VPRN Show Commands

egress-label

Syntax **egress-label** *egress-label1* [*egress-label2*]

Context show>service

Description Display services using the range of egress labels.

If only the mandatory *egress-label1* parameter is specified, only services using the specified label are displayed.

If both *egress-label1* and *egress-label2* parameters are specified, the services using the range of labels X where *egress-label1* <= X <= *egress-label2* are displayed.

Use the **show router ldp bindings** command to display dynamic labels.

Parameters *egress-label1* — The starting egress label value for which to display services using the label range. If only *egress-label1* is specified, services only using *egress-label1* are displayed.

Values 0, 2049 — 131071

egress-label2 — The ending egress label value for which to display services using the label range.

Default The *egress-label1* value.

Values 2049 — 131071

Output **Show Service Egress Command Output —** The following table describes show service egress label output fields.

Label	Description
Svc Id	The ID that identifies a service.
Sdp Id	The ID that identifies an SDP.
Type	Indicates whether the SDP binding is a spoke or a mesh.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP.
E. Lbl	The VC label used by this device to send packets to the far-end device in this service by the SDP.
Number of bindings found	The total number of SDP bindings that exist within the specified egress label range.

Sample Output

```
*A:ALA-12# show service egress-label 0 10000
===============================================================================
Martini Service Labels
===============================================================================
Svc Id     Sdp Id             Type I.Lbl        E.Lbl
-------------------------------------------------------------------------------
1          10:1               Mesh 0            0
1          20:1               Mesh 0            0
1          30:1               Mesh 0            0
1          100:1              Mesh 0            0
...
1          107:1              Mesh 0            0
1          108:1              Mesh 0            0
1          300:1              Mesh 0            0
1          301:1              Mesh 0            0
1          302:1              Mesh 0            0
1          400:1              Mesh 0            0
1          500:2              Spok 131070       2001
1          501:1              Mesh 131069       2000
100        300:100            Spok 0            0
200        301:200            Spok 0            0
300        302:300            Spok 0            0
400        400:400            Spok 0            0
-------------------------------------------------------------------------------
Number of Bindings Found : 23
===============================================================================
*A:ALA-12#
```

ingress-label

Syntax **ingress-label** *start-label* [*end-label*]

Context show>service

Description Display services using the range of ingress labels.

If only the mandatory *start-label* parameter is specified, only services using the specified label are displayed.

If both *start-label* and *end-label* parameters are specified, the services using the range of labels X where *start-label* <= X <= *end-label* are displayed.

Use the **show router** *vprn-service-id* **ldp bindings** command to display dynamic labels.

Parameters *start-label* — The starting ingress label value for which to display services using the label range. If only *start-label* is specified, services only using *start-label* are displayed.

Values 0, 2048 — 131071

end-label — The ending ingress label value for which to display services using the label range.

Default The *start-label* value.

Values 2048 — 131071

Output **Show Service Ingress-Label —** The following table describes show service ingress-label output fields:

Label	Description
Svc ID	The service identifier.
SDP Id	The SDP identifier.
Type	Indicates whether the SDP is a spoke or a mesh.
I.Lbl	The ingress label used by the far-end device to send packets to this device in this service by the SDP.
E.Lbl	The egress label used by this device to send packets to the far-end device in this service by the SDP.
Number of Bindings Found	The number of SDP bindings within the label range specified.

Sample Output

```
*A:ALA-12# show service ingress-label 0
===============================================================================
Martini Service Labels
===============================================================================
Svc Id     Sdp Id             Type I.Lbl        E.Lbl
-------------------------------------------------------------------------------
1          10:1               Mesh 0            0
1          20:1               Mesh 0            0
1          30:1               Mesh 0            0
1          50:1               Mesh 0            0
1          100:1              Mesh 0            0
1          101:1              Mesh 0            0
1          102:1              Mesh 0            0
1          103:1              Mesh 0            0
1          104:1              Mesh 0            0
1          105:1              Mesh 0            0
1          106:1              Mesh 0            0
1          107:1              Mesh 0            0
1          108:1              Mesh 0            0
1          300:1              Mesh 0            0
1          301:1              Mesh 0            0
1          302:1              Mesh 0            0
1          400:1              Mesh 0            0
100        300:100            Spok 0            0
200        301:200            Spok 0            0
300        302:300            Spok 0            0
400        400:400            Spok 0            0
-------------------------------------------------------------------------------
Number of Bindings Found : 21
-------------------------------------------------------------------------------
*A:ALA-12#
```

sap-using

Syntax **sap-using** [**msap**] [**dyn-script**] [**description**]
sap-using [**sap** *sap-id*] [**vlan-translation | anti-spoof**] [**description**]
sap-using [**sap** *sap-id*]
sap-using interface [*ip-address* | *ip-int-name*]
sap-using [**ingress** | **egress**] **atm-td-profile** *td-profile-id*
sap-using [**ingress** | **egress**] **filter** *filter-id*
sap-using [**ingress** | **egress**] **qos-policy** *qos-policy-id*
sap-using authentication-policy *policy-name*

Context show>service

Description This command displays SAP information.

If no optional parameters are specified, the command displays a summary of all defined SAPs.

The optional parameters restrict output to only SAPs matching the specified properties.

Parameters *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

interface — Specifies matching SAPs with the specified IP interface.

ip-address — The IP address of the interface for which to display matching SAPs.

Values 1.0.0.0 — 223.255.255.255

ip-int-name — The IP interface name for which to display matching SAPs.

dyn-script — Displays dynamic service SAPs information.

ingress — Specifies matching an ingress policy.

egress — Specifies matching an egress policy.

qos-policy *qos-policy-id* **—** The ingress or egress QoS Policy ID for which to display matching SAPs.

Values 1 — 65535

atm-td-profile *td-profile-id* **—** Displays SAPs using this traffic description.

filter *filter-id* **—** The ingress or egress filter policy ID for which to display matching SAPs.

Values 1 — 65535

authentication-policy *policy name* **—** Specifies an existing authentication policy.

Output **Show Service SAP —** The following table describes show service SAP output fields:

Label	Description
Port ID	The ID of the access port where the SAP is defined.
Svc ID	The service identifier.
SapMTU	The SAP MTU value.
I.QoS	The SAP ingress QoS policy number specified on the ingress SAP.
I.MAC/IP	The MAC or IP filter policy ID applied to the ingress SAP.

Label	Description (Continued)
E.QoS	The SAP egress QoS policy number specified on the egress SAP.
E.Mac/IP	The MAC or IP filter policy ID applied to the egress SAP
A.Pol	The accounting policy ID assigned to the SAP.
Adm	The desired state of the SAP.
Opr	The actual state of the SAP.

Sample Output

```
*A:ALA-12# show service sap-using sap 1/1
===============================================================================
Service Access Points
===============================================================================
PortId          SvcId      SapMTU I.QoS I.Mac/IP E.QoS E.Mac/IP A.Pol  Adm  Opr
-------------------------------------------------------------------------------
1/1/7:0         1          1518   10    8        10    none     none   Up   Up
1/1/11:0        100        1514   1     none     1     none     none   Down Down
1/1/7:300       300        1518   10    none     10    none     1000   Up   Up
-------------------------------------------------------------------------------
Number of SAPs : 3
-------------------------------------------------------------------------------
*A:ALA-12#

*A:ALA-12#  show service sap-using egress atm-td-profile 2
===============================================================================
Service Access Point Using ATM Traffic Profile 2
===============================================================================
PortId SvcId I.QoS I.Fltr E.QoS E.Fltr  A.Pol Adm Opr
-------------------------------------------------------------------------------
5/1/1:0/11 511111 2 none 2 none none Up Up
5/1/1:0/12 511112 2 none 2 none none Up Up
5/1/1:0/13 511113 2 none 2 none none Up Up
5/1/1:0/14 511114 2 none 2 none none Up Up
5/1/1:0/15 511115 2 none 2 none none Up Up
5/1/1:0/16 511116 2 none 2 none none Up Up
5/1/1:0/17 511117 2 none 2 none none Up Up
5/1/1:0/18 511118 2 none 2 none none Up Up
5/1/1:0/19 511119 2 none 2 none none Up Up
5/1/1:0/20 511120 2 none 2 none none Up Up
5/1/1:0/21 511121 2 none 2 none none Up Up
5/1/1:0/22 511122 2 none 2 none none Up Up
5/1/1:0/23 511123 2 none 2 none none Up Up
5/1/1:0/24 511124 2 none 2 none none Up Up
5/1/1:0/25 511125 2 none 2 none none Up Up ...
===============================================================================
*A:ALA-12#
```

sdp

Syntax **sdp** [*sdp-id* | **far-end** *ip-address*] [**detail** | **keep-alive-history**]

Context show>service

Description Displays SDP information.

If no optional parameters are specified, a summary SDP output for all SDPs is displayed.

Parameters *sdp-id* — The SDP ID for which to display information.

Default All SDPs.

Values 1 — 17407

far-end *ip-address* — Displays only SDPs matching with the specified far-end IP address.

Default SDPs with any far-end IP address.

detail — Displays detailed SDP information.

Default SDP summary output.

keep-alive-history — Displays the last fifty SDP keepalive events for the SDP.

Default SDP summary output.

Output **Show Service SDP —** The following table describes show service SDP output fields:

Label	Description
SDP Id	The SDP identifier.
Adm MTU	Specifies the largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Opr MTU	Specifies the actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
IP address	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Adm Admin State	Specifies the state of the SDP.
Opr Oper State	Specifies the operating state of the SDP.
Flags	Specifies all the conditions that affect the operating status of this SDP.
Signal Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on the SDP.
Last Status Change	Specifies the time of the most recent operating status change to this SDP.
Last Mgmt Change	Specifies the time of the most recent management-initiated change to this SDP.
Number of SDPs	Specifies the total number of SDPs displayed according to the criteria specified.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.

Label	Description (Continued)
Deliver Delivered	Specifies the type of delivery used by the SDP: GRE or MPLS.
Number of SDPs	Specifies the total number of SDPs displayed according to the criteria specified.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Hello Timeout	Specifies the number of seconds to wait for an SDP echo response message before declaring a timeout.
Unmatched Replies	Specifies the number of SDP unmatched message replies.
Max Drop Count	Specifies the maximum number of consecutive SDP echo request messages that can be unacknowledged before the keepalive protocol reports a fault.
Hold Down Time	Specifies the maximum number of consecutive SDP echo request messages that can be unacknowledged before the keepalive protocol reports a fault.
TX Hello Msgs	Specifies the number of SDP echo request messages transmitted since the keepalive was administratively enabled or the counter was cleared.
Rx Hello Msgs	Specifies the number of SDP echo request messages received since the keepalive was administratively enabled or the counter was cleared.
Associated LSP List	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far end field. If the SDP type is GRE, then the following message displays: SDP delivery mechanism is not MPLS

Sample Output

```
*A:ALA-12# show service sdp
===============================================================================
Services: Service Destination Points
===============================================================================
SdpId    Adm MTU   Opr MTU   IP address       Adm  Opr          Deliver Signal
-------------------------------------------------------------------------------
10       4462      4462      10.20.1.3        Up   Dn NotReady MPLS    TLDP
40       4462      1534      10.20.1.20       Up   Up          MPLS    TLDP
60       4462      1514      10.20.1.21       Up   Up          GRE     TLDP
100      4462      4462      180.0.0.2        Down Down        GRE     TLDP
500      4462      4462      10.20.1.50       Up   Dn NotReady GRE     TLDP
-------------------------------------------------------------------------------
Number of SDPs : 5
===============================================================================
*A:ALA-12#

*A:ALA-12# show service sdp 2 detail
```

```
===============================================================================
Service Destination Point (Sdp Id : 2) Details
===============================================================================
-------------------------------------------------------------------------------
 Sdp Id 2  -(10.10.10.104)
-------------------------------------------------------------------------------
Description           : GRE-10.10.10.104
SDP Id                : 2
Admin Path MTU        : 0                     Oper Path MTU      : 0
Far End               : 10.10.10.104          Delivery           : GRE
Admin State           : Up                    Oper State         : Down
Flags                 : SignalingSessDown TransportTunnDown
Signaling             : TLDP                  VLAN VC Etype      : 0x8100
Last Status Change    : 02/01/2007 09:11:39   Adv. MTU Over.     : No
Last Mgmt Change      : 02/01/2007 09:11:46

KeepAlive Information :
Admin State           : Disabled              Oper State         : Disabled
Hello Time            : 10                    Hello Msg Len      : 0
Hello Timeout         : 5                     Unmatched Replies  : 0
Max Drop Count        : 3                     Hold Down Time     : 10
Tx Hello Msgs         : 0                     Rx Hello Msgs      : 0

Associated LSP LIST :
SDP Delivery Mechanism is not MPLS
===============================================================================
*A:ALA-12#


*A:Dut-B# show service sdp

===============================================================================
Services: Service Destination Points
===============================================================================
SdpId  AdmMTU  OprMTU  Far End          Adm  Opr          Del     LSP   Sig
-------------------------------------------------------------------------------
230    0       1582    10.20.1.3        Up   Up           MPLS    I     TLDP
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
Legend: R = RSVP, L = LDP, B = BGP, M = MPLS-TP, n/a = Not Applicable
===============================================================================
*A:Dut-B#
*A:Dut-B# show service sdp detail

===============================================================================
Services: Service Destination Points Details
===============================================================================
-------------------------------------------------------------------------------
 Sdp Id 230  -10.20.1.3
-------------------------------------------------------------------------------
Description           : (Not Specified)
SDP Id                : 230                   SDP Source         : manual
Admin Path MTU        : 0                     Oper Path MTU      : 1582
Delivery              : MPLS
Far End               : 10.20.1.3
Tunnel Far End        : n/a                   LSP Types          : SR-ISIS

Admin State           : Up                    Oper State         : Up
Signaling             : TLDP                  Metric             : 0
Acct. Pol             : None                  Collect Stats      : Disabled
Last Status Change    : 01/28/2015 22:00:07   Adv. MTU Over.     : No
Last Mgmt Change      : 01/28/2015 21:59:53   VLAN VC Etype      : 0x8100
```

```
Bw BookingFactor     : 100                  PBB Etype          : 0x88e7
Oper Max BW(Kbps)    : 0                    Avail BW(Kbps)     : 0
Net-Domain           : default              Egr Interfaces     : Consistent
Flags                : None

Mixed LSP Mode Information :
Mixed LSP Mode       : Disabled             Active LSP Type    : SR-ISIS

KeepAlive Information :
Admin State          : Disabled             Oper State         : Disabled
Hello Time           : 10                   Hello Msg Len      : 0
Hello Timeout        : 5                    Unmatched Replies  : 0
Max Drop Count       : 3                    Hold Down Time     : 10
Tx Hello Msgs        : 0                    Rx Hello Msgs      : 0

Src B-MAC LSB        : <none>               Ctrl PW VC ID      : <none>
Ctrl PW Active       : n/a

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding     : Disabled             EnforceDSTELspFc   : Disabled
Default LSP          : Uknwn                Multicast LSP      : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings

-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS                 : enabled              LSP Id             : 524289
Oper Instance Id     : 0
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
===============================================================================
*A:Dut-B#


*A:ALA-12# show service sdp 8
===============================================================================
Service Destination Point (Sdp Id : 8)
===============================================================================
SdpId    Adm MTU   Opr MTU   IP address       Adm  Opr         Deliver Signal
-------------------------------------------------------------------------------
8        4462      4462      10.10.10.104     Up   Dn NotReady MPLS    TLDP
===============================================================================
Service Destination Point (Sdp Id : 8) Details
-------------------------------------------------------------------------------
 Sdp Id 8  -(10.10.10.104)
-------------------------------------------------------------------------------
Description           : MPLS-10.10.10.104
SDP Id               : 8
```

```
Admin Path MTU       : 0                    Oper Path MTU      : 0
Far End              : 10.10.10.104         Delivery           : MPLS
Admin State          : Up                   Oper State         : Down
Flags                : SignalingSessDown TransportTunnDown
Signaling            : TLDP                 VLAN VC Etype      : 0x8100
Last Status Change   : 02/01/2007 09:11:39  Adv. MTU Over.     : No
Last Mgmt Change     : 02/01/2007 09:11:46

KeepAlive Information :
Admin State          : Disabled             Oper State         : Disabled
Hello Time           : 10                   Hello Msg Len      : 0
Hello Timeout        : 5                    Unmatched Replies  : 0
Max Drop Count       : 3                    Hold Down Time     : 10
Tx Hello Msgs        : 0                    Rx Hello Msgs      : 0

Associated LSP LIST :
Lsp Name             : to-104
Admin State          : Up                   Oper State         : Down
Time Since Last Tran*: 01d07h36m
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:ALA-12#
```

sdp-using

Syntax **sdp-using** [*sdp-id*[:*vc-id*] | **far-end** *ip-address*]

Context show>service

Description Display services using SDP or far-end address options.

Parameters *sdp-id* — Displays only services bound to the specified SDP ID.

Values 1 — 17407

vc-id — The virtual circuit identifier.

Values 1 — 4294967295

far-end *ip-address* — Displays only services matching with the specified far-end IP address.

Default Services with any far-end IP address.

Output **Show Service SDP Using X —** The following table describes show service sdp-using output fields.

Label	Description
Svc ID	The service identifier.
Sdp ID	The SDP identifier.
Type	Type of SDP: **spoke** or **mesh**.
Far End	The far end address of the SDP.
Oper State	The operational state of the service.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.

Label	Description
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP.

Sample Output

```
*A:ALA-1# show service sdp-using 300
===============================================================================
Service Destination Point (Sdp Id : 300)
===============================================================================
SvcId       SdpId               Type Far End        Opr State I.Label  E.Label
-------------------------------------------------------------------------------
1           300:1               Mesh 10.0.0.13      Up        131071   131071
2           300:2               Spok 10.0.0.13      Up        131070   131070
100         300:100             Mesh 10.0.0.13      Up        131069   131069
101         300:101             Mesh 10.0.0.13      Up        131068   131068
102         300:102             Mesh 10.0.0.13      Up        131067   131067
-------------------------------------------------------------------------------
Number of SDPs : 5
-------------------------------------------------------------------------------
*A:ALA-1#


A:ALA-48# show service sdp-using
===============================================================================
SDP Using
===============================================================================
SvcId       SdpId               Type Far End        Opr State I.Label  E.Label
-------------------------------------------------------------------------------
3           2:3                 Spok 10.20.1.2      Up        n/a      n/a
103         3:103               Spok 10.20.1.3      Up        131067   131068
103         4:103               Spok 10.20.1.2      Up        131065   131069
105         3:105               Spok 10.20.1.3      Up        131066   131067
-------------------------------------------------------------------------------
Number of SDPs : 4
-------------------------------------------------------------------------------
A:ALA-48
```

service-using

Syntax **service-using** [**epipe**] [**ies**] [**vpls**] [**vprn**] [**mirror**] [**apipe**] [**fpipe**] [**ipipe**] [**sdp** *sdp-id*] [**customer** *customer-id*]

Context show>service

Description Displays the services matching certain usage properties.

If no optional parameters are specified, all services defined on the system are displayed.

Parameters **epipe —** Displays matching Epipe services.

ies — Displays matching IES instances.

vpls — Displays matching VPLS instances.

vprn — Displays matching VPRN services.

mirror — Displays mirror services.

apipe — Displays matching Apipe services.

fpipe — Displays matching Fpipe services.

ipipe — Displays matching Ipipe services.

sdp *sdp-id* **—** Displays only services bound to the specified SDP ID.

Default Services bound to any SDP ID.

Values 1 — 17407

customer *customer-id* **—** Displays services only associated with the specified customer ID.

Default Services associated with an customer.

Values 1 — 2147483647

Output **Show Service Service-Using —** The following table describes show service service-using output fields:

Label	Description
Service Id	The service identifier.
Type	Specifies the service type configured for the service ID.
Adm	The desired state of the service.
Opr	The operating state of the service.
CustomerID	The ID of the customer who owns this service.
Last Mgmt Change	The date and time of the most recent management-initiated change to this service.

Sample Output

```
*A:ALA-12# show service service-using customer 10
===============================================================================
Services
===============================================================================
ServiceId    Type      Adm    Opr        CustomerId        Last Mgmt Change
-------------------------------------------------------------------------------
1            VPLS      Up     Up         10                09/05/2006 13:24:15
100          IES       Up     Up         10                09/05/2006 13:24:15
300          Epipe     Up     Up         10                09/05/2006 13:24:15
900          VPRN      Up     Up         2                 11/04/2006 04:55:12
-------------------------------------------------------------------------------
Matching Services : 4
===============================================================================
*A:ALA-12#

*A:ALA-12# show service service-using epipe
===============================================================================
Services [epipe]
===============================================================================
ServiceId    Type      Adm    Opr        CustomerId        Last Mgmt Change
-------------------------------------------------------------------------------
6            Epipe     Up     Up         6                 06/22/2006 23:05:58
7            Epipe     Up     Up         6                 06/22/2006 23:05:58
```

```
8            Epipe     Up     Up         3                  06/22/2006 23:05:58
103          Epipe     Up     Up         6                  06/22/2006 23:05:58
-------------------------------------------------------------------------------
Matching Services : 4
===============================================================================
*A:ALA-12#


A:de14# show service service-using
===============================================================================
Services
===============================================================================
ServiceId    Type      Adm    Opr        CustomerId        Last Mgmt Change
-------------------------------------------------------------------------------
1            uVPLS     Up     Up         1                 10/26/2006 15:44:57
2            Epipe     Up     Down       1                 10/26/2006 15:44:57
10           mVPLS     Down   Down       1                 10/26/2006 15:44:57
11           mVPLS     Down   Down       1                 10/26/2006 15:44:57
100          mVPLS     Up     Up         1                 10/26/2006 15:44:57
101          mVPLS     Up     Up         1                 10/26/2006 15:44:57
102          mVPLS     Up     Up         1                 10/26/2006 15:44:57
999          uVPLS     Down   Down       1                 10/26/2006 16:14:33
-------------------------------------------------------------------------------
Matching Services : 8
-------------------------------------------------------------------------------
A:de14#
```

id

Syntax **id** *service-id* {**all** | **arp** | **base** | **fdb** | **labels** | **mfib** | **sap** | **sdp** | **split-horizon-group** | **stp**}

Context show>service

Description This command displays information for a particular service-id.

Parameters *service-id* — The unique service identification number that identifies the service in the service domain.

all — Display detailed information about the service.

arp — Display ARP entries for the service.

base — Display basic service information.

fdb — Display FDB entries.

interface — Display service interfaces.

labels — Display labels being used by this service.

sap — Display SAPs associated to the service.

sdp — Display SDPs associated with the service.

split-horizon-group — Display split horizon group information.

stp — Display STP information.

all

Syntax **all**

Context show>service>id

Description Displays detailed information for all aspects of the service.

Show All Service-ID Output — The following table describes the show all service-id command output fields:

Label	Description
Service Detailed Information	
Service Id	The service identifier.
VPN Id	The number which identifies the VPN.
Customer Id	The customer identifier.
Last Status Change	The date and time of the most recent change in the administrative or operating status of the service.
Last Mgmt Change	The date and time of the most recent management-initiated change to this customer.
Admin State	The current administrative state.
Oper State	The current operational state.
Route Dist.	Displays the route distribution number.
AS Number	Displays the autonomous system number.
Router Id	Displays the router ID for this service.
ECMP	Displays equal cost multipath information.
ECMP Max Routes	Displays the maximum number of routes that can be received from the neighbors in the group or for the specific neighbor.
Max Routes	Displays the maximum number of routes that can be used for path sharing.
Auto Bind	Specifies the automatic binding type for the SDP assigned to this service.
Vrf Target	Specifies the VRF target applied to this service.
Vrf Import	Specifies the VRF import policy applied to this service.
Vrf Export	Specifies the VRF export policy applied to this service.
SDP Id	The SDP identifier.
Description	Generic information about the service.
SAP Count	The number of SAPs specified for this service.
SDP Bind Count	The number of SDPs bound to this service.

Label	Description
Split Horizon Group	Name of the split horizon group for this service.
Description	Description of the split horizon group.
Last Changed	The date and time of the most recent management-initiated change to this split horizon group.
Service Destination Points (SDPs)	
SDP Id	The SDP identifier.
Type	Indicates whether this Service SDP binding is a spoke or a mesh.
Admin Path MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS.
Admin State	The administrative state of this SDP.
Oper State	The operational state of this SDP.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP.
Ingress Filter	The ID of the ingress filter policy.
Egress Filter	The ID of the egress filter policy.
Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Last Changed	The date and time of the most recent change to this customer.
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	Specifies the operating status of the keepalive protocol.
Oper State	The current status of the keepalive protocol.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Max Drop Count	Specifies the maximum number of consecutive SDP Echo Request messages that can be unacknowledged before the keepalive protocol reports a fault.

Label	Description
Hold Down Time	Specifies the amount of time to wait before the keepalive operating status is eligible to enter the alive state.
SDP Delivery Mechanism	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far end field. If the SDP type is GRE, then the following message displays: SDP delivery mechanism is not MPLS
Max Drop Count	Specifies the maximum number of consecutive SDP Echo Request messages that can be unacknowledged before the keepalive protocol reports a fault.
Number of SDPs	The total number SDPs applied to this service ID.
Service Access Points	
Service Id	The service identifier.
Port Id	The ID of the access port where this SAP is defined.
Description	Generic information about the SAP.
Encap Value	The value of the label used to identify this SAP on the access port.
Admin State	The desired state of the SAP.
Oper State	The operating state of the SAP.
Last Changed	The date and time of the last change.
Admin MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Ingress qos-policy	The SAP ingress QoS policy ID.
Egress qos-policy	The SAP egress QoS policy ID.
Ingress Filter-Id	The SAP ingress filter policy ID.
Egress Filter-Id	The SAP egress filter policy ID.
Multi Svc Site	Indicates the multi-service site that the SAP is a member.
Ingress sched-policy	Indicates the ingress QoS scheduler for the SAP.
Egress sched-policy	Indicates the egress QoS scheduler for the SAP.
Acct. Pol	Indicates the accounting policy applied to the SAP.
Collect Stats	Specifies whether accounting statistics are collected on the SAP.

Label	Description
SAP Statistics	
Dropped	The number of packets or octets dropped.
Offered Hi Priority	The number of high priority packets, as determined by the SAP ingress QoS policy.
Offered Low Priority	The number of low priority packets, as determined by the SAP ingress QoS policy.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Queueing Stats	
Dropped In Profile	The number of in-profile packets or octets discarded.
Dropped Out Profile	The number of out-of-profile packets or octets discarded.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
SAP per Queue stats	
Ingress Queue 1	The index of the ingress QoS queue of this SAP.
High priority offered	The packets or octets count of the high priority traffic for the SAP.
High priority dropped	The number of high priority traffic packets/octets dropped.
Low priority offered	The packets or octets count of the low priority traffic.
Low priority dropped	The number of low priority traffic packets/octets dropped.
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
Out profile forwarded	The number of out-of-profile octets (rate above CIR) forwarded.
Egress Queue 1	The index of the egress QoS queue of the SAP.
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
In profile dropped	The number of in-profile packets or octets dropped for the SAP.

Label	Description
Out profile forwarded	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Out profile dropped	The number of out-of-profile packets or octets discarded.
State	Specifies whether DHCP relay is enabled on this SAP.
Info Option	Specifies whether Option 82 processing is enabled on this SAP.
Action	Specifies the Option 82 processing on this SAP or interface: keep, replace or drop.
Circuit ID	Specifies whether the If index is inserted in circuit ID sub-option of Option 82.
Remote ID	Specifies whether the far-end MAC address is inserted in Remote ID sub-option of Option 82.
Service Access Points	
Managed by Service	Specifies the service-id of the management VPLS managing this SAP.
Managed by SAP	Specifies the sap-id inside the management VPLS managing this SAP.
Prune state	Specifies the STP state inherited from the management VPLS.
Spoke SDPs	
Managed by Service	Specifies the service-id of the management VPLS managing this spoke SDP.
Managed by Spoke	Specifies the sap-id inside the management VPLS managing this spoke SDP.
Prune state	Specifies the STP state inherited from the management VPLS.
Peer Pw Bits	Indicates the bits set by the LDP peer when there is a fault on its side of the pseudowire. LAC failures occur on the SAP that has been configured on the pipe service, PSN bits are set by SDP-binding failures on the pipe service. The pwNotForwarding bit is set when none of the above failures apply, such as an MTU mismatch failure. This value is only applicable if the peer is using the pseudowire status signalling method to indicate faults. pwNotForwarding — Pseudowire not forwarding lacIngressFault Local — Attachment circuit RX fault lacEgresssFault Local — Attachment circuit TX fault psnIngressFault Local — PSN-facing PW RX fault psnEgressFault Local — PSN-facing PW TX fault pwFwdingStandby — Pseudowire in standby mode
IPCP Address Extension Details	
Peer IP Addr	Specifies the remote IP address to be assigned to the far-end of the associated PPP/MLPPP link via IPCP extensions.
Peer Pri DNS Addr	Specifies a unicast IPv4 address for the primary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions.
Peer Sec DNS Addr	Specifies a unicast IPv4 address for the secondary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions.

Sample Output

```
A:ALA-48# show service id 1 all
===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                   Vpn Id            : 0
Service Type      : VPRN
Customer Id       : 1
Last Status Change: 06/18/2007 10:07:01
Last Mgmt Change  : 06/18/2007 10:07:01
Admin State       : Up                  Oper State        : Up

Route Dist.       : 10001:1             VPRN Type         : regular
AS Number         : 10000               Router Id         : 10.10.10.103
ECMP              : Enabled             ECMP Max Routes   : 8
Max Routes        : 80                  Auto Bind         : LDP
Vrf Target        : target:10001:1
Vrf Import        : vrfImpPolCust1
Vrf Export        : vrfExpPolCust1

SAP Count         : 2                   SDP Bind Count    : 3
-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
 Sdp Id 1:1  -(10.10.10.49)
-------------------------------------------------------------------------------
Description     : to-GRE-10.10.10.49
SDP Id            : 1:1                     Type              : Spoke
VC Type           : n/a                     VC Tag            : n/a
Admin Path MTU    : 0                       Oper Path MTU     : 0
Far End           : 10.10.10.49             Delivery          : GRE

Admin State       : Up                      Oper State        : Down
Acct. Pol         : None                    Collect Stats     : Disabled
Ingress Label     : n/a                     Egress Label      : n/a
Ing mac Fltr      : n/a                     Egr mac Fltr      : n/a
Ing ip Fltr       : n/a                     Egr ip Fltr       : n/a
Ing ipv6 Fltr     : n/a                     Egr ipv6 Fltr     : n/a
Admin ControlWord : Not Preferred           Oper ControlWord  : False
Admin BW(Kbps)    : 0                       Oper BW(Kbps)     : 0
Last Status Change : 06/18/2007 10:06:49    Signaling         : n/a
Last Mgmt Change  : 06/18/2007 10:07:01
Class Fwding State : Down
Flags             : SdpOperDown
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits : None
Peer Vccv CC Bits : None

KeepAlive Information :
Admin State       : Disabled                Oper State        : Disabled
Hello Time        : 10                      Hello Msg Len     : 0
Max Drop Count    : 3                       Hold Down Time    : 10

Statistics          :
I. Fwd. Pkts.     : n/a                     I. Dro. Pkts.     : n/a
I. Fwd. Octs.     : n/a                     I. Dro. Octs.     : n/a
E. Fwd. Pkts.     : n/a                     E. Fwd. Octets    : n/a

Associated LSP LIST :
SDP Delivery Mechanism is not MPLS
```

```
-------------------------------------------------------------------------------
 Sdp Id 1:10  -(10.10.10.49)
-------------------------------------------------------------------------------
Description     : to-GRE-10.10.10.49
SDP Id            : 1:10                      Type              : Spoke
VC Type           : n/a                       VC Tag            : n/a
Admin Path MTU    : 0                         Oper Path MTU     : 0
Far End           : 10.10.10.49               Delivery          : GRE

Admin State       : Up                        Oper State        : Down
Acct. Pol         : None                      Collect Stats     : Disabled
Ingress Label     : 0                         Egress Label      : 0
Ing mac Fltr      : n/a                       Egr mac Fltr      : n/a
Ing ip Fltr       : n/a                       Egr ip Fltr       : n/a
Ing ipv6 Fltr     : n/a                       Egr ipv6 Fltr     : n/a
Admin ControlWord : Not Preferred             Oper ControlWord  : False
Admin BW(Kbps)    : 0                         Oper BW(Kbps)     : 0
Last Status Change : 06/18/2007 10:06:49      Signaling         : n/a
Last Mgmt Change  : 06/18/2007 10:07:01
Class Fwding State : Down
Flags             : SdpOperDown
                    NoIngVCLabel NoEgrVCLabel
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits : None
Peer Vccv CC Bits : None

KeepAlive Information :
Admin State       : Disabled                  Oper State        : Disabled
Hello Time        : 10                        Hello Msg Len     : 0
Max Drop Count    : 3                         Hold Down Time    : 10

Statistics            :
I. Fwd. Pkts.     : 0                         I. Dro. Pkts.     : 0
I. Fwd. Octs.     : 0                         I. Dro. Octs.     : 0
E. Fwd. Pkts.     : 0                         E. Fwd. Octets    : 0

Associated LSP LIST :
SDP Delivery Mechanism is not MPLS
-------------------------------------------------------------------------------
 Sdp Id 3:4  -(10.10.10.105)
-------------------------------------------------------------------------------
SDP Id            : 3:4                       Type              : Spoke
VC Type           : n/a                       VC Tag            : n/a
Admin Path MTU    : 0                         Oper Path MTU     : 0
Far End           : 10.10.10.105              Delivery          : GRE

Admin State       : Up                        Oper State        : Down
Acct. Pol         : None                      Collect Stats     : Disabled
Ingress Label     : 3000                      Egress Label      : 2000
Ing mac Fltr      : n/a                       Egr mac Fltr      : n/a
Ing ip Fltr       : 10                        Egr ip Fltr       : 10
Ing ipv6 Fltr     : n/a                       Egr ipv6 Fltr     : n/a
Admin ControlWord : Not Preferred             Oper ControlWord  : False
Admin BW(Kbps)    : 0                         Oper BW(Kbps)     : 0
Last Status Change : 06/18/2007 10:06:49      Signaling         : n/a
Last Mgmt Change  : 06/18/2007 10:07:01
Class Fwding State : Down
Flags             : SdpOperDown
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits : None
Peer Vccv CC Bits : None
```

```
KeepAlive Information :
Admin State        : Disabled                 Oper State        : Disabled
Hello Time         : 10                       Hello Msg Len     : 0
Max Drop Count     : 3                        Hold Down Time    : 10

Statistics           :
I. Fwd. Pkts.      : 0                        I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                        I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                        E. Fwd. Octets    : 0

Associated LSP LIST :
SDP Delivery Mechanism is not MPLS
-------------------------------------------------------------------------------
Number of SDPs : 3
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------
SAP 1/1/21:0
-------------------------------------------------------------------------------
Service Id         : 1
SAP                : 1/1/21:0                 Encap             : q-tag
Dot1Q Ethertype    : 0x8100                   QinQ Ethertype    : 0x8100

Admin State        : Up                       Oper State        : Down
Flags              : PortOperDown
Last Status Change : 06/18/2007 10:06:49
Last Mgmt Change   : 06/18/2007 10:07:01
Admin MTU          : 1518                     Oper MTU          : 1518
Ingress qos-policy : 1                        Egress qos-policy : 1
Shared Q plcy      : n/a                      Multipoint shared : Disabled
Ingr IP Fltr-Id    : n/a                      Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                      Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                      Egr IPv6 Fltr-Id  : n/a
tod-suite          : None                     qinq-pbit-marking : both
Egr Agg Rate Limit : max

Multi Svc Site     : None
Acct. Pol          : None                     Collect Stats     : Disabled

Anti Spoofing      : None                     Nbr Static Hosts  : 0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A
                        Packets                  Octets
Forwarding Engine Stats
Dropped               : 0                        0
Off. HiPrio           : 0                        0
Off. LowPrio          : 0                        0
Off. Uncolor          : 0                        0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                        0
Dro. LowPrio          : 0                        0
For. InProf           : 0                        0
For. OutProf          : 0                        0

Queueing Stats(Egress QoS Policy 1)
Dro. InProf           : 0                        0
Dro. OutProf          : 0                        0
For. InProf           : 0                        0
For. OutProf          : 0                        0
```

```
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                  Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                        0
Off. LoPrio           : 0                        0
Dro. HiPrio           : 0                        0
Dro. LoPrio           : 0                        0
For. InProf           : 0                        0
For. OutProf          : 0                        0

Egress Queue 1
For. InProf           : 0                        0
For. OutProf          : 0                        0
Dro. InProf           : 0                        0
Dro. OutProf          : 0                        0
-------------------------------------------------------------------------------
SAP 1/2/4:0
-------------------------------------------------------------------------------
Service Id         : 1
SAP                : 1/2/4:0                  Encap             : q-tag
Dot1Q Ethertype    : 0x8100                   QinQ Ethertype    : 0x8100

Admin State        : Up                       Oper State        : Down
Flags              : PortOperDown
Last Status Change : 06/18/2007 10:06:49
Last Mgmt Change   : 06/18/2007 10:07:01
Admin MTU          : 1518                     Oper MTU          : 1518
Ingress qos-policy : 1                        Egress qos-policy : 1
Shared Q plcy      : n/a                      Multipoint shared : Disabled
Ingr IP Fltr-Id    : n/a                      Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                      Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                      Egr IPv6 Fltr-Id  : n/a
tod-suite          : None                     qinq-pbit-marking : both
Egr Agg Rate Limit : max

Multi Svc Site     : None
Acct. Pol          : None                     Collect Stats     : Disabled

Anti Spoofing      : Ip-Mac                   Nbr Static Hosts  : 0
-------------------------------------------------------------------------------
Subscriber Management
-------------------------------------------------------------------------------
Admin State        : Down                     MAC DA Hashing    : False
Def Sub-Id         : None
Def Sub-Profile    : None
Def SLA-Profile    : None
Def App-Profile    : None
Sub-Ident-Policy   : None

Subscriber Limit   : 1
Single-Sub-Parameters
 Prof Traffic Only : False
 Non-Sub-Traffic   : N/A
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A
                        Packets                  Octets
Forwarding Engine Stats
Dropped               : 0                        0
Off. HiPrio           : 0                        0
```

```
Off. LowPrio          : 0                      0
Off. Uncolor          : 0                      0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                      0
Dro. LowPrio          : 0                      0
For. InProf           : 0                      0
For. OutProf          : 0                      0

Queueing Stats(Egress QoS Policy 1)
Dro. InProf           : 0                      0
Dro. OutProf          : 0                      0
For. InProf           : 0                      0
For. OutProf          : 0                      0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                      0
Off. LoPrio           : 0                      0
Dro. HiPrio           : 0                      0
Dro. LoPrio           : 0                      0
For. InProf           : 0                      0
For. OutProf          : 0                      0

Egress Queue 1
For. InProf           : 0                      0
For. OutProf          : 0                      0
Dro. InProf           : 0                      0
Dro. OutProf          : 0                      0
-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : to-ce1
Admin State       : Up                   Oper (v4/v6)      : Down/Down
Protocols         : None
IP Addr/mask      : 11.1.0.1/24          Address Type      : Primary
IGP Inhibit       : Disabled             Broadcast Address : Host-ones
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 2                    Virt. If Index    : 2
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 96
SAP Id            : 1/1/21:0
TOS Marking       : Trusted              If Type           : VPRN
SNTP B.Cast       : False
MAC Address       : 14:30:01:01:00:15    Arp Timeout       : 14400
IP MTU            : 1500                 ICMP Mask Reply   : True
Arp Populate      : Disabled             Host Conn Verify  : Enabled

Proxy ARP Details
Rem Proxy ARP     : Disabled             Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP Details
Admin State       : Up                   Lease Populate    : 1
```

```
Gi-Addr           : 11.1.0.1*           Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Admin State       : Down                Lease Populate    : 0
Oper State        : Down                Nbr Resolution    : Disabled
If-Id Option      : None                Remote Id         : Disabled
Src Addr          : Not configured

DHCP6 Server Details
Admin State       : Down                Max. Lease States : 8000

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : test
Admin State       : Up                  Oper (v4/v6)      : Down/Down
Protocols         : IGMP PIM

IP Addr/mask      : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 3                   Virt. If Index    : 3
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 95
Port Id           : n/a
TOS Marking       : Trusted             If Type           : VPRN
SNTP B.Cast       : False
MAC Address       :                     Arp Timeout       : 14400
IP MTU            : 0                   ICMP Mask Reply   : True
Arp Populate      : Disabled            Host Conn Verify  : Disabled

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP Details
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : Not configured      Gi-Addr as Src Ip : Disabled
Action            : Keep                Trusted           : Disabled
```

```
DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Admin State       : Down               Lease Populate    : 0
Oper State        : Down               Nbr Resolution    : Disabled
If-Id Option      : None               Remote Id         : Disabled
Src Addr          : Not configured

DHCP6 Server Details
Admin State       : Down               Max. Lease States : 8000

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : SpokeSDP
Admin State       : Up                 Oper (v4/v6)      : Down/Down
Protocols         : None

IP Addr/mask      : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 4                  Virt. If Index    : 4
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 94
SDP Id            : spoke-3:4
TOS Marking       : Trusted            If Type           : VPRN
SNTP B.Cast       : False
MAC Address       : 14:30:ff:00:00:00  Arp Timeout       : 14400
IP MTU            : 0                  ICMP Mask Reply   : True
Arp Populate      : Disabled           Host Conn Verify  : Disabled

Proxy ARP Details
Rem Proxy ARP     : Disabled           Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP Details
Admin State       : Down               Lease Populate    : 0
Gi-Addr           : Not configured     Gi-Addr as Src Ip : Disabled
Action            : Keep               Trusted           : Disabled

DHCP Proxy Details
Admin State       : Down
```

```
Lease Time         : N/A
Emul. Server       : Not configured

Subscriber Authentication Details
Auth Policy        : None

DHCP6 Relay Details
Admin State        : Down               Lease Populate    : 0
Oper State         : Down               Nbr Resolution    : Disabled
If-Id Option       : None               Remote Id         : Disabled
Src Addr           : Not configured

DHCP6 Server Details
Admin State        : Down               Max. Lease States : 8000

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr       : Not configured
Peer Pri DNS Addr  : Not configured
Peer Sec DNS Addr  : Not configured
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name            : gizmo
Admin State        : Up                 Oper (v4/v6)      : Down/--
Protocols          : None

IP Addr/mask       : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index           : 5                  Virt. If Index    : 5
Last Oper Chg      : 06/18/2007 10:07:01 Global If Index   : 93
SDP Id             : spoke-1:10
TOS Marking        : Trusted            If Type           : VPRN Red
Egress Filter      : none               Ingress Filter    : none
SNTP B.Cast        : False              QoS Policy        : 1
MAC Address        : 14:30:ff:00:00:00
IP MTU             : 0                  ICMP Mask Reply   : True
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name            : test123
Admin State        : Up                 Oper (v4/v6)      : Down/--
Protocols          : None

IP Addr/mask       : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index           : 6                  Virt. If Index    : 6
Last Oper Chg      : 06/18/2007 10:07:01 Global If Index   : 92
Port Id            : n/a
TOS Marking        : Trusted            If Type           : VPRN Red
Egress Filter      : none               Ingress Filter    : none
SNTP B.Cast        : False              QoS Policy        : 1
MAC Address        :
IP MTU             : 0                  ICMP Mask Reply   : True
-------------------------------------------------------------------------------
```

```
Interface
-------------------------------------------------------------------------------
If Name           : test1
Admin State       : Up                  Oper (v4/v6)      : Down/--
Protocols         : None

IP Addr/mask      : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 7                   Virt. If Index    : 7
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 91
Port Id           : n/a
TOS Marking       : Trusted             If Type           : VPRN Red
Egress Filter     : none                Ingress Filter    : none
SNTP B.Cast       : False               QoS Policy        : 1
MAC Address       :
IP MTU            : 0                   ICMP Mask Reply   : True
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : bozoclown
Admin State       : Up                  Oper (v4/v6)      : Down/--
Protocols         : None

IP Addr/mask      : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 8                   Virt. If Index    : 8
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 90
Port Id           : n/a
TOS Marking       : Trusted             If Type           : VPRN Red
Egress Filter     : none                Ingress Filter    : none
SNTP B.Cast       : False               QoS Policy        : 1
MAC Address       :
IP MTU            : 0                   ICMP Mask Reply   : True
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : testabc
Admin State       : Up                  Oper (v4/v6)      : Down/--
Protocols         : None

IP Addr/mask      : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 9                   Virt. If Index    : 9
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 89
If Type           : VPRN Sub

DHCP Details
Gi-Addr           : Not configured      Gi-Addr as Src Ip : Disabled
===============================================================================
Interface testabc group-interfaces
===============================================================================
Interface-Name                   Adm         Opr(v4/v6)  Mode    Port/SapId
   IP-Address                                                    PfxState
-------------------------------------------------------------------------------
bozo                             Up          Down/--     VPRN G* n/a
-------------------------------------------------------------------------------
Group-Interfaces : 1
```

```
===============================================================================
* indicates that the corresponding row element may have been truncated.
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : bozo
Sub If Name       : testabc
Red If Name       :
Admin State       : Up                  Oper (v4/v6)      : Down/--
Protocols         : None
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 10                  Virt. If Index    : 10
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 88
Port Id           : n/a
TOS Marking       : Trusted             If Type           : VPRN Grp
SNTP B.Cast       : False
MAC Address       :                     Arp Timeout       : 14400
IP MTU            : 0                   ICMP Mask Reply   : True
Arp Populate      : Disabled            Host Conn Verify  : Disabled

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Enabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP Details
Admin State       : Down                Lease Populate    : 1
Gi-Addr           : Unknown             Gi-Addr as Src Ip : Disabled
Action            : Keep                Trusted           : Disabled
Match CircId      : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Admin State       : Down                Lease Populate    : 0
Oper State        : Down                Nbr Resolution    : Disabled
If-Id Option      : None                Remote Id         : Disabled
Src Addr          : Not configured

DHCP6 Server Details
Admin State       : Down                Max. Lease States : 8000

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured
```

```
PPPoE Details
Last Mgmt Chg: 06/18/2007 10:06:49
Session limit     : 1                   SAP session limit : 1
PPPoE Policy      : N/A
User DB           : N/A
===============================================================================
Service Access Point(Summary), Service 1 Interface bozo
===============================================================================
PortId                 SvcId      Ing.  Ing.    Egr.  Egr.    Anti   Adm  Opr
                                  QoS   Fltr    QoS   Fltr    Spoof
-------------------------------------------------------------------------------
No Service Access Point found.
===============================================================================
Interface
-------------------------------------------------------------------------------
If Name           : santa
Admin State       : Up                  Oper (v4/v6)      : Down/--
Protocols         : None

IP Addr/mask      : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 11                  Virt. If Index    : 11
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 87
If Type           : VPRN Sub

DHCP Details
Gi-Addr           : Not configured      Gi-Addr as Src Ip : Disabled
===============================================================================
Interface santa group-interfaces
===============================================================================
Interface-Name                   Adm         Opr(v4/v6)  Mode    Port/SapId
   IP-Address                                                    PfxState
-------------------------------------------------------------------------------
interface                        Up          Down/--     VPRN G* 1/2/4
-------------------------------------------------------------------------------
Group-Interfaces : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : interface
Sub If Name       : santa
Red If Name       :
Admin State       : Up                  Oper (v4/v6)      : Down/--
Protocols         : None
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index          : 12                  Virt. If Index    : 12
Last Oper Chg     : 06/18/2007 10:07:01 Global If Index   : 86
Group Port        : 1/2/4
TOS Marking       : Trusted             If Type           : VPRN Grp
SNTP B.Cast       : False
MAC Address       : 14:30:01:02:00:04   Arp Timeout       : 14400
IP MTU            : 1500                ICMP Mask Reply   : True
Arp Populate      : Disabled            Host Conn Verify  : Disabled

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Enabled
Policies          : none
```

```
Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP Details
Admin State       : Down               Lease Populate    : 1
Gi-Addr           : Unknown            Gi-Addr as Src Ip : Disabled
Action            : Keep               Trusted           : Disabled
Match CircId      : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Admin State       : Down               Lease Populate    : 0
Oper State        : Down               Nbr Resolution    : Disabled
If-Id Option      : None               Remote Id         : Disabled
Src Addr          : Not configured

DHCP6 Server Details
Admin State       : Down               Max. Lease States : 8000

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

PPPoE Details
Last Mgmt Chg: 06/18/2007 10:06:49
Session limit     : 1                  SAP session limit : 1
PPPoE Policy      : N/A
User DB           : N/A
===============================================================================
Service Access Point(Summary), Service 1 Interface interface
===============================================================================
PortId                SvcId      Ing.  Ing.    Egr.  Egr.    Anti    Adm  Opr
                                 QoS   Fltr    QoS   Fltr    Spoof
-------------------------------------------------------------------------------
1/2/4:0               1          1     none    1     none    ip-mac Up   Down
===============================================================================
*#A:ALA-48#
```

The following output shows the IS-IS protocol.

```
*A:Dut-C# show service id 1 all

===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                  Vpn Id            : 0
Service Type      : VPRN
```

```
Name              : (Not Specified)
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 01/26/2015 11:22:14
Last Mgmt Change  : 01/26/2015 11:22:14
Admin State       : Up                  Oper State        : Up

Route Dist.       : 1.1.1.3:1           VPRN Type         : regular
Oper Route Dist   : 1.1.1.3:1
Oper RD Type      : configured
AS Number         : None                Router Id         : 0.0.3.1
ECMP              : Enabled             ECMP Max Routes   : 16

Auto Bind Tunnel
Resolution        : filter
Filter Protocol   : sr-isis

Max IPv6 Routes   : No Limit
Ignore NH Metric  : Disabled
Hash Label        : Disabled
Vrf Target        : target:1:1
Vrf Import        : None
Vrf Export        : None
MVPN Vrf Target   : None
MVPN Vrf Import   : None
MVPN Vrf Export   : None
Car. Sup C-VPN    : Disabled
Label mode        : vrf
BGP VPN Backup    : Disabled
BGP Export Inacti*: Disabled

SAP Count         : 1                   SDP Bind Count    : 0

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore


-------------------------------------------------------------------------------
VPRN service Network Specifics
-------------------------------------------------------------------------------
Ing Net QoS Policy : none
Ingress FP QGrp    : (none)                          Ing FP QGrp Inst : (none)
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SAP 1/1/4:1
-------------------------------------------------------------------------------
Service Id        : 1
SAP               : 1/1/4:1                 Encap             : q-tag
Description       : (Not Specified)
Admin State       : Up                      Oper State        : Up
Flags             : None
Multi Svc Site    : None
```

```
Last Status Change : 01/26/2015 11:22:14
Last Mgmt Change   : 01/26/2015 11:22:14
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                    QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)

Admin MTU          : 1518                      Oper MTU          : 1518
Ingr IP Fltr-Id    : 1                         Egr IP Fltr-Id    : 1
Ingr Mac Fltr-Id   : n/a                       Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                       Egr IPv6 Fltr-Id  : n/a
BGP IPv4 FlowSpec  : Disabled
BGP IPv6 FlowSpec  : Disabled
tod-suite          : None                      qinq-pbit-marking : both
                                               Egr Agg Rate Limit: max
Q Frame-Based Acct : Disabled                  Limit Unused BW   : Disabled

Acct. Pol          : None                      Collect Stats     : Disabled

Anti Spoofing      : None                      Dynamic Hosts     : Enabled
Avl Static Hosts   : 0                         Tot Static Hosts  : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None
AARP Id            : None

Oper Group         : (none)                    Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                       AIS               : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                         Egress qos-policy : 1
Ingress FP QGrp    : (none)                    Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                    Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                       Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

                        Packets                  Octets
CPM Ingress           : 0                        0

Forwarding Engine Stats
Dropped               : 0                        0
Received Valid        : 0                        0
Off. HiPrio           : 0                        0
Off. LowPrio          : 0                        0
Off. Uncolor          : 0                        0
Off. Managed          : 0                        0
```

```
Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0

Queueing Stats(Egress QoS Policy 1)
Dro. InProf           : 0                     0
Dro. OutProf          : 0                     0
For. InProf           : 4                     308
For. OutProf          : 0                     0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets               Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0

Egress Queue 1
For. InProf           : 4                     308
For. OutProf          : 0                     0
Dro. InProf           : 0                     0
Dro. OutProf          : 0                     0

-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : to_Ixia1
Admin State       : Up                  Oper (v4/v6)      : Up/Up
Protocols         : None
IP Addr/mask      : 1.3.9.3/24          Address Type      : Primary
IGP Inhibit       : Disabled            Broadcast Address : Host-ones
HoldUp-Time       : 0                   Track Srrp Inst   : 0
IPv6 Address     : 3ffe::103:903/120
IPv6 Addr State   : PREFERRED
CGA modifier     : (Not Specified)
HoldUp-Time       : 0                   Track Srrp Inst   : 0
Link Lcl Address : fe80::200:ff:fe00:3/64
Link Lcl State    : PREFERRED
Description       : N/A
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description       : (Not Specified)
If Index          : 2                   Virt. If Index    : 2
Last Oper Chg     : 01/26/2015 11:22:14 Global If Index   : 262
Mon Oper Grp      : None
Srrp En Rtng      : Disabled            Hold time         : N/A
SAP Id            : 1/1/4:1
TOS Marking       : Trusted             If Type           : VPRN
SNTP B.Cast       : False
MAC Address       : 00:00:00:00:00:03   Mac Accounting    : Disabled
```

```
Ingress stats     : Disabled            IPv6 DAD          : Enabled
TCP MSS V4        : 0                   TCP MSS V6        : 0
Arp Timeout       : 14400s              IPv6 Nbr ReachTime: 30s
Arp Retry Timer   : 5000ms
IP Oper MTU       : 1500                ICMP Mask Reply   : True
Arp Populate      : Disabled            Host Conn Verify  : Disabled
Cflowd (unicast)  : None                Cflowd (multicast): None
LdpSyncTimer      : None
LSR Load Balance  : system
EGR Load Balance  : both
TEID Load Balance : Disabled
SPI Load Balance  : Disabled
uRPF Chk          : disabled
uRPF Ipv6 Chk     : disabled
PTP HW Assist     : Disabled
Rx Pkts           : 0                   Rx Bytes          : 0
Rx V4 Pkts        : N/A                 Rx V4 Bytes       : N/A
Rx V6 Pkts        : N/A                 Rx V6 Bytes       : N/A
Tx Pkts           : 2                   Tx Bytes          : 172
Tx V4 Pkts        : 0                   Tx V4 Bytes       : 0
Tx V4 Discard Pkts: 0                   Tx V4 Discard Byt*: 0
Tx V6 Pkts        : 2                   Tx V6 Bytes       : 172
Tx V6 Discard Pkts: 0                   Tx V6 Discard Byt*: 0

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

Secure ND Details
Secure ND         : Disabled

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : 1.3.9.3*            Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Description       : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Oper State        : Down                Nbr Resolution    : Disabled
If-Id Option      : None                Remote Id         : Disabled
Src Addr          : Not configured
Python plcy       : (Not Specified)

DHCP6 Server Details
Admin State       : Down                Max. Lease States : 8000
```

```
ISA Tunnel redundant next-hop information
Static Next-Hop   :
Dynamic Next-Hop  :

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp   : (none)              Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)              Egr Port QGrp Inst: (none)
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-C#
```

The following output shows the OSPF protocol.

```
*A:Dut-C>config>service>vprn# show service id 1 all

===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                   Vpn Id            : 1
Service Type      : VPRN
Name              : XYZ Vprn 1
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 05/27/2015 17:58:34
Last Mgmt Change  : 05/27/2015 17:58:35
Admin State       : Up                  Oper State        : Up

Route Dist.       : 10.20.1.3:1         VPRN Type         : regular
Oper Route Dist   : 10.20.1.3:1
Oper RD Type      : configured
AS Number         : None                Router Id         : 10.20.1.3
ECMP              : Enabled             ECMP Max Routes   : 1

Auto Bind Tunnel
Resolution        : filter
Filter Protocol   : sr-ospf

Max IPv6 Routes   : No Limit
Ignore NH Metric  : Disabled
```

```
Hash Label        : Disabled
Vrf Target        : target:1:1
Vrf Import        : None
Vrf Export        : None
MVPN Vrf Target   : None
MVPN Vrf Import   : None
MVPN Vrf Export   : None
Car. Sup C-VPN    : Disabled
Label mode        : vrf
BGP VPN Backup    : Disabled
BGP Export Inacti*: Disabled

SAP Count         : 1                   SDP Bind Count    : 1

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore


-------------------------------------------------------------------------------
VPRN service Network Specifics
-------------------------------------------------------------------------------
Ing Net QoS Policy : none
Ingress FP QGrp    : (none)                          Ing FP QGrp Inst : (none)
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
 Sdp Id 230:1  -(10.20.1.2)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id            : 230:1                     Type              : Spoke
Spoke Descr     : (Not Specified)
VC Type           : n/a                       VC Tag            : n/a
Admin Path MTU    : 0                         Oper Path MTU     : 1582
Delivery          : MPLS
Far End           : 10.20.1.2
Tunnel Far End    : n/a                       LSP Types         : SR-OSPF
Hash Label        : Disabled                  Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled

Admin State       : Up                        Oper State        : Up
Acct. Pol         : None                      Collect Stats     : Disabled
Ingress Label     : 262137                    Egress Label      : 262138
Ingr Mac Fltr-Id  : n/a                       Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id   : n/a                       Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id : n/a                       Egr IPv6 Fltr-Id  : n/a
BGP IPv4 FlowSpec : Disabled
BGP IPv6 FlowSpec : Disabled
Admin ControlWord : Not Preferred             Oper ControlWord  : False
BFD Template      : None
BFD-Enabled       : no                        BFD-Encap         : ipv4
Last Status Change : 05/27/2015 18:15:00      Signaling         : n/a
Last Mgmt Change  : 05/27/2015 17:58:35
Class Fwding State : Down
Flags             : None
Local Pw Bits     : None
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits : lspPing bfdFaultDet
```

```
Peer Vccv CC Bits  : mplsRouterAlertLabel

Application Profile: None
Transit Policy     : None
AARP Id            : None

Ingress Qos Policy : (none)                  Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State        : Disabled                Oper State        : Disabled
Hello Time         : 10                      Hello Msg Len     : 0
Max Drop Count     : 3                       Hold Down Time    : 10

Statistics           :
I. Fwd. Pkts.      : 0                       I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                       I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 122                     E. Fwd. Octets    : 9372

-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false

-------------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------------
Squelch Levels     : None

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn                   Multicast LSP     : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings

-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
OSPF               : enabled                 LSP Id            : 524292
Oper Instance Id   : 0
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------
```

```
-------------------------------------------------------------------------------
SAP 1/1/4:1.1
-------------------------------------------------------------------------------
Service Id         : 1
SAP                : 1/1/4:1.1                Encap             : qinq
QinQ Dot1p         : Default
Description        : (Not Specified)
Admin State        : Up                       Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 05/27/2015 17:49:33
Last Mgmt Change   : 05/27/2015 17:58:34
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                   QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)

Admin MTU          : 1522                     Oper MTU          : 1522
Ingr IP Fltr-Id    : n/a                      Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                      Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                      Egr IPv6 Fltr-Id  : n/a
BGP IPv4 FlowSpec  : Disabled
BGP IPv6 FlowSpec  : Disabled
tod-suite          : None                     qinq-pbit-marking : both
                                              Egr Agg Rate Limit: max
Q Frame-Based Acct : Disabled                 Limit Unused BW   : Disabled

Acct. Pol          : None                     Collect Stats     : Disabled

Anti Spoofing      : None                     Dynamic Hosts     : Enabled
Avl Static Hosts   : 0                        Tot Static Hosts  : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None
AARP Id            : None

Oper Group         : (none)                   Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : accept                   AIS               : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 2                        Egress qos-policy : 2
Ingress FP QGrp    : (none)                   Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                   Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                      Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A
```

```
                          Packets                  Octets
CPM Ingress           : 0                          0

Forwarding Engine Stats
Dropped               : 0                          0
Received Valid        : 0                          0
Off. HiPrio           : 0                          0
Off. LowPrio          : 0                          0
Off. Uncolor          : 0                          0
Off. Managed          : 0                          0

Queueing Stats(Ingress QoS Policy 2)
Dro. HiPrio           : 0                          0
Dro. LowPrio          : 0                          0
For. InProf           : 0                          0
For. OutProf          : 0                          0

Queueing Stats(Egress QoS Policy 2)
Dro. InProf           : 0                          0
Dro. OutProf          : 0                          0
For. InProf           : 0                          0
For. OutProf          : 129                        11574
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                          Packets                  Octets
-------------------------------------------------------------------------------
Sap per Policer stats
-------------------------------------------------------------------------------
                          Packets                  Octets

Ingress Policer 1 (Stats mode: minimal)
Off. All              : 0                          0
Dro. All              : 0                          0
For. All              : 0                          0

Egress Policer 1 (Stats mode: minimal)
Off. All              : 129                        11574
Dro. All              : 0                          0
For. All              : 129                        11574

-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : To_Ixia_1
Admin State       : Up                   Oper (v4/v6)      : Up/Down
Protocols         : OSPFv2
IP Addr/mask      : 12.12.12.1/24        Address Type      : Primary
IGP Inhibit       : Disabled             Broadcast Address : Host-ones
HoldUp-Time       : 0                    Track Srrp Inst   : 0
Description       : N/A
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description       : (Not Specified)
If Index          : 2                    Virt. If Index    : 2
Last Oper Chg     : 05/27/2015 17:58:34 Global If Index   : 259
Mon Oper Grp      : None
```

```
Srrp En Rtng      : Disabled            Hold time         : N/A
SAP Id            : 1/1/4:1.1
TOS Marking       : Trusted             If Type           : VPRN
SNTP B.Cast       : False
MAC Address       : 24:28:01:01:00:04   Mac Accounting    : Disabled
Ingress stats     : Disabled            IPv6 DAD          : Enabled
TCP MSS V4        : 0                   TCP MSS V6        : 0
ARP Timeout       : 14400s              IPv6 Nbr ReachTime: 30s
ARP Retry Timer   : 5000ms              IPv6 stale time   : 14400s
ARP Limit         : Disabled            IPv6 Nbr Limit    : Disabled
ARP Threshold     : Disabled            IPv6 Nbr Threshold: Disabled
ARP Limit Log Only: Disabled            IPv6 Nbr Log Only : Disabled
IP MTU            : (default)
IP Oper MTU       : 1500                ICMP Mask Reply   : True
ARP Populate      : Disabled            Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Cflowd (unicast)  : None                Cflowd (multicast): None
LdpSyncTimer      : None
LSR Load Balance  : system
EGR Load Balance  : both
Vas If Type       : none
TEID Load Balance : Disabled
SPI Load Balance  : Disabled
uRPF Chk          : disabled
uRPF Ipv6 Chk     : disabled
PTP HW Assist     : Disabled
Rx Pkts           : 0                   Rx Bytes          : 0
Rx V4 Pkts        : N/A                 Rx V4 Bytes       : N/A
Rx V6 Pkts        : N/A                 Rx V6 Bytes       : N/A
Tx Pkts           : 127                 Tx Bytes          : 11430
Tx V4 Pkts        : 127                 Tx V4 Bytes       : 11430
Tx V4 Discard Pkts: 0                   Tx V4 Discard Byt*: 0
Tx V6 Pkts        : 0                   Tx V6 Bytes       : 0
Tx V6 Discard Pkts: 0                   Tx V6 Discard Byt*: 0
Mpls Rx Pkts      : 0                   Mpls Rx Bytes     : 0
Mpls Tx Pkts      : 0                   Mpls Tx Bytes     : 0

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : 12.12.12.1*         Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None
```

```
DHCP6 Relay Details
Description       : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Oper State        : Down                Nbr Resolution    : Disabled
If-Id Option      : None                Remote Id         : Disabled
Src Addr          : Not configured
Python plcy       : (Not Specified)

DHCP6 Server Details
Admin State       : Down                Max. Lease States : 8000

ISA Tunnel redundant next-hop information
Static Next-Hop   :
Dynamic Next-Hop  :

ICMP Details
Redirects    : Number - 100                     Time (seconds)   - 10
Unreachables : Number - 100                     Time (seconds)   - 10
TTL Expired  : Number - 100                     Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp   : (none)              Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)              Egr Port QGrp Inst: (none)

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : To_B_1
Admin State       : Up                  Oper (v4/v6)      : Up/Down
Protocols         : OSPFv2
IP Addr/mask      : 11.11.11.1/24       Address Type      : Primary
IGP Inhibit       : Disabled            Broadcast Address : Host-ones
HoldUp-Time       : 0                   Track Srrp Inst   : 0
Description       : N/A
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description       : (Not Specified)
If Index          : 3                   Virt. If Index    : 3
Last Oper Chg     : 05/27/2015 18:15:00 Global If Index   : 260
Mon Oper Grp      : None
Srrp En Rtng      : Disabled            Hold time         : N/A
SDP Id            : spoke-230:1

Spoke-SDP Details
```

```
Admin State       : Up                  Oper State        : Up
Hash Label        : Disabled            Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled
Peer Fault Ip     : None
Local Pw Bits      : None
Peer Pw Bits       : None
Peer Vccv CV Bits  : lspPing bfdFaultDet
Peer Vccv CC Bits  : mplsRouterAlertLabel
Flags              : None

TOS Marking       : Trusted             If Type           : VPRN
SNTP B.Cast       : False
MAC Address       : 66:49:ff:00:00:00   Mac Accounting    : Disabled
Ingress stats     : Disabled            IPv6 DAD          : Enabled
TCP MSS V4        : 0                   TCP MSS V6        : 0
ARP Timeout       : 14400s              IPv6 Nbr ReachTime: 30s
ARP Retry Timer   : 5000ms              IPv6 stale time   : 14400s
ARP Limit         : Disabled            IPv6 Nbr Limit    : Disabled
ARP Threshold     : Disabled            IPv6 Nbr Threshold: Disabled
ARP Limit Log Only: Disabled            IPv6 Nbr Log Only : Disabled
IP MTU            : 1500
IP Oper MTU       : 1500                ICMP Mask Reply   : True
ARP Populate      : Disabled            Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Cflowd (unicast)  : None                Cflowd (multicast): None
LdpSyncTimer      : None
LSR Load Balance  : system
EGR Load Balance  : both
Vas If Type       : none
TEID Load Balance : Disabled
SPI Load Balance  : Disabled
uRPF Chk          : disabled
uRPF Ipv6 Chk     : disabled
PTP HW Assist     : Disabled
Rx Pkts           : 0                   Rx Bytes          : 0
Rx V4 Pkts        : N/A                 Rx V4 Bytes       : N/A
Rx V6 Pkts        : N/A                 Rx V6 Bytes       : N/A
Tx Pkts           : 122                 Tx Bytes          : 9372
Tx V4 Pkts        : 0                   Tx V4 Bytes       : 0
Tx V4 Discard Pkts: 0                   Tx V4 Discard Byt*: 0
Tx V6 Pkts        : 0                   Tx V6 Bytes       : 0
Tx V6 Discard Pkts: 0                   Tx V6 Discard Byt*: 0
Mpls Rx Pkts      : 0                   Mpls Rx Bytes     : 0
Mpls Tx Pkts      : 0                   Mpls Tx Bytes     : 0

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : 11.11.11.1*         Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled
```

```
DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Description       : (Not Specified)
Admin State       : Down               Lease Populate    : 0
Oper State        : Down               Nbr Resolution    : Disabled
If-Id Option      : None               Remote Id         : Disabled
Src Addr          : Not configured
Python plcy       : (Not Specified)

DHCP6 Server Details
Admin State       : Down               Max. Lease States : 8000

ISA Tunnel redundant next-hop information
Static Next-Hop   :
Dynamic Next-Hop  :

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp   : (none)             Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)             Egr Port QGrp Inst: (none)
===============================================================================
* indicates that the corresponding row element may have been truncated.


##### VPLS SERVICE ############################
*A:Dut-B# show service id 1 all

===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                  Vpn Id            : 0
Service Type      : VPLS
Name              : vpls_1
Description       : (Not Specified)
```

```
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 01/28/2015 21:59:54
Last Mgmt Change  : 01/28/2015 21:59:54
Etree Mode        : Disabled
Admin State       : Up                  Oper State        : Up
MTU               : 1514                Def. Mesh VC Id   : 1
SAP Count         : 1                   SDP Bind Count    : 1
Snd Flush on Fail : Disabled            Host Conn Verify  : Disabled
Propagate MacFlush: Disabled            Per Svc Hashing   : Disabled
Allow IP Intf Bind: Disabled
Def. Gateway IP   : None
Def. Gateway MAC  : None
Temp Flood Time   : Disabled            Temp Flood        : Inactive
Temp Flood Chg Cnt: 0
VSD Domain        : <none>
SPI load-balance  : Disabled

-------------------------------------------------------------------------------
BGP Information
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Split Horizon Group specifics
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore              V-Mep Extensions  : Enabled


-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
 Sdp Id 230:1  -(10.20.1.3)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id            : 230:1                 Type              : Spoke
Spoke Descr     : (Not Specified)
Split Horiz Grp   : (Not Specified)
Etree Root Leaf Tag: Disabled             Etree Leaf AC     : Disabled
VC Type           : Ether                 VC Tag            : n/a
Admin Path MTU    : 0                     Oper Path MTU     : 1582
Delivery          : MPLS
Far End           : 10.20.1.3
Tunnel Far End    : n/a                   LSP Types         : SR-ISIS
Hash Label        : Disabled              Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled

Admin State       : Up                    Oper State        : Up
Acct. Pol         : None                  Collect Stats     : Disabled
Ingress Label     : 262135                Egress Label      : 262135
Ingr Mac Fltr-Id  : n/a                   Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id   : n/a                   Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id : n/a                   Egr IPv6 Fltr-Id  : n/a
Admin ControlWord : Not Preferred         Oper ControlWord  : False
BFD Template      : None
BFD-Enabled       : no                    BFD-Encap         : ipv4
Last Status Change : 01/28/2015 22:00:07  Signaling         : TLDP
Last Mgmt Change  : 01/28/2015 21:59:53
Endpoint          : N/A                   Precedence        : 4
PW Status Sig     : Enabled
```

```
Force Vlan-Vc      : Disabled                Force Qinq-Vc     : Disabled
Class Fwding State : Down
Flags              : None
Time to RetryReset : never                   Retries Left      : 3
Mac Move           : Blockable               Blockable Level   : Tertiary
Local Pw Bits      : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : lspPing bfdFaultDet
Peer Vccv CC Bits  : mplsRouterAlertLabel

Application Profile: None
Transit Policy     : None
Max Nbr of MAC Addr: No Limit                Total MAC Addr    : 0
Learned MAC Addr   : 0                       Static MAC Addr   : 0
OAM MAC Addr       : 0                       DHCP MAC Addr     : 0
Host MAC Addr      : 0                       Intf MAC Addr     : 0
SPB MAC Addr       : 0                       Cond MAC Addr     : 0
BGP EVPN Addr      : 0                       EVPN Static Addr  : 0

MAC Learning       : Enabled                 Discard Unkwn Srce: Disabled
MAC Aging          : Enabled
BPDU Translation   : Disabled
L2PT Termination   : Disabled
MAC Pinning        : Disabled
Ignore Standby Sig : False                   Block On Mesh Fail: False
Oper Group         : (none)                  Monitor Oper Grp  : (none)
Rest Prot Src Mac  : Disabled
Auto Learn Mac Prot: Disabled                RestProtSrcMacAct : Disable
Ing. Vlan Trans.   : 0

Ingress Qos Policy : (none)                  Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State        : Disabled                Oper State        : Disabled
Hello Time         : 10                      Hello Msg Len     : 0
Max Drop Count     : 3                       Hold Down Time    : 10

Statistics           :
I. Fwd. Pkts.      : 0                       I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                       I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                       E. Fwd. Octets    : 0

-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false

MCAC Policy Name   :
MCAC Max Unconst BW: no limit                MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                       MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                       MCAC Avail Opnl BW: unlimited

-------------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------------
V-MEP Filtering    : Disabled
Squelch Levels     : None
```

```
-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn                   Multicast LSP     : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings


-------------------------------------------------------------------------------
Stp Service Destination Point specifics
-------------------------------------------------------------------------------
Stp Admin State    : Up                      Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                     Port State        : Forwarding
Port Number        : 0                       Port Priority     : 128
Port Path Cost     : 10                      Auto Edge         : Enabled
Admin Edge         : Disabled                Oper Edge         : N/A
Link Type          : Pt-pt                   BPDU Encap        : Dot1d
Root Guard         : Disabled                Active Protocol   : N/A
Last BPDU from     : N/A
Designated Bridge  : N/A                     Designated Port Id: 0

Fwd Transitions    : 0                       Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                       Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                       TCN BPDUs tx      : 0
TC bit BPDUs rcvd  : 0                       TC bit BPDUs tx   : 0
RST BPDUs rcvd     : 0                       RST BPDUs tx      : 0
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SAP 1/1/8:1.1
-------------------------------------------------------------------------------
Service Id         : 1
SAP                : 1/1/8:1.1               Encap             : qinq
QinQ Dot1p         : Default
Description        : (Not Specified)
Admin State        : Up                      Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 01/28/2015 21:59:54
Last Mgmt Change   : 01/28/2015 21:59:53
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                  QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)
```

```
Etree Root Leaf Tag: Disabled               Etree Leaf Tag    : 0
Etree Leaf AC      : Disabled
Max Nbr of MAC Addr: No Limit               Total MAC Addr    : 0
Learned MAC Addr   : 0                      Static MAC Addr   : 0
OAM MAC Addr       : 0                      DHCP MAC Addr     : 0
Host MAC Addr      : 0                      Intf MAC Addr     : 0
SPB MAC Addr       : 0                      Cond MAC Addr     : 0
BGP EVPN Addr      : 0                      EVPN Static Addr  : 0
Admin MTU          : 1522                   Oper MTU          : 1522
Ingr IP Fltr-Id    : n/a                    Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                    Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                    Egr IPv6 Fltr-Id  : n/a
tod-suite          : None                   qinq-pbit-marking : both
                                            Egr Agg Rate Limit: max
Q Frame-Based Acct : Disabled               Limit Unused BW   : Disabled
ARP Reply Agent    : Disabled               Host Conn Verify  : Disabled
Mac Learning       : Enabled                Discard Unkwn Srce: Disabled
Mac Aging          : Enabled                Mac Pinning       : Disabled
BPDU Translation   : Disabled
L2PT Termination   : Disabled
Vlan-translation   : None

Acct. Pol          : None                   Collect Stats     : Disabled

Anti Spoofing      : None                   Dynamic Hosts     : Enabled
Avl Static Hosts   : 0                      Tot Static Hosts  : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None

Oper Group         : (none)                 Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)
Cflowd             : Disabled
MCAC Policy Name   :                        MCAC Const Adm St : Enable
MCAC Max Unconst BW: no limit               MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                      MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                      MCAC Avail Opnl BW: unlimited
Use LAG port weight: no
Restr MacProt Src  : Disabled               Restr MacUnpr Dst : Disabled
Auto Learn Mac Prot: Disabled               RestProtSrcMacAct : Disable
Time to RetryReset : never                  Retries Left      : 3
Mac Move           : Blockable              Blockable Level   : Tertiary
Egr MCast Grp      :
Auth Policy        : None

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : accept                 AIS               : Disabled
MC Prop-Hold-Timer : n/a                    V-MEP Filtering   : Disabled
Squelch Levels     : None

-------------------------------------------------------------------------------
Stp Service Access Point specifics
-------------------------------------------------------------------------------
Stp Admin State    : Up                     Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                    Port State        : Forwarding
Port Number        : N/A                    Port Priority     : 128
Port Path Cost     : 10                     Auto Edge         : Enabled
Admin Edge         : Disabled               Oper Edge         : N/A
```

```
Link Type          : Pt-pt                    BPDU Encap        : Dot1d
Root Guard         : Disabled                 Active Protocol   : N/A
Last BPDU from     : N/A
CIST Desig Bridge  : N/A                      Designated Port   : N/A

Forward transitions: 0                        Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                        Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                        TCN BPDUs tx      : 0
TC bit BPDUs rcvd  : 0                        TC bit BPDUs tx   : 0
RST BPDUs rcvd     : 0                        RST BPDUs tx      : 0
MST BPDUs rcvd     : 0                        MST BPDUs tx      : 0
-------------------------------------------------------------------------------
ARP host
-------------------------------------------------------------------------------
Admin State        : outOfService
Host Limit         : 1                        Min Auth Interval : 15 minutes

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 2                        Egress qos-policy : 2
Ingress FP QGrp    : (none)                   Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                   Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                      Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
-------------------------------------------------------------------------------
DHCP
-------------------------------------------------------------------------------
Description        : (Not Specified)
Admin State        : Down                     Lease Populate    : 0
DHCP Snooping      : Down                     Action            : Keep

Proxy Admin State  : Down
Proxy Lease Time   : N/A
Emul. Server Addr  : Not Configured
-------------------------------------------------------------------------------
Subscriber Management
-------------------------------------------------------------------------------
Admin State        : Down                     MAC DA Hashing    : False
Def Sub-Id         : None
Def Sub-Profile    : None
Def SLA-Profile    : None
Def Inter-Dest-Id  : None
Def App-Profile    : None
Sub-Ident-Policy   : None

Subscriber Limit   : 1
Single-Sub-Parameters
 Prof Traffic Only : False
 Non-Sub-Traffic   : N/A

Static host management
MAC learn options  : N/A

-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

                        Packets                 Octets
```

```
CPM Ingress           : 0                       0

Forwarding Engine Stats
Dropped               : 0                       0
Received Valid        : 0                       0
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 2)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 2)
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Ingress Queue 11 (Multipoint) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Managed          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Egress Queue 1
For. InProf           : 0                       0
For. OutProf          : 0                       0
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0

-------------------------------------------------------------------------------
VPLS Spanning Tree Information
-------------------------------------------------------------------------------
VPLS oper state    : Up                       Core Connectivity : Down
Stp Admin State    : Down                     Stp Oper State    : Down
Mode               : Rstp                     Vcp Active Prot.  : N/A

Bridge Id          : 80:00.00:03:fa:32:16:62  Bridge Instance Id: 0
Bridge Priority    : 32768                    Tx Hold Count     : 6
Topology Change    : Inactive                 Bridge Hello Time : 2
Last Top. Change   : 0d 00:00:00              Bridge Max Age    : 20
Top. Change Count  : 0                        Bridge Fwd Delay  : 15
MST region revision: 0                        Bridge max hops   : 20
MST region name    :
```

```
Root Bridge        : N/A
Primary Bridge     : N/A

Root Path Cost     : 0                       Root Forward Delay: 0
Rcvd Hello Time    : 0                       Root Max Age      : 0
Root Priority      : 0                       Root Port         : N/A

-------------------------------------------------------------------------------
Forwarding Database specifics
-------------------------------------------------------------------------------
Service Id        : 1                   Mac Move          : Disabled
Primary Factor    : 3                   Secondary Factor  : 2
Mac Move Rate     : 2                   Mac Move Timeout  : 10
Mac Move Retries  : 3
Table Size        : 250                 Total Count       : 0
Learned Count     : 0                   Static Count      : 0
OAM MAC Count     : 0                   DHCP MAC Count    : 0
Host MAC Count    : 0                   Intf MAC Count    : 0
Spb Count         : 0                   Cond MAC Count    : 0
BGP EVPN Count    : 0                   EVPN Static Cnt   : 0
Remote Age        : 900                 Local Age         : 300
High Watermark    : 95%                 Low Watermark     : 90%
Mac Learning      : Enabled             Discard Unknown   : Disabled
Mac Aging         : Enabled             Relearn Only      : False
Mac Subnet Len    : 48

-------------------------------------------------------------------------------
IGMP Snooping Base info
-------------------------------------------------------------------------------
Admin State : Down
Querier     : No querier found
-------------------------------------------------------------------------------
Sap/Sdp                   Oper MRtr Pim  Send Max   Max  Max   MVR       Num
Id                        Stat Port Port Qrys Grps  Srcs Grp   From-VPLS Grps
                                                      Srcs
-------------------------------------------------------------------------------
sap:1/1/8:1.1             Up   No   No   No   None  None None  Local     0
sdp:230:1                 Up   No   No   No   None  None None  N/A       0

-------------------------------------------------------------------------------
MLD Snooping Base info
-------------------------------------------------------------------------------
Admin State : Down
Querier     : No querier found
-------------------------------------------------------------------------------
Sap/Sdp                  Oper    MRtr  Send      Max Num   MVR        Num
Id                       State   Port  Queries   Groups    From-VPLS  Groups
-------------------------------------------------------------------------------
sap:1/1/8:1.1            Up      No    Disabled  No Limit  Local      0
sdp:230:1                Up      No    Disabled  No Limit  N/A        0

-------------------------------------------------------------------------------
DHCP Summary, service 1
-------------------------------------------------------------------------------
Sap/Sdp                Snoop  Used/       Arp Reply   Info     Admin
                              Provided    Agent       Option   State
-------------------------------------------------------------------------------
sap:1/1/8:1.1          No     0/0         No          Keep     Down
sdp:230:1              No     N/A         N/A         N/A      N/A
-------------------------------------------------------------------------------
Number of Entries : 2
-------------------------------------------------------------------------------
```

```
-------------------------------------------------------------------------------
ARP host Summary, service 1
-------------------------------------------------------------------------------
Sap                    Used        Provided    Admin State
-------------------------------------------------------------------------------
sap:1/1/8:1.1          0           1           outOfService
-------------------------------------------------------------------------------
Number of SAPs : 1     0
-------------------------------------------------------------------------------

===============================================================================

===============================================================================
-------------------------------------------------------------------------------
WLAN Gateway specifics
-------------------------------------------------------------------------------
Admin State            : disabled
Description            : (Not Specified)
SAP-template           : (Not Specified)
Last management change : (Not Specified)
No associated WLAN Gateway interface VLAN tag ranges found.
===============================================================================

===============================================================================
Service VPLS Group Information
===============================================================================
===============================================================================
===============================================================================
VPLS VXLAN, Ingress VXLAN Network Id: 0

===============================================================================
Egress VTEP, VNI
===============================================================================
VTEP Address           Egress VNI     Num. MACs    In Mcast List?  Oper State
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

-------------------------------------------------------------------------------
Service Endpoints
-------------------------------------------------------------------------------
No Endpoints found.
-------------------------------------------------------------------------------

===============================================================================
VPLS Sites
===============================================================================
Site                Site-Id   Dest                Mesh-SDP  Admin   Oper  Fwdr
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
*A:Dut-B#


####################### EPIPE ####################
*A:Dut-B# show service id 1 all

===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                   Vpn Id            : 0
```

```
Service Type      : Epipe
Name              : (Not Specified)
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 01/28/2015 22:05:35
Last Mgmt Change  : 01/28/2015 22:05:22
Test Service      : No
Admin State       : Up                  Oper State        : Up
MTU               : 1514
Vc Switching      : False
SAP Count         : 1                   SDP Bind Count    : 1
Per Svc Hashing   : Disabled
Force QTag Fwd    : Disabled

-------------------------------------------------------------------------------
BGP Information
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore


-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
 Sdp Id 230:1  -(10.20.1.3)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id            : 230:1                 Type              : Spoke
Spoke Descr     : (Not Specified)
VC Type           : Ether                 VC Tag            : n/a
Admin Path MTU    : 0                     Oper Path MTU     : 1582
Delivery          : MPLS
Far End           : 10.20.1.3
Tunnel Far End    : n/a                   LSP Types         : SR-ISIS
Hash Label        : Disabled              Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled

Admin State       : Up                    Oper State        : Up
Acct. Pol         : None                  Collect Stats     : Disabled
Ingress Label     : 262135                Egress Label      : 262135
Ingr Mac Fltr-Id  : n/a                   Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id   : n/a                   Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id : n/a                   Egr IPv6 Fltr-Id  : n/a
Admin ControlWord : Not Preferred         Oper ControlWord  : False
Admin BW(Kbps)    : 0                     Oper BW(Kbps)     : 0
BFD Template      : None
BFD-Enabled       : no                    BFD-Encap         : ipv4
Last Status Change : 01/28/2015 22:05:35  Signaling         : TLDP
Last Mgmt Change  : 01/28/2015 22:05:22
Endpoint          : N/A                   Precedence        : 4
PW Status Sig     : Enabled
Force Vlan-Vc     : Disabled              Force Qinq-Vc     : Disabled
Class Fwding State : Down
Flags             : None
Local Pw Bits     : None
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits  : lspPing bfdFaultDet
Peer Vccv CC Bits  : mplsRouterAlertLabel
```

```
Application Profile: None
Transit Policy     : None
Standby Sig Slave  : False
Block On Peer Fault: False
Use SDP B-MAC      : False

Ingress Qos Policy : (none)                  Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State        : Disabled                Oper State        : Disabled
Hello Time         : 10                      Hello Msg Len     : 0
Max Drop Count     : 3                       Hold Down Time    : 10

Statistics            :
I. Fwd. Pkts.      : 0                       I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                       I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                       E. Fwd. Octets    : 0

-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false

-------------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------------
Squelch Levels     : None

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn                   Multicast LSP     : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings

-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SAP 1/1/8:1.1
-------------------------------------------------------------------------------
```

```
Service Id         : 1
SAP                : 1/1/8:1.1                Encap            : qinq
QinQ Dot1p         : Default
Description        : (Not Specified)
Admin State        : Up                       Oper State       : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 01/28/2015 22:05:22
Last Mgmt Change   : 01/28/2015 22:05:22
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                   QinQ Ethertype   : 0x8100
Split Horizon Group: (Not Specified)

Admin MTU          : 1522                     Oper MTU         : 1522
Ingr IP Fltr-Id    : n/a                      Egr IP Fltr-Id   : n/a
Ingr Mac Fltr-Id   : n/a                      Egr Mac Fltr-Id  : n/a
Ingr IPv6 Fltr-Id  : n/a                      Egr IPv6 Fltr-Id : n/a
tod-suite          : None                     qinq-pbit-marking : both
                                              Egr Agg Rate Limit: max
Endpoint           : N/A
Q Frame-Based Acct : Disabled                 Limit Unused BW  : Disabled
Vlan-translation   : None

Acct. Pol          : None                     Collect Stats    : Disabled

Application Profile: None
Transit Policy     : None

Oper Group         : (none)                   Monitor Oper Grp : (none)
Host Lockout Plcy  : n/a
Ignore Oper Down   : Disabled
Lag Link Map Prof  : (none)
Cflowd             : Disabled

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : accept                   AIS              : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 2                        Egress qos-policy : 2
Ingress FP QGrp    : (none)                   Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                   Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                      Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

                        Packets                  Octets
CPM Ingress           : 0                        0

Forwarding Engine Stats
Dropped               : 0                        0
Received Valid        : 0                        0
```

```
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 2)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 2)
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Egress Queue 1
For. InProf           : 0                       0
For. OutProf          : 0                       0
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0

-------------------------------------------------------------------------------
Service Endpoints
-------------------------------------------------------------------------------
No Endpoints found.
-------------------------------------------------------------------------------

===============================================================================
VLL Sites
===============================================================================
Site                Site-Id   Dest                Admin       Oper  Fwdr
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
*A:Dut-B#

############ IES SPOKE ############

A:Dut-B#
*A:Dut-B#
*A:Dut-B#
*A:Dut-B# show service id 1 all

===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                   Vpn Id            : 0
Service Type      : IES
```

```
Name              : (Not Specified)
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 01/28/2015 22:17:56
Last Mgmt Change  : 01/28/2015 22:10:04
Admin State       : Up                  Oper State        : Up
SAP Count         : 0                   SDP Bind Count    : 1

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore


-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
 Sdp Id 230:1  -(10.20.1.3)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id            : 230:1                 Type              : Spoke
Spoke Descr     : (Not Specified)
VC Type           : Ether                 VC Tag            : n/a
Admin Path MTU    : 0                     Oper Path MTU     : 1582
Delivery          : MPLS
Far End           : 10.20.1.3
Tunnel Far End    : n/a                   LSP Types         : SR-ISIS
Hash Label        : Disabled              Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled

Admin State       : Up                    Oper State        : Up
Acct. Pol         : None                  Collect Stats     : Disabled
Ingress Label     : 262133                Egress Label      : 262133
Ingr Mac Fltr-Id  : n/a                   Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id   : n/a                   Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id : n/a                   Egr IPv6 Fltr-Id  : n/a
BGP IPv4 FlowSpec : Disabled
BGP IPv6 FlowSpec : Disabled
Admin ControlWord : Not Preferred         Oper ControlWord  : False
BFD Template      : None
BFD-Enabled       : no                    BFD-Encap         : ipv4
Last Status Change : 01/28/2015 22:17:56  Signaling         : TLDP
Last Mgmt Change  : 01/28/2015 22:16:50
Class Fwding State : Down
Flags             : None
Local Pw Bits     : None
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits : lspPing bfdFaultDet
Peer Vccv CC Bits : mplsRouterAlertLabel

Application Profile: None
Transit Policy    : None
AARP Id           : None

Ingress Qos Policy : (none)               Egress Qos Policy : (none)
Ingress FP QGrp   : (none)                Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)                Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State       : Disabled              Oper State        : Disabled
Hello Time        : 10                    Hello Msg Len     : 0
```

```
Max Drop Count     : 3                        Hold Down Time    : 10

Statistics            :
I. Fwd. Pkts.      : 0                        I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                        I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 3                        E. Fwd. Octets    : 180

-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                 Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false

-------------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------------
Squelch Levels     : None

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                 EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn                    Multicast LSP     : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings

-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------
No Sap Associations

-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name            : iesSpokeToC
Admin State        : Up                   Oper (v4/v6)      : Up/Down
Protocols          : None
IP Addr/mask       : 20.20.20.2/24        Address Type      : Primary
IGP Inhibit        : Disabled             Broadcast Address : Host-ones
HoldUp-Time        : 0                    Track Srrp Inst   : 0
Description        : N/A
-------------------------------------------------------------------------------
Details
```

```
-------------------------------------------------------------------------------
Description       : (Not Specified)
If Index          : 4                   Virt. If Index    : 4
Last Oper Chg     : 01/28/2015 22:17:56 Global If Index   : 257
Mon Oper Grp      : None
Srrp En Rtng      : Disabled            Hold time         : N/A
SDP Id            : spoke-230:1

Spoke-SDP Details
Admin State       : Up                  Oper State        : Up
Hash Label        : Disabled            Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled
Peer Fault Ip     : None
Local Pw Bits      : None
Peer Pw Bits       : None
Peer Vccv CV Bits  : lspPing bfdFaultDet
Peer Vccv CC Bits  : mplsRouterAlertLabel
Flags              : None

TOS Marking       : Untrusted           If Type           : IES
SNTP B.Cast       : False               IES ID            : 1
MAC Address       : 00:03:fa:32:16:62   Mac Accounting    : Disabled
Ingress stats     : Disabled            IPv6 DAD          : Enabled
TCP MSS V4        : 0                   TCP MSS V6        : 0
Arp Timeout       : 14400s              IPv6 Nbr ReachTime: 30s
Arp Retry Timer   : 5000ms
IP Oper MTU       : 1500                ICMP Mask Reply   : True
Arp Populate      : Disabled            Host Conn Verify  : Disabled
Cflowd (unicast)  : None                Cflowd (multicast): None
LdpSyncTimer      : None
LSR Load Balance  : system
EGR Load Balance  : both
TEID Load Balance : Disabled
SPI Load Balance  : Disabled
uRPF Chk          : disabled
uRPF Ipv6 Chk     : disabled
PTP HW Assist     : Disabled
Rx Pkts           : 0                   Rx Bytes          : 0
Rx V4 Pkts        : N/A                 Rx V4 Bytes       : N/A
Rx V6 Pkts        : N/A                 Rx V6 Bytes       : N/A
Tx Pkts           : 3                   Tx Bytes          : 180
Tx V4 Pkts        : 0                   Tx V4 Bytes       : 0
Tx V4 Discard Pkts: 0                   Tx V4 Discard Byt*: 0
Tx V6 Pkts        : 0                   Tx V6 Bytes       : 0
Tx V6 Discard Pkts: 0                   Tx V6 Discard Byt*: 0

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : 20.20.20.2*         Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled
```

```
DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Description       : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Oper State        : Down                Nbr Resolution    : Disabled
If-Id Option      : None                Remote Id         : Disabled
Src Addr          : Not configured
Python plcy       : (Not Specified)

DHCP6 Server Details
Admin State       : Down                Max. Lease States : 8000

ISA Tunnel redundant next-hop information
Static Next-Hop   :
Dynamic Next-Hop  :

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

Network Domains Associated
default

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp   : (none)              Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)              Egr Port QGrp Inst: (none)
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-B#


*A:bksim1618# show service id 2 all
===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 2                   Vpn Id            : 0
```

```
Service Type      : VPRN
Name              : (Not Specified)
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 08/21/2013 08:54:14
Last Mgmt Change  : 08/21/2013 08:56:06
Admin State       : Down                Oper State        : Down

Route Dist.       : None                VPRN Type         : regular
AS Number         : None                Router Id         : 18.18.18.18
ECMP              : Enabled             ECMP Max Routes   : 1
Max IPv4 Routes   : No Limit            Auto Bind         : None
Max IPv6 Routes   : No Limit
Ignore NH Metric  : Disabled
Hash Label        : Disabled
Vrf Target        : None
Vrf Import        : None
Vrf Export        : None
MVPN Vrf Target   : None
MVPN Vrf Import   : None
MVPN Vrf Export   : None
Car. Sup C-VPN    : Disabled
Label mode        : vrf
BGP VPN Backup    : Disabled

SAP Count         : 0                   SDP Bind Count    : 0
-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore
-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------
No Sap Associations
-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------
No Interface Associations found.
-------------------------------------------------------------------------------
PTP Configuration
-------------------------------------------------------------------------------
Admin State       : down              Oper State        : down
Peer Limit        : 25
===============================================================================
```

Sample Output

The following is a part of a sample output relevant to PW SAPs:

```
*A:Dut-B# show service id 3 all
...
-------------------------------------------------------------------------------
SAP pw-3:3
-------------------------------------------------------------------------------
Service Id        : 3
SAP               : pw-3:3                  Encap             : q-tag
Description       : (Not Specified)
Admin State       : Up                      Oper State        : Up
```

```
Flags              : None
Multi Svc Site     : None
Last Status Change : 02/03/2015 18:04:39
Last Mgmt Change   : 02/03/2015 18:04:13
Sub Type           : regular
Split Horizon Group: (Not Specified)
Admin MTU          : 1518                    Oper MTU          : 1518
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id  : n/a
tod-suite          : None                    qinq-pbit-marking : both
                                             Egr Agg Rate Limit: max
Endpoint           : N/A
                                             Limit Unused BW   : Disabled
Vlan-translation   : None
Acct. Pol          : None                    Collect Stats     : Disabled
Application Profile: None
Transit Policy     : None
Oper Group         : (none)                  Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Ignore Oper Down   : Disabled
Lag Link Map Prof  : (none)
Cflowd             : Disabled

-------------------------------------------------------------------------------
...
```

authentication

Syntax **authentication**

Context show>service>id

Description This command enables the context to display subscriber authentication information.

statistics

Syntax **statistics** [**policy** *name*] [**sap** *sap-id*]

Context show>service>id>authentication

Description This command displays session authentication statistics for this service.

Parameters **policy** *name* — Specifies the subscriber authentication policy statistics to display.

sap *sap-id* — Specifies the SAP ID statistics to display. See Common CLI Command Descriptions on page 847 for command syntax.

Sample Output

```
*A:ALA-1# show service id 11 authentication statistics
===============================================================
Authentication statistics
===============================================================
Interface / SAP                Authentication  Authentication
                               Successful      Failed
```

```
-------------------------------------------------------------------
abc-11-90.1.0.254               1582            3
-------------------------------------------------------------------
Number of entries: 1
===================================================================
*A:ALA-1#
```

arp

Syntax **arp** [*ip-address*] | [**mac** *ieee-address*] | [**sap** *sap-id*] | [**interface** *ip-int-name*] [**sdp** *sdp-id:vc-id*] [**summary**]

Context show>service>id

Description Displays the ARP table for the IES instance.

Parameters *ip-address* — Displays only ARP entries in the ARP table with the specified IP address.

Default All IP addresses.

mac *ieee-address* **—** Displays only ARP entries in the ARP table with the specified 48-bit MAC address. The MAC address can be expressed in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd-ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers.

Default All MAC addresses.

sap *sap-id* **—** Displays SAP information for the specified SAP ID. See Common CLI Command Descriptions on page 847 for command syntax.

port id — Specifies matching service ARP entries associated with the specified IP interface.

ip-address — The IP address of the interface for which to display matching ARP entries.

Values 1.0.0.0 — 223.255.255.255

ip-int-name — The IP interface name for which to display matching ARPs.

Output **Show Service-ID ARP —** The following table describes show service-id ARP output fields.

Label	Description
Service ID	The service ID number.
MAC	The specified MAC address
Source-Identifier	The location the MAC is defined.
Type	Static – FDB entries created by management. Learned – Dynamic entries created by the learning process. OAM – Entries created by the OAM process.
Age	The time elapsed since the service was enabled.
Interface	The interface applied to the service.
Port	The port where the SAP is applied.

Sample Output

```
*A:ALA-12# show service id 2 arp
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Type    Age       Interface         Port
-------------------------------------------------------------------------------
190.11.1.1      00:03:fa:00:08:22 Other   00:00:00  ies-100-190.11.1  1/1/11:0
===============================================================================
*A:ALA-12#
```

arp-host

Syntax **arp-host** [**wholesaler** *service-id*] [**sap** *sap-id* | **interface** *interface-name* | **ip-address** *ip-address*[/*mask*] | **mac** *ieee-address* | {[**port** *port-id*] [**no-inter-dest-id** | **inter-dest-id** *inter-dest-id*]}] [**detail**]
arp-host statistics [**sap** *sap-id* | **interface** *interface-name*]
arp-host summary [**interface** *interface-name*]

Context show>service>id

Description This command displays ARP host related information.

Sample Output

```
*A:Dut-C# show service id 2 arp-host
===============================================================================
ARP host table, service 2
===============================================================================
IP Address      Mac Address       Sap Id              Remaining           MC
                                                      Time                Stdby
-------------------------------------------------------------------------------
128.128.1.2     00:80:00:00:00:01 2/1/5:2             00h04m41s
128.128.1.3     00:80:00:00:00:02 2/1/5:2             00h04m42s
128.128.1.4     00:80:00:00:00:03 2/1/5:2             00h04m43s
128.128.1.5     00:80:00:00:00:04 2/1/5:2             00h04m44s
128.128.1.6     00:80:00:00:00:05 2/1/5:2             00h04m45s
128.128.1.7     00:80:00:00:00:06 2/1/5:2             00h04m46s
128.128.1.8     00:80:00:00:00:07 2/1/5:2             00h04m47s
128.128.1.9     00:80:00:00:00:08 2/1/5:2             00h04m48s
128.128.1.10    00:80:00:00:00:09 2/1/5:2             00h04m49s
128.128.1.11    00:80:00:00:00:0a 2/1/5:2             00h04m50s
-------------------------------------------------------------------------------
Number of ARP hosts : 10
===============================================================================
*A:Dut-C#


*A:Dut-C# show service id 2 arp-host ip-address 128.128.1.2 detail
===============================================================================
ARP hosts for service 2
===============================================================================
Service ID           : 2
IP Address           : 128.128.1.2
MAC Address          : 00:80:00:00:00:01
SAP                  : 2/1/5:2
Remaining Time       : 00h04m58s
```

```
Sub-Ident            : "alu_1_2"
Sub-Profile-String   : ""
SLA-Profile-String   : ""
App-Profile-String   : ""
ARP host ANCP-String : ""
ARP host Int Dest Id : ""
RADIUS-User-Name     : "128.128.1.2"

Session Timeout (s)  : 301
Start Time           : 02/09/2009 16:35:07
Last Auth            : 02/09/2009 16:36:34
Last Refresh         : 02/09/2009 16:36:38
Persistence Key      : N/A
-------------------------------------------------------------------------------
Number of ARP hosts : 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show service id 2 arp-host statistics
===============================================================================
ARP host statistics
===============================================================================
Num Active Hosts             : 20
Received Triggers            : 70
Ignored Triggers             : 10
Ignored Triggers (overload)  : 0
SHCV Checks Forced           : 0
Hosts Created                : 20
Hosts Updated                : 40
Hosts Deleted                : 0
Authentication Requests Sent : 40
===============================================================================
*A:Dut-C#


*A:Dut-C# show service id 2 arp-host summary
===============================================================
ARP host Summary, service 2
===============================================================
Sap                    Used        Provided    Admin State
---------------------------------------------------------------
sap:2/1/5:2            20          8000        inService
---------------------------------------------------------------
Number of SAPs : 1
---------------------------------------------------------------
===============================================================
*A:Dut-C#
```

base

Syntax **base**

Context show>service>id

Description Displays basic information about the service ID including service type, description, SAPs and SDPs.

Output **Show Service-ID Base —** The following table describes show service-id base output fields:

Label	Description
Service Id	The service identifier.
Vpn Id	Specifies the VPN ID assigned to the service.
Service Type	Specifies the type of service.
Description	Generic information about the service.
Customer Id	The customer identifier.
Last Mgmt Change	The date and time of the most recent management-initiated change to this customer.
Adm	The desired state of the service.
Oper	The operating state of the service.
Mtu	The largest frame size (in octets) that the service can handle.
Def. Mesh VC Id	This object is only valid in services that accept mesh SDP bindings. It is used to validate the VC ID portion of each mesh SDP binding defined in the service.
SAP Count	The number of SAPs defined on the service.
SDP Bind Count	The number of SDPs bound to the service.
Identifier	Specifies the service access (SAP) and destination (SDP) points.
Type	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on the SDP.
AdmMTU	Specifies the desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end ESR, without requiring the packet to be fragmented.
OprMTU	Specifies the actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end ESR, without requiring the packet to be fragmented.
Opr	The operating state of the SDP.

Sample Output

```
*A:SetupCLI# show service id 3 base
===============================================================================
Service Basic Information
===============================================================================
Service Id        : 3                   Vpn Id            : 0
Service Type      : VPRN
Name              : (Not Specified)
Description       : (Not Specified)
```

```
Customer Id       : 1
Last Status Change: 10/08/2009 04:55:01
Last Mgmt Change  : 10/08/2009 06:48:38
Admin State       : Down                Oper State        : Down

Route Dist.       : None                VPRN Type         : regular
AS Number         : None                Router Id         : 10.20.30.40
ECMP              : Enabled             ECMP Max Routes   : 1
Max IPv4 Routes   : No Limit            Auto Bind         : MPLS
Max IPv6 Routes   : No Limit
Ignore NH Metric  : Disabled
Hash Label        : Enabled
Vrf Target        : None
Vrf Import        : None
Vrf Export        : None
MVPN Vrf Target   : None
MVPN Vrf Import   : None
MVPN Vrf Export   : None

SAP Count         : 0                   SDP Bind Count    : 1
-------------------------------------------------------------------------------
Service Access & Destination Points
-------------------------------------------------------------------------------
Identifier                              Type         AdmMTU  OprMTU  Adm   Opr
-------------------------------------------------------------------------------
sdp:2000:1 S(101.101.101.101)           TLDP         1500    1500    Up    Down
===============================================================================
*A:SetupCLI#
```

dhcp

Syntax **dhcp**

Context show>service>id

Description This command enables the context to display DHCP information for the specified service.

lease-state

Syntax **lease-state** [[**sap** *sap-id*] [**sdp** [*sdp-id*[:*vc-id*]]] | [**interface** *interface-name*] | [**ip-address** *ip-address*[*/mask*]] | [**mac** *ieee-address*] | [**wholesaler** *service-id*]] [**detail**]

Context show>service>id>dhcp

Description This command displays DHCP lease state related information. Refer to the following for various show command output:

- Lease State Sample Output on page 765
- Routed CO Sample Output on page 765
- Wholesaler/Retailer Sample Output on page 766

Parameters *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

sdp-id — The SDP identifier.

Values 1 — 17407

vc-id — The virtual circuit ID on the SDP ID for which to display information.

Values 1 — 4294967295

interface *interface-name* — Displays information for the specified IP interface.

ip-address *ip-address* — Displays information associated with the specified IP address.

detail — Displays detailed information.

wholesaler *service-id* **—** The VPRN service ID of the wholesaler. When specified in this context, SAP, SDP, interface, IP address and MAC parameters are ignored.

Values 1 — 2147483647

Sample Output

```
*A:ALA-48>config# show service id 101 dhcp lease-state
===============================================================================
DHCP lease state table, service 101
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                      LifeTime   Origin   Stdby
-------------------------------------------------------------------------------
102.1.1.52      00:00:1f:bd:00:bb lag-1:101           00h02m56s  DHCP-R
103.3.2.62      00:00:1f:bd:00:c6 lag-1:105           00h02m59s  Radius
-------------------------------------------------------------------------------
Number of lease states : 2
===============================================================================
*A:ALA-48>config#


*A:ALA-48>config# show service id 105 dhcp lease-state  wholesaler 101
===============================================================================
DHCP lease state table, service 105
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                      LifeTime   Origin   Stdby
-------------------------------------------------------------------------------
Wholesaler 101 Leases
-------------------------------------------------------------------------------
103.3.2.62      00:00:1f:bd:00:c6 lag-1:105           00h00m39s  Radius
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
*A:ALA-48>config#
```

Routed CO Sample Output

```
A:ALA-_Dut-A# show service id 13 dhcp lease-state
===============================================================================
DHCP lease state table, service 13
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                      LifeTime   Origin   Stdby
-------------------------------------------------------------------------------
13.13.40.1      00:00:00:00:00:13 1/1/1:13            00h00m58s  Radius
-------------------------------------------------------------------------------
Number of lease states : 1
```

```
===============================================================================
A:ALA-_Dut-A#

A:ALA-_Dut-A# show service id 13 dhcp lease-state detail
===============================================================================
DHCP lease states for service 13
===============================================================================
Service ID           : 13
IP Address           : 13.13.40.1
Mac Address          : 00:00:00:00:00:13
Subscriber-interface : ies-13-13.13.1.1
Group-interface      : intf-13
SAP                  : 1/1/1:13
Remaining Lifetime   : 00h00m58s
Persistence Key      : N/A

Sub-Ident            : "TEST"
Sub-Profile-String   : "ADSL GO"
SLA-Profile-String   : "BE-Video"
Lease ANCP-String    : ""

Sub-Ident origin     : Radius
Strings origin       : Radius
Lease Info origin    : Radius

Ip-Netmask           : 255.255.0.0
Broadcast-Ip-Addr    : 13.13.255.255
Default-Router       : N/A
Primary-Dns          : 13.13.254.254
Secondary-Dns        : 13.13.254.253

ServerLeaseStart     : 12/24/2006 23:48:23
ServerLastRenew      : 12/24/2006 23:48:23
ServerLeaseEnd       : 12/24/2006 23:49:23
Session-Timeout      : 0d 00:01:00
DHCP Server Addr     : N/A

Persistent Relay Agent Information
  Circuit Id         : ancstb6_Dut-A|13|intf-13|0|13
  Remote Id          : stringtest
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
A:ALA-_Dut-A#
```

Wholesaler/Retailer Sample Output

```
A:ALA-_Dut-A# show service id 2000 dhcp lease-state detail
===============================================================================
DHCP lease states for service 2000
===============================================================================
Wholesaler 1000 Leases
-------------------------------------------------------------------------------
Service ID           : 1000
IP Address           : 13.13.1.254
Mac Address          : 00:00:00:00:00:13
Subscriber-interface : whole-sub
Group-interface      : intf-13
Retailer             : 2000
Retailer If          : retail-sub
SAP                  : 1/1/1:13
Remaining Lifetime   : 00h09m59s
```

```
Persistence Key      : N/A

Sub-Ident            : "TEST"
Sub-Profile-String   : "ADSL GO"
SLA-Profile-String   : "BE-Video"
Lease ANCP-String    : ""

Sub-Ident origin     : Retail DHCP
Strings origin       : Retail DHCP
Lease Info origin    : Retail DHCP

Ip-Netmask           : 255.255.0.0
Broadcast-Ip-Addr    : 13.13.255.255
Default-Router       : N/A
Primary-Dns          : N/A
Secondary-Dns        : N/A

ServerLeaseStart     : 12/25/2006 00:29:41
ServerLastRenew      : 12/25/2006 00:29:41
ServerLeaseEnd       : 12/25/2006 00:39:41
Session-Timeout      : 0d 00:10:00
DHCP Server Addr     : 10.232.237.2

Persistent Relay Agent Information
  Circuit Id         : 1/1/1:13
  Remote Id          : stringtest
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
A:ALA-_Dut-A#
```

statistics

Syntax **statistics** [**sap** *sap-id*]
statistics [**sdp** *sdp-id*:*vc-id*]
statistics [**interface** *interface-name*]

Context show>service>id>dhcp

Description Displays DHCP statistics information.

Parameters *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

sdp-id — The SDP identifier.

Values 1 — 17407

vc-id — The virtual circuit ID on the SDP ID for which to display information.

Values 1 — 4294967295

interface *interface-name* — Displays information for the specified IP interface.

Show DHCP Statistics Output — The following table describes the output fields for DHCP statistics.

Label	Description
Received Packets	The number of packets received from the DHCP clients.
Transmitted Packets	The number of packets transmitted to the DHCP clients.
Received Malformed Packets	The number of corrupted/invalid packets received from the DHCP clients.
Received Untrusted Packets	The number of untrusted packets received from the DHCP clients. In this case, a frame is dropped due to the client sending a DHCP packet with Option 82 filled in before “trust” is set under the DHCP interface command.
Client Packets Discarded	The number of packets received from the DHCP clients that were discarded.
Client Packets Relayed	The number of packets received from the DHCP clients that were forwarded.
Client Packets Snooped	The number of packets received from the DHCP clients that were snooped.
Server Packets Discarded	The number of packets received from the DHCP server that were discarded.
Server Packets Relayed	The number of packets received from the DHCP server that were forwarded.
Server Packets Snooped	The number of packets received from the DHCP server that were snooped.

Sample Output

```
A:sim1# show service id 11 dhcp statistics
===============================================================
DHCP Global Statistics, service 11
===============================================================
Rx Packets                        : 32
Tx Packets                        : 12
Rx Malformed Packets              : 0
Rx Untrusted Packets              : 0
Client Packets Discarded          : 0
Client Packets Relayed            : 11
Client Packets Snooped            : 21
Server Packets Discarded          : 0
Server Packets Relayed            : 0
Server Packets Snooped            : 0
===============================================================
A:sim1#
```

gsmp

Syntax **gsmp**

Context show>service>id

Description This command displays GSMP information.

neighbors

Syntax **neighbors group** [*name*] [*ip-address*]

Context show>service>id>gsmp

Description This command displays GSMP neighbor information.

Parameters **group —** A GSMP group defines a set of GSMP neighbors which have the same properties.

name — Specifies a GSMP group name is unique only within the scope of the service in which it is defined.

ip-address — Specifies the ip-address of the neighbor.

Sample Output

These commands show the configured neighbors per service, regardless of the fact there exists an open TCP connection with this neighbor. The admin state is shown because for a neighbor to be admin enabled, the service, gsmp node, group node and the neighbor node in this service must all be in 'no shutdown' state. Session gives the number of session (open TCP connections) for each configured neighbor.

```
A:active>show>service>id>gsmp# neighbors
===============================================================================
GSMP neighbors
===============================================================================
Group                          Neighbor           AdminState  Sessions
-------------------------------------------------------------------------------
dslam1                         192.168.1.2        Enabled     0
dslam1                         192.168.1.3        Enabled     0
-------------------------------------------------------------------------------
Number of neighbors shown: 2
===============================================================================
A:active>show>service>id>gsmp#

A:active>show>service>id>gsmp# neighbors group dslam1
===============================================================================
GSMP neighbors
===============================================================================
Group                          Neighbor           AdminState  Sessions
-------------------------------------------------------------------------------
dslam1                         192.168.1.2        Enabled     0
dslam1                         192.168.1.3        Enabled     0
-------------------------------------------------------------------------------
Number of neighbors shown: 2
===============================================================================
A:active>show>service>id>gsmp#

A:active>show>service>id>gsmp# neighbors group dslam1 192.168.1.2
===============================================================================
GSMP neighbors
```

```
===============================================================================
Group                            Neighbor           AdminState  Sessions
-------------------------------------------------------------------------------
dslam1                           192.168.1.2        Enabled     0
===============================================================================
A:active>show>service>id>gsmp#
```

sessions

Syntax **sessions** [**group** *name*] **neighbor** *ip-address*] [**port** *port-number*] [**association**] [**statistics**]

Context show>service>id>gsmp

Description This command displays GSMP sessions information.

Parameters **group —** A GSMP group defines a set of GSMP neighbors which have the same properties.

name — Specifies a GSMP group name is unique only within the scope of the service in which it is defined.

ip-address — Specifies the ip-address of the neighbor.

port — Specifies the neighbor TCP port number use for this ANCP session.

Values 0 — 65535

association — Displays to what object the ANCP-string is associated.

statistics — Displays statistics information about an ANCP session known to the system.

Sample Output

This show command gives information about the open TCP connections with DSLAMs.

```
A:active>show>service>id>gsmp# sessions
=======================================================
GSMP sessions for service 999 (VPRN)
=======================================================
Port   Ngbr-IpAddr     Gsmp-Group
-------------------------------------------------------
40590  192.168.1.2     dslam1
-------------------------------------------------------
Number of GSMP sessions : 1
=======================================================
A:active>show>service>id>gsmp#


A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590
===============================================================================
GSMP sessions for service 999 (VPRN), neighbor 192.168.1.2, Port 40590
===============================================================================
State           : Established
Peer Instance   : 1                 Sender Instance : a3cf58
Peer Port       : 0                 Sender Port     : 0
Peer Name       : 12:12:12:12:12:12 Sender Name     : 00:00:00:00:00:00
timeouts        : 0                 Max. Timeouts   : 3
Peer Timer      : 100               Sender Timer    : 100
Capabilities      : DTD OAM
Conf Capabilities : DTD OAM
Priority Marking  : dscp nc2
Local Addr.       : 192.168.1.4
```

```
Conf Local Addr.  : N/A
===============================================================================
A:active>show>service>id>gsmp#


A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 association
===============================================================================
ANCP-Strings
===============================================================================
ANCP-String                                                  Assoc. State
-------------------------------------------------------------------------------
No ANCP-Strings found
===============================================================================
A:active>show>service>id>gsmp#


A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 statistics
===============================================================
GSMP session stats, service 999 (VPRN), neighbor 192.168.1.2, Port 40590
===============================================================
Event                                  Received  Transmitted
---------------------------------------------------------------
Dropped                                0         0
Syn                                    1         1
Syn Ack                                1         1
Ack                                    14        14
Rst Ack                                0         0
Port Up                                0         0
Port Down                              0         0
OAM Loopback                           0         0
===============================================================
A:active>show>service>id>gsmp#
```

Note: The association command gives an overview of each ANCP string received from this session.

```
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 association
===============================================================================
ANCP-Strings
===============================================================================
ANCP-String                                                  Assoc.
State
-------------------------------------------------------------------------------
7330-ISAM-E47 atm 1/1/01/01:19425.64048                      ANCP    Up
-------------------------------------------------------------------------------
Number of ANCP-Strings : 1
===============================================================================
A:active>show>service>id>gsmp#
```

host

Syntax **host** [**sap** *sap-id*] [**detail**]
host summary
host [**detail**] **wholesaler** *service-id*

Context show>service>id

Description This command displays static host information configured on this service.

Parameters *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

summary — Displays summary host information.

wholesaler *service-id* **—** The service ID of the wholesaler.

Values 1 — 2147483647

summary

Syntax **summary**

Context show>service>id>dhcp

Description This command displays DHCP configuration summary information.

Show Service-ID DHCP Summary — The following table describes show service-id DHCP summary output fields:

Label	Description
Sap/Sdp	The configuration identification, expressed by a string containing "card/mda/port/:logical-id".
Snoop	Yes – The packets received from the DHCP clients were snooped. No – The packets received from the DHCP clients were not snooped.
Used/Provided	Used – The number of lease-states that are currently in use on a specific interface, that is, the number of clients on that interface got an IP address by DHCP. This value is always less than or equal to the 'Provided' field. Provided – The lease-populate value that is configured for a specific interface.
Arp Reply Agent	Displays whether or not there is proper handling of received ARP requests from subscribers.
Info Option	Keep – The existing information is kept on the packet and the router does not add any additional information. Replace – On ingress, the existing information-option is replaced with the information-option from the router. Drop – The packet is dropped and an error is logged.
Admin State	Indicates the administrative state.

Sample Output

```
A:ALA-49# show service id 1 dhcp summary
===============================================================================
DHCP Summary, service 1
===============================================================================
Interface Name                   Arp      Used/                Info    Admin
  SapId/Sdp                      Populate Provided             Option  State
```

```
-------------------------------------------------------------------------------
SpokeSDP                          No       0/0                  Keep    Up
   sdp:spoke-3:4                           0/0
test                              No       0/0                  Keep    Up
   sap:1/1/4:50/5                          0/0
to-ce1                            No       0/0                  Keep    Up
   sap:1/1/10:1                            0/0
-------------------------------------------------------------------------------
Interfaces: 3
===============================================================================
A:ALA-49#
```

interface

Syntax **interface** [*ip-address* | *ip-int-name*] [*interface-type*] [**detail**] [**family**]}| **summary**]

Context show>service>id

Description Displays information for the IP interfaces associated with the service.

If no optional parameters are specified, a summary of all IP interfaces associated to the service are displayed.

Parameters *ip-address* — The IP address of the interface for which to display information.

Values 1.0.0.0 — 223.255.255.255

ip-int-name — The IP interface name for which to display information.

family — Specifies the family to display.

Values ipv4, ipv6

interface-type — Specifies the interface type.

Values subscriber, group, redundant

detail — Displays detailed IP interface information.

Default IP interface summary output.

Output **Show Service-ID Interface —** The following table describes show service-id interface output fields:

Label	Description
Interface-Name	The name used to refer to the interface.
Type	Specifies the interface type.
IP-Address	Specifies the IP address/IP subnet/broadcast address of the interface.
Adm	The desired state of the interface.
Opr	The operating state of the interface.
Interface	
If Name	The name used to refer to the interface.
Admin State	The desired state of the interface.

Label	Description (Continued)
Oper State	The operating state of the interface.
IP Addr/mask	Specifies the IP address/IP subnet/broadcast address of the interface.
Details	
If Index	The index corresponding to this interface. The primary index is 1. For example, all interfaces are defined in the Base virtual router context.
If Type	Specifies the interface type.
Port Id	Specifies the SAP's port ID.
SNTP B.Cast	Specifies whether SNTP broadcast client mode is enabled or disabled.
Arp Timeout	Specifies the timeout for an ARP entry learned on the interface.
MAC Address	Specifies the 48-bit IEEE 802.3 MAC address.
ICMP Mask Reply	Specifies whether ICMP mask reply is enabled or disabled.
Cflowd	Specifies whether Cflowd collection and analysis on the interface is enabled or disabled.
ICMP Details	
Redirects	Specifies the rate for ICMP redirect messages.
Unreachables	Specifies the rate for ICMP unreachable messages.
TTL Expired	Specifies the rate for ICMP TTL messages.

Sample Output

```
*A:ALA-12# show service id 321 interface
===============================================================================
Interface Table
===============================================================================
Interface-Name                   Type IP-Address         Adm    Opr  Type
-------------------------------------------------------------------------------
test                             Pri  190.11.1.1/24      Up     Up   IES
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-12#


A:ALA-49# show service id 88 interface detail
===============================================================================
Interface Table
===============================================================================
Interface
-------------------------------------------------------------------------------
If Name      : Sector A
Admin State  : Up                              Oper State       : Down
Protocols    : None

IP Addr/mask : Not Assigned
-------------------------------------------------------------------------------
```

```
Details
-------------------------------------------------------------------------------
Description  :
If Index     : 26                              Virt. If Index   : 26
SAP Id       : 7/1/1.2.2
TOS Marking  : Untrusted                       If Type          : IES
SNTP B.Cast  : False                           IES ID           : 88
MAC Address  : Not configured.                 Arp Timeout      : 14400
IP MTU       : 1500                            ICMP Mask Reply  : True
Arp Populate : Disabled
Cflowd       : None

Proxy ARP Details
Proxy ARP    : Enabled                         Local Proxy ARP  : Disabled
Policies     : ProxyARP

DHCP Details
Admin State  : Up                              Lease Populate   : 0
Action       : Keep                            Trusted          : Disabled
ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name      : test
Admin State  : Up                              Oper State       : Down
Protocols    : None
IP Addr/mask : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description  :
If Index     : 27                              Virt. If Index   : 27
SAP Id       : 10/1/2:0
TOS Marking  : Untrusted                       If Type          : IES
SNTP B.Cast  : False                           IES ID           : 88
MAC Address  : Not configured.                 Arp Timeout      : 14400
IP MTU       : 1500                            ICMP Mask Reply  : True
Arp Populate : Disabled
Cflowd       : None

Proxy ARP Details
Proxy ARP    : Disabled                        Local Proxy ARP  : Disabled

DHCP Details
Admin State  : Up                              Lease Populate   : 0
Action       : Keep                            Trusted          : Disabled

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10
-------------------------------------------------------------------------------
Interfaces : 2
===============================================================================
A:ALA-49#


*A:SetupCLI# show service id 3 interface "ab" detail
===============================================================================
Interface Table
```

```
===============================================================================
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name      : ab
Admin State  : Up                                Oper (v4/v6)     : Down/--
Protocols    : None

IP Addr/mask : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description  : (Not Specified)
If Index     : 2                                 Virt. If Index   : 2
Last Oper Chg: 10/08/2009 07:07:58               Global If Index  : 329
SDP Id       : spoke-2000:1

Spoke-SDP Details
Admin State  : Up                                Oper State       : Down
Hash Label   : Enabled
Flags              : SvcAdminDown SdpOperDown
                     NoIngVCLabel NoEgrVCLabel

TOS Marking  : Trusted                           If Type          : VPRN
SNTP B.Cast  : False
MAC Address  : 76:6d:ff:00:00:00                 Arp Timeout      : 14400
IP Oper MTU  : 0                                 ICMP Mask Reply  : True
Arp Populate : Disabled                          Host Conn Verify : Disabled
Cflowd       : None
LdpSyncTimer : None
LSR Load Bal*: system
uRPF Chk     : disabled
uRPF Fail By*: 0                                 uRPF Chk Fail Pk*: 0

Proxy ARP Details
Rem Proxy ARP: Disabled                          Local Proxy ARP  : Disabled
Policies     : none

Proxy Neighbor Discovery Details
Local Pxy ND : Disabled
Policies     : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State  : Down                              Lease Populate   : 0
Gi-Addr      : Not configured                    Gi-Addr as Src Ip: Disabled
Action       : Keep                              Trusted          : Disabled

DHCP Proxy Details
Admin State  : Down
Lease Time   : N/A
Emul. Server : Not configured

Subscriber Authentication Details
Auth Policy  : None

DHCP6 Relay Details
Description  : (Not Specified)
Admin State  : Down                              Lease Populate   : 0
Oper State   : Down                              Nbr Resolution   : Disabled
If-Id Option : None                              Remote Id        : Disabled
```

```
Src Addr     : Not configured

DHCP6 Server Details
Admin State  : Down                              Max. Lease States: 8000

ICMP Details
Redirects    : Number - 100                      Time (seconds)   - 10
Unreachables : Number - 100                      Time (seconds)   - 10
TTL Expired  : Number - 100                      Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr*: Not configured
Peer Pri DNS*: Not configured
Peer Sec DNS*: Not configured

Routed VPLS Details
VPLS Name    :                                   Binding Status   : Up
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:SetupCLIp#
```

The Oper Hash Label and Hash Lbl Sig Cap spoke-sdp fields display when signal-capability is enabled and operational state of hash-label in datapath.

```
-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
 Sdp Id 1:555  -(2.2.2.2)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id             : 1:555                       Type              : Spoke
Spoke Descr     : (Not Specified)
VC Type            : Ether                       VC Tag            : n/a
Admin Path MTU     : 0                           Oper Path MTU     : 1568
Far End            : 2.2.2.2                     Delivery          : MPLS
Tunnel Far End     : n/a                         LSP Types         : RSVP
Hash Label         : Disabled                    Hash Lbl Sig Cap  : Disabled
Oper Hash Label    : Disabled

Admin State        : Up                          Oper State        : Up
Acct. Pol          : None                        Collect Stats     : Disabled
Ingress Label      : 131065                      Egress Label      : 131059
Ingr Mac Fltr-Id   : n/a                         Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id    : n/a                         Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id  : n/a                         Egr IPv6 Fltr-Id  : n/a
Admin ControlWord  : Not Preferred               Oper ControlWord  : False
Admin BW(Kbps)     : 0                           Oper BW(Kbps)     : 0
Last Status Change : 11/25/2010 13:06:14         Signaling         : TLDP
Last Mgmt Change   : 11/24/2010 13:00:48         Force Vlan-Vc     : Disabled
Endpoint           : N/A                         Precedence        : 4
PW Status Sig      : Enabled
Class Fwding State : Down
Flags              : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : lspPing
Peer Vccv CC Bits  : mplsRouterAlertLabel
```

```
Application Profile: None
Standby Sig Slave  : False

……
……
===============================================================================
```

retailers

Syntax **retailers**

Context show>service>id

Description This command displays the service ID of the retailer subscriber service to which this DHCP lease belongs.

Sample Output

```
*A:ALA-48>config# show service id 101 retailers
===============================================================================
Retailers for service 101
===============================================================================
Retailer Svc ID               Num Static Hosts         Num Dynamic Hosts
-------------------------------------------------------------------------------
102                           3                        1
105                           0                        1
-------------------------------------------------------------------------------
Number of retailers : 2
===============================================================================
*A:ALA-48>config#
```

wholesalers

Syntax **wholesalers**

Context show>service>id

Description This command displays service wholesaler information.

Sample Output

```
*A:ALA-48>config# show service id 102 wholesalers
===============================================================================
Wholesalers for service 102
===============================================================================
Wholesaler Svc ID             Num Static Hosts         Num Dynamic Hosts
-------------------------------------------------------------------------------
101                           3                        1
-------------------------------------------------------------------------------
Number of wholesalers : 1
===============================================================================
*A:ALA-48>config#
```

Wholesaler information can also be displayed in the lease-state context.

```
*A:ALA-48>config# show service id 105 dhcp lease-state  wholesaler 101
===============================================================================
DHCP lease state table, service 105
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                      LifeTime   Origin   Stdby
-------------------------------------------------------------------------------
Wholesaler 101 Leasesok
-------------------------------------------------------------------------------
103.3.2.62      00:00:1f:bd:00:c6 lag-1:105           00h00m39s  Radius
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
*A:ALA-48>config#
```

sap

Syntax **sap** *sap-id* [**detail**]]

Context show>service>id

Description Displays information for the SAPs associated with the service.

If no optional parameters are specified, a summary of all associated SAPs is displayed.

Parameters *sap-id* — The ID that displays SAPs for the service. See Common CLI Command Descriptions on page 847 for command syntax.

detail — Displays detailed information for the SAP.

Output **Show Service-ID SAP —** The following table describes show service SAP fields:

Sample Output

Label	Description
Service Id	The service identifier.
SAP	The SAP and qtag.
Encap	The encapsulation type of the SAP.
Ethertype	Specifies an Ethernet type II Ethertype value.
Admin State	The administrative state of the SAP.
Oper State	The operating state of the SAP.
Flags	Specifies the conditions that affect the operating status of this SAP. Display output includes: ServiceAdminDown, SapAdminDown, InterfaceAdminDown, PortOperDown, PortMTUTooSmall, L2OperDown, SapIngressQoSMismatch, SapEgressQoSMismatch,RelearnLimitExceeded, RxProtSrcMac, ParentIfAdminDown, NoSapIpipeCeIpAddr, TodResourceUnavail, TodMssResourceUnavail, SapParamMismatch, CemSapNoEcidOrMacAddr, StandByForMcRing, ServiceMTUTooSmall, SapIngressNamedPoolMismatch, SapEgressNamedPoolMismatch, NoSapEpipeRingNode.
Last Status Change	Specifies the time of the most recent operating status change to this SAP
Last Mgmt Change	Specifies the time of the most recent management-initiated change to this SAP.
Admin MTU	The desired largest service frame size (in octets) that can be transmitted through the SAP to the far-end router, without requiring the packet to be fragmented.
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through the SAP to the far-end router, without requiring the packet to be fragmented.
Ingress qos-policy	The ingress QoS policy ID assigned to the SAP.
Egress qos-policy	The egress QoS policy ID assigned to the SAP.
Ingress Filter-Id	The ingress filter policy ID assigned to the SAP.
Egress Filter-Id	The egress filter policy ID assigned to the SAP.
Acct. Pol	The accounting policy ID assigned to the SAP.
Collect Stats	Specifies whether collect stats is enabled.
Dropped	The number of packets and octets dropped due to SAP state, ingress MAC or IP filter, same segment discard, bad checksum, etc.
Off. HiPrio	The number of high priority packets and octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
Off. LowPrio	The number of low priority packets and octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.

Label	Description (Continued)
Off. Uncolor	The number of uncolored packets and octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
Dro. HiPrio	The number of high priority packets and octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
Dro. LowPrio	The number of low priority packets and octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
For. InProf	The number of in-profile packets and octets (rate below CIR) forwarded by the ingress Qchip.
For. OutProf	The number of out-of-profile packets and octets discarded by the egress Qchip due to MBS exceeded, buffer pool limit exceeded, etc.
Dro. InProf	The number of in-profile packets and octets discarded by the egress Qchip due to MBS exceeded, buffer pool limit exceeded, etc.
Dro. OutProf	The number of out-of-profile packets and octets discarded by the egress Qchip due to MBS exceeded, buffer pool limit exceeded, etc.
For. InProf	The number of in-profile packets and octets (rate below CIR) forwarded by the egress Qchip.
For. OutProf	The number of out-of-profile packets and octets (rate above CIR) forwarded by the egress Qchip.
Ingress TD Profile	The profile ID applied to the ingress SAP.
Egress TD Profile	The profile ID applied to the egress SAP.
Alarm Cell Handling	The indication that OAM cells are being processed.
AAL-5 Encap	The AAL-5 encapsulation type.

Sample Output

```
*A:ALA-12# show service id 321 sap 1/1/4:0
===============================================================================
Service Access Points(SAP)
===============================================================================
Service Id         : 321
SAP                : 1/1/4:0                Encap             : q-tag
Dot1Q Ethertype    : 0x8100                  QinQ Ethertype    : 0x8100
Admin State        : Up                      Oper State        : Down
Flags              : PortOperDown
                     SapIngressQoSMismatch
Last Status Change : 02/03/2007 12:58:37
Last Mgmt Change   : 02/03/2007 12:59:10
Admin MTU          : 1518                    Oper MTU          : 1518
Ingress qos-policy : 100                     Egress qos-policy : 1
Ingress Filter-Id  : n/a                     Egress Filter-Id  : n/a
Multi Svc Site     : None
Acct. Pol          : None                    Collect Stats     : Disabled
```

```
===============================================================================
*A:ALA-12#


*A:ALA-12# show service id 321 sap 1/1/4:0 detail
===============================================================================
Service Access Points(SAP)
===============================================================================
Service Id         : 321
SAP                : 1/1/4:0                 Encap             : q-tag
Dot1Q Ethertype    : 0x8100                   QinQ Ethertype    : 0x8100

Admin State        : Up                       Oper State        : Down
Flags              : PortOperDown
                     SapIngressQoSMismatch
Last Status Change : 02/03/2007 12:58:37
Last Mgmt Change   : 02/03/2007 12:59:10
Admin MTU          : 1518                     Oper MTU          : 1518
Ingress qos-policy : 100                      Egress qos-policy : 1
Ingress Filter-Id  : n/a                      Egress Filter-Id  : n/a
Multi Svc Site     : None
Acct. Pol          : None                     Collect Stats     : Disabled
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
                       Packets                  Octets
Forwarding Engine Stats
Dropped              : 0                        0
Off. HiPrio          : 0                        0
Off. LowPrio         : 0                        0
Off. Uncolor         : 0                        0

Queueing Stats(Ingress QoS Policy 100)
Dro. HiPrio          : 0                        0
Dro. LowPrio         : 0                        0
For. InProf          : 0                        0
For. OutProf         : 0                        0

Queueing Stats(Egress QoS Policy 1)
Dro. InProf          : 0                        0
Dro. OutProf         : 0                        0
For. InProf          : 0                        0
For. OutProf         : 0                        0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                       Packets                  Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio          : 0                        0
Off. LoPrio          : 0                        0
Dro. HiPrio          : 0                        0
Dro. LoPrio          : 0                        0
For. InProf          : 0                        0
For. OutProf         : 0                        0

Ingress Queue 10 (Unicast) (Priority)
Off. HiPrio          : 0                        0
Off. LoPrio          : 0                        0
Dro. HiPrio          : 0                        0
Dro. LoPrio          : 0                        0
For. InProf          : 0                        0
For. OutProf         : 0                        0
```

```
,,,
-------------------------------------------------------------------------------
ATM SAP Configuration Information
-------------------------------------------------------------------------------
Ingress TD Profile : 1 Egress TD Profile : 1
Alarm Cell Handling: Enabled AAL-5 Encap : VC-MUX
-------------------------------------------------------------------------------
...
===============================================================================
*A:ALA-12#
```

sdp

Syntax **sdp** [*sdp-id* | **far-end** *ip-addr*] [**detail**]

Context show>service>id

Description Displays information for the SDPs associated with the service. If no optional parameters are specified, a summary of all associated SDPs is displayed.

Parameters *sdp-id* — Displays only information for the specified SDP ID.

Default All SDPs.

Values 1 — 17407

far-end *ip-addr* — Displays only SDPs matching with the specified far-end IP address.

Default SDPs with any far-end IP address.

detail — Displays detailed SDP information.

Output **Show Service-ID SDP —** The following table describes show service-id SDP output fields:

Label	Description
Sdp Id	The SDP identifier.
Type	Indicates whether the SDP is a spoke or a mesh.
Split Horizon Group	Name of the split horizon group that the SDP belongs to.
VC Type	Displays the VC type: ether or vlan.
VC Tag	Displays the explicit dot1Q value used when encapsulating to the SDP far end.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP.
Admin Path MTU	The operating path MTU of the SDP is equal to the admin path MTU (when one is set) or the dynamically computed tunnel MTU, when no admin path MTU is set (the default case.)
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS.
Admin State	The administrative state of this SDP.
Oper State	The operational state of this SDP.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.

Label	Description (Continued)
Egress Label	The label used by this device to send packets to the far-end device in this service by the SDP.
Last Changed	The date and time of the most recent change to the SDP.
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	The administrative state of the keepalive process.
Oper State	he operational state of the keepalive process.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Max Drop Count	Specifies the maximum number of consecutive SDP echo request messages that can be unacknowledged before the keepalive protocol reports a fault.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Hold Down Time	Specifies the amount of time to wait before the keepalive operating status is eligible to enter the alive state.
I. Fwd. Pkts.	Specifies the number of forwarded ingress packets.
I. Dro. Pkts.	Specifies the number of dropped ingress packets.
E. Fwd. Pkts.	Specifies the number of forwarded egress packets.
Associated LSP List	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far end field. If the SDP type is GRE, then the following message displays: SDP delivery mechanism is not MPLS.

Sample Output

```
A:Dut-A# show service id  1 sdp detail
===============================================================================
Services: Service Destination Points Details
===============================================================================
 Sdp Id 1:1  -(10.20.1.2)
-------------------------------------------------------------------------------
Description     : Default sdp description
SDP Id            : 1:1                       Type              : Spoke
VC Type           : Ether                     VC Tag            : n/a
Admin Path MTU    : 0                         Oper Path MTU     : 9186
Far End           : 10.20.1.2                 Delivery          : MPLS

Admin State       : Up                        Oper State        : Up
Acct. Pol         : None                      Collect Stats     : Disabled
Ingress Label     : 2048                      Egress Label      : 2048
Ing mac Fltr      : n/a                       Egr mac Fltr      : n/a
Ing ip Fltr       : n/a                       Egr ip Fltr       : n/a
Ing ipv6 Fltr     : n/a                       Egr ipv6 Fltr     : n/a
Admin ControlWord : Not Preferred             Oper ControlWord  : False
```

```
Last Status Change : 05/31/2007 00:45:43      Signaling         : None
Last Mgmt Change   : 05/31/2007 00:45:43
Class Fwding State : Up
Flags              : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : None
Peer Vccv CC Bits  : None
Max Nbr of MAC Addr: No Limit                 Total MAC Addr    : 0
Learned MAC Addr   : 0                        Static MAC Addr   : 0

MAC Learning       : Enabled                  Discard Unkwn Srce: Disabled
MAC Aging          : Enabled
L2PT Termination   : Disabled                 BPDU Translation  : Disabled
MAC Pinning        : Disabled

KeepAlive Information :
Admin State        : Disabled                 Oper State        : Disabled
Hello Time         : 10                       Hello Msg Len     : 0
Max Drop Count     : 3                        Hold Down Time    : 10

Statistics           :
I. Fwd. Pkts.      : 0                        I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                        I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                        E. Fwd. Octets    : 0
MCAC Policy Name   :
MCAC Max Unconst BW: no limit                 MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                        MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                        MCAC Avail Opnl BW: unlimited

Associated LSP LIST :
Lsp Name           : A_B_1
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m35s

Lsp Name           : A_B_2
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m35s

Lsp Name           : A_B_3
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_4
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_5
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_6
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_7
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_8
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m35s
```

```
Lsp Name           : A_B_9
Admin State        : Up                        Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_10
Admin State        : Up                        Oper State        : Up
Time Since Last Tr*: 00h26m34s
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : enabled
Default LSP        : A_B_10                    Multicast LSP     : A_B_9
===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
af                  A_B_3
be                  A_B_1
ef                  A_B_6
h1                  A_B_7
h2                  A_B_5
l1                  A_B_4
l2                  A_B_2
nc                  A_B_8
===============================================================================
Stp Service Destination Point specifics
-------------------------------------------------------------------------------
Mac Move           : Blockable
Stp Admin State    : Up                        Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                       Port State        : Forwarding
Port Number        : 2049                      Port Priority     : 128
Port Path Cost     : 10                        Auto Edge         : Enabled
Admin Edge         : Disabled                  Oper Edge         : N/A
Link Type          : Pt-pt                     BPDU Encap        : Dot1d
Root Guard         : Disabled                  Active Protocol   : N/A
Last BPDU from     : N/A
Designated Bridge  : N/A                       Designated Port Id: 0

Fwd Transitions    : 0                         Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                         Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                         TCN BPDUs tx      : 0
RST BPDUs rcvd     : 0                         RST BPDUs tx      : 0
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
* indicates that the corresponding row element may have been truncated.
-------------------------------------------------------------------------------
A:Dut-A#
```

sdp

Syntax **sdp** *sdp-id* **pw-port** [*pw-port-id*]**sdp**
sdp *sdp-id* **pw-port**
sdp *sdp-id* **pw-port** [*pw-port-id*] [**statistics]**
sdp [**consistent | inconsistent | na] egressifs**
sdp *sdp-id* **keep-alive-history**
sdp far-end *ip-address* | *ipv6-address* **keep-alive-history**

sdp [*sdp-id*] detail
sdp far-end *ip-address* | *ipv6-address* **detail**

Context show>service>sdp

Description Displays information for the SDPs associated with the service.

If no optional parameters are specified, a summary of all associated SDPs is displayed.

Parameters *sdp-id* — Specifies the SDP ID for which to display information.

Default All SDPs.

Values 1 — 17407

pw-port-id — Specifies the pseudo-wire port identifier.

Values 1 — 10239

far-end *ip-address* **—** Displays only SDPs matching with the specified far-end IP address.

Default SDPs with any far-end IP address.

detail — Displays detailed SDP information.

Default SDP summary output.

keep-alive-history — Displays the last fifty SDP keepalive events for the SDP.

Default SDP summary output.

Sample Output

```
*A:ALA-12>config>service# show service sdp 1 pw-port
===============================================================================
Service Destination Point (sdp Id 1 Pw-Port)
===============================================================================
Pw-port   VC-Id     Adm     Encap       Opr     VC Type     Egr       Monitor
                                                            Shaper    Oper
                                                            VPort     Group
-------------------------------------------------------------------------------
1         1         up      dot1q       up      ether
2         2         up      qinq        up      ether
3         3         up      dot1q       up      ether
4         4         up      qinq        up      ether
-------------------------------------------------------------------------------
Entries found : 4
===============================================================================

*A:ALA-12>config>service# show service sdp 1 pw-port 3

===============================================================================
Service Destination Point (Sdp Id 1 Pw-Port 3)
===============================================================================
SDP Binding port     : lag-1
VC-Id                : 3                    Admin Status       : up
Encap                : dot1q                Oper Status        : up
VC Type              : ether
Oper Flags           : (Not Specified)
Monitor Oper-Group   : (Not Specified)
===============================================================================

*A:ALA-12>config>service# show service sdp 1 pw-port 3 statistics
```

```
===============================================================================
Service Destination Point (Sdp Id 1 Pw-Port 3)
===============================================================================
SDP Binding port     : lag-1
VC-Id                : 3                    Admin Status       : up
Encap                : dot1q                Oper Status        : up
VC Type              : ether
Oper Flags           : (Not Specified)
Monitor Oper-Group   : (Not Specified)

Statistics            :
I. Fwd. Pkts.        : 0                    I. Dro. Pkts.      : 0
I. Fwd. Octs.        : 0                    I. Dro. Octs.      : 0
E. Fwd. Pkts.        : 0                    E. Fwd. Octets     : 0
===============================================================================
```

pw-port

Syntax **pw-port** [*pw-port-id*] [**detail**]
pw-port sdp *sdp-id*
pw-port sdp none

Context show>pw-port

Description Displays pseudo-wire port information.

If no optional parameters are specified, the command displays a summary of all defined PW ports. The optional parameters restrict output to only ports matching the specified properties.

Parameters *pw-port-id* — Specifies the pseudo-wire port identifier.

Values 1 — 10239

detail — Displays detailed port information that includes all the **pw-port** output fields.

sdp *sdp-id* — The SDP ID for which to display matching PW port information.

Values 1 — 17407

Output **Show PW-Port —** The following table describes **show pw-port** output fields:

Label	Description
PW Port	The PW Port identifier.
Encap	The encapsulation type of the PW Port.
SDP	The SDP identifier.
IfIndex	The interface index used for the PW Port.
VC-Id	The Virtual Circuit identifier.
Description	The description string for the PW Port.

Sample Output

```
*A:ALA-48>config>service# show pw-port

===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex             VC-Id
-------------------------------------------------------------------------------
1         dot1q          1          1526726657          1
2         qinq           1          1526726658          2
3         dot1q          1          1526726659          3
4         qinq           1          1526726660          4
===============================================================================

*A:ALA-48>config>service# show pw-port 3
===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex             VC-Id
-------------------------------------------------------------------------------
3         dot1q          1          1526726659          3
===============================================================================
*A:ALA-48>config>service# show pw-port 3 detail

===============================================================================
PW Port Information
===============================================================================
PW Port            : 3
Encap              : dot1q
SDP                : 1
IfIndex            : 1526726659
VC-Id              : 3
Description        : 1-Gig Ethernet dual fiber
===============================================================================
*A:ALA-48>config>pw-port$ show pw-port sdp none

===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex             VC-Id
-------------------------------------------------------------------------------
5         dot1q                     1526726661
===============================================================================


*A:ALA-48>config>pw-port$ show pw-port sdp 1

===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex             VC-Id
-------------------------------------------------------------------------------
1         dot1q          1          1526726657          1
2         qinq           1          1526726658          2
3         dot1q          1          1526726659          3
4         qinq           1          1526726660          4
===============================================================================
```

subscriber-hosts

Syntax **subscriber-hosts** [**sap** *sap-id*] [**ip** *ip-address*[/*mask*]] [**mac** *ieee-address*] [**sub-profile** *sub-profile-name*] [**sla-profile** *sla-profile-name*] [**detail**]
subscriber-hosts [**detail**] **wholesaler** *service-id*

Context show>service>id

Description This command displays subscriber host information.

Parameters **sap** *sap-id* — Displays the specified subscriber host SAP information. See Common CLI Command Descriptions on page 847 for command syntax.

ip-address/mask — The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).
mask: 1 — 32

ieee-address — Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

sub-profile *sub-profile-name* — Specifies an existing subscriber profile name to be associated with the static subscriber host. The subscriber profile is configured in the **config>subscr-mgmt>sub-profile** context.

sla-profile *sla-profile-name* — Specifies an existing SLA profile name to be associated with the static subscriber host. The SLA profile is configured in the **config>subscr-mgmt>sla-profile** context.

detail — Displays detailed information.

wholesaler *service-id* — The VPRN service ID of the wholesaler.

Values 1 — 2147483648

filter-id

Syntax **filter-id** [*filter-id*]

Context show>service>log

Description This command displays event file log information.

If no command line parameters are specified, a summary output of all event log files is displayed.

Specifying a file ID displays detailed information on the event file log.

Parameters *log-file-id* — Displays detailed information on the specified event file log.

Output **Log File Output —** The following table describes the output fields for a log file summary.

Label	Description
file-id	The log file ID.

Label	Description (Continued)
rollover	The rollover time for the log file which is how long in between partitioning of the file into a new file.
retention	The retention time for the file in the system which is how long the file should be retained in the file system.
admin location	The primary flash device specified for the file location. none – indicates no specific flash device was specified.
backup location	The secondary flash device specified for the file location if the admin location is not available. none – Indicates that no backup flash device was specified.
oper location	The actual flash device on which the log file exists.
file-id	The log file ID.
rollover	The rollover time for the log file which is how long in between partitioning of the file into a new file.
retention	The retention time for the file in the system which is how long the file should be retained in the file system.
file name	The complete pathname of the file associated with the log ID.
expired	Indicates whether or not the retention period for this file has passed.
state	in progress – Indicates the current open log file. complete – Indicates the old log file.

log-id

Syntax **log-id** [*log-id*] [**severity** *severity-level*] [**application** *application*] [**sequence** *from-seq* [*to-seq*]] [**count** *count*] [**subject** *subject* [**regexp**]] [**ascending**|**descending**]

Context show>service>log

Description This command displays an event log summary with settings and statistics or the contents of a specific log file, SNMP log, or memory log.

If the command is specified with no command line options, a summary of the defined system logs is displayed. The summary includes log settings and statistics.

If the log ID of a memory, SNMP, or file event log is specified, the command displays the contents of the log. Additional command line options control what and how the contents are displayed.

Contents of logs with console, session or syslog destinations cannot be displayed. The actual events can only be viewed on the receiving syslog or console device.

Parameters *log-id* — Displays the contents of the specified file log or memory log ID. The log ID must have a destination of an SNMP or file log or a memory log for this parameter to be used.

Default Displays the event log summary

Values 1 — 99

severity *severity-level* — Displays only events with the specified and higher severity.

Default All severity levels

Values cleared, indeterminate, critical, major, minor, warning

application *application* — Displays only events generated by the specified application.

Default All applications

Values bgp, cflowd, chassis, debug, igmp, lldp, mirror, ospf, pim, port, snmp, system, user, vrtr

expression — Specifies to use a regular expression as match criteria for the router instance string.

sequence *from-seq* [*to-seq*] — Displays the log entry numbers from a particular entry sequence number (*from-seq*) to another sequence number (*to-seq*). The *to-seq* value must be larger than the *from-seq* value.

If the *to-seq* number is not provided, the log contents to the end of the log is displayed unless the **count** parameter is present in which case the number of entries displayed is limited by the **count**.

Default All sequence numbers

Values 1 — 4294967295

count *count* — Limits the number of log entries displayed to the *number* specified.

Default All log entries

Values 1 — 4294967295

router-instance — Specifies a router name up to 32 characters to be used in the display criteria.

subject *subject* — Displays only log entries matching the specified text *subject* string. The subject is the object affected by the event, for example the port-id would be the subject for a link-up or link-down event.

regexp — Specifies to use a regular expression as parameters with the specified *subject* string..

ascending | **descending** — Specifies sort direction. Logs are normally shown from the newest entry to the oldest in **descending** sequence number order on the screen. When using the **ascending** parameter, the log will be shown from the oldest to the newest entry.

Default Descending

Output **Show Log-ID Output —** The following table describes the log ID field output.

Label	Description
Log Id	An event log destination.
Source	no – The event log filter is not currently in use by a log ID.
	yes – The event log filter is currently in use by a log ID.

Label	Description (Continued)
Filter ID	The value is the index to the entry which defines the filter to be applied to this log's source event stream to limit the events output to this log's destination. If the value is 0, then all events in the source log are forwarded to the destination.
Admin State	Up — Indicates that the administrative state is up. Down — Indicates that the administrative state is down.
Oper State	Up — Indicates that the operational state is up. Down — Indicates that the operational state is down.
Logged	The number of events that have been sent to the log source(s) that were forwarded to the log destination.
Dropped	The number of events that have been sent to the log source(s) that were not forwarded to the log destination because they were filtered out by the log filter.
Dest. Type	Console — All selected log events are directed to the system console. If the console is not connected, then all entries are dropped. Syslog — All selected log events are sent to the syslog address. SNMP traps — Events defined as SNMP traps are sent to the configured SNMP trap destinations and are logged in NOTIFICATION-LOG-MIB tables. File — All selected log events will be directed to a file on one of the CPM's compact flash disks. Memory — All selected log events will be directed to an in-memory storage area.
Dest ID	The event log stream destination.
Size	The allocated memory size for the log.
Time format	The time format specifies the type of timestamp format for events sent to logs where log ID destination is either syslog or file. When the time format is UTC, timestamps are written using the Coordinated Universal Time value. When the time format is local, timestamps are written in the system's local time.

snmp-trap-group

Syntax **snmp-trap-group** [*log-id*]

Context show>service>log

Description This command displays SNMP trap group configuration information.

Parameters *log-id* — Displays only SNMP trap group information for the specified trap group log ID.

Values 1 — 99

Output **SNMP Trap Group Output —** The following table describes SNMP trap group output fields.

Table 16: SNMP Trap Group Output Fields

Label	Description
Log-ID	The log destination ID for an event stream.
Address	The IP address of the trap receiver,
Port	The destination UDP port used for sending traps to the destination, expressed as a decimal integer.
Version	Specifies the SNMP version format to use for traps sent to the trap receiver. Valid values are snmpv1, snmpv2c, snmpv3.
Community	The community string required by **snmpv1** or **snmpv2c** trap receivers.
Security-Level	The required authentication and privacy levels required to access the views on this node.
Replay	Indicates whether or not the replay parameter has been configured, enabled or disabled, for the trap-target address.
Replay from	Indicates the sequence ID of the first missed notification that will be replayed when a route is added to the routing table by which trap-target address can be reached. If no notifications are waiting to be replayed this field shows n/a.
Last Replay	Indicates the last time missed events were replayed to the trap-target address. If no events have ever been replayed this field shows never.

syslog

Syntax **syslog** [*syslog-id*]

Context show>service>log

Description This command displays syslog event log destination summary information or detailed information on a specific syslog destination.

Parameters *syslog-id* — Displays detailed information on the specified syslog event log destination.

Values 1 — 10

Output **Syslog Event Log Destination Summary Output —** The following table describes the syslog output fields.

Table 17: Show Log Syslog Output Fields

Label	Description
Syslog ID	The syslog ID number for the syslog destination.
IP Address	The IP address of the syslog target host.
Port	The configured UDP port number used when sending syslog messages.
Facility	The facility code for messages sent to the syslog target host.
Severity Level	The syslog message severity level threshold.
Below Level Dropped	A count of messages not sent to the syslog collector target because the severity level of the message was above the configured severity. The higher the level, the lower the severity.
Prefix Present	Yes – A log prefix was prepended to the syslog message sent to the syslog host. No – A log prefix was not prepended to the syslog message sent to the syslog host.
Description	A text description stored in the configuration file for a configuration context.
LogPrefix	The prefix string prepended to the syslog message.
Log-id	Events are directed to this destination.

aggregate

Syntax **aggregate** [**active**]

Context show>router

Description This command displays aggregated routes.

Parameters **active —** This keyword filters out inactive aggregates.

Output **Show Aggregate Output Fields —** The following table describes router aggregate output fields.

Label	Description
Prefix	Displays the destination address of the aggregate route in dotted decimal notation.
Summary	Specifies whether the aggregate or more specific components are advertised.
AS Set	Displays an aggregate where the path advertised for the route consists of all elements contained in all paths that are being summarized.

Aggr AS	Displays the aggregator path attribute to the aggregate route.
Aggr IP-Address	The IP address of the aggregated route.
State	The operational state of the aggregated route.
No. of Aggregates	The total number of aggregated routes.

Sample Output

```
*A:ALA-12# show router 3 aggregate
===============================================================================
Aggregates (Service: 3)
===============================================================================
Prefix                Summary  AS Set   Aggr AS     Aggr IP-Address   State
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of Aggregates: 0
-------------------------------------------------------------
*A:ALA-12#

*A:Dut-A>config>router# show router aggregate

===============================================================================
Aggregates (Router: Base)
===============================================================================
Prefix                                          Aggr IP-Address   Aggr AS
   Summary                                         AS Set          State
     NextHop                                                      NextHopType
-------------------------------------------------------------------------------
1.2.3.0/24                                      0.0.0.0           0
   False                                           False            Inactive
    2.2.2.2                                                       Indirect

2.2.0.0/16                                      0.0.0.0           0
   False                                           False            Active
                                                                    None
-------------------------------------------------------------------------------
No. of Aggregates: 2
===============================================================================


*A:CPM133>config>router# show router aggregate

===============================================================================
Aggregates (Router: Base)
===============================================================================
Prefix                                          Aggr IP-Address   Aggr AS
   Summary                                         AS Set          State
     NextHop                                     Community      NextHopType
-------------------------------------------------------------------------------
10.0.0.0/8                                       0.0.0.0          0
   False                                           False            Inactive
                                                 100:33         Blackhole
-------------------------------------------------------------------------------
No. of Aggregates: 1
===============================================================================
```

arp

Syntax **arp** [*ip-address* | *ip-int-name* | **mac** *ieee-mac-addr*]

Context show>router

Description This command displays the router ARP table sorted by IP address.

If no command line options are specified, all ARP entries are displayed.

Parameters *ip-addr* — Only displays ARP entries associated with the specified IP address.

ip-int-name — Only displays ARP entries associated with the specified IP interface name.

mac *ieee-mac-addr* — Only displays ARP entries associated with the specified MAC address.

Output **ARP Table Output —** The following table describes ARP table output fields:

Label	Description
IP Address	The IP address of the ARP entry.
MAC Address	The MAC address of the ARP entry.
Expiry	The age of the ARP entry.
Type	Dyn — The ARP entry is a dynamic ARP entry.
	Inv — The ARP entry is an inactive static ARP entry (invalid).
	Oth — The ARP entry is a local or system ARP entry.
	Sta — The ARP entry is an active static ARP entry.
Interface	The IP interface name associated with the ARP entry.
No. of ARP Entries	The number of ARP entries displayed in the list.

Sample Output

```
*A:ALA-12# show router 3 arp
===============================================================================
ARP Table (Service: 3)
===============================================================================
IP Address      MAC Address       Expiry    Type   Interface
-------------------------------------------------------------------------------
10.10.10.103    04:67:ff:00:00:01 00h00m00s Oth    system
10.10.4.3       00:00:00:00:00:00 00h00m00s Oth    ALA-1-2
10.10.5.3       00:00:00:00:00:00 00h00m00s Oth    ALA-1-3
10.10.7.3       00:00:00:00:00:00 00h00m00s Oth    ALA-1-5
10.10.0.16      00:00:00:00:00:00 00h00m00s Oth    bozo
10.10.3.3       00:00:00:00:00:00 00h00m00s Oth    gizmo
10.10.2.3       00:00:00:00:00:00 00h00m00s Oth    hobo
10.10.1.17      00:00:00:00:00:00 00h00m00s Oth    int-cflowd
10.0.0.92       00:00:00:00:00:00 04h00m00s Dyn    to-104
10.0.0.103      04:67:01:01:00:01 00h00m00s Oth[I] to-104
10.0.0.104      04:68:01:01:00:01 03h59m49s Dyn[I] to-104
10.10.36.2      00:00:00:00:00:00 00h00m00s Oth    tuesday
192.168.2.98    00:03:47:c8:b4:86 00h14m37s Dyn[I] management
192.168.2.103   00:03:47:dc:98:1d 00h00m00s Oth[I] management
```

```
-------------------------------------------------------------------------------
No. of ARP Entries: 14
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 arp 10.10.0.3
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Expiry    Type   Interface
-------------------------------------------------------------------------------
10.10.0.3       04:5d:ff:00:00:00 00:00:00  Oth    system
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 arp to-ser1
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Expiry    Type   Interface
-------------------------------------------------------------------------------
10.10.13.1      04:5b:01:01:00:02 03:53:09  Dyn    to-ser1
===============================================================================
*A:ALA-12#
```

damping

Syntax **damping** [*ip-prefix/mask* | *ip-address*] [**detail**]
damping [*damp-type*] [**detail**]

Context show>router>bgp

Description This command displays BGP routes with have been dampened due to route flapping. This command can be entered with or without a route parameter.

When the keyword **detail** is included, more detailed information displays.

When only the command is entered (without any parameters included except **detail**), then all dampened routes are listed.

When a parameter is specified, then the matching route or routes are listed.

When a **decayed**, **history,** or **suppressed** keyword is specified, only those types of dampened routes are listed.

Parameters *ip-prefix/mask* — Displays damping information for the specified IP prefix and mask length.

ip-address — Displays damping entry for the best match route for the specified IP address.

damp-type — Displays damping type for the specified IP address.

decayed — Displays damping entries that are decayed but are not suppressed.

history — Displays damping entries that are withdrawn but have history.

suppressed — Displays damping entries suppressed because of route damping.

detail — Displays detailed information.

Output **Show Damping Output Fields —** The following table describes BGP damping output fields:

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured or inherited local AS for the specified peer group. If not configured, then it is the same value as the AS.
Network	Route IP prefix and mask length for the route.
Flag(s)	Legend: Status codes: u- used, s-suppressed, h-history, d-decayed, *-valid. If a * is not present, then the status is invalid. Origin codes: i-IGP, e-EGP, ?-incomplete, >-best
Network	The IP prefix and mask length for the route.
From	The originator ID path attribute value.
Reuse time	The time when a suppressed route can be used again.
AS Path	The BGP AS path for the route.

Label	Description (Continued)
Peer	The router ID of the advertising router.
NextHop	BGP nexthop for the route.
Peer AS	The autonomous system number of the advertising router.
Peer Router-Id	The router ID of the advertising router.
Local Pref	BGP local preference path attribute for the route.
Age	The time elapsed since the service was enabled.
Last update	The time when BGP was updated last in second/minute/hour (SS:MM:HH) format.
FOM Present	The current Figure of Merit (FOM) value.
Number of Flaps	The number of flaps in the neighbor connection.
Reuse time	The time when the route can be reused.
Path	The BGP AS path for the route.
Applied Policy	The applied route policy name.

Sample Output

```
*A:ALA-12# show router 3 bgp damping
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes
===============================================================================
Flag  Network            From            Reuse       AS-Path
-------------------------------------------------------------------------------
ud*i  12.149.7.0/24      10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                      1239  22406
si    24.155.6.0/23      10.0.28.1       00h43m41s   60203 65001 19855 3356
                                                      2914  7459
si    24.155.8.0/22      10.0.28.1       00h38m31s   60203 65001 19855 3356
                                                      2914  7459
si    24.155.12.0/22     10.0.28.1       00h35m41s   60203 65001 19855 3356
                                                      2914  7459
si    24.155.22.0/23     10.0.28.1       00h35m41s   60203 65001 19855 3356
                                                      2914  7459
si    24.155.24.0/22     10.0.28.1       00h35m41s   60203 65001 19855 3356
                                                      2914  7459
si    24.155.28.0/22     10.0.28.1       00h34m31s   60203 65001 19855 3356
                                                      2914  7459
si    24.155.40.0/21     10.0.28.1       00h28m24s   60203 65001 19855 3356
                                                      7911  7459
si    24.155.48.0/20     10.0.28.1       00h28m24s   60203 65001 19855 3356
                                                      7911  7459
ud*i  61.8.140.0/24      10.0.28.1       00h00m00s   60203 65001 19855 3356
```

```
                                                        4637  17447
ud*i  61.8.141.0/24      10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                        4637  17447
ud*i  61.9.0.0/18        10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                        3561  9658  6163
. . .
ud*i  62.213.184.0/23    10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                        6774  6774  9154
-------------------------------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show router 3 bgp damping detail
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * -
 valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes
===============================================================================
-------------------------------------------------------------------------------
Network : 12.149.7.0/24
-------------------------------------------------------------------------------
Network          : 12.149.7.0/24        Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h22m09s            Last update      : 02d00h58m
FOM Present      : 738                  FOM Last upd.    : 2039
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 3356  1239  22406
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 15.142.48.0/20
-------------------------------------------------------------------------------
Network          : 15.142.48.0/20       Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h00m38s            Last update      : 02d01h20m
FOM Present      : 2011                 FOM Last upd.    : 2023
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 3356  3561  5551  1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 15.200.128.0/19
-------------------------------------------------------------------------------
Network          : 15.200.128.0/19      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h00m38s            Last update      : 02d01h20m
FOM Present      : 2011                 FOM Last upd.    : 2023
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 1299  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 15.203.192.0/18
-------------------------------------------------------------------------------
Network          : 15.203.192.0/18      Peer             : 10.0.28.1
```

```
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h00m07s            Last update      : 02d01h20m
FOM Present      : 1018                 FOM Last upd.    : 1024
Number of Flaps  : 1                    Flags            : ud*i
Path             : 60203 65001 19855 1299  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show router 3 bgp damping 15.203.192.0/18 detail
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes 15.203.192.0/18
===============================================================================
Network : 15.203.192.0/18
-------------------------------------------------------------------------------
Network          : 15.203.192.0/18      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h00m42s            Last update      : 02d01h20m
FOM Present      : 2003                 FOM Last upd.    : 2025
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Paths : 1
===============================================================================
*A:ALA-12#
*A:ALA-12# show router 3 bgp damping suppressed detail
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes (Suppressed)
===============================================================================
Network : 15.142.48.0/20
-------------------------------------------------------------------------------
Network          : 15.142.48.0/20       Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h29m22s
Peer AS          : 60203                Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h01m28s            Last update      : 02d01h20m
FOM Present      : 2936                 FOM Last upd.    : 3001
Number of Flaps  : 3                    Flags            : si
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 15.200.128.0/19
-------------------------------------------------------------------------------
Network          : 15.200.128.0/19      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h29m22s
```

```
Peer AS          : 60203               Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h01m28s           Last update      : 02d01h20m
FOM Present      : 2936                FOM Last upd.    : 3001
Number of Flaps  : 3                   Flags            : si
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 15.203.240.0/20
-------------------------------------------------------------------------------
Network          : 15.203.240.0/20     Peer             : 10.0.28.1
NextHop          : 10.0.28.1           Reuse time       : 00h29m22s
Peer AS          : 60203               Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h01m28s           Last update      : 02d01h20m
FOM Present      : 2936                FOM Last upd.    : 3001
Number of Flaps  : 3                   Flags            : si
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 15.206.0.0/17
-------------------------------------------------------------------------------
Network          : 15.206.0.0/17       Peer             : 10.0.28.1
NextHop          : 10.0.28.1           Reuse time       : 00h29m22s
Peer AS          : 60203               Peer Router-Id   : 32.32.27.203
Local Pref       : none
Age              : 00h01m28s           Last update      : 02d01h20m
FOM Present      : 2936                FOM Last upd.    : 3001
Number of Flaps  : 3                   Flags            : si
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
*A:ALA-12#
```

group

Syntax **group** [*name*] [**detail**]

Context show>router>bgp

Description This command displays group information for a BGP peer group. This command can be entered with or without parameters.

When this command is entered without a group name, information about all peer groups displays.

When the command is issued with a specific group name, information only pertaining to that specific peer group displays.

The 'State' field displays the BGP group's operational state. Other valid states are:

Up - BGP global process is configured and running.

Down - BGP global process is administratively shutdown and not running.

Disabled - BGP global process is operationally disabled. The process must be restarted by the operator.

Parameters *name* — Displays information for the BGP group specified.

detail — Displays detailed information.

Output **Standard and Detailed Group Output —** The following table describes the standard and detailed command output fields for a BGP group:

Sample Output

Label	Description
Group	BGP group name
Group Type	No Type – Peer type not configured.
	External – Peer type configured as external BGP peers.
	Internal – Peer type configured as internal BGP peers.
State	Disabled – The BGP peer group has been operationally disabled.
	Down – The BGP peer group is operationally inactive.
	Up – The BGP peer group is operationally active.
Peer AS	The configured or inherited peer AS for the specified peer group.
Local AS	The configured or inherited local AS for the specified peer group.
Local Address	The configured or inherited local address for originating peering for the specified peer group.
Loop Detect	The configured or inherited loop detect setting for the specified peer group.
Connect Retry	The configured or inherited connect retry timer value.
	Authentication
	None – No authentication is configured.

Label	Description (Continued)
	MD5 — MD5 authentication is configured.
Local Pref	The configured or inherited local preference value.
MED Out	The configured or inherited MED value assigned to advertised routes without a MED attribute.
Min Route Advt.	The minimum amount of time that must pass between route updates for the same IP prefix.
Min AS Originate	The minimum amount of time that must pass between updates for a route originated by the local router.
Multihop	The maximum number of router hops a BGP connection can traverse.
Multipath	The configured or inherited multipath value, determining the maximum number of ECMP routes BGP can advertise to the RTM.
Prefix Limit	No Limit — No route limit assigned to the BGP peer group. 1 - 4294967295 — The maximum number of routes BGP can learn from a peer.
Passive	Disabled — BGP attempts to establish BGP connections with neighbors in the specified peer group. Enabled — BGP will not actively attempt to establish BGP connections with neighbors in the specified peer group.
Next Hop Self	Disabled — BGP is not configured to send only its own IP address as the BGP nexthop in route updates to neighbors in the peer group. Enabled — BGP sends only its own IP address as the BGP nexthop in route updates to neighbors in the specified peer group.
Aggregator ID 0	Disabled — BGP is not configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates sent to the neighbor in the peer group. Enabled — BGP is configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates sent to the neighbor in the peer group.
Remove Private	Disabled — BGP will not remove all private AS numbers from the AS path attribute in updates sent to the neighbor in the peer group. Enabled — BGP removes all private AS numbers from the AS path attribute in updates sent to the neighbor in the peer group.
Damping	Disabled — The peer group is configured not to dampen route flaps. Enabled — The peer group is configured to dampen route flaps.
Export Policy	The configured export policies for the peer group.
Import Policy	The configured import policies for the peer group.

Label	Description (Continued)
Hold Time	The configured hold time setting.
Keep Alive	The configured keepalive setting.
Cluster Id	None — No cluster ID has been configured.
Client Reflect	Disabled — The BGP route reflector will not reflect routes to this neighbor. Enabled — The BGP route reflector is configured to reflect routes to this neighbor.
NLRI	The type of NLRI information that the specified peer group can accept. Unicast — IPv4 unicast routing information can be carried.
Preference	The configured route preference value for the peer group.
List of Peers	A list of BGP peers configured under the peer group.
Total Peers	The total number of peers configured under the peer group.
Established	The total number of peers that are in an established state.

Sample Output

```
*A:ALA-12# show router 3 bgp group
===============================================================================
BGP Groups
===============================================================================
Group            : To_AS_40000
-------------------------------------------------------------------------------
Description      : Not Available
Group Type       : No Type               State            : Up
Peer AS          : 40000                 Local AS         : 65206
Local Address    : n/a                   Loop Detect      : Ignore
Export Policy    : direct2bgp
Hold Time        : 90                    Keep Alive       : 30
Cluster Id       : None                  Client Reflect   : Enabled
NLRI             : Unicast               Preference       : 170

List of Peers
- 10.0.0.1       : To_Jukebox
- 10.0.0.12      : Not Available
- 10.0.0.13      : Not Available
- 10.0.0.14      : To_ALA-1
- 10.0.0.15      : To_H-215
Total Peers      : 5                     Established      : 2
===============================================================================
*A:ALA-12#
```

neighbor

Syntax **neighbor** [*ip-address* [[**family** *family*] *filter1*]]
neighbor [*as-number* [[**family** *family*] filter2]]

Context show>router>bgp

Description This command displays BGP neighbor information. This command can be entered with or without any parameters.

When this command is issued without any parameters, information about all BGP peers displays.

When the command is issued with a specific IP address or ASN, information regarding only that specific peer or peers with the same AS display.

When either **received-routes** or **advertised-routes** is specified, then the routes received from or sent to the specified peer is listed (see second output example).
Note: This information is not available by SNMP.

When either **history** or **suppressed** is specified, then the routes learned from those peers that either have a history or are suppressed (respectively) are listed.

The 'State' field displays the BGP peer's protocol state. In additional to the standard protocol states, this field can also display the 'Disabled' operational state which indicates the peer is operationally disabled and must be restarted by the operator.

Parameters *ip-addr* — Displays the BGP neighbor with the specified IP address.

family *family* — Specifies the type of routing information to be distributed by the BGP instance.

Values ipv4, vpn-ipv4

filter1 — Specifies route criteria.

Values received-routes, advertised-routes, history, suppressed, detail

filter2 — Specifies route criteria.

Values history, suppressed, detail

Output **Standard and Detailed Neighbor —** The following table describes the standard and detailed command output fields for a BGP neighbor:

Label	Description
Peer	The IP address of the configured BGP peer.
Group	The BGP peer group to which this peer is assigned.
Peer AS	The configured or inherited peer AS for the peer group.
Peer Address	The configured address for the BGP peer.
Peer Port	The TCP port number used on the far-end system.
Local AS	The configured or inherited local AS for the peer group.
Local Address	The configured or inherited local address for originating peering for the peer group.

Label	Description (Continued)
Local Port	The TCP port number used on the local system.
Peer Type	External – Peer type configured as external BGP peers.
	Internal – Peer type configured as internal BGP peers.
State	Idle – The BGP peer is not accepting connections.
	Active – BGP is listening for and accepting TCP connections from this peer.
	Connect – BGP is attempting to establish a TCP connection from this peer.
	Open Sent – BGP has sent an OPEN message to the peer and is waiting for an OPEN message from the peer.
	Open Confirm – BGP has received a valid OPEN message from the peer and is awaiting a KEEPALIVE or NOTIFICATION.
	Established – BGP has successfully established a peering and is exchanging routing information.
Last State	Idle – The BGP peer is not accepting connections.
	Active – BGP is listening for and accepting TCP connections from this peer.
	Connect – BGP is attempting to establish a TCP connection with this peer.
	Connect – BGP is attempting to establish a TCP connections from this peer.
	Open Sent – BGP has sent an OPEN message to the peer and is waiting for an OPEN message from the peer.
	Open Confirm – BGP has received a valid OPEN message from the peer and is awaiting a KEEPALIVE or NOTIFICATION.
	Open Confirm – BGP has received a valid OPEN message from the peer and is awaiting a KEEPALIVE or NOTIFICATION.
Last Event	start – BGP has initialized the BGP neighbor.
	stop – BGP has disabled the BGP neighbor.
	open – BGP transport connection opened.
	close – BGP transport connection closed.
	openFail – BGP transport connection failed to open.
	error – BGP transport connection error.
	connectRetry – Connect retry timer expired.

Label	Description (Continued)
	holdTime – Hold time timer expired. keepAlive – Keepalive timer expired. recvOpen – Receive an OPEN message. revKeepalive – Receive an KEEPALIVE message. recvUpdate – Receive an UPDATE message. recvNotify – Receive an NOTIFICATION message. None – No events have occurred.
Last Error	Displays the last BGP error and sub-code to occur on the BGP neighbor.
Connect Retry	The configured or inherited connect retry timer value.
Local Pref.	The configured or inherited local preference value.
Min Route Advt.	The minimum amount of time that must pass between route updates for the same IP prefix.
Min AS Originate	The minimum amount of time that must pass between updates for a route originated by the local router.
Multihop	The maximum number of router hops a BGP connection can traverse.
Multipath	The configured or inherited multipath value, determining the maximum number of ECMP routes BGP can advertise to the RTM.
Damping	Disabled – BGP neighbor is configured not to dampen route flaps. Enabled – BGP neighbor is configured to dampen route flaps.
Loop Detect	Ignore – The BGP neighbor is configured to ignore routes with an AS loop. Drop – The BGP neighbor is configured to drop the BGP peering if an AS loop is detected. Off – AS loop detection is disabled for the neighbor.
MED Out	The configured or inherited MED value assigned to advertised routes without a MED attribute.
Authentication	None – No authentication is configured. MD5 – MD5 authentication is configured.
Next Hop Self	Disabled – BGP is not configured to send only its own IP address as the BGP nexthop in route updates to the specified neighbor.

Label	Description (Continued)
	Enabled — BGP will send only its own IP address as the BGP nexthop in route updates to the neighbor.
AggregatorID Zero	Disabled — The BGP Neighbor is not configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates.
	Enabled — The BGP Neighbor is configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates.
Remove Private	Disabled — BGP will not remove all private AS numbers from the AS path attribute, in updates sent to the specified neighbor.
	Enabled — BGP will remove all private AS numbers from the AS path attribute, in updates sent to the specified neighbor.
Passive	Disabled — BGP will actively attempt to establish a BGP connection with the specified neighbor.
	Enabled — BGP will not actively attempt to establish a BGP connection with the specified neighbor.
Prefix Limit	No Limit — No route limit assigned to the BGP peer group.
	1 - 4294967295 — The maximum number of routes BGP can learn from a peer.
Hold Time	The configured hold time setting.
Keep Alive	The configured keepalive setting.
Active Hold Time	The negotiated hold time, if the BGP neighbor is in an established state.
Active Keep Alive	The negotiated keepalive time, if the BGP neighbor is in an established state.
Cluster Id	The configured route reflector cluster ID. None — No cluster ID has been configured
Client Reflect	Disabled — The BGP route reflector is configured not to reflect routes to this neighbor.
	Enabled — The BGP route reflector is configured to reflect routes to this neighbor.
Preference	The configured route preference value for the peer group.
Num of Flaps	The number of flaps in the neighbor connection.
Recd. Prefixes	The number of routes received from the BGP neighbor.
Active Prefixes	The number of routes received from the BGP neighbor and active in the forwarding table.
Recd. Paths	The number of unique sets of path attributes received from the BGP neighbor.

Label	Description (Continued)
Suppressed Paths	The number of unique sets of path attributes received from the BGP neighbor and suppressed due to route damping.
Input Queue	The number of BGP messages to be processed.
Output Queue	The number of BGP messages to be transmitted.
i/p Messages	Total number of packets received from the BGP neighbor.
o/p Messages	Total number of packets sent to the BGP neighbor.
i/p Octets	Total number of octets received from the BGP neighbor.
o/p Octets	Total number of octets sent to the BGP neighbor.
i/p Updates	Total number of BGP updates received from the BGP neighbor.
o/p Updates	Total number of BGP updates sent to the BGP neighbor.
Export Policy	The configured export policies for the peer group.
Import Policy	The configured import policies for the peer group.

Sample Output

```
*A:ALA-12# show router 3 bgp neighbor
===============================================================================
BGP Neighbor
===============================================================================
-------------------------------------------------------------------------------
Peer : 10.0.0.15         Group : To_AS_40000
-------------------------------------------------------------------------------
Peer AS          : 65205
Peer Address     : 10.0.0.15            Peer Port        : 0
Local AS         : 65206
Local Address    : 10.0.0.16            Local Port       : 0
Peer Type        : External
State            : Active               Last State       : Connect
Last Event       : openFail
Last Error       : Hold Timer Expire
Hold Time        : 90                   Keep Alive       : 30
Active Hold Time : 0                    Active Keep Alive: 0
Cluster Id       : None
Preference       : 170                  Num of Flaps     : 0
Recd. Prefixes   : 0                    Active Prefixes  : 0
Recd. Paths      : 0                    Suppressed Paths : 0
Input Queue      : 0                    Output Queue     : 0
i/p Messages     : 0                    o/p Messages     : 0
i/p Octets       : 0                    o/p Octets       : 0
i/p Updates      : 0                    o/p Updates      : 0
Export Policy    : direct2bgp
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 bgp neighbor detail
===============================================================================
BGP Neighbor (detail)
```

```
===============================================================================
-------------------------------------------------------------------------------
Peer : 10.0.0.15         Group : To_AS_40000
-------------------------------------------------------------------------------
Peer AS          : 65205
Peer Address     : 10.0.0.15            Peer Port        : 0
Local AS         : 65206
Local Address    : 10.0.0.16            Local Port       : 0
Peer Type        : External
State            : Active               Last State       : Connect
Last Event       : openFail
Last Error       : Hold Timer Expire
Connect Retry    : 20                   Local Pref.      : 100
Min Route Advt.  : 30                   Min AS Orig.     : 15
Multipath        : 1                    Multihop         : 5
Damping          : Disabled             Loop Detect      : Ignore
MED Out          : No MED Out           Authentication   : None
Next Hop Self    : Disabled             AggregatorID Zero: Disabled
Remove Private   : Disabled             Passive          : Disabled
Prefix Limit     : No Limit
Hold Time        : 90                   Keep Alive       : 30
Active Hold Time : 0                    Active Keep Alive: 0
Cluster Id       : None                 Client Reflect   : Enabled
Preference       : 170                  Num of Flaps     : 0
Recd. Prefixes   : 0                    Active Prefixes  : 0
Recd. Paths      : 0                    Suppressed Paths : 0
Input Queue      : 0                    Output Queue     : 0
i/p Messages     : 0                    o/p Messages     : 0
i/p Octets       : 0                    o/p Octets       : 0
i/p Updates      : 0                    o/p Updates      : 0
Export Policy    : direct2bgp

===============================================================================
*A:ALA-12#
```

Output **Show Advertised and Received Routes Output —** The following table describes the command output fields for both the standard and detailed information for a neighbor:

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured local AS setting. If not configured, then it is the same value as the AS.
Flag	u – used
	s – suppressed
	h – history
	d – decayed
	* – valid
	i – igp

Label	Description (Continued)
	? – incomplete
	> – best
Network	Route IP prefix and mask length for the route.
Next Hop	BGP nexthop for the route.
LocalPref	BGP local preference path attribute for the route.
MED	BGP Multi-Exit Discriminator (MED) path attribute for the route.
AS Path	The BGP AS path for the route.

Sample Output

```
*A:ALA-12# show router 3 bgp neighbor 10.0.0.16 received-routes
===============================================================================
 BGP Router ID : 10.0.0.16         AS : 65206   Local AS : 65206
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best
===============================================================================
BGP Neighbor
===============================================================================
Flag  Network            Nexthop         LocalPref  MED        As-Path
-------------------------------------------------------------------------------
?     10.0.0.16/32       10.0.0.16       100        none       No As-Path
?     10.0.6.0/24        10.0.0.16       100        none       No As-Path
?     10.0.8.0/24        10.0.0.16       100        none       No As-Path
?     10.0.12.0/24       10.0.0.16       100        none       No As-Path
?     10.0.13.0/24       10.0.0.16       100        none       No As-Path
?     10.0.204.0/24      10.0.0.16       100        none       No As-Path
===============================================================================
*A:ALA-12#
```

paths

Syntax **paths**

Context show>router>bgp

Description This command displays a summary of BGP path attributes.

Output **Show Path Output —** The following table describes the command output fields for a BGP path.

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured local AS setting. If not configured, then the value is the same as the AS.
Path	The AS path attribute.
Origin	EGP – The NLRI is learned by an EGP protocol.
	IGP – The NLRI is interior to the originating AS.
	INCOMPLETE – NLRI was learned another way.
Next Hop	The advertised BGP nexthop.
MED	The Multi-Exit Discriminator value.
Local Preference	The local preference value.
Refs	The number of routes using a specified set of path attributes.
ASes	The number of autonomous system numbers in the AS path attribute.
Segments	The number of segments in the AS path attribute.
Flags	EBGP-learned – Path attributes learned by an EBGP peering.
	IBGP-Learned – Path attributes learned by an IBGP peering.
Aggregator	The route aggregator ID.
Community	The BGP community attribute list.
Originator ID	The originator ID path attribute value.
Cluster List	The route reflector cluster list.

Sample Output

```
*A:ALA-12# show router 3 bgp paths
===============================================================================
 BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
BGP Paths
```

```
-------------------------------------------------------------------------------
Path: 60203 65001 19855 3356  15412
-------------------------------------------------------------------------------
Origin          : IGP                 Next Hop         : 10.0.28.1
MED             : 60203               Local Preference : none
Refs            : 4                   ASes             : 5
Segments        : 1
Flags           : EBGP-learned
Aggregator      : 15412  62.216.140.1
-------------------------------------------------------------------------------
Path: 60203 65001 19855 3356  1     1236  1236  1236  1236
-------------------------------------------------------------------------------
Origin          : IGP                 Next Hop         : 10.0.28.1
MED             : 60203               Local Preference : none
Refs            : 2                   ASes             : 9
Segments        : 1
Flags           : EBGP-learned
-------------------------------------------------------------------------------
*A:ALA-12#
```

routes

Syntax **routes** [**family** *family*] [*prefix* [**detail** | **longer**]]
routes [**family** *family*] [*prefix* [**hunt | brief**]]
routes [**family** *family*] [**community** *comm-id*]
routes [**family** *family*] [**aspath-regex** *reg-ex1*]
routes [**family** *family*] [*ipv6-prefix*[/*prefix-length*] [**detail** | **longer**] | [**hunt** [**brief**]]]

Context show>router>bgp

Description This command displays BGP route information.

When this command is issued without any parameters, then the entire BGP routing table displays.

When this command is issued with an IP prefix/mask or IP address, then the best match for the parameter displays.

Parameters **family** *family* **—** Specifies the type of routing information to be distributed by the BGP instance.

Values **ipv4** — Displays only those BGP peers that have the IPv4 family enable and not those capable of exchanging IP-VPN routes.
vpn-ipv4 — Displays the BGP peers that are IP-VPN capable.
ipv6 — Displays the BGP peers that are IPv6 capable.
mcast-ipv4 — Displays the BGP peers that are mcast-ipv4 capable.

prefix — Specifies the type of routing information to display.

Values *rd*|[*rd*:]*ip-address*[/*mask*]

rd	{ip-address:number1 as-number1:number2 as-number2:number3}
number1	1 — 65535
as-number1	1 — 65535
number2	0 — 4294967295
as-number2	1 — 4294967295
number3	0 — 65535
ip-address	a.b.c.d
mask	0 — 32

ipv6-prefix[/prefix-length — Specifies the type of IPv6 routing information to display.

Values	ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x: [0 — FFFF]H d: [0 — 255]D
	prefix-length	0 — 128

filter — Specifies route criteria.

Values **hunt** Displays entries for the specified route in the RIB-In, RIB-Out, and RTM.

longer Displays the specified route and subsets of the route.
detail Display the longer, more detailed version of the output.

aspath-regex "*reg-exp***" —** Displays all routes with an AS path matching the specified regular expression *reg-exp*.

community *comm.-id* **—** Displays all routes with the specified BGP community.

Values [*as-number1:comm-val1* | *ext-comm* | *well-known-comm*]

ext-comm	type:{ip-address:comm-val1 | as-number1:comm-val2 | as-number2:comm-val1}
as-number1	0..65535
comm-val1	0..65535
type	keywords: target, origin
ip-address	a.b.c.d
comm-val2	0 — 4294967295
as-number2	0 — 4294967295
well-known-comm	no-export, no-export-subconfed, no-advertise

Output **Show BGP Routes —** The following table describes the command output fields for BGP routes.

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured local AS setting, if not configured it is the same as the system AS.
Network	The IP prefix and mask length.
Nexthop	The BGP nexthop.
From	The advertising BGP neighbor's IP address.
Res. Nexthop	The resolved nexthop.
Local Pref.	The local preference value.
Flag	u – used s – suppressed h – history d – decayed * – valid i – igp e – egp ? – incomplete > – best
Aggregator AS	The aggregator AS value. none – No aggregator AS attributes are present.
Aggregator	The aggregator attribute value. none – no Aggregator attributes are present.
Atomic Aggr.	Atomic – The atomic aggregator flag is set.

Label	Description
	Not Atomic — The atomic aggregator flag is not set.
MED	The MED metric value. none — No MED metric is present.
Community	The BGP community attribute list.
Cluster	The route reflector cluster list.
Originator Id	The originator ID path attribute value. none — The originator ID attribute is not present.
Peer Router Id	The router ID of the advertising router.
AS-Path	The BGP AS path attribute.
VPRN Imported	Displays the VPRNs where a particular BGP-VPN received route has been imported and installed.

Sample Output

```
*A:ALA-12>config>router>bgp# show router 3 bgp routes family ipv4
===============================================================================
 BGP Router ID : 10.10.10.103      AS : 200     Local AS : 200
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best
===============================================================================
BGP Routes
===============================================================================
Flag  Network                              Nexthop         LocalPref  MED
      VPN Label                            As-Path
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
*A:ALA-12>config>router>bgp#

A:SR-12# show router bgp routes 100.0.0.0/31 hunt
===============================================================================
 BGP Router ID : 10.20.1.1   AS : 100Local AS : 100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best
===============================================================================
BGP Routes
===============================================================================
RIB In Entries
-------------------------------------------------------------------------------
Network        : 100.0.0.0/31
Nexthop        : 10.20.1.2
Route Dist.    : 10.20.1.2:1         VPN Label     : 131070
From        : 10.20.1.2
Res. Nexthop   : 10.10.1.2
Local Pref.    : 100                 Interface Name: to-sr7
Aggregator AS  : none                Aggregator    : none
```

```
Atomic Aggr.   : Not Atomic          MED           : none
Community      : target:10.20.1.2:1
Cluster        : No Cluster Members
Originator Id  : None               Peer Router Id: 10.20.1.2
Flags       : Used  Valid  Best  IGP
AS-Path        : No As-Path
VPRN Imported  : 1 2 10 12
-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
A:SR-12#

*A:Dut-B>config>service>vprn>bgp# show router bgp routes 5.5.5.5/32 hunt
===============================================================================
 BGP Router ID:10.20.1.2        AS:1          Local AS:1
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP IPv4 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : 5.5.5.5/32
Nexthop        : 29.1.1.2 (VPRN 1)
Path Id        : None
From           : ::
Res. Nexthop   : 29.1.1.2
Local Pref.    : 100                   Interface Name : to_Dut-A
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : 10:2
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 0.0.0.0
Fwd Class      : None                  Priority       : None
Flags          : Used  Valid  Best  IGP  Leaked
Route Source   : Leaked from VPRN 1
AS-Path        : 2011
Route Tag      : 0
Neighbor-AS    : 2011
Orig Validation: NotFound
Source Class   : 0                     Dest Class     : 0
...
```

summary

Syntax **summary** [**all**]

Context show>router>bgp

Description This command displays a summary of BGP neighbor information.

If confederations are not configured, that portion of the output will not display.

The "State" field displays the global BGP operational state. The valid values are:

Up — BGP global process is configured and running.
Down — BGP global process is administratively shutdown and not running.
Disabled — BGP global process is operationally disabled. The process must be restarted by the operator.

For example, if a BGP peer is operationally disabled, then the state in the summary table shows the state 'Disabled'

Parameters **all** — Displays BGP peers in all instances.

Output **Show BGP Summary Output —** The following table describes the command output fields for a BGP summary:

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured local AS setting, if not configured it is the same as the system AS.
BGP Admin State	Down – BGP is administratively disabled.
	Up – BGP is administratively enabled.
BGP Oper State	Down – BGP is operationally disabled.
	Up – BGP is operationally enabled.
Confederation AS	The configured confederation AS.
Member Confederations	The configured members of the BGP confederation.
Number of Peer Groups	The total number of configured BGP peer groups.
Number of Peers	The total number of configured BGP peers.
Total BGP Active Routes	The total number of BGP routes used in the forwarding table.
Total BGP Routes	The total number of BGP routes learned from BGP peers.
Total BGP Paths	The total number of unique sets of BGP path attributes learned from BGP peers.
Total Path Memory	Total amount of memory used to store the path attributes.
Total Suppressed Routes	Total number of suppressed routes due to route damping.
Total History Routes	Total number of routes with history due to route damping.

Label	Description
Total Decayed Routes	Total number of decayed routes due to route damping.
Neighbor	BGP neighbor address.
AS (Neighbor)	BGP neighbor autonomous system number.
PktRcvd	Total number of packets received from the BGP neighbor.
PktSent	Total number of packets sent to the BGP neighbor.
InQ	The number of BGP messages to be processed.
OutQ	The number of BGP messages to be transmitted.
Up/Down	The amount of time that the BGP neighbor has either been established or not established depending on its current state.
State|Recv/Actv/Sent	The BGP neighbor's current state (if not established) or the number of received routes, active routes and sent routes (if established).

Sample Output

```
*A:ALA-12# show router 3 bgp summary
===============================================================================
 BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
 BGP Admin State         : Up            BGP Oper State       : Up
 Confederation AS        : 40000
 Member Confederations   : 65205 65206 65207 65208

 Number of Peer Groups   : 2             Number of Peers      : 7
 Total BGP Active Routes : 86689         Total BGP Routes     : 116999
 Total BGP Paths         : 35860         Total Path Memory    : 2749476
 Total Supressed Routes  : 0             Total History Routes : 0
 Total Decayed Routes    : 0
===============================================================================
BGP Summary
===============================================================================
Neighbor           AS PktRcvd PktSent InQ OutQ   Up/Down State|Recv/Actv/Sent
-------------------------------------------------------------------------------
10.0.0.1        65206       5   21849   0    0 00h01m29s 32/0/86683
10.0.0.12       65206       0       0   0    0 00h01m29s Active
10.0.0.13       65206       5   10545   0   50 00h01m29s 6/0/86683
10.0.0.15       65205       0       0   0    0 00h01m29s Active
10.0.0.16       65206       5    9636   0   50 00h01m29s 6/0/86683
10.0.27.1           2       0       0   0    0 00h01m29s Active
10.0.28.1       60203   22512      15   0    0 00h01m29s 116955/86689/9
===============================================================================
*A:ALA-12#
```

ecmp

Syntax **ecmp**

Context show>router

Description This command displays the ECMP settings for the router.

Output **Show ECMP Settings Output —** The following table describes the output fields for the router ECMP settings.

Label	Description
Instance	The router instance number.
Router Name	The name of the router instance.
ECMP	False — ECMP is disabled for the instance. True — ECMP is enabled for the instance.
Configured-ECMP-Routes	The number of ECMP routes configured for path sharing.

Sample Output

```
*A:ALA-12# show router 3 ecmp
===============================================================================
Router ECMP
===============================================================================
Instance       Router Name                     ECMP    Configured-ECMP-Routes
-------------------------------------------------------------------------------
1              Base                            True    8
===============================================================================
*A:ALA-12#
```

interface

Syntax **interface** [{[*ip-address* | *ip-int-name*] [**detail**]}] | [**summary**] | [**exclude-services**]

Context show>router

Description This command displays the router IP interface table sorted by interface index.

Parameters *ip-address* — Only displays the interface information associated with the specified IP address.

ip-int-name — Only displays the interface information associated with the specified IP interface name.

detail — Displays detailed IP interface information.

summary — Displays summary IP interface information for the router.

exclude-services — Displays IP interface information, excluding IP interfaces configured for customer services. Only core network IP interfaces are displayed.

Output **Standard IP Interface Output —** The following table describes the standard output fields for an IP interface:

Label	Description
Interface-Name	The IP interface name.
Type	n/a — No IP address has been assigned to the IP interface, so the IP address type is not applicable. Pri — The IP address for the IP interface is the Primary address on the IP interface. Sec — The IP address for the IP interface is a secondary address on the IP interface.
IP-Address	The IP address and subnet mask length of the IP interface. n/a — Indicates no IP address has been assigned to the IP interface.
Adm	Down — The IP interface is administratively disabled. Up — The IP interface is administratively enabled.
Opr	Down — The IP interface is operationally disabled. Up — The IP interface is operationally enabled.
Mode	Network — The IP interface is a network/core IP interface. Service — The IP interface is a service IP interface.

Sample Output

```
*A:ALA-12# show router 3 interface
===============================================================================
Interface Table
===============================================================================
Interface-Name                   Type IP-Address         Adm    Opr  Mode
-------------------------------------------------------------------------------
```

```
system                            Pri  10.10.0.3/32       Up     Up   Network
to-ser1                           Pri  10.10.13.3/24      Up     Up   Network
to-ser4                           Pri  10.10.34.3/24      Up     Up   Network
to-ser5                           Pri  10.10.35.3/24      Up     Up   Network
to-ser6                           n/a  n/a                Up     Down Network
to-web                            Pri  10.1.1.3/24        Up     Down Service
management                        Pri  192.168.2.93/20    Up     Up   Network
===============================================================================
*A:ALA-12#

*A:ALA-12# show router 3 interface 10.10.0.3/32
===============================================================================
Interface Table
===============================================================================
Interface-Name                    Type IP-Address         Adm    Opr  Mode
-------------------------------------------------------------------------------
system                            Pri  10.10.0.3/32       Up     Up   Network
===============================================================================
SR4#

*A:ALA-12# show router 3 interface to-ser1
===============================================================================
Interface Table
===============================================================================
Interface-Name                    Type IP-Address         Adm    Opr  Mode
-------------------------------------------------------------------------------
to-ser1                           Pri  10.10.13.3/24      Up     Up   Network
===============================================================================
*A:ALA-12#

*A:ALA-12# show router 3 interface exclude-services
===============================================================================
Interface Table
===============================================================================
Interface-Name                    Type IP-Address         Adm    Opr  Mode
-------------------------------------------------------------------------------
system                            Pri  10.10.0.3/32       Up     Up   Network
to-ser1                           Pri  10.10.13.3/24      Up     Up   Network
to-ser4                           Pri  10.10.34.3/24      Up     Up   Network
to-ser5                           Pri  10.10.35.3/24      Up     Up   Network
to-ser6                           n/a  n/a                Up     Down Network
management                        Pri  192.168.2.93/20    Up     Up   Network
===============================================================================
*A:ALA-12#
```

Detailed IP Interface Output — The following table describes the detailed output fields for an IP interface.

Label	Description
If Name	The IP interface name.
Admin State	Down — The IP interface is administratively disabled. Up — The IP interface is administratively enabled.

Label	Description (Continued)
Oper State	Down — The IP interface is operationally disabled. Up — The IP interface is operationally disabled.
IP Addr/mask	The IP address and subnet mask length of the IP interface. Not Assigned — Indicates no IP address has been assigned to the IP interface.
Address Type	Primary — The IP address for the IP interface is the Primary address on the IP interface. Secondary — The IP address for the IP interface is a Secondary address on the IP interface.
IGP Inhibit	Disabled — The secondary IP address on the interface will be recognized as a local interface by the IGP. Enabled — The secondary IP address on the interface will not be recognized as a local interface by the IGP.
Broadcast Address	All-ones — The broadcast format on the IP interface is all ones. Host-ones — The broadcast format on the IP interface is host ones.
If Index	The interface index of the IP router interface.
If Type	Network — The IP interface is a network/core IP interface. Service — The IP interface is a service IP interface.
Port Id	The port ID of the IP interface.
Egress Filter	The egress IP filter policy ID associated with the IP interface. none — Indicates no egress filter policy is associated with the interface.
Ingress Filter	The ingress IP filter policy ID associated with the IP interface. none — Indicates no ingress filter policy is associated with the interface.
QoS Policy	The QoS policy ID associated with the IP interface.
SNTP Broadcast	False — Receipt of SNTP broadcasts on the IP interface is disabled. True — Receipt of SNTP broadcasts on the IP interface is enabled.
MAC Address	The MAC address of the IP interface.
Arp Timeout	The ARP timeout for the interface, in seconds, which is the time an ARP entry is maintained in the ARP cache without being refreshed.
IP MTU	The IP Maximum Transmission Unit (MTU) for the IP interface.
ICMP Mask Reply	False — The IP interface will not reply to a received ICMP mask request. True — The IP interface will reply to a received ICMP mask request.

Label	Description (Continued)
Cflowd	Specifies the type of Cflowd analysis that is applied to the interface. acl — ACL Cflowd analysis is applied to the interface. interface — Interface cflowd analysis is applied to the interface. none — No Cflowd analysis is applied to the interface.
Redirects	Specifies the maximum number of ICMP redirect messages the IP interface will issue in a given period of time (Time (seconds)). Disabled — Indicates the IP interface will not generate ICMP redirect messages.
Unreachables	Specifies the maximum number of ICMP destination unreachable messages the IP interface will issue in a given period of time. Disabled — Indicates the IP interface will not generate ICMP destination unreachable messages.
TTL Expired	The maximum number (Number) of ICMP TTL expired messages the IP interface will issue in a given period of time (Time (seconds)). Disabled — Indicates the IP interface will not generate ICMP TTL expired messages.

Sample Output

```
*A:ALA-12# show router 3 interface detail
===============================================================================
Interface Table
===============================================================================
Interface
-------------------------------------------------------------------------------
If Name      : to-ser1
Admin State  : Up                              Oper State       : Up

IP Addr/mask : 10.10.13.3/24                   Address Type     : Primary
IGP Inhibit  : Disabled                        Broadcast Address: Host-ones

IP Addr/mask : 10.200.0.1/16                   Address Type     : Secondary
IGP Inhibit  : Enabled                         Broadcast Address: Host-ones
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
If Index     : 2
Port Id     : 1/1/2                            If Type          : Network
Egress Filter: none                            Ingress Filter   : 100
QoS Policy   : 1                               SNTP Broadcast   : False
MAC Address  : 04:5d:01:01:00:02               Arp Timeout      : 14400
IP MTU       : 1500                            ICMP Mask Reply  : True
Cflowd       : none

ICMP Details
Redirects    : Disabled
Unreachables : Number - 100                   Time (seconds)   - 10
TTL Expired  : Number - 100                   Time (seconds)   - 10
===============================================================================
*A:ALA-12#
```

Summary IP Interface Output — The following table describes the summary output fields for the router IP interfaces.

Label	Description
Instance	The router instance number.
Router Name	The name of the router instance.
Interfaces	The number of IP interfaces in the router instance.
Admin-Up	The number of administratively enabled IP interfaces in the router instance.
Oper-Up	The number of operationally enabled IP interfaces in the router instance.

Sample Output

```
*A:ALA-12# show router 3 interface summary
===============================================================================
Router Summary (Interfaces)
===============================================================================
Instance  Router Name                       Interfaces    Admin-Up   Oper-Up
-------------------------------------------------------------------------------
1         Base                              7             7          5
===============================================================================
*A:ALA-12#
```

bindings

Syntax **bindings active**

Context show>router>ldp

Description This command displays LDP bindings information.

Sample Output

```
*A:Dut-A# show router ldp bindings active

===========================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===========================================================================
LDP IPv4 Prefix Bindings (Active)
===========================================================================
Prefix                  Op   IngLbl    EgrLbl    EgrIntf/LspId  EgrNextHop
---------------------------------------------------------------------------
10.20.1.1/32            Pop  131071      --        --             --
10.20.1.2/32            Push   --      131071    1/1/1          10.10.1.2
10.20.1.2/32            Swap 131070    131071    1/1/1          10.10.1.2
10.20.1.2/32            Push   --      262141BU  1/1/2          10.10.2.3
10.20.1.2/32            Swap 131070    262141BU  1/1/2          10.10.2.3
10.20.1.3/32            Push   --      131069BU  1/1/1          10.10.1.2
10.20.1.3/32            Swap 131069    131069BU  1/1/1          10.10.1.2
10.20.1.3/32            Push   --      262143    1/1/2          10.10.2.3
```

```
10.20.1.3/32            Swap 131069    262143    1/1/2          10.10.2.3
10.20.1.4/32            Push   --      131068    1/1/1          10.10.1.2
10.20.1.4/32            Swap 131068    131068    1/1/1          10.10.1.2
10.20.1.4/32            Push   --      262140BU  1/1/2          10.10.2.3
10.20.1.4/32            Swap 131068    262140BU  1/1/2          10.10.2.3
10.20.1.5/32            Push   --      131067BU  1/1/1          10.10.1.2
10.20.1.5/32            Swap 131067    131067BU  1/1/1          10.10.1.2
10.20.1.5/32            Push   --      262139    1/1/2          10.10.2.3
10.20.1.5/32            Swap 131067    262139    1/1/2          10.10.2.3
10.20.1.6/32            Push   --      131066    1/1/1          10.10.1.2
10.20.1.6/32            Swap 131066    131066    1/1/1          10.10.1.2
10.20.1.6/32            Push   --      262138BU  1/1/2          10.10.2.3
10.20.1.6/32            Swap 131066    262138BU  1/1/2          10.10.2.3
-------------------------------------------------------------------------

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 10
===============================================================================

===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP Generic IPv6 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                   Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
```

```
Group                                          Interface
RootAddr                                       Op              IngLbl    EgrLbl
EgrNH                                          EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                          RD              Op
RootAddr                                       Interface       IngLbl    EgrLbl
EgrNH                                          EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                          RD              Op
RootAddr                                       Interface       IngLbl    EgrLbl
EgrNH                                          EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================


*A:Dut-A# show router ldp bindings

===========================================================================
LDP Bindings (IPv4 LSR ID 1.1.1.1:0)
             (IPv6 LSR ID ::[0])
===============================================================================
Legend: U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        S - Status Signaled Up,  D - Status Signaled Down
        E - Epipe Service, V - VPLS Service, M - Mirror Service
        A - Apipe Service, F - Fpipe Service, I - IES Service, R - VPRN service
        P - Ipipe Service, WP - Label Withdraw Pending, C - Cpipe Service
        BU - Alternate For Fast Re-Route, TLV - (Type, Length: Value)
===============================================================================
LDP IPv4 Prefix Bindings
===========================================================================
Prefix             Peer            IngLbl     EgrLbl EgrIntf/    EgrNextHop
                                                     LspId
---------------------------------------------------------------------------
10.20.1.1/32       10.20.1.2       131071U     --     --          --
10.20.1.1/32       10.20.1.3       131071U     --     --          --
10.20.1.2/32       10.20.1.2         --       131071 1/1/1       10.10.1.2
10.20.1.2/32       10.20.1.3       131070U    262141 1/1/2       10.10.2.3
10.20.1.3/32       10.20.1.2       131069U    131069 1/1/1       10.10.1.2
10.20.1.3/32       10.20.1.3         --       262143 1/1/2       10.10.2.3
10.20.1.4/32       10.20.1.2       131068N    131068 1/1/1       10.10.1.2
10.20.1.4/32       10.20.1.3       131068BU    262140 1/1/2       10.10.2.3
10.20.1.5/32       10.20.1.2       131067U    131067 1/1/1       10.10.1.2
10.20.1.5/32       10.20.1.3       131067N    262139 1/1/2       10.10.2.3
10.20.1.6/32       10.20.1.2       131066N    131066 1/1/1       10.10.1.2
10.20.1.6/32       10.20.1.3       131066BU   262138 1/1/2       10.10.2.3
---------------------------------------------------------------------------
No. of IPv4 Prefix Bindings: 12
===========================================================================
```

```
===============================================================================
LDP IPv6 Prefix Bindings
===============================================================================
Prefix                                  IngLbl                  EgrLbl
Peer                                    EgrIntf/LspId
EgrNextHop
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP Generic IPv4 P2MP Bindings
===============================================================================
P2MP-Id
RootAddr                                Interface       IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
Peer
-------------------------------------------------------------------------------
100
1.1.1.1                                 Unknw             --      131051
90.90.90.2                              1/1/6
2.2.2.2:0

104
1.1.1.1                                 Unknw             --      131050
90.90.90.2                              1/1/6
2.2.2.2:0

600
1.1.1.1                                 Unknw             --      131049
90.90.90.2                              1/1/6
2.2.2.2:0

700
1.1.1.1                                 Unknw             --      131048
90.90.90.2                              1/1/6
2.2.2.2:0

800
1.1.1.1                                 Unknw             --      131047
90.90.90.2                              1/1/6
2.2.2.2:0

900
1.1.1.1                                 Unknw             --      131046
90.90.90.2                              1/1/6
2.2.2.2:0

1500
1.1.1.1                                 Unknw             --      131045
90.90.90.2                              1/1/6
2.2.2.2:0

100
6.6.6.6                                 Unknw             --      131044
90.90.90.2                              1/1/6
2.2.2.2:0

900
6.6.6.6                                 Unknw             --      131043
90.90.90.2                              1/1/6
2.2.2.2:0
```

```
-------------------------------------------------------------------------------
No. of Generic IPv4 P2MP Bindings: 9
===============================================================================

===============================================================================
LDP Generic IPv6 P2MP Bindings
===============================================================================
P2MP-Id
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings
===============================================================================
Source
Group
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings
===============================================================================
Source
Group
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings
===============================================================================
Source
Group                                     RD
RootAddr                                  Interface         IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
1.1.1.1
225.0.0.1                                 1.1.1.1:100
3.3.3.3                                   Unknwn              --         100
60.60.60.1                                1/1/1
2.2.2.2:100

1.1.1.1
225.0.0.1                                 1.1.1.1:100
3.3.3.3                                   Unknwn              --         100
60.60.60.1                                1/1/1
2.2.2.2:100

1.1.1.1
225.0.0.1                                 1.1.1.1:100
```

```
3.3.3.3                                  Unknwn              --         100
60.60.60.1                               1/1/1
2.2.2.2:100

-------------------------------------------------------------------------------
No. of In-Band-VPN-SSM IPv4 P2MP Bindings: 3
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings
===============================================================================
===============================================================================
Source
Group                                     RD
RootAddr                                  Interface         IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
1.1.1.1
225.0.0.1                                1.1.1.1:100
2000::3000                               Unknwn              --         100
60.60.60.1                               1/1/1
2.2.2.2:100

1.1.1.1
225.0.0.1                                1.1.1.1:100
2000::3000                               Unknwn              --         100
60.60.60.1                               1/1/1
2.2.2.2:100

1.1.1.1
225.0.0.1                                1.1.1.1:100
2000::3000                               Unknwn              --         100
60.60.60.1                               1/1/1
2.2.2.2:100

-------------------------------------------------------------------------------
No. of In-Band-VPN-SSM IPv6 P2MP Bindings: 3
===============================================================================

===============================================================================
LDP Service FEC 128 Bindings
===============================================================================
Type                                        VCId       SDPId     IngLbl  LMTU
Peer                                        SvcId                EgrLbl  RMTU
-------------------------------------------------------------------------------
?-Eth                                       100        R. Src      --    None
2.2.2.2:0                                   Ukwn                 131023D 986

?-Eth                                       500        R. Src      --    None
2.2.2.2:0                                   Ukwn                 131022D 1386

?-Eth                                       2001       R. Src      --    None
2.2.2.2:0                                   Ukwn                 131019D 986

?-Eth                                       2003       R. Src      --    None
2.2.2.2:0                                   Ukwn                 131017D 986

?-Ipipe                                     1800       R. Src      --    None
2.2.2.2:0                                   Ukwn                 131014D 1486

-------------------------------------------------------------------------------
No. of VC Labels: 5
```

```
===============================================================================

===============================================================================
LDP Service FEC 129 Bindings
===============================================================================
SAII                                          AGII        IngLbl    LMTU
TAII                                          Type        EgrLbl    RMTU
Peer                                          SvcId       SDPId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
```

mvpn

Syntax **mvpn**

Context show>router *router-instance*

Description This command displays Multicast VPN related information. The router instance must be specified.

Sample Output

```
*A:Dut-C# show router 1 mvpn
===============================================================================
MVPN 1 configuration data
===============================================================================
signaling          : Bgp                  auto-discovery     : Enabled
UMH Selection      : Highest-Ip           intersite-shared   : Enabled
vrf-import         : N/A
vrf-export         : N/A
vrf-target         : target:1:1
C-Mcast Import RT  : target:10.20.1.3:2

ipmsi              : pim-asm 224.1.1.1
admin status       : Up                   three-way-hello    : N/A
hello-interval     : N/A                  hello-multiplier   : 35 * 0.1
tracking support   : Disabled             Improved Assert    : N/A

spmsi              : pim-ssm 225.0.0.0/32
join-tlv-packing   : N/A
data-delay-interval: 3 seconds
data-threshold     : 224.0.0.0/4 --> 1 kbps
===============================================================================
```

database

Syntax **database** [*ip-prefix* [/*mask*] [**longer**] [**peer** *ip-address*]

Context show>router>rip

Description Displays all routes in the RIP database.

Output **Show RIP Database Output —** The following table describes the output fields for the RIP route database.

Label	Description
Destination	The RIP destination for the route.
Peer	The router ID of the peer router.
NextHop	The IP address of the next hop.
Metric	The hop count to rate the value of different hops.
Tag	The value to distinguish between internal routes (learned by RIP) and external routes (learned from other protocols).
TTL	Displays how many seconds the specific route will remain in the routing table. When an entry reaches 0, it is removed from the routing table.
Valid	No – The route is not valid. Yes – The route is valid.

Sample Output

```
*A:ALA-1#  show rip database
===============================================================================
RIP Route Database
===============================================================================
Destination        Peer             NextHop         Metric  Tag     TTL   Valid
-------------------------------------------------------------------------------
180.0.0.10/32      180.1.7.15       0.0.0.0         2       0x0000  163   No
180.0.0.10/32      180.1.8.14       0.0.0.0         2       0x0000  179   No
180.0.0.14/32      180.1.8.14       0.0.0.0         1       0x0000  179   Yes
180.0.6.0/24       180.1.7.15       0.0.0.0         11      0x2002  163   No
180.0.6.0/24       180.1.8.14       0.0.0.0         11      0x2002  179   No
180.0.7.0/24       180.1.7.15       0.0.0.0         11      0x2002  163   No
180.0.7.0/24       180.1.8.14       0.0.0.0         11      0x2002  179   No
180.1.5.0/24       180.1.7.15       0.0.0.0         2       0x0000  151   Yes
180.1.5.0/24       180.1.8.14       0.0.0.0         1       0x0000  167   No
180.100.17.16/31   180.1.7.15       0.0.0.0         2       0x0000  151   No
180.100.17.16/31   180.1.8.14       0.0.0.0         2       0x0000  167   No
-------------------------------------------------------------------------------
No. of Routes: 11
===============================================================================
*A:ALA-12#
```

neighbor

Syntax **neighbor** [*ip-address* | *ip-int-name*] [**detail**] [**advertised-routes**]

Context show>router>rip

Description Displays RIP neighbor interface information.

Parameters *ip-address* | *ip-int-name* — Displays information for the specified IP interface.

Default All neighbor interfaces.

advertised-routes — Displays the routes advertised to RIP neighbors. If no neighbors are specified, then all routes advertised to all neighbors are displayed. If a specific neighbor is given then only routes advertised to the given neighbor/interface are displayed.

Default Display RIP information.

Output **Standard Show RIP Neighbor Output —** The following table describes the standard command output fields for a RIP group.

Label	Description
Neighbor	The RIP neighbor interface name.
Adm	Down – The RIP neighbor interface is administratively down.
	Up – The RIP neighbor interface is administratively up.
Opr	Down – The RIP neighbor interface is operationally down.
	Up – The RIP neighbor interface is operationally up.
Primary IP	The primary IP address of the RIP neighbor interface.
Send Mode	Bcast – Specifies that RIPv2 formatted messages are sent to the broadcast address.
	Mcast – Specifies that RIPv2 formatted messages are sent to the multicast address.
	None – Specifies that no RIP messages are sent (i.e., silent listener).
	RIPv1 – Specifies that RIPv1 formatted messages are sent to the broadcast address.
Recv Mode	Both – Specifies that RIP updates in either version 1 or version 2 format will be accepted.
	None – Specifies that RIP updates will not be accepted.
	RIPv1 – Specifies that RIP updates in version 1 format only will be accepted.
	RIPv2 – Specifies that RIP updates in version 2 format only will be accepted.
Metric In	The metric added to routes received from a RIP neighbor.

Sample Output

```
*A:ALA-12#  show router 3 rip neighbor
===============================================================================
RIP Neighbors
===============================================================================
Interface                        Adm  Opr  Primary IP      Send  Recv  Metric
                                                          Mode  Mode  In
-------------------------------------------------------------------------------
router-21/1                       Up   Up   10.0.3.12       None  Both  1
router-21/2                       Up   Up   10.0.5.12       BCast Both  1
```

```
router-21/3                          Up   Up   10.0.6.12       BCast Both  1
router-21/4                          Up   Up   10.0.10.12      BCast Both  1
router-21/5                          Up   Up   10.0.9.12       BCast Both  1
router-21/6                          Up   Up   10.0.17.12      None  Both  1
router-21/7                          Up   Up   10.0.16.12      None  Both  1
===============================================================================
*A:ALA-12#
```

Detailed Show RIP Neighbor Output — The following table describes the standard command output fields for a RIP group.

Label	Description
Neighbor	The RIP neighbor name.
Description	The RIP neighbor description. No Description Available indicates no description is configured.
Primary IP	The RIP neighbor interface primary IP address.
Group	The RIP group name of the neighbor interface.
Admin State	Down — The RIP neighbor interface is administratively down. Up — The RIP neighbor interface is administratively up.
Oper State	Down — The RIP neighbor interface is operationally down. Up — The RIP neighbor interface is operationally up.
Send Mode	Bcast — Specifies that RIPv2 formatted messages are sent to the broadcast address. Mcast — Specifies that RIPv2 formatted messages are sent to the multicast address. None — Specifies that no RIP messages are sent (i.e., silent listener). RIPv1 — Specifies that RIPv1 formatted messages are sent to the broadcast address.
Recv Mode	Both — Specifies that RIP updates in either version 1 or version 2 format will be accepted. None — Specifies that RIP updates will not be accepted. RIPv1 — Specifies that RIP updates in version 1 format only will be accepted. RIPv2 — Specifies that RIP updates in version 2 format only will be accepted.
Metric In	The metric value added to routes received from a RIP neighbor.
Metric Out	The value added to routes exported into RIP and advertised to RIP neighbors.
Split Horizon	Disabled — Split horizon disabled for the neighbor.

Label	Description (Continued)
	Enabled — Split horizon and poison reverse enabled for the neighbor.
Check Zero	Disabled — Checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications are not checked allowing receipt of RIP messages even if mandatory zero fields are non-zero for the neighbor.
	Enabled — checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications and rejecting non-compliant RIP messages is enabled for the neighbor.
Message Size	The maximum number of routes per RIP update message.
Preference	The preference of RIP routes from the neighbor.
Auth. Type	Specifies the authentication type.
Update Timer	The current setting of the RIP update timer value expressed in seconds.
Timeout Timer	The current RIP timeout timer value expressed in seconds.
Export Policies	The export route policy that is used to determine routes advertised to all peers.
Import Policies	The import route policy that is used to determine which routes are accepted from RIP neighbors.

Sample Output

```
*A:ALA-12#  show router 3 rip peers
===============================================================================
RIP Peers
===============================================================================
Peer IP Addr      Interface Name                    Version     Last Update
-------------------------------------------------------------------------------
10.0.5.13         router-2/2                        RIPv2       0
10.0.6.16         router-2/3                        RIPv2       2
10.0.9.14         router-2/5                        RIPv2       8
10.0.10.15        router-2/4                        RIPv2       0
-------------------------------------------------------------------------------
No. of Peers: 4
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 rip neighbor detail
===============================================================================
RIP Neighbors (Detail)
===============================================================================
Neighbor "router-2/7"
-------------------------------------------------------------------------------
Description    : No Description Available
Primary IP     : 10.0.16.12         Group        : seven
Admin State    : Up                 Oper State   : Up
Send Mode      : None               Receive Mode : Both
Metric In      : 1                  Metric Out   : 1
Split Horizon  : Enabled            Check Zero   : Disabled
```

```
Message Size   : 25                Preference   : 100
Auth. Type     : None              Update Timer : 3
Timeout Timer  : 6                 Flush Timer  : 6
Export Policies:
    Rip2Rip
    direct2Rip
    bgp2Rip
Import Policies:
    None
===============================================================================
*A:ALA-12#
```

Sample Output

```
*A:ALA-12# show router 3 rip neighbors interface advertised-routes
===============================================================================
RIP Advertised Routes
===============================================================================
Destination         Interface         NextHop           Metric  Tag       TTL
-------------------------------------------------------------------------------
180.0.0.2/32        180.1.8.12        0.0.0.0           10      0x2002    n/a
180.0.0.5/32        180.1.8.12        0.0.0.0           10      0x2002    n/a
180.0.0.8/32        180.1.8.12        0.0.0.0           10      0x2002    n/a
180.0.0.9/32        180.1.8.12        0.0.0.0           10      0x2002    n/a
180.0.0.10/32       180.1.8.12        0.0.0.0           10      0x2002    n/a
180.0.0.12/32       180.1.8.12        0.0.0.0           1       0x0000    n/a
180.0.0.13/32       180.1.8.12        0.0.0.0           10      0x2002    n/a
180.0.0.14/32       180.1.8.12        0.0.0.0           16      0x0000    n/a
180.0.0.15/32       180.1.8.12        0.0.0.0           2       0x0000    n/a
180.0.0.16/32       180.1.8.12        0.0.0.0           3       0x0000    n/a
-------------------------------------------------------------------------------
No. of Advertised Routes: 10
===============================================================================
*A:ALA-12#
```

peer

Syntax **peer** [*ip-int-name*]

Context show>router>rip

Description Displays RIP peer information.

Parameters *ip-int-name* — Dispays peer information for peers on the specified IP interface.

Default Display peers for all interfaces.

Output **Show RIP Peer Output —** The following table describes the command output fields for a RIP peer:

Label	Description
Peer IP Addr	The IP address of the peer router.
Interface Name	The peer interface name.
Version	The version of RIP running on the peer.

Label	Description
Last Update	The number of days since the last update.
No. of Peers	The number of RIP peers.

statistics

Syntax **statistics** [*ip-addr* | *ip-int-name*]

Context show>router>rip

Description Display Interface level statistics for the RIP protocol.

If no IP address or interface name is specified, then all configured RIP interfaces are displayed.

If an IP address or interface name is specified, then only data regarding the specified RIP interface is displayed.

Parameters *ip-addr* | *ip-int-name* — Displays statistics for the specified IP interface.

Output **Show RIP Statistics Output —** The following table describes the output fields for RIP statistics.

Label	Description
Learned Routes	The number of RIP-learned routes were exported to RIP neighbors.
Timed Out Routes	The number of routes that have been timed out.
Current Memory	The amount of memory used by this RIP router instance.
Maximum Memory	The amount of memory allocated for this RIP router instance.
Interface	Displays the name of each interface configured in RIP and associated RIP statistics.
Primary IP	The interface IP address.
Update Timer	The current setting of the RIP update timer value expressed in seconds.
Timeout Timer	The current RIP timeout timer value expressed in seconds.
Flush Timer	The number of seconds after a route has been declared invalid that it is flushed from the route database.
Updates Sent	Total — The total number of RIP updates that were sent. Last 5 Min — The number of RIP updates that were sent in the last 5 minutes. Last 1 Min — The number of RIP updates that were sent in the last 1 minute.
Triggered Updates	Total — The total number of triggered updates sent. These updates are sent before the entire RIP routing table is sent.

Label	Description (Continued)
	Last 5 Min — The number of triggered updates that were sent in the last 5 minutes.
	Last 1 Min — The number of triggered updates that were sent in the last 1 minute.
Bad Packets Received	Total — The total number of RIP updates received on this interface that were discarded as invalid.
	Last 5 Min — The number of RIP updates received on this interface that were discarded as invalid in the last 5 minutes.
	Last 1 Min — The number of RIP updates received on this interface that were discarded as invalid in the last 1 minute.
RIPv1 Updates Received	Total — The total number of RIPv1 updates received.
	Last 5 Min — The number of RIPv1 updates received in the last 5 minutes.
	Last 1 Min — The number of RIPv1 updates received in the last 1 minute.
RIPv1 Updates Ignored	Total — The total number of RIPv1 updates ignored.
	Last 5 Min — The number of RIPv1 updates ignored in the last 5 minutes.
	Last 1 Min — The number of RIPv1 updates ignored in the last 1 minute.
RIPv1 Bad Routes	Total — The total number of bad routes received from the peer.
	Last 5 Min — The number of bad routes received from the peer in the last 5 minutes.
	Last 1 Min — The number of bad routes received from the peer in the last minute.
RIPv1 Requests Received	Total — The total number of times the router received RIPv1 route requests from other routers.
	Last 5 Min — The number of times the router received RIPv1 route requests from other routers in the last 5 minutes.
	Last 1 Min — The number of times the router received RIPv1 route requests from other routers in the last 1 minute.
RIPv1 Requests Ignored	Total — The total number of times the router ignored RIPv1 route requests from other routers.
	Last 5 Min — The number of times the router ignored RIPv1 route requests from other routers in the last 5 minutes.

Label	Description (Continued)
	Last 1 Min – The number of times the router ignored RIPv1 route requests from other routers in the last 1 minute.
RIPv2 Updates Received	Total – The total number of RIPv2 updates received.
	Last 5 Min – The number of RIPv2 updates received in the last 5 minutes.
	Last 1 Min – The number of RIPv2 updates received in the last minute.
RIPv2 Updates Ignored	Total – The total number of RIPv2 updates ignored.
	Last 5 Min – The number of RIPv2 updates ignored in the last 5 minutes.
	Last 1 Min – The number of RIPv2 updates ignored in the last minute.
RIPv2 Bad Routes	Total – The total number of bad routes received from the peer.
	Last 5 Min – The number of bad routes received from the peer in the last 5 minutes.
	Last 1 Min – The number of bad routes received from the peer in the last minute.
RIPv2 Requests Received	Total – The total number of times the router received RIPv2 route requests from other routers.
	Last 5 Min – The number of times the router received RIPv2 route requests from other routers in the last 5 minutes.
	Last 1 Min – The number of times the router received RIPv2 route requests from other routers in the last minute.
RIPv2 Requests Ignored	Total – The total number of times the router ignored RIPv2 route requests from other routers.
	Last 5 Min – The number of times the router ignored RIPv2 route requests from other routers in the last 5 minutes.
	Last 1 Min – The number of times the router ignored RIPv2 route requests from other routers in the last minute.
Authentication Errors	Total – The total number of authentication errors to secure table updates.
	Last 5 Min – The number of authentication errors to secure table updates in the last 5 minutes.
	Last 1 Min – The number of authentication errors to secure table updates in the last minute.

RIP Statistics

```
===============================================================================
Learned Routes     : 0                 Timed Out Routes   : 0
Current Memory     : 120624            Maximum Memory     : 262144

-------------------------------------------------------------------------------
Interface "to-web"
-------------------------------------------------------------------------------
Primary IP         : 10.1.1.3          Update Timer       : 30
Timeout Timer      : 180               Flush Timer        : 120
Counter                       Total          Last 5 Min      Last 1 Min
-------------------------------------------------------------------------------
Updates Sent                  0              0               0
Triggered Updates             0              0               0
Bad Packets Received          0              0               0
RIPv1 Updates Received        0              0               0
RIPv1 Updates Ignored         0              0               0
RIPv1 Bad Routes              0              0               0
RIPv1 Requests Received       0              0               0
RIPv1 Requests Ignored        0              0               0
RIPv2 Updates Received        0              0               0
RIPv2 Updates Ignored         0              0               0
RIPv2 Bad Routes              0              0               0
RIPv2 Requests Received       0              0               0
RIPv2 Requests Ignored        0              0               0
Authentication Errors         0              0               0
===============================================================================
*A:ALA-12#
```

route-table

Syntax **route-table** [*ip-prefix* [*/mask*] [**longer**] | [**protocol** *protocol*] | [**summary**]]

Context show>router

Description This command displays the active routes in the routing table.

If no command line arguments are specified, all routes are displayed, sorted by prefix.

Parameters *ip-prefix*[*/mask*] — Displays routes only matching the specified *ip-prefix* and optional *mask*.

longer — Displays routes matching the *ip-prefix*/*mask* and routes with longer masks.

protocol *protocol* — Displays routes learned from the specified protocol.

Values bgp, isis, local, ospf, rip, static, aggregate

summary — Displays a route table summary information.

Output **Standard Show Route Table Output —** The following table describes the standard output fields for the route table.

Label	Description
Dest Address	The route destination address and mask.
Next Hop	The next hop IP address for the route destination.

Label	Description (Continued)
Type	Local — The route is a local route. Remote — The route is a remote route.
Protocol	The protocol through which the route was learned.
Age	The route age in seconds for the route.
Metric	The route metric value for the route.
Pref	The route preference value for the route.
No. of Routes:	The number of routes displayed in the list.

Sample Output

```
*A:ALA-12# show router 3 route-table
===============================================================================
Route Table
===============================================================================
Dest Address       Next Hop        Type    Protocol    Age       Metric  Pref
-------------------------------------------------------------------------------
10.10.0.1/32       10.10.13.1      Remote  OSPF        65844     1001    10
10.10.0.2/32       10.10.13.1      Remote  OSPF        65844     2001    10
10.10.0.3/32       0.0.0.0         Local   Local       1329261   0       0
10.10.0.4/32       10.10.34.4      Remote  OSPF        3523      1001    10
10.10.0.5/32       10.10.35.5      Remote  OSPF        1084022   1001    10
10.10.12.0/24      10.10.13.1      Remote  OSPF        65844     2000    10
10.10.13.0/24      0.0.0.0         Local   Local       65859     0       0
10.10.15.0/24      10.10.13.1      Remote  OSPF        58836     2000    10
10.10.24.0/24      10.10.34.4      Remote  OSPF        3523      2000    10
10.10.25.0/24      10.10.35.5      Remote  OSPF        399059    2000    10
10.10.34.0/24      0.0.0.0         Local   Local       3543      0       0
10.10.35.0/24      0.0.0.0         Local   Local       1329259   0       0
10.10.45.0/24      10.10.34.4      Remote  OSPF        3523      2000    10
10.200.0.0/16      0.0.0.0         Local   Local       4513      0       0
192.168.0.0/20     0.0.0.0         Local   Local       1329264   0       0
192.168.254.0/24   0.0.0.0         Remote  Static      11        1       5
-------------------------------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show router 3 route-table 10.10.0.4
===============================================================================
Route Table
===============================================================================
Dest Address       Next Hop        Type    Protocol    Age       Metric  Pref
-------------------------------------------------------------------------------
10.10.0.4/32       10.10.34.4      Remote  OSPF        3523      1001    10
-------------------------------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show router 3 route-table 10.10.0.4/32 longer
===============================================================================
Route Table
===============================================================================
Dest Address       Next Hop        Type    Protocol    Age       Metric  Pref
-------------------------------------------------------------------------------
```

```
10.10.0.4/32       10.10.34.4      Remote  OSPF        3523      1001    10
-------------------------------------------------------------------------------
No. of Routes: 1
===============================================================================
+ : indicates that the route matches on a longer prefix
*A:ALA-12#


*A:ALA-12# show router 3 route-table protocol ospf
===============================================================================
Route Table
===============================================================================
Dest Address       Next Hop        Type    Protocol    Age       Metric  Pref
-------------------------------------------------------------------------------
10.10.0.1/32       10.10.13.1      Remote  OSPF        65844     1001    10
10.10.0.2/32       10.10.13.1      Remote  OSPF        65844     2001    10
10.10.0.4/32       10.10.34.4      Remote  OSPF        3523      1001    10
10.10.0.5/32       10.10.35.5      Remote  OSPF        1084022   1001    10
10.10.12.0/24      10.10.13.1      Remote  OSPF        65844     2000    10
10.10.15.0/24      10.10.13.1      Remote  OSPF        58836     2000    10
10.10.24.0/24      10.10.34.4      Remote  OSPF        3523      2000    10
10.10.25.0/24      10.10.35.5      Remote  OSPF        399059    2000    10
10.10.45.0/24      10.10.34.4      Remote  OSPF        3523      2000    10
-------------------------------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show router 3 route-table summary
===============================================================================
Route Table Summary
===============================================================================
                              Active                  Available
-------------------------------------------------------------------------------
Static                        1                       1
Direct                        6                       6
BGP                           0                       0
OSPF                          9                       9
ISIS                          0                       0
RIP                           0                       0
Aggregate                     0                       0
-------------------------------------------------------------------------------
Total                         15                      15
===============================================================================
*A:ALA-12#
```

service-prefix

Syntax **service-prefix**

Context show>router

Description This command displays service-prefix information.

Output **Show Service Prefix Output —** The following table describes the service prefix output fields.

Label	Description
IP Prefix	Displays information for the specified IP prefix.

Label	Description (Continued)
Mask	Displays information for the specified mask length.

Sample Output

```
*A:ALA-12# show router 3 service-prefix
===============================================================================
Address Ranges Reserved for Services (Service: 3)
===============================================================================
IP Prefix                Mask           Exclusive
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
*A:ALA-12>show>router#
```

static-arp

Syntax **static-arp** [*ip-address* | *ip-int-name* | **mac** *ieee-mac-addr*]

Context show>router

Description This command displays the router static ARP table sorted by IP address.

If no options are present, all ARP entries are displayed.

Parameters *ip-address* — Only displays static ARP entries associated with the specified IP address.

ip-int-name — Only displays static ARP entries associated with the specified IP interface name.

mac *ieee-mac-addr* — Only displays static ARP entries associated with the specified MAC address.

Output **Static ARP Table Output —** The following table describes the output fields for the ARP table.

Label	Description
IP Address	The IP address of the static ARP entry.
MAC Address	The MAC address of the static ARP entry.
Age	The age of the ARP entry. Static ARPs always have 00:00:00 for the age.
Type	Inv — The ARP entry is an inactive static ARP entry (invalid).
	Sta — The ARP entry is an active static ARP entry.
Interface	The IP interface name associated with the ARP entry.
No. of ARP Entries	The number of ARP entries displayed in the list.

Sample Output

```
*A:ALA-12# show router 3 static-arp
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Age      Type Interface
-------------------------------------------------------------------------------
10.200.0.253    00:00:5a:40:00:01 00:00:00 Sta  to-ser1
12.200.1.1      00:00:5a:01:00:33 00:00:00 Inv  to-ser1a
-------------------------------------------------------------------------------
No. of ARP Entries: 2
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 static-arp 12.200.1.1
===============================================================================
ARP Table
===============================================================================
IP Address    MAC Address        Age     Type Interface
-------------------------------------------------------------------------------
12.200.1.1    00:00:5a:01:00:33  00:00:00 Inv  to-ser1 a
===============================================================================
*A:ALA-12#
```

```
*A:ALA-12# show router 3 static-arp to-ser1
===============================================================================
ARP Table
===============================================================================
IP Address    MAC Address       Age      Type Interface
-------------------------------------------------------------------------------
10.200.0.253  00:00:5a:40:00:01 00:00:00 Sta  to-ser1
===============================================================================
S*A:ALA-12#

*A:ALA-12# show router 3 static-arp mac 00:00:5a:40:00:01
===============================================================================
ARP Table
===============================================================================
IP Address    MAC Address       Age      Type Interface
-------------------------------------------------------------------------------
10.200.0.253  00:00:5a:40:00:01 00:00:00 Sta  to-ser1
===============================================================================
*A:ALA-12#
```

static-route

Syntax **static-route** [*ip-prefix Imask*] | [**preference** *preference*] | [**next-hop** *ip-addr*] [**detail**]

Context show>router

Description This command displays the static entries in the routing table.

If no options are present. all static routes are displayed sorted by prefix.

Parameters *ip-prefix /mask* — Displays static routes only matching the specified *ip-prefix* and *mask*.

preference *preference* — Only displays static routes with the specified route preference.

Values 0 — 65535

next-hop *ip-addr* — Only displays static routes with the specified next hop IP address.

detail — Displays detailed information about the static route.

Output **Show Static Route Output —** The following table describes the output fields for the static route table:

Label	Description
IP Addr/mask	The static route destination address and mask.
Pref	The route preference value for the static route.
Metric	The route metric value for the static route.
Type	BH – The static route is a black hole route. The Nexthop for this type of route is black-hole. ID – The static route is an indirect route, where the nexthop for this type of route is the non-directly connected next hop.

Label	Description (Continued)
	NH — The route is a static route with a directly connected next hop. The Nexthop for this type of route is either the next hop IP address or an egress IP interface name.
Next Hop	The next hop for the static route destination.
Interface	The egress IP interface name for the static route. n/a — indicates there is no current egress interface because the static route is inactive or a black hole route.
Active	N — The static route is inactive; for example, the static route is disabled or the next hop IP interface is down.
	Y — The static route is active.
No. of Routes:	The number of routes displayed in the list.

Sample Output

```
*A:ALA-12# show router 3 static-route
===============================================================================
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop              Interface       Active
-------------------------------------------------------------------------------
192.168.250.0/24   5    1      ID   10.200.10.1          to-ser1         Y
192.168.252.0/24   5    1      NH   10.10.0.254          n/a             N
192.168.253.0/24   5    1      NH   to-ser1              n/a             N
192.168.253.0/24   5    1      NH   10.10.0.254          n/a             N
192.168.254.0/24   4    1      BH   black-hole           n/a             Y
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 static-route 192.168.250.0/24
===============================================================================
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop              Interface       Active
-------------------------------------------------------------------------------
192.168.250.0/24   5    1      ID   10.200.10.1          to-ser1         Y
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 static-route preference 4
===============================================================================
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop              Interface       Active
-------------------------------------------------------------------------------
192.168.254.0/24   4    1      BH   black-hole           n/a             Y
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 static-route next-hop 10.10.0.254
===============================================================================
```

```
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop              Interface       Active
-------------------------------------------------------------------------------
192.168.253.0/24   5    1      NH   10.10.0.254          n/a             N
===============================================================================
*A:ALA-12#

*A:Dut-B# show router static-route

===============================================================================
Static Route Table (Router: Base)  Family: IPv4
===============================================================================
Prefix                                      Tag         Met    Pref Type Act
   Next Hop                                  Interface
-------------------------------------------------------------------------------
1.2.3.4/32                                  0           1      5    NH   Y
   10.11.25.6
ip-10.11.25.5_base_to_cpe_static
10.11.15.0/24                               0           1      5    NH   Y
   10.11.25.6
ip-10.11.25.5_base_to_cpe_static
-------------------------------------------------------------------------------
No. of Static Routes: 2
===============================================================================


*A:Dut-B# show router static-route detail
===============================================================================
Static Route Table (Router: Base)  Family: IPv4
===============================================================================
Network          : 1.2.3.4/32
Nexthop          : 10.11.25.6
Type             : Nexthop                          Nexthop Type      : IP
Interface        : ip-10.11.25.5_base_to_cpe_stat* Active            : Y
Metric           : 1                                Preference        : 5
Admin  State     : Up                               Tag               : 0
BFD              : disabled
CPE-check        : enabled                          State             : n/a
Target           : 10.11.18.6
Interval         : 1                                Drop Count        : 3
Log              : N
CPE Host Up Time : 0d 00:00:02
CPE Echo Req Tx  : 3                                CPE Echo Reply Rx : 3
CPE Up Trans     : 1                                CPE Down Trans    : 0
CPE TTL          : 2
-------------------------------------------------------------------------------
Network          : 10.11.15.0/24
Nexthop          : 10.11.25.6
Type             : Nexthop                          Nexthop Type      : IP
Interface        : ip-10.11.25.5_base_to_cpe_stat* Active            : Y
Metric           : 1                                Preference        : 5
Admin  State     : Up                               Tag               : 0
BFD              : disabled
CPE-check        : disabled
-------------------------------------------------------------------------------
No. of Static Routes: 2

===============================================================================

*A:CPM133>config>router# show router static-route 3.3.3.3/32 detail

===============================================================================
```

```
Static Route Table (Router: Base)  Family: IPv4
===============================================================================
Prefix           : 3.3.3.3/32
Nexthop          : n/a
Type             : Blackhole                       Nexthop Type      : IP
Interface        : n/a                             Active            : Y
Prefix List      : n/a                             Prefix List Type  : n/a
Metric           : 1                               Preference        : 5
Admin  State     : Up                              Tag               : 0
BFD              : disabled                        Community         : 100:33
CPE-check        : disabled
-------------------------------------------------------------------------------
No. of Static Routes: 1

===============================================================================
```

tunnel-table

Syntax **tunnel-table** [*ip-address*[/*mask*] [**protocol** *protocol* | **sdp** *sdp-id*]
tunnel-table [**summary**]

Context show>router

Description This command displays tunnel table information.

Note that auto-bind GRE tunnels are not displayed in **show** command output. GRE tunnels are not the same as SDP tunnels that use the GRE encapsulation type. When the **auto-bind-tunnel** command is used when configuring a VPRN service, it means the MP-BGP NH resolution is referring to core routing instance for IP reachability. For a VPRN service this object specifies the lookup to be used by the routing instance if no SDP to the destination exists.

Parameters *ip-address[/mask]* — Displays the specified tunnel table's destination IP address and mask.

protocol *protocol* — Displays LDP protocol information.

sdp *sdp-id* — Displays information pertaining to the specified SDP.

summary — Displays summary tunnel table information.

Output **Show Tunnel Table Output —** The following table describes tunnel table output fields:

Label	Description
Destination	The route's destination address and mask.
Owner	Specifies the tunnel owner.
Encap	Specifies the tunnel's encapsulation type.
Tunnel ID	Specifies the tunnel (SDP) identifier.
Pref	Specifies the route preference for routes learned from the configured peer(s).
Nexthop	The next hop for the route's destination.
Metric	The route metric value for the route.

Sample Output

```
*A:ALA-12>config>service# show router 3 tunnel-table
===============================================================================
Tunnel Table
===============================================================================
Destination     Owner   Encap   Tunnel  Id      Pref            NexthopMetric
-------------------------------------------------------------------------------
10.0.0.1/32     sdp     GRE     10      5       10.0.0.1        0
10.0.0.1/32     sdp     GRE     21      5       10.0.0.1        0
10.0.0.1/32     sdp     GRE     31      5       10.0.0.1        0
10.0.0.1/32     sdp     GRE     41      5       10.0.0.1        0
===============================================================================
*A:ALA-12>config>service#


*A:ALA-12>config>service#  show router 3 tunnel-table summary
===============================================================================
Tunnel Table Summary (Router: Base)
===============================================================================
                              Active                  Available
-------------------------------------------------------------------------------
LDP                           1                       1
SDP                           1                       1
===============================================================================
*A:ALA-12>config>service#
```

statistics

Syntax **statistics** [*ip-int-name* | *ip-address*]

Context show>router>dhcp

Description Display statistics for DHCP Relay and DHCP snooping.

If no IP address or interface name is specified, then all configured interfaces are displayed.

If an IP address or interface name is specified, then only data regarding the specified interface is displayed.

Parameters *ip-int-name* | *ip-address* — Displays statistics for the specified IP interface.

Output **Show DHCP Statistics Output —** The following table describes the output fields for DHCP. statistics.

Label	Description
Received Packets	The number of packets received from the DHCP clients.
Transmitted Packets	The number of packets transmitted to the DHCP clients.
Received Malformed Packets	The number of malformed packets received from the DHCP clients.
Received Untrusted Packets	The number of untrusted packets received from the DHCP clients.
Client Packets Discarded	The number of packets received from the DHCP clients that were discarded.

Label	Description (Continued)
Client Packets Relayed	The number of packets received from the DHCP clients that were forwarded.
Client Packets Snooped	The number of packets received from the DHCP clients that were snooped.
Server Packets Discarded	The number of packets received from the DHCP server that were discarded.
Server Packets Relayed	The number of packets received from the DHCP server that were forwarded.
Server Packets Snooped	The number of packets received from the DHCP server that were snooped.

Sample Output

```
*A:ALA-1# show router dhcp statistics
===============================================================
DHCP Global Statistics
===============================================================
Rx Packets                      : 0
Tx Packets                      : 0
Rx Malformed Packets            : 0
Rx Untrusted Packets            : 0
Client Packets Discarded        : 0
Client Packets Relayed          : 0
Client Packets Snooped          : 0
Server Packets Discarded        : 0
Server Packets Relayed          : 0
Server Packets Snooped          : 0
===============================================================
*A:ALA-1#
```

summary

Syntax **summary**

Context show>router>dhcp

Description Display the status of the DHCP Relay and DHCP snooping functions on each interface.

Output **Show DHCP Summary Output —** The following table describes the output fields for DHCP summary.

Label	Description
Interface Name	Name of the router interface.
ARP Populate	Indicates whether or nor ARP populate is enabled.
Info Option	Indicates whether Option 82 is enabled.
Admin State	Indicates the administrative status.

Sample Output

```
A:ALA-48# show router dhcp summary
===============================================================================
Interface Name                   Arp      Used/     Info    Admin
                                 Populate Provided  Option  State
-------------------------------------------------------------------------------
ies-10-10.10.1.1                 Yes      1000/8000 Keep    Up
ies-100-100.100.1.1              No       0/0       Keep    Down
ies-11-11.11.1.1                 Yes      1000/8000 Keep    Up
ies-12-12.12.1.1                 Yes      1000/8000 Keep    Up
ies-13-13.13.1.1                 Yes      1000/8000 Keep    Up
ies-14-14.14.1.1                 Yes      1000/8000 Keep    Up
ies-15-15.15.1.1                 Yes      1000/8000 Keep    Up
ies-16-16.16.1.1                 No       0/0       Keep    Down
ies-2-10.17.1.1                  No       0/0       Keep    Down
ies-8-8.8.1.1                    Yes      1000/8000 Keep    Up
ies-9-9.9.1.1                    Yes      1000/8000 Keep    Up
-------------------------------------------------------------------------------
Interfaces: 11
===============================================================================
```

wpp

Syntax **wpp**
wpp [**portal** *wpp-portal-name*] [**host** *ip-address*] **hosts**
wpp portal *wpp-portal-name*
wpp statistics

Context show>router

Description This command displays Web Portal Protocol information.

VPRN Clear Commands

arp

Syntax **arp**

Context clear>service>id

Description This command clears

arp-host

Syntax **arp-host**
arp-host { **mac** *ieee-address* | **sap** *sap-id* | **ip-address** *ip-address*[*/mask*] }
arp-host [**port** *port-id*] [**inter-dest-id** *intermediate-destination-id* | **no-inter-dest-id**]
arp-host statistics [**sap** *sap-id* | **interface** *interface-name*]

Context clear>service>id

Description This command clears ARP host data.

dhcp

Syntax **dhcp**

Context clear>router

Description This command enables the context to clear and reset DHCP entities.

statistics

Syntax **statistics** [**interface** *ip-int-name* | *ip-address*]

Context clear>router>dhcp

Description Clears DHCP statistics.

forwarding-table

Syntax **forwarding-table** [*slot-number*]

Context clear>router

Description This command clears the route table on the specified IOM with the route table.

If the slot number is not specified, the command forces the route table to be recalculated.

Parameters *slot-number* — Clears the specified IOM slot.

Default all IOMs

Values 1 - 10 (depending on chassis model)

interface

Syntax **interface** [*ip-int-name* | *ip-addr*] [**icmp**]

Context clear>router

Description This command clears IP interface statistics.

If no IP interface is specified either by IP interface name or IP address, the command will perform the clear operation on all IP interfaces.

Parameters *ip-int-name* | *ip-addr* — The IP interface name or IP interface address.

Default All IP interfaces.

icmp — Specifies to reset the ICMP statistics for the IP interface(s) used for ICMP rate limit.

damping

Syntax **damping** [[*ip-prefix*/*mask*] [**neighbor** *ip-address*]] | [**group** *name*]

Context clear>router>bgp

Description This command clears or resets the route damping information for received routes.

Parameters *ip-prefix/mask* — Clears damping information for entries that match the IP prefix and mask length.

neighbor *ip-address* **—** Clears damping information for entries received from the BGP neighbor.

group *name* **—** Clears damping information for entries received from any BGP neighbors in the peer group.

flap-statistics

Syntax **flap-statistics** [[*ip-prefix*/*mask*] [**neighbor** *ip-addr*]] | [**group** *group-name*] | [**regex** *reg-exp*] | [**policy** *policy-name*]

Context clear>router>bgp

Description This command clears route flap statistics.

Parameters *ip-prefix/mask* — Clears route flap statistics for entries that match the specified IP prefix and mask length.

neighbor *ip-addr* **—** Clears route flap statistics for entries received from the specified BGP neighbor.

group *group-name* **—** Clears route flap statistics for entries received from any BGP neighbors in the specified peer group.

regex *reg-exp* **—** Clears route flap statistics for all entries which have the regular expression and the AS path that matches the regular expression.

policy *policy-name* **—** Clears route flap statistics for entries that match the specified route policy.

neighbor

Syntax **neighbor** {*ip-addr* | **as** *as-number* | **external** | **all**} [**soft** | **soft-inbound** | **statistics**]

Context clear>router>bgp

Description This command resets the specified BGP peer or peers. This can cause existing BGP connections to be shutdown and restarted.

Parameters *ip-addr* — Resets the BGP neighbor with the specified IP address.

as *as-number* **—** Resets all BGP neighbors with the specified peer AS.

external — Resets all EBGP neighbors.

all — Resets all BGP neighbors.

soft — The specified BGP neighbor(s) re-evaluates all routes in the Local-RIB against the configured export policies.

soft-inbound — The specified BGP neighbor(s) re-evaluates all routes in the RIB-In against the configured import policies.

statistics — The BGP neighbor statistics.

protocol

Syntax **protocol**

Context clear>router>bgp

Description This command resets the entire BGP protocol. If the AS number was previously changed, the BGP AS number does not inherit the new value.

database

Syntax **database**

Context clear>router>rip

Description This command flushes all routes in the RIP database.

statistics

Syntax **statistics** [**neighbor** {*ip-address* | *ip-int-name*}]

Context clear>router>rip

Description This command clears statistics for RIP neighbors.

Parameters **neighbor** {*ip-address* | *ip-int-name*} — Clears the statistics for the specified RIP interface.

Default Clears statistics for all RIP interfaces.

id

Syntax **id** *service-id*

Context clear>service
clear>service>statistics

Description This command clears commands for a specific service.

Parameters *service-id* — The ID that uniquely identifies a service.

Values 1 — 2147483648

sap

Syntax **sap** *sap-id* {**all** | **counters** | **stp**}

Context clear>service>statistics

Description Clears SAP statistics for a SAP.

Parameters *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

dhcp

Syntax **dhcp**

Context clear>router>dhcp

Description This command enables the context to clear DHCP parameters.

lease-state

Syntax **lease-state**
lease-state ip-address *ip-address*
lease-state mac *ieee-address*
lease-state sap *sap-id*
lease-state sdp *sdp-id:vc-id*

Context clear>service>id>dhcp

Description Clears DHCP lease state information for this service.

Parameters *ip-address* — The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

ieee-address — Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

sap-id — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

sdp-id — The SDP ID to be cleared.

Values 1 — 17407

vc-id — The virtual circuit ID on the SDP ID to be cleared.

Values 1 — 4294967295

site

Syntax **site** *service-id*

Context clear>service>id

Description This command clears site-specific information for the service.

Parameters *service-id* — Specifies the service ID or service name up to 64 characters in length.

Values 1 — 2147483648

spoke-sdp

Syntax **spoke-sdp** *sdp-id*:*vc-id* **ingress-vc-label**

Context clear>service>id

Description This command clears and resets the spoke SDP bindings for the service.

Parameters *sdp-id* — The spoke SDP ID to be reset.

Values 1 — 17407

vc-id — The virtual circuit ID on the SDP ID to be reset.

Values 1 — 4294967295

sdp

Syntax **sdp** *sdp-id* **keep-alive**

Context clear>service>statistics

Description This command clears keepalive statistics associated with the SDP ID.

Parameters *sdp-id* — The SDP ID for which to clear keepalive statistics.

Values 1 — 17407

counters

Syntax **counters**

Context clear>service>statistics>id

Description Clears all traffic queue counters associated with the service ID.

spoke-sdp

Syntax **spoke-sdp** *sdp-id*[**:***vc-id*] {**all** | **counters** | **stp**}

Context clear>service>statistics>id

Description This command clears statistics for the spoke SDP bound to the service.

Parameters *sdp-id* — The spoke SDP ID for which to clear statistics.

Values 1 — 17407

vc-id — The virtual circuit ID on the SDP ID to be reset.

Values 1 — 4294967295

all — Clears all queue statistics and STP statistics associated with the SDP.

counters — Clears all queue statistics associated with the SDP.

stp — Clears all STP statistics associated with the SDP.

stp

Syntax **stp**

Context clear>service>statistics>id

Description Clears all spanning tree statistics for the service ID.

VPRN Debug Commands

id

Syntax [**no**] **id** *service-id*

Context debug>service

Description This command debugs commands for a specific service.

The **no** form of the command disables debugging.

Parameters *service-id* — The ID that uniquely identifies a service.

arp-host

Syntax [**no**] arp-host

Context debug>service>id

Description This command enables and configures ARP host debugging.

The **no** form of the command disables ARP host debugging.

dhcp

Syntax [**no**] **dhcp**

Context debug>service>id

Description This command enables the context for DHCP debugging.

The **no** form of the command disables DHCP debugging.

detail-level

Syntax **detail-level** {**low** | **medium** | **high**}
no detail-level

Context debug>service>id>dhcp

Description This command configures the DHCP tracing detail level.

The **no** form of the command disables debugging.

mode

Syntax **mode** {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}

no mode

Context debug>service>id>dhcp

Description This command configures the DHCP tracing mode.

The **no** form of the command disables debugging.

host-connectivity-verify

Syntax [**no**] **host-connectivity-verify**

Context debug>service>id

Description This command enables Subscriber Host Connectivity Verification (SHCV) debugging.

The **no** form of the command disables the SHCV debugging.

ip

Syntax [**no**] **ip** *ip-address*

Context debug>service>id>host-connectivity-verify

Description This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular IP address.

Parameters *ip-address* — The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

mac

Syntax [**no**] **mac** *ieee-address*

Context debug>service>id>host-connectivity-verify

Description This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular MAC address.

Parameters *mac-address* — Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

sap

Syntax [**no**] **sap** *sap-id*

Context debug>service>id>host-connectivity-verify

Description This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular SAP.

Parameters *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

sap

Syntax [**no**] **sap** *sap-id*

Context debug>service>id
debug>service>id>dhcp
debug>service>stp

Description This command enables STP debugging for a specific SAP.

The **no** form of the command disables debugging.

Parameters *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

sdp

Syntax [**no**] **sdp** *sdp-id:vc-id*

Context debug>service>id
debug>service>id>dhcp
debug>service>stp

Description This command enables STP debugging for a specific SDP.

The **no** form of the command disables debugging.

event-type

Syntax [**no**] **event-type** {**config-change** | **svc-oper-status-change** | **sap-oper-status-change** | **sdpbind-oper-status-change**}

Context debug>service>id

Description This command enables debugging for a particular event type.

The **no** form of the command disables debugging.

event-type

Syntax [**no**] **event-type** {**config-change | oper-status-change**}

Context debug>service>id>sap

Description This command enables debugging for a particular event type.

The **no** form of the command disables debugging.

stp

Syntax [**no**] **stp**

Context debug>service>id

Description This command enables the context for debugging STP.

The **no** form of the command disables debugging.

all-events

Syntax **all-events**

Context debug>service>id>event-type

Description This command enables STP debugging for all events.
The **no** form of the command disables debugging.

bpdu

Syntax [**no**] **bpdu**

Context debug>service>stp

Description This command enables STP debugging for received and transmitted BPDUs.

The **no** form of the command disables debugging.

core-connectivity

Syntax [**no**] **core-connectivity**

Context debug>service>stp

Description This command enables STP debugging for core connectivity.

The **no** form of the command disables debugging.

exception

Syntax [**no**] **exception**

Context debug>service>stp

Description This command enables STP debugging for exceptions.

The **no** form of the command disables debugging.

fsm-state-changes

Syntax [**no**] **fsm-state-changes**

Context debug>service>stp

Description This command enables STP debugging for FSM state changes.

The **no** form of the command disables debugging.

fsm-timers

Syntax [**no**] **fsm-timers**

Context debug>service>stp

Description This command enables STP debugging for FSM timer changes.

The **no** form of the command disables debugging.

port-role

Syntax [**no**] **port-role**

Context debug>service>stp

Description This command enables STP debugging for changes in port roles.

The **no** form of the command disables debugging.

port-state

Syntax [**no**] **port-state**

Context debug>service>stp

Description This command enables STP debugging for port states.

The **no** form of the command disables debugging.

igmp

Syntax [**no**] **igmp**

Context debug>router

Description This command enables debugging for IGMP.

The **no** form of the command disables debugging.

interface

Syntax [**no**] **interface** [*ip-int-name* | *ip-address*]

Context debug>router>igmp

Description This command enables debugging on the IGMP interface.

The **no** form of the command disables debugging.

Parameters *ip-int-name* — Only displays the information associated with the specified IP interface name.

ip-address — Only displays the information associated with the specified IP address.

Sample Output

```
A:FA# debug router 100 igmp interface
A:FA#
A:FA# show debug
debug
    router "100"
        igmp
            interface
        exit
    exit
exit
*A:FA#
38397 2007/02/01 11:46:40.94 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Querier Timer expired on i/f 2"

38398 2007/02/01 11:46:40.94 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Sending query on i/f 2 to 0.0.0.0"

38399 2007/02/01 11:46:40.94 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Interface 2 already UP, ignoring event"

38400 2007/02/01 11:46:41.64 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.1 in mode EXCLUD
E. Num srcs 0"

38401 2007/02/01 11:46:41.64 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.2 in mode EXCLUD
E. Num srcs 0"

38402 2007/02/01 11:46:41.64 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.3 in mode EXCLUD
E. Num srcs 0"

38403 2007/02/01 11:46:41.64 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.4 in mode EXCLUD
```

```
E. Num srcs 0"

38404 2007/02/01 11:46:41.64 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.5 in mode EXCLUD
E. Num srcs 0"

38405 2007/02/01 11:46:48.93 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.1 in mode EXCLUD
E. Num srcs 0"
38408 2007/02/01 11:46:48.93 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.4 in mode EXCLUD
E. Num srcs 0"

38409 2007/02/01 11:46:48.93 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Process received group rec MODE_IS_EXCL for i/f 2 group 225.1.1.5 in mode EXCLUD
E. Num srcs 0"

38410 2007/02/01 11:46:48.93 UTC MINOR: DEBUG #2001 vprn100 IGMP[85]
"IGMP[85]: INTF
Interface 2 already UP, ignoring event"
A:FA#
```

mcs

Syntax [**no**] **mcs** [*ip-int-name]*

Context debug>router>igmp

Description This command enables debugging for IGMP MCS.
The **no** form of the command disables debugging.

Parameters *ip-int-name* — Only displays the information associated with the specified IP interface name.

Sample Output

```
A:BA# debug router 100 igmp mcs
A:BA# show debug
debug
    router "100"
        igmp
            mcs
        exit
    exit
exit
A:BA#
```

misc

Syntax [**no**] **misc**

Context debug>router>igmp

Description This command enables debugging for IGMP miscellaneous.
The **no** form of the command disables debugging.

Sample Output

```
A:BA# debug router 100 igmp misc

A:BA# show debug
debug
    router "100"
        igmp
            misc
        exit
    exit
exit
A:BA#
```

packet

Syntax **[no] packet** [*query*|*v1-report*|*v2-report*|*v3-report*|*v2-leave*] [*ip-int-name* | *ip-address*]

Context debug>router>igmp

Description This command enables debugging for IGMP packets.
The **no** form of the command disables debugging.

Parameters query *v1/v2/v3-report, v2-leave* — Select the type of packet to debug.

ip-int-name — Only displays the information associated with the specified IP interface name.

ip-address — Only displays the information associated with the specified IP address.

Sample Output

```
A:BA# debug router 100 igmp packet
A:BA#
A:BA# show debug
debug
    router "100"
        igmp
            packet
        exit
    exit
exit
5 2006/09/03 22:20:05.73 UTC MINOR: DEBUG #2001 vprn100 IGMP[2]
"IGMP[2]: TX-PKT
[000 18:25:24.480] ifId:2 ifName:IGMP_to_CE IGMP V3 PDU: 11.1.1.1 -> 224.0.0.1 p
duLen 12
    Type: QUERY maxrespCode 0xa checkSum 0xec78
    GroupAddr: 0.0.0.0
        S bit 0, QRV 2, QQIC 125, NumSources 0
        Source Address List:
"
6 2006/09/03 22:20:05.96 UTC MINOR: DEBUG #2001 vprn100 IGMP[2]
"IGMP[2]: RX-PKT
[000 18:25:24.710] ifId:2 ifName:IGMP_to_CE IGMP V3 PDU: 11.1.1.20 -> 224.0.0.22
 pduLen 48
```

```
    Type: V3 REPORT maxrespCode 0x0 checkSum 0x5fe2
    Num Group Records: 4
        Group Record 0
        Type: CHG_TO_EXCL, AuxDataLen 0, Num Sources 0
        Mcast Addr: 225.1.1.1
        Source Address List
        Group Record 1
        Type: CHG_TO_EXCL, AuxDataLen 0, Num Sources 0
        Mcast Addr: 225.1.1.2
        Source Address List
        Group Record 2
        Type: CHG_TO_EXCL, AuxDataLen 0, Num Sources 0
        Mcast Addr: 225.1.1.3
        Source Address List
        Group Record 3
        Type: CHG_TO_EXCL, AuxDataLen 0, Num Sources 0
        Mcast Addr: 225.1.1.4
        Source Address List
A:BA#
*A:BA# no debug
Trace disabled for all existing and future clients
*A:BA# show debug
debug
exit
```