeBackItem structure.

Element Name	ExperCashChargeBackItem
Type	ExperCashChargeBackItem
Position	GetInformation.methodDetails
Children	Yes
Attributes	No

Elements of ExperCashChargebackItem				
Element Name	Description	Data type/Limitations	Required / Payment Method Specific details	
StartDate	This indicates the start date and time to retrieve the chargeback	String	EV	Optional

EndDate	This indicates the end date and time to retrieve the chargeback.	String	EV	Optional

Example XML for ExperCashChargebackItem complex elements

```
<StartDate>2010-01-27 09:54</StartDate>
<EndDate>2010-01-28 09:54</EndDate>
```

3.3.6.1.3 AmazonItem

These are the fields or structures contained within the AmazonItem structure.

Element Name	AmazonItem
Type	AmazonItem
Position	InformationRequest.methodDetails
Children	Yes
Attributes	No

Elements of AmazonItem				
Element Name	Description	Data type/Limitations	Required / Payment Method Specific details	
AmazonContractID	The Amazon Contract ID	String	AM	Mandatory

Example XML for ExperCashChargebackItem complex elements

```
<AmazonContractID>
amzn1.contract.1.1.1.8a34d7a8db9a4e8be2b25d9e2e67fff1</AmazonContractID
>
```

3.3.6.1.4 InformationRequest

Element Name	InformationRequest
Type	InformationRequest
Position	Soap:Body
Children	Yes
Attributes	Yes

Elements of InformationRequest		
Element Name	Description	Data type / Limitations

accountDetails	This is a set of the merchant's authentication details which is required in order to access the APG.	AccountItem – see section 3.3.1.1.1
methodDetails	This is a parent structure from which all the individual specific payment methods are inherited. For the InformationRequest structure, only the DBTItem and ExperCashChargeBackItem are involved.	PaymentMethodItem – see section 3.3.3.3.1. For details of the DBTItem, see section 3.3.6.1.1. For details of the ExperCashChargeBackItem, see section 3.3.6.1.2

3.3.6.2 Examples of XML for GetInformation Requests

3.3.6.2.1 "Bank Transfer Details" input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <GetInformation xmlns="http://DPG-CPT.datacash.com/">
         <accountDetails>
            <AccountName>TestAccount</AccountName>
            <AccountPIN>TestPIN</AccountPIN>
            <CompanyId>A99</CompanyId>
         </accountDetails>
         <methodDetails xsi:type="DBTItem">
            <ServiceType>BANK_TRANSFER_DETAILS</ServiceType>
            <Language>NL</Language>
            <AccountNumber>TestMethodAccount</AccountNumber>
            <Country>NL</Country>
            <CurrencyCode>978</CurrencyCode>
            <FirstName>Joe</FirstName>
            <LastName>Lotz</LastName>
         </methodDetails>
      </GetInformation >
   </soap:Body>
</soap:Envelope>
```

3.3.6.2.2 "Country List" input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <soap:Body>
      <GetInformation xmlns="http://DPG-CPT.datacash.com/">
         <accountDetails>
            <AccountName>TestAccount</AccountName>
            <AccountPIN>TestPIN</AccountPIN>
```

```
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <methodDetails xsi:type="DBTItem">
        <ServiceType>COUNTRY_LIST</ServiceType>
        <Language>NL</Language>
        <AccountNumber/>
        <Country/>
        <CurrencyCode/>
        <FirstName/>
        <LastName/>
      </methodDetails>
    </GetInformation>
  </soap:Body>
</soap:Envelope>
```

3.3.6.2.3 “Chargeback” input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetInformation xmlns="http://DPG-CPT.datacash.com/">
      <accountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <methodDetails xsi:type="ExperCashChargeBackItem">
        <StartDate>2010-01-27 09:54</StartDate>
        <EndDate>2010-01-28 09:54</EndDate>
      </methodDetails>
    </GetInformation>
  </soap:Body>
</soap:Envelope>
```

3.3.6.2.4 MoneyBookers input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetInformation xmlns="http://DPG-CPT.datacash.com/">
      <accountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <methodDetails xsi:type="MoneybookersItem">
        <AccountNumber>test@email.com</AccountNumber>
        <PaymentMethodType>NONE</PaymentMethodType>
      </methodDetails>
    </GetInformation>
  </soap:Body>
</soap:Envelope>
```

3.3.6.2.5 Amazon Contract input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetInformation xmlns="http://DPG-CPT.datacash.com/">
      <accountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <methodDetails xsi:type="AmazonItem">
        <AmazonContractID>
amzn1.contract.1.1.1.8a34d7a8db9a4e8be2b25d9e2e67fff1AmazonContractID>
      </methodDetails>
    </GetInformation>
  </soap:Body>
</soap:Envelope>
```

3.3.6.2.6 iDeal Bank List input values

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetInformation xmlns="http://DPG-CPT.datacash.com/">
      <accountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <methodDetails xsi:type="iDealBankListItem">
      </methodDetails>
    </GetInformation>
  </soap:Body>
</soap:Envelope>
```

3.3.6.3 Schema Elements and Example XML for GetInformation Response

The following is a list of possible results that can be returned by the GetInformation web method in the Status field:

- INFORMATION_SUPPLIED
- ERROR

3.3.6.3.1 Country

Element Name:	Country
Position	Response.Event.Information.PaymentMethod.Countries
Children	Yes

Attributes	No

Elements of Country		
Element Name	**Description**	**Data type / Limitations**
Code	This is the ISO code of the country.	String (2)
Name	This is the name of the country.	String (30)

Example of XML for Country complex elements

```
<Country>
   <Code>NL</Code>
   <Name>Netherlands</Name>
</Country>
```

3.3.6.3.2 Backcharge

Element Name:	backcharge
Position	Response.Event.Information.PaymentMethod.backcharge
Children	Yes
Attributes	No

Elements of backcharge		
Element Name	**Description**	**Data type / Limitations**
epi_payment_id	PaymentID of the chargeback.	String (15)
epi_backcharge_date	Date of the chargeback	DateTime
epi_backcharge_type	Always “DD” for direct debit	String(2)
epi_backcharge_reason	Reason for chargeback	Integer

Example of XML for Backcharge complex elements

```
<backcharge>
   <epi_payment_id>DD0328222535000</epi_payment_id>
   <epi_backcharge_date>20031021</epi_backcharge_date>
   <epi_backcharge_type>DD</epi_backcharge_type>
   <epi_backcharge_reason>100</epi_backcharge_reason>
</backcharge>
```

3.3.6.3.3 PurchaseContract

Element Name:	`PurchaseContract`
Position	`Response.Event.Information.PaymentMethod.PurchaseContract`
Children	`Yes`
Attributes	`No`

Elements of PurchaseContract

Element Name	Description	Data type / Limitations
`Id`	PurchaseContractId	String (255)
`ExpirationTimeStamp`	Expiration Time of PurchaseContract	DateTime
`MerchantId`	AWS MerchantId	String
`MarketplaceId`	AWS MarketplaceId	String
`State`	PurchaseContract State	String
`Destinations`	Delivery Destinations	Array of Destination Elements. See section 3.3.6.3.3.1
ShippingAddress->Name	Shipping Name	String
ShippingAddress-> AddressLineOne	Shipping Address Line One	String
ShippingAddress-> AddressLineTwo	Shipping Address Line Two	String
ShippingAddress-> City	Shipping Address City	String
ShippingAddress-> PostalCode	Shipping Address Postal Code	String
ShippingAddress-> CountryCode	Shipping Address Country Code	String

ShippingAddress-> PhoneNumber	Shipping Addresss Phone Number	String

3.3.6.3.3.1 Destination

Element Name:	Destination
Position	Response.Event.Information.PaymentMethod.PurchaseContract.Destination
Children	Yes
Attributes	No

Elements of Destination		
Element Name	**Description**	**Data type / Limitations**
DestinationName	Delivery Destinations	String
DestinationType	Delivery Destinations	String
PhysicalDestinationAttributes	Delivery Destinations	ShippingAddress see section 3.3.6.3.3.2

3.3.6.3.3.2 ShippingAddress

Element Name:	Destination
Position	Response.Event.Information.PaymentMethod.PurchaseContract.Destination.PhysicalDestinationAttributes.ShippingAddress
Children	Yes
Attributes	No

Elements of Destination		
Element Name	**Description**	**Data type / Limitations**
Name	Shipping Name	String
AddressLineOne	Shipping Address Line One	String
AddressLineTwo	Shipping Address Line Two	String
City	Shipping Address City	String
PostalCode	Shipping Address Postal Code	String

CountryCode	Shipping Address Country Code	String
PhoneNumber	Shipping Addresss Phone Number	String

Example of XML for PurchaseContract complex elements

```
<PurchaseContract>
  <Id xmlns="http://payments.amazon.com/checkout/v2/2010-08-
31/">amzn1.contract.1.1.1.a90ea1f23f87f4d395213ce3f5c340ce</Id>
  <ExpirationTimeStamp
xmlns="http://payments.amazon.com/checkout/v2/2010-08-31/">2011-04-
04T17:07:14.285Z</ExpirationTimeStamp>
  <MerchantId xmlns="http://payments.amazon.com/checkout/v2/2010-
08-31/">A98E8GW3O4IUZ</MerchantId>
  <MarketplaceId
xmlns="http://payments.amazon.com/checkout/v2/2010-08-
31/">A1V3LO6WH786V3</MarketplaceId>
  <State xmlns="http://payments.amazon.com/checkout/v2/2010-08-
31/">ACTIVE</State>
  <Destinations
xmlns="http://payments.amazon.com/checkout/v2/2010-08-31/">
    <Destination>
      <DestinationName>#default</DestinationName>
      <DestinationType>PHYSICAL</DestinationType>
      <PhysicalDestinationAttributes>
        <ShippingAddress>
          <Name>Ajmuddien Hoosain</Name>
          <AddressLineOne>FLAT, HABIB HOUSE 9
13</AddressLineOne>
          <AddressLineTwo>FULHAM HIGH STREET</AddressLineTwo>
          <City>LONDON</City>
          <PostalCode>SW6 3JH</PostalCode>
          <CountryCode>GB</CountryCode>
          <PhoneNumber>447999578892</PhoneNumber>
        </ShippingAddress>
      </PhysicalDestinationAttributes>
    </Destination>
  </Destinations>
</PurchaseContract>
```

3.3.6.3.4 iDeal Bank List

Element Name:	banks
Position	Response.Event.Information.PaymentMethod.banks
Children	Yes
Attributes	Yes

Elements of Bank

Element Name	Description	Data type / Limitations
`bank`	Complex Element holding the individual bank details.	Complex Element
`issuer_id`	Banks unique Issuer Id.	int
`name`	Bank name	String(30)

Attributes of Bank		
Element Name	**Description**	**Data type / Limitations**
`listType`	Indicator for where the bank should be displayed on the merchant web site. Values which can be returned: • short • long	String (20)

Example of XML for Country complex elements

```
<banks>
      <bank listType="short">
     <issuer_id>121</issuer_id>
     <name>Test Issuer</name>
  </bank>
  <bank listType="short">
     <issuer_id>151</issuer_id>
     <name>Test Issuer 2</name>
  </bank>
  <bank listType="long">
     <issuer_id>171</issuer_id>
     <name>Test Issuer 3</name>
  </bank>
</banks>
```

3.3.6.3.5 PaymentMethod

Please note that not all the elements in this complex structure are always returned – please see the XML examples for a further explanation.

Element Name:	`PaymentMethod`
Position	`Response.Event.Information`
Children	`Yes`
Attributes	`Yes`

Attributes involved in the PaymentMethod element

Attribute Name	Located in which Element	Description	Data type / Limitations
name	PaymentMethod	This string value will be equal to "AM", "BT", "EV", "I3" or "MB"	

Elements of PaymentMethod		
Element Name	**Description**	**Data type / Limitations**
ResponseCode	This is a return code, which gets returned by the processor.	String (10)
ResponseDescription	This is a text field used to give a short text description of the response code from the processor.	String (255)
BankName	This is the bank name of the account.	String (50)
AccountHoldingBranch	This is the branch where the account was registered.	String (50)
GiroNumber	Additional information pertaining to the bank account.	String (50)
BranchCode	The code of the branch.	String (20)
BankCode	The code of the bank where the account was registered.	String (20)
BSB	Additional information pertaining to the bank account.	String (20)
AccountNumber	The number of the bank account.	String (20)
AccountName	The name of the bank account.	String (35)
CheckDigit	The check digit of the account number	Short
Sortcode	Additional information pertaining to the bank account.	String (15)
IBAN	Additional information pertaining to the bank account.	String (35)
SwiftBIC	Additional information pertaining to the bank account.	String (15)
DBTVAN	VAN model: The customer's Direct Bank Transfer reference number (Virtual Account Number) Merchant Reference model: beneficiary reference including Merchant Reference prefix.	String(30)
timestamp	Time of the reply (only if there is an error)	DateTime

taid	TransactionID (only if there is an error)	String(20)
Countries	A list of country details, each one contained in a country complex structure – see section 3.3.6.3.1	
Backcharges	A list of backcharges, each one contained in a backcharge complex structure – see section 3.3.6.3.2	
PurchaseContract	Amazon PurchaseContract – see section 3.3.6.3.3	

For examples of XML for PaymentMethod complex elements, see section 3.3.6.4

3.3.6.3.6 Information

Please note that not all the elements in this complex structure are always returned – please see the XML examples for a further explanation.

Element Name:	Information
Position	Response.Event
Children	Yes
Attributes	Yes

Attributes involved in the Information element			
Attribute Name	**Located in which Element**	**Description**	**Data type**
InformationId	Information	This is an ID to identify the information request and response. This field will comprise of the CompanyId and the current date and time, e.g. “A99_090204143312093”.	String (19)

Elements of Information		
Element Name	**Description**	**Data type / Limitations**
PaymentMethod	See section 3.3.6.3.5	
Status	This is the response to the GetInformation transaction.	String (20) These are the possible values: • INFORMATION_SUPPLIED • ERROR
RecommendedClientMessage	See section 3.3.2.3.4 for more information.	

Error	See section 3.3.1.2.1. This element will appear in the Information XML if the Status = “ERROR”.

Example of XML for Information complex elements

See the samples in section 3.3.6

3.3.6.4 Examples of XML for GetInformation Responses

3.3.6.4.1 “Bank Transfer Details” response values

```
<Response version="1.0" AccountName="">
  <Event>
     <Information InformationId="A99_090204143312093">
       <PaymentMethod name="BT">
          <ResponseCode>0</ResponseCode>
          <ResponseDescription>Bank Transfer Details
           Retrieved</ResponseDescription>
          <BankName>ABN Amro Bank</BankName>
          <AccountHoldingBranch>Amsterdam</AccountHoldingBranch>
          <GiroNumber/>
          <BranchCode>AMS_639AB</BranchCode>
          <BankCode>AAB</BankCode>
          <BSB/>
          <AccountNumber>12345667804275</AccountNumber>
          <AccountName>TestAccountName</AccountName>
          <CheckDigit/>
          <SortCode/>
          <IBAN>ABC-12345-DE</IBAN>
          <SwiftBIC/>
          <dbtVAN>XYZ_12A12B12C99</dbtVAN>
       </PaymentMethod>
       <Status>INFORMATION_SUPPLIED</Status>
       <RecommendedClientMessage><![CDATA[Requested information has been
        provided.]]></RecommendedClientMessage>
     </Information>
  </Event>
</Response>
```

3.3.6.4.2 “Country List” response values

```
<Response version="1.0" AccountName="">
  <Event>
     <Information InformationId="A99_090204143012197">
       <PaymentMethod name="BT">
          <ResponseCode>0</ResponseCode>
          <ResponseDescription>Countries Retrieved</ResponseDescription>
          <Countries>
            <Country>
               <Code>NL</Code>
```

```
                  <Name>Netherlands</Name>
               </Country>
            </Countries>
         </PaymentMethod>
         <Status>INFORMATION_SUPPLIED</Status>
         <RecommendedClientMessage><![CDATA[Requested information has been
          provided.]]></RecommendedClientMessage>
      </Information>
   </Event>
</Response>
```

3.3.6.4.3 “BackCharge” response values

```
<Response version="1.0" AccountName="">
   <Event>
      <Information InformationId="A99_4629457823859">
         <PaymentMethod name="EV">
            <ResponseCode>Success</ResponseCode>
            <ResponseDescription>Success</ResponseDescription>
            <BackCharges>
               <epi_payment_id>DD0328222535000</epi_payment_id>
               <epi_backcharge_date>20031021</epi_backcharge_date>
               <epi_backcharge_type>DD</epi_backcharge_type>
               <epi_backcharge_reason>100</epi_backcharge_reason>
            </BackCharges>
         </PaymentMethod>
         <Status>INFORMATION_SUPPLIED</Status>
         <RecommendedClientMessage>string</RecommendedClientMessage>
      </Information>
   </Event>
</Response>
```

3.3.6.4.4 Unsuccessful response values

```
<Response version="1.0" AccountName="">
   <Event>
      <Information InformationId="A99_090204144314157">
         <PaymentMethod name="BT">
            <ResponseCode/>
            <ResponseDescription/>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code>002</Code>
            <Description>AccountDetails must be supplied</Description>
         </Error>
         <RecommendedClientMessage><![CDATA[Your request could not be
          completed. Please contact the merchant's customer service for
          more information.]]></RecommendedClientMessage>
      </Information>
   </Event>
</Response>
```

3.3.6.4.5 “PurchaseContract” response values

```
<Response version="1.0" AccountName="">
   <Event>
      <Information InformationId="T10_110404140839435">
         <PaymentMethod name="AM">
            <ResponseCode>100</ResponseCode>
            <ResponseDescription/>
            <PurchaseContract>
               <Id xmlns="http://payments.amazon.com/checkout/v2/2010-08-
31/">amzn1.contract.1.1.1.a90ea1f23f87f4d395213ce3f5c340ce</Id>
               <ExpirationTimeStamp
xmlns="http://payments.amazon.com/checkout/v2/2010-08-31/">2011-04-
04T17:07:14.285Z</ExpirationTimeStamp>
               <MerchantId
xmlns="http://payments.amazon.com/checkout/v2/2010-08-
31/">A98E8GW3O4IUZ</MerchantId>
               <MarketplaceId
xmlns="http://payments.amazon.com/checkout/v2/2010-08-
31/">A1V3LO6WH786V3</MarketplaceId>
               <State xmlns="http://payments.amazon.com/checkout/v2/2010-08-
31/">ACTIVE</State>
               <Destinations
xmlns="http://payments.amazon.com/checkout/v2/2010-08-31/">
                  <Destination>
                     <DestinationName>#default</DestinationName>
                     <DestinationType>PHYSICAL</DestinationType>
                     <PhysicalDestinationAttributes>
                        <ShippingAddress>
                           <Name>Ajmuddien Hoosain</Name>
                           <AddressLineOne>FLAT, HABIB HOUSE 9
13</AddressLineOne>
                           <AddressLineTwo>FULHAM HIGH STREET</AddressLineTwo>
                           <City>LONDON</City>
                           <PostalCode>SW6 3JH</PostalCode>
                           <CountryCode>GB</CountryCode>
                           <PhoneNumber>447999578892</PhoneNumber>
                        </ShippingAddress>
                     </PhysicalDestinationAttributes>
                  </Destination>
               </Destinations>
            </PurchaseContract>
         </PaymentMethod>
         <Status>INFORMATION_SUPPLIED</Status>
         <RecommendedClientMessage><![CDATA[Your transaction has been
processed successfully.]]></RecommendedClientMessage>
      </Information>
   </Event>
</Response>
```

3.3.6.4.6 MoneyBooker response values

```
<Response version="1.0" AccountName="">
   <Event>
      <Information InformationId="A99_090204143312093">
      <PaymentMethod name="MB">
        <ResponseCode>OK</ResponseCode>
        <ResponseDescription>Customer Information
         retrieved</ResponseDescription>
        <CustomerID>2900704</CustomerID>
        <ACCOUNTTYPE>T</ACCOUNTTYPE>
        <FNAME>Test</FNAME>
        <LNAME>Test</LNAME>
        <ADDRESS1>No. 1 Test</ADDRESS1>
        <CITY>Test City</CITY>
        <ZIPCODE>1234</ZIPCODE>
      <STATE>Test</STATE>
      <COUNTRY>Test</COUNTRY>
      <DOB>20011980</DOB>
      <LOCKLEVEL>NOT_LOCKED</LOCKLEVEL>
      </PaymentMethod>
      <Status>INFORMATION_SUPPLIED</Status>
      <RecommendedClientMessage><![CDATA[Requested information has been
       provided.]]></RecommendedClientMessage>
    </Information>
  </Event>
</Response>
```

3.3.6.4.7 iDeal Bank List response values

```
<Response version="1.0" AccountName="">
  <Event>
    <Information InformationId="A99_090204143012197">
      <PaymentMethod name="I3">
        <ResponseCode>0</ResponseCode>
        <ResponseDescription>Transaction
Successful</ResponseDescription>
        <banks>
          <bank listType="short">
            <issuer_id>121</issuer_id>
            <name>Test Issuer</name>
          </bank>
          <bank listType="short">
            <issuer_id>151</issuer_id>
            <name>Test Issuer 2</name>
          </bank>
          <bank listType="long">
            <issuer_id>171</issuer_id>
            <name>Test Issuer 3</name>
          </bank>
        </banks>
      </PaymentMethod>
      <Status>INFORMATION_SUPPLIED</Status>
      <RecommendedClientMessage><![CDATA[Requested information has been
       provided.]]></RecommendedClientMessage>
    </Information>
  </Event>
</Response>
```

3.3.7 *Modification*

The Modification call to the APG Web Service is used to issue an instruction to update the status of a Purchase transaction which was already submitted to the APG. This service is only available for the following payment methods:

- A7
- AM
- EL
- EV
- I3
- W3
- BU

The following actions can be performed on a Modification transaction:

- CANCEL
- CAPTURE
- REFUND

For more information on these actions, please refer to Appendix 19.

The Modification web method accepts five parameters namely; accountDetails of type AccountItem, DPGReferenceId of type Long, Type of Action of type ActionType, amountDetails of type AmountItem and Note of type String. The AccountItem and AmountItem types are custom complex structures, and the ActionType type is a custom simple structure. For more information on the composition of these structures, please refer to the WSDL which can be downloaded from the URLs specified in section 3.2.1.

3.3.7.1 Schema Elements for Modification Request

In this section, the fields that can be presented with Modification transaction Requests will be presented along with example XML for those fields.

- `Modification`
  - `AccountDetails` – section 3.3.1.1.1
  - `DPGReferenceID`
  - `TypeOfAction`
  - `AmountDetails`

SOAP XML Modification Request document:

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
      <soap:Body>
     <Modification xmlns="http://DPG-CPT.datacash.com/">
                  <accountDetails>
          <AccountName>string</AccountName>
          <AccountPIN>string</AccountPIN>
          <CompanyId>string</CompanyId>
        </accountDetails>
        <DPGReferenceId>long</DPGReferenceId>
        <typeOfAction>CANCEL or CAPTURE or REFUND</typeOfAction>
```

```
                    <amountDetails>
          <Amount>int</Amount>
          <Exponent>short</Exponent>
          <CurrencyCode>short</CurrencyCode>
       </amountDetails>
            </Modification>
   </soap:Body>
</soap:Envelope>
```

3.3.7.1.1 Modification

Element Name	Modification
Type	Modification
Position	Soap:Body
Children	Yes
Attributes	Yes

Elements of Modification		
Element Name	**Description**	**Data type / Limitations**
accountDetails	This is a set of the merchant's authentication details which is required in order to access the APG.	AccountItem – see section 3.3.1.1.1
DPGReferenceId	The DPGReferenceId is a unique APG transaction identifier which is generated by the APG for each merchant transaction. This identifier is returned in the response to a Purchase or Payout transaction.	Long This value is mandatory at all times.
typeOfAction	This field indicates the type of Action that the Modification web method needs to perform. Please reference Appendix 19.	Enum This value is mandatory at all times. Supported Action Types: • CANCEL • CAPTURE • REFUND
amountDetails	This is a set of amount details.	AmountItem – see section 3.3.1.1.2 Optional if action is Refund. Amount cannot be higher than original purchase amount. Currency must be the same as original purchase currency. If AmountDetails details structure is sent to APG, then all its fields must be populated with valid values.

Note	This is a description for the transaction	String (255) Optional

See the next section for an XML example.

3.3.7.2 Example of XML for Modification Requests

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Modification xmlns="http://DPG-CPT.datacash.com/">
      <accountDetails>
        <AccountName>TestAccount</AccountName>
        <AccountPIN>TestPIN</AccountPIN>
        <CompanyId>A99</CompanyId>
      </accountDetails>
      <DPGReferenceId>12345</DPGReferenceId>
      <typeOfAction>CANCEL</typeOfAction>
      <amountDetails>
        <Amount>550</Amount>
        <Exponent>2</Exponent>
        <CurrencyCode>978</CurrencyCode>
      </amountDetails>
    </Modification>
  </soap:Body>
</soap:Envelope>
```

3.3.7.3 Schema Elements and Example XML for Modification Response

The Response that is generated for a Modification Request is similar to the Response that is generated for a Purchase transaction.

See section 3.3.2.3.4 for details of the Purchase (and Modification) Response structure.

See section 3.3.2.5 for examples of these Responses.

The following is a list of possible results that can be returned by the Modification web method in the Status field:

- AUTHORISED
- CANCELLED
- ERROR
- NOT_FOUND
- REFUNDED
- SENT_FOR_CAPTURE
- SENT_FOR_REFUND

3.3.7.3.1 Example Modification Responses

3.3.7.3.1.1 AUTHORISED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Modification DPGReferenceId="113836"
     TransactionId="A99_091127163001">
       <PaymentMethod name="EV">
          <ReferenceId>0000000000040295434</ReferenceId>
          <ResponseCode>100</ResponseCode>
          <ResponseDescription>Transaction
           successfull</ResponseDescription>
          <TimeStamp>2009-11-30 09:25:53</TimeStamp>
          <PaymentId>DD0677342915000</PaymentId>
       </PaymentMethod>
       <Status>AUTHORISED</Status>
       <Amount CurrencyCode="978" Exponent="2">5239</Amount>
     </Modification >
  </Event_>
</Response>
```

3.3.7.3.1.2 CANCELLED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Modification DPGReferenceId="113836"
     TransactionId="A99_091127163001">
       <PaymentMethod name="EV">
          <ReferenceId>0000000000040313557</ReferenceId>
          <ResponseCode>100</ResponseCode>
          <ResponseDescription>Transaction
           successfull</ResponseDescription>
          <TimeStamp>2009-11-30 10:51:16</TimeStamp>
       </PaymentMethod>
       <Status>CANCELLED</Status>
     </Modification >
  </Event>
</Response>
```

3.3.7.3.1.3 REFUNDED

```
<Response version="1.0" AccountName="MerchAccount">
  <Event>
     <Modification DPGReferenceId="113835"
     TransactionId="A99_091127161216">
       <PaymentMethod name="EV">
          <ReferenceId>0000000000040315286</ReferenceId>
          <ResponseCode>100</ResponseCode>
          <ResponseDescription>Transaction
           successfull</ResponseDescription>
          <TimeStamp>2009-11-30 11:03:23</TimeStamp>
       </PaymentMethod>
       <Status>REFUNDED</Status>
```

```
         <Amount CurrencyCode="978" Exponent="2">550</Amount>
      </Modification>
   </Event>
</Response>
```

3.3.7.3.1.4 ERROR

```
<Response version="1.0" AccountName="">
   <Event>
      <Modification DPGReferenceId="113879"
      TransactionId="A99_091202120706">
         <PaymentMethod name="EV">
            <ReferenceId/>
            <ResponseCode/>
            <ResponseDescription/>
         </PaymentMethod>
         <Status>ERROR</Status>
         <Error>
            <Code>020</Code>
            <Description>PurchaseDetails.AccountDetails.AccountPIN value
            invalid</Description>
         </Error>
      </Modification >
   </Event>
</Response>
```

3.3.7.3.1.5 NOT_FOUND

```
<Response version="1.0" AccountName="">
   <Event>
      <Modification DPGReferenceId="113879" TransactionId="">
         <PaymentMethod name="EV">
            <ReferenceId/>
            <ResponseCode/>
            <ResponseDescription/>
         </PaymentMethod>
         <Status>NOT_FOUND</Status>
         <Error>
            <Code>035</Code>
            <Description>Transaction not found</Description>
         </Error>
      </Modification >
   </Event>
</Response>
```

3.3.7.3.1.6 SENT_FOR_CAPTURE

```
<Response version="1.0" AccountName="MerchantAccount">
   <Event>
      <Modification DPGReferenceId="41179"
TransactionId="T10_PNTJTNJ4L3IV">
         <PaymentMethod name="EL">
      <ReferenceId>4CB42399C8511E228E17C1DB286ED114B1CB54A1</ReferenceId>
```

```
        <ResponseCode>1</ResponseCode>
        <ResponseDescription>Approved and
Completed</ResponseDescription>
        <TimeStamp>20101012050009</TimeStamp>
      </PaymentMethod>
      <Status>SENT_FOR_CAPTURE</Status>
      <Amount CurrencyCode="840" Exponent="2">950</Amount>
    </Modification>
  </Event>
</Response>
```

3.3.7.3.1.7 SENT_FOR_REFUND

```
<Response version="1.0" AccountName="041756">
  <Event>
    <Modification DPGReferenceId="41181"
TransactionId="T10_NAVD1ABSLAUB">
      <PaymentMethod name="EL">
    <ReferenceId>4CB4247590C560C47F53F66E3D7E96EEF5F354C3</ReferenceId>
        <ResponseCode>1</ResponseCode>
        <ResponseDescription/>
        <TimeStamp>20101012050349</TimeStamp>
      </PaymentMethod>
      <Status>SENT_FOR_REFUND</Status>
      <Amount CurrencyCode="840" Exponent="2">950</Amount>
    </Modification>
  </Event>
</Response>
```

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3.4 APG Event Notifications

The APG system has events that take place outside the normal flow of a transaction. When such events take place, notifications will be sent to the merchant's Event_URL. Below is a list of the events that can take place out-of-process:

- AUTHORISED
- CANCELLED
- CAPTURED
- CHARGED_BACK
- MARKED_FOR_REFUND
- PENDING
- REFUNDED
- REFUSED
- SEND_FOR_CAPTURE
- SEND_FOR_REFUND

Example: In a MoneyBookers transaction, the transaction amount exceeds the available balance in the consumer's account. This transaction can then become "Pending" in APG (inside the normal flow of this transaction). The consumer can then either cancel or pay the remainder on the MoneyBookers website during the next two days. MoneyBookers will send this final transaction result to the APG (outside the normal flow of this transaction), and the APG will map this result to one of the responses/events mentioned above, and send the relevant notification to the merchant's Event_URL.

When a notification is sent to the Event_URL, the merchant will need to analyze the event and then take the appropriate action. After receiving the event, the merchant needs to confirm receipt of the notification by sending an OK response back to the APG system. In the event that the APG does not receive a confirmation of receipt, the APG will retry multiple times to send the notification.

Refer to section 3.3.1.2.2 for examples of event notifications (any of the responses, excluding Redirect responses, can be sent as event notifications).

When a merchant receives this event notification, they then need to respond with the following XML:

```
<Response>OK</Response>
```

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