IP DSLAM

IDL-2400 / IDL-2401

IDL-4800 / IDL-4801

User's Manual

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Revision
User's Manual for PLANET IP DSLAM
Model: IDL-2400/2401/4800/4801
Rev: 1.0
Part No.: EM-IDLv1

Table of Contents

1. Introduction

With built-in POTS splitter 24 / 48 ADSL/ADSL2/ADSL2+ Subscriber ports, the PLANET IDL series are advanced IP based DSLAM which is designed for Network Service Provider to offer excellent services to multiple subscribers. The replaceable 1000Base-T or 1000Base-LX uplink interfaces, and stackable support other units that provide the flexibility of the network implementation.

The PLANET IDL series support local and remote management capabilities of CLI, SNMP and Telnet via RS-232 CID and Ethernet MGNT ports, Microsoft Windows based GUI Management system provides Network Service Provider a centrally management capability.

The PLANET IP DSLAM provides many features such as QoS, VLAN, Bandwidth Management, Traffic Prioritization, and Data Flow Security Control. The IDL series offer Network Service Provider the most suitable solution and makes subscribers an efficient way to meet triple play (data, voice, and video).

1.1 Package Contents

Please inspect your package. The following items should be included in the package:

IDL-2400/2401

- IDL-2400/2401 unit x 1
- AC Power Cord x 1
- CD (Containing User's Manual, QIG, IDL Manager) x 1
- Quick Installation Guide x 1
- RJ-45 Cable x 1
- RS-232 Cable x 1
- Telco-50 Cable x 1

IDL-4800/4801

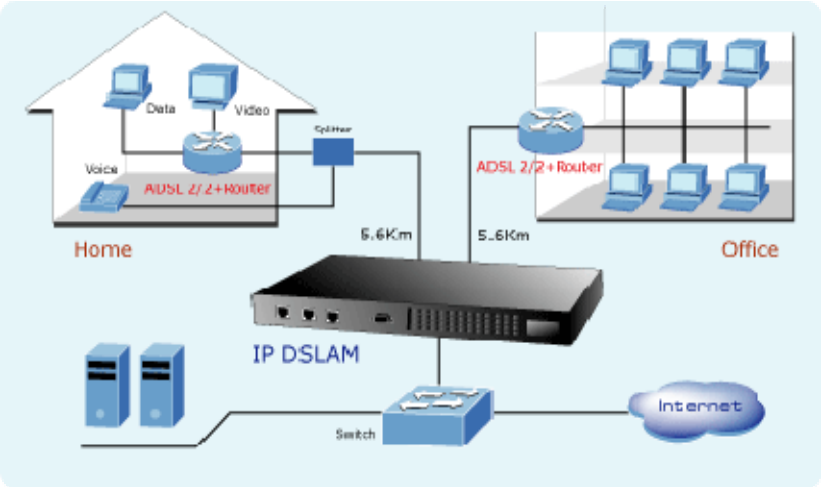
- IDL-4800/4801 unit x 1
- AC Power Cord x 1
- CD (Containing User's Manual, QIG, IDL Manager) x 1
- Quick Installation Guide x 1
- RJ-45 Cable x 1
- RS-232 Cable x 1
- Telco-50 Cable x 2

1.2 Features

- 24-Port or 48-Port ADSL/ADSL2/ADSL2+ subscriber interface with build-in POTS splitter
- DMT data rate: Downstream 32 kbps up to 25 Mbps / Upstream 32 kbps up to 1Mbps
- 1000Base-T (IDL-2400/IDL-4800) or 1000Base-LX (IDL-2401/IDL-4801) uplink interface
- Stackable support
- Microsoft Windows based GUI management
- Local RS-232 CLI and Ethernet SNMP/Telnet management
- Firmware upgradeable via FTP or TFTP
- 6K MAC address & 256 Multicast MAC address support
- Static VLAN and Port based VLAN
- VLAN / MAC / IP filtering
- Access Control List by MAC and IP address
- Traffic prioritization (802.1p)
- Traffic bandwidth management by MAC and IP address

1.3 Application

The PLANET IDL series offer the benefit of high performance to central office co-location and MTU (Multi-Tenant Unit) / MDU (Multi-Dwelling Unit) markets. It provides broadband data service over existing copper wires without affecting the conventional voice service by 24/48 subscriber ports with built-in POTS splitter. A PLANET IP DSLAM is the perfect solution for NSP a cost-effective but high-value centrally management capability.



1.4 Outlook

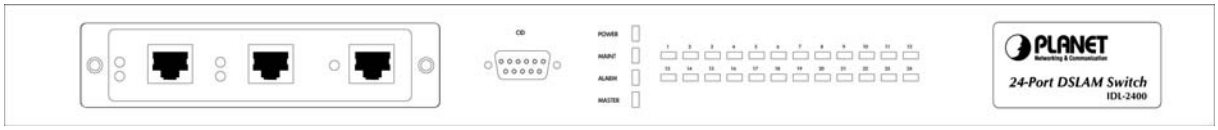
IDL-2400

IDL-4800

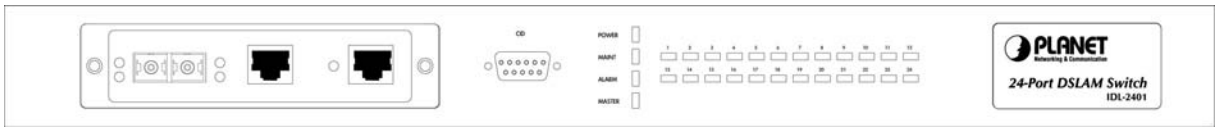
IDL-2401 / IDL-4801 with 1000Base-LX UPLINK	
	1 x 1000Base-LX UPLINK1 1 x 1000Base-T UPLINK2 1 x 1000Base-T MGNT

1.4.1 Front Panel

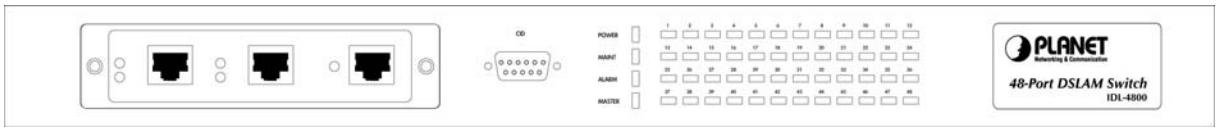
The front panels of IDL series are shown below.



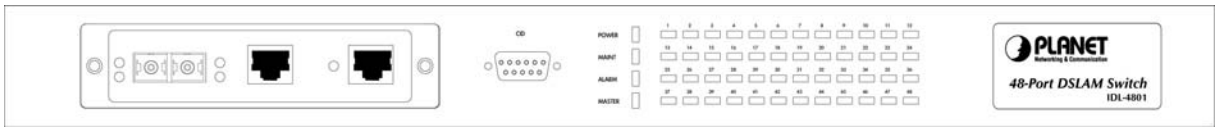
IDL-2400



IDL-2401



IDL-4800



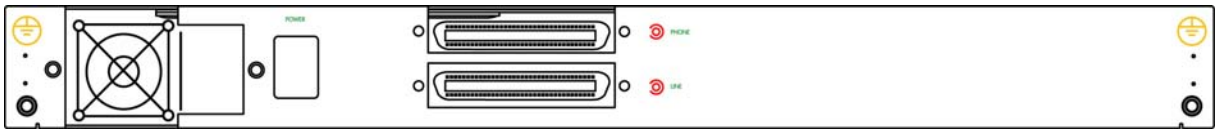
IDL-4801

LED Definition

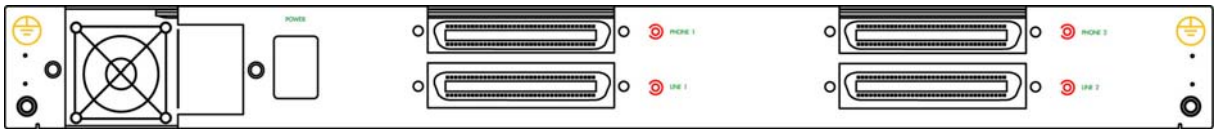
LED	Color	LED Description
POWER	Green	Lit when power on
MAINT	Yellow	Lit when maintenance commands were issued
ALARM	Red	Lit when MJ/MN events happen
MASTER	Green	Lit when system was acted as management master for stacking application (* Future feature)
ADSL 1~24 or ADSL 1~48	Green Orange No Light Red	Lit when ADSL link is in a active state When the specified ADSL link is in connection training stat When ADSL link is not in service Lit when loss of signal occurs
1000/ACT	Green	Blinking when information action is transmitted
100/ACT	Green	Blinking when information is transmitted
GIGA	Green	Blinking when information is transmitted (* IDL-2401/4801)
ACT	Green	When uplink is activated (* IDL-2401/4801)

1.4.2 Rear Panel

The rear panels of IDL series are shown below.



IDL-2400/2401



IDL-4800/4801

Port Definition

Port	Port Description
AC IN	AC Power cord in
POWER	Power switch
PHONE 1	24 port ADSL module with built-in POTS
LINE 1	
PHONE 2	24 port ADSL module with built-in POTS
LINE 2	(* IDL-4800/4801)

1.5 Technical Specifications

1.5.1 Hardware Specifications

Model		IDL-2400	IDL-2401
Ports	Uplink 1	1 x RJ-45 (10/100/1000Base-T)	1 x SC (1000Base-LX)
	Uplink 2	1 x RJ-45 (10/100/1000Base-T)	
	MGNT	1 x RJ-45 (10/100/1000Base-T)	
	Console	1 x RS-232	
	Line	1 x Telco-50	
	Phone	1 x Telco-50	
LED Indicators		1 x POWER LED 1 x MAINT LED 1 x ALARM LED 1 x MASTER LED 24 x ADSL LEDs 2 x 1000/ACT LEDs 3 x 100/ACT LEDs	1 x POWER LED 1 x MAINT LED 1 x ALARM LED 1 x MASTER LED 24 x ADSL LEDs 1 x 1000/ACT LEDs 2 x 100/ACT LEDs 1 x GIGA LED 1 x ACT LED

Model		IDL-4800	IDL-4801
Ports	Uplink 1	1 x RJ-45 (10/100/1000Base-T)	1 x SC (1000Base-LX)
	Uplink 2	1 x RJ-45 (10/100/1000Base-T)	
	MGNT	1 x RJ-45 (10/100/1000Base-T)	
	Console	1 x RS-232	
	Line	2 x Telco-50	
	Phone	2 x Telco-50	
LED Indicators		1 x POWER LED 1 x MAINT LED 1 x ALARM LED 1 x MASTER LED 48 x ADSL LEDs 2 x 1000/ACT LEDs 3 x 100/ACT LEDs	1 x POWER LED 1 x MAINT LED 1 x ALARM LED 1 x MASTER LED 48 x ADSL LEDs 1 x 1000/ACT LEDs 2 x 100/ACT LEDs 1 x GIGA LED 1 x ACT LED

1.5.2 Software Specifications

Standard	Compliant with ADSL standard - ANSI T1.413 issue 2 - G.dmt (ITU G.992.1) - G.lite (ITU G.992.2) - G.hs (ITU G.994.1) Capable of ADSL2 standard - G.dmt.bis (ITU G.992.3) Capable of ADSL2+ standard - G.dmt.bisplus (ITU G.992.5)
Protocol	STP IGMP snooping GMRP GVRP LACP SNMP / UDP / IP / MAC / Ethernet
Multicast	Up to 256 multicast addresses IGMP v1, v2, v3 Multicast VLAN mapping: Independent VLAN multicast (IVM) Multicast VLAN mapping: Shared VLAN Multicast (SVM) Handle PPPoE Encapsulated IGMP packets
System	Subscriber interface with built-in POTS splitter Downstream DMT data rate 32 kbps up to 25 Mbps Upstream DMT data rate 32 kbps up to 1Mbps Extended power management capabilities to optimize power consumption for each application Distance up to 18 kft 1000Base-T / 1000Base-LX uplink interface via model Stackable support Centronic 50 pin connector for Telco line in and out 8 VCs per xDSL port 128 MAC address per x DSL port 6K MAC address Ethernet Bridging: Broadcast, Flooding / Dropping VLAN Bridging: 512 VLAN, Static VLAN, VLAN Stacking / Trunking Packet size 64 byte to 1522byte PPPoE Intermediate Agent DHCP Relay Agent IPOA to IPOE Tunneling PPPoA to PPPoE inter-working

	Input Rate Limiting (IRL) on a per-AAL5 interface Output Rate Limiting (ORL) on a per ATM-port and Ethernet basis Rate Limiting Multiple mechanisms of prioritizing traffic
Security	VLAN filtering MAC filtering IP filtering Access Control List by MAC address Access Control List by IP address Throttling Control Sticky Bridge Ports
Management	Microsoft Windows based GUI management Local RS-232 CLI, and Ethernet SNMP / Telnet management Remote in-band SNMP / Telnet management Firmware upgradeable via FTP or TFTP SNMP v1, v2c

2. Installation

The followings are instructions for setting up the IDL series IP DSLAM. Refer to the illustration and follow the simple steps below to quickly install your IP DSLAM.

2.1 Safety Instruction

The following is the safety instructions for IP DSLAM before installing.

>> The maximum recommended operating temperature is 50ºC. Care must be taken to allow sufficient air circulation or space between units when the IP DSLAM is installed inside a closed rack assembly and racks should safely support the combined weight of all IP DSLAM.

>> The connections and equipment that supply power to the IP DSLAM should be capable of operating safely with the maximum power requirements of the IP DSLAM. In the event of a power overload, the supply circuits and supply wiring should not become hazardous.

>> The AC power cord must plug into the right supply voltage. Make sure that the supplied AC voltage is correct and stable. If the input AC voltage is over 10% lower than the standard may cause the IP DSLAM to malfunction.

>> Generally, when installed after the final configuration, the product must comply with the applicable safety standards and regulatory requirements of the country in which it is installed. If necessary, consult for technical support.

>> A rare condition can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate building are interconnected, the voltage potential can cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action before interconnecting the products. If the equipment is to be used with telecommunications circuit, take the following precautions:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet location unless the jack is specially - designed for wet location.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines (other than a cordless telephone) during an electrical storm. There is a remote risk of electric shock from lightning.
- Do not use a telephone or other equipment connected to telephone lines to report a gas leak in the vicinity of the leak.

2.2 Hardware Installation

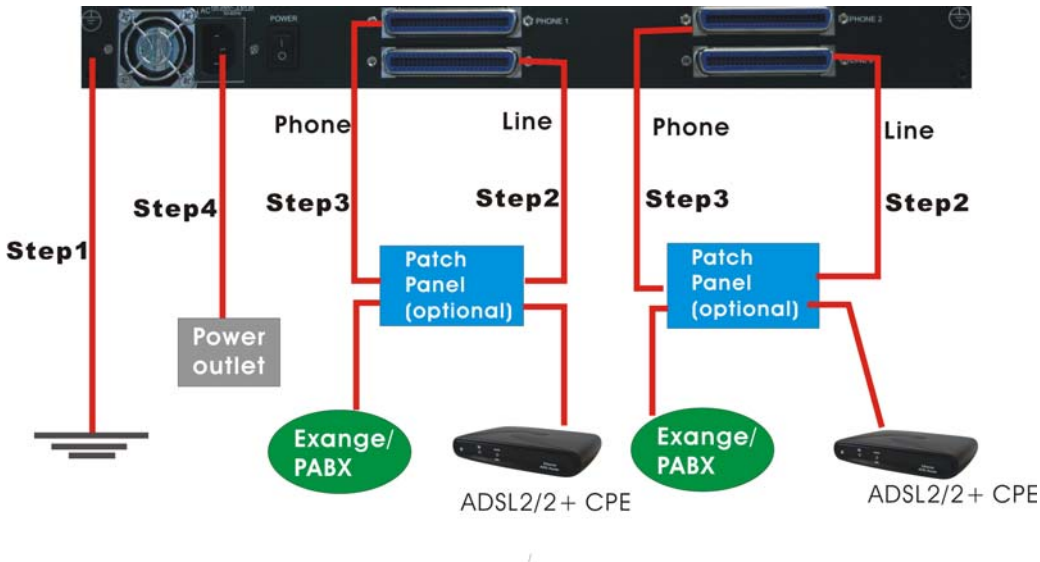
The PLANET IDL series can be installed in a standard 19-inch rack by using the mounting brackets provided. Mount the shelf on the rack using the large screws provided. The procedure to connect and wire the system is as follows.

2.2.1 System Requirements

- Workstation with Windows NT/2000/XP
- RJ-45 cables
- RJ-11 cables
- Telco-50 cables
- RS-232 cables
- <Optional> MDF Patch Panel (Model No.: IDL-PAN-48).

2.2.2 Rear Panel Connection

The following figure shows the rear panel connection of IDL series:



Step 1: Ground the IP DSLAM by connecting a grounded wire (Optional).

Step 2: Connect the ADSL line connector, a 50-pin centronic connector, of IP DSLAM to CPE by using telco cable. Each line connector supports 24 ports of ADSL/ADSL2/ADSL2+ for Data path from MDF (Main Distribution Frame).

Step 3: Connect the Phone connector, a 50-pin centronic connector, of IP DSLAM to Exchange/PBX by using telco cable. Phone connector is an optional module supporting Voic path to Exchange/PBX; it must be along with Line Connector.

Note:

1. The MDF Patch panel is optional to standard package.

Step 4: Hook power cord and apply the power.

2.2.3 Front Panel Connection

The following figure shows the front panel connection of IDL series:

UPLINK: Connect to Internet or downlink to the other IDL-series for stacking by RJ-45 cable.

MGNT: Connect to PC by RJ-45 cable in order to administer your IP DSLAM through IDL Manager.

CID: Connect to PC by RS-232 cable in order to administer your IP DSLAM through CLI.

2.3 IDL Manager Installation

This following shows how to prepare the system to perform basic communication functions through IDL Manager.

2.3.1 System Requirements

- Windows NT/2000/XP
- CD-ROM
- Ethernet card
- 2GB Hard disk with a minimum of 650MB of free space
- Super VGA (800x600 resolution) or higher with 256 colors
- Manual CD

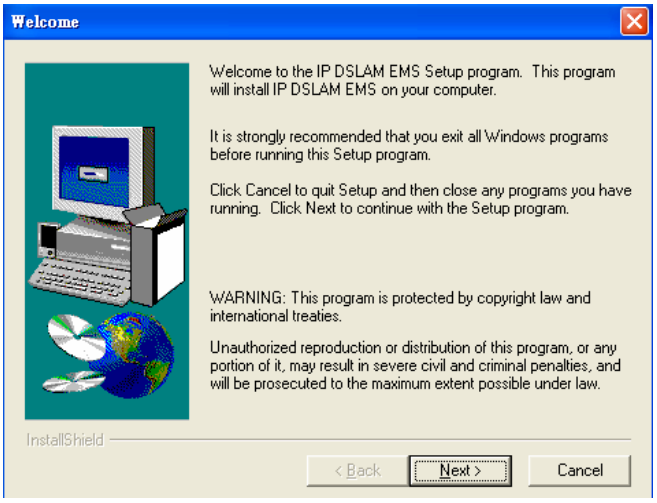
2.3.2 Installing IDL Manager

Perform initial configuration procedures as follows:

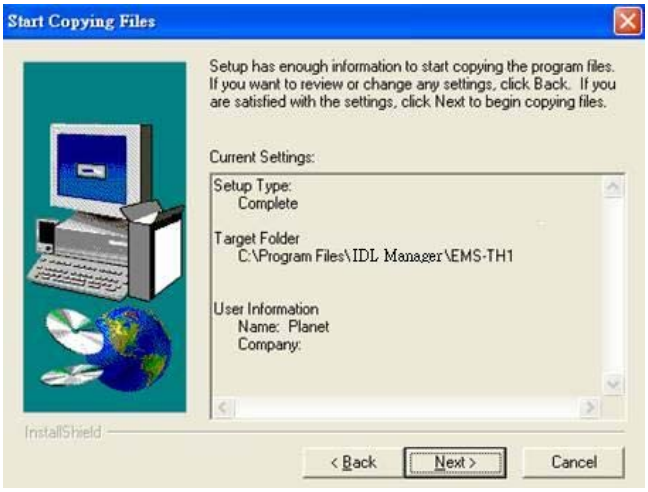
1. Insert CD into CD-ROM.

2. From the autorun screen, click the “IDL Manager” hyperlink to download the file. And then click “setup.exe” to start the installation process.

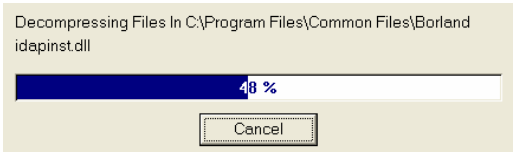
3. The welcome window appears. Click on **“Next”** to continue.



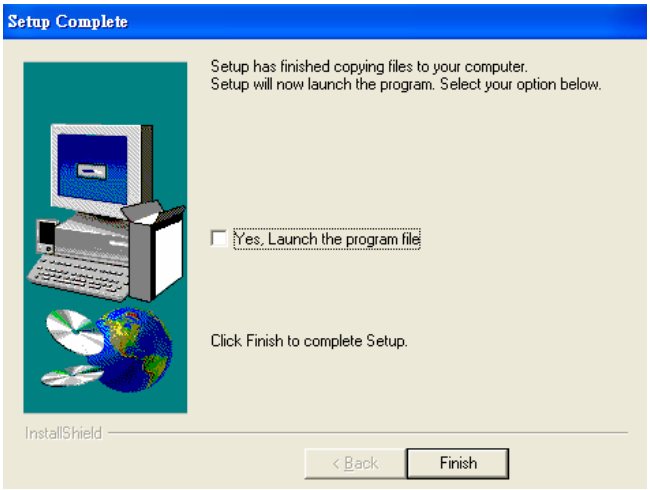
4. When the Start Copying Files window appears, you can confirm the current settings. Click on **"Next"** to start copying files.



5. When Setup Process Status window appears, the installation process is now in progress. This window display a bar indicating the percentage of completion for the current installation. In addition, the names of the files being installed appear above the bar until the installation is complete.



6. At the end of the installation process, the following Setup Complete window presents. Simply click on **"Finish"** to complete setup. Now the installation of IDL Manager is completed.



2.3.3 Starting IDL Manager

Perform basic communication functions through IDL Manager, procedures as follows:

1. Users can activate the IDL Manager either from Program manager or clicking the shortcut icon on the desktop as below.

2. Before starting to IDL Manager, it is necessary that your PC's IP and IP DSLAM's IP are in the same subnet.

Note:
Default IP address of Management port is **192.168.200.111**.

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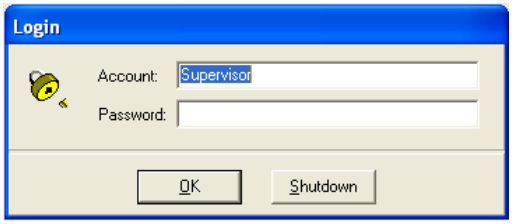
3. To enable SNMP for accessing, one needs to issue commands below to IDL series by Telnet to management port or connecting to console port (9600, N, 8,1) and then log in with default username and password that both are **"admin"**.

   a. "$create snmp comm community public rw".
   b. "$create snmp host ip 192.168.200. xxx community public", where 192.168.200.xxx is the IP of your PC.
   c. "$create snmp traphost ip 192.168.200.xxx community public version v1", where 192.168.200.xxx is the IP of your PC.

4. Launch the IDL Manager and then log in with the user name and password.

   Click on "OK" to enter the IDL Manager system.



Note:
Default Username is "**Supervisor"** and password is blank.

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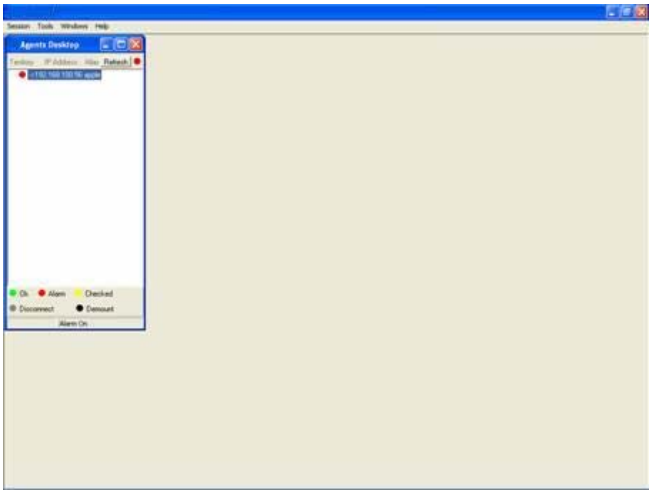
5. After launching IDL Manager and logging in, the main window appears as below.



2.4 IDL Manager Functions

IDL Manager is divided into the task-oriented functional groups as follows.

2.4.1 Session

Allow you to start and to terminate a session as well as to shutdown the system.

2.4.1.1 Logout

To terminate the current session, choose Logout command from Session Menu. The user account, then, is logged out and Login window prompts for a new login. Normally, this is used when a user wants to re-login in order to gain a higher level of authority for certain operations.

2.4.1.2 Exit

To terminate the system at any time, simply choose the Exit command from Session Menu. The system then terminates.

2.4.2 Tools

This chapter describes how to use tools in the IDL Manager, including Environmental options, Territory manager, Agent manager, User Manager and Telnet, which are detailed in the following sections.

2.4.2.1 Environment Options

Choose Environmental Options from Tools Menu, user can define SNMP, Desktop and Surveillance respectively.

1. SNMP Configuration

The SNMP Time-out Period and Retransmission times can be configured as shown in the following steps:

a. Click on the TabControl of “SNMP” that will bring SNMP dialogue box to front.

b. Click on / to change the Time-out Period seconds and Retransmission times.

c. Click on OK to submit your changes.

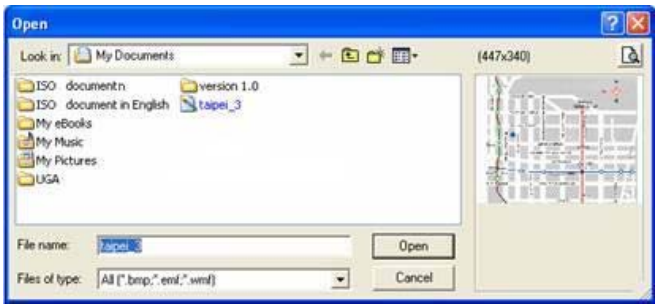
2. Desktop Configuration

The Desktop is user for setting the map of a required territory.

a. Click on the tab of “Desktop” that will bring Desktop dialogue box to front.

b. Click on Territory Manager to quick start territory manager in which users can define a desired territory. Please refer to “Territory Manager Configuration” for more details.

c. Click on Load to load the map of a territory or click on Clear to clear a loaded map.



Note:

The format of map is limited to *.bmp, *.emf and *.wmf.

d. Click on OK to submit your setting, and then the map will apply to the Mounted Agent.

3. Surveillance Configuration

a. Click on the tab of “Surveillance” that will bring the Surveillance dialogue box to front.

b. Click on ▲ or ▼ to change the monitor period.

c. Select the checkbox of **Save expired records** to save surveillance archive, which can be browsed by clicking on the tab of **Achieved** in the Event Log window as shown in the following figure.

d. Clicking on Browse... to choose the directory to record surveillance data and press ▲ or ▼ to define expired period.

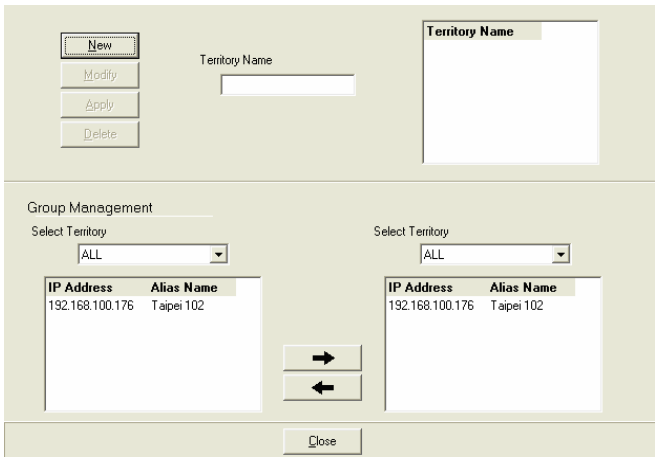
e. Click on OK to submit your settings.

2.4.2.2 Territory Manager

Territory manager help users to build up monitoring territories and agents could be categorized into different territories by users. Territory manager can be activated either from menu bar or from environmental options.

Territory Manager Window

Choose Territory Manager via Tools Menu, or Environmental option, and then the Territory Management window appears.



If to add a territory to the system,

a. Click on 

, the Territory Name fields then cleared to blank for entering the data.

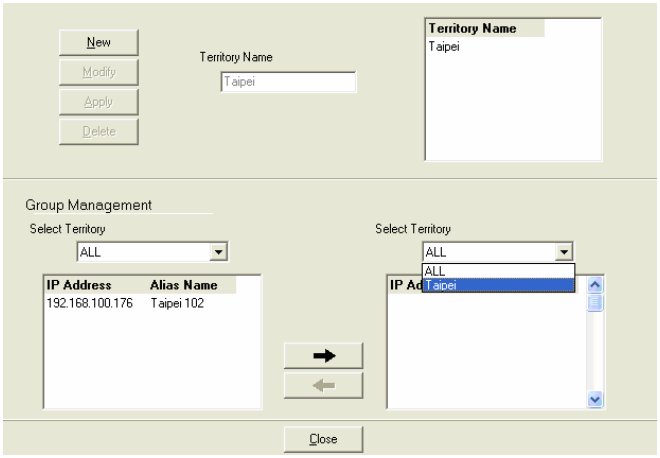
b. Enter Territory Name and 

then become enable.

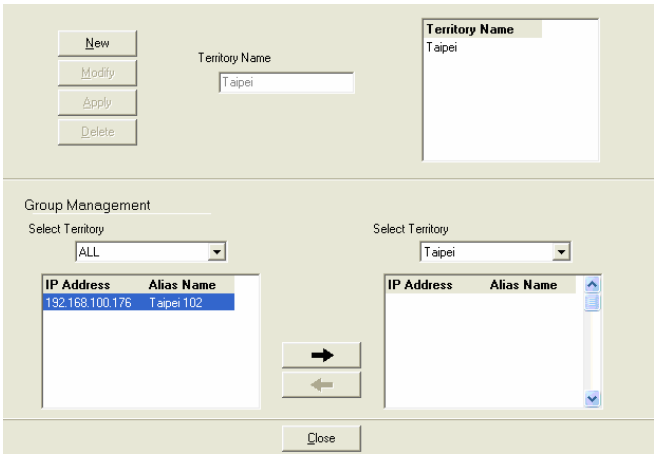
c. Click on 

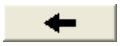
to apply the territory to the system. After that, you can proceed to group management by Territory Management dialog box.

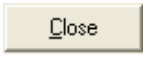
As the following figure shown, the agent, 192.168.100.176 is available in the territory named ALL on the left. Users can shift the monitoring territory from ALL to Taipei simply by selecting Taipei in the Drop-down list on the right.



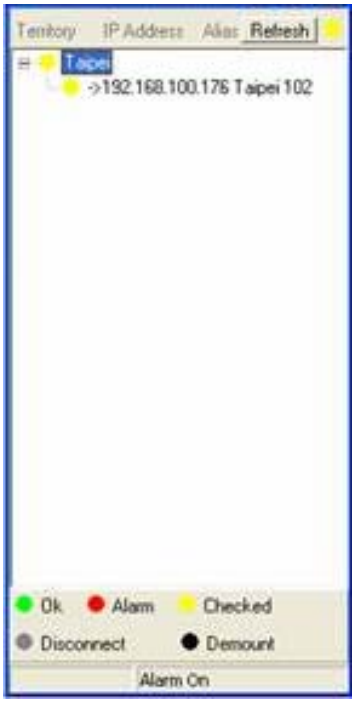
d. Choose the agent, 192.168.100.176 on the left and then click on  . The agent IP will appear on the right and will be mornitored under the territory, Taipei.



e. If users want to move the agent IP from Taipei to other territory, select a desired agent IP and click on  to shift it to the left.

f. Click on  to exit the window or continue to perform other operations in the same window.

Correspondently, the Agent Desktop displays that Agent IP 192.168.100.176 has been monitored under the territory, Taipei.

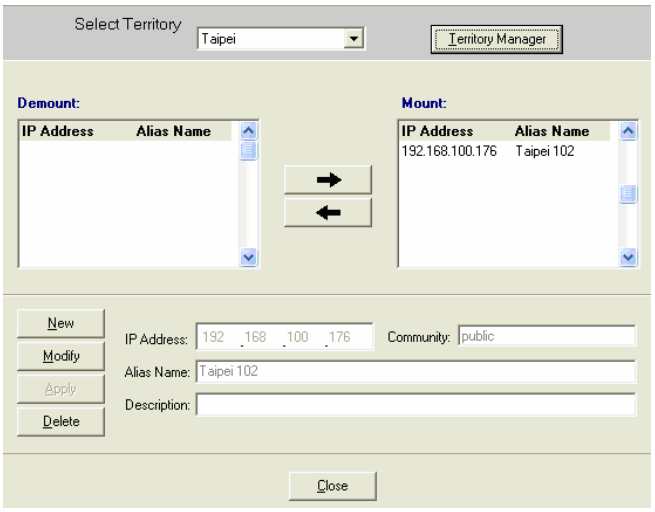


2.4.2.3 Agent Manager

All of the IP DSLAM agents that are to be managed by the IDL Manager must be "registered" to the system. The "registration" process is to make the system aware of agent's IP address and alias name. Once an agent is registered, it is put into the "demount" agent pool, which is still "inactive" for the network monitor. You then have to activate it if you want it to be monitored. An active agent can also be deactivated from the monitor for certain operational purpose when necessary. Agent Manager is designed for you to perform these operations.

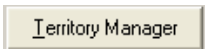
Agent Manager Window

Choose Agent Manager from Tools Menu, this window then appears.

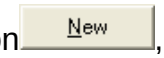


Field	Definition
IP Address	***.***.***.***
Alias name	Name of IP DSLAM
Description	Note

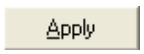
If to add an agent to the system,

a. Select a territory that a new agent belongs to. Click on 

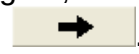
to activate territory manager.

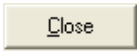
b. Click on 

, the data fields then cleared to blank for entering the data. Enter values in fields, IP Address, Alias Name and Description. The Apply buttons to the left of these fields then become enable.

c. Click on 

to apply the agent to the system.

d. If to activate (so-called "Mount") the system's monitoring of an agent, click on the required agent entry in the Demount agent list, then click on 
. The agent will appear on the Mount agent list on the right.

e. Click on 

to exit the window or continue to perform other operations.

If to remove an agent to the system,

a. Click the required agent in the Demount agent list, and then click on Delete. The agent will disappear.

b. Click on Close to exit the window or continue to perform other operations in the same window.

If to change the information of an agent,

a. Select the required agent in the Demount agent list. The information of the selected agent will then presented on the data fields.

b. Click on Modify to Change IP, Alias Name, and Description and then Apply becomes enable.

c. Click on Apply to apply the change to the system.

d. Click on Close to exit the window.

Note:

User can only change alias and description of the agent in the Mount agent list and changing IP is prohibited.

If to activate the system's monitoring of an agent,

a. Select the required agent in the Demount agent list, and then click on the Mount button →. The agent will appear on the Mount agent list.

b. Click on Close to exit the window or continue to perform other operations in the same window.

If to de-activate the system's monitoring of an agent,

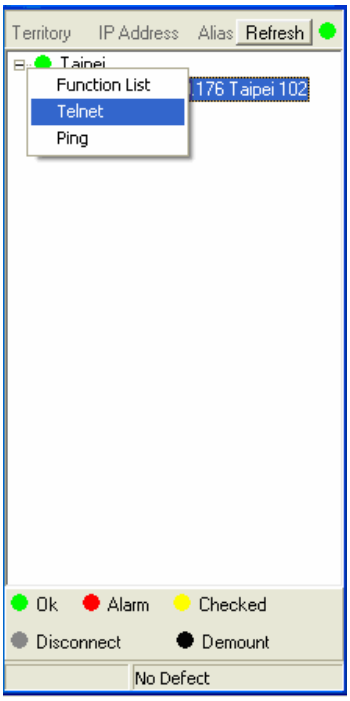
a. Select the required agent in the Mount agent list, and then click on the Demount button ←. The agent will then disappears from the Mount agent list and appears on the Demount agent list on the left.

b. Click on Close to exit the window.

2.4.2.4 Telnet

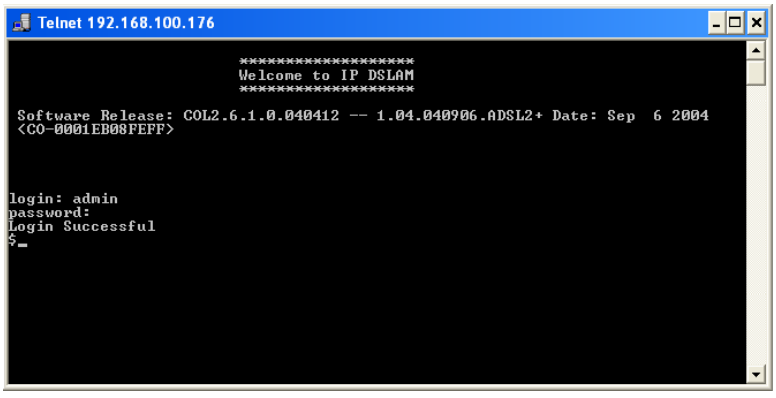
Users can use the Telnet to connect to a specific IP DSLAM, and then monitor and interact with the system.

How to activate Telnet from Agent Desktop?



a. Select an agent IP on the Agent desktop.

b. Click on the right button of mouse and then select Telnet or choose Telnet from tool menu in the IDL Manager window's menu bar. Then Telnet screen will come up immediately.



c. Enter user name and password to access the CID screen.

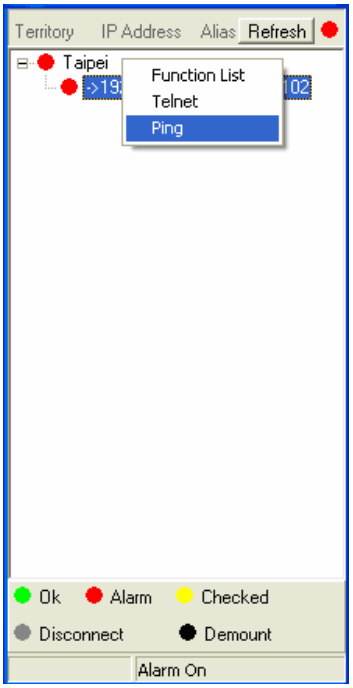
Note:

The default login and password are admin.

2.4.2.5 PING

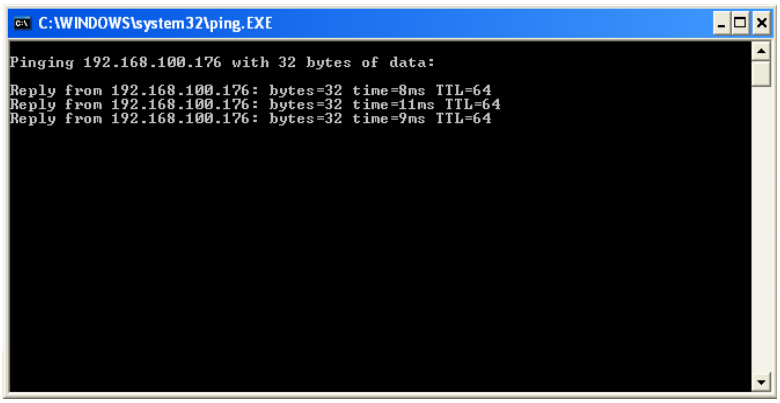
Ping is a command used to determine whether a particular IP DSLAM is currently connected to the agent. It works by sending a packet to the specific IP address and waiting for reply.

How to activate PING from Agent Desktop?



a. Select an agent IP on the Agent desktop.

b. Click on the right button of mouse and then select Ping or choose it from tool menu in the IDL Manager window's menu bar. Ping screen will come up immediately and then starts to send packets to check the connection with the IP DSLAM.



c. After showing the connection status, the screen will be closed automatically.

2.4.2.6 User Manager

The IDL Manager uses user accounts, password as well as power level (system privileges) to control access and log in. There are three types of privileges, Supervisor, Constructor and Tester.

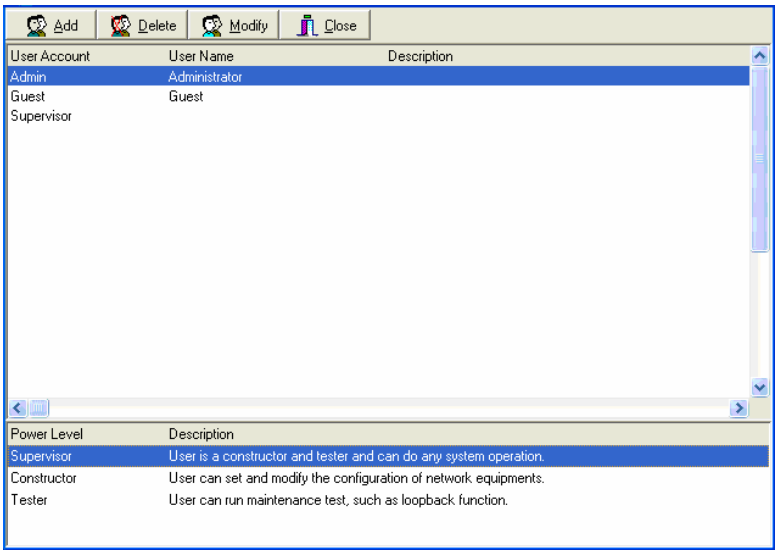
Supervisor:
The highest level user with this privilege can access ANY functions and data.

Constructor:
User can set and modify the configuration of network equipments.

Tester:
User can run maintenance test, such as loop back function.

To perform user manager, proceed as follows,

Choose User Manager from Tools Menu to access this window. From the following window, User Manager, you can add and remove users as well as change passwords, which are used to control the login.



Field	Definition
User Account	an ID to be used for login
User Name	The full name of a user
Description	Remarks for note purpose
Power Level	Privileges; Administrator and Tester

If to add a User Account to the system,

a. Click on 

, the Security window then prompts.

b. Enter the account information as described in Security window below.

c. Click on 

to exit the window or continue to perform other operations.

If to remove a User Account from the system,

a. Select a user account by clicking on the desired entry in User Account selection list. After selection, the designated one will be highlighted.

b. Click on 

to delete it.

c. Click on 

to exit the window or continue to perform other operations.

If to change User Account information,

a. Select a user account by clicking on the desired entry in User Account selection list. After selection, the designated one will be highlighted.

b. Click on 

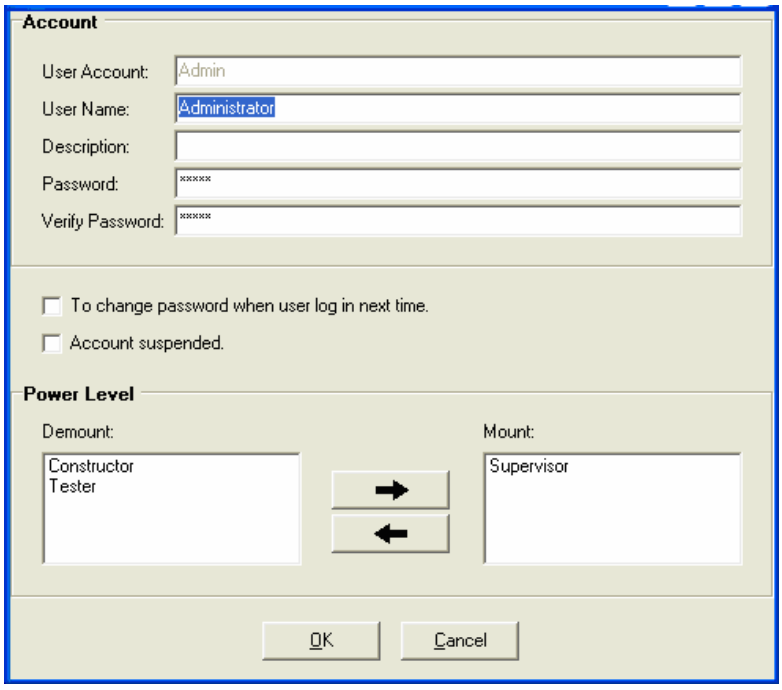
button, the Security window then prompts.

c. Change the account information as described in Security window below.

d. Click on 

button to exit the window or continue to perform other operations. Or click on 

button, the Security window then prompts.



Field	Definition
User Account	An ID to be used for login
User Name	The full name of a user
Description	Remark for note purpose
Password	Any character string, including blank
Verify Password	Re-enter the password as a confirmation
To change password when next login	If this is checked, the associated user needs to change their password at the next login.
Account Suspended	Suspend the account.
Power Level	Privileges; Administrator and tester

This window is a daughter window of User Manager Window, and is used when adding a user account or changing account information.

a. Either 

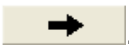
or 

is selected, this window appears.

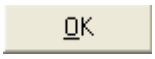
b. Enter data in the fields, User Account, User Name, Description, and Password as required. Re-enter the password in field, Verify Password, for purpose of verification.

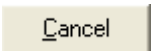
c. If to force the user to change their password at the next login, click on the checkbox to the left of the field, To Change Password When Login Next Time.

d. If to suspend a user account, click on the checkbox to the left of the field, Account Suspended.

e. If to assign a new Power Level to the user, click on the desired entry in the Demount list, then click on the Mount button,  . The selected Power Level entry will then be added to the Mount list on the right.

f. If to remove a Power Level from the user, click on the desired entry in the Mount list on the right, then click on the Demount button,  . The selected Power Level entry will then be removed.

g. Click on 

to complete the operation or 

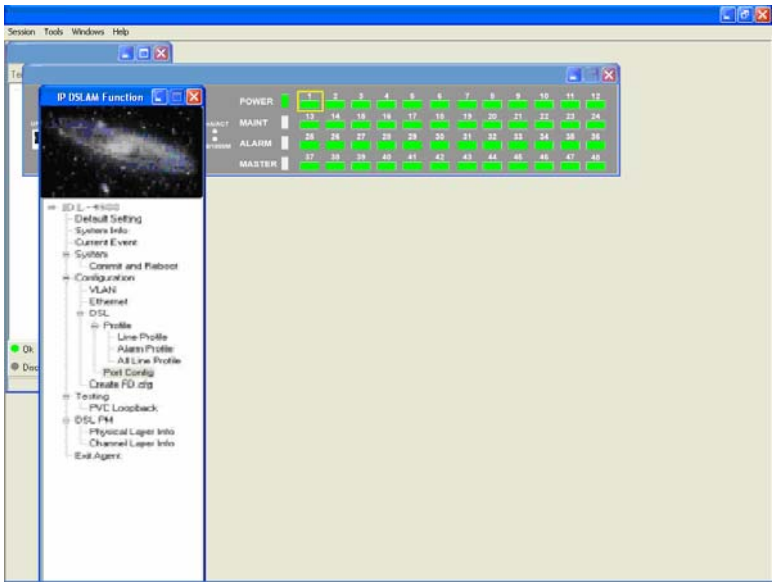
to abort the change. Either one is selected; the window is exited to User Manager Window.

2.4.3 Windows

Users may open many daughter windows in the IDL Manager. To benefit user's viewing every Window, Commands of the Windows menu is designed to arrange daughter windows. Those commands will be introduced separately.

2.4.3.1 Cascade

Choose **Cascade** from Windows menu in the IDL Manager menu bar. The cascade command can cascade those opened windows as follows. User can select a window to perform operations or view status simply by clicking on a specified window.



2.4.3.2 Next Window

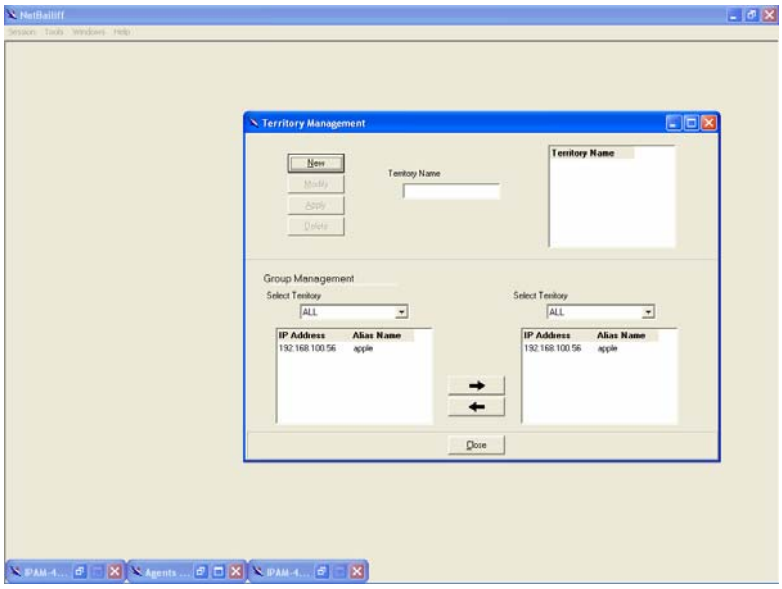
Next Window helps user to view next window so that it will bring the window in the second layer to front.

2.4.3.3 Previous Window

Previous Window command can help user to bring the previous window to front.

2.4.3.4 Arrange Icons

By selecting Arrange Icons of Windows Menu in the menu bar, it will locate those minimized daughter windows in the bottom left of IDL Manager Window as the following figure shown. User can select a required icon to perform IDL Manager Management.



2.4.4 Help

Allow users to view the software version.

2.4.4.1 About

To view the version of IDL Manager, choose "About" command via Help menu, as shown in the following figure. Click on OK to exit the window.

3. IDL Manager Management

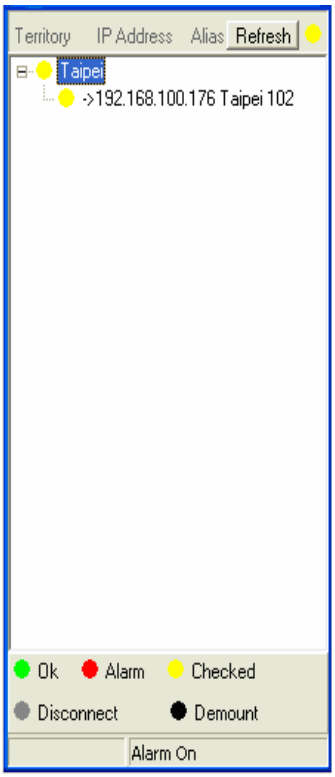
After successfully setting up the environment of IDL Manager, you can manage different IP DSLAM via your IDL Manager remotely. This chapter will tell you how to interact with a specified IP DSLAM.

3.1 Agent Desktop

Agent Desktop is the main window for the network administrators in performing their day-to-day network monitoring jobs. Like the standard desktop of MS Windows, Agent Desktop appears once the system is started. First appears on the Agent Desktop is the status of agents by an array of colors. By which you may monitor the status of agents, and judge if they are normal or in situations of alarms. You may then double click on the required agent IP to activate the event log window. Similarly, the Mounted Agents Desktop can be started up by double clicking on the icon of territory.

3.1.1 Agent Desktop Window

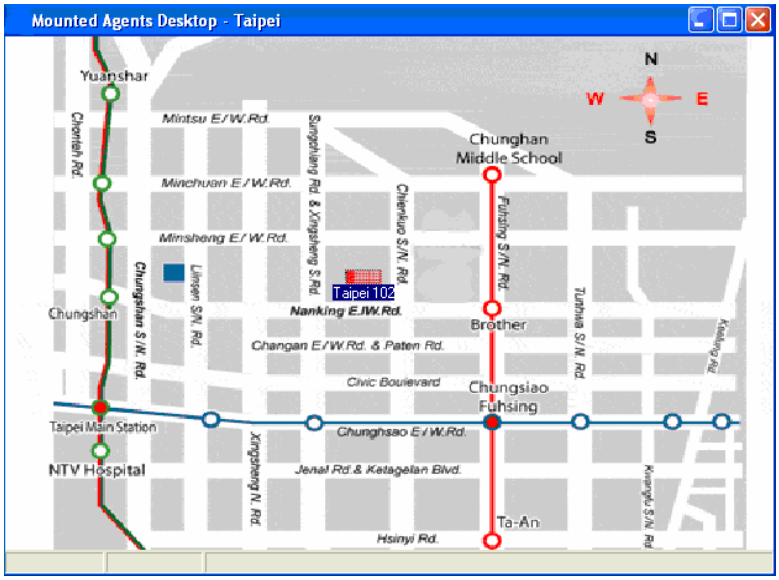
In the Agents Desktop, press Refresh to refresh the status of all agents.

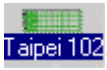


	Gray icon indicates that the agent is disconnected.
	Green icon indicates that the agent is in normal condition.
	Red icon indicates that “Major Alarm” is occurred to the agent and requires network administrator’s attention. Network administrator pays attention to alarms by looking into the alarms using Event Log – Outstanding.
	The red icon will turn into a yellow icon after the network administrator has looked into the alarms. However, this does not mean the situation is released. If any new alarm happens, yellow will turn red.
	Black icon indicated that the agent is demounted.

3.1.2 Mounted Agent Desktop

Mounted agent desktop provides users with flexibility in viewing your network using graphical presentation of network elements. Mounted agent desktop can be easily activated by double clicking the icon of territory in the agent desktop and appears promptly as shown in the following figure. By the mounted agent desktop, the location of agents and overall network status of a specific territory is presented.

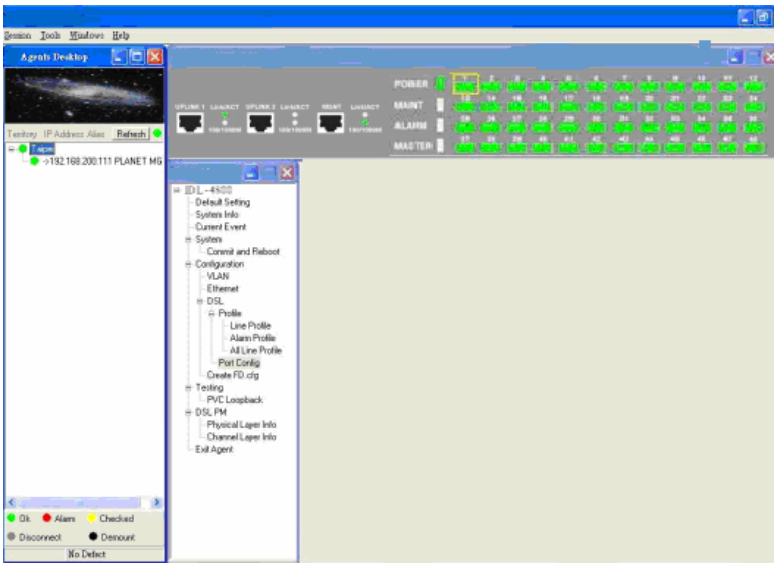




: This icon can be moved to where the agent is located in the map. In addition, its color also changes with the status of the agent. For example, the icon in red means that alarm is occurred to the agent and requires network administrator's attention.

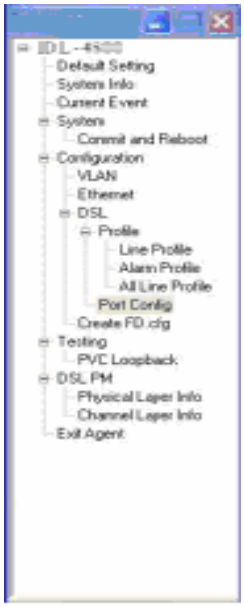
3.2 Active Function Management Windows

Via IDL Manager, users can remotely monitor the current status of a specified IP DSLAM, and then proceeding advanced configuration. To activate the function management windows, choose a specified agent that you want to manage, and then double click the agent. After that, the function management windows, including Function window and Front panel status window, will prompt as shown in the following figure.



The Function management windows include Function List Window and Front Panel Status Window which are provided to monitor the status in real time and configure related settings.

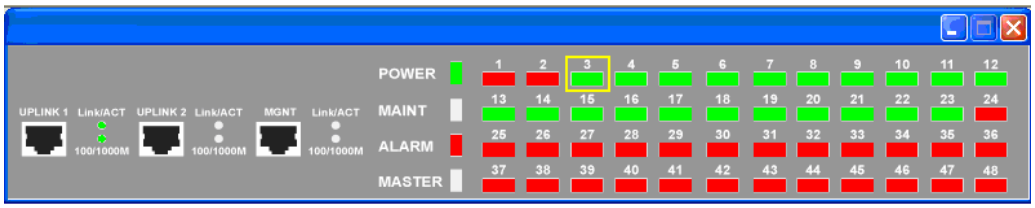
3.2.1 Function List Window



From the Function List Window, users can activate a specified function immediately by double clicking a specified item.

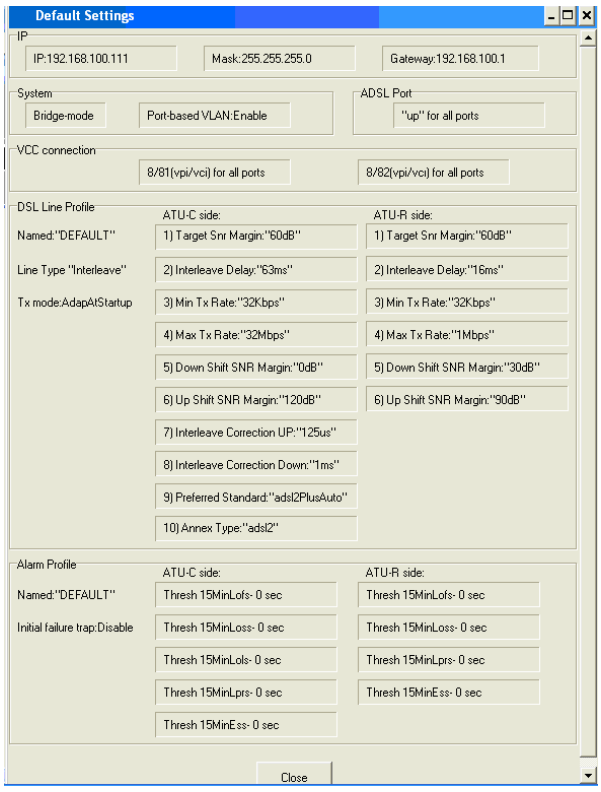
3.2.2 Front Panel Status Window

After choosing a specified agent, the Front Panel Status Window, together with the Function Window, will come out immediately to present the current status of front panel of the IP DSLAM.



3.3 Default Setting

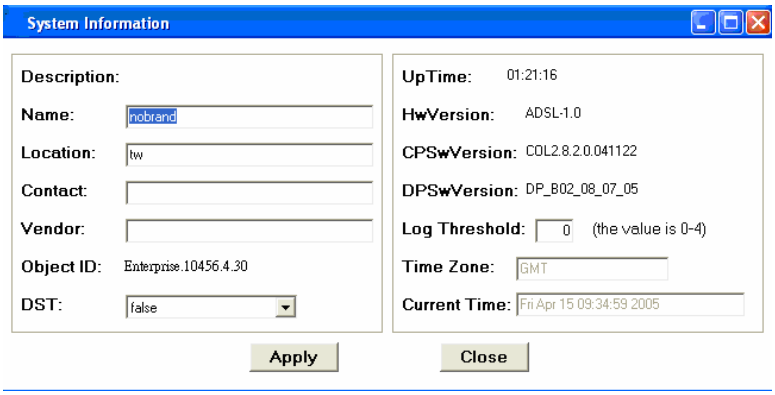
This section describes how to get the information of the default setting of the IP DSLAM. Click on "**Default Setting**" from the Function List window. The window appears as follows.



In the default setting window, the status of, IP, System, VCC connection, DSL line profile and Alarm profile are displayed clearly. How to modify them will be introduced in the following sections.

3.4 System Information

This section describes how to get and input the information of the IP DSLAM. Double Click on "**System Information**" from the Function List Window. The window appears as follows.



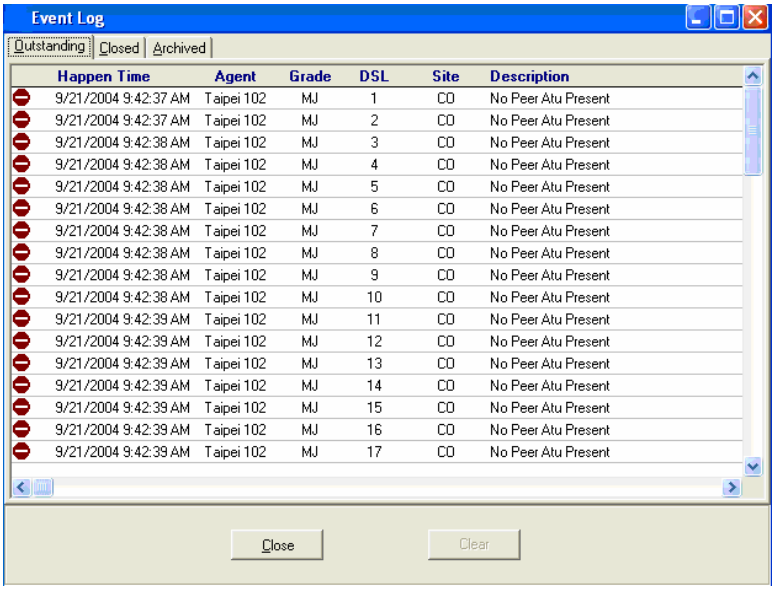
Field	Definition	
Name	Alias name of the IP DSLAM	
Location	Location of the IP DSLAM	
Contact	The contact person of the IP DSLAM	
Vendor	The vendor of the IP DSLAM	
Object ID	Vendor ID	
DST	Daylight Savings Time has been enabled or not.	
UpTime	System up time	
HwVersion	Hardware version of the IP DSLAM.	
CPSwVersion	Control plant version	
Log Threshold	The severity level of the trap equal to or lower than that shall be logged. 0 represents log threshold is disabled. 1 is the lowest and represents critical traps. **Valid values:** 0-4	
Time Zone	**Valid values:** Given below, are the valid values, followed by their descriptions.	
	IDLW - International Date Line West NT - Nome HST - Hawaii Standard CAT - Central Alaska AHST- Alaska-Hawaii Standard YST - Yukon Standard PST- US Pacific Standard MST- US Mountain Standard CST- US Central Standard EST- US Eastern Standard AST- Atlantic Standard NFST- Newfoundland Standard NFT- Newfoundland BRST-Brazil Standard AT- Azores WAT - West Africa GMT - Greenwich Mean UTC - Universal (Coordinated) WET - Western European CET - Central European FWT - French Winter MET - Middle European MEWT - Middle European Winter SWT - Swedish Winter	EET - Eastern Europe, Russia Zone 1 IST - Israeli Standard BT - Baghdad, Russia Zone 2 IT - Iran ZP4 - "Russia Zone 3" ZP5 - "Russia Zone 4" INST - "Indian Standard" ZP6 - "Russia Zone 5" NST - "North Sumatra" WAST - West Australian Standard SSMT - South Sumatra, Russia Zone 6 JT- Java CCT - China Coast, Russia Zone 7 ROK - Korean Standard KST - Korean Standard JST - Japan Standard, Russia Zone 8 CAST - Central Australian Standard EAST - Eastern Australian Standard GST - Guam Standard, Russia Zone 9 IDLE - International Date Line East NZST - New Zealand Standard NZT - New Zealand Example: IDLW , that stands for International Date Line West
Current Time	The current time.	

3.5 Current Event

Describes the facility for the network administrators to track and trace the history of events happened and released. Current Event window can be activated from Function List Window. There are three daughter windows provided to accomplish above tasks.

3.5.1 Outstanding Event

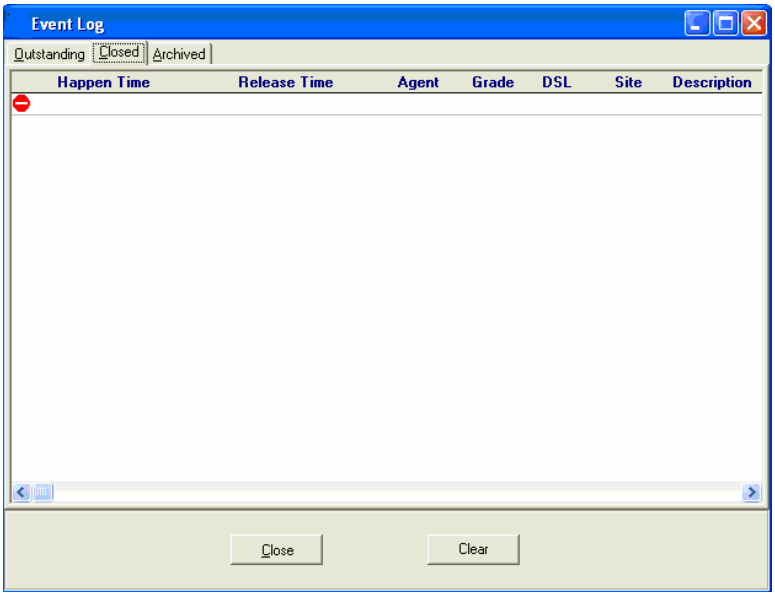
Allow you to view the outstanding events or status and system information. If to view the event log of a specific agent, click **"Current Event"** from Function List Window. The Event Log window appears as follow.



Field	Description
Happen Time	The date/time when the event is occurred.
Agent	The IP address of the agent associated
Grade	Severity level of event or status.
DSL	DSL Port
Site	Down stream or upstream
Description	The description of the event or status.

3.5.2 Closed Event

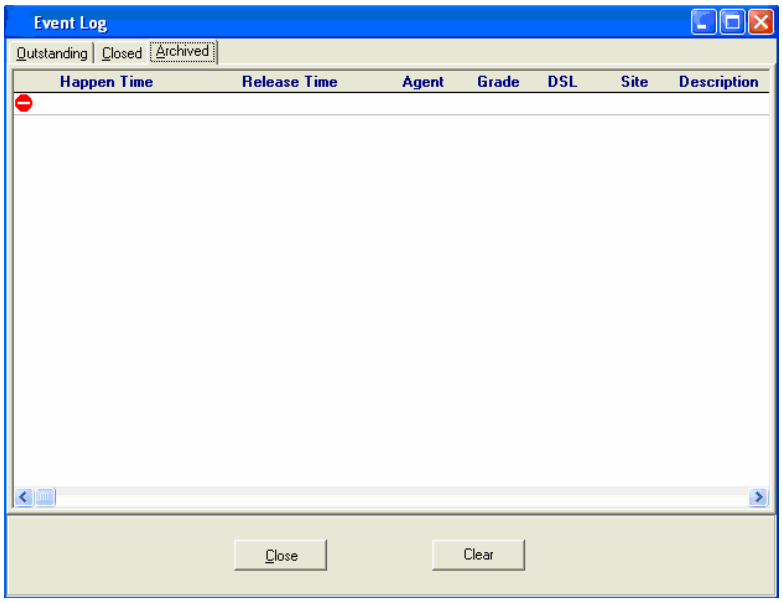
This window allows you to browse the closed alarms and events of specified agents. Click on the tab of **"Closed"**, that will bring the closed screen to front as the following figure shown. Click on Clear to clear all records or Close to exit the window.



Field	Description
Happen Time	The date/time when the event is occurred.
Release Time	The date/time when the event is closed.
Agent	The IP address of the agent associated
Grade	Severity level of event or status.
DSL	DSL Port
Site	Down stream or upstream
Description	The description of the event or status.

3.5.3 Archived

This window allows you to browse the expired records, which can be configured in the Environment window. Click on the tab of **"Archived"**, that will bring the archived screen to front as the following figure shown. Click on Clear to clear all records or Close to exit the window.



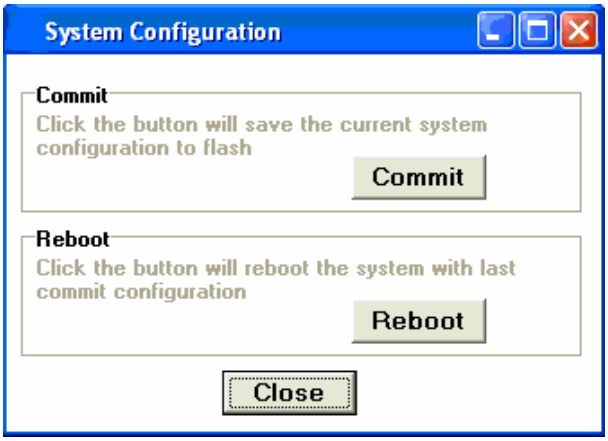
Field	Description
Happen Time	The date/time when the event is occurred.
Release Time	The date/time when the event is closed.
Agent	The IP address of the agent associated
Grade	Severity level of event or status.
DSL	DSL Port
Site	Down stream or upstream
Description	The description of the event or status.

3.6 System

This section allows users to perform commit and reboot that will be introduced as follows.

3.6.1 Commit and Reboot

This section describes how to commit the current configuration to flash or reboot the IP DSLAM. Double Click on "**Commit and Reboot**" from the Function List Window. The System Information screen appears as follows.



a. If to commit the active configuration to the flash, click on Commit.

b. If to reboot the system and to set the boot configuration, click on Reboot.

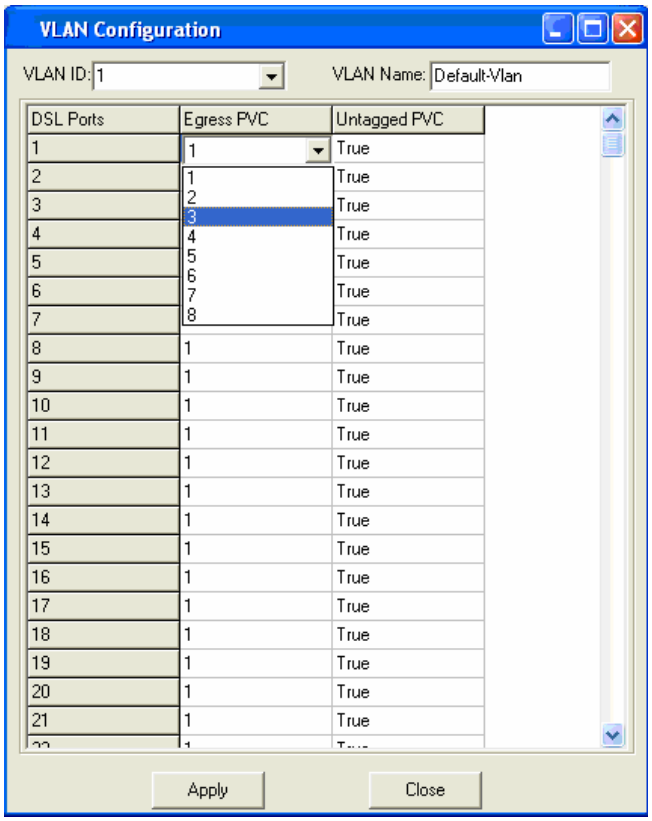
c. Click on Close to close the window.

3.7 Configuration

This section describes how to configure the IP DSLAM by selecting Configuration from Function List window.

3.7.1 VLAN

Allow user to view and modify VLAN configuration. Double Click on **"VLAN"** from the Function List Window. The VLAN configuration window appears as follows.



Field	Definition
VLAN ID	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast mac addr is shared across vlans hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability each vlan can have its own information for a multicast mac addr hence vlanid is a mandatory parameter in all the commands other than - get. For No Vlan case vlan id is not required.
VLAN Name	Name of the VLAN
Egress PVC	The set of ports, which are permanently assigned to the egress list for this VLAN by management.
Untagged PVC	The set of ports, which should transmit egress packets for this VLAN, as untagged**.**

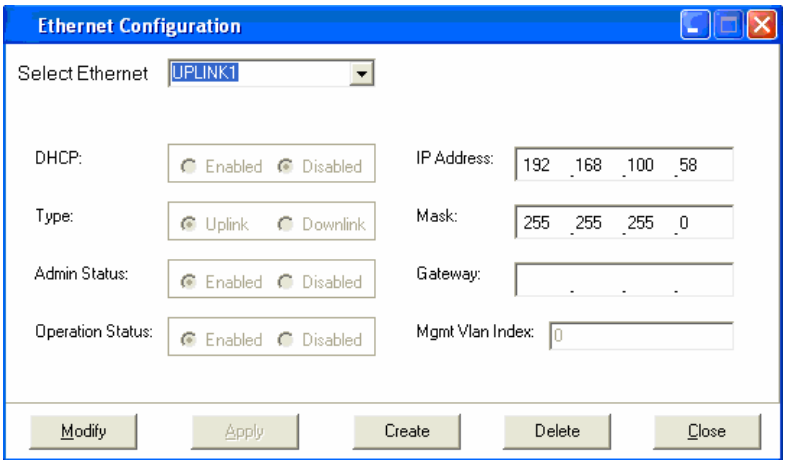
a. Select the VLAN to view or modify by using the VLAN ID drop-down list.

b. Use Egress PVC and Untagged PVC drop-down list to set the specified DSL port's Egress PVC and Untagged PVC.

c. Click on Apply to submit your settings or click on Close to close the VLAN Configuration window.

3.7.2 Ethernet

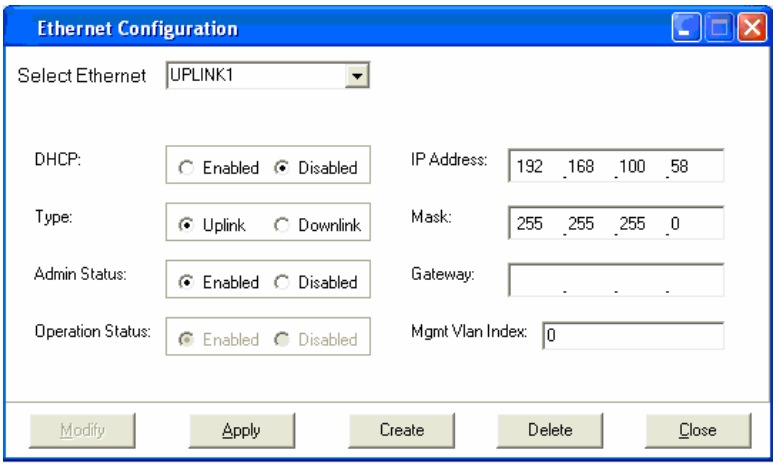
Allow user to view and modify Ethernet configuration. Double Click on **"Ethernet"** from the Function List Window. The Ethernet Configuration window appears as follows.



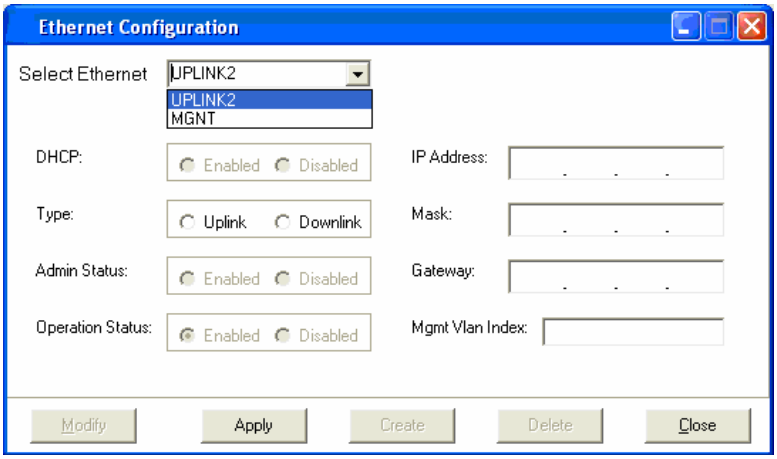
Field	Definition
DHCP	DHCP client enabled or disabled
Type	Uplink or Downlink
Admin Status	The desired state of UPLINK (enable/disable)
Operation Status	System is enabled or not.
IP address	IP address of the UPLINK
Mask	The network mask of the UPLINK.
Gateway	Gateway IP
Mgmt Vlan Index	VLAN for management traffic on this interface. Nonzero value of this field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. If no Management Vlanid is specified (in the create operation) or its value is set to zero (either in create or modify operation) then the system shall use the value of 'portvlanid' associated with the bridge port created on this interface as the Management Vlan Index. In case the management vlan (i.e. 'mgmtvlanid' or the associated 'portvlanid', if 'mgmtvlanid' is zero) doesn't exist on the system then management shall not happen on this interface till the corresponding VLAN is created with the Net side port as its member.

a. To view the Ethernet Configuration of UPLINK1, UPLINK2, or MGNT by using the Select Ethernet drop-down list.

b. If to modify the Ethernet Configuration, click on Modify first and then proceeding advanced configurations as shown in the following figure.



c. If to create a new Ethernet configuration, click on Create and then select a new Ethernet configuration by using Select Ethernet drop-down list. After that, users can set related parameters as follows.



d. Click on Apply to submit your settings or click on Close to close the Ethernet Configuration window.

3.8 DSL

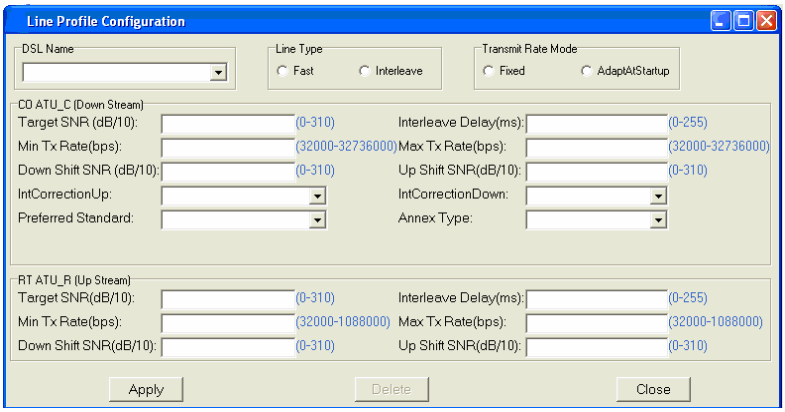
This section describes how to configure DSL settings by selecting **DSL** from Function List Window.

3.8.1 Profile

Allow users to configure Line Profile and Alarm Profile.

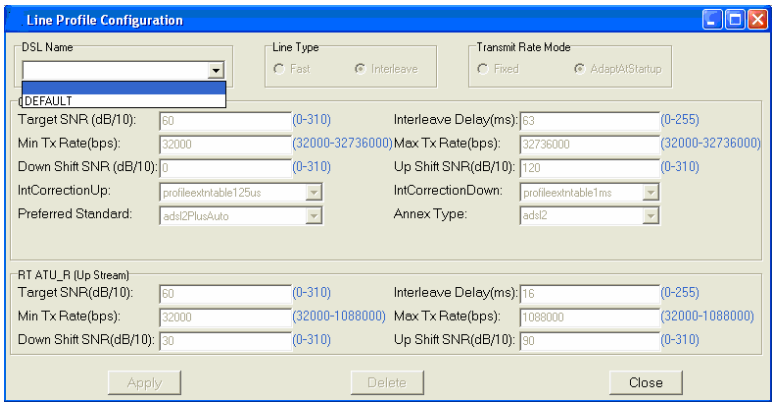
3.8.1.1 Line Profile

If to configure Line Profile, double click on **"Line Profile"** from the Function List Window. The Line Profile configuration window appears.



Field	Definition
Line Type	The ADSL line type, Fast or Interleaved.
Transmit Rate Mode	Defines what form of transmitting rate, Fixed or adaptAtStartup.
Target SNR (dB/10)	Target Signal / Noise Margin. (0-310).
Min Tx Rate(bps)	The minimum transmitting rate of ATU-C side or ATU-R side.
Down Shift SNR (dB/10)	Configured Signal/ Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0.
IntCorrectionUP	Sets the correction time for the upstream interleaved buffer. RS can also be disabled.
Preferred Standard	Preferred standard compliance. Outcome is dependent upon standard support of the remote unit. GlobespanVirata High Speed ADSL DMT (ADSL+) applications only.
Maximum Transmit Rate	The maximum transmitting rate of ATU-C side or ATU-R side.
Interleave Delay (ms)	The value of Interleave Delay for this channel.
UP Shift SNR (dB/10)	Configured Signal/ Noise Margin for rate upshift. If the noise margin rises above this level, the modem should attempt to increase its transmit rate. In the case that RADSL is not present, the value will be 0.
IntCorrectionDown	This parameter sets the correction time for the downstream interleaved buffer. RS can also be disabled.
Annex Type	This parameter is set as per Annex compliance of the code release. GlobespanVirata High Speed ADSL DMT (ADSL+) applications only.

a. To create up a new line profile, click the DSL Name drop-down list and then select the blank.

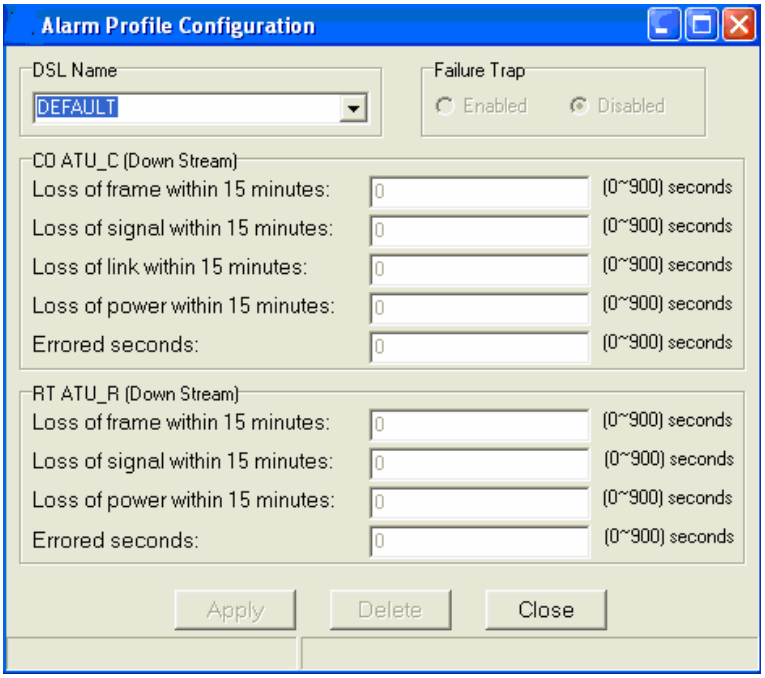


b. After that, the fields become enable. Input the values in those fields and then name the new line profile.

c. Click on Apply to submit your setting or click on Delete to delete a line profile.

3.8.1.2 Alarm Profile

If to configure Alarm Profile, double click on **"Alarm Profile"** from the Function List Window. The Alarm Profile Configuration window appears.



Field	Definition
Loss of frame within 15 minutes	The threshold of the number of “Loss of Frame Seconds” within 15 minutes performance data collection period.
Loss of signal within 15 minutes	The threshold of the number of “Loss of Signal Seconds” within 15 minutes performance data collection period.
Loss of link within 15 minutes	The threshold of the number of “Loss of Link Seconds” within 15 minutes performance data collection period. (But only ATU-C side)
Loss of power within 15 minutes	The threshold of the number of “Loss of Power Seconds” within 15 minutes performance data collection period.
Errored seconds	The threshold of the number of “Errored Seconds” within 15 minutes performance data collection period.

a. To create a new alarm profile, click the DSL Name drop-down list and then select the blank.

b. After that, the fields become enable. Input the values in those fields and then name the new alarm profile.

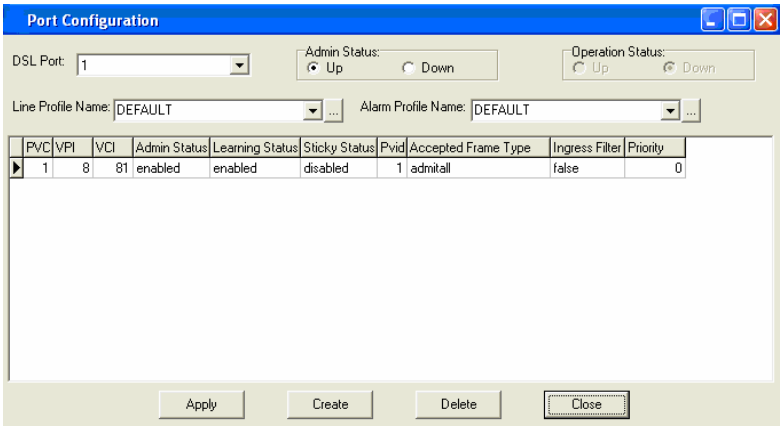
c. Click on Apply to submit or click on Delete to delete a alarm profile.

3.8.1.3 All Line Profile

Display all the Line Profile Configuration.

3.8.2 Port Config

Allow users to configure port configuration. Double Click on **“Port Config”** from the Function List Window. The Port Configuration window appears.



Field	Definition
DSL Port	Port No. of the IP DSLAM
VPI	Virtual Path Identifier
VCI	Virtual Channel Identifier
Learning Status	The state of learning on this bridge port. The value **enable (1)** indicates that unicast Mac address learning is enabled and the value **disable** indicates that unicast Mac address learning is disabled on this bridge port.
Sticky Status	Indicates if the port has been set as sticky. The value **enable (1)** indicates that the entries learned on this port will not be aged out. It also indicates that the entries learned on this port shall not be learned on any other port. The entries learned on this port can only be removed by management action or by making the value as **disable (2),** so that the entries can be aged out.
Pvid	Port VID
Accepted Frame Type	Used to up/down connection.
Ingress Filter	When this is **true**, the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When **false**, the port will accept all incoming frames.
Priority	Optional Connection priority. No VLAN tag, no priority.

a. Choose the port to configure from the DSL Port drop-down list.

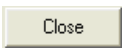
b. Configure the Administration status as “Up” or “Down”.

c. Choose a Line Profile from the Line Profile Name drop-down list. If to configure a Line Profile, Click on  to activate the Line Profile Configuration window.

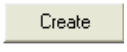
d. Choose an Alarm Profile from the Alarm Profile Name drop-down list. If to configure an Alarm Profile, Click on  to activate the Alarm Profile Configuration window.

If necessary, modify values of specified PVC, including VPI, VCI, Admin Status, Learning Status, Sticky Status, Pvid, Accepted Frame Type and Ingress Filter, and priority.

e. Click on 

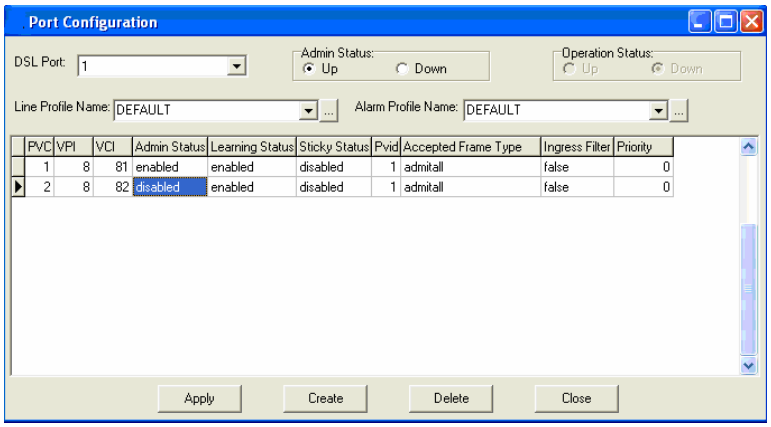
to submit or click on 

to close the fmBridgeport window.

f. If to create new PVC, click on 

and then PVC2 appears and then users can set perimeters via PVC2. after that, click on 

to submit your setting.

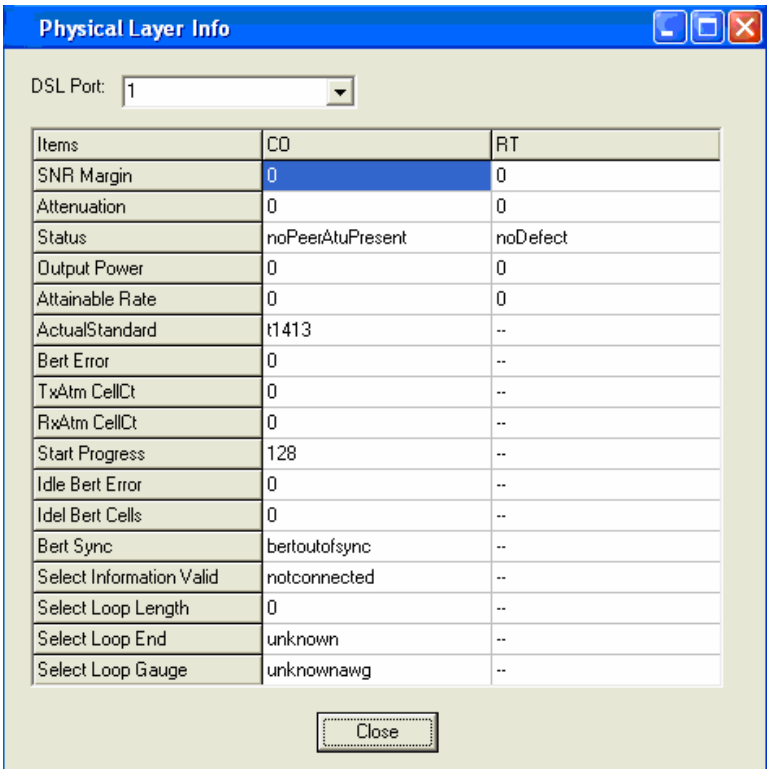

Port Configuration
DSL Port: 1
Admin Status: Up Down
Operation Status: Up Down
Line Profile Name: DEFAULT
Alarm Profile Name: DEFAULT
PVC VPI VCI Admin Status Learning Status Sticky Status Pvid Accepted Frame Type Ingress Filter Priority
1 8 81 enabled enabled disabled 1 admitall false 0
2 8 82 disabled enabled disabled 1 admitall false 0
Apply
Create
Delete
Close

3.9 DSL PM

This section describes how to utilize DSL Performance Management by selecting **"DSL PM"** from Function List window.

3.9.1 Physical Layer Info

Allow users to view the physical layer information of a specified DSL port from the IP DSLAM. Double Click on "**Physical Layer Info**" from the Function List Window. The Physical Layer Info window appears.



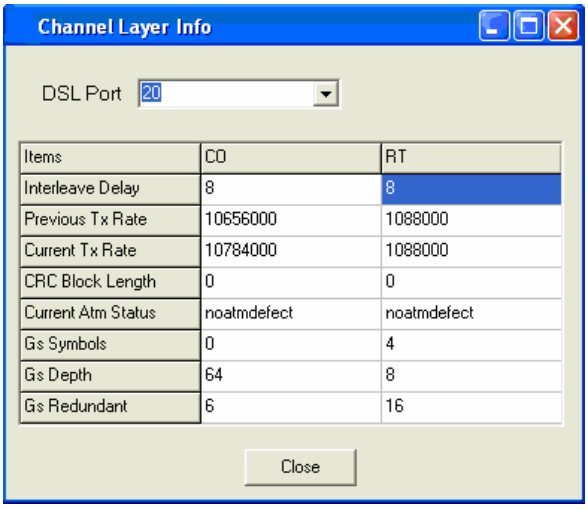
Field	Definition
SNR margin	Noise margin value. (dB)
Attenuation	Difference in the total power transmitted and the total power received by the peer atu. (db)
Status	Current status of the ATU line.
output power	Total output power transmitted by atu. (dBm)
attainable rate	The maximum currently attainable data rate by the atu. (kbps)
ActualStandard	Actual standard used for connection, based on the outcome of the negotiation with the Remote Unit.
Bert Error	Provides the number of bit errors detected during BERT.
TxAtm CellCt	Provides Tx ATM cell counter.
RxAtm CellCt	Provides Rx ATM cell counter.
Start Progress	Defines the current detailed start up state of Xcvr. 0x0 – startup not in progress; 0x0 – 0x0FFF Handshake/Training/ Profile Management/ Fast Retrain in progress; 0x8000 – 0x8FFF DSP firmware Down-Load in progress; 0xF000 – 0xFFFF illegal Parameter
Idle Bert Error	Number of bit errors.
Idle Bert Cells	Number of idle cells.

Bert Sync	Indicates whether the Signal is in Sync or not.
Select Information Valid	Indicates the information validity for the SELT operation conducted on the Xcvr.
Select Loop Length	Indicates the LOOP Length in Feet once when the SELT information is valid on the Xcvr.
Select Loop End	Indicates whether the loop is short or open once when the SELT information is valid on the Xcvr.
Select Loop Gauge	Indicates the LOOP wire gauge information once, when the SELT information is valid on the Xcvr.

Select the port ID from the DSL Port drop-down list to view a specified DSL's physical Layer Info. Click on Close to close the window.

3.9.2 Channel Layer Info

Allow users to view the Channel layer information of a specified DSL port from the IP DSLAM. Double Click on **"Channel Layer Info"** from the Function List Window. The Channel Layer Info window appears.



Field	Definition
Interleave delay	Interleave delay for this channel. (milli-seconds)
Previous TX rate	Previous actual transmit rate on this channel if ADSL loop retain. (kbps)
Current TX rate	Actual transmit rate on this channel. (kbps)
CRC block length	The length of the channel data-block on which the CRC operates.
Current Atm Status	Indicates the current ATM Status.
Rs Symbols	Indicates the number of DMT symbols per Reed-Solomon code word (S), in the downstream direction.
Rs Depth	Indicates interleaving depth (D), in the downstream direction.
Rs Redundency	Indicates the number of redundant bytes (R), per Reed-Solomon code in the downstream direction

Select the port ID from the DSL Port drop-down list view a specified DSL's channel Layer Info. Click on Close to close the window.

4. Application Note

4.1 Basic Configuration

The IP DSLAM provides multiple services to users according to the demand of application scenarios. To reduce time consuming in deployment, this document provides simple and easy configuration procedure according different applications.

4.1.1 Create a new user

Users can create a root user whose user name and password are “admin” as follow.

```
$create user name admin passwd admin root


Entry Created
Privilege                UserName
-----------------------------------
admin                          admin
Verbose Mode Off
Entry Created
$
```

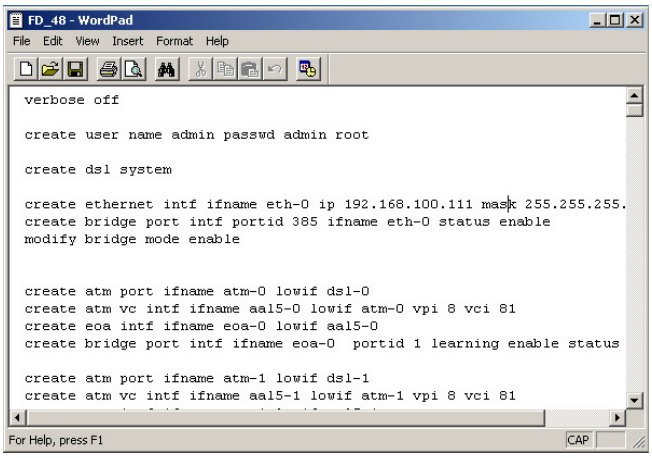
4.1.2 FD.cfg Configuration

Fd.cfg is a useful tool that contains a set of default configuration commands for IP DSLAM. Using FD.cfg, you can do as follow.

- Restore the default configuration
- Modify FD.cfg
- Upload FD.cfg
- Create new services

4.1.2.1 Contents of FD.cfg

Use WordPad or Word to open FD.cfg. (See the following figure)



The default configuration in FD.cfg summarized as follows.

- Default IP: 192.168.100.111
- SNTP: disable
- RFC-1483 Bridge mode only
- One PVC (8/81) for each ADSL port
- Bridge port numbering 1 to 48 mapping to PVC 8/81 for ADSL port1 to port 48/24
- VLAN feature Disable
- Eth0 enable (for uplink), its bridge port number is 385
- Eth1 disable (for downlink)
- MGMT interface disable

Note:

To view the detailed contents, please refer to the Appendix A.

4.1.2.2 Download procedure

This section describes how to upload FD.cfg to IP DSLAM by tftp server. The configuration procedure is shown as follows.

Step 1:

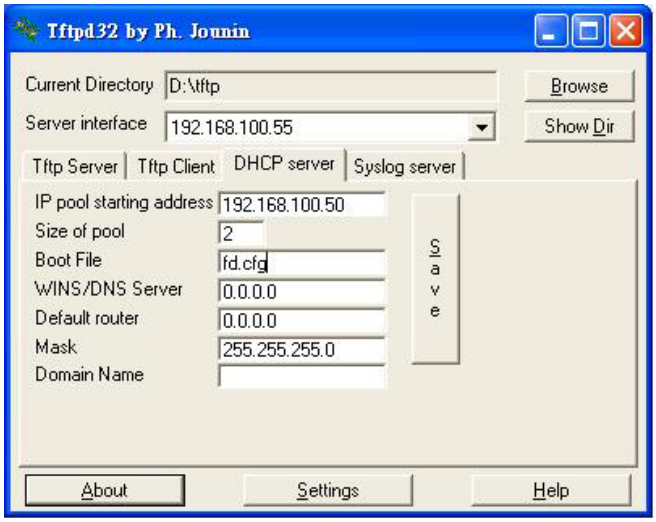
Prepare FD.cfg and tftp server. (Including file_id.diz, tftpd32.exe;TFTPD32.HLP and uninst.exe)

Step 2:

Put the “FD.cfg” and “tftpd32” at the same folder on your PC.

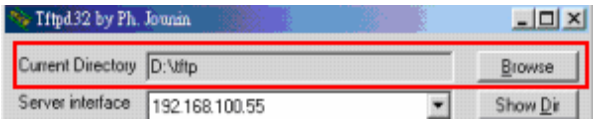
Step 3:

Activate tftpd32 and then tftp32 window appears.



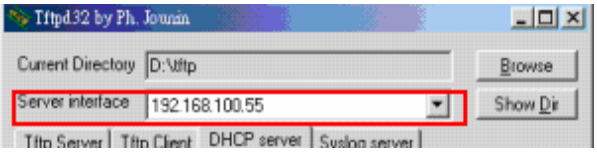
Step 4:

Click on Browse to set the current directory where FD.cfg located.



Step 5:

Click Sever interface drop-down list to select the DHCP Server‘s IP.

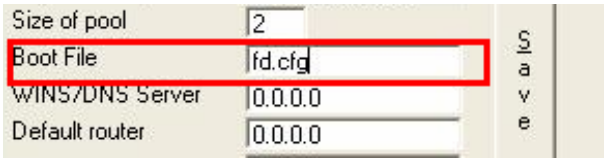


Step 6:

Assign an IP pool starting address.

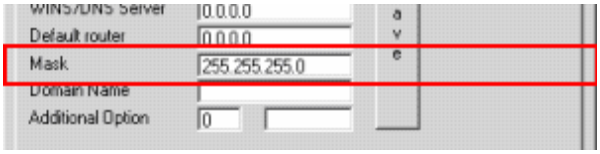
Step 7:

Rename the boot file as FD.cfg.



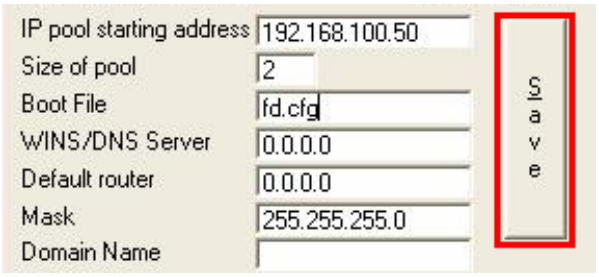
Step 8:

Input the mask



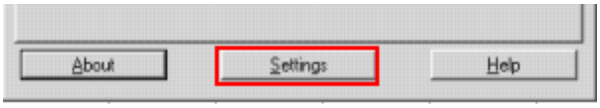
Step 9:

Save the configuration.



Step 10:

If needed, click the settings button to re-configure your setting.



Step 11:

Activate Telnet and login IP DSLAM.

Step 12:

Input 'list' to show the path and s/w information

```
$list
Name                              Ver            Time                           Size
Acc   State
---------------------------------------------------------------------------------------------------------------------
/nvram/bin/bootptftp/
TftpBootp.bin                  1   Wed Jun 30 14:12:36 2004   111064     RO   active
/nvram/bin/control/
CP.bin.gz                      1   Wed Jun 30 14:12:36 2004   1280744    RW   active
/nvram/bin/dataplane/
DP.bin.gz                      1   Wed Jun 30 14:12:36 2004   231572     RW   active
/nvram/bin/decompressor/
Decompressor.bin             1   Wed Jun 30 14:12:36 2004   81928      RO   active
/nvram/bin/dslphy/
gsv_dsl_AD_DM_3C00000C.bin.gz   1   Wed Jun 30 14:12:36 2004   155220    RW   active
/nvram/cfg/factorydef/
FD.cfg                             1   Wed Jun 30 14:12:36 2004   19136      RW   active
$
```

Step 13:

Input 'remove fname /nvram/cfg/factorydef/FD.cfg version 1' to remove the obsolete FD.cfg file.

```
$remove fname /nvram/cfg/factorydef/FD.cfg version 1


FLASH program starts at ADDR 20008
File Removed
$
```

Step 14:

Input 'download src FD.cfg dest /nvram/cfg/factorydef/FD.cfg ip 192.168.100.66' to download config file "fd.cfg" from Server PC to IP DSLAM.

Note:

The file name to download could be different from FD.cfg but do not change the path.

dest /nvram/cfg/factorydef/**FD.cfg** is the path of firmware file located on IP DSLAM.

```
$download src FD.cfg dest /nvram/cfg/factorydef/FD.cfg ip 192.168.100.66


Downloading the File...

.....

Block 1 erase in progress

.....Flash block 1 erase successful...


FLASH program starts at ADDR 20000

################
```

Step 15:

Input ‘upgrade fname /nvram/cfg/factorydef/FD.cfg’ to upgrade and activate the access state.

```
$upgrade fname /nvram/cfg/factorydef/FD.cfg version 2

FLASH program starts at ADDR 2000c

$
```

Step 16:

Input ‘commit’ to store your new configuration before rebooting.

```
$commit
```

Step 17:

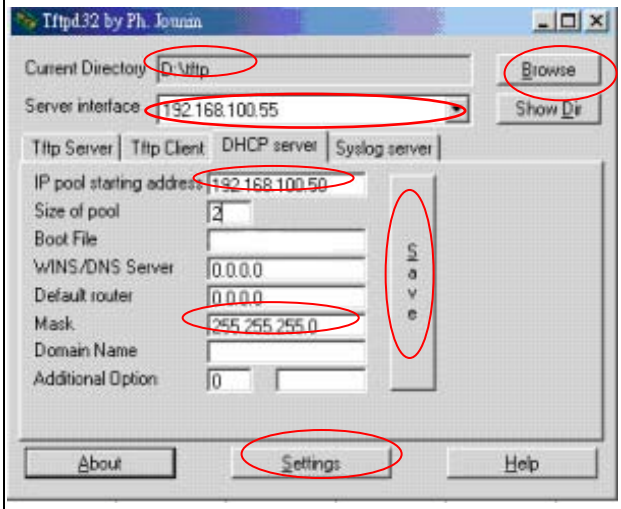
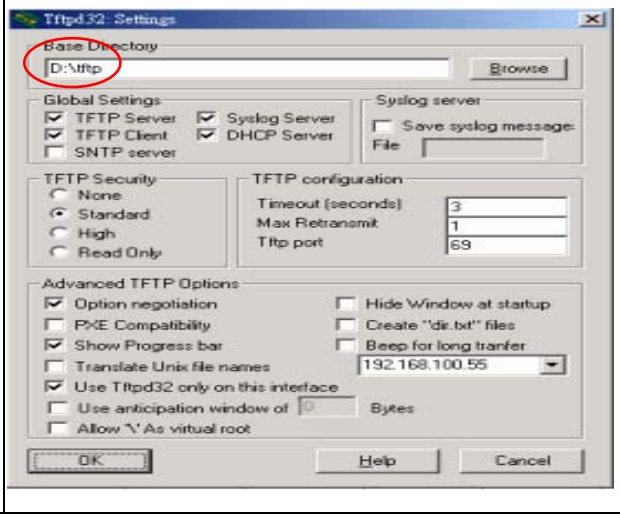
Input ‘reboot config default’ to let your new configuration take effect.

```
$reboot config default
```

4.1.3 How to create myconfig.cfg

- myconfig.cfg is a txt file that ensures all commands be executed at once.
- 4.1.3.3 shows the format of myconfig.cfg.
- If there are many configurations you would like to execute then you can write all commands into myconfig.cfg and then execute it at once.
- Be note to save ($commit) to IP DSLAM if this would be executed after rebooting.
- Required of equipment: TFTP Server (Tftpd32).

4.1.3.1 TFTP Server Configuration

Step	Image	Usage
1		1. Click “Browse” bottom to indicate current directory of firmware. 2. Click down-arrow bottom to indicate IP of DHCP Server. 3. Assign starting address for IP pool. 4. Input subnet mask 5. Save input parameters. 6. Press “Setting” bottom to configure more details (option)
2		7. After assigned this parameter and reboot Tftpd32 that “Current Directory” at previous step will follow it.

4.1.3.2 myconfig.cfg Configuration

Step	Image	Usage
1	**Enable TFTP server (tftpd32)**	1. Enable TFTP Server and direct the myconfig.cfg path for it.
2	**$list** **Name Ver Time Size Acc State** **----------** **/nvram/bin/bootptftp/** **TftpBootp.bin 1 Fri Oct 08 09:46:22 2004 111064 RO active** **/nvram/bin/control/** **CP.bin.gz 1 Fri Oct 08 09:46:22 2004 1293028 RW active** **/nvram/bin/dataplane/** **DP.bin.gz 1 Fri Oct 08 09:46:22 2004 231572 RW active** **/nvram/bin/decompressor/** **Decompressor.bin 1 Fri Oct 08 09:46:22 2004 81928 RO active** **/nvram/bin/dslphy/** **gsv_dsl_AD_DM_3C00000C.bin.gz1 Fri Oct 08 09:46:22 2004 155220 RW active** **/nvram/cfg/factorydef/** **FD.cfg 1 Fri Oct 08 09:46:22 2004 18973 RW active**	2. List the table and verify that myconfig.cfg had not created.
3	**$download src myconfig.cfg dest /nvram/user/myconfig.cfg ip 192.168.100.188** **Downloading the File...** **.....** **Block 30 erase in progress** **.....Flash block 30 erase successful...** **FLASH program starts at ADDR 3c0000** **###############** **FLASH program starts at ADDR 3c0000** **Download session Completed,Bytes received 18180...** **$**	3. Download myconfig.cfg to NVRAM. 4. 192.168.100.188 is the PC of TFTP Server..
4	**$apply fname /nvram/user/myconfig.cfg** **$create atm vc intf ifname aal5-71 lowif atm-23 vpi 8 vci 82** **Entry Created** **$create eoa intf ifname eoa-71 lowif aal5-71** **:** **:** **$create atm vc intf ifname aal5-145 lowif atm-47 vpi 8 vci 83** **Entry Created** **$create eoa intf ifname eoa-145 lowif aal5-145** **Entry Created** **$create bridge port intf ifname eoa-145 portid 146 learning enable status enable** **Entry Created** **$**	5. Apply to execute the commands step by step.
5	**$commit**	6. If this myconfig.cfg will be running after 7. It will be disappear after “reboot config default”.

4.1.3.3 Format of myconfig.cfg

```
verbose off

create atm vc intf ifname aal5-48 lowif atm-0 vpi 8 vci 82
create eoa intf ifname eoa-48 lowif aal5-48
create bridge port intf ifname eoa-48 portid 49 learning enable status enable

create atm vc intf ifname aal5-49 lowif atm-1 vpi 8 vci 82
create eoa intf ifname eoa-49 lowif aal5-49
create bridge port intf ifname eoa-49 portid 50 learning enable status enable
 :
 :
create atm vc intf ifname aal5-94 lowif atm-46 vpi 8 vci 82
create eoa intf ifname eoa-94 lowif aal5-94
create bridge port intf ifname eoa-94 portid 95 learning enable status enable

create atm vc intf ifname aal5-95 lowif atm-47 vpi 8 vci 82
create eoa intf ifname eoa-95 lowif aal5-95
create bridge port intf ifname eoa-95 portid 96 learning enable status enable

create atm vc intf ifname aal5-96 lowif atm-0 vpi 8 vci 83
create eoa intf ifname eoa-96 lowif aal5-96
create bridge port intf ifname eoa-96 portid 97 learning enable status enable

create atm vc intf ifname aal5-97 lowif atm-1 vpi 8 vci 83
create eoa intf ifname eoa-97 lowif aal5-97
create bridge port intf ifname eoa-97 portid 98 learning enable status enable
 :
 :
create atm vc intf ifname aal5-145 lowif atm-47 vpi 8 vci 83
create eoa intf ifname eoa-145 lowif aal5-145
create bridge port intf ifname eoa-145 portid 146 learning enable status enable
```

4.1.4 Line Rate Configuration

This section describes how to configure the transmission rate manually via CLI. Before configuration, see follows.

1. Input the line rate by using hexadecimal values. Following tables shows the hexadecimal values that are frequently used.

Hexadecimal	0x1f38300	0x177000	0x109a00	0x7d000	0x1f400	0xfa00	0x7d00
Decimal	32M	1.5M	1M	512K	128K	64K	32K

2. Be noted that GsStandard, GsTxPowerAtten and GsAnnexType must be modified at the same time.

3. Frequently used commands are listed below for your reference:

- aturintlmaxtxrate 0x7d000 atucgsannextype adsl2 atucgsstandard adsl2plus atucgstxpoweratten 0 atucmaxintldelay 1
- atucfastmintxrate 0xfa00 aturfastmintxrate 0x7d00 atucgsannextype annexa atucgsstandard glite atucgstxpoweratten 0 type fastonly atucrateadaptation fixed

	RATE	**type**	**Standard**	**Annex type**
ATUC	Fixed/ Adaptive	Interleaved / fast only	Adsl2+ / G.dmt / G.lite / T1.413	Adsl2 / annex A
ATUR	Fixed/ Adaptive	Interleaved / fast only	Adsl2+ / G.dmt / G.lite / T1.413	Adsl2 / annex A

4.1.4.1 Configuration

Step 1:

Disable the DSL port that you want to re-configure its transmission rate.

```
$modify adsl line intf ifname dsl-0 disable
IfName                  : dsl-0
Line Type               : interleavedOnly       Coding Type          : dmt
GsUtopia   L2TxAddr   : 0                       GsUtopia L2RxAddr : 0
Gs Clock Type          : oscillator             Gs Action            : startup
Admin Status           : Up                     Oper Status          : Down
Trans Atuc Cap         : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9921IsdnNonOverlapped
q9921isdnOverlapped q9922potsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped q9923Adsl2P
otsNonOverlapped
Trans Atuc Actual     : -
Trans Atuc Config     : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped
q9923Adsl2PotsNonOverlapped
GsDmtTrellis           : trellisOn
Trans Atur Cap         : ansit1413                      q9921PotsOverlapped
q9923Readsl2PotsNonOverlapped q9925Adsl2PlusPotsNonOverlappedq9925Adsl2PlusPotsOverlapped
q9923Adsl2PotsNonOverlapped
PM Conf PMSF           : -
Line DELT Conf LDSF : inhibit

Set Done

IfName                  : dsl-0
Line Type               : interleavedOnly       Coding Type          : dmt
GsUtopia   L2TxAddr   : 0                       GsUtopia L2RxAddr : 0
Gs Clock Type          : oscillator             Gs Action            : startup
Admin Status           : Down                   Oper Status          : Down
Trans Atuc Cap         : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9921IsdnNonOverlapped
q9921isdnOverlapped q9922potsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped q9923Adsl2P
otsNonOverlapped
Trans Atuc Actual     : -
Trans Atuc Config     : q9921PotsNonOverlapped q9925Adsl2PlusPotsNonOverlapped
q9923Adsl2PotsNonOverlapped
GsDmtTrellis           : trellisOn
Trans Atur Cap         : -
```

```
PM Conf PMSF            : -
Line DELT Conf LDSF : inhibit
$
Thu Jan 01 00:01:49 1970 : STATUS ALARM : ADSL ATUC Up : Interface - dsl-1
```

Step 2:

Set the line rate you need.

```
$modify adsl line profile ifname dsl-0 atucintlmaxtxrate 0x177000 aturintlmaxtxrate 0x7d000 atucgsannextype
annexa atucgsstandard glite atucgstxpoweratten 0 atucmaxintldelay 1

IfName                          : dsl-0

ADSL ATUC Configuration :
--------------------------
Rate Adaptation             : adaptAtStartup
Target Snr Margin(dB/10)    : 60            Max Snr Margin(dB/10)       : 310
GsRsIntCorrectionUp         : 125us         Dnshift SnrMargin(dB/10)    : 0
Upshift SnrMargin(dB/10)    : 120           Min Upshift Time(sec)       : 0
Min Dnshift Time(sec)       : 0             Fast Min Tx Rate(bps)       : 0x7d00
Intl Min Tx Rate(bps)       : 0x7d00        Fast Max Tx Rate(bps)       : 0x1f38300
Intl Max Tx Rate(bps)       : 0x1f38300     Max Intl Delay(ms)          : 63
GsTxStartBin                : 0x6           GsTxEndBin                  : 0x1ff
GsRxStartBin                : 0x6           GsRxEndBin                  : 0x1f
GsMaxBitsPerBin             : 15            GsMaxDCo                    : 256
GsRxBinAdjust               : Disable       GsEraseProfiles             : Disable
GsAdi2x                     : standard      GsStandard                  : adsl2PlusAuto
GsInitiate                  : -             GsTxPowerAtten              : 0
GsCodingGain                : Auto          GsRsFastOvrhdDown           : Disable
GsRsIntCorrectionDown       : 1Ms           GsRsFastOvrhdUp             : Disable
GsDrStby                    : Disable       GsExpandedExchange          : Expanded
GsEscapeFastRetrain         : Disable       GsFastRetrain               : Disable
GsBitSwap                   : Enable        GsNtr                       : LocalOcs
GsAnnexType                 : adsl2         GsAlctlUsVer                : Unknown
GsUseCustomBin              : Disable       GsFullRetrain               : Enable
GsPsdMaskType               : Adsl2NonovlpFlatDmtConfMode               : ecMode
GsExtRsMemory               : notpresent    ParamHybridLossTestStart    : 0x2
GsParamHybridLossTestEnd    : 0x40          GsDmtTrellis                : on
GsAdvertisedCapabilities    : AnnexA
GslTriggerMode              : Disable
Type                        : interleavedOnly
```

```
GsDnBinUsage                 : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile    : -
Data Boost                   : Enable           Upstream PSD                 : Standard
Conf PM Mode                 :
Conf PML0 Time(sec)          : 180
Conf PML2 Time(sec)          : 60               Conf PML2 ATPR (dB/10)       : 30
Conf PML2 Min Rate(bps)      : 0xfa000
MSG Min Ds                   : 4000             Minimum Snr Margin(dB/10) : 0
FrontEnd H/W Design          : El1508
H/W Pwr Reduction            : Disable
GsUsBitSwap                  : Enable           Minimum INP                  : InpAuto
PML2 Entry Thresh Rate       : 0x3e800          PML2 Exit Thresh Rate        : 0x7d000
PML2 Entry Rate Min Time     : 1800

ADSL ATUR Configuration :
--------------------------
Target Snr Margin(dB/10)   : 60             Dnshift SnrMargin(dB/10)   : 30
Upshift SnrMargin(dB/10)   : 90             Min Upshift Time(sec)      : 30
Min Dnshift Time(sec)      : 30             Fast Min Tx Rate(bps)      : 0x7d00
Intl Min Tx Rate(bps)      : 0x7d00         Fast Max Tx Rate(bps)      : 0x109a00
Intl Max Tx Rate(bps)      : 0x109a00       Max Intl Delay(ms)         : 16
MSG Min Us                 : 4000           Minimum Snr Margin(dB/10) : 310
Maximum Snr Margin(dB/10) : 310
```

```
Set Done
IfName                       : dsl-0

ADSL ATUC Configuration :
--------------------------
Rate Adaptation              : adaptAtStartup
Target Snr Margin(dB/10)   : 60             Max Snr Margin(dB/10)      : 310
GsRsIntCorrectionUp          : 125us          Dnshift SnrMargin(dB/10)   : 0
Upshift SnrMargin(dB/10)   : 120            Min Upshift Time(sec)      : 0
Min Dnshift Time(sec)      : 0              Fast Min Tx Rate(bps)      : 0x7d00
Intl Min Tx Rate(bps)      : 0x7d00         Fast Max Tx Rate(bps)      : 0x1f38300
Intl Max Tx Rate(bps)      : 0x177000       Max Intl Delay(ms)         : 1
GsTxStartBin                 : 0x6            GsTxEndBin                   : 0x1ff
GsRxStartBin                 : 0x6            GsRxEndBin                   : 0x1f
GsMaxBitsPerBin              : 15             GsMaxDCo                     : 256
GsRxBinAdjust                : Disable        GsEraseProfiles              : Disable
```

```
GsAdi2x                    : standard        GsStandard                 : gLite
GsInitiate                 : -               GsTxPowerAtten             : 0
GsCodingGain               : Auto            GsRsFastOvrhdDown          : Disable
GsRsIntCorrectionDown      : 1Ms             GsRsFastOvrhdUp            : Disable
GsDrStby                   : Disable         GsExpandedExchange         : Expanded
GsEscapeFastRetrain        : Disable         GsFastRetrain              : Disable
GsBitSwap                  : Enable          GsNtr                      : LocalOcs
GsAnnexType                : AnnexA          GsAlctlUsVer               : Unknown
GsUseCustomBin             : Disable         GsFullRetrain              : Enable
GsPsdMaskType              : Adsl2NonovlpFlatDmtConfMode                : ecMode
GsExtRsMemory              : notpresent      ParamHybridLossTestStart   : 0x2
GsParamHybridLossTestEnd   : 0x40            GsDmtTrellis               : on
GsAdvertisedCapabilities   : AnnexA
GslTriggerMode             : Disable
Type                       : interleavedOnly
GsDnBinUsage               : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile    : -
Data Boost                 : Enable          Upstream PSD               : Standard
Conf PM Mode               :
Conf PML0 Time(sec)        : 180
Conf PML2 Time(sec)        : 60              Conf PML2 ATPR (dB/10)     : 30
Conf PML2 Min Rate(bps)    : 0xfa000
MSG Min Ds                 : 4000            Minimum Snr Margin(dB/10) : 0
FrontEnd H/W Design        : El1508
H/W Pwr Reduction          : Disable
GsUsBitSwap                : Enable          Minimum INP                : InpAuto
PML2 Entry Thresh Rate     : 0x3e800         PML2 Exit Thresh Rate      : 0x7d000
PML2 Entry Rate Min Time   : 1800


ADSL ATUR Configuration :
--------------------------
Target Snr Margin(dB/10)   : 60              Dnshift SnrMargin(dB/10)   : 30
Upshift SnrMargin(dB/10)   : 90              Min Upshift Time(sec)      : 30
Min Dnshift Time(sec)      : 30              Fast Min Tx Rate(bps)      : 0x7d00
Intl Min Tx Rate(bps)      : 0x7d00          Fast Max Tx Rate(bps)      : 0x109a00
Intl Max Tx Rate(bps)      : 0x7d000         Max Intl Delay(ms)         : 16
MSG Min Us                 : 4000            Minimum Snr Margin(dB/10) : 310
Maximum Snr Margin(dB/10) : 310
```

Step 3:

Enable the port

```
$modify adsl line intf ifname dsl-0 enable


IfName                  : dsl-0
Line Type               : interleavedOnly       Coding Type          : dmt
GsUtopia   L2TxAddr   : 0                       GsUtopia L2RxAddr : 0
Gs Clock Type           : oscillator            Gs Action            : startup
Admin Status            : Down                  Oper Status          : Down
Trans Atuc Cap          : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9921IsdnNonOverlapped
q9921isdnOverlapped q9922potsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped q9923Adsl2P
otsNonOverlapped
Trans Atuc Actual     : -
Trans Atuc Config     : q9921PotsNonOverlapped q9925Adsl2PlusPotsOverlapped
GsDmtTrellis            : trellisOn
Trans Atur Cap          : -
PM Conf PMSF            : -
Line DELT Conf LDSF : inhibit


Set Done


IfName                  : dsl-0
Line Type               : interleavedOnly       Coding Type          : dmt
GsUtopia   L2TxAddr   : 0                       GsUtopia L2RxAddr : 0
Gs Clock Type           : oscillator            Gs Action            : startup
Admin Status            : Up                    Oper Status          : Down
Trans Atuc Cap          : ansit1413 q9921PotsNonOverlapped q9921PotsOverlapped q9921IsdnNonOverlapped
q9921isdnOverlapped q9922potsOverlapped q9923Readsl2PotsNonOverlapped
q9925Adsl2PlusPotsNonOverlapped q9925Adsl2PlusPotsOverlapped q9923Adsl2P
otsNonOverlapped
Trans Atuc Actual     : -
Trans Atuc Config     : q9921PotsNonOverlapped q9925Adsl2PlusPotsOverlapped
GsDmtTrellis            : trellisOff
Trans Atur Cap          : -
PM Conf PMSF            : -
Line DELT Conf LDSF : inhibit
```

4.1.5 Set System Time

IDL series support SNTP (Simple Network Time Protocol), used to synchronize its clocks in the Internet. IP DSLAM will get the system time via SNTP server while a SNTP sever is created.

4.1.5.1 Configuration

Follow the steps below to set the SNTP server.

Note:
System time will lost while the system is powered off.

Step 1:
Set the IP DSLAM as the SNTP client

```
$create sntp?

Command            Description

-------            -----------

servaddr           SNTP Server address

$create sntp servaddr 192.168.100.253


Entry Created


Server Addr : 192.168.100.253 Status : active
```

Step 2:
Enable SNTP client

```
$modify sntp cfg enable


Status : Disable


Set Done


Status : Enable

$
```

Step 3:

Confirm the status of SNTP client

```
$get sntp stats


Requests count          : 1          Response count        : 1
Invalid Response count : 0          Lost Response count : 0
Last Time Stamp [MM/DD/YYYY::HH:MM:SS] : Thu Apr 29 10:24:36 2004
```

Option 2: Set up the system time manually.

Step 1:

View the system information

```
$get system info


Description          :
Name                 :
Location             :
Contact              :
Vendor               :
LogThreshold         : 0
Object-id            : 1.3.6.1.4.1.3278.1.12
Up Time(HH:MM:SS) : 0:4:46
HwVersion            : ADSL-1.0
CPLDVersion          : 1.4
CPSwVersion          : COL2.6.1.0.040412
CPSwVersion(Build)   : 1.00.040407-ADSL
DPSwVersion          : DP_B02_06_22_05
System Time          : Thu Jan 01 00:04:46 1970
Time Zone            : GMT
DST                  : off
Services             : physical datalink internet end-to-end end-to-end end-to-end applications
$
```

Step 2:

Get SNTP parameter definitions

```
$modify system info?

Parameter                          Description

---------                          -----------

[ contact "<name>" ]               Identification of the contact person

[ name "<name>" ]                  Name of the system

[ location "<name>" ]              The physical location of this node

[ vendor "<name>" ]                Vendor-specific information

[ logthresh <decvalue> ]           The severity level of trap

[ systime "<sys-time>" ]           SysTime in format mon dd hh:mm:ss year

[ dst <on | off> ]                 Daylight Saving Time

[ timezone "<timezone>" ]          Time Zone

_____________________________________________________________

Valid System Time Zone : IDLW|NT|HST|CAT|AHST|YST|PST|MST|CST|EST|AST|NFST|

                         NFT|BRST|AT|WAT|GMT|UTC|WET|CET|FWT|MET|MEWT|SWT|

                         EET|IST|BT|IT|ZP4|ZP5|INST|ZP6|NST|WAST|SSMT|JT|

                         CCT|ROK|KST|JST|CAST|EAST|GST|IDLE|NZST|NZT
```

Step 3:

Set up system time and time zone

```
$modify system info systime " May 10 10:17:00 2004" timezone "CCT"


Description          :

Name                 :

Location             :

Contact              :

Vendor               :

LogThreshold         : 0

Object-id            : 1.3.6.1.4.1.3278.1.12

Up Time(HH:MM:SS) : 0:13:18

HwVersion            : ADSL-1.0

CPLDVersion          : 1.4

CPSwVersion          : COL2.6.1.0.040412

CPSwVersion(Build): 1.00.040407-ADSL

DPSwVersion          : DP_B02_06_22_05

System Time          : Mon May 10 10:17:23 2004

Time Zone            : GMT

DST                  : off

Services             : physical datalink internet end-to-end end-to-end end-to-end applications
```

Set Done

Description :

Name :

Location :

Contact :

Vendor :

LogThreshold : 0

Object-id : 1.3.6.1.4.1.3278.1.12

Up Time(HH:MM:SS) : 0:13:18

HwVersion : ADSL-1.0

CPLDVersion : 1.4

CPSwVersion : COL2.6.1.0.040412

CPSwVersion(Build) : 1.00.040407-ADSL

DPSwVersion : DP_B02_06_22_05

System Time : Mon May 10 10:17:00 2004

Time Zone : CCT

DST : off

Services : physical datalink internet end-to-end end-to-end end-to-end applications

4.1.6 VLAN Configuration

IP series support port-based VLAN, and Group VLAN. This section describes how to create two VLAN groups (VLAN ID = 2, and 3). ADSL ports 1 & 2 (PVC 8/81) will join in VLAN group 2, and create new PVC (8/82) for ADSL1, and assign this PVC to VLAN group 3. Besides, uplink interface ETH-0 will join VLAN group 2 & 3 as trunk interface.

4.1.6.1 Configuration

Step 1:
Create a VLAN group No.2, and assign to Bridge port 1(ADSL port 1 PVC 8/81), and 385(Eth-0)

```
$create vlan static vlanname vlan2 vlanid 2 egressports 1 385 untaggedports 1


Entry Created


VLAN Name                    : vlan2
VLAN Index                   : 2
Egress ports                 : 1       385
Forbidden Egress Ports       : None
Untagged Ports               : 1
Bridging Mode                : Residential
Flood support Status         : enable
Broadcast support Status     : enable
$
```

Step 2:
Set Bridge port 1(ADSL port 1 PVC 8/81) as PVID 2

```
$modify gvrp port info portid 1 portvlanid 2 acceptframetypes all ingressfilteri ng true


Port Id                  : 1
Port VLAN Index          : 1          Accept Frame Types: All
Ingress Filtering        : False      Gvrp Status       : Disable
Failed Registrations     : 0          Last Pdu Origin   : 00:00:00:00:00:00
Restricted Vlan Registration  : False


Set Done


Port Id                  : 1
Port VLAN Index          : 2          Accept Frame Types: All
```

```
Ingress Filtering          : True        Gvrp Status        : Disable
Failed Registrations       : 0           Last Pdu Origin    : 00:00:00:00:00:00
Restricted Vlan Registration : False
$
```

Step 3:

Show current VLAN status

```
$get vlan curr info

VLAN Index          : 1
VLAN Status         : Other
Egress ports        : 1   2   3   4   5   6   7   8   9   10  11  12  13
 14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30
   31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46
4
7   48   385
Untagged Ports      : 1   2   3   4   5   6   7   8   9   10  11  12  13
 14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30
   31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46
4
7   48   385
Bridging Mode       : Residential
Flood support Status    : enable
Broadcast support Status  : enable

VLAN Index          : 2
VLAN Status         : permanent
Egress ports        : 1   385
Untagged Ports      : 1
Bridging Mode       : Residential
Flood support Status    : enable
Broadcast support Status  : enable

VLAN Index          : 3
VLAN Status         : permanent
Egress ports        : 2   385
Untagged Ports      : 2
Bridging Mode       : Residential
Flood support Status    : enable
Broadcast support Status  : enable
```

Step 4:

Create new PVC (8/82) in ADSL port 1

- Create atm vc and aal5 interface

```
$create atm vc intf ifname aal5-48 lowif atm-0 vpi 8 vci 82


Entry Created


VC IfName       : aal5-48                  Low IfName          : atm-0
VPI             : 8                        VCI                 : 82
Admin Status    : Up                       Oper Status         : Up
Aal5 Tx Size    : 1536                     Aal5 Rx Size        : 1536
AAL Type        : AAL5                     AAL5 Encap          : LLC Mux
Channel         : Interleaved              Last Change (sec)   : 0
MgmtMode        : Data                     Row Status          : active
VC Type         : PVC                      VC Topology         : Point to Point
```

- Create eoa interface

```
$create eoa intf ifname eoa-48 lowif aal5-48


Entry Created


IfName          : eoa-48                   LowIfName      : aal5-48
FCS             : False
Pkt Type        : ALL
Oper Status     : Up                       Admin Status   : Up
```

Step 5:

Create a new bridge port 49, and maps to new created PVC 8/82 in ADSL port 1.

```
$create bridge port intf ifname eoa-48 portid 49 learning enable status enable


Entry Created


Port Id                    : 49             IfName              : eoa-48
Max Unicast Addresses : 16                  Learning Status     : Enable
Port Oper Status           : Enable         Port Admin Status: Enable
Sticky Status              : Disable        FDB Modify          : Enable
Acl Global Deny Apply : Enable
Acl Global Track Apply: Enable
```

Step 6:

Create a new VLAN group No.3, and assign to Bridge port 49(ADSL port 1 PVC 8/82), and 385(Eth-0)

```
$create vlan static vlanname vlan3 vlanid 3 egressports 49 385 untaggedports 49


Entry Created


VLAN Name                    : vlan3
VLAN Index                   : 3
Egress ports                 : 49      385
Forbidden Egress Ports       : None
Untagged Ports               : 49
Bridging Mode                : Residential
Flood support Status         : enable
Broadcast support Status     : enable
```

Step 7:

Set Bridge port 49(ADSL port 1 PVC 8/82) as PVID 3

```
$modify gvrp port info portid 49 portvlanid 3 acceptframetypes all ingressfiltering true


Port Id                      : 49
Port VLAN Index              : 1          Accept Frame Types: All
Ingress Filtering            : False      Gvrp Status         : Disable
Failed Registrations         : 0          Last Pdu Origin     : 00:00:00:00:00:00
Restricted Vlan Registration: False

Set Done


Port Id                      : 49
Port VLAN Index              : 3          Accept Frame Types: All
Ingress Filtering            : True       Gvrp Status         : Disable
Failed Registrations         : 0          Last Pdu Origin     : 00:00:00:00:00:00
Restricted Vlan Registration: False
```

Step 8:

Modify the VLAN group 2, and add Bridge port 2 (ADSL port 2 PVC 8/81)

```
$modify vlan static vlanname vlan2 egressports 1 2 385 untaggedports 1 2

VLAN Name                    : vlan2
VLAN Index                   : 2
Egress ports                   : 1       385
Forbidden Egress Ports          : None
Untagged Ports                 : 1
Bridging Mode                : Residential
Flood support Status            : enable
Broadcast support Status          : enable

Set Done

VLAN Name                    : vlan2
VLAN Index                   : 2
Egress ports                   : 1       2       385
Forbidden Egress Ports          : None
Untagged Ports                 : 1       2
Bridging Mode                : Residential
Flood support Status            : enable
Broadcast support Status          : enable
```

Step 9:

Add port3 to vlan2 use vlanid index

```
$modify vlan static vlanid 2 egressports 1 2 3 385 untaggedports 1 2 3
VLAN Name                    : vlan2
VLAN Index                   : 2
Egress ports                   : 1       2       385
Forbidden Egress Ports          : None
Untagged Ports                 : 1       2
Bridging Mode                : Residential
Flood support Status            : enable
Broadcast support Status          : enable

Set Done

VLAN Name                    : vlan2
VLAN Index                   : 2
```

```
Egress ports                    : 1      2      3      385
Forbidden Egress Ports          : None
Untagged Ports                  : 1      2      3
Bridging Mode                   : Residential
Flood support Status            : enable
Broadcast support Status        : enable
```

Step 10:

Modify the VLAN from 8/81 to 0/35

- Set the AAL5 strat number is 0

```
$modify atm vc intf ifname aal5-1 disable


VC IfName      : aal5-1          Low IfName        : atm-1
VPI            : 8               VCI               : 81
Admin Status   : Up              Oper Status       : Down
Aal5 Tx Size   : 1536            Aal5 Rx Size      : 1536
AAL Type       : AAL5            AAL5 Encap        : LLC Mux
Channel        : Interleaved     Last Change (sec) : 0
MgmtMode       : Data            Row Status        : active
VC Type        : PVC             VC Topology       : Point to Point

Set Done

VC IfName      : aal5-1          Low IfName        : atm-1
VPI            : 8               VCI               : 81
Admin Status   : Down            Oper Status       : Down
Aal5 Tx Size   : 1536            Aal5 Rx Size      : 1536
AAL Type       : AAL5            AAL5 Encap        : LLC Mux
Channel        : Interleaved     Last Change (sec) : 0
MgmtMode       : Data            Row Status        : active
VC Type        : PVC             VC Topology       : Point to Point
```

- (Set VPI / VCI is 0 / 35)

```
$modify atm vc intf ifname aal5-1 vpi 0 vci 35


VC IfName      : aal5-1          Low IfName        : atm-1
VPI            : 8               VCI               : 81
Admin Status   : Down            Oper Status       : Down
Aal5 Tx Size   : 1536            Aal5 Rx Size      : 1536
AAL Type       : AAL5            AAL5 Encap        : LLC Mux
Channel        : Interleaved     Last Change (sec) : 0
```

```
MgmtMode        : Data                  Row Status          : active
VC Type         : PVC                   VC Topology         : Point to Point

Set Done

VC IfName       : aal5-1                Low IfName          : atm-1
VPI             : 0                     VCI                 : 35
Admin Status    : Down                  Oper Status         : Down
Aal5 Tx Size    : 1536                  Aal5 Rx Size        : 1536
AAL Type        : AAL5                  AAL5 Encap          : LLC Mux
Channel         : Interleaved           Last Change (sec)   : 0
MgmtMode        : Data                  Row Status          : active
VC Type         : PVC                   VC Topology         : Point to Point
```

Step 11:

Set AAL5 as enable

```
$modify atm vc intf ifname aal5-1 enable

VC IfName       : aal5-1                Low IfName          : atm-1
VPI             : 0                     VCI                 : 35
Admin Status    : Down                  Oper Status         : Down
Aal5 Tx Size    : 1536                  Aal5 Rx Size        : 1536
AAL Type        : AAL5                  AAL5 Encap          : LLC Mux
Channel         : Interleaved           Last Change (sec)   : 0
MgmtMode        : Data                  Row Status          : active
VC Type         : PVC                   VC Topology         : Point to Point

Set Done

VC IfName       : aal5-1                Low IfName          : atm-1
VPI             : 0                     VCI                 : 35
Admin Status    : Up                    Oper Status         : Down
Aal5 Tx Size    : 1536                  Aal5 Rx Size        : 1536
AAL Type        : AAL5                  AAL5 Encap          : LLC Mux
Channel         : Interleaved           Last Change (sec)   : 0
MgmtMode        : Data                  Row Status          : active
VC Type         : PVC                   VC Topology         : Point to P
```

4.1.7 Modify the Downstream/Upstream Rate

4.1.7.1 Configuration

Step 1:

Set ADSL port12 disable

```
$modify adsl line intf disable ifname dsl-11


IfName                  : dsl-11
Line Type               : interleavedOnly       Coding Type           : dmt
GsUtopia   L2TxAddr : 26                    GsUtopia L2RxAddr   : 26
Gs Clock Type          : oscillator            Gs Action             : startup
Admin Status           : Up                    Oper Status           : Up
Trans Atuc Cap         : ansit1413                          q9921PotsNonOverlapped
 q9921PotsOverlapped              q9921IsdnNonOverlapped          q9921isdnOverlapped
              q9922potsOverlapped              q9922Adsl2PlusPotsNonOverlappedq9922Ads
l2PlusPotsOverlapped   q9922Adsl2PotsNonOverlapped
Trans Atuc Actual   : q9922Adsl2PlusPotsNonOverlapped
GsDmtTrellis           : trellisOn
Trans Atur Cap         : q9922Adsl2PlusPotsNonOverlappedq9922Adsl2PlusPotsOverlappe
d   q9922Adsl2PotsNonOverlapped
PM Conf PMSF           : idleop
Line DELT Conf LDSF    : inhibit


Set Done


Thu Jan 01 07:19:36 1970 : MAJOR ALARM : ADSL ATUC Down : Interface - dsl-11


IfName                  : dsl-11
Line Type               : interleavedOnly       Coding Type           : dmt
GsUtopia   L2TxAddr : 26                    GsUtopia L2RxAddr : 26
Gs Clock Type          : oscillator            Gs Action             : startup
Admin Status           : Down                  Oper Status           : Down
Trans Atuc Cap         : ansit1413                          q9921PotsNonOverlapped
 q9921PotsOverlapped              q9921IsdnNonOverlapped          q9921isdnOverlapped
              q9922potsOverlapped              q9922Adsl2PlusPotsNonOverlappedq9922Ads
l2PlusPotsOverlapped   q9922Adsl2PotsNonOverlapped
Trans Atuc Actual      : -
GsDmtTrellis           : trellisOn
Trans Atur Cap         : -
PM Conf PMSF           : idleop
```

```
Line DELT Conf LDSF : inhibit
```

Step 2:

Set ADSL port 12 interleave mode Downstream 512K. The value is hex so you must conversion to decimal.

```
$modify adsl line profile atucintlmaxtxrate 0x7d000 ifname dsl-11


IfName                        : dsl-11
ADSL ATUC Configuration :
--------------------------
Rate Adaptation             : adaptAtStartup
Target Snr Margin(dB/10)    : 60              Max Snr Margin(dB/10)     : 310
GsRsIntCorrectionUp         : 125us           Dnshift SnrMargin(dB/10): 0
Upshift SnrMargin(dB/10) : 120                Min Upshift Time(sec)     : 0
Min Dnshift Time(sec)     : 0                 Fast Min Tx Rate(bps)     : 0x7d00
Intl Min Tx Rate(bps)     : 0x7d00            Fast Max Tx Rate(bps)     : 0x1f38300
Intl Max Tx Rate(bps)     : 0x1f38300         Max Intl Delay(ms)        : 0
GsTxStartBin                : 0x20            GsTxEndBin                : 0x1ff
GsRxStartBin                : 0x6             GsRxEndBin                : 0x1f
GsMaxBitsPerBin             : 15              GsMaxDCo                  : 256
GsRxBinAdjust               : Disable         GsEraseProfiles           : Disable
GsAdi2x                     : standard        GsStandard                : adsl2Plus
GsInitiate                  : -               GsTxPowerAtten            : -
GsCodingGain                : Auto            GsRsFastOvrhdDown         : 1
GsRsIntCorrectionDown     : 1Ms               GsRsFastOvrhdUp           : 1
GsDrStby                    : Disable         GsExpandedExchange        : Expanded
GsEscapeFastRetrain         : Disable         GsFastRetrain             : Disable
GsBitSwap                   : Enable          GsNtr                     : LocalOcs
GsAnnexType                 : adsl2           GsAlctlUsVer              : Unknown
GsUseCustomBin              : Disable         GsFullRetrain             : Enable
GsPsdMaskType               : -               DmtConfMode               : fdmMode
GsExtRsMemory               : notpresent      ParamHybridLossTestStart  : 0x2
GsParamHybridLossTestEnd    : 0x40            GsDmtTrellis              : on
GsAdvertisedCapabilities    : AnnexA
GslTriggerMode              : Disable
Type                        : interleavedOnly
GsDnBinUsage                : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile     : -
Data Boost                  : Enable          Upstream PSD              : Standard
Conf PM Mode                : pmstatel3enable   pmstatel2enable
```

```
Conf PML0 Time(sec)        : 180
Conf PML2 Time(sec)        : 180                Conf PML2 ATPR (dB/10)    : 30
Conf PML2 Rate(bps)        : 0x10000
Conf GsREADSL2 Enable      : disable

ADSL ATUR Configuration :
--------------------------
Target Snr Margin(dB/10): 60                    Dnshift SnrMargin(dB/10): 0
Upshift SnrMargin(dB/10): 120                   Min Upshift Time(sec)     : 0
Min Dnshift Time(sec)     : 0                   Fast Min Tx Rate(bps)     : 0x7d00
Intl Min Tx Rate(bps)     : 0x7d00              Fast Max Tx Rate(bps)     : 0x109a00
Intl Max Tx Rate(bps)     : 0x109a00            Max Intl Delay(ms)        : 16
_____________________________________________________________________

Set Done

IfName                     : dsl-11
ADSL ATUC Configuration :
--------------------------
Rate Adaptation            : adaptAtStartup
Target Snr Margin(dB/10): 60                    Max Snr Margin(dB/10)     : 310
GsRsIntCorrectionUp        : 125us              Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10): 120                   Min Upshift Time(sec)     : 0
Min Dnshift Time(sec)     : 0                   Fast Min Tx Rate(bps)     : 0x7d00
Intl Min Tx Rate(bps)     : 0x7d00              Fast Max Tx Rate(bps)     : 0x1f38300
Intl Max Tx Rate(bps)     : 0x7d000             Max Intl Delay(ms)        : 0
GsTxStartBin               : 0x20               GsTxEndBin                : 0x1ff
GsRxStartBin               : 0x6                GsRxEndBin                : 0x1f
GsMaxBitsPerBin            : 15                 GsMaxDCo                  : 256
GsRxBinAdjust              : Disable            GsEraseProfiles           : Disable
GsAdi2x                    : standard           GsStandard                : adsl2Plus
GsInitiate                 : -                  GsTxPowerAtten            : -
GsCodingGain               : Auto               GsRsFastOvrhdDown         : 1
GsRsIntCorrectionDown      : 1Ms                GsRsFastOvrhdUp           : 1
GsDrStby                   : Disable            GsExpandedExchange        : Expanded
GsEscapeFastRetrain        : Disable            GsFastRetrain             : Disable
GsBitSwap                  : Enable             GsNtr                     : LocalOcs
GsAnnexType                : adsl2              GsAlctlUsVer              : Unknown
GsUseCustomBin             : Disable            GsFullRetrain             : Enable
GsPsdMaskType              : -                  DmtConfMode               : fdmMode
GsExtRsMemory              : notpresent         ParamHybridLossTestStart  : 0x2
```

```
GsParamHybridLossTestEnd   : 0x40                GsDmtTrellis              : on
GsAdvertisedCapabilities      : AnnexA
GslTriggerMode              : Disable
Type                        : interleavedOnly
GsDnBinUsage                : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost                  : Enable            Upstream PSD              : Standard
Conf PM Mode                : pmstatel3enable   pmstatel2enable
Conf PML0 Time(sec)         : 180
Conf PML2 Time(sec)         : 180               Conf PML2 ATPR (dB/10)    : 30
Conf PML2 Rate(bps)         : 0x10000
Conf GsREADSL2 Enable    : disable

ADSL ATUR Configuration :
--------------------------
Target Snr Margin(dB/10) : 60               Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10) : 120              Min Upshift Time(sec)     : 0
Min Dnshift Time(sec)     : 0               Fast Min Tx Rate(bps)     : 0x7d00
Intl Min Tx Rate(bps)     : 0x7d00          Fast Max Tx Rate(bps)     : 0x109a00
Intl Max Tx Rate(bps)     : 0x109a00        Max Intl Delay(ms)        : 16
```

Step 3:

Set ADSL port12 interleave mode upstream 512K. The value is hex so you must conversion to decimal.

```
$modify adsl line profile aturintlmaxtxrate 0x7d000 ifname dsl-11


IfName                      : dsl-11
ADSL ATUC Configuration :
----------------------------
Rate Adaptation             : adaptAtStartup
Target Snr Margin(dB/10)    : 60              Max Snr Margin(dB/10)     : 310
GsRsIntCorrectionUp         : 125us           Dnshift SnrMargin(dB/10)  : 0
Upshift SnrMargin(dB/10)    : 120             Min Upshift Time(sec)     : 0
Min Dnshift Time(sec)       : 0               Fast Min Tx Rate(bps)     : 0x7d00
Intl Min Tx Rate(bps)       : 0x7d00          Fast Max Tx Rate(bps)     : 0x1f38300
Intl Max Tx Rate(bps)       : 0x1f38300       Max Intl Delay(ms)        : 0
GsTxStartBin                : 0x20            GsTxEndBin                : 0x1ff
GsRxStartBin                : 0x6             GsRxEndBin                : 0x1f
GsMaxBitsPerBin             : 15              GsMaxDCo                  : 256
GsRxBinAdjust               : Disable         GsEraseProfiles           : Disable
```

GsAdi2x : standard GsStandard : adsl2Plus

GsInitiate : - GsTxPowerAtten : -

GsCodingGain : Auto GsRsFastOvrhdDown : 1

GsRsIntCorrectionDown : 1Ms GsRsFastOvrhdUp : 1

GsDrStby : Disable GsExpandedExchange : Expanded

GsEscapeFastRetrain : Disable GsFastRetrain : Disable

GsBitSwap : Enable GsNtr : LocalOcs

GsAnnexType : adsl2 GsAlctlUsVer : Unknown

GsUseCustomBin : Disable GsFullRetrain : Enable

GsPsdMaskType : - DmtConfMode : fdmMode

GsExtRsMemory : notpresent ParamHybridLossTestStart : 0x2

GsParamHybridLossTestEnd : 0x40 GsDmtTrellis : on

GsAdvertisedCapabilities : AnnexA

GslTriggerMode : Disable

Type : interleavedOnly

GsDnBinUsage : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF

FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF

ParametricTestInputFile : -

Data Boost : Enable Upstream PSD : Standard

Conf PM Mode : pmstatel3enable pmstatel2enable

Conf PML0 Time(sec) : 180

Conf PML2 Time(sec) : 180 Conf PML2 ATPR (dB/10) : 30

Conf PML2 Rate(bps) : 0x10000

Conf GsREADSL2 Enable : disable

ADSL ATUR Configuration :

Target Snr Margin(dB/10): 60 Dnshift SnrMargin(dB/10): 0

Upshift SnrMargin(dB/10): 120 Min Upshift Time(sec) : 0

Min Dnshift Time(sec) : 0 Fast Min Tx Rate(bps) : 0x7d00

Intl Min Tx Rate(bps) : 0x7d00 Fast Max Tx Rate(bps) : 0x109a00

Intl Max Tx Rate(bps) : 0x109a00 Max Intl Delay(ms) : 16

Set Done

IfName : dsl-11

ADSL ATUC Configuration :

Rate Adaptation : adaptAtStartup

```
Target Snr Margin(dB/10): 60                Max Snr Margin(dB/10)    : 310
GsRsIntCorrectionUp       : 125us           Dnshift SnrMargin(dB/10): 0
Upshift SnrMargin(dB/10): 120               Min Upshift Time(sec)    : 0
Min Dnshift Time(sec)     : 0               Fast Min Tx Rate(bps)    : 0x7d00
Intl Min Tx Rate(bps)     : 0x7d00          Fast Max Tx Rate(bps)    : 0x1f38300
Intl Max Tx Rate(bps)     : 0x1f38300       Max Intl Delay(ms)       : 0
GsTxStartBin              : 0x20            GsTxEndBin               : 0x1ff
GsRxStartBin              : 0x6             GsRxEndBin               : 0x1f
GsMaxBitsPerBin           : 15              GsMaxDCo                 : 256
GsRxBinAdjust             : Disable         GsEraseProfiles          : Disable
GsAdi2x                   : standard        GsStandard               : adsl2Plus
GsInitiate                : -               GsTxPowerAtten           : -
GsCodingGain              : Auto            GsRsFastOvrhdDown        : 1
GsRsIntCorrectionDown     : 1Ms             GsRsFastOvrhdUp          : 1
GsDrStby                  : Disable         GsExpandedExchange       : Expanded
GsEscapeFastRetrain       : Disable         GsFastRetrain            : Disable
GsBitSwap                 : Enable          GsNtr                    : LocalOcs
GsAnnexType               : adsl2           GsAlctlUsVer             : Unknown
GsUseCustomBin            : Disable         GsFullRetrain            : Enable
GsPsdMaskType             : -               DmtConfMode              : fdmMode
GsExtRsMemory             : notpresent      ParamHybridLossTestStart: 0x2
GsParamHybridLossTestEnd: 0x40              GsDmtTrellis             : on
GsAdvertisedCapabilities: AnnexA
GslTriggerMode            : Disable
Type                      : interleavedOnly
GsDnBinUsage              : 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost                : Enable          Upstream PSD             : Standard
Conf PM Mode              : pmstatel3enable  pmstatel2enable
Conf PML0 Time(sec)       : 180
Conf PML2 Time(sec)       : 180             Conf PML2 ATPR (dB/10)   : 30
Conf PML2 Rate(bps)       : 0x10000
Conf GsREADSL2 Enable     : disable

ADSL ATUR Configuration :
--------------------------
Target Snr Margin(dB/10): 60                Dnshift SnrMargin(dB/10): 0
Upshift SnrMargin(dB/10): 120               Min Upshift Time(sec)    : 0
Min Dnshift Time(sec)     : 0               Fast Min Tx Rate(bps)    : 0x7d00
Intl Min Tx Rate(bps)     : 0x7d00          Fast Max Tx Rate(bps)    : 0x109a00
```

```
Intl Max Tx Rate(bps)     : 0x7d000          Max Intl Delay(ms)        : 16
```

Step 4:

Set ADSL port12 enable.

```
$modify adsl line intf enable ifname dsl-11


IfName                  : dsl-11
Line Type               : interleavedOnly          Coding Type          : dmt
GsUtopia   L2TxAddr : 26                    GsUtopia L2RxAddr : 26
Gs Clock Type           : oscillator               Gs Action            : startup
Admin Status            : Down                     Oper Status          : Down
Trans Atuc Cap          : ansit1413                          q9921PotsNonOverlapped
 q9921PotsOverlapped              q9921IsdnNonOverlapped          q9921isdnOverlapped
              q9922potsOverlapped              q9922Adsl2PlusPotsNonOverlappedq9922Ads
l2PlusPotsOverlapped   q9922Adsl2PotsNonOverlapped
Trans Atuc Actual    : -
GsDmtTrellis            : trellisOn
Trans Atur Cap          : -
PM Conf PMSF            : idleop
Line DELT Conf LDSF : inhibit


Set Done


IfName                  : dsl-11
Line Type               : interleavedOnly          Coding Type          : dmt
GsUtopia   L2TxAddr : 26                    GsUtopia L2RxAddr : 26
Gs Clock Type           : oscillator               Gs Action            : startup
Admin Status            : Up                       Oper Status          : Down
Trans Atuc Cap          : ansit1413                          q9921PotsNonOverlapped
 q9921PotsOverlapped              q9921IsdnNonOverlapped          q9921isdnOverlapped
              q9922potsOverlapped              q9922Adsl2PlusPotsNonOverlappedq9922Ads
l2PlusPotsOverlapped   q9922Adsl2PotsNonOverlapped
Trans Atuc Actual    : -
GsDmtTrellis            : trellisOn
Trans Atur Cap          : -
PM Conf PMSF            : idleop
Line DELT Conf LDSF : inhibit
```

4.1.8 Enable SNMP Function

4.1.8.1 Configuration

Step 1:

Create SNMP community

```
$create snmp comm community public rw


Entry Created


Community               Access
-------------------------
public                  RW
```

Setp 2:

Create SNMP host

```
$create snmp host ip 192.168.100.55 community public


Entry Created


Host Address                    Community
-----------------------------------
192.168.100.55                  public
$
```

Setp 3:

Create SNMP traphost

```
$create snmp traphost ip 192.168.100.55 community public


Entry Created


Ip Address : 192.168.100.55
Community   : public
Port        : 162           Version : v2c
```

5. System Administration with CLI

5.1 About CLI Administration

Command Line Interface (CLI) is the primary user interface to administrate the system. CLI can be accessed either from the CID port or telnet session. All CLI commands are simple strings designed for the Administrator to manage your IP DSLAM easily.

5.1.1 Notation Conventions

- Keywords in a command that you must enter exactly as shown are presented in bold.
- User specified values in a command are presented in regular typeface, i.e., not bold or italic.
- Parameter values enclosed in < > must be specified.
- Parameters enclosed in [ ] are optional. All modify parameters are shown as optional in CLI commands even if there exists only a single parameter.
- Parameter values are separated by a vertical bar ì|î only when one of the specified values can be used.
- Parameter values are enclosed in { } when you must use one of the values specified.
- Parameters are enclosed in [ ] + when you can specify the parameter one or more times, in the command line.

5.1.2 Command Structure

CLI commands conform to the following structure except for some basic service com-mands such as ping, traceroute etc.

<Action>:

This is the first keyword of a CLI command. It indicates the type of operation to be performed. "create" is an example of this keyword. However, if no action is specified it will mean ìmodifyî. For example, modify bridge port intf portid portid status enable and bridge port intf portid portid status enable ì mean the same.

<Group>:

This is the second keyword of a CLI command. It indicates the group of a CLI command. "Bridge" is an example of this keyword.

<Sub group>:
This is the third keyword of a CLI command. It indicates the sub group of a CLI command. "Port" is an example of this keyword.

<Sub sub group>:
This is the fourth keyword of a CLI command. It indicates the sub group of a CLI command. "intf" is an example of this keyword.

<tag1 value1> <tagN valueN>:
These are <tag value> pairs and can vary from 0 to N. They indicate the parameter values passed to a CLI command. "ifname aal5-0", "portid 20", are examples of tag value pairs.

5.1.3 Glossary of Terms and Acronyms

This section contains a brief list of selected acronyms.

Abbreviation	Description
AAL5	ATM Adaptation Layer 5
ACL	Access Control list
ADSL	Asymmetric Digital Subscriber Line
Attribute	An element of an MO
ATM	Asynchronous Transmission Mode
CLI	Command Line Interface
CP	Control Plane
DHCP	Dynamic Host Configuration Protocol
DP	Data Plane
DRA	DHCP Relay Agent
DSL	Digital Subscriber Line
EOA	Ethernet over ATM
GARP	Generic Attribute Registration Protocol
GMRP	GARP Multicast Registration Protocol
GVRP	GARP VLAN Regenration Protocol
IGMP	InternetGroup Management Protocol
Index	An element of a tabular MO that uniquely identifies an entry
IP	Internet protocol
IRL	Input Rate Limiting
IVL	Individual VLAN Learning
IVM	Individual VLAN for Multicast
LACP	Link Aggregation Control Protocol
LAN	Local Area Network
ME - Management Entity	The entity, modified, controlled and monitored through MOs.
MO ID - MO Identifier	A unique number that identifies an MO. Interpretation of the information passed to GenAg for an MO depends upon this identifier
MO - Managed Object	Logical unit of manageable information. It is similar to a MIB. An ME is visible to the outside world in the form of one or more MOs that constitute it.
Operations	GAG supports five operations - Create, Delete, Modify, Get, Get-Next
ORL	Output Rate Limiting

OAM	Operations Administration and Management
PIA	PPPoE Intermediate Agent
RMON	Remote Monitoring
STP	Spanning Tree Protocol
SNTP	Simple Network Time Protocol
SVL	Shared VLAN Learning
SVM	Shared VLAN for Multicast
Specific Agent	Entities that use GenAg interfaces to manage the system
TEA	Target Engine Agent
VC	Virtual Channel
VLAN	Virtual LAN

5.1.4 CLI Command Brief Description

CLI Command - Action List

<action>	Description
alias	Used to create an alias for any CLI command.
apply	Used to apply a configuration file stored on the system
climode	Modes of cli/Prio change of CLI task
commit	Used to commit the active configuration to the flash.
Create	Used to create configuration of objects corresponding to the identifier and parameters.
delete	Used to delete configuration of objects corresponding to the identifier and parameters. If the delete action is confirmed, the configuration of objects will no longer exist.
defragment	Defragment the compact blocks in flash
download	Used to download a binary, configuration or user specific file from theremote host.
get	Used to view information of the selected identifier and parameters.
help	Used to view the detailed usage of CLI commands.
list	Used to list the Configuration or binary files stored on the unit
logout	Used to terminate the CLI.
memset	Specify the length of memory set
modify	Used to set or modify existing configuration of objects corresponding to the identifier and parameters.
passwd	Used to change the password associated with a user login.
permission	Use this command to change the permission of the files stored on flash
Ping	Used to send one or more ICMP messages to another host for a reply.
prompt	Used to set the new CLI prompt.
rdf	Used to read Flash
rdm	Used to read Memory
reboot	Used to restart the system.
remove	Used to remove a configuration or binary file stored on the unit
reset	Used to reset a port of system.
save	Used to save the configuration to Flash RAM.
Sync	Used to Sync
traceroute	Used to trace the route to the specified destination.
unalias	Used to delete an alias.
upgrade	Used to upgrade a configuration or binary file stored on the system.
verbose	Using this command, a user can view the status of entries before and after the execution of a command (create, delete, modify, get).
wrm	Used to write Memory

5.1.5 Categories of the CLI commands

Command	Implemented by	Recommend for end-users
802.1p Commands		
Bridge port accessprio Commands	Conexant	Yes
Bridge port prioinfo Commands	Conexant	Yes
Bridge port trfclassmap Commands	Conexant	Yes
Bridge port priomap commands	Conexant	Yes
ABOND		
ABOND group intf Commands	Conexant	Yes, but this is a legacy command and you should contact KEYMILE support personal when you plan to use.
ABOND group stats Commands	Conexant	Yes
Abond link entry Commands	Conexant	Yes
Abond link stats Commands	Conexant	Yes
Aggregation Commands		
Active Standby aggr info Commands	Conexant	Yes
Aggr intf Commands	Conexant	Yes
LACP Aggr Commands	Conexant	Yes
LACP AGGRPort Info Commands	Conexant	Yes
LACP AGGRPort List Command	Conexant	Yes
LACP AGGRPort Stats Commands	Conexant	Yes
Redundancy aggr info Commands	Conexant	Yes
Redundancy aggrport list Commands	Conexant	Yes
Redundancy aggr stats Commands	Conexant	Yes
ATM Commands		
AAL5 VC Statistics Commands	Conexant	Yes
ATM OAM CC Commands	Conexant	Yes
ATM OAM Loopback Commands	Conexant	Yes
ATM Port Commands	Conexant	Yes
ATM VC Commands	Conexant	Yes
ATM VC Statistics Commands	Conexant	Yes
Bridging Commands		
Bridge forwarding Commands	Conexant	Yes
Bridge Mode Commands	Conexant	Yes
Bridge Port Cap Commands	Conexant	Yes
Bridge port forwarding Commands	Conexant	Yes
Bridge Port Map Commands	Conexant	Yes
Bridge Port Stats Table Commands	Conexant	Yes
Bridge Port Table Commands	Conexant	Yes
Bridge static mcast Commands	Conexant	Yes
Bridge static ucast Commands	Conexant	Yes
Bridge tbg traps Commands	Conexant	Yes
GARP Port Info Commands	Conexant	Yes
STP Group Commands	Conexant	Yes
STP Port Commands	Conexant	Yes
Transparent Bridging Table Commands	Conexant	Yes
Bridge Multicast Commands		
Bridge mcast forwarding Commands	Conexant	Yes
Bridge mcast forwarding Commands	Conexant	Yes
Bridge mcast fwdunreg Commands	Conexant	Yes
Bridge Static Multicast Commands	Conexant	Yes
DHCP Commands		
DHCP Client Commands	Conexant	Yes
DSL Commands		
ADSL Alarm Profile Commands	Conexant	Yes
ADSL Alarm Profilext Commands	Conexant	Yes
ADSL ATUC Channel Commands	Conexant	Yes

ADSL ATUC Chanperf Commands	Conexant	Yes
ADSL ATUC ChanIntvl Commands	Conexant	Yes
ADSL ATUC Interval Commands	Conexant	Yes
ADSL ATUC Perf Commands	Conexant	Yes
ADSL ATUC Physical Commands	Conexant	Yes
ADSL ATUC Trap Commands	Conexant	Yes
ADSL ATUC Trapsext Commands	Conexant	Yes
ADSL ATUR ChanIntrvl Commands	Conexant	Yes
ADSL ATUR Channel Commands	Conexant	Yes
ADSL ATUR Chanperf Commands	Conexant	Yes
ADSL ATUR Interval Commands	Conexant	Yes
Adsl atur intervalext Commands	Conexant	Yes
ADSL ATUR Perf Commands	Conexant	Yes
Adsl atur perfext Commands	Conexant	Yes
ADSL ATUR Physical Commands	Conexant	Yes
ADSL ATUR Traps Commands	Conexant	Yes
DSL ATUR Trapsext Commands	Conexant	Yes
ADSL Cap Commands	Conexant	Yes
ADSL Line Intf Commands	Conexant	Yes
ADSL Line Profile Commands	Conexant	Yes
Dsl chip Commands	Conexant	Yes
Dsl dsp chip Commands	Conexant	Yes
Dsl dsp port Commands	Conexant	Yes
Dsl system Commands	Conexant	Yes
EHDLC Commands		
Ehdlc intf Commands	Conexant	Yes
Ethernet Commands		
Dot3 stats Commands	Conexant	Yes
Ethernet Commands	Conexant	Yes
Filtering Commands		
ACL Global Macentry Commands	Conexant	Yes
Clfr list genentry commands	Conexant	Yes
ACL Port Macentry Commands	Conexant	Yes
Clfr namedlist genentry Commands	Conexant	Yes
Clfr namedlist info Commands	Conexant	Yes
Clfr namedlist map Commands	Conexant	Yes
Clfr profile branch Commands	Conexant	Yes
Clfr profile info Commands	Conexant	Yes
Clfr profile node Commands	Conexant	Yes
Clfr tree branch Commands	Conexant	Yes
Clfr tree info Commands	Conexant	Yes
Clfr tree map Commands	Conexant	Yes
Clfr tree node Commands	Conexant	Yes
Clfr tree profile Commands	Conexant	Yes
Filter expr entry Commands	Conexant	Yes
Filter list genentry Commands	Conexant	Yes
Filter namedlist genentry Commands	Conexant	Yes
Filter namedlist info Commands	Conexant	Yes
Clfr tree node Commands	Conexant	Yes
Clfr tree profile Commands	Conexant	Yes
Filter expr entry Commands	Conexant	Yes
Filter list genentry Commands	Conexant	Yes
Filter namedlist genentry Commands	Conexant	Yes
Filter namedlist info Commands	Conexant	Yes
Filter namedlist map Commands	Conexant	Yes
Create filter namedlist map	Conexant	Yes
Filter rule actionmap Commands	Conexant	Yes
Filter rule entry Commands	Conexant	Yes
Filter rule map Commands	Conexant	Yes
Filter rule stats Commands	Conexant	Yes
Filter seq entry Commands	Conexant	Yes

Filter seq info Commands	Conexant	Yes
Filter subrule arp Commands	Conexant	Yes
Filter subrule clfrtree Commands	Conexant	Yes
Filter subrule ether Commands	Conexant	Yes
Filter subrule generic Commands	Conexant	Yes
Filter subrule ICMP Commands	Conexant	Yes
Filter subrule IGMP Commands	Conexant	Yes
Filter subrule IP Commands	Conexant	Yes
Filter subrule PPP Commands	Conexant	Yes
Filter subrule TCP Commands	Conexant	Yes
Filter subrule UDP Commands	Conexant	Yes
EOA Commands		
EOA Commands	Conexant	Yes
IGMP Commands		
Igmpsnoop cfg info Commands	Conexant	Yes
Igmpsnoop cfg info Commands	Conexant	Yes
Igmpsnoop mvlan config Commands	Conexant	Yes
Igmpsnoop port info Commands	Conexant	Yes
Igmpsnoop port stats Commands	Conexant	Yes
Igmpsnoop querier info Commands	Conexant	Yes
Interface Commands		
Interface Commands	Conexant	Yes
IP Commands		
IP Net to Media Table Commands	Conexant	Yes
IP Route Commands	Conexant	Yes
Ipoa intf Commands	Conexant	Yes
ipoe intf Commands	Conexant	Yes
Rid static Commands	Conexant	Yes
MacProfile Commands		
Macprofile global Commands	Conexant	Yes
Resvdmac profile info Commands	Conexant	Yes
Resvdmac profile param Commands	Conexant	Yes
Management Traffic Commands		
Ctlpkt group info Commands	Conexant	Yes
Ctlpkt instance info Commands	Conexant	Yes
Ctlpkt profile info Commands	Conexant	Yes
PPPoE Tunneling Commands		
PPPoE Global ACprofile Commands		
PPPoE Global Config Commands		
PPPoE Global Serviceprofile Commands		
PPPoE Global Stats Commands		
Pppoe intf Commands		
PPPoE Session Stats Commands		
PPPR Interface Commands		
IA (Intermeida Agent) Commands		
Dra global stats Commands		
Dra instance entry Commands		
Dra stats entry Commands		
Dra global config Commands		
Ia profile entry Commands		
Pia instance entry Commands		
Pia stats entry Commands		
Pia global config Commands		
QoS Commands		
IRL Map Commands		
IRL Profile Commands		
IRL Stats Commands		
Bridge rlinstance map Commands		
Rl actionprofile info Commands		
Rl instance info Commands		
Rl profile info Commands		

Scheduling profile class Commands		
Scheduling profile info Commands		
Trfclass profile class Commands		
Trfclass profile info Commands		
Trfclass stats Commands		
RMON Commands		
RMON Statistics Group Commands		
RMON Task Info Commands		
RMON Memory Pool info Commands		
RMON Queue info Commands		
RMON Net buffers info Commands		
RMON Semaphore info Commands		
RMON Event Group info Commands		
SNMP Commands		
SNMP Comm Commands		
SNMP Host Commands		
SNMP Stats Commands		
SNMP Traphost Commands		
SNTP Commands		
SNTP Cfg Commands		
SNTP servaddr Commands		
SNTP Stats Commands		
System Commands		
Cbuftrace cfg Commands		
System Configuration Save and Restore Commands		
System Control Table Commands		
System crash info commands		
System Info Commands		
System manuf info Commands		
System reboot info command		
Nbize Commands		
System Stats Commands		
System Traps Commands		
System Trap Log Table Commands		
System version commands		
Trace Log Configuration Commands		
Trace Log Statistics Commands		
VC Aggregation Commands		
Atm vcaggr intf Commands		
Atm vcaggr map Commands		
VLAN Commands		
GVRP Info Commands		
GVRP Port Info Commands		
GVRP Port Stats Commands		
Vlan curr info Commands		
VLAN mapprofile info Commands		
Vlan mapprofile param Commands		
VLAN Static Commands		
Miscelleneous Commands		
File Commands		
Other Commands		
PLANET CLI Commands		
System ADSL Port Operation Status Commands		
System Alarm Commands		
System Control Commands		
System Hardware Inventory Commands		
System ivmconfig Commands		
System SFP Commands		
System Version Commands		
System Debug Commands		

Configuration FD Commands		
Configuration USER Commands		
Temperature Configuration Commands		
Temperature State Commands		
Temperature Supervision Commands		
Temperature Configuration Commands Temperature State Commands		
Temperature Supervision Commands		
System Commands		
System Hardware Inventory Commands	PLANET	Yes
System ivmconfig Commands	PLANET	Yes
System Debug Commands	PLANET	No, for KEYMILE and PLANET support personal only

5.2 802.1p commands

5.2.1 Bridge port accessprio Commands

5.2.1.1 Get bridge port accessprio

Description:

Use this command to get.

Command Syntax:

get bridge port accessprio [**portid** <portid-val>] [**regenprio** <regenprio-val >]

Parameters:

Name	Description
portid <portid-val >	Port number of the port for which this entry contains bridge management information. **Type :** Get-—Optional **Valid values:** 1-386
regenprio <regenprio-val >	Regenerated user priority from which the access priority is mapped. **Type :** Get —Optional **Valid values:** 0 - 7

Example:

$ get bridge port accessprio portid 1 regenPrio 1

Output:

PortId : 1 regenPrio : 1

AcessPriority : 0

Output field:

Field	Description
PortId	Port number of the port for which this entry contains bridge management information.
regenPrio	Regenerated user priority from which the access priority is mapped.
AcessPriority	The Outbound Access Priority the received frame is mapped to.

References:

Bridge port commands

5.2.2 Bridge port prioinfo Commands

5.2.2.1 Get bridge port prioinfo

Description:
Use this command to get.

Command Syntax:
get bridge port prioinfo [**portid** <portid-val >]

5.2.2.2 Modify bridge port prioinfo

Description:
Use this command to modify.

Command Syntax:
modify bridge port prioinfo portid portid [**defprio** <defprio-val>] [**numtrfclass** <numtrfclass-val>] [**defsvprio** <defsvprio-val>]

Parameters:

Name	Description
portid <portid>	Port number of the port for which this entry contains bridge management information. **Type:** Modify -- Mandatory Get -- Optional **Valid values:** 1 - 386
defprio <defprio-val>	The default ingress User Priority which can be configured by the user. **Type:** Modify — Optional **Valid values:** 0 - 7
numtrfclass <numtrfclass-val>	The number of egress traffic classes supported on this port. **Type:** Modify — Optional **Valid values:** 1 - 8
defsvprio <defsvprio-val>	Not supported **Type:** Modify Optional **Valid values:** 0 - 7

Example:
$ get bridge port prioinfo portid 1

Output:

PortId : 1

DefaultPriority : 1 NumTrafficClass : 3

DefaultSVPriority : 1

Output field:

Field	Description
PortId	Port number of the port for which this entry contains bridge management information.
DefaultPriority	The default ingress User Priority which can be configured by the user. The default value of this attribute can be 0 or 0 depending on interface over which the bridge port is created. The default value is 0 for bridge port created over ethernet or aggregator interface. And the default value is 0 if the interface over which the bridge port has been created is one of EOA, PPPoE and IPoE.
NumTrafficClass	The number of egress traffic classes supported on this port. It depends on whether bridge port is over EOA, in which case, the max number of queues is value of maxnumeoaprioQs in gsvSystemSizingGroup and default value is also value of maxnumeoaprioQs in nbsize or over Ethernet / aggregated interface, in which case, the max number of queues is value of MaxNumEthPrioQs in nbsize and default value is also value of MaxNumEthPrioQs in nbsize. It is modifiable only when the bridge port is in disabled state.
DefaultSVPriority	Not supported

References:

Bridge port commands

5.2.3 Bridge port trfclassmap Commands

5.2.3.1 Get bridge port trfclassmap

Description:
Use this command to get.

Command Syntax:
get bridge port trfclassmap [**portid** <portid-val >] [**regenprio** <regenprio-val >]

5.2.3.2 Modify bridge port trfclassmap

Description:
Use this command to modify.

Command Syntax:
modify bridge port trfclassmap portid <portid-val > **regenprio** <regenprio-val > [**trfclass** <trfclass-val>]

Parameters:

Name	Description
portid <portid-val >	Port number of the port for which this entry contains bridge management information. **Type:** Modify — Mandatory Get — Optional **Valid values:** 1-386
regenprio <regenprio-val >	The Priority value evaluated for the received frame. In our case, it is the regenerated user priority. This regenerated priority is mapped from user priority determined by a) packet classifier rule indicating user priority for that port b) user priority received in the tag header and c) default source priority of the port, in that order. It lies in the range 0-7 **Type:** Modify — Mandatory Get — Optional **Valid values:** 0 - 7
trfclass <trfclass-val >	The Traffic Class the received frame is mapped to. The maximum value of trafficClass is defined by numTrfClass parameter of Bridge Port PrioInfo. The default value of this field shall be determined according to table 7-2 described in ANSI/IEEE Std 802.1d 1998 Edition

	Document. This mapping is modifiable only when the bridge port is in disabled state. **Type:** Modify — Optional

Example:

$ get bridge port trfclassmap portid 1 regenPrio 1

Output:

PortId : 1 regenPrio : 1

TrafficClass : 2

Output field:

Field	Description
PortId	Port number of the port for which this entry contains bridge management information.
regenPrio	The Priority value evaluated for the received frame. In our case, it is the regenerated user priority. This regenerated priority is mapped from user priority determined by a) packet classifier rule indicating user priority for that port b) user priority received in the tag header and c) default source priority of the port, in that order. It lies in the range 0-7
TrafficClass	The Traffic Class the received frame is mapped to. The maximum value of trafficClass is defined by numTrfClass parameter of Bridge Port PrioInfo. The default value of this field shall be determined according to table 7-2 described in ANSI/IEEE Std 802.1d 1998 Edition Document. This mapping is modifiable only when the bridge port is in disabled state.

References:

Bridge port commands

5.2.4 Bridge port priomap Commands

5.2.4.1 Get bridge port priomap

Description:
Use this command to get.

Command Syntax:
get bridge port priomap [**portid** <portid-val >] [**usrprio** <usrprio-val >]

5.2.4.2 Modify bridge port priomap

Description:
Use this command to modify.

Command Syntax:
modify bridge port priomap portid <portid-val > **usrprio** <usrprio-val> [**regenprio** <regenprio-val >]

Parameters:

Name	Description
portid <portid-val >	Port number of the port for which this entry contains bridge management information. **Type:** Modify -- Mandatory Get --Optional **Valid values:** 1-386
usrprio <usrprio-val >	The User Priority for a frame received on this port. Since it can arrive in a tag header, it can have range 0-7. **Type:** Modify -- Mandatory Get --Optional **Valid values:** 0 - 7
regenprio <regenprio-val >	The priority to which the incoming User priority is mapped for this port. **Type:** Modify --Optional **alid values:** 0 - 7

Example:
$ get bridge port priomap portid 1 usrPrio 1

Output:

PortId : 1 UserPriority : 1

RegenUserPrio : 1

Output field:

Field	Description
PortId	Port number of the port for which this entry contains bridge management information.
UserPriority	The User Priority for a frame received on this port. Since it can arrive in a tag header, it can have range 0-7.
RegenUserPrio	The priority to which the incoming User priority is mapped for this port.

References:

Bridge port commands

5.3 ABOND Commands

5.3.1 ABOND group intf Commands

5.3.1.1 Get abond group intf

Description:
Use this command to get.

Command Syntax:
get abond group intf [**ifname** <interface-name>]

5.3.1.2 Create abond group intf

Description:
Use this command to create.

Command Syntax:
create abond group intf ifname<interface-name> **groupid** <groupid-val>
[**minaggrrateupstrm** <minaggrrateupstrm-val>] [**minaggrratednstrm** <minaggrratednstrm-val>] [**diffdelaytolupstrm** <diffdelaytolupstrm-val>] [**diffdelaytoldnstrm** <diffdelaytoldnstrm-val>] [**asmprotocol Enable | Disable**] [**sidformat EightBitSid | TwelveBitSid**] [**maxrxbitrateratio** <maxrxbitrateratio-val>] [**linkhecthrshld** <linkhecthrshld-val>] [**numoflinksupforgrpup One | All**] [**asmirlthreshold** <asmirlthreshold-val>] [**maxatmportusrate** <maxatmportusrate-val>]

5.3.1.3 Delete abond group intf

Description:
Use this command to delete.

Command Syntax:
delete abond group intf ifname <interface-name>

5.3.1.4 Modify abond group intf

Description:

Use this command to modify.

Command Syntax:

modify abond group intf ifname <interface-name> [**groupid** <groupid-val>] [**minaggrrateupstrm** <minaggrrateupstrm-val>] [**minaggrratednstrm** <minaggrratednstrm-val>] [**diffdelaytolupstrm** <diffdelaytolupstrm-val>] [**diffdelaytoldnstrm** <diffdelaytoldnstrm-val>] [**asmprotocol Enable | Disable**] [**sidformat EightBitSid | TwelveBitSid**] [**maxrxbitrateratio** <maxrxbitrateratio-val>] [**linkhecthrshld** <linkhecthrshld-val>] [**numoflinksupforgrpup One | All]** [**asmirlthreshold** <asmirlthreshold-val>] [**maxatmportusrate** <maxatmportusrate-val>] [**enable | disable**]

Parameters:

Name	Description
ifname <interface-name>	This specifies the interface index used for the ATM Based Multi pair Bonding type of interfaces. Valid Value is abond-X. Modification and deletion is not possible if interface is enabled **Type:** Create – Mandatory Delete -- – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0 - 31
groupid <groupid-val>	This specifies the group id configured for this interface. This field is configured statically when the bonded group is provisioned and must not be changed while the group is in service. These fields may be used by an operator to help identify mis-configuration or to assist in management or debugging of the link. **Type:** Create – Mandatory Modify – Optional
minaggrrateupstrm <minaggrrateupstrm-val>	Minimum Aggregate Data Rate in bits per second in Upstream direction. **Type:** Create – Optional Modify – Optional **Default value:** 0
minaggrratednstrm **<**minaggrratednstrm-val>	Minimum Aggregate Data Rate in bits per second in Downstream direction. **Type:** Create – Optional Modify – Optional **Default value:** 0

diffdelaytolupstrm **<**diffdelaytolupstrm-val>	The maximum differential delay among member links in a bonding group in Upstream direction. **Type:** Create — Optional Modify — Optional **Valid values:** 0 -4 **Default value:** 4
diffdelaytoldnstrm **<**diffdelaytoldnstrm-val>	The maximum differential delay among member links in a bonding group in downstream direction. **Type:** Create — Optional Modify — Optional **Valid values:** 0 -24 **Default value:** 4
asmprotocol Enable |Disable	This parameter specifies whether Autonomous Status Messages will be exchanged between CO and CPE. If it is disabled then the group would be bonded statically and CO would assume CPE to know all the configuration parameters like SID format, number of links in the bonded group and the links participating in bonding. If it is enabled then CO would inform all these parameters to CPE using Autonomous Status Messages. **Type:** Create — Optional Modify — Optional **Default value:** enable
sidformat EightBitSid |TwelveBitSid	SID Format: 8 bit or 12 bit SID. Only 8 bit format is being supported **Type:** Create — Optional Modify — Optional **Default value:** 1
maxrxbitrateratio **<**maxrxbitrateratio-val>	The maximum bit rate ratio among member links in a bonding group in upstream direction. **Type:** Create — Optional Modify — Optional **Valid values:** 1 -4 **Default value:** 4
linkhecthrshld **<**linkhecthrshld-val>	HEC Error percentage of the link upstream rate which will act as Threshold for link to be part of group in Rx direction **Type:** Create — Optional Modify — Optional **Valid values:** 1 -10 **Default value:** 2
numoflinksupforgrpup One | All	This field specifies the number of links required to be up for bonding to start ASM protocol **Type:** Create — Optional Modify — Optional **Default value:** 0

asmirlthreshold **<**asmirlthreshold-val>	IRL Threshold for ASM messages **Type:** Create – Optional Modify – Optional **Valid values:** 1 -8 **Default value:** 8
maxatmportusrate **<**maxatmportusrate-val>	Maximum ATM port Upstream Rate **Type:** Create – Optional Modify – Optional **Valid values:** 0 -8000 **Default value:** 4000
enable | disable	Administrative status of the interface. **Type:** Create – Optional Modify – Optional **Valid values:** enable, disable **Default value:** enable

Example:

$ create abond group intf ifname abond-0 groupid 1 minaggrrateupstrm 5 minaggrratednstrm 5 diffdelaytolupstrm 0 diffdelaytoldnstrm 0 asmprotocol Disable sidformat EightBitSID maxrxbitrateratio 2 linkhecthrshld 1 numoflinksupforgrpup One asmirlthreshold 0 maxatmportusrate 0

Output:

Verbose Mode On
Entry Created
ifname : abond-0 GroupId : 1
MinAggrRateUpstrm : 5 MinAggrRateDnstrm : 5
DiffDelayTolUpstrm : 4 DiffDelayTolDnstrm : 4
AsmProtocol : Disable SidFormat : EightBitSID
MaxRxBitRateRatio : 2 LinkHecThreshold : 1
CtrlVpi : 0 CtrlVci : 0
NoOfLinksUpForGrpUp : One AsmIrlThreshold : 0
MaxAtmPortUsRate : 0
Oper Status : Up Admin Status : Enable
Verbose Mode Off:

Output Fields:

Field	Description
ifname	This specifies the interface index used for the ATM Based Multi pair Bonding type of interfaces. Valid Value is abond-X. Modification and deletion is not possible if interface is enabled
GroupId	This specifies the group id configured for this interface. This field is configured statically when the bonded group is provisioned and must not be changed while the group is in service. These fields may be used by an operator to help identify mis-configuration or to assist in management or debugging of the link.
MinAggrRateUpstrm	Minimum Aggregate Data Rate in bits per second in Upstream direction.
MinAggrRateDnstrm	Minimum Aggregate Data Rate in bits per second in Downstream direction.
DiffDelayTolUpstrm	The maximum differential delay among member links in a bonding group in Upstream direction.
DiffDelayTolDnstrm	The maximum differential delay among member links in a bonding group in downstream direction.
AsmProtocol	This parameter specifies whether Autonomous Status Messages will be exchanged between CO and CPE. If it is disabled then the group would be bonded statically and CO would assume CPE to know all the configuration parameters like SID format, number of links in the bonded group and the links participating in bonding. If it is enabled then CO would inform all these parameters to CPE using Autonomous Status Messages.
SidFormat	SID Format: 8 bit or 12 bit SID. Only 8 bit format is being supported
MaxRxBitRateRatio	The maximum bit rate ratio among member links in a bonding group in upstream direction.
LinkHecThreshold	HEC Error percentage of the link upstream rate which will act as Threshold for link to be part of group in Rx direction
CtrlVpi	Control Channel VPI: VPI value being used for Sending and Receiving ASM Messages
CtrlVci	Control Channel VCI: VCI value being used for Sending and Receiving ASM Messages
NoOfLinksUpForGrpUp	This field specifies the number of links required to be up for bonding to start ASM protocol
AsmIrlThreshold	IRL Threshold for ASM messages
MaxAtmPortUsRate	Maximum ATM port Upstream Rate
Oper Status	The actual/current state of the interface. It can be either up or down.

5.3.2 ABOND group stats Commands

5.3.2.1 Get abond group stats

Description:
Use this command to get.

Command Syntax:
get abond group stats [**ifname** <interface-name>]

5.3.2.2 Reset abond group stats

Description:
Use this command to reset.

Command Syntax:
reset abond group stats ifname <interface-name>

Parameters:

Name	Description
Ifname <interface-name>	This specifies the interface index used for the ATM based Multi pair Bonding type of interfaces. Valid value is abond-X **Type:** Reset — Mandatory Get — Optional **Valid values:** abond-0-abond-1

Example:
$ get abond group stats ifname abond-0

Output:

```
ifname                          : abond-0
AchievedAggrRateUpstrm      : 10        AchievedAggrRateDnstrm       : 12
CellLossUpstrmCurrent       : 12        CellLossDnstrmCurrent        : 20
CellLossUpstrmPrv15min      : 12        CellLossDnstrmPrev15Min      : 20
CellLossUpstrmCurrentDay    : 12        CellLossDnstrmCurrentDay     : 20
CellLossUpstrmPrevDay       : 12        CellLossDnstrmPrevDay        : 20
GroupFailureCntCurrent      : 15        GroupFailureCntPrev15Min     : 15
GrpFailureCntCurrentDay     : 15        GrpFailureCntPrevDay         : 15
GrpUnavailableSecCurrent    : 15        GrpUnavailableSecPrev15Min : 15
GrpUnavailblSecCurrentDay : 15          GrpUnavailblSecPrevDay       : 15
ASMTxCnt                        : 10        ASMRxCnt                     : 10
```

GrpFailureReason : MinRateNotAchievedUpAndDn
AsmRxCrcErrorCount : 10

Output Fields:

Field	Description
ifname	This specifies the interface index used for the ATM Based Multi pair Bonding type of interfaces. Valid Value is abond-X
AchievedAggrRateUpstrm	Achieved aggregate data rate in bits per sec in upstream direction.
AchievedAggrRateDnstrm	Achieved aggregate data rate in bits per sec in downstream direction.
CellLossUpstrmCurrent	Group cell loss count upstream for current 15 minutes.
CellLossDnstrmCurrent	Group Rx cell loss count downstream for current 15 minutes.
CellLossUpstrmPrv15min	Group cell loss count upstream for Last 15 minutes.
CellLossDnstrmPrev15Min	Group cell loss count downstream for Last 15 minutes.
CellLossUpstrmCurrentDay	Group cell loss count upstream for current Day.
CellLossDnstrmCurrentDay	Group Rx cell loss count downstream for current Day.
CellLossUpstrmPrevDay	Group Rx cell loss count upstream for previous Day.
CellLossDnstrmPrevDay	Group Rx cell loss count downstream for Previous Day.
GroupFailureCntCurrent	Group failure count for current 15 minutes.
GroupFailureCntPrev15Min	Group failure count for previous 15 minutes.
GrpFailureCntCurrentDay	Group failure count for current Day.
GrpFailureCntPrevDay	Group failure count for previous Day.
GrpUnavailableSecCurrent	Group unavailable second current.
GrpUnavailableSecPrev15Min	Group unavailable second previous 15 Min.
GrpUnavailblSecCurrentDay	Group unavailable second current Day.
GrpUnavailblSecPrevDay	Group unavailable second for previous Day.
ASMTxCnt	Group ASM Tx count.
ASMRxCnt	Group ASM Rx count.
GrpFailureReason	Failure reason for the abond Group.
AsmRxCrcErrorCount	group Asm Rx crc error count.

5.3.3 ABOND link entry Commands

5.3.3.1 Get abond link entry

Description:
Use this command to get.

Command Syntax:
get abond link entry [**ifname** <interface-name>] [**lowif** <lowif-val>]

5.3.3.2 Create abond link entry

Description:
Use this command to create.

Command Syntax:
create abond link entry ifname <interface-name> **lowif** <lowif-val>
[**txlinkadminstatus Enable | Disable**] [**rxlinkadminstatus Enable | Disable**]
[**asmrxgroupintf** <asmrxgroupintf>] [**asmrxlinkindex** <asmrxlinkindex>]

5.3.3.3 Delete abond link entry

Description:
Use this command to delete.

Command Syntax:
delete abond link entry ifname <interface-name> **lowif** <lowif-val>

5.3.3.4 Modify abond link entry

Description:
Use this command to modify.

Command Syntax:
modify abond link entry ifname <interface-name> **lowif** <lowif-val>
[**txlinkadminstatus Enable | Disable**] [**rxlinkadminstatus Enable | Disable**]

Parameters:

Name	Description
Ifname <interface-name>	This specifies the interface index used for the ATM Based Multi pair Bonding type of interfaces. ValidValue is abond-X. Link can not be created, deleted or modified if associated abond group interface is enabled. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** abond-0-abond-1
lowif <lowif-val>	This specifies the interface index used for the abond link (DSL) entry. Valid Value is dsl-X ,dsli-X , dslf-X **Type:** Create – Mandatory Delete – Mandatory Modify –Mandatory Get – Optional
txlinkadminstatus **Enable | Disable**	This specifies the Tx Status for the link in a Group. **Type:** Create – Optional Modify – Optional **Default value:** enable
rxlinkadminstatus **Enable | Disable**	This specifies the Rx Status for the link in a Group. **Type:** Create – Optional Modify – Optional **Default value:** enable
asmrxgroupintf **<**asmrxgroupintf>	Abond group Interface Index of proxy link. **Type:** Create -- Optional **Valid values:** abond-0_ABONDGR_MAX_IFINDEX **Default value:** 0xffffffff
asmrxlinkindex **<**asmrxlinkindex>	Lower Interface Index of Proxy link. **Type:** Create -- Optional **Default value:** 0xffffffff

Example:

$ create abond link entry ifname abond-0 lowif dsl-0 txlinkadminstatus enable rxLinkadminstatus enable asmrxgroupintf abond-0 asmrxlinkindex dsl-0

Output:

Verbose Mode On

Entry Created

ifname : abond-0 lowif : dsl-0

AsmRxGroupIntf : abond-0 AsmRxLinkIndex : dsl-0

TxLinkAdminStatus : enable RxLinkAdminStatus : enable

TxLinkOperStatus : Disable RxLinkOperStatus : Disable

AsmTxLinkStatus : SelectedToCarryBondingTraffic

AsmRxLinkStatus : SelectedToCarryBondingTraffic

Verbose Mode Off:

Entry Created

Output Fields:

Field	Description
ifname	This specifies the interface index used for the ATM Based Multi pair Bonding type of interfaces. Valid Value is abond-X. Link can not be created , deleted or modified if associated abond group interface is enabled.
lowif	This specifies the interface index used for the abond link (DSL) entry. Valid Value is dsl-X ,dsli-X , dslf-X
AsmRxGroupIntf	Abond group Interface Index of proxy link.
AsmRxLinkIndex	Lower Interface Index of Proxy link.
TxLinkAdminStatus	This specifies the Tx Status for the link in a Group.
RxLinkAdminStatus	This specifies the Rx Status for the link in a Group.
TxLinkOperStatus	The current operational status of the abond link in Tx direction.
RxLinkOperStatus	This specifies the rx operational Status for the link in a Group.
AsmTxLinkStatus	The current Tx Link status of the abond link as reflected in ASM Messages.
AsmRxLinkStatus	The current Rx Link status of the abond link as reflected in ASM Messages.

5.3.4 ABOND link stats Commands

5.3.4.1 Get abond link stats

Description:
Use this command to get.

Command Syntax:
get abond link stats [**ifname** <interface-name>] [**lowif** <lowif-val>]

5.3.4.2 Reset abond link stats

Description:
Use this command to reset.

Command Syntax:
reset abond link stats ifname<interface-name> **lowif** <lowif-val>

Parameters:

Name	Description
ifname <interface-name>	This specifies the interface index used for the ATM Based Multi pair Bonding type of interfaces. Valid Value is abond-X **Type:** Reset — Mandatory Get — Optional **Valid values:** 0 — 30
lowif <lowif-val>	This specifies the interface index used for the abond link (DSL) interfaces. Valid Value is dsl-X, dsli-X, dslf-X **Type:** Reset — Mandatory Get — Optional

Example:
$ get abond link stats ifname abond-0 lowif dsl-0

Output
ifname : abond-0 lowif : dsl-0
ASMTxCount : 10 ASMRxCount : 10
TxLinkFailureReason : HecLimitExceeded
RxLinkFailureReason : HecLimitExceeded

Output Fields:

Field	Description
ifname	This specifies the interface index used for the ATM Based Multi pair Bonding type of interfaces. Valid Value is abond-X
lowif	This specifies the interface index used for the abond link (DSL) interfaces. Valid Value is dsl-X, dsli-X, dslf-X
ASMTxCount	Per-link ASM Tx count. These are not exact counts and have been kept for debugging.
ASMRxCount	Per-link ASM Rx count. These are not exact counts and have been kept for debugging.
TxLinkFailureReason	Failure reason for the abond link in Tx direction.
RxLinkFailureReason	Failure reason for the abond link in Rx direction.

5.4 Aggregation commands

5.4.1 Active Standby aggr info Commands

5.4.1.1 Get actstdby aggr info

Description:
Use this command to get.

Command Syntax:
get actstdby aggr info [**ifname** <interface-name>]

5.4.1.2 Modify actstdby aggr info

Description:
Use this command to create.

Command Syntax:
modify actstdby aggr info ifname <interface-name> [**status** Enable | Disable]

Parameters:

Name	Description
ifname ifname	This specifies the aggregator interface index on which active standby is to be enabled. Valid Value is aggr-0. **Type:** Modify -- Mandatory Get -- Optional **Valid values:** aggr-0
Status enable | disable	This specifies whether active standby mode is to be enabled or not. **Type:** Modify -- Optional

Example:

$ get actstdby aggr info IfName aggr-0

Output:

Interface Index : aggr-0
Status : Enable

Output Fields:

Field	Description
Interface Index	This specifies the aggregator interface index on which active standby is to be enabled. Valid Value is aggr-0.
Status	This specifies whether active standby mode is to be enabled or not.

Caution:

- Active Standby mode shall not be enabled, if aggregator interface and redundancy aggregator are not created, or if LACP aggregator is created for the aggregator interface.
- If only Active Standby is desired and no load sharing is expected then bridge port shall be created over the aggregator only after Active Standby has been enabled for redundancy aggregator. If the bridge port is created over aggregator before enabling Active Standby for it, the load sharing shall start and continue till Active Standby is enabled.
-

References:

Redundancy commands.

5.4.2 Aggr info Commands

5.4.2.1 Get aggr intf

Description:
Use this command to get.

Command Syntax:
get aggr intf [**ifname** <interface-name>]

5.4.2.2 Create aggr intf

Description:
Use this command to create.

Command Syntax:
create aggr intf ifname <interface-name> [**ip** <ip-val>] [**mask** <mask-val>] [**usedhcp False | True**] [**mgmtvlanid** <mgmtvlanid-val>] [**mgmtsvlanid** <mgmtsvlanid-val>] [**priority** <priority-val>] [**enable | disable**]

5.4.2.3 Delete aggr intf

Description:
Use this command to delete.

Command Syntax:
get aggr intf [**ifname** <interface-name>]

5.4.2.4 Modify aggr intf

Description:
Use this command to create.

Command Syntax:
create aggr intf ifname <interface-name> [**ip** <ip-val>] [**mask** <mask-val>] [**usedhcp False | True**] [**mgmtvlanid** <mgmtvlanid-val>] [**mgmtsvlanid** <mgmtsvlanid-val>] [**priority** <priority-val>] [**enable | disable**]

Parameters:

Name	Description
ifname <interface-name>	This specifies the interface index used for the Aggregator type of interfaces. Valid Value is aggr-0 **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0
ip <ip-val>	This specifies the IP address configured for the interface. **Type:** Create – Optional Modify – Optional **Default value:** 0.0.0.0
mask <mask-val>	This specifies the network mask configured for the interface. If either of 'IP Address' or 'mask' is non-null the other must also be non-null and vice versa. **Type:** Create – Optional Modify – Optional **Default value:** 0.0.0.0
usedhcp False | True	This specifies whether a DHCP client is to be triggered to obtain an IP address for this interface from a DHCP server. **Type:** Create – Optional Modify – Optional **Valid values:** False, True **Default value:** false
mgmtvlanid <mgmtvlanid-val>	VLAN(C-Vlan) for management traffic on this interface. Non-zero value of this field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. If no Management Vlanid is specified (in the create operation) or it's value is set to zero (either in create or modify operation) then the system shall use the value of 'portvlanid' associated with the bridge port created on this interface as the Management Vlan Index. In case the management vlan (i.e. 'mgmtvlanid' or the associated 'portvlanid', if 'mgmtvlanid' is zero) doesn't exist on the system then IP based management on this management VLAN shall not happen on the interface till the corresponding VLAN is created with the Net side port as its member. **Type:** Create – Optional Modify – Optional **Valid values:** 0 – 4095 **Default value:** 0

mgmtsvlanid **<**mgmtsvlanid-val>	Applicable only in stacked vlan mode, this is S-Vlan for management traffic on this interface. Non-zero value of this field is valid only if either 'ip' field is nonzero or 'usedhcp' field is true. If no management Svlanid is specified (in the create operation) or it's value is set to zero (either in create or modify operation) then the system shall use the value of 'psvlanid' associated with the bridge port created on this interface as the management vlan id. In case the management vlan (virtual vlan mapped to S-VLAN and C-VLAN for the frame) doesn't exist (ie. Virtual vlan mapped to 'mgmtsvlanid' or the associated ' psvlanid ', if 'mgmtsvlanid' is zero) on the system then IP based management shall not happen on the interface till the corresponding virtual-VLAN is created with the Net side port as its member. **Type:** Create — Optional Modify — Optional **Valid values:** 0 – 4095 **Default value:** 0
priority <priority-val>	Priority to be set in Tagged Ethernet PDUs sent on Management VLAN over this interface. This field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. In Native Vlan mode this priority shall be used for C-Vlan tag while in stacked vlan mode it shall be used for S-Vlan tag. **Type:** Create — Optional Modify — Optional **Valid values:** 0 - 7 **Default value:** 7
enable | disable	Administrative status of the interface. **Type:** Create -- Optional Modify -- Optional **Valid values:** enable, disable **Default value:** enable

Example:

$ create aggr intf IfName aggr-0 ip 172.25.100.100 mask 255.255.0.0 usedhcp False mgmtvlanid 2 mgmtsvlanid 2 priority 2 enable

Output:

Verbose Mode On

Entry Created

Interface Index : aggr-0

IP Address : 172.25.100.100 Mask : 255.255.0.0

UseDhcp : False

Mgmt VLAN Index : 2

Mgmt S-VLAN Index : 2

Tagged Mgmt PDU Prio : 2

Oper Status : Up Admin Status : Enable

Verbose Mode Off:

Entry Created

Output Fields:

Field	Description
Interface Index	This specifies the interface index used for the Aggregator type of interfaces. Valid Value is aggr-0
IP Address	This specifies the IP address configured for the interface.
Mask	This specifies the network mask configured for the interface. If either of 'IP Address' or 'mask' is non-null the other must also be non-null and vice versa.
UseDhcp	This specifies whether a DHCP client is to be triggered to obtain an IP address for this interface from a DHCP server.
Mgmt VLAN Index	VLAN(C-Vlan) for management traffic on this interface. Non-zero value of this field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. If no Management Vlanid is specified (in the create operation) or it's value is set to zero (either in create or modify operation) then the system shall use the value of 'portvlanid' associated with the bridge port created on this interface as the Management Vlan Index. In case the management vlan (i.e. 'mgmtvlanid' or the associated 'portvlanid', if 'mgmtvlanid' is zero) doesn't exist on the system then IP based management on this management VLAN shall not happen on the interface till the corresponding VLAN is created with the Net side port as its member.
Mgmt S-VLAN Index	Applicable only in stacked vlan mode, this is S-Vlan for management traffic on this interface. Non-zero value of this field is valid only if either 'ip' field is nonzero or 'usedhcp' field is true. If no management Svlanid is specified (in the create operation) or it's value is set to zero (either in create or modify operation) then the system shall use the value of 'psvlanid' associated with the bridge port created on this

	interface as the management vlan id. In case the management vlan (virtual vlan mapped to S-VLAN and C-VLAN for the frame) doesn't exist (ie. Virtual vlan mapped to 'mgmtsvlanid' or the associated ' psvlanid ', if 'mgmtsvlanid' is zero) on the system then IP based management shall not happen on the interface till the corresponding virtual-VLAN is created with the Net side port as its member.
Tagged Mgmt PDU Prio	Priority to be set in Tagged Ethernet PDUs sent on Management VLAN over this interface. This field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. In Native Vlan mode this priority shall be used for C-Vlan tag while in stacked vlan mode it shall be used for S-Vlan tag.
Oper Status	The actual/current state of the interface. It can be either up or down.
Admin Status	The desired state of the interface. It may be either Up or Down.

Cautions:

- If an aggregator interface is being created, all configurations of aggregated links (layer2 Ethernet interfaces), should be same.

5.4.3 LACP Aggr Commands

5.4.3.1 Get lacp aggr

Description:
Use this command to get.

Command Syntax:
gets lacp aggr [**aggrifname** <aggrifname-val >]

5.4.3.2 Create lacp aggr

Description:
Use this command to create.

Command Syntax:
create lacp aggr aggrifname <aggrifname-val> [**actorsystemprio** <actorsystemprio-val>] [**actoradminkey** <actoradminkey-val>] [**collectormaxdelay** <collectormaxdelay-val>] [**aggrtype Static | Lacp**]

5.4.3.3 Delete lacp aggr

Description:
Use this command to delete.

Command Syntax:
delete lacp aggr aggrifname <aggrifname-val>

5.4.3.4 Delete lacp aggr

Description:
Use this command to modify.

Command Syntax:
modify lacp aggr aggrifname <aggrifname-val> [**actorsystemprio** <actorsystemprio-val>] [**actoradminkey** <actoradminkey-val>] [**collectormaxdelay** <collectormaxdelay-val>] [**aggrtype Static | Lacp**]

Parameters:

Name	Description
aggrifname <aggrifname-val>	The Aggregator interface name. **Type:** Create --- Mandatory Delete — Mandatory Modify — Mandatory Get — Optional **Valid values:** aggr-0
actorsystemprio <actorsystemprio-val>	A 2-octet read-write value indicating the priority value associated with the Actor's System ID. **Type:** Create — Optional Modify — Optional **Valid values:** 0 - 255 **Default value:** 10
actoradminkey <actoradminkey-val>	The current administrative value of the Key for the Aggregator **Type:** Create Optional Modify Optional **Valid values:** 0 - 65535 **Default value:** 0
collectormaxdelay <collectormaxdelay-val>	The value of this 16-bit read-write attribute defines the maximum delay,in tens of microseconds,that may be imposed by the

	Frame Collector between receiving a frame from an Aggregator Parser,and either delivering the frame to its MAC Client or discarding the frame. **Type:** Create – Optional Modify – Optional **Valid values:** 0 - 65535 **Default value:** 0
aggrtype Static | Lacp	Aggregation type. It can be either static or lacp **Type:** Create – Optional Modify – Optional **Default value:** Static

Example:

$ create lacp aggr aggrifname aggr-0 actorsystemprio 2 actoradminkey 1000 collectormaxdelay 2 aggrtype Static

Output:

Verbose Mode On
Entry Created
Aggr IfName : aggr-0
Mac Address : 23:45:67:89:00:01 Aggregate : true
Actor Sys Priority : 2 Partner Sys Priority : 2
Actor Sys ID : 23:45:67:89:00:01
Partner Sys ID : 23:45:67:89:00:01
Actor Oper Key : 10 Partner Oper Key : 2
Actor Admin Key : 1000 Collector Max Delay : 2
Aggregation Type : Static
Verbose Mode Off:
Entry Created

Output Fields:

Field	Description
Aggr IfName	The Aggregator interface name.
Mac Address	A 6-octet read-only value carrying the individual MAC address assigned to the Aggregator.
Aggregate	A read-only Boolean value indicating whether the Aggregator represents an Aggregate (TRUE) or an Individual link (FALSE).
Actor Sys Priority	A 2-octet read-write value indicating the priority value

	associated with the Actor's System ID.
Partner Sys Priority	A 2-octet read-only value that indicates the priority value associated with the Partners SystemID.
Actor Sys ID	A 6-octet read only MAC address value used as a unique identifier for the System that contains this Aggregator.
Partner Sys ID	A 6-octet read-only MAC address value consisting of the unique identifier for the current protocol Partner of this Aggregator.A value of zero indicates that there is no known Partner.
Actor Oper Key	The current operational value of the Key for the Aggregator.
Partner Oper Key	The current operational value of the Key for the Aggregator is current protocol Partner.
Actor Admin Key	The current administrative value of the Key for the Aggregator
Collector Max Delay	The value of this 16-bit read-write attribute defines the maximum delay,in tens of microseconds,that may be imposed by the Frame Collector between receiving a frame from an Aggregator Parser,and either delivering the frame to its MAC Client or discarding the frame.
Aggregation Type	Aggregation type. It can be either static or lacp

Cautions:

- LACP aggregator creation shall fail, if aggregator interface is not created.
- LACP aggregator shall not be created, if Redundancy aggregator is created for an aggregator interface.

References:

- create aggr intf
- get aggr intf

5.4.4 LACP AGGRPort Info Commands

5.4.4.1 Get aggrport info

Description:
Use this command to get a LACP aggregator port information.

Command Syntax:
get lacp aggrport info [**ifname** <interface-name>]

5.4.4.2 Modify lacp aggrport info

Description:
Use this command to modify LACP aggregator port information.

Command Syntax:
modify lacp aggrport info ifname <interface-name> [**actoradminkey** <actoradminkey-val>] [**partadminkey** <partadminkey-val>] [**actorportprio** <actorportprio-val>] [**partadminportprio** <partadminportprio-val>] [**actorsysprio** <actorsysprio-val>] [**partadminsysprio** <partadminsysprio-val>] [**partadminsysid** <partadminsysid-val>] [**partadminport** <partadminport-val>] [**actoradminstate activity | timeout | aggr**] [**partadminstate activity | timeout | aggr**] [**aggrstatus enable|disable**] [**pktpriority** <pktpriority-val>]

Parameters:

Name	Description
Ifname <interface-name>	The **IfName** of the Ethernet interface for the aggregator. **Type :** Modify – Mandatory Get – Optional **Valid values :** eth-*, eoa-*
actoradminkey <actoradminkey-val>	The current administrative value of the Key for the Aggregator. **Type :** Optional **Valid values:** 1 - 2^16 – 1
partadminkey <partadminkey-val>	The current administrative value of the Key for the Aggregator's current protocol Partner. **Type :** Optional **Valid values:** 1 - 2^16 – 1
actorportprio	The priority value assigned to this Aggregation

<actorportprio-val>	Port **Type :** Optional **Valid values :** 0 - 2^8 – 1
partadminportprio <partadminportprio-val>	The current administrative value of the port priority, for the protocol Partner. **Type :** Optional **Valid values:** 0 – 255
actorsysprio <actorsysprio-val>	A 2-octet read-write value indicating the priority value associated with the Actor's System ID. **Type :** Optional **Valid values:** 0 – 255
partadminsysprio <partadminsysprio-val>	A 2-octet read-only value that indicates the priority value associated with the Partner's System ID. **Type :** Optional **Valid values:** 0 - 255
partadminsysid <partadminsysid-val>	A 6-octet read-write MACAddress value representing the administrative value of the Aggregation Port’s protocol Partner's SystemID **Type :** Optional **Valid values:** 00:00:00:00:00:00 - ff:ff:ff:ff:ff:ff
partadminport <partadminport-val>	The current administrative value of the port number for the protocol Partner. **Type :** Optional **Valid values:** 0 - 65535
actoradminstate activity | timeout | aggr	Administrative state of actor **Type:** Optional
partadminstate activity | timeout | aggr	Administrative state of Partner. **Type:** Optional
aggrstatus enable|disable	Specifies whether aggregation(bonding) is to be enabled over this Aggregation Port. **Type :** Optional **Valid values:** enable|disable
pktpriority <pktpriority-val>	For LACP PDUs, this priority shall be used for choice of traffic class/Queue on outgoing interface. **Type:** Modify Optional **Valid values:** 0 - 7

Example:

$ get lacp aggrport info ifname eth-0

Output:

Interface : eth-0 Port Is Aggregate : true
Actor Oper Key : 10 Partner Oper Key : 2
Actor Admin Key : 1000 Partner Admin Key : 2
Actor Port Priority : 1 Partner Admin Port Priority : 1
Actor System Priority : 2 Partner Oper Port Priority : 1
Actor System ID : 23:45:67:89:00:01 Partner Admin Sys Priority : 2
Actor Port : 2 Partner Oper Sys Priority : 2
Partner Admin Sys Id : 23:45:67:89:00:01 Partner Admin Port : 1
Partner Oper Sys Id : 23:45:67:89:00:01 Partner Oper Port : 1
Port Actor Admin State : distrib
Port Partner Admin State : activity
Port Actor Oper State : default
Port Partner Oper State : default
Attached Agg ID : aggr-0 Selected Agg ID : aggr-0
Aggregation Status : Enable LACP PacketsPrio :2

Output Fields:

Field	Description
Interface	The **IfName** of the Ethernet interface for the aggregator.
Port Is Aggregate	Boolean value indicating whether the Aggregation Port is able to Aggregate ('TRUE'), or is only able to operate as an Individual link ('FALSE').
Actor Oper Key	The current operational value of the Key for the Aggregator.
Partner Oper Key	The current operational value of the Key for the Aggregator's current protocol Partner.
Actor Admin Key	The current administrative value of the Key for the Aggregator.
Partner Admin Key	The current administrative value of the Key for the Aggregator's current protocol Partner.
Actor Port Priority	The priority value assigned to this Aggregation Port.
Partner Admin Port Priority	The current administrative value of the port priority for the protocol Partner.
Actor System Priority	A 2-octet, read-write value indicating the priority value associated with the Actor's System ID.
Partner Oper Port Priority	The current operational value of the port priority for the protocol Partner.
Actor System ID	A 6-octet, read-write MAC address value, used as a unique identifier for the System that contains this Aggregator.

Partner Admin Sys Priority	A 2-octet, read-only value that indicates the priority value associated with the Partner's System ID.
Actor Port	The port number locally assigned to the Aggregation Port.
Partner Oper Sys Priority	A 2-octet read-only value that indicates the priority value associated with the Partnerìs System ID.
Partner Admin Sys Id	A 6-octet read-write MACAddress value representing the administrative value of the Aggregation Port’s protocol Partner's System ID.
Partner Admin Port	The current administrative value of the port number for the protocol Partner.
Partner Oper Sys Id	A 6-octet read-write MACAddress value representing the operational value of the Aggregation Port’s protocol Partner's System ID.
Partner Oper Port	The current operational value of the port number for the protocol Partner.
Port Actor Admin State	Administrative state of Actor.
Port Partner Admin State	Administrative state of Partner.
Port Actor Oper State	Operational state of Actor.
Port Partner Oper State	Operational state of Partner.
Attached Agg ID	The identifier value of the Aggregator that this Aggregation Port has currently selected.
Selected Agg ID	The identifier value of the Aggregator that this Aggregation Port has currently selected.
Aggregation Status	Whether or not aggregation(bonding) is to be enabled over this Aggregation Port..
LACP PacketsPrio	For LACP PDUs, this priority shall be used for choice of traffic class/Queue on outgoing interface.

References:

- lacp aggrport list
- lacp aggrport stats

5.4.5 LACP AGGRPort List Commands

5.4.5.1 Get lacp aggrport list

Description:
Use this command to get a LACP aggregator port list.

Command Syntax:
get lacp aggrport list [**aggrifname** <aggrifname-val>]

Parameters:

Name	Description
Aggrifname <aggrifname-val>	The Aggregator interface name. **Type :** Optional **Valid values:** *aggr-**

Mode:
Super-User, User

Example:
$ get lacp aggrport list

Output:
Aggr IfName : aggr-0
Port List : eth-0 eth-1

Output Fields:

Field	Description
Aggr IfName	The Aggregator interface name.
Port List	List of the ports corresponding to given aggregator index.

References:
- lacp aggr
- lacp aggrport info
- lacp aggrport stats.

5.4.6 LACP AGGRPort Stats Commands

5.4.6.1 Get lacp aggrport stats

Description:
Use this command to get LACP aggregator port statistics.

Command Syntax:
get lacp aggrport stats [**ifname** <interface-name>]

5.4.6.2 Reset lacp aggrport stats

Description:
Use this command to reset LACP aggregator port statistics.

Command Syntax:
reset lacp aggrport stats ifname <interface-name>

Note:
This command is not supported in this release.

Parameters:

Name	Description
Ifname <interface-name>	The **IfName** of the Ethernet interface for the aggregator. **Type :** Modify – Mandatory Get – Optional **Valid values :** eth-*, eoa-*

Example :
$ get lacp aggrport stats ifname eth-0

Output:

```
Interface                    : eth-0
LACPDUs Rx                   : 1          LACPDUs Tx                   : 1
MarkerPDUs Rx                : 1          MarkerPDUs Tx                : 1
Marker Response PDUs Rx : 1               Marker Response PDUs Tx : 1
Unknown Rx                   : 1          Illegal Rx                   : 1
```

Output Fields:

Field	Description
Interface	The Interface name of the Ethernet interface for the aggregator.
LACPDUs Rx	The number of valid LACP PDUs received on this Aggregation Port.
LACPDUs Tx	The number of LACP PDUs transmitted on this Aggregation Port.
MarkerPDUs Rx	The number of valid Marker PDUs received on this Aggregation Port.
MarkerPDUs Tx	The number of Marker PDUs transmitted on this Aggregation Port.
Marker Response PDUs Rx	The number of valid Marker Response PDUs received on this Aggregation Port.
Marker Response PDUs Tx	The number of Marker Response PDUs transmitted on this Aggregation Port.
Unknown Rx	The number of frames received, that either carry the Slow Protocols Ethernet Type value, but contain an unknown PDU, or, are addressed to the Slow Protocols group MAC Address, but do not carry the Slow Protocols Ethernet Type.
Illegal Rx	The number of frames received, that carry the Slow Protocols Ethernet Type value, but contain a badly formed PDU or an illegal value of Protocol Subtype.

References:

- lacp aggr
- lacp aggrport list
- lacp aggrport info.

5.4.7 Redundancy aggr info Commands

5.4.7.1 Get rdncy aggr info

Description:

Use this command to get.

Command Syntax:

get rdncy aggr info [ifname <interface-name]

5.4.7.2 Create rdncy aggr info

Description:
Use this command to create.

Command Syntax:
create rdncy aggr info ifname ifname **[revdistrib** Enable | Disable**] [fallback** Enable | Disable**]**

5.4.7.3 Delete rdncy aggr info

Description:
Use this command to delete

Command Syntax:
delete rdncy aggr info ifname <interface-name>

5.4.7.4 Modify rdncy aggr info

Description:
Use this command to modify

Command Syntax:
modify rdncy aggr info ifname <interface-name> **[revdistrib** Enable | Disable**] [fallback** Enable | Disable**]**

Parameters:

Name	Description
ifname <interface-name>	This specifies the interface index used for the Redundancy Aggregator type of interfaces. Valid Value is aggr-0 **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** aggr-0
revdistrib Enable | Disable	It denotes whether reverse distribution filtering is to be enforced for traffic in the receiving direction, when both the links are active, for this aggregator interface. If duplicate packets are expected on the redundant links (if uplink aggregating device is layer2 switch), Reverse distribution filtering may be enabled.

	But if there is no chance of such duplicate packets, or the duplicate packets need not have a special handling, reverse distribution filtering may be disabled. **Type:** Create -- Optional Modify -- Optional **Default value:** enable
fallback Enable | Disable	This specifies whether fallback is to happen for aggregator interface, when a link goes down. As fallback trigger leads to re-propagation of protocol PDUs to the links based on the state of the links, this may be enabled if re-propagation of protocol PDUs is required for immediate restoration of peer protocol state on uplink devices. If such a treatment is not required and Protocol time out may only be triggered for re-propagation, Fallback trigger should be disabled. **Type:** Create -- Optional Modify -- Optional **Default value:** enable

Example:

$ create rdncy aggr info IfName aggr-0 revdistrib disable fallback disable

Output:

Verbose Mode On
Entry Created
Interface Index : aggr-0
Reverse Distribution : disable FallBack : disable
Verbose Mode Off:
Entry Created

Output Fields:

Field	Description
Interface Index	This specifies the interface index used for the Redundancy Aggregator type of interfaces. Valid Value is aggr-0
Reverse Distribution	It denotes whether reverse distribution filtering is to be enforced for traffic in the receiving direction, when both the links are active, for this aggregator interface. If duplicate packets are expected on the redundant links (if uplink aggregating device is layer2 switch) Reverse distribution filtering may be enabled. But if there is no chance of such duplicate packets or the duplicate packets need not have a special handling reverse distribution filtering may be disabled.

FallBack	This specifies whether fallback is to happen for aggregator interface, when a link goes down. As fallback trigger leads to re-propagation of protocol PDUs to the links based on the state of the links, this may be enabled if re-propagation of protocol PDUs is required for immediate restore of peer protocol state on uplink devices. If such a treatment is not required and Protocol time out may only be trigger for re-propagation, Fallback trigger should be disabled.

Caution:

- Redundancy aggregator shall not be created, if aggregator interface is not created or if LACP aggregator is created for the aggregator interface.

References:

- create aggr intf command
- get aggr intf command

5.4.8 Redundancy aggrport list Commands

5.4.8.1 Get aggrport list

Description:

Use this command to get.

Command Syntax:

get rdncy aggrport list [aggrifname <interface-name>**]**

Parameters:

Name	Description
aggrifname <interface-name>	Index of the redundancy aggregator, for which layer2 interfaces are associated. Valid Value is aggr-0 **Type:** Get -- Optional **Valid values:** aggr-0

Example:

$ get rdncy aggrport list aggrifname aggr-0

Output:

Aggr IfName : aggr-0

PortList : eth-0 eth-1

Port List Interface type : None

Output Fields:

Field	Description
Aggr IfName	Index of the redundancy aggregator, for which layer2 interfaces are associated. Valid Value is aggr-0
PortList	The complete list of active layer2 interfaces associated with the aggregator interface by virtue of redundancy. Each bit set represents the Ethernet interface, that is actively associated with redundancy based aggregation. An interface is actively associated with aggregator interface, if data for the aggregator interface can be transmitted/received over it.
Port List Interface type	It denotes what type of interfaces (Physical ethernet) are present in Port List. If no interface are present in port list the value shall be None

5.4.9 Redundancy aggr stats Commands

5.4.9.1 Get rdncy aggr stats

Description:

Use this command to get.

Command Syntax:

get rdncy aggr stats [ifname <interface-name>**]**

5.4.9.2 Reset rdncy aggr stats

Description:

Use this command to reset.

Command Syntax:

reset rdncy aggr stats ifname <interface-name>

Parameters:

Name	Description
ifname <interface-name>	This specifies the interface index used for the Aggregator type of interfaces for which the redundancy stats are desired. Valid Value is aggr-0 **Type:** Reset -- Optional Get -- Optional **Valid values:** aggr-0

Example:

$ get rdncy aggr stats IfName aggr-0

Output:

Interface Index : aggr-0
Collapse Count : 1
DeCollapse Count : 1
Last Collapse Time [MM/DD/YYYY::HH:MM:SS] : 04/21/2003:12:23:34
Last De-Collapse Time [MM/DD/YYYY::HH:MM:SS] : 04/21/2003:12:23:34

Output Fields:

Field	Description
Interface Index	This specifies the interface index used for the Aggregator type of interfaces for which the redundancy stats are desired. Valid Value is aggr-0
Collapse Count	This specifies the number of times one of the redundant interfaces has gone down and the traffic had to be moved on to the other redundant interface, which is up.
DeCollapse Count	This specifies the number of times one of the failed redundant interfaces has come up and the traffic had to be redistributed among mutually redundant interfaces.
Last Collapse Time [MM/DD/YYYY::HH:MM:SS]	This specifies time at which the last collapse (one of the redundant interface has gone down) occurred. The display format shall be mm/dd/yyyy:hr:min:sec.
Last De-Collapse Time [MM/DD/YYYY::HH:MM:SS]	This specifies time at which the last de-collapse (one of the failed redundant interface has come up) occured. The display format shall be mm/dd/yyyy:hr:min:sec.

5.5 ATM commands

5.5.1 AAL5 VC Statistics Commands

5.5.1.1 Get atm aal5 stats

Description:
Use this command to get AAL5 VC statistics.

Command Syntax:
get atm aal5 stats [**ifname** <interface-name>]

Parameters:

Name	Description
Ifname <interface-name>	This parameter specifies the interface for which information is desired **Type** : Get - Optional **Valid values** : *aal5-0 -*

Example:
$ get atm aal5 stats ifname aal5-0

Output:
Low IfName : atm-0 VC IfName : aal5-0
VPI : 0 VCI : 1
Tx Frames count : 100 Rx Frames count : 85
Tx Bytes count : 1535 Rx Bytes count : 1200
CRC Errors count : 0 Oversized SDU : 0

Output Fields:

Field	Description
VC IfName	The name of the **aal5** (aal5-0 etc) interface, for which statistics needs to be retrieved.
Low IfName	This specifies the ATM port name. It can be : atm-0
VPI	This is the Virtual Port Identifier.
VCI	This is the Virtual Circuit Identifier.
Tx Frames count	The number of AAL5 CPCS PDUs transmitted on this AAL5 VCC.
Rx Frames count	The number of AAL5 CPCS PDUs received on this AAL5 VCC.
Tx Bytes count	The number of octets contained in AAL5 CPCS PDUs received on this AAL5 VCC.
Rx Bytes count	The number of octets contained in AAL5 CPCS PDUs received on this AAL5 VCC.

CRC Errors count	This specifies the number of CRC errors encountered.
Oversized SDU	This specifies the number of oversized SDUs received.

References:

- atm vc related commands
- atm port and statistics related commands
- atm vc statistics commands.

5.5.2 ATM OAM CC Commands

5.5.2.1 Get oam cc vc

Description:
Use this command to get.

Command Syntax:
get oam cc vc [**ifname** <interface-name>]

5.5.2.2 Modify oam cc vc

Description:
Use this command to modify.

Command Syntax:
modify oam cc vc ifname <interface-name> [**action** act | deact] [**dir** sink | src | both] [**mode** auto | manual]

Parameters:

Name	Description
ifname <interface-name>	This parameter specifies the interface, for which information is desired. In case the field is not specified, then the information for all valid interfaces should be displayed. **Type:** Modify -- Mandatory Get -- Optional
action act | deact	This field specifies the CC action to be taken. This is used along with CC direction field. **Type:** Modify -- Optional
dir sink | src | both	This field specifies the direction for CC activation/Deactivation.Direction could be source (src), sink or both.

	Type: Modify -- Optional
mode auto | manual	This specifies the activation/deactivation capability at a VCC. **Type:** Modify -- Optional

Example:

$ get oam cc vc ifname aal5-0

Output:

ifName Mode SourceOperStatus SinkOperStatus Initiator

---

aal5-0 Manual activated LOC Self

Output Fields:

Field	Description
ifName	This parameter specifies the interface, for which information is desired. In case the field is not specified, then the information for all valid interfaces should be displayed.
Mode	This specifies the activation/deactivation capability at a VCC.
SourceOperStatus	This field specifies the current operational state of source point of the VCC.
SinkOperStatus	This field specifies the current operational state of sink point of the VCC.
Initiator	This field is valid only in auto mode and it specifies the current initiator of CC Activation/Deactivation.

References:

- atm vc related commands.
- atm port and statistics related commands.
- atm oam loopback commands.

5.5.3 ATM OAM Loopback Commands

5.5.3.1 Get oam lpbk vc

Description:
Use this command to get.

Command Syntax:
get oam lpbk vc [**ifname** <interface-name>]

5.5.3.2 Modify oam lpbk vc

Description:
Use this command to modify.

Command Syntax:
modify oam lpbk vc ifname <interface-name> [**e2e | seg**] [**lbid** <lbid-val>]

Parameters:

Name	Description
ifname <interface-name>	Interface Index of the ATM port, on which this VC is getting configured. **Type:** Modify – Mandatory Get – Mandatory
e2e | seg	This specifies the loop back type used. It may be: e2e or segment. **Type:** Modify – Optional
Lbid < lbid-val>	This defines the loopback site, which will loopback the cell. **Type:** Modify – Optional

Example:
$ get oam lpbk vc ifname aal5-0

Output:
IfName : aal5-0 VPI : 1 VCI : 1
LB Type : e2e
OAM Location Id : 0xffffffffffffffffffffffffffffffff
OAM LB Result : E2e Succeeded

Output Fields:

Field	Description
IfName	Interface Index of the ATM port, on which this VC is getting configured.
VPI	This is the Virtual Circuit Identifier.
VCI	This is the Virtual Port Identifier.
LB Type	This specifies the loop back type used. It may be:e2e or segment.
OAM Location Id	This defines the loopback site, which will loopback the cell.
OAM LB Result	This specifies the result of the loop back test. It may be Result Unavailable, Seg Succeeded, Seg Failed, E2e Succeeded, E2e Failed, Test Aborted, or Test In Progress.

References:

- atm vc related commands.
- atm port and statistics related commands.

5.5.4 ATM Port Commands

5.5.4.1 Get atm port

Description:
Use this command to get.

Command Syntax:
get atm port [**ifname** <interface-name>]

5.5.4.2 Create atm port

Description:
Use this command to create.

Command Syntax:
create atm port ifname <interface-name> **lowif** <lowif-val> [**maxvc** <maxvc-val>] [**maxvpibits** <maxvpibits-val>] [**maxvcibits** <maxvcibits-val>] [**oamsrc** <oamsrc-val>] [**orl** <orl-val>] [**trfclassprofileid** <trfclassprofileid-val>] [**profilename** <profilename-val>] [**ctlpktinstid** <ctlpktinstid-val>] [**atmtransporttype cell | packet**] [**mirrormode data | mirror**] [**enable | disable**]

5.5.4.3 Delete atm port

Description:
Use this command to delete.

Command Syntax:
delete atm port ifname <interface-name>

5.5.4.4 Modify atm port

Description:
Use this command to modify.

Command Syntax:
modify atm port ifname <interface-name>[**maxvc** <maxvc-val>] [**maxvpibits** <maxvpibits-val>] [**maxvcibits** <maxvcibits-val>] [**oamsrc** <oamsrc-val>] [**orl** <orl-val>] [**trfclassprofileid** <trfclassprofileid-val>] [**profilename** <profilename-val>] [**atmtransporttype cell | packet**] [**enable | disable**]

Parameters:

Name	Description
ifname <interface-name>	Physical interface index **Type:** Create — Mandatory Delete — Mandatory Modify — Mandatory Get — Optional
lowif <lowif-val>	This is the IfIndex of the low interface on which this ATM port is configured. Lower interface can be of type dsl-* or dsli-* or dslf-* or abond-* **Type:** Create — Mandatory
maxvc <maxvc-val>	This specifies the maximum number of VCCs (PVCCs), supported at this ATM interface. This field is not valid if the atmtransporttype has the value packet **Type:** Create — Optional Modify — Optional **Valid values:** 1 -8 **Default value:** 8
maxvpibits <maxvpibits-val>	The maximum number of active VPI bits configured for use at the ATM interface. **Type:** Create — Optional

	Modify — Optional **Valid values:** 1 - 8 **Default value:** 8
maxvcibits **<**maxvcibits-val>	This specifies the maximum number of active VCI bits configured for use at this ATM interface. **Type:** Create — Optional Modify — Optional **Valid values:** 1 - 16 **Default value:** 16
oamsrc <oamsrc-val>	Loopback source id assigned to the ATM port. The ATM port will respond to all loopback cells, which carry this OAM id. This field is not valid if the atmtransporttype has the value packet. **Type:** Create — Optional Modify — Optional **Default value:** 0xffffffffffffffffffffffffffffffff
orl <orl-val>	This parameter specifies the output rate limiting value in KBPS to be applied on this interface. **Type:** Create — Optional Modify — Optional **Valid values:** 64 - 6000 **Default value:** 54000
trfclassprofileid **<**trfclassprofileid-val>	This specifies the traffic class profile to be associated with the ATM port. **Type:** Create — Optional Modify — Optional **Valid values:** 1 -8 **Default value:** 1
profilename **<**profilename-val>	This specifies the scheduling profile to be associated with the ATM port. **Type:** Create — Optional Modify — Optional **Default value:** "SPPROFILE"
ctlpktinstid **<**ctlpktinstid-val>	This specifies the control packet instance identifier associated with this interface. If the user does not provide any instance identifier while creating an interface an instance is created internally from the default profile governed by the macro 1 and associated to the interface. This will reduce the total number to instances that can be now created by one. The default instance is governed by macro 0. **Type:** Create — Optional **Valid values:** 1 -146 **Default value:** 0
atmtransporttype cell **|packet**	This specifies the transport type of the atm interface. This can be either Cell which means that actual Atm Cells shall be received over the

	UTOPIA interface, or Packet , which means that Pseudo Cells corresponding to Packet VDSL shall be received over this ATM interface. This is not modifiable if any ATM VC is created on top of this ATM port. **Type:** Create — Optional Modify — Optional **Default value:** 1
mirrormode data | mirror	This field configures ATM port in data mode or mirror mode. In mirror mode, only the mirrored packets are allowed to go out of the port and regular customer data is forbidden. Scheduling profile field is ignored in mirror mode. **Type:** Create — Optional **Default value:** data
enable | disable	Administrative status of the interface. **Type:** Create — Optional Modify — Optional **Valid values:** enable, disable **Default value:** enable

Example:

$ create atm port ifname atm-0 lowif dsl-0 maxvc 5 maxvpibits 6 maxvcibits 12S oamsrc 0xffffffffffffffffffffffffffffffff orl 3000 trfclassprofileid 3 profilename gold ctlpktinstid 1 atmtransporttype Cell mirrormode mirror enable

Output:

Verbose Mode On
Entry Created
IfName : atm-0 LowIfName : dsl-0
MaxVccs : 5
MaxVpiBits : 6
MaxVciBits : 12
OAMSrc : 0xffffffffffffffffffffffffffffffff
ORL(kbps) : 3000
UnknownVPI : 35 UnknownVCI : 35
ProfileName : gold
Current Output Rate : 64
trfclassprofileid : 3
Ctl Pkts Instance Id : 1
ATM Transport Type : Cell
Mirror Mode : mirror
Oper Status : Up Admin Status : Enable

Verbose Mode Off:
Entry Created

Output Fields:

Field	Description
IfName	Physical interface index
LowIfName	This is the IfIndex of the low interface on which this ATM port is configured. Lower interface can be of type 94 or 124 or 125 or 0xfffffff9
MaxVccs	This specifies the maximum number of VCCs (PVCCs), supported at this ATM interface. This field is not valid if the atmtransporttype has the value packet
MaxConfVccs	This specifies the current number of VCCs configured on this port.
MaxVpiBits	The maximum number of active VPI bits configured for use at the ATM interface.
MaxVciBits	This specifies the maximum number of active VCI bits configured for use at this ATM interface.
OAMSrc	Loopback source id assigned to the ATM port. The ATM port will respond to all loopback cells, which carry this OAM id. This field is not valid if the atmtransporttype has the value packet.
ORL(kbps)	This parameter specifies the output rate limiting value in KBPS to be applied on this interface.
UnknownVPI	This parameter specifies the last seen unknown VPI on this ATM interface. This field is not valid if the atmtransporttype has the value packet.
UnknownVCI	This parameter specifies the last seen unknown VCI on this ATM interface. This field is not valid if the atmtransporttype has the value packet.
ProfileName	This specifies the scheduling profile to be associated with the ATM port.
Current Output Rate	This parameter specifies the current output rate value in KBPS that is available on this interface, based on the minimum of DSL trained rate and OutPut Rate limit configured for the ATM port.
trfclassprofileid	This specifies the traffic class profile to be associated with the ATM port.
Ctl Pkts Instance Id	This specifies the control packet instance identifier associated with this interface. If the user does not provide any instance identifier while creating an interface an instance is created internally from the default profile governed by the macro 1 and associated to the interface. This will reduce the total number to instances that can be now created by one. The default instance is governed by macro 0.
ATM Transport Type	This specifies the transport type of the atm interface. This can be either Cell which means that actual Atm Cells shall be received over the UTOPIA interface, or Packet , which means that Pseudo Cells corresponding to Packet VDSL shall be received over this ATM interface. This is not modifiable

	if any ATM VC is created on top of this ATM port.
Mirror Mode	This field configures ATM port in data mode or mirror mode. In mirror mode, only the mirrored packets are allowed to go out of the port and regular customer data is forbidden. Scheduling profile field is ignored in mirror mode.
Oper Status	The actual/current state of the interface. It can be either up or down.
Admin Status	The desired state of the interface. It may be either Up or Down.

5.5.5 ATM VC Commands

5.5.5.1 Create atm vc intf

Description:
Use this command to create a new ATM Virtual Circuit (VC).

Command Syntax :
create atm vc intf ifname <interface-name> **vpi** <vpi-val> **vci** <vci-val> **lowif** <atm-port-interface-name> [enable | disable] [aal5] [**a5txsize** <aal5-cpcs-tx-sdu-size>] [**a5rxsize** <aal5-cpcs-rx-sdu-size>] [vcmux | llcmux | auto | ethernet] [pvc] [**channel** fast|interleaved] [**mgmtmode** data|mgmt|DataAndMgmt| raw] [**maxnumproto** <maxnumproto-val>] [**autostatus** Enable|Disable] [**autosupportedprot** none|{pppoa | eoa | ipoa}+] [**autovcmuxforcedprot** None | pppoa | eoa | ipoa] [**autosensetriggertype** dynamic | opstatechange] [**ctlpktgroupid** <ctlpktgroupid> | none]

5.5.5.2 Delete atm vc intf

Description:
Use this command to delete an existing ATM Virtual Circuit (VC).

Command Syntax:
delete atm vc intf ifname <interface-name>

5.5.5.3 Get atm vc intf

Description:
Use this command to display information corresponding to a single VC, or for all VCs.
Command Syntax: get atm vc intf [**ifname** <interface-name>]

5.5.5.4 Modify atm vc intf

Description:

Use this command to modify ATM VC parameters.

Command Syntax:

modify atm vc intf ifname <interface-name> [**vpi** <vpi-val>] [**vci** <vci-val>] {**enable | disable**} [**a5txsize** <aal5-cpcs-tx-sdu-size>] [**a5rxsize** <aal5-cpcs-rx-sdu-size>] [**vcmux | llcmux | auto | ethernet**] [**mgmtmode data | mgmt | DataAndMgmt | raw**] [**autosupportedprot none**|{**pppoa | eoa | ipoa**}+] [**autovcmuxforcedprot None | pppoa | eoa | ipoa**] [**autosensetriggertype dynamic | opstatechange**]

Parameters:

Name	Description
ifname <interface-name>	This specifies name of VC Interface. **Type**: Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory **Valid values** : aal5-0 - *
lowif <atm-port-interfacename>	Interface Index of the ATM port, on which this VC is getting configured. **Type**: Mandatory **Valid values** : atm-0 - *
vpi <vpi-val>	Virtual Path Identifier. In order to modify, the VPI value shall be the new VPI value and the admin status of VC interface shall be disabled. Also, the VPI and VCI value cannot be modified along with admin status in one command. If encaptype is Ethernet than value of this field has to be 0. **Type** : Create – Mandatory Modify **–** Optional **Valid values** : 0-2^8
vci <vci-val>	Virtual Circuit Identifier. In order to modify, the VCI value shall be the new VCI value and the admin status of VC interface shall be disabled. Also, the VPI and VCI value cannot be modified along with admin status in one command. If encaptype is Ethernet than value of this field has to be 0. **Type**: Create – Mandatory Modify **–** Optional **Valid values** : 1-2^16

mgmtmode Data | Mgmt | DataAndMgmt | Raw	It denotes the Management Mode of the ATM VC. If it is Data, then only data transmission can take place. If it is Mgmt, then management of remote CPE device can happen on that ATM VC and packets on that ATM VC shall start coming to Control Plane. In DataAndMgmt mode, data transmission as well as remote CPE management can happen on the same ATM VC interface. In DataAndMgmt mode, the acceptable values for atmVCCAAL5EncapType are **llcmux** and **auto**. In Mgmt mode, EoA interface cannot be created on the ATM VC and both Ethernet as well as non-ethernet packets on that ATM VC shall be received at the Control Plane. In DataAndMgmt mode, if EoA is created, then only non-ethernet packets on that ATM VC shall be received at the Control Plane. However, if EoA is not created then all the packets on that ATM VC shall be received at the Control Plane. However, to configure ATM VC in DataAndMgmt mode, a good practice is to to create ATM VC in disable mode till EoA is created on it, to prevent flooding at Control Plane. In order to run STP, the mode has to be DataAndMgmt. If the mode is RawATM(4), ATM cells are given to Control Plane. In this mode, EoA interface cannot be created on the ATM VC. If EoA interface is already created on the ATM VC, its mode cannot be changed to either Mgmt(2) or RawATM(4). This field is not valid if encaptype is Ethernet. **Type:** Create – Optional **Default value:** Data
enable|disable	This specifies the Admin Status of the VC. **Type**: Optional **Default Value**: enable
aal5	This specifies the AAL type in use for this VC. The only type of AAL supported in Columbia Packet is AAL5. This field is not valid for an ATM VC with encaptype as Ethernet. **Type:** Create Optional **Default value:** aal5
a5txsize <aal5-cpcs-txsdu-size >	This specifies the maximum transmit CPCS SDU size to be used. **Type**: Optional **Valid values** : 1-1536 **Default Value**: 1536
a5rxsize <aal5-cpcs-rxsdu-size>	This specifies the maximum receive CPCS SDU size to be used **Type**: Optional **Valid values** : 1-1536 **Default Value**: 1536
vcmux|llcmux|auto| ethernet	This specifies the data encapsulation method to be used over the AAL5 SSCS layer. "auto" means autosense the muxType(llc/vc). Auto mode

	is only used to sense the llc/vcmux. Atm VC with encaptype as ethernet can be created only over an ATM port which has value of atmtransporttype as packet.The VPI/VCI values for this atm vc shall be 0/0. aaltype, mgmtmode and oam related parameters are not valid for an ATM VC with encaptype as Ethernet. **Type**: Optional **Default Value**: llcmux
Pvc	This specifies the type of VC. The only value supported is PVC. **Type**: Optional **Default Value**: pvc
channel fast|interleaved	This extension specifies the type of channel on which the ATM VC's cells have to be transmitted/ received. This field is deprecated and currently not in use. **Type**: Optional **Default Value**: Interleaved
Maxnumproto <maxnumproto-val>	This field specifies the maximum number of simultaneous active protocol stacks supported on this interface. Currently, only one protocol stack is supported. **Type**: Create – Optional **Default value**: 1
Autostatus Enable|Disable	This field specifies whether the Auto mode is to be enabled or not. In the Auto mode, the stack above this interface will be determined and created based on the protocol packets sensed on this interface. For example, if the protocol packet sensed above this interface is an EoA packet, then the corresponding EoA stack will be created above this interface. However, the corresponding EoA interface must have been created with the config status field set as config mode. This field is not valid if encaptype is Ethernet. **Type**: Create – Optional **Default value**: disable
autosupportedprot none|{pppoa | eoa | ipoa}+	This field specifies Higher layer protocols which are supported for auto detection on the given ATM VC. Only the packets if the protocols mentioned in this field can lead to Auto detection. This field is meaningful only when autostatus flag as enable. **Type**: Create – Optional Modify – Optional **Default value**: 1
autovcmuxforcedprot None | pppoa | eoa | ipoa	This field specifies that if the encap type detected is VCMux, the user can configure to build a specific protocol stack automatically. It can only be present with the autostatus flag as enable. In case of a conflict with

	autoSupportedProtocols, its value will override. **Type**: Create — Optional Modify — Optional **Default value**: none
autosensetriggertype dynamic | opstatechange	This field specifies at what time autodetection of Encapsulation type or higher protocol layers is to be done - all the time or only when Operational Status of ATM VC is changed to UP. If its value is 'dynamic', then detection can happen anytime a packet is received. If its value is 'opstatechange', then autodetection happens only when Operational status of ATM VC changes to UP. This field is not valid if encaptype is Ethernet. **Type**: Create — Optional Modify — Optional **Default value**: dynamic
ctlpktgroupid ctlpktgroupid | none	The Control packet instance group associated with this VC. The flows for this interface shall be mapped to control packet instances as mapped for the flows corresponding to the groupid configured in ctrlpkt group info command. If this group does not have entries for some of the flows, then those flows shall be mapped to the ctlpktinstid of ATM port, for which this VC is being created. If the group id is 0, then all the flows shall be mapped to ctlpktinstid of ATM port, for which this VC is being created. **Type**: Create — Optional **Valid values**: 0 -50 **Default value**: 0

Example:

$ create atm vc intf ifname aal5-0 lowif atm-0 vpi 10 vci 10 enable aal5 pvc a5txsize 1536 a5rxsize 1536 llcmux mgmtmode data autosupportedprot pppoa eoa autovcmuxforcedprot pppoa autosensetriggertype dynamic ctlpktgroupid none

Output:

Verbose Mode On
Entry Created
VC IfName : aal5-0 Low IfName : atm-0
VPI : 0 VCI : 35
Admin Status : Up Oper Status : Down
Aal5 Tx Size : 1536 Aal5 Rx Size : 1536
AAL Type : AAL5 AAL5 Encap : llcmux
channel : Interleaved Last Change(sec) : 0
MgmtMode : Data Row Status : active

VC Type : PVC VC Topology : Point to Point
Max simultaneous protocol : 1
Auto Status : Disable
Auto Supported Protocol : pppoa eoa
Auto VC Mux Forced Protocol : None
Auto Sense Trigger Type : dynamic
Auto Curr Sensed Encaps Typee : none
Ctl Pkts Group Id : none
Auto Supported Protocol : pppoa eoa

Output Fields:

Field	Description
VC IfName	VC Interface Name. It can be : aal5-0 - *
Low IfName	Interface Index of the ATM port, on which this VC is getting configured.
VPI	Virtual Path Identifier. In order to modify, the VPI value shall be the new VPI value and the admin status of VC interface shall be disabled. Also, the VPI and VCI value cannot be modified along with admin status in one command. If encaptype is Ethernet than value of this field has to be 0.
VCI	Virtual Circuit Identifier. In order to modify, the VCI value shall be the new VCI value and the admin status of VC interface shall be disabled. Also, the VPI and VCI value cannot be modified along with admin status in one command. If encaptype is Ethernet than value of this field has to be 0.
Oper Status	This specifies the actual/current state of the interface. It can be either Up or Down
Admin Status	This specifies the desired state of the interface. It may be either Up/Down.
Aal5 Tx Size	This specifies the transmit CPCS SDU size to be used.
Aal5 Rx Size	This specifies the receive CPCS SDU size to be used.
Aal Type	This specifies the AAL type in use for this VC. The only type of AAL supported in Columbia Packet is AAL5. This field is not valid for an ATM VC with encaptype as Ethernet.
Aal5 Encap	This specifies the data encapsulation method to be used over the AAL5 SSCS layer. "auto" means autosense the muxType(llc/vc). Auto mode is only used to sense the llc/vcmux . Atm VC with encaptype as ethernet can be created only over an ATM port which has value of atmtransporttype as packet.The VPI/VCI values for this atm vc shall be 0/0. aaltype, mgmtmode and oam related parameters are not valid for an ATM VC with encaptype as Ethernet.
channel	This extension specifies the type of channel on which the ATM VC's cells have to be transmitted/received. This field is deprecated and currently not in use.

Last Change	The value of sysUpTime at the time this VC entered its current operational state.
MgmtMode	It denotes the Management Mode of the ATM VC. If it is Data, then only data transmission can take place. If it is Mgmt, then management of remote CPE device can happen on that ATM VC and packets on that ATM VC shall start coming to Control Plane. In DataAndMgmt mode, data transmission as well as remote CPE management can happen on the same ATM VC interface. In DataAndMgmt mode, the only acceptable value for atmVCCAAL5EncapType is llc. In Mgmt mode, EoA interface can't be created on the ATM VC and both Ethernet as well as non-Ethernet packets on that ATM VC shall be received at Control Plane. In DataAndMgmt mode, if EoA is created then only non-Ethernet packets on that ATM VC shall be received at Control Plane. However, if EoA is not created then all the packets on that ATM VC shall be received at Control Plane. However, to configure ATM VC in DataAndMgmt mode, good practice is to create ATM VC in disable mode till EoA is created on it, to prevent flooding at Control Plane. In order to run STP, the mode has to be DataAndMgmt. If the mode is RawATM(4), ATM cells are given to Control Plane. In this mode, EoA interface cannot be created on the ATM VC. If EoA interface is already created on the ATM VC, its mode cannot be changed to either Mgmt(2) or RawATM(4). This field is not valid if encaptype is Ethernet.
RowStatus	This defines the row-status of the interface entry
VC Type	This field specifies whether VC type is PVC or SVC.
VC Topology	This field specifies the VC connection topology type.
Max simultaneous protocol	This field specifies the maximum number of simultaneous active protocol stacks supported on this interface. Currently, only one protocol stack is supported.
Auto Status	This field specifies whether the Auto mode is to be enabled or not. In the Auto mode, the stack above this interface will be determined and created based on the protocol packets sensed on this interface. For example, if the protocol packet sensed above this interface is an EoA packet, then the corresponding EoA stack will be created above this interface. However, the corresponding EoA interface must have been created with the gsvEoaConfigMode field's bit corresponding to the 'Auto' set.
Auto Supported Protocol	This field specifies Higher layer protocols which are supported for auto detection on the given ATM VC. Only the packets if the protocols mentioned in this field can lead to Auto detection. This field is meaningful only when autostatus flag is enable.
Auto VC Mux Forced	This field specifies if the encap type detected is VCMux, the user can

Protocol	configure to build a specific protocol stack automatically. This field is meaningful only when autostatus flag as enable. In case of conflict with autoSupportedProtocols, its value will override.
Auto Sense Trigger Type	This field specifies at what time autodetection of Encapsulation type or higher protocol layers is to be done - all the time or only when Operational Status of ATM VC is changed to UP. If its value is 'dynamic', then detection can happen anytime a packet is received. If its value is 'opstatechange', then autodetection happens only when Operational status of ATM VC changes to UP. This field is not valid if encaptype is Ethernet.
Auto Curr Sensed Encaps Type	This field specifies the current sensed Encapsulation type in case the Encapsulation type is being autodetected. The value of this field will be the same as the field 'AAL5 Encapsulation Type' if the Encapsulation type is preconfigured. This is a read only field for all agents, except for the Auto Sense Agent.
Ctl Pkts Group Id	The Control packet instance group associated with this VC. The flows for this interface shall be mapped to control packet instances as mapped for the flows corresponding to the groupid configured in ctrlpkt group info command. If this group does not have entries for some of the flows, then those flows shall be mapped to the ctlpktinstid of ATM port, for which this VC is being created. If the group id is 0, then all the flows shall be mapped to ctlpktinstid of ATM port, for which this VC is being created.

Caution:

The specified lower interface should exist. Please refer to the create atm port command.

References:

- ATM interface commands
- ATM statistics commands
- ATM OAM commands
- ATM VC statistics commands.

5.5.6 ATM VC Statistics Commands

5.5.6.1 Get atm vc stats

Description:

Use this command to get statistical information about a specific or all ATM virtual circuits.

Command Syntax:

get atm vc stats [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	This specifies the Virtual Circuit. If this is not specified, then information for all VCs is displayed. **Type** : Get – Optional **Valid values** : *aal5-0 - **

Example:

$ get atm vc stats ifname aal5-0

Output:

Low IfName : atm-0 VC IfName : aal5-0
VPI : 1 VCI : 1
Total Tx Cells count : 250 Total Rx Cells count : 20
CLPI 0 Rx Cells count : 10 Rx Pkts Rejected count : 0

Output Fields:

Field	Description
LowIf	This specifies the ATM port name. It can be : atm-0
VPI	It is the Virtual Port Identifier.
VCI	It is the Virtual Circuit Identifier.
VC IfName	The name of the aal5 (aal5-0 etc) interface, for which statistics needs to be retrieved.
Total Tx Cells count	The total number of valid ATM cells transmitted by this interface.
Total Rx Cells count	The total number of valid ATM cells received by this interface.
CLPI 0 Rx Cells	The number of valid ATM cells received by this interface with CLP=0.
Rx Pkts Rejected count	The total number of valid ATM cells discarded by the interface.

References:

- Other atm vc related commands
- oam lpbk command
- atm port related commands
- atm statistics related commands

5.6 Bridging Commands

5.6.1 Bridge forwarding Commands

5.6.1.1 Get bridge forwarding

Description:
Use this command to get.

Command Syntax:
get bridge forwarding [**vlanid** <vlanid-val>] [**macaddr** <macaddr-val>]

5.6.1.2 Delete bridge forwarding

Description:
Use this command to delete.

Command Syntax:
delete bridge forwarding [**vlanid** <vlanid-val>] [**macaddr** <macaddr-val>]

Parameters:

Name	Description
vlanid <vlanid-val>	Vlan Id to uniquely identify the entry for which the bridge has forwarding and/or filtering information. To delete an individual learnt entry or all learnt entries, the FdbId should be set to a valid value in case of IVL. In SVL case, this value is ignored except when the value is 4097 which is the value of a special Vlan Id used for managing the traffic for those VLANs that are neither created nor learnt in the system. When Vlan transparency feature is supported, the valid range for this also includes 4097. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Delete — Optional Get — Optional **Valid values:** 0 - 4095
macaddr <macaddr-val>	A unicast MAC address for which the bridge has forwarding and/or filtering information. In the case of "delete all" entries in a given FDB; the MacAddr shall have INVALID value specified by FF: FF: FF: FF: FF: FF. To delete an individual entry, valid value of Mac address has to be specified. **Type:** Delete — Optional Get — Optional

Example:

$ get bridge forwarding vlanid 10 macaddr 02:2e:22:3d:44:56

Output:

```
MAC Addr                    PortId      VlanId      Status
-----------------------------------------------------------
02:2e:22:3d:44:56           10          10          learned
```

Output Fields:

Field	Description
MAC Addr	A unicast MAC address for which the bridge has forwarding and/or filtering information. In the case of "delete all" entries in a given FDB; the MacAddr shall have INVALID value specified by FF: FF: FF: FF: FF: FF. To delete an individual entry, valid value of Mac address has to be specified.
VlanId	Vlan Id to uniquely identify the entry for which the bridge has forwarding and/or filtering information. To delete an individual learnt entry or all learnt entries, the FdbId should be set to a valid value in case of IVL. In SVL case, this value is ignored except when the value is 4097 which is the value of a special Vlan Id used for managing the traffic for those VLANs that are neither created nor learnt in the system. When Vlan transparency feature is supported, the valid range for this also includes 4097. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
PortId	Port number of the port on which a frame having a source address equal to the value of the corresponding instance of dot1qTpFdbAddress, has been seen. This may have a value of "0" if the statically configured address has a dynamic port binding and the port has not been learnt yet.
Status	The status of this entry. The value learned (3), indicates that the value of the corresponding instance of dot1qTpFdbPort was learned, and is being used. mgmt (5) - the value of the corresponding instance of dot1qTpFdbAddress is also the value of an existing instance of dot1qStaticAddress. The value internal (6) indicates that the entry is an internal entry and cannot be deleted by the user. This entry gets created for the IPOE/PPPOE interfaces when the bridge port over those IPOE/PPOE interfaces gets admin enabled. The mac address in this entry shall be the one specified in the mac address profile and VlanId shall be the PortVlanId of the Bridge Port.The value other (1) indicates that this is associated with a sticky port.

References:

- bridge port related commands
- bridge port stats command
- bridge static related commands
- bridge mode related commands.

5.6.2 Bridge Mode Commands

5.6.2.1 Get bridge mode

Description:
Use this command to get the current bridging mode.

Command Syntax:
get bridge mode

Parameters:
None

Example:
$ get bridge mode

Output:
Bridging Mode is Enabled

Output Fields:
None

References:

- modify bridge mode command
- bridge port command
- bridge port stats command
- bridge static command
- bridge forwarding command
- DHCP Client commands.

5.6.3 Bridge Port Cap Commands

5.6.3.1 Get bridge port cap

Description:
Use this command is used to get.

Command Syntax:
get bridge port cap [**portid** <portid-val>]

Parameters:

Name	Description
portid <portid-val>	The index of base port **Type :**Optional **Valid values:** 1 - 386 **Default value:** None

Mode:
Super-User, User

Example:
$get bridge port cap

Output:
Portid : 45
Port Capabilities : Tagging FrameTypes IngressFiltering

Output Fields:

Field	Description
portid	The index of base port.
Port Capabilites	Capabilities that are allowed on a per-port basis.

5.6.4 Bridge port forwarding Commands

5.6.4.1 Get bridge port forwarding

Description:
Use this command to get.

Command Syntax:
get bridge port forwarding [**portid** <portid-val>] [**vlanid** <vlanid-val>] [**macaddr** <macaddr-val>]

5.6.4.2 Delete bridge port forwarding

Description:
Use this command to delete.

Command Syntax:
delete bridge port forwarding portid <portid-val> [**vlanid** <vlanid-val>] [**macaddr** <macaddr-val>]

Parameters:

Name	Description
portid <portid-val>	Port number of the port on which a frame having a source address equal to the value of the corresponding instance of dot1qTpFdbAddress, has been seen. This may have a value of "0" if the statically configured address has a dynamic port binding and the port has not been learnt yet. **Type:** Delete — Mandatory Get — Optional **Valid values:** 1 - 386
vlanid <vlanid-val>	Vlan Id to uniquely identify the entry for which the bridge has forwarding and/or filtering information. To delete an individual learned entry or all learned entries, the FdbId should be set to a valid value in case of IVL. In SVL case, this value is ignored except when the value is 4097, which is the value of a special Vlan Id used for managing the traffic for those VLANs that are neither created nor learned in the system. When Vlan transparency feature is supported, the valid range for this also includes 4097. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Delete — Optional Get — Optional

	Valid values: 0 -4096
macaddr <macaddr-val>	In the case of "delete all" entries corresponding to a port in a given FDB; the MacAddr shall have INVALID value specified by FF: FF: FF: FF: FF: FF. To delete an individual entry, valid value of Mac address has to be specified. **Type:** Delete – Optional Get – Optional

Example:

$ get bridge port forwarding portid 10 vlanid 10 macaddr 02:03: ee: 34:55:66

Output :

Port Id : 10 vlan id : 10

Mac Addr : 02:03:ee:34:55:66

Status : Mgmt

Output Fields:

Field	Description
Port Id	Port number of the port on which a frame having a source address equal to the value of the corresponding instance of dot1qTpFdbAddress, has been seen. This may have a value of "0" if the statically configured address has a dynamic port binding and the port has not been learnt yet.
vlan id	Vlan Id to uniquely identify the entry for which the bridge has forwarding and/or filtering information. To delete an individual learned entry or all learned entries, the FdbId should be set to a valid value in case of IVL. In SVL case, this value is ignored except when the value is 4097, which is the value of a special Vlan Id used for managing the traffic for those VLANs that are neither created nor learned in the system. When Vlan transparency feature is supported, the valid range for this also includes 4097. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Mac Addr	In the case of "delete all" entries corresponding to a port in a given FDB; the MacAddr shall have INVALID value specified by FF: FF: FF: FF: FF: FF. To delete an individual entry, valid value of Mac address has to be specified.
Status	The status of this entry. The value learned (3), indicates that the value of the corresponding instance of dot1qTpFdbPort was learned, and is being used. mgmt (5) - the value of the

	corresponding instance of dot1qTpFdbAddress is also the value of an existing instance of dot1qStaticAddress. The value internal (6) indicates that the entry is a internal entry and cannot be deleted by the user. This entry gets created for the IPOE/PPPOE interfaces when the bridge port over those IPOE/PPOE interfaces gets admin enabled. The mac address in this entry shall be the one specified in the mac address profile and VlanId shall be the PortVlanId of the Bridge Port. The value other (1) indicates that this is associated with a sticky port.

5.6.5 Bridge Port Map Commands

5.6.5.1 Get bridge port map

Description:
Use this command to get.

Command Syntax:
get bridge port map [**portid <**portid-val>] [**ifname** <interface-name>]

5.6.5.2 Create bridge port map

Description:
Use this command to create.

Command Syntax:
create bridge port map portid <portid-val> **ifname** <interface-name>

5.6.5.3 Delete bridge port map

Description:
Use this command to delete.

Command Syntax:
delete bridge port map portid <portid-val> **ifname** <interface-name>

Parameters:

Name	Description
portid <portid-val>	The bridge port with which a lower interface is being associated in the autosensing scenario. **Type:** Create – Mandatory Delete – Mandatory Get – Optional **Valid values:** eoa-*, pppoe-*,ipoe-*
ifname <interface-name>	'ifname' associated with 'portid'. Only the indices of interfaces belonging the types eoa, pppoe or ipoe, are valid values for this interface. **Type:** Create – Mandatory Delete – Mandatory Get – Optional **Values**: eoa-*, pppoe-*,ipoe-*

Example:

$ create bridge port map portid 2 ifname eoa-0

Output:

Verbose Mode On
Entry Created
Port Id : 2 Interface Index : eoa-0
Verbose Mode Off:
Entry Created

Output Fields:

Field	Description
Port Id	The bridge port with which a lower interface is being associated in the autosensing scenario.
Interface Index	'ifname' associated with 'portid'. Only the indices of interfaces belonging the types eoa, pppoe or ipoe, are valid values for this interface..

5.6.6 Bridge Port Starts Table Commands

5.6.6.1 Get bridge port stats

Description:
Use this command to get the statistics of a single port, or all the ports.

Command Syntax:
get bridge port stats [**portid** <portid-val>]

5.6.6.2 Reset bridge port stats

Description:
Use this command to reset bridge port statistics.

Command Syntax:
reset bridge port stats portid <portid-val>

Parameters:

Name	Description
portid <portid-val>	This is the bridge port identifier. If this is not specified in the **get** command, then information for all ports is displayed. **Type** : Get — Optional Reset — Mandatory **Valid values** : 1- 578

Example:
$ get bridge port stats portid 1

Output:
Verbose Mode On
PortId : 1 Max Info Size : 1500
Out Frames : 138 In Frames : 129
In Discards : 3
HC In Frames : 300
HC Out Frames : 350
HC In Discards : 400

Output Fields:

Field	Description
PortId	This is the bridge port identifier. It can be : 1- 386
Max Info Size	The maximum size of the INFO (non-MAC) field that this port will receive or transmit.
Out Frames	The number of frames that have been transmitted by this port to its segment.
In Frames	The number of frames that have been received by this port from its segment.
In Discards	Count of valid frames received, which were discarded (i.e., filtered) by the Forwarding Process.
HC In Frames	Number of frames that have been received by this port from its segment. This is valid only for Ethernet interfaces.
HC Out Frames	Number of frames that have been transmitted by this port to its segment. This is valid only for Ethernet interfaces.
HC In Discards	Count of valid frames received and discarded (i.e filtered) by the Forwarding Process. This is valid only for Ethernet interfaces.

5.6.7 Bridge Port Table Commands

5.6.7.1 Create bridge port intf

Description:
Use this command to create a new bridge port.

Command Syntax:
create bridge port intf portid <portid-val> **ifname** <interface-name> [**maxucast** <max-ucast-addresses>] [**learning** enable|disable][**status** enable|disable] [**stickystatus** enable | disable] [**FdbModify** enable | disable][**aclglbdenyapply** Enable | Disable] [**aclglbtrackapply** Enable | Disable] [**proxyarpstatus** enable | disable] [**arptstatus** Enable | Disable] [**darpstatus** Enable | Disable] [**porttype** trusted | untrusted]

5.6.7.2 Delete bridge port intf

Description:
This command is used to delete an existing bridge port.

Command Syntax:
delete bridge port intf portid <portid-val>

5.6.7.3 Get bridge port intf

Description:
Use this command to get.

Command Syntax:
get bridge port intf [**portid** <portid-val>]

5.6.7.4 Modify bridge port intf

Description:
Use this command to modify.

Command Syntax:
modify bridge port intf portid **<**portid-val> [**maxucast** <maxucast-val>] [**learning** enable | disable] [**status** enable | disable] [**stickystatus** enable | disable] [**fdbmodify** enable | disable] [**aclglbdenyapply** Enable | Disable] [**aclglbtrackapply** Enable | Disable] [**proxyarpstatus** enable | disable] [**arptstatus** Enable | Disable] [**darpstatus** Enable | Disable] [**porttype** trusted | untrusted]

Parameters:

Name	Description
portid <portid-val>	The bridge port id **Type:** Modify – Mandatory Get – Optional **Valid values:** 1 - 578
ifname <interface-name>	Interface name associated with the Port, **Type**: mandatory, **Values:** eth-*, eoa-*, pppoe-*, ipoe-*, vir-*
maxucast <maxucast-val>	This specifies the maximum number of unicast addresses, which can be learnt from this port. This is modifiable when the admin status of bridge port is disabled. Max of number of unicast entries that can be learnt/configured on a birdge port on CPE side is 128. The default value for number of unicast entries that can be learnt or configured on a CPE side bridge port is 16. Max of number of unicast entries that can be learnt/configured on a birdge port on NET side is 4096. The default value for number of unicast entries that can be learnt or configured on a bridge port is 4096. Max of number of unicast entries that can be learnt/configured on a birdge port on downlink side is 256. The default value for number of unicast entries that can be learnt or configured on a

	bridge port is 256. This field is unused if the bridge port is created over an PPPOE/IPOE interface or PPPOE/ IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface. **Type:** Modify — Optional
learning enable | disable	The State of Learning on this bridge port. The value enable (1) indicates that unicast Mac address learning is enabled and the value disable indicates that unicast Mac address learning is disabled on this bridge port. The default value of learning status for CPE/Downlink side bridge ports shall be enable and for NET side bridge port default value shall be enable. This field is unused if the bridge port is created over a PPPOE/IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface. **Type:** Modify — Optional
status enable | disable	The desired state of the bridge port. On creation the bridge port shall be created in enabled AdminStatus by default. **Type:** Modify — Optional
stickystatus enable |disable	Indicates if the port has been set as sticky. The value enable(1) indicates that the entries learnt on this port won't be aged out. It also indicates that the entries learnt on this port shall not be learnt on any other port. The entries learnt on this port can only be removed by management action or by making the value as disable (2) so that the entries can be aged out. This field is unused if the bridge port is created over an PPPOE/ IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface. **Type:** Modify — Optional
fdbmodify enable | disable	This specifies whether this port can overwrite an existing forwarding database entry. This field is unused if the bridge port is created over an PPPOE/ IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface. **Type:** Modify — Optional
aclglbdenyapply Enable |Disable	This specifies whether the global acl macentry deny list represented by MO AclGlobalMacList is to be applied to this port or not. The default value of this parameter shall depend on the port type. For Net side ports, the default value shall be disable and for the cpe side ports the default value shall be enable. This field is unused if the bridge port is created over an PPPOE/IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface. **Type:** Modify — Optional
aclglbtrackapply Enable |Disable	This specifies whether the global acl macentry track list represented by MO AclGlobalMacList is to be applied to this port or not. The default value

	of this parameter shall depend on the port type. For Net side ports, the default value shall be disable and for the cpe side ports the default value shall be enable. This field is unused if the bridge port is created over an PPPOE/IPOE interface or PPPOE/ IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface. **Type:** Modify — Optional
proxyarpstatus enable |disable	The Proxy Arp Status on this bridge port. The value enable of this field indicates that Proxy Arp request can be received through this port. This field can be enabled only on bridge port created over ethernet or aggregator interface. Before enabling this field user should create a filter rule with rule action as Copy to Control and rule description as IPOE_CONTROL and map it to all those interfaces through which user wants to receive proxy arp requests. **Type:** Modify — Optional
arptstatus Enable | Disable	This specifies whether ARP translation will be done on the ARP packets received/transmitted on this port. When enabled, ARP source MAC address of the incoming ARP packets (both request/reply) will be changed to virtual MAC address (if applicable) and the ARP target MAC address of the outgoing ARP reply packets will be changed to the original host MAC address (if applicable). **Type:** Modify -- Optional
darpstatus Enable | Disable	This specifies whether the ARP packets received on this bridge port are to be directed to a single port using (VLANId, IP address) to bridge port mapping learnt using DRA. This field can be enabled only on the NET side bridge port. This attribute is effective in conjunction with the attribute 'gsv dot1qVlanStaticDirectedARP' of 'Dot1qVlanStatic' MO. ARP packets are to be directed as mentioned above, only if both the flags are enabled. If any of the two is disabled, the ARP packets will be forwarded as per the normal bridging flow. **Type:** Modify -- Optional
porttype trusted | untrusted	This field specifies whether the port is trusted or not. This information is used by some of the control plane applications to send packet on trusted ports, in case the application fails to uniquely determine a port. **Type:** Modify -- Optional

Example:

$ create bridge port intf ifname eth-0 portid 10 maxucast 10 learning enable stickystatus enable status enable fdbmodify disable aclglbdenyapply Disable aclglbtrackapply Disable proxyarpstatus enable arptstatus enable darpstatus enable porttype trusted

Output:

Port Id : 10
Max Unicast Addresses : 10 Learning Status : enable
Port Oper Status : Disable Port Admin Status : Disable
Sticky Status : enable FDB Modify : Disable
Acl Global Deny Apply : Disable
Acl Global Track Apply : Disable
ProxyArpStatus : enable Sensed IfIndex : eoa-1
ArpTStatus : enable Directed ARP status : enable
Port Type : trusted

Output Fields:

Field	Description
Port Id	The bridge port id
If Name	The interface name associated with the given port.
Max Unicast Addresses	This specifies the maximum number of unicast addresses, which can be learnt from this port. This is modifiable when the admin status of bridge port is disabled. Max of number of unicast entries that can be learnt/configured on a birdge port on CPE side is 4096. The default value for number of unicast entries that can be learnt or configured on a CPE side bridge port is 4096. Max of number of unicast entries that can be learnt/configured on a birdge port on NET side is 4096. The default value for number of unicast entries that can be learnt or configured on a bridge port is 4096. Max of number of unicast entries that can be learnt/configured on a birdge port on downlink side is 256. The default value for number of unicast entries that can be learnt or configured on a bridge port is 256. This field is unused if the bridge port is created over an PPPOE/IPOE interface or PPPOE/ IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface.
Learning Status	The State of Learning on this bridge port. The value enable (1) indicates that unicast Mac address learning is enabled and the value disable indicates that unicast Mac address learning is disabled on this bridge port. The default value of learning status for CPE/Downlink side bridge ports shall be enable and for NET side bridge port default value shall be disable. This field is unused if the bridge port is created over an PPPOE/IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface.
Port Oper Status	The current operational state of the bridge port. If AdminStatus of the

	bridge port is disable (2), then OperStatus of the port should be disable (2). If AdminStatus of the bridge port is changed to enable(1), then OperStatus of the port should change to enable(1) if the bridge port is ready to transmit and receive network traffic. The bridge port will have the OperStatus value as dormant (5) if the 'configstatus' of the bridge port is 'config' and it is waiting for a packet to be sensed, on its lower interface index, to get activated.
Port Admin Status	The desired state of the bridge port. On creation the bridge port shall be created in enabled AdminStatus by default.
Sticky Status	Indicates if the port has been set as sticky. The value enable(1) indicates that the entries learnt on this port won't be aged out. It also indicates that the entries learnt on this port shall not be learnt on any other port. The entries learnt on this port can only be removed by management action or by making the value as disable (2) so that the entries can be aged out. This field is unused if the bridge port is created over an PPPOE/ IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface.
FDB Modify	This specifies whether this port can overwrite an existing forwarding database entry. This field is unused if the bridge port is created over an PPPOE/ IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface.
Acl Global Deny Apply	This specifies whether the global acl macentry deny list represented by MO AclGlobalMacList is to be applied to this port or not. The default value of this parameter shall depend on the port type. For Net side ports, the default value shall be disable and for the cpe side ports the default value shall be enable. This field is unused if the bridge port is created over an PPPOE/IPOE interface or PPPOE/IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface.
Acl Global Track Apply	This specifies whether the global acl macentry track list represented by MO AclGlobalMacList is to be applied to this port or not. The default value of this parameter shall depend on the port type. For Net side ports, the default value shall be disable and for the cpe side ports the default value shall be enable. This field is unused if the bridge port is created over an PPPOE/IPOE interface or PPPOE/ IPOE is sensed. Any value of this field shall be ignored for a bridge port created over a PPPOE/IPOE interface.
ProxyArpStatus	The Proxy Arp Status on this bridge port. The value enable of this field

	indicates that Proxy Arp request can be received through this port. This field can be enabled only on bridge port created over ethernet or aggregator interface. Before enabling this field user should create a filter rule with rule action as Copy to Control and rule description as IPOE_CONTROL and map it to all those interfaces through which user wants to receive proxy arp requests.
Sensed IfIndex	This specifies the sensed interface index corresponding to the bridge port. This field is used to determine the stack sensed for this bridge port in the auto sensing scenario. This field cannot be modified. If the oper status of the bridge port is 'enable' or 'disable' then the value of this field gives the interface index on which the bridge port is currently stacked. If the oper status is 'dormant' and the value of this field is other than '-', then it represents the last interface index on which the bridge port had been stacked.
ArpTStatus	This specifies whether ARP translation will be done on the ARP packets received/transmitted on this port. When enabled, ARP source MAC address of the incoming ARP packets (both request/reply) will be changed to virtual MAC address (if applicable) and the ARP target MAC address of the outgoing ARP reply packets will be changed to the original host MAC address (if applicable).
Directed ARP status	This specifies whether the ARP packets received on this bridge port are to be directed to a single port using (VLANId, IP address) to bridge port mapping learnt using DRA. This field can be enabled only on the NET side bridge port. This attribute is effective in conjunction with the attribute 'gsv dot1qVlanStaticDirectedARP' of 'Dot1qVlanStatic' MO. ARP packets are to be directed as mentioned above, only if both the flags are enabled. If any of the two is disabled, the ARP packets will be forwarded as per the normal bridging flow.
Port Type	This field specifies whether the port is trusted or not. This information is used by some of the control plane applications to send packet on trusted ports, in case the application fails to uniquely determine a port.

5.6.8 Bridge static mcast Commands

5.6.8.1 Get bridge static mcast

Description:
Use this command to get.

Command Syntax:
get bridge static mcast [**vlanid** <vlanid-val>] [**mcastaddr** <mcastaddr-val>]

5.6.8.2 Create bridge static mcast

Description:
Use this command to create.

Command Syntax:
create bridge static mcast vlanid <vlanid-val> **mcastaddr** <mcastaddr-val> [**egressports egressports | none**] [**forbidegressports** <forbidegressports-val> **| none**]

5.6.8.3 Delete bridge static mcast

Description:
Use this command to delete.

Command Syntax:
delete bridge static mcast vlanid <vlanid-val> **mcastaddr** <mcastaddr-val>

5.6.8.4 Modify bridge static mcast

Description:
Use this command to modify.

Command Syntax:
modify bridge static mcast vlanid <vlanid-val> **mcastaddr** <mcastaddr-val> [**egressports <**egressports-val> **| none | none**] [**forbidegressports <**forbidegressports-val>> **| none**]

Parameters:

Name	Description
vlanid <vlanid-val>	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is optional and can be passed as zero or a valid vlanid value. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For the case when the attribute "McastDeviceCapabilities" of MO "sysSizingTable" has value "none", VLAN id is not required. This feature is not supported for VLAN with vlanid as 4097.VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0 - 4095
mcastaddr **<**mcastaddr-val>	The destination multicast MAC address in a frame, to which the filtering information of this entry applies. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional
egressports **<**egressports-val> |none	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must be forwarded. A port may not be added in this set if it is already a member of the set of ports in ForbiddenEgressPorts. **Type:** Create – Optional Modify – Optional **Valid values:** 0 **Default value:** 0
Forbidegressports **<**forbidegressports-val> | none	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must not be forwarded, regardless of any dynamic information. A port may not be added in this set if it is already a member of the set of ports in EgressPorts. **Type:** Create – Optional Modify – Optional **Valid values:** 0 **Default value:** 0

Example:

$ create bridge static mcast vlanid 7 mcastaddr 00:30:4F:00:00:01 recvport 0 egressports 10 forbidegressports 20 SKIP 1

Output:

Verbose Mode On
Entry Created
VLan Index : 7 Mcast Address : 00:30:4F:00:00:01
Egress ports : 10
Forbidden Egress ports : 20
Verbose Mode Off:
Entry Created

Output Fields:

Field	Description
VLan Index	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is optional and can be passed as zero or a valid vlanid value. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For the case when the attribute "McastDeviceCapabilities" of MO "sysSizingTable" has value "none", VLAN id is not required. This feature is not supported for VLAN with vlanid as GS_UNREGISTERED_VLANID.VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Mcast Address	The destination multicast MAC address in a frame, to which the filtering information of this entry applies.
Egress ports	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must be forwarded. A port may not be added in this set if it is already a member of the set of ports in ForbiddenEgressPorts.
Forbidden Egress ports	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must not be forwarded, regardless of any dynamic information. A port may not be added in this set if it is already a member of the set of ports in EgressPorts.

Cautions:

- An entry in this table shall not be applicable for a bridge port created over PPPOE/IPOE interface.

References:

- Bridge Commands

5.6.9 Bridge static ucast Commands

5.6.9.1 Get bridge static ucast

Description:
Use this command to get.

Command Syntax:
get bridge static ucast [vlanid <vlanid-val>] [**ucastaddr** <ucastaddr-val>]

5.6.9.2 Create bridge static ucast

Description:
Use this command to create.

Command Syntax:
create bridge static ucast vlanid <vlanid-val> **ucastaddr** <ucastaddr-val> [**portid** <portid-val>]

5.6.9.3 Delete bridge static ucast

Description:
Use this command to delete.

Command Syntax:
delete bridge static ucast vlanid <vlanid-val> **ucastaddr** <ucastaddr-val>

5.6.9.4 Modify bridge static ucast

Description:

Use this command to modify.

Command Syntax:

modify bridge static ucast vlanid <vlanid-val> **ucastaddr** <ucastaddr-val> [**portid** <portid-val>]

Parameters:

Name	Description
vlanid <vlanid-val>	The VLAN index referring to this VLAN. In case of device capability not supporting vlans, vlan id "0" is a valid value. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0 - 4095
ucastaddr **<**ucastaddr-val>	The destination unicast MacAddr to which filtering info applies. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional
portid <portid-val>	The set of ports, for which a frame with a specific unicast address will be flooded in the event that it has not been learned. It also specifies the set of ports a specific unicast address may be dynamically learnt on. This list shall have only the CPE side ports. Currently only one port can be set in this list. **Type:** Create – Optional Modify – Optional **Valid values:**1-386

Example:

$create bridge static ucast vlanid 1 ucastaddr 1:1:1:1:1:1 recvport 0 portid 2 status 1 cfgmode Config

Output:

Verbose Mode On

Entry Created

Vlan Index : 1 Ucast Address : 1:1:1:1:1:1

Port Id : 2

Verbose Mode Off:

Entry Created

Output Fields:

Field	Description
Vlan Index	The VLAN index referring to this VLAN. In case of device capability not supporting vlans, vlan id "0" is a valid value. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Ucast Address	The destination unicast MacAddr to which filtering info applies.
Port Id	The set of ports, for which a frame with a specific unicast address will be flooded in the event that it has not been learned. It also specifies the set of ports a specific unicast address may be dynamically learnt on. This list shall have only the CPE side ports. Currently only one port can be set in this list. Type - optional, Valid values:1-386

Cautions:

- An entry in this table shall not be applicable for a bridge port created over PPPOE/IPOE interface.

References:

- Bridge Commands.

5.6.10 Bridge tbg traps Commands

5.6.10.1 Get bridge tbg traps

Description:
Use this command to get.

Command Syntax:
get bridge tbg traps

5.6.10.2 Modify bridge tbg traps

Description:
Use this command to modify.

Command Syntax:
modify bridge tbg traps [**bindingstatus** enable | disable] [**fdbtrapstatus** enable | disable] [**vmactrapstatus** enable | disable] [**traploss** Ok | Notok]

Parameters:

Name	Description
bindingstatus enable |disable	This parameter allows the user to enable or disable the generation of 'binding status changed' trap. This trap is sent when the port binding of a unicast entry changes, i.e. the same address is learnt on a different port in the same Forwarding Database. **Type:** Modify — Optional
fdbtrapstatus enable |disable	This parameter allows the user to enable or disable the generation of forwarding table trap. This trap is sent when an entry in the forwarding table is learnt/ created/modified/deleted or aged out. These traps shall be given by the packet filter module to the applications registered for these traps. **Type:** Modify — Optional
vmactrapstatus enable |disable	This parameter allows the user to enable or disable the generation of trap when MAC to Virtual MAC mapping for the MAC address is not found in the M2VMac database associated with the corresponding interface. These traps shall be given by the packet filter module to the applications registered for these traps. **Type:** Modify — Optional
traploss Ok | Notok	This parameter tells whether the loss of binding status and forwarding table trap is acceptable or not. Such a trap can be lost because of the unavailability of resources. ‘OK’ means trap loss is acceptable. In this case, when the trap is lost an indication shall be given to the application, which can then

	synchronize its database with the forwarding table. 'NotOK' means trap loss is not acceptable. In this case, if it is not possible to raise the trap for any forwarding table entry getting learnt/modified/deleted, that entry shall not get learnt/modified/delete. **Type:** Modify – Optional

Example:

$ get bridge tbg traps

Output:

Binding Status Changed Trap : enable Forwarding Table Trap : enable
Virtual Mac Trap : enable
Forwarding Table Trap Loss : OK

Output Fields:

Field	Description
Binding Status Changed Trap	This parameter allows the user to enable or disable the generation of 'binding status changed' trap. This trap is sent when the port binding of a unicast entry changes, i.e. the same address is learnt on a different port in the same Forwarding Database.
Forwarding Table Trap	This parameter allows the user to enable or disable the generation of forwarding table trap. This trap is sent when an entry in the forwarding table is learnt/ created/modified/deleted or aged out. These traps shall be given by the packet filter module to the applications registered for these traps.
Virtual Mac Trap	This parameter allows the user to enable or disable the generation of trap when MAC to Virtual MAC mapping for the MAC address is not found in the M2VMac database associated with the corresponding interface. These traps shall be given by the packet filter module to the applications registered for these traps.
Forwarding Table Trap Loss	This parameter tells whether the loss of binding status and forwarding table trap is acceptable or not. Such a trap can be lost because of the unavailability of resources. OK means trap loss is acceptable. In this case, when the trap is lost an indication shall be given to the application, which can then synchronize its database with the forwarding table. NotOK means trap loss is not acceptable. In this case, if it is not possible to raise the trap for any forwarding table entry getting learnt/modified/deleted, that entry shall not get learnt/modified/delete.

References:

- Bridge Commands

5.6.11 GARP Port Info Commands

5.6.11.1 Get garp port info

Description:
Use this command to get.

Command Syntax:
get garp port info [**portid** <portid-val>]

5.6.11.2 Modify garp port info

Description:
Use this command to modify.

Command Syntax:
modify garp port info portid <portid-val> [**jointimer** <jointimer-val>] [**leavetimer** <leavetimer-val>] [**leavealltimer** <leavealltimer-val>]

Parameters:

Name	Description
portid <portid-val>	Index of the Bridge Port **Type** **:** Get - Optional Modify - Mandatory **Valid values:** 1 - 386
jointimer **<**jointimer-val>	The GARP Join time, in centiseconds. Join time value should be less than half the Leave time value **Type** **:**Optional **Valid values:** 10-255
leavetimer **<**leavetimer-val>	The GARP Leave time, in centiseconds. Leave time value should be greater than 2 times Join time value. **Type** **:** Optional **Valid values:** 10-255
leavealltimer **<**leavealltimer-val>	The GARP LeaveAll time, in centiseconds. LeaveAll time value should be large (more than 15 times) relative to Leave time value. **Type** **:** Optional **Valid values:** 10-65535

Example:
$ get garp port info

Output:

PortId Join Timer Leave Timer LeaveAll Timer

---

6 30 90 5000

Output Fields:

Field	Description
PortId	Index of the Bridge Port.
Join Timer	The GARP Join time, in centiseconds. Join time value should be less than half the Leave time value.
Leave Timer	The GARP Leave time, in centiseconds. Leave time value should be greater than 2 times Join time value.
LeaveAll Timer	The GARP LeaveAll time, in centiseconds. LeaveAll time value should be large (more than 15 times) relative to Leave time value.

References:

- GVRP Commands

5.6.12 STP Group Commands

5.6.12.1 Get stp info

Description:

Use this command to display the current status of the Spanning Tree Protocol Group.

Command Syntax:

get stp info

5.6.12.2 Modify stp info

Description:

Use this command to alter the configuration for the spanning tree protocol group.

Command Syntax:

modify stp info [**priority** <priority-val>] [**maxage** <maximum-age>] [**htime** <hello-time>] [**fdelay** <forward-delay>] [enable|disable]

5.6.12.3 Reset stp stats

Description:

Use this command to reset STP global statistics.

Command Syntax:

reset stp stats

Parameters:

Name	Description
Priority <priority-val>	The value of the write-able portion of the Bridge ID,i.e.,the first two octets of the (8 octet long) Bridge ID. The other (last) 6 octets of the Bridge ID are given by the value of dot1dBaseBridgeAddress. **Type :** Optional **Valid values:** 0 - 65535.
Maxage <maximum-age>	The maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded, in units of seconds. This is the actual value that this bridge is currently using. **Type :** Optional **Valid values:** 6 - 40.
htime <hello-time>	The amount of time between the transmission of Configuration bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of second. This is the actual value that this bridge is currently using. **Type :** Optional **Valid values:** 1 - 10
Fdelay <forward-delay>	This is the actual time value, measured in units of seconds, controls how fast a port changes its spanning state when moving towards the Forwarding state. The value determines how long the port stays in each of the Listening and Learning states, which precede the Forwarding state. This value is also used, when a topology change has been detected and is underway, to age all dynamic entries in the Forwarding Database. **Type :** Optional **Valid values:** 4 - 30
Enable|disable	Spanning Tree Protocol to be enabled on the Bridge or not. Spanning Tree Protocol can not be enabled in Stacked Vlan

	mode. **Type :** Optional **Valid values:** disable | enable

Example:

$ modify stp info priority 0x20 maxage 25 htime 5 fdelay 20 enable

Output:

Protocol Spec. : IEEE 8021D Priority : 0x20
Top. Changes : 1 Curr Top. Age(sec) : 35.0
Desig Root : 00:30:4F:10:5A:6C:DB:20 Root Cost : 0
Root Port : None Hold Time (sec) : 1.0
Br Max Age(sec) : 25 Curr Max Age (sec) : 20.0
Br Hello Time(sec) : 5 Curr Hello Time(sec) :2.0
Br Fwd Delay(sec) : 20 Curr Fwd Delay (sec) :15.0
STP status : enable
Verbose Mode Off
Set Done

Output Fields:

Field	Description
Protocol Spec	An indication of what version of the Spanning Tree Protocol is being run.
Priority	The value of the write-able portion of the Bridge ID,i.e.,the first two octets of the (8 octet long) Bridge ID. The other (last) 6 octets of the Bridge ID are given by the value of dot1dBaseBridgeAddress.
Top. Changes	The total number of topology changes detected by this bridge since the management entity was last reset or initialized.
Curr Top. Age(Sec)	The time (in second) since the last time a topology change was detected by the bridge entity.
Desig Root	The bridge identifier of the root of the spanning tree as determined by the Spanning Tree Protocol as executed by this node. This value is used as the Root Identifier parameter in all Configuration Bridge PDUs originated by this node.
Root Cost	The cost of the path to the root as seen from this bridge.
Root Port	The port number of the port which offers the lowest cost path from this bridge to the root bridge.
Hold Time (Sec)	This time value determines the interval length during which no more than two Configuration bridge PDUs shall be transmitted by

	this node, in units of seconds.
Br Max Age(Sec)	The maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded, in units of seconds, when this bridge is the root of the spanning tree. Note that IEEE-802.1D specifies that the range for this parameter is related to the value of dot1dStpBridgeHelloTime.
Curr Max Age (Sec)	The maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded, in units of seconds. This is the actual value that this bridge is currently using.
Br Hello Time(Sec)	The value that all bridges use for HelloTime when this bridge is acting as the root.
Curr Hello Time(Sec)	The amount of time between the transmission of Configuration bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of second. This is the actual value that this bridge is currently using.
Br Fwd Delay(Sec)	The value that all bridges use for ForwardDelay when this bridge is acting as the root. Note that IEEE-802.1D specifies that the range for this parameter is related to the value of dot1dStpBridgeMaxAge.
Curr Fwd Delay (Sec)	This is the actual time value, measured in units of seconds, controls how fast a port changes its spanning state when moving towards the Forwarding state. The value determines how long the port stays in each of the Listening and Learning states, which precede the Forwarding state. This value is also used, when a topology change has been detected and is underway, to age all dynamic entries in the Forwarding Database.
STP status	Spanning Tree Protocol to be enabled on the Bridge or not. Spanning Tree Protocol can not be enabled in Stacked Vlan mode.

References:

- get stp info command
- stp port related commands.

5.6.13 STP Port Commands

5.6.13.1 Get stp port

Description:
Use this command to display port specific information for the Spanning Tree Protocol, for all ports, or for the specified port.

Command Syntax:
get stp port info portid <portid-val>

5.6.13.2 Modify stp port

Description:
Use this command to alter the configuration for the spanning tree protocol.

Command Syntax:
modify stp port info portid <portid-val> [enable|disable] [**pcost** <pcost-val>] [**priority** <priority-val>] [**pktpriority** <pktpriority-val>]

5.6.13.3 Reset stp port stats

Description:
Use this command to reset the STP port stats for a specific interface.

Command Syntax:
reset stp port stats portid <portid-val>

Parameters:

Name	Description
portid <portid-val>	The port number of the port for which this entry contains Spanning Tree Protocol management information. **Type :** Mandatory **Valid values:** 1 to 386;
enable|disable	Spanning Tree Protocol to be enabled on the Port or not **Type:** Optional **Valid values:** enable, disable
pcost <pcost-val>	The contribution of this port to the path cost of paths towards the spanning tree root, which include this port. **Type :** Optional **Valid values:** 1 - 65535
priority <priority-val>	The value of the priority field which is contained in the most

	significant 6 bits of the more significant octet of the (2 octet long) Port ID. The least significant 2 bits of the more significant octet and the less significant octet (total 10 bits) of the Port ID is given by the value of dot1dStpPort. **Type:** Optional **Valid values:** 0 -255.
pktpriority <pktpriority-val>	For STP PDUs, this priority shall be used for choice of traffic class/ Queue on out¦going interface. In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent. **Type:** Modify – Optional **Valid values:** 0 - 7

Example:

$ modify stp port portid 1 disable pcost 1000 priority 0x10

Output:

Verbose Mode On
Port ID : 1 Priority : 0x0
State : Forwarding PortStatus : Enable
Path Cost : 100 Desig Cost : 0
Desig Root:00:30:4F0:10:5A:6C Desig Bridge:00:30:4F:10:5A:6C
Desig Port : 0x8000 Fwd Transitions : 1
STP Status : Enable

Set Done

Port ID : 1 Priority : 0x0
State : Forwarding PortStatus : Enable
Path Cost : 100 Desig Cost : 0
Desig Root:00:30:4F:10:5A:6C Desig Bridge:00:30:4F:10:5A:6C
Desig Port : 0x8000 Fwd Transitions : 1
STP Status : Enable STP PacketsPrio : 2
Verbose Mode Off
Set Done

Output Fields:

Field	Description
Port Id	The port number of the port for which this entry contains Spanning Tree Protocol management information.
Priority	The value of the priority field which is contained in the most significant 6 bits of the more significant octet of the (2 octet long) Port ID. The least significant 2 bits of the more significant octet and the less significant octet (total 10 bits) of the Port ID is given by the value of dot1dStpPort.
State	The port's current state as defined by application of the Spanning Tree Protocol. This state controls what action a port takes on reception of a frame.
Port Status	The enabled/disabled status of the port.
Path Cost	The contribution of this port to the path cost of paths towards the spanning tree root which include this port.
Desig Cost	The path cost of the Designated Port of the segment connected to this port. This value is compared to the Root Path Cost field in received bridge PDUs.
Desig Root	The unique Bridge Identifier of the Bridge recorded as the Root in the Configuration BPDUs transmitted by the Designated Bridge for the segment to which the port is attached.
Desig Bridge	The Bridge Identifier of the bridge which this port considers to be the Designated Bridge for this port's segment.
Desig Port	The Port Identifier of the port on the Designated Bridge for this port's segment.
Fwd Transitions	The number of times this port has transitioned from the Learning state to the Forwarding state.
STP status	Spanning Tree Protocol to be enabled on the Bridge or not.
STP PacketsPrio	For STP PDUs, this priority shall be used for choice of traffic class/ Queue on out¦going interface. In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent

Caution:

- The specified interface should be an existing bridge interface.

References:

- bridge port intf command.

5.6.14 Transparent Bridging Table Commands

5.6.14.1 Modify bridge tbg info

Description:
Use this command to modify.

Command Syntac:
modify bridge tbg info [**aging** <aging-timeout>] [**slaveaging** <aging-timeout>] [**netaging** <aging-timeout>] [**floodsupport** enable | disable] [**bcastsupport** enable | disable] [**mcastsupport** enable | disable] [**mcastdrop** enable | disable] [**dropiffdbfull** <dropiffdbfull-val>] [**resnetlearning** <resnetlearning-val>] [**resvmacprofileid** <resvmacprofileid-val>]

5.6.14.2 Get Bridge tbg info

Description:
Use this command to get bridging related global information.

Command Syntax:
get bridge tbg info

Parameters:

Name	Description
Aging <aging-timeout>	The timeout period, in seconds, for aging out dynamically learned forwarding information from CPEs. The value 0 can be configured when aging is to be stopped. **Type:** Modify Optional **Valid values:** 10 -1000000
slaveaging <aging–timeout>	The timeout period, in seconds, for aging out dynamically learned forwarding information learned from the slave device. The recommended value for this is more than or equal to the value for dot1dTpAgingTimeOut. The value 0 can be configured when aging is to be stopped. **Valid values:** 10 -1000000
netaging <aging – timeout>	The timeout period, in seconds, for aging out dynamically learned forwarding information from NET side port. This is used only for full bridge configuration. The recommended value of net aging timeout should be greater than that of the ìAgingî parameter. The value 0 can be configured when aging is to be stopped. **Valid values:** 10 -1000000

floodsupport enable | disable	This is used to specify whether the unknown unicast packets are to be flooded or not. The value for this is used along with per vlan configuration for flood support to determine if flooding has to be done for unknown unicast packet. **Type :** Optional **Valid Values**: enable | disable
bcastsupport enable|disable	This is used to specify whether the broadcasting is supported or not. The value for this is used along with per vlan configuration broadcast support, to determine if broadcasting has to be done for the broadcast packet.
mcastsupport enable|disable	Used to specify whether the multicast is supported or not. **Type :** Optional **Valid Values:** enable| disable
mcastdrop enable|disable	Used to specify whether the multicast packets are to be dropped, or to be forwarded, if multicast is not supported. This is only valid if **dot1dTpMcastSupport** is **false**. **Type :** Optional **Valid Values:** enable|disable
dropiffdbfull enable | disable	This specifies if the frame for which learning could not be done because of forwarding table limit being reached, is to be dropped. If this is enabled the frame for which learning could not be done because of limit exceeded shall be dropped, else forwarded based on bridge forwarding logic.This being enabled shall reduce flooding, as when a response to such a frame from which learning could not be done shall come the frame shall be flooded, as the entry for that unicast address, shall not be found in forwarding table. **Type :** Optional **Valid Values:** enable or disable **Default value:** enable
resnetlearning enable | disable	This specifies if learning can be done over net side port for residential bridging. Learning shall be done on Net port in case of vlan with residential bridging if 'dot1dPortGsLearningStatus' and 'dot1dTpGsResidentialNetLearning'is enabled. In case of vlan with 'unrestricted' or 'restricted' bridging the learning is governed only by per port configuration i.e. 'dot1dBasePortTable'. Currently the modification of this parameter is not supported. **Type :** Optional **Valid Values:** enable or disable **Default value:** enable
resvmacprofileid	The Profile is used to determine the behavior for Reserved Mac

<resvmacprofileid-val>	destined frames on the bridge. Reserved Mac addresses are the multicast addresses defined as reserved in IEEE 802.1Q and IEEE 802.1ad. If it does not contain any valid value then the behavior for Reserved Mac destined frames is determined based on Resvd Mac profile associated with the VLAN in which the frame belongs to.VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Modify – Optional **Valid values:** 1 -4

Example:

$ modify bridge tbg info aging 20 slaveaging 100

Output:

Verbose Mode On
MacAddress : 00:BB:CC:DD:EE:FF
No. of Ports : 0
Base Type : Transparent
Aging Timeout(sec) : 300 Slaveaging TimeOut(sec) : 600
Netaging TimeOut(sec) : 600 Flood Support : Disable
BroadCast Support : Enable MultiCast Support : Enable
MultiCast Drop : Disable Full Bridging Status : Unrestricted
Drop If FDB full status: Enable ResidentialNetLearning : Enable
Reserved Mac Profile Id: 1

Set Done

MacAddress : 00:BB:CC:DD:EE:FF
No. of Ports : 0
Base Type : Transparent
Aging Timeout(sec) : 20 Slaveaging TimeOut(sec) : 100
Netaging TimeOut(sec) : 600 Flood Support : Disable
BroadCast Support : Enable MultiCast Support : Enable
MultiCast Drop : Disable Full Bridging Status : Unrestricted
Drop If FDB full status: Enable ResidentialNetLearning : Enable
Reserved Mac Profile Id: 1

Output Fields:

Field	Description
MacAddress	The MAC address used by this bridge, when it must be referred to, in a unique fashion. It is the address of one of the Ethernet ports.
No. of Ports	The maximum number of ports that can be controlled by this bridge.
Base Type	Indicates what type of bridging this bridge can perform. It is always Transparent Bridging or STP.
Aging TimeOut	The timeout period, in seconds, for aging out dynamically learned forwarding information from CPEs. The value 0 can be configured when aging is to be stopped.
Slaveaging TimeOut	The timeout period, in seconds, for aging out dynamically learned forwarding information learned from the slave device. The recommended value for this is more than or equal to the value for dot1dTpAgingTimeOut. The value 0 can be configured when aging is to be stopped.
Floodsupport	This is used to specify whether the unknown unicast packets are to be flooded or not. The value for this is used along with per vlan configuration for flood support to determine if flooding has to be done for unknown unicast packet.
Bcastsupport	This is used to specify whether the broadcasting is supported or not. The value for this is used along with per vlan configuration broadcast support, to determine if broadcasting has to be done for the broadcast packet.
Mcastsupport	Used to specify whether the multicast is supported or not.
Mcastdrop	Used to specify whether the multicast packets are to be dropped, or to be forwarded, if multicast is not supported. This is only valid if **dot1dTpMcastSupport** is **false**.
NetAgingTimeout	The timeout period, in seconds, for aging out dynamically learned forwarding information from NET side port. This is used only for full bridge configuration. The recommended value of net aging timeout should be greater than that of dot1dTpAgingTimeOut.
Full Bridging Status	This specifies the current state of full bridging on the bridge. Thebridge can be set to residential bridging, restricted full bridging or unrestricted full bridging. In residential bridging, all packets from a CPE side port are sent to Net side port without doing a lookup in the forwarding table. In restricted full bridging, there is a lookup and a packet coming from a CPE

	port destined for another CPE port is dropped. Hence, CPE-CPE switching is not permitted. In unrestricted full bridging, all traffic is forwarded based on lookup.
Drop If FDB full status	This specifies if the frame for which learning could not be done because of forwarding table limit being reached, is to be dropped. If this is enabled the frame for which learning could not be done because of limit exceeded shall be dropped, else forwarded based on bridge forwarding logic.This being enabled shall reduce flooding, as when a response to such a frame from which learning could not be done shall come the frame shall be flooded, as the entry for that unicast address, shall not be found in forwarding table.
ResidentialNetLearning	This specifies if learning can be done over net side port for residential bridging. Learning shall be done on Net port in case of vlan with residential bridging if 'dot1dPortGsLearningStatus' and 'dot1dTpGsResidentialNetLearning'is enabled. In case of vlan with 'unrestricted' or 'restricted' bridging the learning is governed only by per port configuration i.e. 'dot1dBasePortTable'. **Currently the modification of this parameter is not supported.**
Reserved Mac Profile Id	The Profile is used to determine the behavior for Reserved Mac destined frames on the bridge. Reserved Mac addresses are the multicast addresses defined as reserved in IEEE 802.1Q and IEEE 802.1ad. If it does not contain any valid value then the behavior for Reserved Mac destined frames is determined based on Resvd Mac profile associated with the VLAN in which the frame belongs to.VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.

References:

- Bridge Port commands
- Bridge Port stats commands
- Ethernet commands

5.7 Bridge Multicast Commands

5.7.1 Bridge mcast forwarding Commands

5.7.1.1 Get bridge mcast forwarding

Description:

Use this command to get.

Command Syntax:

get bridge mcast fwdall [**vlanid** <vlanid-val>]

5.7.1.2 Modify bridge mcast fwdall

Description:

Use this command to modify.

Command Syntax:

modify bridge mcast fwdall [**vlanid** <vlanid-val>] [**egressports** <egressports-val> | none] [**forbidegressports** <forbidegressports-val> | none]

Parameters:

Name	Description
vlanid <vlanid-val>	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across vlans. Hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence vlanid is a mandatory parameter in all the commands other than - get. For No Vlan case, vlan id is not required. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Get — Optional **Valid values:** 0 - 4095
egressports <egressports-val> | none	The set of ports, configured by management in this VLAN, to which all multicast group-addressed frames are to be forwarded. More than one value can be given, separated by spaces. **Type:** Modify -- Optional **Valid values:** 0
forbidegressports	The set of ports configured by management in this VLAN, for

<forbidegressports-val> | none	which the Service Requirement attributes Forward All Multicast Groups, may not be dynamically registered by GMRP. More than one value can be given, separated by spaces. **Type:** Modify -- Optional **Valid values:** 0

Example:

$ get bridge mcast fwdall vlanid 1

Output:

VLAN Index : 1
Forward All Ports : 34
Forward All Static Ports : 1 2 3 5
Forward All Forbidden Ports : 4 9 10 11

Output Fields:

Field	Description
Vlan Index	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across vlans. Hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence vlanid is a mandatory parameter in all the commands other than - get. For No Vlan case, vlan id is not required. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Forward All Ports	The complete set of ports in this VLAN, to which all multicast group-addressed frames are to be forwarded. This includes ports for which this need has been determined dynamically by GMRP, or configured statically by management.
Forward All Static Ports	The set of ports, configured by management in this VLAN, to which all multicast group-addressed frames are to be forwarded. More than one value can be given, separated by spaces.
Forward All Forbidden Ports	The set of ports configured by management in this VLAN, for which the Service Requirement attribute Forward All Multicast Groups, may not be dynamically registered by GMRP. More than one value can be given, separated by spaces.

Cautions:

- An entry in this table shall not be applicable for a bridge port created over PPPOE/IPOE interface.

References:

- bridge static multicast

5.7.2 Bridge mcast forwarding Commands

5.7.2.1 Get bridge mcast forwarding

Description:

Use this command to get.

Command Syntax:

get bridge mcast forwarding [**vlanid** <vlanid-val>] [**macaddr** <macaddr-val>]

Parameters:

Name	Description
vlanid <vlanid-val>	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is not required and is passed as zero. In devices supporting "Independent Vlan for multicast" capability. Each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For No Vlan case VLAN id is not required. When Vlan transparency feature is supported, the valid range for vlanid also includes 4097. In case of "Shared Vlan Multicast also there shall always be a seperate entry for 4097 if the VLAN with that VLAN Id is created. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Modify — Optional Get — Optional **Valid values:** 0 - 4095
macaddr **<**macaddr-val>	The destination Group MAC address in a frame, to which this entry's filtering information applies **Type:** Get -- Optional

Example:

$ get bridge mcast forwarding vlanid 1 macaddr 00:30:4F:00:08:01

Output:

Vlan Index : 1 Mac Address : 00:30:4F:00:08:01
Egress ports : 1 2
Group Learnt : 1

Output Fields:

Field	Description
VLAN Index	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is not required and is passed as zero. In devices supporting "Independent Vlan for multicast" capability. Each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For No Vlan case VLAN id is not required. When Vlan transparency feature is supported, the valid range for vlanid also includes 4097. In case of "Shared Vlan Multicast also there shall always be a seperate entry for 4097 if the VLAN with that VLAN Id is created. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Mac Address	The destination Group MAC address in a frame, to which this entry's filtering information applies
Egress ports	The complete set of bridge ports, in this VLAN, to which frames destined for this Group MAC address are currently being explicitly forwarded. This does not include ports for which this address is only implicitly forwarded, in the dot1qForwardAllPorts list.
Group Learnt	The subset of bridge ports in EgressPorts, which were learned by GMRP or some other dynamic mechanism, in this Filtering database.

References:

- bridge static multicast

5.7.3 Bridge mcast fwdunreg Commands

5.7.3.1 Get bridge mcast fwdunreg

Description:
Use this command to get.

Command Syntax:
get bridge mcast fwdunreg [**vlanid** <vlanid-val>]

5.7.3.2 Modify bridge mcast fwdunreg

Description Syntax:
Use this command to modify.

Command Syntax:
modify bridge mcast fwdunreg [**vlanid** <vlanid-val>] [**egressports** <egressports-val> | none] [**forbidegressports** <forbidegressports-val> | none]

Parameters:

Name	Description
vlanid <vlanid-val>	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is not required and is passed as zero. In devices supporting "Independent Vlan for multicast" capability. Each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For No Vlan case VLAN id is not required. When Vlan transparency feature is supported, the valid range for vlanid also includes 4097. In case of "Shared Vlan Multicast also there shall always be a seperate entry for 4097 if the VLAN with that VLAN Id is created. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Modify — Optional Get — Optional **Valid values:** 0 - 4095
egressports **<**egressports-val> | none	The set of ports, configured by management, in this VLAN, to which multicast group-addressed frames for which there is no more specific forwarding information, are to be forwarded. More than one value can be given, separated by spaces.

	Type: Modify – Optional **Valid values:** 0
forbidegressports <forbidegressports-val> | none	The set of ports, configured by management in this VLAN, for which the Service Requirement attribute Forward Unregistered Multicast Groups, may not be dynamically registered by GMRP. More than one value can be given, separated by spaces. **Type:** Modify – Optional **Valid values:** 0

Example:

$ get bridge mcast fwdunreg vlanid 1

Output:

VLAN Index : 1
Forward Unregistered Ports : 45
Forward Unregistered Static Ports : 1 2 3 6
Forward Unregistered Forbidden Ports : 4 9 10

Output Fields:

Field	Description
VLAN Index	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is not required and is passed as zero. In devices supporting "Independent Vlan for multicast" capability. Each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For No Vlan case VLAN id is not required. When Vlan transparency feature is supported, the valid range for vlanid also includes 4097. In case of "Shared Vlan Multicast also there shall always be a seperate entry for 4097 if the VLAN with that VLAN Id is created. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Forward Unregistered Ports	The complete set of ports in this VLAN, to which multicast group-addressed frames for which there is no more specific forwarding information, will be forwarded. This includes ports, for which this need has been determined dynamically by GMRP, or configured statically by management.
Forward Unregistered Static Ports	The set of ports, configured by management, in this VLAN, to which multicast group-addressed frames for which there is no more specific forwarding information, are to be forwarded. More than one value can

	be given, separated by spaces.
Forward Unregistered Forbidden Ports	The set of ports, configured by management in this VLAN, for which the Service Requirement attribute Forward Unregistered Multicast Groups, may not be dynamically registered by GMRP. More than one value can be given, separated by spaces.

Cautions:

- An entry in this table shall not be applicable for a bridge port created over PPPOE/IPOE interface.

References:

- Bridge commands.

5.7.4 Bridge Static Multicast Commands

5.7.4.1 Create bridge static mcast

Description:

Use this command is used to create.

Command Syntax:

create bridge static mcast [**vlanid** <vlanid-val>] **mcastaddr** <mcastaddr-val> [**egressports** <egressports-val>**]** [**forbidegressports** <forbidegressports-val>]

5.7.4.2 Delete bridge static mcast

Description:

Use this command is used to delete.

Command Syntax:

delete bridge static mcast [**vlanid** <vlanid-val>] **mcastaddr** <mcastaddr-val>

5.7.4.3 Get bridge static mcast

Description:

Use this command is used to get.

Command Syntax:

get bridge static mcast [**vlanid** <vlanid-val>] [**mcastaddr** <mcastaddr-val>]

5.7.4.4 Modify bridge static mcast

Description:

Use this command is used to modify

Command Syntax:

modify bridge static mcast [**vlanid** <vlanid-val>] **mcastaddr** <mcastaddr-val> [**egressports** <egressports-val>] [**forbidegressports** <forbidegressports-val>]

Parameters:

Name	Description
Vlanid <vlanid-val>	The VLAN ID for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANs. Hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence vlanid is a mandatory parameter in all the commands other than - get. For No Vlan case, vlan id is not required. This feature is not supported for VLAN with vlanid as 4097. **Type**: Optional for all commands **Valid values**: 0 - 4095 **Default value**:
mcastaddr <mcastaddr-val>	The destination multicast MAC address in a frame, to which this entry's filtering information applies. Bit **0** of the first octet of the MAC address indicates a group (multicast) MAC address, if the bit is SET. For example, 01:00:00:00:00:00,03:FF:FF:FF:FF. Addresses in the range 01:80:C2:00:00:00 -01:80:C2:00:00:0f and 01:80:C2:00:00:20 -01:80:C2:00:00:2f have been blocked as value of this index, as these are reserved GARP addresses. **Type :** Create – Mandatory Modify – Mandatory Delete – Mandatory Get – Optional **Default value:**
egressports <egressports-val>|none	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must be forwarded. A port may not be added in this set, if it is already a member of the set of ports in **ForbidEgressPorts**. More than one value can be given, separated by spaces. **Type :**Optional for all commands

	Valid values: 1 – 386 **Default value:** none
forbidegressports <forbidegressports-val> **|**none	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must not be forwarded, regardless of any dynamic information. A port may not be added in this set if it is already a member of the set of ports in **EgressPorts**. **Type** **:**Optional for all commands **Valid values :** 1 – 386 **Default value:** none

Example:

$ create bridge static mcast vlanid 7 mcastaddr 00:30:4F:00:00:01 egressports 10 forbidegressports 20

Output:

Verbose Mode On:
Entry Created
VLan Index : 7 Mcast Address : 00:30:4F:00:00:01
Egress ports : 10
Forbidden Egress ports : 20
Verbose Mode Off:
Entry Created

Output Fields:

Field	Description
VLan Index	The VLAN ID for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across vlans. Hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence vlanid is a mandatory parameter in all the commands other than - get. For No Vlan case, vlan id is not required. This feature is not supported for VLAN with vlanid as 4097
Mcast Address	The destination multicast MAC address in a frame, to which the filtering information of this entry applies.
Egress ports	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must be forwarded. A port may not be added in this set if it is already a member of the set of ports in ForbiddenEgressPorts.

Forbidden Egress ports	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must not be forwarded, regardless of any dynamic information. A port may not be added in this set if it is already a member of the set of ports in EgressPorts.

Cautions:

- An entry in this table shall not be applicable for a bridge port created over PPPOE/IPOE interface.

References:

- Bridge commands.

5.8 DHCP Commands

5.8.1 DHCP Client Commands

5.8.1.1 Get dhcp client info

Description:

Use this command to get DHCP client information for clients, on the specified interface, or for all the interfaces.

Command Syntax:

get dhcp client info [**ifname** <interface-name>]

Parameters:

Name	Description
Ifname <interface-namef>	This specifies the interface name on which DHCP is running. If this is not specified, then information for clients on all such interfaces will be displayed. **Type :** Optional **Valid values :** eth-*, aggr-*

Mode:

Super-User, User

Example:

$get dhcp client info ifname eth-0

Output:

```
If-name      Server      Status     Lease Start Date    Lease Time (sec)
-------------------------------------------------------------
eth-0        1.1.1.1     Bound      Thu Jan 01 00:00:38 1970 500
```

Output Fields:

FIELD	Description
If-Name	This is an interface on which DHCP is running: It can be : *eth-*, aggr-**
Server	This specifies the address of the DHCP server with whom the client has obtained the IP address and other configuratio.s
Status	This specifies the current state of the client. It may be:*Init,*

	Selecting, Bound, Requesting, Renew or Bind.
Lease Start Date	This signifies the date on which the DHCP server leased out the IP address to the client.
Lease Time	This specifies the time period, (in seconds), for which an IP address was leased out by the server. The client is expected to renew the lease before the expiry of this timer or release the IP Address.

References:

- dhcp client stats related commands

5.8.1.2 Get dhcp client stats

Description:

Use this command to get DHCP client statistics on an interface on which the DHCP client is running, or on all such interfaces.

Command Syntax:

get dhcp client stats [**ifname** <interface-name>]

Parameters:

FIELD	Description
Ifname <interface-name>	This specifies the interface name on which DHCP is running. If this is not specified then information for clients on all such interfaces will be displayed. **Typ**e: Optional **Valid values** : *eth-0- **

Mode:

Super-User, User

Example:

$get dhcp client stats ifname eth-0

Output:

If-name : eth-0

Msgs Sent : 4 Msgs Rcvd : 0

Decline Sent : 0 Offer Msgs Rcvd : 0

Discover Msgs Sent : 4

Req Sent : 0 Acks Rcvd : 0

Rel Sent : 0 Nacks Rcvd : 0
Inform Sent : 0 Invalid Rcvd : 0

Output Fields:

FIELD	Description
If-Name	This is an interface on which DHCP is running: It can be : *eth-0*
Msgs Sent	This specifies number of DHCP messages received sent on this interface.
Msgs Rcvd	This specifies number of DHCP messages sent received on this interface.
Decline Sent	This specifies number of DHCP decline messages sent on this interface.
Offer Msgs Rcvd	This specifies number of DHCP offer messages received on this interface.
Discover Msgs Sent	This specifies number of DHCP discover messages sent on this interface.
Req Sent	This specifies number of DHCP request messages sent on this interface.
Acks Rcvd	This specifies number of DHCP acks received on this interface.
Rel Sent	This specifies number of DHCP release messages sent on this interface.
Nacks Rcvd	This specifies number of DHCP nacks received on this interface.
Inform Sent	This specifies number of DHCP inform messages sent on this interface.
Invalid Rcvd	This specifies number of invalid dhcp messages received on this interface.

References:

- dhcp client info related commands

5.9 DSL Commands

5.9.1 ADSL Alarm Profile Commands

5.9.1.1 Get adsl alarm profile

Description:
Use this command to get.

Command Syntax:
get adsl alarm profile [**ifname** <interface-name>]

5.9.1.2 Modify adsl alarm profile

Description:
Use this command to modify.

Command Syntax:
modify adsl alarm profile ifname <interface-name> [**atucthresh15minlofs** <atucthresh15minlofs-val>] [**atucthresh15minloss** <atucthresh15minloss-val>] [**atucthresh15minlols** <atucthresh15minlols-val>] [**atucthresh15minlprs** <atucthresh15minlprs-val>] [**atucthresh15miness** <atucthresh15miness-val>] [**atucthreshfastrateup** <atucthreshfastrateup-val>] [**atucthreshintlrateup** <atucthreshintlrateup-val>] [**atucthreshfastratedn** <atucthreshfastratedn-val>] [**atucthreshintlratedn** <atucthreshintlratedn-val>] [**atucinitfailtrap** False | True] [**atucoptrapenable** False | True] [**aturthresh15minlofs** <aturthresh15minlofs-val>] [**aturthresh15minloss** <aturthresh15minloss-val>] [**aturthresh15minlprs** <aturthresh15minlprs-val>] [**aturthresh15miness** <aturthresh15miness-val>] [**aturthreshfastrateup** <aturthreshfastrateup-val>] [**aturthreshintlrateup** <aturthreshintlrateup-val>] [**aturthreshfastratedn** <aturthreshfastratedn-val>] [**aturthreshintlratedn** <aturthreshintlratedn-val>] [**atucgspmstatetrapenable** False | True] [**linealarmgscntrsreset** False | True]

Parameters:

Name	Description
ifname **<**fname-val>	The ADSL alarm interface name, whose profile is to be modified or viewed **Type:** Modify – Mandatory Get – Optional
atucthresh15minlofs **<**atucthresh15minlofs-val>	The number of Loss of Frame Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection

	period, which causes the SNMP agent to send an 'adslAtucPerfLofsThreshTrap'. **Type:** Modify -- Optional **Valid values:** 0 - 900
atucthresh15minloss <atucthresh15minloss-val>	The number of Loss of Signal Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLossThreshTrap'. **Type:** Modify -- Optional **Valid values:** 0 - 900
atucthresh15minlols <atucthresh15minlols-val>	The number of Loss of Link Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLolsThreshTrap'. **Type:** Modify -- Optional **Valid values:** 0 - 900
atucthresh15minlprs <atucthresh15minlprs-val>	The number of Loss of Power Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLprsThreshTrap'. **Type:** Modify -- Optional **Valid values:** 0 - 900
atucthresh15miness <atucthresh15miness-val>	The number of Errored Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfESsThreshTrap'. **Type:** Modify -- Optional **Valid values:** 0 - 900
atucthreshfastrateup <atucthreshfastrateup-val>	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate >= ChanPrevTxRate plus the value of this object. **Type:** Modify -- Optional
atucthreshintlrateup <atucthreshintlrateup-val>	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate >= ChanPrevTxRate plus the value of this object. **Type:** Modify -- Optional
atucthreshfastratedn <atucthreshfastratedn-val>	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate <= ChanPrevTxRate minus the value of this object.

	Type: Modify -- Optional
atucthreshintlratedn <atucthreshintlratedn-val>	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate <= ChanPrevTxRate minus the value of this object. **Type:** Modify -- Optional
atucinitfailtrap False | True	Enables and disables the InitFailureTrap. This object is defaulted disable. **Type:** Modify -- Optional **Valid values:** False, True
atucoptrapenable False | True	Enables/disables the OpStateChangeTrap **Type:** Modify -- Optional **Valid values:** False, True
aturthresh15minlofs <aturthresh15minlofs-val>	The number of Loss of Frame Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLofsThreshTrap' **Type:** Modify -- Optional **Valid values:** 0 - 900
aturthresh15minloss <aturthresh15minloss-val>	The number of Loss of Signal Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLossThreshTrap' **Type:** Modify -- Optional **Valid values:** 0 - 900
aturthresh15minlprs <aturthresh15minlprs-val>	The number of Loss of Power Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLprsThreshTrap' **Type:** Modify -- Optional **Valid values:** 0 - 900
aturthresh15miness <aturthresh15miness-val>	The number of Errored Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfESsThreshTrap' **Type:** Modify -- Optional **Valid values:** 0 - 900
aturthreshfastrateup <aturthreshfastrateup-val>	Applies to 'Fast' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate > ChanPrevTxRate plus the value of this object.

	Type: Modify -- Optional
aturthreshintlrateup <aturthreshintlrateup-val>	Applies to 'Interleave' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate > ChanPrevTxRate plus the value of this object. **Type:** Modify -- Optional
aturthreshfastratedn <aturthreshfastratedn-val>	Applies to 'Fast' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate < ChanPrevTxRate minus the value of this object. **Type:** Modify -- Optional
aturthreshintlratedn <aturthreshintlratedn-val>	Applies to 'Interleave' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate < ChanPrevTxRate minus the value of this object. **Type:** Modify -- Optional
atucgspmstatetrapenable False | True	This indicates change in power mangement state **Type:** Modify -- Optional **Valid values:** False, True
linealarmgscntrsreset False | True	This parameter resets performance counters at runtime **Type:** Modify -- Optional **Valid values:** False, True

Example:

$ get adsl alarm profile ifname dsl-0

Output:

IfName : dsl-0
ADSL ATUC Configuration :

Thresh 15Min Lofs(sec) : 10 Thresh 15Min Loss(sec) : 20
Thresh 15Min Lols(sec) : 30 Thresh 15Min Lprs(sec) : 50
Thresh 15Min Ess(sec) : 40 Thresh Fast Rate Up(bps): 70
Thresh Intl Rate Up(bps) : 30 Thresh Fast Rate Down(bps):10
Thresh Intl Rate Down(bps) : 30 Init Fail Trap : true
OpStateTrapEnable : false PowerMgmtTrapEnable : True
ADSL ATUR Configuration :

Thresh 15Min Lofs(sec) : 10
Thresh 15Min Loss(sec) : 10 Thresh 15Min Lprs(sec) : 10
Thresh 15Min Ess(sec) : 10 Thresh Fast Rate Up(bps: 10
Thresh Intl Rate Up(bps) : 10 Thresh Fast Rate Down(bps):10
Thresh Intl Rate Down(bps) : 10

Output Fields:

FIELD	Description
IfName	The ADSL alarm interface name, whose profile is to be modified or viewed
Thresh 15Min Lofs(sec)	The number of Loss of Frame Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLofsThreshTrap'.
Thresh 15Min Loss(sec)	The number of Loss of Signal Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLossThreshTrap'.
Thresh 15Min Lols(sec)	The number of Loss of Link Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLolsThreshTrap'.
Thresh 15Min Lprs(sec)	The number of Loss of Power Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLprsThreshTrap'.
Thresh 15Min Ess(sec)	The number of Errored Seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfESsThreshTrap'.
Thresh Fast Rate Up(bps)	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate >= ChanPrevTxRate plus the value of this object.
Thresh Intl Rate Up(bps)	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate >= ChanPrevTxRate plus the value of this object.
Thresh Fast Rate Down(bps)	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate <= ChanPrevTxRate minus the value of this object.
Thresh Intl Rate Down(bps)	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when: ChanCurrTxRate <= ChanPrevTxRate minus the value of this object.

Init Fail Trap	Enables and disables the InitFailureTrap. This object is defaulted disable.
OpStateTrapEnable	Enables/disables the OpStateChangeTrap
PowerMgmtTrapEnable	This indicates change in power mangement state
Thresh 15Min Lofs(sec)	The number of Loss of Frame Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLofsThreshTrap'
Thresh 15Min Loss(sec)	The number of Loss of Signal Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLossThreshTrap'
Thresh 15Min Lprs(sec)	The number of Loss of Power Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLprsThreshTrap'
Thresh 15Min Ess(sec)	The number of Errored Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfESsThreshTrap'
Thresh Fast Rate Up(bps)	Applies to 'Fast' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate > ChanPrevTxRate plus the value of this object.
Thresh Intl Rate Up(bps)	Applies to 'Interleave' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate > ChanPrevTxRate plus the value of this object.
Thresh Fast Rate Down(bps)	Applies to 'Fast' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate < ChanPrevTxRate minus the value of this object.
Thresh Intl Rate Down(bps)	Applies to 'Interleave' channels only. Configured change in rate causing an adslAturRateChangeTrap A trap is produced when: ChanCurrTxRate < ChanPrevTxRate minus the value of this object.

References:

- ADSL Commands

5.9.2 ADSL Alarm Profilext Commands

5.9.2.1 Get adsl alarm profilext

Description:
Use this command to get.

Command Syntax:
get adsl alarm profilext [**ifname** <interface-name>]

5.9.2.2 Modify adsl alarm profilext

Description:
Use this command to modify.

Command Syntax:
modify adsl alarm profilext ifname <interface-name> [**atucthresh15minffstr** <atucthresh15minffstr-val>] [**atucthresh15minsesl** <atucthresh15minsesl-val>] [**atucthresh15minuasl** <atucthresh15minuasl-val>] [**atucthresh15minfecsl** <atucthresh15minfecsl-val>] [**atucthresh1daylofs <**atucthresh1daylofs-val>] [**atucthresh1dayloss** <atucthresh1dayloss-val>] [**atucthresh1daylols** <atucthresh1daylols-val>][**atucthresh1daylprs** <atucthresh1daylprs-val>] [**atucthresh1dayess** <atucthresh1dayess-val>][**atucthresh1daysesl <**atucthresh1daysesl-val>] [**atucthresh1dayuasl <**atucthresh1dayuasl-val>] [**atucthresh1dayfecsl <**atucthresh1dayfecsl-val>] [**aturthresh15minsesl <**aturthresh15minsesl-val>] [**aturthresh15minuasl** <aturthresh15minuasl-val>][**aturthresh15minfecsl <**aturthresh15minfecsl-val>] [**aturthresh1daylofs <**aturthresh1daylofs-val>] [**aturthresh1dayloss** <aturthresh1dayloss-val>] [**aturthresh1daylprs** <aturthresh1daylprs-val>] [**aturthresh1dayess** <aturthresh1dayess-val>] [**aturthresh1daysesl** <aturthresh1daysesl-val>] [**aturthresh1dayuasl** <aturthresh1dayuasl-val>][**aturthresh1dayfecsl** <aturthresh1dayfecsl-val>]

Parameters:

Name	Description
ifname **<**fname-val>	The ADSL alarm interface name, whose profile is to be modified or viewed **Type:** Modify – Mandatory Get – Optional
atucthresh15minffstr **<**atucthresh15minffstr-val>	The number of failed retrains encountered by an ADSL interface within any giving 15 minute performance data collection period, which cause the

	SNMP agent to send an adslAtucFailedFastRTrap. **Type:** Modify — Optional **Valid values:** 0 - 900
atucthresh15minsesl <atucthresh15minsesl-val>	The number of Severe errored seconds encountered by an ADSL interface within any giving 15 minute performance data collection period, which cause the SNMP to send an adslAtucSesLTrap. **Type:** Modify — Optional **Valid values:** 0 - 900
atucthresh15minuasl <atucthresh15minuasl-val>	The number of unavailable errored seconds encountered by an ADSL interface within any giving 15 minutes performance data collection period, which cause the SNMP agent to send an adslAtucUasLThreshTrap **Type:** Modify — Optional **Valid values:** 0 - 900
atucthresh15minfecsl **<atucthresh15minfecsl**-val>	The number of Forward error correction seconds encountered by an ADSL interface within any giving 15 Minutes performance data collection period, which causes adslAtucPerfFecsLThreshTrap. **Type**: Modify — Optional **Valid values**: 0 - 900
atucthresh1daylofs <atucthresh1daylofs-val>	The number of Loss of Frame Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLofsThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
atucthresh1dayloss <atucthresh1dayloss-val>	The number of Loss of Signal Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLossThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
atucthresh1daylols <atucthresh1daylols-val>	The number of Loss of Link Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLolsThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
atucthresh1daylprs <atucthresh1daylprs-val>	The number of Loss of Power Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLprsThresh1DayTrap'. **Type:** Modify — Optional

	Valid values: 0 - 86400
atucthresh1dayess **<**atucthresh1dayess-val>	The number of Errored Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfESsThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
atucthresh1daysesl **<**atucthresh1daysesl-val>	The number of Severe errored Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfSesLThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
atucthresh1dayuasl **<**atucthresh1dayuasl-val>	The number of unavailable errored seconds encountered by an ADSL interface within any giving 1 day performance data collection period, which cause the SNMP agent to send an adslAtucPerfUasLThresh1DayTrap **Type:** Modify — Optional **Valid values:** 0 - 86400
atucthresh1dayfecsl **<**atucthresh1dayfecsl-val>	The number of Forward error correction seconds encountered by an ADSL interface within any giving 1 day performance data collection period, which causes atucPerfFecsLThresh1DayTrap. **Type**: Modify — Optional **Valid values**: 0 - 86400
aturthresh15minsesl **<**aturthresh15minsesl>	The number of Severe errored seconds encountered by an ADSL interface within any giving 15 minute performance data collection period, which cause the SNMP to send an adslAturPerfSesLThresh15MInTrap. **Type:** Modify — Optional **Valid values:** 0 - 900
aturthresh15minuasl **<**aturthresh15minuasl>	The number of unavailable errored seconds encountered by an ADSL interface within any giving 15 Minutes performance data collection period, which cause the SNMP agent to send an adslAturPerfUasLThresh1DayTrap **Type:** Modify — Optional **Valid values:** 0 - 900
aturthresh15minfecsl <aturthresh15minfecs-val>	The number of Forward error correction seconds encountered by an ADSL interface within any giving 15 Minutes performance data collection period, which causes adslAturPerfFecsLThreshTrap. **Type**: Modify — Optional **Valid values**: 0 - 900
aturthresh1daylofs	The number of Loss of Frame Seconds encountered by an ADSL

<aturthresh1daylofs-val>	interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLofsThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
aturthresh1dayloss **<**aturthresh1dayloss-val>	The number of Loss of Signal Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLossThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
aturthresh1daylprs **<**aturthresh1daylprs-val>	The number of Loss of Power Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLprsThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
aturthresh1dayess **<**aturthresh1dayess-val>	The number of Errored Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAturPerfESsThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
aturthresh1daysesl **<**aturthresh1daysesl-val>	The number of Severe errored Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes the SNMP agent to send an 'adslAturPerfSesLThresh1DayTrap'. **Type:** Modify — Optional **Valid values:** 0 - 86400
aturthresh1dayuasl **<**aturthresh1dayuasl-val>	The number of unavailable errored seconds encountered by an ADSL interface within any giving 1 day performance data collection period, which cause the SNMP agent to send an adslAturPerfUasLThresh1DayTrap **Type:** Modify — Optional **Valid values:** 0 - 86400
aturthresh1dayfecsl <aturthresh1dayfecsl-val>	The number of Forward error correction seconds encountered by an ADSL interface within any given 1 day performance data collection period, which causes aturPerfFecsLThresh1DayTrap. **Type**: Modify — Optional **Valid values**: 0 - 86400

Example:

$ get adsl alarm profilext ifname dsl-0

Output:

IfName : dsl-0
Atuc Thresh 15Min Fail FastR(sec) : 10
Atuc Thresh 15Min SesL(sec) : 14
Atuc Thresh 15Min UasL(sec) : 10
Atuc Thresh 15Min FecsL(sec) : 10
Atuc Thresh 1 Day Lofs(sec) : 10
Atuc Thresh 1 Day Loss(sec) : 10
Atuc Thresh 1 Day Lols(sec) : 10
Atuc Thresh 1 Day Lprs(sec) : 10
Atuc Thresh 1 Day ESs(sec) : 10
Atuc Thresh 1 Day SesL(sec) : 10
Atuc Thresh 1 Day UasL(sec) : 10
Atuc Thresh 1 Day FecsL(sec) : 10
Atur Thresh 15Min Sesl(sec) : 10
Atur Thresh 15Min UasL(sec) : 10
Atur Thresh 15Min FecsL(sec) : 10
Atur Thresh 1 Day Lofs(sec) : 10
Atur Thresh 1 Day Loss(sec) : 10
Atur Thresh 1 Day Lprs(sec) : 10
Atur Thresh 1 Day ESs(sec) : 10
Atur Thresh 1 Day SesL(sec) : 10
Atur Thresh 1 Day UasL(sec) : 10
Atur Thresh 1 Day FecsL(sec) : 10

Output Fields:

FIELD	Description
IfName	The ADSL alarm interface name, whose profile is to be modified or viewed
Atuc Thresh 15Min Fail FastR(sec)	The number of failed retrains encountered by an ADSL interface within any given 15 minute performance data collection period, which causes adslAtucFailedFastRTrap.
Atuc Thresh 15Min SesL(sec)	The number of Severe errored seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes adslAtucSesLTrap.
Atuc Thresh 15Min UasL(sec)	The number of unavailable errored seconds encountered by an ADSL interface within any given 15 Minute

	performance data collection period, which causes adslAtucUasLThreshTrap.
Atuc Thresh 15Min FecsL(sec)	The number of Forward error correction seconds encountered by an ADSL interface within any given 15 Minute performance data collection period, which causes adslAtucPerfFecsLThreshTrap.
Atuc Thresh 1 Day Lofs(sec)	The number of Loss of Frame Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAtucPerfLofsThresh1DayTrap.
Atuc Thresh 1 Day Loss(sec)	The number of Loss of Signal Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAtucPerfLossThresh1DayTrap.
Atuc Thresh 1 Day Lols(sec)	The number of Loss of Link Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAtucPerfLolsThresh1DayTrap.
Atuc Thresh 1 Day Lprs(sec)	The number of Loss of Power Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAtucPerfLprsThresh1DayTrap.
Atuc Thresh 1 Day SesL(sec)	The number of Severe errored Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAtucPerfSesLThresh1DayTrap.
Atuc Thresh 1 Day UasL(sec)	The number of unavailable errored seconds encountered by an ADSL interface within any given 1 day performance data collection period, which causes adslAtucPerfUasLThresh1DayTrap.
Atuc Thresh 1 Day FecsL(sec)	The number of Forward error correction seconds encountered by an ADSL interface within any given 1 day performance data collection period, which causes atucPerfFecsLThresh1DayTrap.
Atur Thresh 15Min Sesl(sec)	The number of Severe errored seconds encountered by an ADSL interface within any given 15 minute performance data collection period, which causes adslAturPerfSesLThresh15MInTrap.
Atur Thresh 15Min UasL(sec)	The number of unavailable errored seconds encountered by an ADSL interface within any given 15 Minute

	performance data collection period, which causes adslAturPerfUasLThresh1DayTrap.
Atur Thresh 15Min FecsL(sec)	The number of Forward error correction seconds encountered by an ADSL interface within any given 15 Minute performance data collection period, which causes adslAturPerfFecsLThreshTrap.
Atur Thresh 1 Day Lofs(sec)	The number of Loss of Frame Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAturPerfLofsThresh1DayTrap.
Atur Thresh 1 Day Loss(sec)	The number of Loss of Signal Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAturPerfLossThresh1DayTrap.
Atur Thresh 1 Day Lprs(sec)	The number of Loss of Power Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAturPerfLprsThresh1DayTrap.
Atur Thresh 1 Day ESs(sec)	The number of Errored Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAturPerfESsThresh1DayTrap.
Atur Thresh 1 Day SesL(sec)	The number of Severe errored Seconds encountered by an ADSL interface, within any given 1 day performance data collection period, which causes adslAturPerfSesLThresh1DayTrap.
Atur Thresh 1 Day UasL(sec)	The number of unavailable errored seconds encountered by an ADSL interface within any given 1 day performance data collection period, which causes adslAturPerfUasLThresh1DayTrap.
Atur Thresh 1 Day FecsL(sec)	The number of Forward error correction seconds encountered by an ADSL interface within any given 1 day performance data collection period, which causes aturPerfFecsLThresh1DayTrap.

References:

- ADSL Commands

5.9.3 ADSL ATUC Channel Commands

5.9.3.1 Get adsl atuc channel

Description:
Use this command to get.

Command Syntax:
get adsl atuc channel [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <fname-val>	The ADSL ATUC channel interface name. **Type:** Get – Optional **Valid values:** dsli-0 - dsli-23

Example:
$ get adsl atuc channel ifname dsli-0

Output:
Ifname : dsli-0
Interleave Delay(ms) : 20 Curr Tx Rate(bps) : 80
Prev Tx Rate(bps) : 40 Crc Block Length(byte) : 90
Gs Curr Atm Status : NoAtmDefect GsSymbolsPerRsWord : 10
GsRsDepth : 20 GsRedundantBytesPerRsCode: 100
AtucChanPerfAtmCD : 10 AtucChanPerfAtmCU : 10
AtucChanGsINPdn : 10 AtucChanGsL0dn : 10
AtucChanGsM0dn : 10 AtucChanGsT0dn : 10
AtucChanGsB0dn : 10

Output Fields:

FIELD	Description
Ifname	The ADSL ATUC channel interface name.
Interleave Delay(ms)	Interleave delay for this channel.
Curr Tx Rate(bps)	Actual transmit rate on this channel.
Prev Tx Rate(bps)	The rate at the time of the last adslAtucRateChangeTrap event.
Crc Block Length(byte)	Indicates the length of the channel data-block, on which the CRC operates.
Gs Curr Atm Status	Indicates the current ATM Status.

GsSymbolsPerRsWord	Indicates the number of DMT symbols per Reed-Solomon code word (S), in the downstream direction.
GsRsDepth	Indicates interleaving depth (D), in the downstream direction.
GsRedundantBytesPer RsCode	Indicates the number of redundant bytes (R), per Reed-Solomon code in the downstream direction.
AtucChanPerfAtmCD	Provides a count of the total number of cells passed through the cell delineation and HEC function process operating on the ATM Data Path while in the SYNC state.(length = 4 bytes).
AtucChanPerfAtmCU	Provides a count of the total number of cells in the ATM Data Path delivered at the logical interface between the ATU-C and a digital network element, such as one or more switching systems.
AtucChanGsINPdn	The actual number of Impulse Noise Protection(INP) symbols for the downstream interleaved channel. One symbol equals 250 µs, so an INP of 1 correlates to a correction time of 250 µs.
AtucChanGsL0dn	The number of bits from the upstream latency path function #0 included per DMT symbol.(length = 4 bytes). It is not available for ADSL.
AtucChanGsM0dn	The number of Mux Data Frames per FEC Data Frame in upstream latency path function #0.(length = 4 bytes). It is not available for ADSL.
AtucChanGsT0dn	The ratio of the number of Mux Data Frames to the number of sync octets in the upstream latency path function #0.(length = 4 bytes). It is not available for ADSL.
AtucChanGsB0dn	The nominal number of octets from frame bearer #0 per Mux Data Frame at Reference Point A in upstream latency path function #0.(length = 4 bytes). It is not available for ADSL.

5.9.4 ADSL ATUC Chanperf Commands

5.9.4.1 Get adsl atuc chanperf

Description:
Use this command to get.

Command Syntax:
get adsl atuc chanperf [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <fname-val>	The ADSL ATUC channel interface name, for which performance is to be viewed. **Type** : Get — Optional **Valid values** : *dsli-0 - *, dslf-0 - **

Example:
$ get adsl atuc chanperf ifname dsli-0

Output:
Ifname : dsli-0
Perf Valid Intervals : 20
Perf Invalid Intervals : 30
Perf Valid 1Day Intvl : 20
Perf Invalid 1Day Intvl : 20

	PerfData	Curr15Min	Curr1Day	Prev1Day
Time Elapsed /Monitored(sec)	15	10	20	45
Rx Blocks	10	45	30	89
Tx Blocks	20	65	70	48
Corrected Blocks	25	35	35	25
Uncorrected Blocks	30	95	80	30
NCD Count	90	86	35	20
OCD Count	60	42	15	20
HEC Count	45	21	75	35
NCD Failure Count	20	20	20	20
LCD Failure Count	20	20	20	20

Output Fields:

FIELD	Description
Ifname	IfIndex of the interface of type adslfast and adslInterleave.
Perf Valid Intervals	The number of previous 15-minute intervals in the interval table for which data was collected. (length = 4 bytes)
Perf Invalid Intervals	The number of intervals in the range from 0 to the value of "adslAtucChanPerfValidIntervals" for which no data is available. This object will typically be zero except in cases where the data for some intervals are not available (e.g., in proxy situations). (length = 4 bytes)
Perf Valid 1Day Intvl	The number of previous 1-Day intervals in the interval table for which data was collected.(length = 4 bytes)
Perf Invalid 1Day Intvl	The number of intervals in the range from 0 to the value of adslAtucChanPerfValid1DayIntervals for which no data is available. This object will typically be zero except in cases where the data for some intervals are not available (e.g., in proxy situations).(length = 4 bytes)
Time Elapsed/Monitored(sec)	Total elapsed seconds in the intervals – Curr15Min, Curr1Day and Monitored seconds in Prev1Day.
Rx Blocks	Performance Data : Count of all encoded blocks received on this channel since agent was reset . Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received on this channel in the current 15 minute/ current 1 day/ previous 1 day interval.
Tx Blocks	Performance Data : Count of all encoded blocks transmitted on this channel since agent reset. Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks transmitted on this channel in the current 15-minute/ current 1-day/ previous 1-day interval.
Corrected Blocks	Performance Data : Count of all encoded blocks received with corrected errors on this channel since agent reset. Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received with corrected errors on this channel, in the current 15 minute/ current 1 day/ previous 1 day interval.
Uncorrected Blocks	Performance Data : Count of all encoded blocks received with uncorrected errors on this channel since agent was reset. Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received with uncorrected errors on this

	channel in the current 15 minute/ current 1 day/ previous 1 day interval.
NCD Count	Performance Data : Number of packets with NCD (No Cell Delineation) error. Curr15Min/Curr1Day/Prev1Day : Number of packets with NCD error received in the current 15-minute/ current 1-day/ previous 1-day interval.
OCD Count	Performance Data : Number of packets with OCD (Out of Cell Delineation) error. Curr15Min/Curr1Day/Prev1Day : Number of packets with OCD error received in the current 15-minute/ current 1-day/ previous 1-day interval.
HEC Count	Performance Data : Number of packets with HEC error. Curr15Min/Curr1Day/Prev1Day : Number of packets with HEC error received in the current 15 minute/ current 1 day/ previous 1 day interval.
NCD Failure Count	Performance Data : Count of all blocks received with no cell delineation(NCD) failures since agent reset. An NCD failure is declared when an NCD defect is present for 2-3 seconds after SHOWTIME. (length = 4 bytes). Curr15Min/Curr1Day/Prev1Day : Count of all blocks received with no cell delineation(NCD) failures in the current 15 minute/ current 1 day/ previous 1 day interval.
LCD Failure Count	Performance Data : Count of all blocks received with loss of cell delineation(LCD) failures since agent reset. An LCD failure is declared when an LCD defect persists for more than 2 - 3 seconds.(length = 4 bytes). Curr15Min/Curr1Day/Prev1Day : Count of all blocks received with loss of cell delineation(LCD) failures in the current 15 minute/ current 1 day/ previous 1 day interval.

5.9.5 ADSL ATUC ChanIntvl Commands

5.9.5.1 Get adsl atuc chanintvl

Description:
Use this command to get.

Command Syntax:
get adsl atuc chanintvl [**ifname** <interface-name>] [**nintrvl** <nintrvl-val>]

Parameters:

Name	Description
ifname <fname-val>	The ADSL ATUC channel interface name. **Type:** Get – Mandatory **Valid values:** dsli-0 – dsli-23
nintrvl <nintrvl-val>	Performance Data Interval number. **Type:** Get – Mandatory **Valid values:** 1 - 96

Example:
$ get adsl atuc chanintvl ifname dsli-0 nintrvl 1

Output:
Ifname : dsli-0 IntervalNumber : 1
Rx Blocks : 10 Tx Blocks : 45
Corrected Blocks : 20 Uncorrected Blocks : 1
Gs Time Elapsed(sec) : 30 Valid Data : true
GsNoCellDelineation : 20 GsHeaderErrorCheck : 0
GsOutOfCellDelineation : 0 AtucChanIntvlNcds : 20
AtucChanIntvlLcds : 20

Output Fields:

FIELD	Description
Ifname	The ADSL ATUC channel interface name.
IntervalNumber	Performance Data Interval number.
Rx Blocks	Count of all encoded blocks received on this channel during this interval.
Tx Blocks	Count of all encoded blocks transmitted on this channel during this interval.
Corrected Blocks	Count of all encoded blocks received with errors that were corrected on this channel during this interval.

Uncorrected Blocks	Count of all encoded blocks received with uncorrected errors on this channel during this interval.
Gs Time Elapsed(sec)	Total time elapsed (in seconds) in this interval.
Valid Data	Indicates if the data for this interval is valid.
GsNoCellDelineation	Count of no cell delineation on this channel for this interval.
GsHeaderErrorCheck	GlobespanVirata parameter. Header error check counter (hec) on this channel during this interval (length = 4 bytes).
GsOutOfCellDelineation	GlobespanVirata parameter. Count of out of cell delineation (ocd) on this channel during this interval (length = 4 bytes).
AtucChanIntvlNcds	Count of all blocks received with NCD errors on this channel during this interval.(length = 4 bytes).
AtucChanIntvlLcds	Count of all blocks received with LCD errors on this channel during this interval.(length = 4 bytes).

5.9.6 ADSL ATUC Interval Commands

5.9.6.1 Get adsl atuc interval

Description:

This command is used to get.

Command Syntax:

get adsl atuc interval ifname <interface-name> [**nintrvl** <num-of-intervals>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL ATUC channel interface name. **Type:** Get -- Mandatory **Valid values:** dsl-0 – dsl-23
nintrvl <num-of-intervals>	Number of intervals. **Type**: Get – Optional **Valid values** : 1- 96 **Default Value :** 12

Example:

$ get adsl atuc interval ifname dsl-0 sintrvl 1 nintrvl 1

Output:

Ifname : dsl-0
IntervalNumber : 12 IntervalValidData : False
IntervalLofs(sec) : 83 IntervalLoss(sec) : 84
IntervalLols(sec) : 85 IntervalLprs(sec) : 86
IntervalESs(sec) : 87 IntervalInits : 88
IntervalFastR : 191 IntervalFailedFastR : 192
IntervalSesL(sec) : 193 IntervalUasL(sec) : 194
IntervalFecsL(sec) : 15 GsTimeElapsed(sec) : 1001
IntervalInitsFailed : 15

Output Fields:

FIELD	Description
Ifname	The ADSL ATUC channel interface name.
IntervalNumber	Count from 1 through 96 of 15-minute intervals. Performance Data Interval number 1 is the most recent previous interval; interval 96 is 24 hours ago (length = 4 bytes).
IntervalValidData	This indicates if the data for this interval is valid.
IntervalLofs(sec)	Count of seconds in the interval when there was Loss of Framing.
IntervalLoss(sec)	Count of seconds in the interval when there was Loss of Signal.
IntervalLols(sec)	Count of seconds in the interval when there was Loss of Link.
IntervalLprs(sec)	Count of seconds in the interval when there was Loss of Power.
IntervalESs(sec)	Count of Errored Seconds in the interval.
IntervalInits	Count of the line initialization attempts during the interval.
IntervalFastR	Count of seconds in the interval when there was Fast Retrains.
IntervalFailedFastR	Count of seconds in the interval when there was Failed Fast Retrains.
IntervalSesL(sec)	Count of seconds in the interval when there was severely errored seconds.
IntervalUasL(sec)	Count of seconds in the interval when there was unavailable errored seconds.
IntervalFecsL(sec)	Count of seconds in the interval when there was Forward error correction seconds (length = 4 bytes).
GsTimeElapsed(sec)	Total elapsed seconds in this interval.
IntervalInitsFailed	Count of the failed full line initialization attempts during the interval (length = 4 bytes).

5.9.7 ADSL ATUC Perf Commands

5.9.7.1 Get adsl atuc perf

Description:
Use this command to get ADSL ATUC interface performance.

Command Syntax:
get adsl atuc perf [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL ATUC interface name, for which performance is to be viewed. **Type** : Get – Optional **Valid values** : *dsl-0 - dsl-**

Example:
$ get adsl atuc perf ifname dsl-0

Output:
Ifname : dsl-0
Perf Valid Intervals : 20
Perf Invalid Intervals : 30
AtucPerfStatLossL : 10

	PerfData	Curr15Min	Curr1Day	Prev1Day
Time Elapsed /Monitored(sec)	30	10	20	30
LOFS (sec)	40	45	35	50
LOSS (sec)	30	65	75	20
LOLS (sec)	30	35	65	10
LPRS (sec)	10	95	30	80
ES (sec)	90	85	32	90
INITS	60	42	15	20
Perf Stat FastR	45	21	75	35
Perf Stat Failed FastR	43	46	40	45
Perf Stat SESL	41	48	67	65
Perf Stat UASL	37	49	90	50
Perf Stat FecsL	10	16	11	11
Perf Stat InitsFailed	10	16	11	11

Output Fields:

FIELD	Description
Ifname	Ifindex of the type Adsl port Count of the number of Loss of Framing failures since agent reset.
Perf Valid Intervals	The number of previous 15-minute intervals in the interval table, for which data was collected. (length = 4 bytes)
Perf Invalid Intervals	The number of intervals in the range from 0 to the value of "adslAtucPerfValid-Intervals", for which no data is available. This object will typically be zero except in cases where the data for some intervals are not available (e.g., in proxy situations). (length = 4 bytes)
AtucPerfStatLossL	Count of 1-second intervals containing one or more loss of signal (LOS) defects. (Not available for ADSL)
Time Elapsed/Monitored(sec)	**Performance Data :** Total time elapsed in seconds Total elapsed seconds in the intervals – Curr15Min, Curr1Day and Monitored seconds in Prev1Day
LOFS (sec)	**Performance Data :** Count of number of Loss of Framing failures since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval, when there was Loss of Framing.
LOSS (sec)	**Performance Data :** Count of number of Loss of signal failures since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval, when there was Loss of signals.
LOLS (sec)	**Performance Data :** Count of number of Loss of link failures since agent reset. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval, when there was Loss of link.
LPRS (sec)	**Performance Data :** Count of number of Loss of power failures since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval, when there was Loss of power.
ES (sec)	**Performance Data :** Count of number of errored seconds since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of errored seconds in the current 15-minute/ current 1-day/ previous 1-day interval.

INITS	**Performance Data :** Count of line initialization attempts since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of line initialization attempts in the current 15-minute/ current 1-day/ previous 1-day interval. Includes both successful and failed attempts.
Perf Stat FastR	**Performance Data :** Count of fast retrain. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval, when there was Fast Retrain.
Perf Stat Failed FastR	**Performance Data :** Count of failed fast retrain. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval when there was Failed Fast Retrain.
Perf Stat SESL	**Performance Data :** Count of severely errored second line. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval when there was severely errored second.
Perf Stat UASL	**Performance Data :** Count of unavailable errored seconds. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval when there was unavailable errored seconds.
Perf Stat FecsL	**Performance Data**: Count of 1-second intervals, with one or more forward error correction (FEC) anomalies, since agent reset. (Not available for ADSL) **Curr15Min/Curr1Day/Prev1Day**: Count of 1-second intervals, in the current 15-minute/current 1-day/previous 1-day interval, with one or more forward error correction (FEC) anomalies. (Not available for ADSL)
Perf Stat InitsFailed	**Performance Data**: Count of the failed full initialization attempts in current 15-minute/current 1-day/previous 1-day interval. A failed full initialization is when showtime is not reached at the end of the full initialization procedure.

5.9.8 ADSL ATUC Physical Commands

5.9.8.1 Get adsl atuc physical

Description:
Use this command to get.

Command Syntax:
get adsl atuc physical [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL ATUC physical interface name. **Type:** Get – Optional **Valid values:** dsl-0 – dsl-23

Example:
$ get adsl atuc physical ifname dsl-0

Output:
Ifname : dsl-0

Serial Number : Conexant 1.0

Vendor ID : 0039

Version Number : 1.0

Curr Status : NoDefect

Curr Snr Margin(dB/10) : 20 Curr Atn(dB/10) : 80

CurrAttainable Rate(bps) : 40 Curr Output Pwr(dB/10):90

GsOpState : Data

GsActualStandard : T1_413

GsTxAtmCellCounter : 214 GsRxAtmCellCounter : 215

GsStartProgress : 213

GsIdleBertError : 200 GsIdleBertCells : 100

GsBertSync : BertOutOfSync

GsBertError : 0

Data Boost Status : Enable Chan Perf CD : 2

Chan Perf BE : 5

PM State : L2 Chan Perf Cu : 10

Extended PSD Status : True Chip Version : 2

Pilot Tone : 21 Overhead Channel :4000

Psd Mask : FlatMsk

System Vendor ID : 12345678

ATU-C Self Test Result : 10 Atuc G9941 Vendor ID:12345678

Atuc ACTPSDus (dB/10) : 90 AtucStartBin(GSpan++):90

StartUp Error Code : StartupErrorCodeMAXNOMATPus

BitSwapCount : 90

ModPhase : FlatRateCheck

Transmit Spectrum Shaping info

---

[0] 90

UpStream Gains per bin

---

[0] 15

GsSeltInfoValid : NotConnected

GsSeltLoopLen (in Feet) : 20

GsSeltLoopEnd : open

GsSeltLoopGauge : greater_26awg

GsSeltUpShannonCap (in bps) : 10

GsSeltDownShannonCap (in bps) : 20

Selt InbandNoise Len (dBM/Hz)

---

[0] 0110030607

Selt Termination Resp (0-18Kft ms)

---

[0] 0110030607

Selt UpMgnAtRate (dB/10)

---

[0] 0110030607

Selt DownMgnAtRate (dB/10)

---

[0] 0110030607

Delt HLINSCus : 2

Delt HLOGMTus : 2 Delt LNMTus : 2

DELT Last Tx State : dmtatucg9941

Delt SnrmtUs : 100 DELT Curr Status: FailedUnknown

Delt HLINpsus

---

[0] 5

Delt HLOGpsus

---

[0] 20

Delt QLNpsus

---

[0] 12

Delt DMT Bin SNR

---

[0] 16

Signal Atn(dB/10) : 40

GsParametricTestResult : Ok

Parametric Info

Bin Number Number of bits/bin

Output Fields:

FIELD	Description
Ifname	The ADSL ATUC physical interface name.
Serial Number	The vendor specific string that identifies the vendor equipment.
Vendor ID	Vendor ID Code.
Version Number	The vendor specific version number sent by this ATU as part of the initialization messages.

Curr Status	Indicates current state of the ATUC line. This is a bit-map of possible conditions.
Curr Snr Margin(dB/10)	Noise Margin as seen by this ATU with respect to its received signal in tenth dB.
Curr Atn(dB/10)	Measured difference in the total power transmitted by the peer ATU and the total power received by this ATU.
CurrAttainable Rate(bps)	Indicates the maximum currently attainable data rate by the ATU. This value will be equal to, or greater than the current line rate.
Curr Output Pwr(dB/10)	Measured total output power transmitted by this ATU.This is the measurement that was reported during the last activation sequence.
GsOpState	Operational state of the Xcvr.
GsActualStandard	Actual standard used for connection, based on the outcome of the negotiation with the Remote Unit.
GsTxAtmCellCounter	Provides Tx ATM cell counter.
GsRxAtmCellCounter	Provides Rx ATM cell counter.
GsStartProgress	Defines the current detailed start up state of Xcvr. 0x0ñ startup not in progress; 0x0 ñ 0x0FFF Handshake/Training/ Profile Management/ Fast Retrain inprogress; 0x8000 ñ 0x8FFF DSP firmware DownLoad in progress; 0xF000 ñ 0xFFFF illegal Parameter
GsIdleBertError	Number of bit errors.
GsIdleBertCells	Number of idle cells.
GsBertSync	Indicates whether the Signal is in Sync or not.
GsBertError	Provides the number of bit errors detected during BERT.
Data Boost Status	Conexant parameter that indicates whether DataBoost is utilized for the connection.
Chan Perf CD	The near-end delineated total cell count performance parameter is a count of the total number of cells passed through the cell delineation and HEC function process, operating on the ATM Data Path, while in the SYNC state. (Not available for ADSL)
Chan Perf BE	The near-end idle bit error count performance parameter is a count of the number of bit errors in the idle cell payload received in the ATM Data Path at the near-end. (Not available for ADSL)
PM State	The Line Power Management state. (Not available for ADSL)
Chan Perf Cu	The total number of data-only cells received by ATUC.

Extended PSD Status	Conexant parameter that indicates whether an extended upstream PSD is used - for G.Span Plus mode of operation only. Only supported for G.Span Plus, therefore this parameter is not valid for ADSL2/ADSL2plus modes of operation.
Chip Version	The DSP version number.
Pilot Tone	Conexant parameter that indicates the Pilot Tone Index.
Overhead Channel	Indicates the Overhead Channel. This feature is not supported by DSLPHY as yet.
Psd Mask	Conexant parameter that indicates the actual Psd Mask currently being used.
System Vendor ID	Indicates the Vendor ID as inserted by the ATU-C in the Overhead Messages(ADSL2). Typically identifies the ATU-C system integrator which usually refers to the vendor of the smallest field-replaceable unit. ATU-C System Vendor ID may not be the same as ATU-C Vendor ID. It is not available for ADSL. This is string of 8 octets containing 2 octet country code , 4 octet vendor id and 2 octet vendor revision number.
ATU-C Self Test Result	Defines the ATU-C selftest result. The most significant octet is: 00 hex if the self-test passed or 01 hex if the self-test failed. Interpretation of the other octets is vendor discretionary and can be interpreted in combination with G.994.1 and system Vendor IDs.
Atuc G.994.1 Vendor ID	Indicates the Vendor ID as inserted by the ATU-C in the G.994.1 CL message. Typically identifies the vendor of the ATU-C G.994.1 functionality. This is string of 8 octets containing 2 octet country code , 4 octet vendor id and 2 octet vendor revision number.
Atuc ACTPSDus (dB/10)	This parameter defines the average upstream transmit power spectrum density over the used subcarriers delivered by the ATU-C at the U-C reference point, at the instant of measurement. It's value ranges from -90 to 0, in 0.1 dB/Hz steps. It is available only for ADSL2/ADSL2plus.
AtucStartBin (GSpan++)	This Gspan++ parameter indicates the start bin of the bit loading up array.
StartUp Error Code	Conexant parameter which indicates the startup error code.
BitSwapCount	This Conexant parameter indicates the bit swap count. It can read only in data mode

ModPhase	Conexant parameter to monitor the status of MoD
Atuc TSSpsUs	This parameter provides the Upstream Transmit Spectrum Shaping parameter expressed as the set of break points exchanged during G994.1. Each breakpoint consists in a subcarrier index and the associated shaping parameter. Value of this parameter is in range 0 - 127, in multiples of -0.5 dB. 127 is a special value indicating the subcarrier is not transmitted. It is available only for ADSL2/ADSL2plus.
GainspsUs	This parameter defines the upstream gains allocation table per subcarrier. It is an array of integer values in the 0 to 4093 range for subcarriers 0 to NSCus-1. The gain value is represented as a multiple of 1/512 on linear scale. It is supported for ADSL2/ADSl2plus only.
GsSeltInfoValid	Indicates the information validity for the SELT operation conducted on the Xcvr.
GsSeltLoopLen (in Feet)	Indicates the LOOP Length in Feet once when the SELT information is valid on the Xcvr.
GsSeltLoopEnd	Indicates whether the loop is short or open once when the SELT information is valid on the Xcvr.
GsSeltLoopGauge	Indicates the LOOP wire gauge information once, when the SELT information is valid on the Xcvr.
GsSeltUpShannonCap (in bps)	Indicates the upstream shannon capacity once, when the SELT information is valid on the Xcvr.
GsSeltDownShannonCap (in bps)	Indicates the downstream shannon capacity once, when the SELT information is valid on the Xcvr.
AtucGsSeltInbandNoise	512 values that indicate inband noise length in dBM/Hz, covering both bands from 0 to 1.1 MHz.
AtucGsSeltTerminationResp	180 discrete values that indicate termination response magnitude from 0 to 18Kft.
AtucGsSeltUpMgnAtRate	300 values that indicate SNR margin in dB/10 at a particular rate are provided, at 100K increments, up to 15 Mbps.
AtucGsSeltDownMgnAtRate	300 values that indicate SNR margin in dB/10 at a particular rate are provided, at 100K increments, up to 15 Mbps.
Delt HLINSCus	The DELT-related parameter that provides the scale factor to be applied to the upstream Hlin (f) values. (Not available for ADSL and ADSL2plus)
Delt HLOGMTus	The DELT-related parameter that provides the number of symbols used to measure the upstream Hlog (f). (Not

	available for ADSL and ADSL2plus)
Delt QLNMTus	The DELT-related parameter that provides the number of symbols used to measure the upstreamQLN (f) values. (Not available for ADSL and ADSL2plus)
DELT Last Tx State	The DELT-related parameter that provides the last successful transmitted initialization state by the ATUC. (Not available for ADSL and ADSL2plus)
Delt SnrmtUs	DELT-related parameter that provides the number of symbols used to measure the upstream SNR(f) values. (Not available for ADSL and ADSL2plus).
DELT Curr Status	Current Status of Atuc Line in DELT Mode
Delt HLINpsus	The DELT-related parameter that provides an array of complex upstream Hlin (f) values in linear scale. (Not available for ADSL and ADSL2plus)
Delt HLOGpsus	The DELT-related parameter that provides an array of real upstream Hlog (f) values in dB. (Not available for ADSL and ADSL2plus)
Delt QLNpsus	The DELT-related parameter that provides an array of real upstream QLN (f) values in dB. (Not available for ADSL and ADSL2plus)
Delt DMT Bin SNR	The DELT-related parameter that provides an array of real upstream SNR (f) values in dB. (Not available for ADSL and ADSL2plus)
Signal Atn(dB/10)	DELT-related parameter that provides the upstream signal attenuation (length = 4 bytes). (Not available for ADSL and ADSL2plus).
GsParametricTestResult	Indicates the Result of the Parametric Test conducted on the Xcvr.
Parametric Info	Conexant parameter that indicates the Parametric Test Array.
AtucDMTBinBits	Number of bits per bin for the bin indexed by this element of the string. The 0th element contains the number of bits for bin 0 through to the 31st element, which contains the number of bits for bin 31. The range of expected values is from 0 to 15 bits per bin.

5.9.9 ADSL ATUC Trap Commands

5.9.9.1 Get adsl atuc traps

Description:
This command is used to get.

Command Syntax:
get adsl atuc traps [**ifname** <interface-name>

Example:
$ get adsl atuc traps ifname dsl-0

Output:
Ifname : dsl-0
Lofs Thresh Trap : 0 Loss Thresh Trap : 1
Lols Thresh Trap : 0 Lprs Thresh Trap : 1
ESs Thresh Trap : 1 Init Failure Trap : 1
Rate Change Trap : 0 Gs OpState Trap : 1
PM State Trap : 2 Command Failure Trap : 2

Output Fields :

FIELD	Description
Ifname	The IfIndex of DSL port.
Lofs Thresh Trap	Loss of Framing 15-minute interval threshold reached (length = 4 bytes).
Loss Thresh Trap	Loss of Signal 15-minute interval threshold reached (length = 4 bytes).
Lols Thresh Trap	Loss of Link 15-minute interval threshold reached (length = 4 bytes).
Lprs Thresh Trap	Loss of Power 15-minute interval threshold reached (length = 4 bytes).
ESs Thresh Trap	Errored Second 15-minute interval threshold reached (length = 4 bytes).
Init Failure Trap	ATU-C initialization failed. Refer to adslAtucCurrStatus for potential reasons (length = 4 bytes).
Rate Change Trap	The ATU-Cs transmit rate has changed (RADSL mode only) (length = 4 bytes).
Gs OpState Trap	Op State change (length = 4 bytes).
PM State Trap	PM state change trap used for ADSL2/ADSL2plus PM operation. This trap is not valid for ADSL mode.
Command Failure Trap	When the APIs fail to send a customer command to the DSP, the customer is notified by a new trap and they need to re-issue the command.

5.9.10 ADSL ATUC Trapsext Commands

5.9.10.1 Get adsl atuc trapsext

Description:

Use this command to get.

Command Syntax:

get adsl atuc trapsext [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The IfIndex of DSL port. **Type:** Get -- Optional **Valid values:** dsl-0 – dsl-23

Example:

$ get adsl atuc trapsext ifname dsl-0

Output:

Ifname : dsl-0
Failed FastR Thresh 15Min Trap : 1 SesL Thresh 15Min Trap:1
UasL Thresh 15Min Trap : 1 FecsL Thresh 15Min Trap:0
Lofs Thresh 1Day Trap : 0 Loss Thresh 1Day Trap : 1
Lols Thresh 1Day Trap : 1 Lprs Thresh 1Day Trap: 1
ESs Thresh 1Day Trap : 0 SesL Thresh 1Day Trap: 0
UasL Thresh 1Day Trap : 1 FecsL Thresh 1Day Trap: 0

Output Fields:

FIELD	Description
Ifname	The IfIndex of DSL port.
Failed FastR Thresh 15Min Trap	Failed retrains 15-minute interval threshold reached.
SesL Thresh 15Min Trap	Severely Errored Seconds 15-minute interval threshold reached.
UasL Thresh 15Min Trap	Unavailable Error Seconds 15-minute interval threshold reached.
FecsL Thresh 15Min Trap	Forward error correction Seconds 15-minute interval threshold reached.
Lofs Thresh 1Day Trap	Loss of Frames 1-day interval threshold reached.

Loss Thresh 1Day Trap	Loss of Signal 1-day interval threshold reached.
Lols Thresh 1Day Trap	Loss of Link 1-day interval threshold reached.
Lprs Thresh 1Day Trap	Loss of Power 1-day interval threshold reached.
ESs Thresh 1Day Trap	Errored Seconds 1-day interval threshold reached.
SesL Thresh 1Day Trap	Severely Errored Seconds 1-day interval threshold reached.
UasL Thresh 1Day Trap	Unavailable Errored Seconds 1-day interval threshold reached.
FecsL Thresh 1Day Trap	Forward error correction Seconds 1-day interval threshold reached.

5.9.11 ADSL ATUR ChanIntrvl Commands

5.9.11.1 Get adsl atuc chanintrvl

Description:

Use this command to get.

Command Syntax:

get adsl atur chanintrvl [**ifname** <interface-name>] [**nintrvl** <nintrvl-val>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name **Type:** Get — Mandatory **Valid values:** dsli-0 - dsli-23
nintrvl <nintrvl-val>	Count from 1 through 96, of 15 minute intervals. **Type:** Get — Mandatory **Valid values:** 1 - 96

Example:

$ get adsl atur chanintrvl ifname dsli-0 nintrvl 2

Output:

Ifname : dsli-0 IntervalNumber : 2
Rx Blocks : 10 Tx Blocks : 10
Corrected Blocks : 10 Uncorrected Blocks : 10
GsNoCellDelineation : 10 GsHeaderErrorCheck : 10
Valid Data : true AturChanIntvlNcds : 20
AturChanIntvlLcds : 20

Output Fields:

FIELD	Description
Ifname	The ADSL interface name
IntervalNumber	Count from 1 through 96, of 15 minute intervals.
Rx Blocks	Count of all encoded blocks received on this channel, during this interval.
Tx Blocks	Count of all encoded blocks transmitted on this channel, during this interval.
Corrected Blocks	Count of all encoded blocks received with errors that were corrected on this channel, during this interval.
Uncorrected Blocks	Count of all encoded blocks received with errors that cannot be corrected, on this channel, during this interval.
GsNoCellDelineation	GlobespanVirata parameter. Count of no cell delineation (ncd) on this channel during this interval.
GsHeaderErrorCheck	Conexant parameter. Header error check counter (HEC) on this channel, during this interval.
Valid Data	This indicates if the data for this interval is valid.
AturChanIntvlNcds	Count of all blocks received with NCD errors on this channel during this interval.(length = 4 bytes).
AturChanIntvlLcds	Count of all blocks received with LCD errors on this channel during this interval.(length = 4 bytes).

References:

- atur interval related commands

5.9.12 ADSL ATUR Channel Commands

5.9.12.1 Get adsl atur channel

Description:

Use this command to get.

Command Syntax:

get adsl atur channel [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name **Type:** Get – Mandatory **Valid values:** dsli-0 - dsli-23

Example:

$ get adsl atur channel ifname dsli-0

Output:

Ifname : dslf-0
Interleave Delay(ms) : 10 Curr Tx Rate(bps) : 10
Prev Tx Rate(bps) : 10 Crc Block Length(byte) : 10
Gs Curr Atm Status : 1 GsSymbolsPerRsWord : 10
GsRsDepth : 10 GsRedundantBytesPerRsCode : 10
AturChanPerfAtmCD : 10 AturChanPerfAtmCU : 10
AturChanGsINPup : 10 AturChanGsL0up : 10
AturChanGsM0up : 10 AturChanGsT0up : 10
AturChanGsB0up : 10

Output Fields:

FIELD	Description
Ifname	The ADSL Interface Name
Interleave Delay(ms)	Interleave delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing for improved impulse noise immunity at the expense of payload latency.
Curr Tx Rate(bps)	Actual transmit rate on this channel
Prev Tx Rate(bps)	The rate at the time of the last adslAturRateChangeTrap event.
Crc Block Length(byte)	Indicates the length of the channel data-block on which the CRC operates.
Gs Curr Atm Status	Indicates an ncd or lcd failure if the counter surpasses 127. If neither ATM counter surpasses 127, the return value will be NoAtmDefect.
GsSymbolsPerRsWord	Indicates number of DMT symbols per Reed- Solomon code word (S) in the upstream direction Note that S is not restricted to interleaved mode only. Even in fast mode, S is a valid constant value and is equal to 1.
GsRsDepth	Indicates interleaving depth (D) in the upstream direction Note that D is not restricted to interleaved mode only. Even in fast mode, D is a valid constant value and is

	equal to 1.
GsRedundantBytesPerRsCode	Indicates number of redundant bytes (R) per Reed-Solomon code in the upstream direction
AturChanPerfAtmCD	Provides a count of the total number of cells passed through the cell delineation and HEC function process operating on the ATM Data Path while in the SYNC state.(length = 4 bytes).
AturChanPerfAtmCU	Provides a count of the total number of cells in the ATM Data Path delivered at the interface(s) between ATU-R and ATM switching layer.(length = 4 bytes).
AturChanGsINPup	The actual number of Impulse Noise Protection(INP) symbols for the upstream interleaved channel. One symbol equals 250 µs, so an INP of 1 correlates to a correction time of 250 µs.
AturChanGsL0up	The number of bits from the upstream latency path function #0 included per DMT symbol.(length = 4 bytes). It is not available for ADSL.
AturChanGsM0up	The number of Mux Data Frames per FEC Data Frame in upstream latency path function #0.(length = 4 bytes). It is not available for ADSL.
AturChanGsT0up	The ratio of the number of Mux Data Frames to the number of sync octets in the upstream latency path function #0.(length = 4 bytes). It is not available for ADSL.
AturChanGsB0up	The nominal number of octets from frame bearer #0 per Mux Data Frame at Reference Point A in upstream latency path function #0.(length = 4 bytes). It is not available for ADSL.

References:

- ADSL commands

5.9.13 ADSL ATUR Chanperf Commands

5.9.13.1 Get adsl atur chanperf

Description:

This command is used to get.

Command Syntax:

get adsl atur chanperf [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name. **Type** : Get – Optional **Valid values:** dsli-0 – dsli-23

Example:

$ get adsl atur chanperf ifname dsli-0

Output:

Ifname : dsli-0
Perf Valid Intervals : 10
Perf Invalid Intervals : 10
Perf valid 1Day Intvl : 20
Perf Invalid 1Day Intvl : 20

PerfData	Curr15Min	Curr1Day	Prev1Day
Time Elapsed /Monitored(sec)	-	10	10	10
Rx Blocks	10	10	10	10
Tx Blocks	10	10	10	10
Corrected Blocks	10	10	10	10
Uncorrected Blocks	10	10	10	10
NCD Count	10	10	10	10
HEC Count	10	10	10	10
NCD Failure Count	20	20	20	20
LCD Failure Count	20	20	20	20

Output Fields:

FIELD	Description
Ifname	The ADSL interface name.
Perf Valid Intervals	Number of previous 15-minute intervals, for which the data was collected.
Perf Invalid Intervals	Number of previous 15- minute intervals, for which no data is available.
Perf valid 1Day Intvl	The number of previous 1-day intervals in the interval table for which data was collected.(length = 4 bytes).
Perf Invalid 1Day Intvl	The number of intervals in the range from 0 to the value of adslAturChanPerfValid1DayIntervals for which no data is available. This object will typically be zero except in cases where the data for some intervals are not available (e.g., in proxy situations).(length = 4 bytes).
Time Elapsed/Monitored(sec)	Total elapsed seconds in the intervals – Curr15Min, Curr1Day and Monitored seconds in Prev1Day.
Rx Blocks	Performance Data : Count of all encoded blocks received on this channel, since agent was reset. Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received on this channel in the current 15 minute/ current 1 day/ previous 1 day interval.
Tx Blocks	Performance Data : Count of all encoded blocks transmitted on this Channel, since agent reset. Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks transmitted on this channel in the current 15-minute/ current 1-day/ previous 1-day interval.
Corrected Blocks	Performance Data : Count of all encoded blocks received with corrected errors on this channel, since agent reset. Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received with corrected errors on this channel, in the current 15 minute/ current 1 day/ previous 1 day interval.
Uncorrected Blocks	Performance Data : Count of all encoded blocks received with uncorrected errors on this channel, since agent was reset.

	Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received with uncorrected errors on this channel, in the current 15 minute/ current 1 day/ previous 1 day interval.
NCD Count	Performance Data : Number of packets with NCD (No Cell Delineation) errors. Curr15Min/Curr1Day/Prev1Day : Number of packets with NCD error, received in the current 15-minute/ current 1-day/ previous 1-day interval.
HEC Count	Performance Data : Number of packets with HEC error. Curr15Min/Curr1Day/Prev1Day : Number of packets with HEC error received in the current 15 minute/ current 1 day/ previous 1 day interval.
NCD Failure Count	Performance Data : Count of all blocks received with no cell delineation (NCD) failures since agent reset. An NCD failure is declared when an NCD defect is present for 2-3 seconds after SHOWTIME.(length = 4 bytes). Curr15Min/Curr1Day/Prev1Day : Count of all blocks received with no cell delineation(NCD) failures in the current 15 minute/ current 1 day/ previous 1 day interval.
LCD Failure Count	Performance Data : Count of all blocks received with loss of cell delineation (LCD) failures since agent reset. An LCD failure is declared when an LCD defect persists for more than 2 - 3 seconds.(length = 4 bytes) Curr15Min/Curr1Day/Prev1Day : Count of all blocks received with loss of cell delineation (LCD) failures in the current 15 minute/ current 1 day/ previous 1 day interval.

References:

- ADSL commands

5.9.14 ADSL ATUR Interval Commands

5.9.14.1 Get adsl atur interval

Description:

This command is used to get.

Command Syntax:

get adsl atur interval ifname <interface-name> [**nintrvl** <nintrvl-val>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name. **Type** : Get – Mandatory **Valid values:** dsl-0 – dsl-23
nintrvl <nintrvl-val>	Number of 15 minutes intervals. **Type:** Get — Optional **Valid values:** 1 - 96

Example:

$ get adsl atur interval ifname dsl-0 nintrvl 1

Output:

Ifname : dsl-0
IntervalNumber : 1 IntervalValidData : true
IntervalLofs(sec) : 10 IntervalLoss(sec) : 10
IntervalLprs(sec) : 10
IntervalLESs(sec) : 10

Output Fields:

FIELD	Description
Ifname	The IfIndex of DSL port
IntervalNumber	Count from 1 through 96 of 15 minute intervals. Performance Data Interval number 1 is the most recent previous interval; interval 96 is 24 hours ago.
IntervalValidData	This variable indicates if the data for this interval is valid.
IntervalLofs(sec)	Count of seconds in the interval when there was Loss of Framing.
IntervalLoss(sec)	Count of seconds in the interval when there was Loss of Signal.
IntervalLprs(sec)	Count of seconds in the interval when there was Loss of Power.
IntervalESs(sec)	Count of Errored Seconds in the interval. The errored second parameter is a count of one-second intervals containing one or more crc anomalies, or one or more los or sef defects.

5.9.15 Adsl atur intervalext Commands

5.9.15.1 Get adsl atur intervalext

Description:

This command is used to get.

Command Syntax:

get adsl atur intervalext [**ifname** <interface-name>] [**nintrvl** <nintrvl-val>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name. **Type** : Get – Mandator **Valid values:** dsl-0 – dsl-23
nintrvl <nintrvl-val>	Count from 1 through 96, of 15 minute intervals. **Type:** Get -- Mandatory **Valid values:** 1 - 96

Example:

$ get adsl atur intervalext IFNAME dsl-0 NINTRVL 1

Output:

Ifname : dsl-0
IntervalNumber : 1
IntervalSesl(sec) : 10 IntervalUasL(sec) : 10
IntervalFecsL(sec) : 10

Output Fields:

FIELD	Description
Ifname	The ADSL interface name.
IntervalNumber	Count from 1 through 96, of 15 minute intervals.
IntervalSesl(sec)	Count of seconds in the interval when there was severely errored seconds.
IntervalUasL(sec)	Count of seconds in the interval when there was unavailable errored seconds.
IntervalFecsL(sec)	Count of seconds in the interval when there was Forward error correction seconds.

References

- atur interval related commands

5.9.16 ADSL ATUR Perf Commands

5.9.16.1 Get adsl atur perf

Description:

This command is used to get.

Command Syntax:

get adsl atur perf [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name. **Type** : Get – Mandatory **Valid values:** dsl-0 – dsl-23.

Example:

$ get adsl atur perf ifname dsl-0

Output:

Ifname : dsl-0

Perf Valid Intervals : 10

Perf Invalid Intervals : 10

	PerfData	Curr15Min	Curr1Day	Prev1Day
Time Elapsed/Monitored(sec) -		10	10	10
LOFS (sec)	10	10	10	10
LOSS (sec)	10	10	10	10
LPRS (sec)	10	10	10	10
ES (sec)	10	10	10	10

Output Fields:

FIELD	Description
Ifname	Ifindex of the type Adsl port
Perf Valid Intervals	The number of previous 15-minute intervals in the interval table for which data was collected.
Perf Invalid Intervals	The number of intervals in the range from 0 to the value of 'adslAturPerfValid-Intervals' for which no data is available. This object will typically be zero except in cases where the data for some intervals are not available (e.g., in proxy situations).
Time	Total elapsed seconds in the intervals – Curr15Min,

Elapsed/Monitored(sec)	Curr1Day and Monitored seconds in Prev1Day.
LOFS (sec)	**Performance Data :** Count of number of Loss of Framing failures since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval, when there was Loss of Framing.
LOSS (sec)	**Performance Data :** Count of number of Loss of signal failures since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1-day interval, when there was Loss of signals.
LPRS (sec)	**Performance Data:** Count of number of Loss of power failures, since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1- day interval, when there was Loss of power.
ES (sec)	**Performance Data :** Count of number of errored seconds since agent was reset. **Curr15Min/Curr1Day/Prev1Day :** Count of errored seconds in the current 15-minute/ current 1-day/ previous 1-day interval.

5.9.17 Adsl atur perfext Commands

5.9.17.1 Get adsl atur perfext

Description:

Use this command to get.

Command Syntax:

get adsl atur perfext [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	Ifindex of the type Adsl port **Type:** Get -- Mandatory **Valid values:** dsl-0 – dsl-23

Example:

$ get adsl atur perfext ifname dsl-0

Output:

Ifname : dsl-0

AturPerfStatLossL : 14

	PerfData	Curr15Min	Curr1Day	Prev1Day
Perf Stat SESL	10	10	10	10
Perf Stat UASL	10	10	10	10
Perf Stat FecsL	11	13	19	21

Output Fields:

FIELD	Description
Ifname	Ifindex of the type Adsl port
AturPerfStatLossL	Count of 1-second intervals containing one or more far end loss of signal (LOS) defects (Not available for ADSL)
Perf Stat SESL	**Performance Data :** Count of severely errored second line. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1- day interval, when there was severely errored second.
Perf Stat UASL	**Performance Data :** Count of unavailable errored seconds. **Curr15Min/Curr1Day/Prev1Day :** Count of seconds in the current 15-minute/ current 1-day/ previous 1- day interval, when there was unavailable errored seconds.
Perf Stat FecsL	**Performance Data**: Count of 1-second intervals, with one or more forward error correction (FEC) anomalies, since agent reset. (Not available for ADSL) **Curr15Min/Curr1Day/Prev1Day**: Count of 1-second intervals, in the current 15-minute/current 1-day/previous 1-day interval, with one or more forward error correction (FEC) anomalies. (Not available for ADSL)

References:

- atur perfdata related commands

5.9.18 ADSL ATUR Physical Commands

5.9.18.1 Get adsl atur physical

Description:
Use this command to get.

Command Syntax:
get adsl atur physical [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name. **Type** : Get – Mandatory **Valid values:** dsl-0 – dsl-23

Example:
$ get adsl atur physical ifname dsl-0

Output:
Ifname : dsl-0

Serial Number : CO123456
Vendor ID : Vendor123
Version Number : VerNo98114
Curr Status : LossOfFraming
Curr Snr Margin(dB/10) : 10 Curr Atn(dB/10) : 10
CurrAttainable Rate(bps) : 10 Curr Output Pwr(dB/10) : 10
AturGsConfig : 0x0121020203
Chan Perf CD : 5 Chan Perf CU : 5
Chan Perf BE : 5
Overhead Channel : 4000 System Vendor ID : 12345678
ATU-R Self Test Result : 0x10 ATUR G9941 Vendor ID : 12345678
Atur ACTPSDds (dB/10) : 90
BitSwapCount : 90
PSDMaskMode : CoMsk2

DownStream Gains per bin

---

[0] 15

Transmit Spectrum Shaping info

---

[0] 90

Delt HLINSCds : 2

Delt HLOGMTds : 8 Delt QLNMTds : 5

DELT Last Tx State : dmtaturg9941 Delt SnrmtDs : 100

Delt HLINpsds

---

[0] 18

Delt HLOGpsds

---

[0] 20

Delt QLNpsds

---

[0] 22

Delt DMT Bin SNR

---

[0] 22

Signal Atn(dB/10) : 40

Bin Number Number of bits/bin

---

[0] 0110030607

Output Fields:

FIELD	Description
Ifname	The ADSL Interface Name
Serial Number	The vendor specific string that identifies the vendor equipment (EOC - read 5 seconds after data mode).
Vendor ID	Vendor ID code (EOC - read 5 seconds after data mode).
Version Number	The vendor specific version number sent by this ATU,as part of the initialization messages (EOC - read 5 seconds after data mode).
Curr Status	Indicates current State of ATUR Line. This is a bitmap of possible conditions. Due to the isolation of the ATU-R when line problems occur, many state conditions such as loss of power, loss of quality

	signal, and initialization errors, cannot be determined.
Curr Snr Margin(dB/10)	Noise Margin as seen by this ATU, with respect to its received signal, in tenth dB.
Curr Atn(dB/10)	Measured difference in the total power transmitted by the peer ATU, and the total power received by this ATU.
CurrAttainable Rate(bps)	Indicates the maximum currently attainable data rate by the ATU. This value will be equal to, or greater than, the current line rate.
Curr Output Pwr(dB/10)	Measured total output power transmitted by this ATU.This is the measurement that was reported during the last activation sequence.
AturGsConfig	The upstream and downstream ATU-R configuration data (EOC - read 5 sec after data mode).
Chan Perf CD	The far-end delineated total cell count performance parameter is a count of the total number of cells passed through the cell delineation and HEC function process, operating on the ATM Data Path, while in the SYNC state. (Not available for ADSL)
Chan Perf CU	The far-end user total cell count performance parameter is a count of the total number of cells in the ATM Data Path delivered at the V-C (for ATU-C) or TR (for ATUR) interface. (Not available for ADSL)
Chan Perf BE	The far-end idle bit error count performance parameter is a count of the number of bit errors in the idle cell payload received in the ATM Data Path at the far-end. (Not available for ADSL)
Overhead Channel	Indicates the Overhead Channel. This feature is not supported by DSLPHY as yet.
System Vendor ID	Indicates the Vendor ID as inserted by the ATU-R in the Embedded Operations Channel(ADSL). Typically identiies the ATU-R system integrator which usually refers to the vendor of the smallest field-replaceable unit. ATU-R System Vendor ID may not be the same as ATU-R G.994.1 Vendor ID. For ADSL2, provides the Vendor ID as inserted by the ATU-R in the Overhead Messages. It is not available for ADSL. This is string of 8 octets containing 2 octet country code , 4 octet vendor id and 2 octet vendor revision number.
ATU-R Self Test Result	Defines the ATU-R selftest result. The most significant octet is: 00 hex if the self-test passed or 01 hex if the self-test failed. Interpretation of the other octets is vendor discretionary and can be interpreted in combination with G.994.1 and system Vendor IDs.
ATUR G9941 Vendor ID	Indicates the Vendor ID as inserted by the ATU-R in the G.994.1 CLR message.The G.994.1 Vendor ID typically identifies the

	vendor of the ATU-R G.994.1 functionality. This is string of 8 octets containing 2 octet country code , 4 octet vendor id and 2 octet vendor revision number.
Atur ACTPSDds (dB/10)	This parameter defines the average downstream transmit power spectrum density over the used subcarriers delivered by the ATU-C at the U-C reference point, at the instant of measurement. It's value ranges from -90 to 0, in 0.1 dB/Hz steps. It is available only for ADSL2/ADSL2plus.
BitSwapCount	This Conexant parameter indicates the bit swap count. It can read only in data mode
PSDMaskMode	This conexant parameter that indicates the actual PSD Mask currently being used by ATU-R
Gain Spsds	This parameter defines the downstream gains allocation table per bin. It is supported for ADSL2/ADSl2plus only.
Atur TSSpsds	This parameter provides the Downstream Transmit Spectrum Shaping parameter expressed as the set of break points exchanged during G994.1. Value of this parameter is in range 0 - 127, in multiples of -0.5 dB. 127 is a special value indicating the subcarrier is not transmitted. It is available only for ADSL2/ADSL2plus.
Delt HLINSCds	The DELT-related parameter that provides the scale factor to be applied to the downstream Hlin (f) values. (Not available for ADSL and ADSL2plus)
Delt HLOGMTds	The DELT-related parameter that provides the number of symbols used to measure the downstream Hlog (f). (Not available for ADSL and ADSL2plus)
Delt QLNMTds	The DELT-related parameter that provides the number of symbols used to measure the downstream QLN (f) values. (Not available for ADSL and ADSL2plus)
DELT Last Tx State	The DELT-related parameter that provides the last successful transmitted initialization state by ATU-R. (Not available for ADSL and ADSL2plus)
Delt SnrmtDs	DELT-number of symbols to measure DS SNR
Delt HLINpsds	The DELT-related parameter that provides an array of complex downstream Hlin (f) values in linear scale. (Not available for ADSL and ADSL2plus)
Delt HLOGpsds	The DELT-related parameter that provides an array of real downstream Hlog (f) values in dB. (Not available for ADSL and ADSL2plus)
Delt QLNpsds	The DELT-related parameter that provides an array of real

	downstream QLN (f) values in dB. (Not available for ADSL and ADSL2plus)
DMT Bin SNR	The DELT-related parameter that provides an array of real downstream SNR (f) values in dB (Not available for ADSL and ADSL2plus)
Signal Atn(dB/10)	DELT-related parameter that provides the downtream signal attenuation (length = 4 bytes). (Not available for ADSL and ADSL2plus).
AturDMTBinBits	Number of bits per bin for the bin indexed by this element of the string. The 0th element contains the number of bits for bin 0 through to the 255th element, which contains the number of bits for bin 255. The range of expected values is from 0 to 15 bits per bin (256 bytes for Annex A and Annex B, 512 bytes for G.Span/Adsl+, 1024 bytes for G.Span Plus).

References:

- ADSL commands

5.9.19 ADSL ATUR Traps Commands

5.9.19.1 Get adsl atur traps

Description:

This command is used to get.

Command Syntax:

get adsl atur traps [**ifname** <interface-name]

Parameters:

Name	Description
ifname <interface-name>	The ADSL interface name. **Type** : Get – Mandatory **Valid values:** dsl-0 – dsl-23

Example:

$ get adsl atur traps ifname dsl-0

Output:

Ifname : dsl-0

Lofs Thresh Trap : 1 Loss Thresh Trap : 1

Lprs Thresh Trap : 1 ESs Thresh Trap : 0

Rate Change Trap : 0

Output Fields:

FIELD	Description
Ifname	The ADSL Interface Name
Lofs Thresh Trap	Loss of Framing 15-minute interval threshold reached
Loss Thresh Trap	Loss of Signal 15-minute interval threshold reached
Lprs Thresh Trap	Loss of Power 15-minute interval threshold reached
ESs Thresh Trap	Errored Second 15-minute interval threshold reached
Rate Change Trap	The ATU-Rs transmit rate has changed (RADSL mode only).

References

- ADSL Commands

5.9.20 ADSL ATUR Trapsext Commands

5.9.20.1 Get adsl atur trapsext

Description:

Use this command to get.

Command Syntax:

get adsl atur trapsext [**ifname** <interface-name]

Parameters:

Name	Description
ifname <interface-name>	The ADSL Interface Name **Type:** Get -- Optional **Valid values:** dsl-0 – dsl-23

Example:

$ get adsl atur trapsext ifname dsl-0

Output:

Ifname : dsl-0

SesL Thresh 15Min Trap : 1 UasL Thresh 15Min Trap : 0

FecsL Thresh 15Min Trap: 0

Lofs Thresh 1Day Trap : 1 Loss Thresh 1Day Trap : 0

Lprs Thresh 1Day Trap : 1 ESs Thresh 1Day Trap : 1

SesL Thresh 1Day Trap : 1 UasL Thresh 1Day Trap : 0

FecsL Thresh 1Day Trap : 0

Output Fields:

FIELD	Description
Ifname	The ADSL Interface Name.
SesL Thresh 15Min Trap	Severely Error Seconds 15-minute interval threshold reached.
UasL Thresh 15Min Trap	Unavailable Error Seconds 15-minute interval threshold reached.
FecsL Thresh 15Min Trap	Forward error correction Seconds 15-minute interval threshold reached.
Lofs Thresh 1Day Trap	Loss of Frames 1-day interval threshold reached.
Loss Thresh 1Day Trap	Loss of Signal 1-day interval threshold reached.
Lprs Thresh 1Day Trap	Loss of Power 1-day interval threshold reached.
ESs Thresh 1Day Trap	Error Seconds 1-day interval threshold reached.
SesL Thresh 1Day Trap	Severely Error Seconds 1-day interval threshold reached.
UasL Thresh 1Day Trap	Unavailable Error Seconds 1-day interval threshold reached.
FecsL Thresh 1Day Trap	Forward error correction Seconds 1-day interval threshold reached.

References:

- ADSL Commands

5.9.21 ADSL Cap Commands

5.9.21.1 Get adsl cap

Description:
Use this command to view DSL transmission capability.

Command Syntax:
get adsl cap

Parameters:
None

Example:
$ get adsl cap

Output:
Tx Capability : q9921potsOverlapped q9921potsNonOverlapped

Output Fields:

Field	Description
Tx Capability	This bitmap specifies which all transmission modes, which the ATU-C is capable of supporting. Right now support for Annex A, Annex B, G.Span/ADSL+ and G.Span Plus is present. This value depends on the DSL PHY firmware present on Columbia MxU.

References:
- create dsl system
- get dsl system

5.9.22 ADSL Line Intf Commands

5.9.22.1 Get adsl line intf

Description:
Use this command to view ADSL line configuration.

Command Syntax:
get adsl line intf [**ifname** <interface-name>]

5.9.22.2 Modify adsl line intf

Description:
Use this command to modify.

Command Syntax:
modify adsl line intf ifname <interface-name> [**lineconfgsaction** startup | spectrumReverb | analogLb | digitalLb | atmLp | spectrumMedley | spectrumPilot | spectrumCMtpr | spectrumRMtpr | hybridLossTest | rcvLinearityTest | rcvFilterTest | rcvPowerPerBinTest | idleNoisePerBinTest | totalIdleNoiseTest | selt | shutdown | wakeup | AbortReq] [**linepmconfpmsf** L3ToL0StateForce | L0ToL2StateForce | L3StateForce | L2ToL0StateForce] [**linedeltconfldsf** inhibit | force] [**linetransatucconfig** ansit1413 | etsi | q9921PotsNonOverlapped | q9921PotsOverlapped | q9921IsdnNonOverlapped | q9921isdnOverlapped | q9921tcmIsdnNonOverlapped | q9921tcmIsdnOverlapped | q9922potsNonOverlapeed | q9922potsOverlapped | q9922tcmIsdnNonOverlapped | q9922tcmIsdnOverlapped | q9921tcmIsdnSymmetric | adslPlusPotsNonOverlapped | q9921GspanPlusPotsNonOverlapped | q9921GspanPlusPotsOverlapped | q9923Adsl2PotsOverlapped | q9923Adsl2PotsNonOverlapped | q9925Adsl2PlusPotsOverlapped | q9925Adsl2PlusPotsNonOverlapped | q9923Readsl2PotsOverlapped | q9923Readsl2PotsNonOverlapped | adslPlusPotsOverlapped | q9921GspanPlusPlusPotsNonOverlapped | q9921GspanPlusPlusPotsOverlapped | q9923IsdnNonOverlapped | q9923IsdnOverlapped | q9925IsdnNonOverlapped | q9925IsdnOverlapped | q9923AnnexMPotsExtUsNonOverlapped | q9923AnnexMPotsExtUsOverlapped | q9925AnnexMPotsExtUsNonOverlapped | q9925AnnexMPotsExtUsOverlapped] [**dsbinsnrupdate** Disable | Enable] [enable | disable]

Parameters:

Name	Description
ifname <interface-name>	The interface name of the DSL port. **Type:** Modify -- Mandatory Get -- Optional **Valid values:** dsl-0 – dsl-23
lineconfgsaction startup | spectrumReverb | analogLb | digitalLb | atmLp | spectrumMedley | spectrumPilot | spectrumCMtpr | spectrumRMtpr | hybridLossTest | rcvLinearityTest | rcvFilterTest | rcvPowerPerBinTest | idleNoisePerBinTest | totalIdleNoiseTest | selt | shutdown | wakeup | AbortReq	Allows action on per-line basis. **Type:** Modify -- Optional
linepmconfpmsf L3ToL0StateForce | L0ToL2StateForce | L3StateForce | L2ToL0StateForce	PM-related parameter used by ATU-C to force a change in the line state. (Not available for ADSL/ADSL2Plus) **Type:** Modify -- Optional
linedeltconfldsf inhibit | force	The DELT-related parameter used by ATU-C to force the line into the loop diagnostics mode. (Not available for ADSL and ADSL2plus) **Type:** Modify -- Optional
linetransatucconfig ansit1413 | etsi | q9921PotsNonOverlapped | q9921PotsOverlapped | q9921IsdnNonOverlapped | q9921isdnOverlapped | q9921tcmIsdnNonOverlapped | q9921tcmIsdnOverlapped | q9922potsNonOverlapeed | q9922potsOverlapped | q9922tcmIsdnNonOverlapped | q9922tcmIsdnOverlapped | q9921tcmIsdnSymmetric | adslPlusPotsNonOverlapped | q9921GspanPlusPotsNonOverlapped | q9921GspanPlusPotsOverlapped | q9923Adsl2PotsOverlapped | q9923Adsl2PotsNonOverlapped | q9925Adsl2PlusPotsOverlapped |	The transmission modes that the ATU-C is capable of supporting. The modes available are limited by the design of the equipment. REFERENCE"Section 7.3.2 ITU G.997.1" (length = 4 bytes). **Type:** Modify -- Optional

q9925Adsl2PlusPotsNonOverlapped | q9923Readsl2PotsOverlapped | q9923Readsl2PotsNonOverlapped | adslPlusPotsOverlapped | q9921GspanPlusPlusPotsNonOverlapped | q9921GspanPlusPlusPotsOverlapped | q9923IsdnNonOverlapped | q9923IsdnOverlapped | q9925IsdnNonOverlapped | q9925IsdnOverlapped | q9923AnnexMPotsExtUsNonOverlapped | q9923AnnexMPotsExtUsOverlapped | q9925AnnexMPotsExtUsNonOverlapped | q9925AnnexMPotsExtUsOverlapped	
dsbinsnrupdate Disable | Enable	Conexant parameter to enable or disable collection of downstream SNR bin status **Type:** Modify -- Optional
enable | disable	Administrative status of the interface. **Type:** Create -- Optional Modify -- Optional **Valid values:** enable, disable **Default value:** enable

Example:

$ get adsl line intf ifname dsl-0

Output:

IfName : dsl-0
Line Type : noChannel Coding Type : dmt
GsUtopia L2TxAddr : 23 GsUtopia L2RxAddr : 10
GsUtopia L2RxAddr2nd : 11 GsUtopia L2TxAddr2nd : 11
Gs Clock Type : oscillator Gs Action : analoglb
Trans Atuc Cap : ansit1413
Trans Atuc Actual : q9921PotsNonOverlapped
Trans Atuc Config : ansit1413
GsDmtTrellis : trellisOn
Trans Atur Cap : ansit1413

PM Conf PMSF : idleop
Line DELT Conf LDSF : inhibit
Curr Output Pwr(dBm/10) : 10 DS Bin SNR Update : Enable
Bin Number SNR Margin/bin
---
[0] 16

Oper Status : Up Admin Status : Enable

Output Fields:

FIELD	Description
IfName	The interface name of the DSL port.
Line Type	Line type used by the DSL port.
Coding Type	Line coding type used by the port.
GsUtopia L2TxAddr	UTOPIA Level 2 Tx address for a line.
GsUtopia L2RxAddr	UTOPIA Level 2 Rx address.
GsUtopia L2RxAddr2nd	Conexant parameter to set UTOPIA Level 2 Rx address for the secondary bearer channel in case of Dual Latency. (length = 4 bytes)
GsUtopia L2TxAddr2nd	Conexant parameter to set UTOPIA Level 2 Tx address for the secondary bearer channel in case of Dual Latency. (length = 4 bytes)
Gs Clock Type	Indicates use of crystal or oscillator.
Gs Action	Allows action on per-line basis.
Trans Atuc Cap	Transmission modes that ATU-C is capable of.
Trans Atuc Actual	Transmission modes
Trans Atuc Config	The transmission modes that the ATU-C is capable of supporting. The modes available are limited by the design of the equipment. REFERENCE"Section 7.3.2 ITU G.997.1" (length = 4 bytes).
GsDmtTrellis	Indicates whether trellis coding has been enabled or not.
Trans Atur Cap	The transmission modes that the ATU-R is capable of supporting. The modes available are limited by the design of the equipment (length = 4 bytes).
PM Conf PMSF	PM-related parameter used by ATU-C to force a change in the line state. (Not available for ADSL/ADSL2Plus)
Line DELT Conf LDSF	The DELT-related parameter used by ATU-C to force the line into the loop diagnostics mode. (Not available for ADSL and ADSL2plus)

Curr Output Pwr(dBm/10)	This conexant parameter indicates the measure of total output power transmitted by this ATU. The value of this parameter is dynamic and will also show the change in Tx power due to Power Management. For example, the value will decrease in L2 low power mode. This value can be negative.
DS Bin SNR Update	Conexant parameter to enable or disable collection of downstream SNR bin status
Bin SNR Margin(dB/10)	Bin SNR margin for particular sub carrier
Oper Status	The actual/current state of the interface. It can be either up or down.
Admin Status	The desired state of the interface. It may be either Up or Down.

5.9.23 ADSL Line Profile Commands

5.9.23.1 Get adsl line profile

Description:
Use this command to get.

Command Syntax:
get adsl line profile [**ifname** <interface-name>]

5.9.23.2 Modify adsl line profile

Description:
Use this command to modify.

Command Syntax:
modify adsl line profile ifname <interface-name> [**atucrateadaptation** fixed | adaptAtStartup | adaptAtRuntime] [**gsparamtestinputfile** <gsparamtestinputfile-val>] [**atuctargetsnr** <atuctargetsnr-val>] [**atucmaxsnrmargin** <atucmaxsnrmargin-val>] [**atucgsrsintcorrectionup** 125us | 250us | 500us | 1ms | 2ms | 4ms | disable] [**atucdnshiftsnrmargin** <atucdnshiftsnrmargin-val>] [**atucupshiftsnrmargin** <atucupshiftsnrmargin-val>] [**atucminupshifttime** <atucminupshifttime-val>] [**atucmindnshifttime** <atucmindnshifttime-val>] [**atucfastmintxrate** <atucfastmintxrate-val>] [**atucintlmintxrate** <atucintlmintxrate-val>] [**atucfastmaxtxrate** <atucfastmaxtxrate-val>] [**atucintlmaxtxrate** <atucintlmaxtxrate-val>] [**atucmaxintldelay** <atucmaxintldelay-val>] [**type** noChannel | fastOnly | interleavedOnly | fastOrInterleaved | fastAndInterleaved] [**atucgstxendbin** <atucgstxendbin-val>] [**atucgstxstartbin** <atucgstxstartbin-val>]

[**atucgsmaxbitsperbin** <atucgsmaxbitsperbin-val>] [**atucgsrxstartbin** <atucgsrxstartbin-val>] [**atucgsrxendbin** <atucgsrxendbin-val>] [**atucgsrxbinadjust** disable] [**atucgsltriggermode** locCrc | rmtCrc | snrInc | snrDec | disable] [atucgsadi2x standard] [**atucgsinitiate** waitPn | ctone | initiatePn] [**atucgstxpoweratten** 0 | point1 | point2 | point3 | point4 | point5 | point6 | point7 | point8 | point9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40] [**atucgscodinggain** Auto | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 256] [**atucgsrsfastovrhddn** 50 | 25 | 12 | 6 | 3 | 1 | Disable] [**atucgsrsintcorrectiondn** 125Us | 250Us | 500Us | 1Ms | 2Ms | 4Ms | Disable] [**atucgsrsfastovrhdup** 50 | 25 | 12 | 6 | 3 | 1 | Disable] [**atucgsdrstby** Disable | Enable] [**atucgsexpexch** Expanded | Short] [**atucgsescfastretrain** Enable | Disable] [**atucgsfastretrain** Enable | Disable] [**atucgsbitswap** Disable | Enable] [**atucgsntr** LocalOcs | Refck8K] [**atucgsalctlusver** Unknown] [**atucgsusecustombin** Enable | Disable] [**atucgsdnbinusage** <atucgsdnbinusage-val>] [**atucgsmaxdco** 64 | 128 | 256 | 511] [**atucgsfullretrain** Enable | Disable] [**atucgspsdmasktype** CoMsk2 | FlatMsk | CabMsk2 | CoMsk2Rfi | FlatMskRfi | CabMsk2Rfi | CoMsk2Rfi0 | Adsl2NonovlpM1 | Adsl2NonovlpM2 | Adsl2NonovlpFlat] [**atucgseraseprofs** enable | disable] [**atucgsextrsmemory** notpresent | present] [**paramhybridlosstestst art** <paramhybridlosstestst art-val>] [**paramhybridlosstestend** <paramhybridlosstestend-val>] [**dmttrellis** on | off] [**aturtargetsnrmargin** <aturtargetsnrmargin-val>] [**aturdnshiftsnrmargin** <aturdnshiftsnrmargin-val>] [**aturupshiftsnrmargin** <aturupshiftsnrmargin-val>] [**aturminupshifttime** <aturminupshifttime-val>] [**aturmindnshifttime** <aturmindnshifttime-val>] [**aturfastmintxrate** <aturfastmintxrate-val>] [**aturintlmintxrate** <aturintlmintxrate-val>] [**aturfastmaxtxrate** <aturfastmaxtxrate-val>] [**aturintlmaxtxrate** <aturintlmaxtxrate-val>] [**aturmaxintldelay** <aturmaxintldelay-val>] [**databoost** Enable | Disable] [**upstreampsd** Extended | Standard | Jj100] [**atucconfpmmode** pmstatel3enable | pmstatel2enable | disable] [**atucconfpml0time** <atucconfpml0time-val>] [**atucconfpml2time** <atucconfpml2time-val>] [**atucconfpml2atpr** <atucconfpml2atpr-val>] [**atucconfpml2minrate** <atucconfpml2minrate-val>] [**atucconfmsgminds** <atucconfmsgminds-val>] [**aturconfmsgminus** <aturconfmsgminus-val>] [**atucminsnrmgn** <atucminsnrmgn-val>] [**aturminsnrmgn** <aturminsnrmgn-val>] [**atucfrontenddesigntype** El1508 | El1528 | Le87213] [**atuchwpwrreduction** Disable | Enable] [**atucgsusbitswap** Disable | Enable] [**aturmaxsnrmgn** <aturmaxsnrmgn-val>] [**atucconfmininp** Inp0 | InpPoint5 | Inp1 | Inp2 | InpAuto | Inp4 | Inp8 | Inp16] [**atucpml2entrythreshrate** atucpml2entrythreshrate] [**atucpml2exitthreshrate** <atucpml2exitthreshrate-val>] [**atucpml2entryratemintime**

<atucpml2entryratemintime-val>] [**atucgscabinethsenable** Disable | Enable] [**atucgsseltlooptype** RealCable | Dls90 | Dls400] [**atucgsrxstartbinu1** <atucgsrxstartbinu1-val>] [**atucgsrxendbinu1** <atucgsrxendbinu1-val>] [**gspsdmaskdsenable** PsdMaskDisable | PsdMaskEnable | PsdMaskEnableMod] [**gspsdmaskusenable** PsdMaskDisable | PsdMaskEnable | PsdMaskEnableMod] [**psdmaskdsfallbackenable** False | True] [**psdmaskusfallbackenable** False | True] [**atucconfmaxnompsdds** <atucconfmaxnompsdds-val>] [**aturconfmaxnompsdus** <aturconfmaxnompsdus-val>] [**atucconfmaxnomatpds** <atucconfmaxnomatpds-val>] [**aturconfmaxnomatpus** <aturconfmaxnomatpus-val>] [**atucconfpsdmaskds** <atucconfpsdmaskds-val>] [**aturconfpsdmaskus** <aturconfpsdmaskus-val>] [**aturratemode** fixed | adaptAtStartup | adaptAtRuntime] [**aturconfmininp** Inp0 | InpPoint5 | Inp1 | Inp2 | InpAuto | Inp4 | Inp8 | Inp16] [**gsannexcoltocxswitch** CxSwitch19DB | CxSwitch20DB | CxSwitch21DB | CxSwitch22DB | CxSwitch23DB | CxSwitch24DB | CxSwitch25DB | CxSwitch26DB | CxSwitch27DB | CxSwitch28DB | CxSwitch29DB | CxSwitch30DB] [**atucconfgsannexcswitch** Gspan19DB | Gspan20DB | Gspan21DB | Gspan22DB | Gspan23DB | Gspan24DB | Gspan25DB | GspanPlus7DB | GspanPlus8DB | GspanPlus9DB | GspanPlus10DB | GspanPlus11DB | GspanPlus12DB | GspanPlus13DB | GspanPlus14DB | GspanPlus15DB] [**gsannexctouqswitch** CUqSwitch6DB | CUqSwitch6_5DB | CUqSwitch7DB | CUqSwitch8DB | CUqSwitch9DB | CUqSwitch10DB | CUqSwitch11DB | CUqSwitch12DB | CUqSwitch13DB | CUqSwitch14DB | CUqSwitch15DB] [**atucminsnrmgntime** <atucminsnrmgntime-val>] [**atuccustomerid** WorldWide | France | China | Portugal] [**atucmpsdmasktype** Adsl2MEu64 | Adsl2MEu60 | Adsl2MEu56 | Adsl2MEu52 | Adsl2MEu48 | Adsl2MEu44 | Adsl2MEu40 | Adsl2MEu36 | Adsl2MEu32 | Adsl2MAll] [**atucgsseltloopgauge** 26awg | 24awg] [**atucconfrateratio** <atucconfrateratio-val>]

Parameters:

Name	Description
ifname<interface-name>	The ADSL line interface name, whose profile is to bemodified or viewed **Type:** Modify — Mandatory Get — Optional
atucrateadaptation fixed | adaptAtStartup | adaptAtRuntime	Defines what form of transmit rate adaptation is configured on this modem. Refer to ADSL Forum TR-005 for more information. **Type:** Modify -- Optional
gsparamtestinputfile <gsparamtestinputfile-val>	Indicates Name of the Input file from which to take the Mask Array Size, lower and upper mask Array. Null string means no file is specified **Type:** Modify -- Optional

atuctargetsnr <atuctargetsnr-val>	Configured Target Signal/Noise Margin. This is the Noise Margin the modem must achieve with a BER of 10 to the power -7, or better, to successfully complete initialization. **Type:** Modify -- Optional **Valid values:** 0 - 310
atucmaxsnrmargin <atucmaxsnrmargin-val>	Configured Maximum acceptable Signal/Noise Margin. If the Noise Margin is above this, the modem hould attempt to reduce its power output to optimize its operation. **Type:** Modify -- Optional **Valid values:** 0 - 310
atucgsrsintcorrectionup 125us | 250us | 500us | 1ms | 2ms | 4ms | disable	Sets the correction time for the upstream interleaved buffer. RS can also be disabled. **Type:** Modify -- Optional
atucdnshiftsnrmargin <atucdnshiftsnrmargin-val>	Configured Signal/Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 310
atucupshiftsnrmargin <atucupshiftsnrmargin-val>	Configured Signal/Noise Margin for rate upshift. If the noise margin rises above this level, the modem should attempt to increase its transmit rate. In thecase that RADSL is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 310
atucminupshifttime <atucminupshifttime-val>	Minimum time that the current margin is above UpshiftSnrMgn before an upshift occurs. In the case that RADSL is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 16383
atucmindnshifttime <atucmindnshifttime-val>	Minimum time that the current margin is above UpshiftSnrMgn before an upshift occurs. In the case that RADSL is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 16383
atucfastmintxrate <atucfastmintxrate-val>	Configured Minimum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and refer to ATU-R transmit rate for ATU-C receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
atucintlmintxrate	Configured Minimum Transmit rate for 'Interleave' channels, in bps.

<atucintlmintxrate-val>	Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and refer to ATU-R transmit rate for ATU-C receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
atucfastmaxtxrate **<**atucfastmaxtxrate-val>	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
atucintlmaxtxrate **<**atucintlmaxtxrate-val>	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
atucmaxintldelay **<**atucmaxintldelay-val>	Configured maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing for improved impulse noise immunity at the expense of payload latency. **Type:** Modify -- Optional **Valid values:** 0 - 255
type noChannel | fastOnly | interleavedOnly | fastOrInterleaved | fastAndInterleaved	This object is used to configure the ADSL physical line mode. **Type:** Modify -- Optional
atucgstxendbin **<**atucgstxendbin-val>	The highest bin number allowed for Tx signal. **Type:** Modify -- Optional **Valid values:** 0x06 - 0xff
atucgstxstartbin **<**atucgstxstartbin-val>	The lowest bin number allowed for Tx signal. **Type:** Modify -- Optional **Valid values:** 0x06 - 0xff
atucgsmaxbitsperbin **<**atucgsmaxbitsperbin-val>	The maximum Rx number of bits per bin. **Type:** Modify -- Optional **Valid values:** 0 - 15
atucgsrxstartbin **<**atucgsrxstartbin-val>	The lowest bin number allowed for Rx signal. **Type:** Modify -- Optional **Valid values:** 0x01 - 0x1ff
atucgsrxendbin	The highest bin number allowed for Rx signal.

<atucgsrxendbin-val>	**Type:** Modify -- Optional **Valid values:** 0x06 - 0x1ff
atucgsrxbinadjust disable	This parameter employs Rx Start/End bin settings **Type:** Modify -- Optional
atucgsltriggermode locCrc | rmtCrc | snrInc | snrDec | disable	The type of event that triggers a fast retrain **Type:** Modify -- Optional
atucgsadi2x standard	For non-standard compliant ADI CPE **Type:** Modify -- Optional
atucgsinitiate waitPn | ctone | initiatePn	Specifies which end initiates startup. It is also used to send a C-tone to the remote unit. **Type:** Modify -- Optional
atucgstxpoweratten 0 | point1 | point2 | point3 | point4 | point5 | point6 | point7 | point8 | point9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40	The value in dB of Tx power attenuation **Type:** Modify -- Optional
atucgscodinggain Auto | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 256	Sets the coding gain in dB increments **Type:** Modify -- Optional
atucgsrsfastovrhddn 50 | 25 | 12 | 6 | 3 | 1 | Disable	This parameter sets the percentage overhead for the downstream fast buffer. RS can also be disabled. **Type:** Modify -- Optional
atucgsrsintcorrectiondn 125Us | 250Us | 500Us | 1Ms | 2Ms | 4Ms | Disable	This parameter sets the correction time for the downstream interleaved buffer.RS can also be disabled. **Type:** Modify -- Optional
atucgsrsfastovrhdup 50 | 25 | 12 | 6 | 3 | 1 | Disable	This parameter sets the percentage overhead for the upstream fast buffer.RS can also be disabled. **Type:** Modify -- Optional
atucgsdrstby Disable | Enable	This parameter provides the ability to disable power to the line driver **Type:** Modify -- Optional
atucgsexpexch Expanded | Short	T1.413 parameter that Enables/Disables EES **Type:** Modify -- Optional
atucgsescfastretrain Enable | Disable	This parameter enables/disables escape to the fast retrain capability **Type:** Modify -- Optional
atucgsfastretrain Enable | Disable	This parameter enables/disables the fast retrain capability. Currently supported only in G.lite mode.

	Type: Modify -- Optional
atucgsbitswap Disable | Enable	This parameter enables/disables bit swapping **Type:** Modify -- Optional
atucgsntr LocalOcs | Refck8K	This parameter enables/disables NTR on a per chip basis **Type:** Modify -- Optional
atucgsalctlusver Unknown	For T1.413 demo purposes only **Type:** Modify -- Optional
atucgsusecustombin Enable | Disable	This parameter enables/disables user selection which of the 511 bins will be enabled for upstream and downstream transmission. **Type:** Modify -- Optional
atucgsdnbinusage **<**atucgsdnbinusage-val>	'1' in bit position indicates usage of corresponding bin,whereas a '0' disables usage of corresponding bin. **Type:** Modify -- Optional
atucgsmaxdco 64 | 128 | 256 | 511	Maximum interleaving depth supported by the customer's hardware **Type:** Modify -- Optional
atucgsfullretrain Enable | Disable	Indicates enable/disable of auto retrain capability **Type:** Modify -- Optional
atucgspsdmasktype CoMsk2 | FlatMsk | CabMsk2 | CoMsk2Rfi | FlatMskRfi | CabMsk2Rfi | CoMsk2Rfi0 | Adsl2NonovlpM1 | Adsl2NonovlpM2 | Adsl2NonovlpFlat	This parameter selects the PSD mask option to be used **Type:** Modify -- Optional
atucgseraseprofs enable | disable	This parameter enables/disables the ability to erase all fast retrain profiles at startup **Type:** Modify -- Optional
atucgsextrsmemory notpresent | present	Indicates whether customer's Hardware uses external RS RAM **Type:** Modify -- Optional
paramhybridlosstestst art **<**paramhybridlosstestst art-val>	Start bin for range of bins to be measured. The default value mentioned is an indicative value only, for exact value refer to document number DO-400523-AN and DO-401163-AN. **Type:** Modify -- Optional **Valid values:** 0x0 - 0x1ff
paramhybridlosstestend **<**paramhybridlosstestend-val>	End bin for range of bins to be measured. **Type:** Modify -- Optional **Valid values:** 0x0 - 0x1ff
dmttrellis on | off	This parameter enables/disables trellis coding. Trellis coding should always be enabled for its clear performance advantage. **Type:** Modify -- Optional

aturtargetsnrmargin **<**aturtargetsnrmargin-val>	Noise Margin the modem must achieve with a BER of 10 to the power 7 or better to successfully complete initialization **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturdnshiftsnrmargin **<**aturdnshiftsnrmargin-val>	Configured Signal/ Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturupshiftsnrmargin **<**aturupshiftsnrmargin-val>	Configured Signal/ Noise Margin for rate upshift. If the noise margin rises above this level, the modem should attempt to increase itís transmit rate. In the case that RADSL is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturminupshifttime **<**aturminupshifttime-val>	Minimum time that the current margin is above UpshiftSnrMgn, before an upshift occurs. In the case that RADSL is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturmindnshifttime **<**aturmindnshifttime-val>	Minimum time that the current margin is below DownshiftSnrMgn, before a downshift occurs. In the case that RADSL mode is not present, the value will be 0. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturfastmintxrate **<**aturfastmintxrate-val>	Configured Minimum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and ATU-C transmit rate for ATU-R receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturintlmintxrate **<**aturintlmintxrate-val>	Configured Minimum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATUR receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturfastmaxtxrate **<**aturfastmaxtxrate-val>	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATUR receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff

aturintlmaxtxrate <aturintlmaxtxrate-val>	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATU-R receive rates. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
aturmaxintldelay <aturmaxintldelay-val>	Configured maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing for improved impulse noise immunity at the expense of payload latency **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
databoost Enable | Disable	Conexant parameter that enables/disables DataBoost option. **Type:** Modify -- Optional
upstreampsd Extended | Standard | Jj100	Conexant parameter that sets the upstream PSD to be either extended or standard. Used for GSpan Plus only. **Type:** Modify -- Optional
atucconfpmmode pmstatel3enable | pmstatel2enable | disable	PM-related parameter used by the ATU-C to set the allowed link states. Both bit values can be given simultaneously in the input. Additional value to disable pmmode is disable, which is equal to 0. **Type:** Modify -- Optional
atucconfpml0time <atucconfpml0time-val>	PM configuration parameter, related to the L2 low power state. This parameter represents the minimum time (in seconds) between an exit from the L2 state and the next entry into the L2 state. It ranges from 0 to 255 seconds. **Type:** Modify -- Optional **Valid values:** 0 - 255
atucconfpml2time <atucconfpml2time-val>	PM configuration parameter, related to the L2 low power state. This parameter represents the minimum time (in seconds) between an Entry into the L2 state and the first Power Trim in the L2 state and between two consecutive Power Trims in the L2 State. It ranges from 0 to 255 seconds. **Type:** Modify -- Optional **Valid values:** 0 - 255
atucconfpml2atpr <atucconfpml2atpr-val>	PM configuration parameter, related to the L2 low power state. This parameter represents the maximum aggregate transmit power reduction (in dB) that can be performed through a single Power Trim in the L2 state. It ranges from 0 dB/10 to 310 dB/10.

	Type: Modify -- Optional **Valid values:** 0 - 310
atucconfpml2minrate <atucconfpml2minrate-val>	PM configuration parameter, related to the L2 low power state. This parameter specifies the minimum net data rate during the low power state (L2). The data rate is coded in bit/s, and can range from 0x1F40 (8000) bps to 0xFA000 (1024000) bps. **Type:** Modify -- Optional **Valid values:** 0x1F40 - 0xFA000
atucconfmsgminds <atucconfmsgminds-val>	Configures downstream overhead channel bandwidth. This feature is not supported by DSLPHY as yet. **Type:** Modify -- Optional **Valid values:** 4000 - 64000
aturconfmsgminus <aturconfmsgminus-val>	Configures upstream overhead channel bandwidth.This feature is not supported by DSLPHY as yet. **Type:** Modify -- Optional **Valid values:** 4000 - 64000
atucminsnrmgn <atucminsnrmgn-val>	Atuc Configured Minimum Signal/Noise Margin. This is the Noise Margin, the modem must achieve with a BER of 10 to the power -7 or better, to successfully complete initialization. The default value mentioned is an indicative value only. **Type:** Modify -- Optional **Valid values:** 0 - 310
aturminsnrmgn <aturminsnrmgn-val>	Atuc Configured Minimum Signal/Noise Margin. This is the Noise Margin, the modem must achieve with a BER of 10 to the power -7 or better, to successfully complete initialization. The default value mentioned is an indicative value only. **Type:** Modify -- Optional **Valid values:** 0 - 310
atucfrontenddesigntype El1508 | El1528 | Le87213	Front end hardware reference design **Type:** Modify -- Optional
atuchwpwrreduction Disable | Enable	Hardware configuration parameter **Type:** Modify -- Optional
atucgsusbitswap Disable | Enable	This parameter enables/disables upstream bit swapping **Type:** Modify -- Optional
aturmaxsnrmgn <aturmaxsnrmgn-val>	Configured Maximum acceptable downstream Signal/Noise Margin. If the Noise Margin is above this the modem attempts to reduce its power output to optimize its operation. The value set by the user is in dB/10, and ranges from 0 to 31 dB in 1 dB steps. **Type:** Modify -- Optional **Valid values:** 0 - 310

atucconfmininp Inp0 | InpPoint5 | Inp1 | Inp2 | InpAuto | Inp4 | Inp8 | Inp16	Parameter used to specify the minimum impulse noise protection for the downstream bearer channel. **Type:** Modify -- Optional
atucpml2entrythreshrate **<**atucpml2entrythreshrate-val>	PM config param. L2 state entry data rate. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
atucpml2exitthreshrate **<**atucpml2exitthreshrate-val>	PM config param. L2 state exit data rate. **Type:** Modify -- Optional **Valid values:** 0 - 0xffffffff
atucpml2entryratemintime **<**atucpml2entryratemintime-val>	PM config param.Min L2 entry rate time **Type:** Modify -- Optional **Valid values:** 900 - 65535
atucgscabinethsenable Disable | Enable	Enable/Disable HS tones in Cabinet mode **Type:** Modify -- Optional
atucgsseltlooptype RealCable | Dls90 | Dls400	Conexant parameter that is used to specify the loop type for SELT. The default value mentioned is an indicative value only. **Type:** Modify -- Optional
atucgsrxstartbinu1 **<**atucgsrxstartbinu1-val>	Conexant parameter that specifies lowest bin number allowed for Rx signal in G.Span Plus SUQ mode. By selecting the receive start and end bin numbers, the user can limit the bins for special configurations.(length = 4 bytes) **Type:** Modify -- Optional
atucgsrxendbinu1 **<**atucgsrxendbinu1-val>	Conexant parameter that specifies highest bin number allowed for Rx signal in G.Span Plus SUQ mode. By selecting the receive start and end bin numbers, the user can limit the bins for special configurations.(length = 4 bytes) **Type:** Modify -- Optional
gspsdmaskdsenable PsdMaskDisable | PsdMaskEnable | PsdMaskEnableMod	Conexant parameter that is used to configure the switching point between DBM-OL and XOL.(length = 4 bytes) **Type:** Modify -- Optional
gspsdmaskusenable PsdMaskDisable | PsdMaskEnable | PsdMaskEnableMod	Conexant parameter used to enable the Mask on Demand(MoD) feature in the upstream direction. It is available only for ADSL2 Annex A ONLY.(length = 4 bytes) **Type:** Modify -- Optional
psdmaskdsfallbackenable False | True	Conexant parameter used to enable Mask on Demand (MoD) fallback mode. When enabled, the system chooses MoD or the base ADSL2 depending upon the downstream rate. It is avaiable only for ADSL2 Annex A.(length = 4 bytes) **Type:** Modify -- Optional

	Valid values: False, True
psdmaskusfallbackenable False | True	Conexant parameter used to enable Mask on Demand (MoD) fallback mode. When enabled, the system chooses MoD or the base ADSL2 depending upon the upstream rate. It is avaiable only for ADSL2 Annex A.(length = 4 bytes) **Type:** Modify -- Optional **Valid values:** False, True
atucconfmaxnompsdds **<**atucconfmaxnompsdds-val>	This parameter specifies the maximum nominal transmit PSD(MAXNOMPSD) level during initialization and showtime. Value depends on CO MIB element settings and near end transmitter capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from -60 to -40 in steps of 0.1 dBm/Hz.(length = 4 bytes) **Type:** Modify -- Optional **Valid values:** (-600) - (-400)
aturconfmaxnompsdus **<**aturconfmaxnompsdus-val>	This parameter specifies the maximum nominal transmit PSD(MAXNOMPSD) level during initialization and showtime. Value depends on CO MIB element settings and near end transmitter capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from -60 to -38 in steps of 0.1 dBm/Hz.(length = 4 bytes) **Type:** Modify -- Optional **Valid values:** (-600) - (-380)
atucconfmaxnomatpds **<**atucconfmaxnomatpds-val>	This parameter specifies the maximum nominal aggregate transmit power(MAXNOMATP) level during initialization and showtime. Value depends on CO MIB element settings and local capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from 0 to 25.5 in steps of 0.1 dBm.(length = 4 bytes) **Type:** Modify -- Optional **Valid values:** 0 - 255
aturconfmaxnomatpus **<**aturconfmaxnomatpus-val>	This parameter specifies the maximum nominal aggregate transmit power(MAXNOMATP) level during initialization and showtime. Value depends on CO MIB element settings and local capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from 0 to 25.5 in steps of 0.1 dBm.(length = 4 bytes) **Type:** Modify -- Optional **Valid values:** 0 - 255
atucconfpsdmaskds	This configuration parameter defines that the downstream PSD mask

<atucconfpsdmaskds-val>	applicable at the U-C2 reference point. This MIB PSD mask may impose PSD restrictions in addition to the Limit PSD mask defined in the relevant Recommendation (e.g., G.992.5). (length = 4 bytes). **Type:** Modify -- Optional
aturconfpsdmaskus **<**aturconfpsdmaskus-val>	This configuration parameter defines that the upstream PSD mask applicable at the U C2 reference point. This MIB PSD mask may impose PSD restrictions in addition to the Limit PSD mask defined in the relevant Recommendation (e.g., G.992.5). It is available only for Annexes J and M of ADSL2/ADSL2plus.(length = 4 bytes) **Type:** Modify -- Optional
aturratemode fixed | adaptAtStartup | adaptAtRuntime	Defines what form of transmit rate adaptation is configured on this modem. The default value mentioned is an indicative value only. **Type:** Modify -- Optional
aturconfmininp Inp0 | InpPoint5 | Inp1 | Inp2 | InpAuto | Inp4 | Inp8 | Inp16	Parameter used to specify the minimum impulse noise protection for the upstream bearer channel. Supported for ADSL2/ADSL2plus ONLY **Type:** Modify -- Optional
gsannexcoltocxswitch CxSwitch19DB | CxSwitch20DB | CxSwitch21DB | CxSwitch22DB | CxSwitch23DB | CxSwitch24DB | CxSwitch25DB | CxSwitch26DB | CxSwitch27DB | CxSwitch28DB | CxSwitch29DB | CxSwitch30DB	Conexant parameter that is used to configure the switching point between DBM-OL and XOL.(length = 4 bytes) **Type:** Modify -- Optional
atucconfgsannexcswitch Gspan19DB | Gspan20DB | Gspan21DB | Gspan22DB | Gspan23DB | Gspan24DB | Gspan25DB | GspanPlus7DB | GspanPlus8DB | GspanPlus9DB | GspanPlus10DB | GspanPlus11DB | GspanPlus12DB | GspanPlus13DB | GspanPlus14DB |	Conexant parameter that is used to configure the switching point between Annex C and G.Span (IFM) and between Annex C and G.Span Plus.(length = 4 bytes) **Type:** Modify -- Optional

GspanPlus15DB	
gsannexctouqswitch CUqSwitch6DB | CUqSwitch6_5DB | CUqSwitch7DB | CUqSwitch8DB | CUqSwitch9DB | CUqSwitch10DB | CUqSwitch11DB | CUqSwitch12DB | CUqSwitch13DB | CUqSwitch14DB | CUqSwitch15DB	Conexant parameter that is used to configure the switching point between Annex C and G.Span Plus SUQ.(length = 4 bytes) **Type:** Modify -- Optional
atucminsnrmgntime **<**atucminsnrmgntime-val>	This parameter indicates the time when the snr margin violation is allowed. After this time expires and current snr is less than min snr, the DSL line is dropped by the APIs. **Type:** Modify -- Optional **Valid values:** 0 - 255
atuccustomerid WorldWide | France | China | Portugal	This parameter indicates the customer ID. **Type:** Modify -- Optional
atucmpsdmasktype Adsl2MEu64 | Adsl2MEu60 | Adsl2MEu56 | Adsl2MEu52 | Adsl2MEu48 | Adsl2MEu44 | Adsl2MEu40 | Adsl2MEu36 | Adsl2MEu32 | Adsl2MAll	Conexant parameter that selects the PSD mask option to be used for Adsl2M. **Type:** Modify -- Optional
atucgsseltloopgauge 26awg | 24awg	This parameter should be set to the expected loop gauge. **Type:** Modify -- Optional
atucconfrateratio **<**atucconfrateratio-val>	This parameter specifies the latency rate for both channels in a dual latency configuration. This parameter must be set the parameter to a value greater than 0 and less than 100. **Type:** Modify -- Optional **Valid values:** 0 - 100

Example:

$ get adsl line profile ifname dsl-0

Output:

IfName : dsl-0

ADSL ATUC Configuration :

Rate Adaptation : fixed

Target Snr Margin(dB/10) : 20 Max Snr Mgn(dB/10) : 40

GsRsIntCorrectionUp : 1ms Dnshift SnrMargin(dB/10) : 35

Upshift SnrMargin(dB/10) : 50 Min Upshift Time(sec) : 70

Min Dnshift Time(sec) : 10 Fast Min Tx Rate(bps) : 0x20

Intl Min Tx Rate(bps) : 0x40 Fast Max Tx Rate(bps) : 0x50

Intl Max Tx Rate(bps) : 0x60 Max Intl Delay(ms) : 10

GsTxStartBin : 0x20 GsTxEndBin : 0x06

GsRxStartBin : 0x06 GsRxEndBin : 0x1f

GsMaxBitsPerBin : 15 GsMaxDCo : 64

GsRxBinAdjust : enable GsAdi2x : standard

GsInitiate : waitPn GsTxPowerAtten : point6

GsCodingGain : Auto GsRsFastOvrhdDown : 1

GsRsIntCorrectionDown : 125Us GsRsFastOvrhdUp : 50

GsDrStby : Disable GsExpandedExchange : Short

GsEscapeFastRetrain : Enable GsFastRetrain : Enable

GsBitSwap : Enable GsNtr : LocalOcs

GsAlctlUsVer : Unknown

GsUseCustomBin : Enable GsFullRetrain : Enable

GsPsdMaskType : FlatMsk GsEraseProfiles : enable

GsExtRsMemory : ExtRsMemory ParamHybridLossTestStart : 0x10

GsParamHybridLossTestEnd : 0x23 GsDmtTrellis : on

GslTriggerMode : rmtCrc

Type : noChannel

GsDnBinUsage : 0xff

ParametricTestInputFile : TestFile

Data Boost : Enable

Upstream PSD : Extended

Conf PM Mode : pmstatel3enable pmstatel3disable

Conf PML0 Time(sec) : 120 Conf PML2 Time(sec) : 255

Conf PML2 ATPR (dB/10) : 30 Conf PML2 Min Rate(bps) : 0xFA00

MSG Min Ds : 4000 Min Snr Mrg(dB/10) : 20

FrontEnd H/W Design : El1508

H/W Pwr Reduction : Enable

GsUsBitSwap : Enable Minimum INP : Inp0

PML2 Entry Thresh Rate : 0x1000 PML2 Exit Thresh Rate : 0x1000

PML2 Entry Rate Min Time : 1800 CabinetHsEnable : Disable

GsSeltLoopType : Real Cable

GsRxStartBinU1 : 0x3aa

GsRxEndBinU1 : 0x4a6 PSD MoD Enable : PsdMaskEnable

PsdMod FallBackEnable : Enable Max Nom PSD(dB/10) : -40

Max Nom AtpPsd(dB/10) : 204

Downstream PSD Mask :

---

[0] 0

GsAnnexCOlToCxSwitch : CxSwitch19DB

GsAnnexCSwitch : Gspan19DB GsAnnexCToUqSwitch : CUqSwitch6_5DB

Min SnrMgnTime(sec) : 20

Customer ID : WorldWide

GsMPsdMaskType : Adsl2MEu32 GsSeltLoopGauge : 26awg

Rate Ratio : 30

ADSL ATUR Configuration :

Target Snr Margin(dB/10) : 20 Dnshift SnrMargin(dB/10) : 35

Upshift SnrMargin(dB/10) : 50 Min Upshift Time(sec) : 70

Min Dnshift Time(sec) : 10 Fast Min Tx Rate(bps) : 0x20

Intl Min Tx Rate(bps) : 0x10 Fast Max Tx Rate(bps) : 0x40

Intl Max Tx Rate(bps) : 0x60 Max Intl Delay(ms) : 10

MSG Min Us : 4000 Minimum Snr Margin(dB/10) : 20

Maximum Snr Margin(dB/10) : 20

PSD MoD Enable : Enable

PsdMod FallBackEnable : PSDFallbackEnable Max Nom PSD(dB/10) : -38

Max Nom AtpPsd(dB/10) : 125 Rate Adaptation : fixed

Min INP : Inp0

Upstream PSD Mask :

---

[0] 0

Output Fields:

FIELD	Description
IfName	The ADSL line interface name, whose profile is to be modified or viewed
Rate Adaptation	Defines what form of transmit rate adaptation is configured on this modem. Refer to ADSL Forum TR-005 for more information.
Target Snr Margin(dB/10)	Configured Target Signal/Noise Margin. This is the Noise Margin the modem must achieve with a BER of 10 to the power -7, or better, to successfully complete initialization.
Max Snr Mgn(dB/10)	Configured Maximum acceptable Signal/Noise Margin. If the Noise Margin is above this, the modem hould attempt to reduce its power output to optimize its operation.
GsRsIntCorrectionUp	Sets the correction time for the upstream interleaved buffer. RS can also be disabled.
Dnshift SnrMargin(dB/10)	Configured Signal/Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0.
Upshift SnrMargin(dB/10)	Configured Signal/Noise Margin for rate upshift. If the noise margin rises above this level, the modem should attempt to increase its transmit rate. In thecase that RADSL is not present, the value will be 0.
Min Upshift Time(sec)	Minimum time that the current margin is above UpshiftSnrMgn before an upshift occurs. In the case that RADSL is not present, the value will be 0.
Min Dnshift Time(sec)	Minimum time that the current margin is above UpshiftSnrMgn before an upshift occurs. In the case that RADSL is not present, the value will be 0.
Fast Min Tx Rate(bps)	Configured Minimum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and refer to ATU-R transmit rate for ATU-C receive rates.
Intl Min Tx Rate(bps)	Configured Minimum Transmit rate for 'Interleave' channels, in

	bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and refer to ATU-R transmit rate for ATU-C receive rates.
Fast Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates.
Intl Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates.
Max Intl Delay(ms)	Configured maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing for improved impulse noise immunity at the expense of payload latency.
GsTxStartBin	The lowest bin number allowed for Tx signal.
GsTxEndBin	The highest bin number allowed for Tx signal.
GsRxStartBin	The lowest bin number allowed for Rx signal.
GsRxEndBin	The highest bin number allowed for Rx signal.
GsMaxBitsPerBin	The maximum Rx number of bits per bin.
GsMaxDCo	Maximum interleaving depth supported by the customer's hardware
GsRxBinAdjust	This parameter employs Rx Start/End bin settings
GsAdi2x	For non-standard compliant ADI CPE
GsInitiate	Specifies which end initiates startup. It is also used to send a C-tone to the remote unit.
GsTxPowerAtten	The value in dB of Tx power attenuation
GsCodingGain	Sets the coding gain in dB increments
GsRsFastOvrhdDown	This parameter sets the percentage overhead for the downstream fast buffer. RS can also be disabled.
GsRsIntCorrectionDown	This parameter sets the correction time for the downstream interleaved buffer.RS can also be disabled.
GsRsFastOvrhdUp	This parameter sets the percentage overhead for the upstream fast buffer.RS can also be disabled.
GsDrStby	This parameter provides the ability to disable power to the line driver

GsExpandedExchange	T1.413 parameter that Enables/Disables EES
GsEscapeFastRetrain	This parameter enables/disables escape to the fast retrain capability
GsFastRetrain	This parameter enables/disables the fast retrain capability. Currently supported only in G.lite mode.
GsBitSwap	This parameter enables/disables bit swapping
GsNtr	This parameter enables/disables NTR on a per chip basis
GsAlctlUsVer	For T1.413 demo purposes only
GsUseCustomBin	This parameter enables/disables user selection which of the 511 bins will be enabled for upstream and downstream transmission.
GsFullRetrain	Indicates enable/disable of auto retrain capability
GsPsdMaskType	This parameter selects the PSD mask option to be used
GsEraseProfiles	This parameter enables/disables the ability to erase all fast retrain profiles at startup
GsExtRsMemory	Indicates whether customer's Hardware uses external RS RAM
ParamHybridLossTestStart	Start bin for range of bins to be measured. The default value mentioned is an indicative value only, for exact value refer to document number DO-400523-AN and DO-401163-AN.
GsParamHybridLossTestEnd	End bin for range of bins to be measured.
GsDmtTrellis	This parameter enables/disables trellis coding. Trellis coding should always be enabled for its clear performance advantage.
GslTriggerMode	The type of event that triggers a fast retrain
Type	This object is used to configure the ADSL physical line mode.
GsDnBinUsage	'1' in bit position indicates usage of corresponding bin,whereas a '0' disables usage of corresponding bin.
ParametricTestInputFile	Indicates Name of the Input file from which to take the Mask Array Size, lower and upper mask Array. Null string means no file is specified
Data Boost	Conexant parameter that enables/disables DataBoost option.
Upstream PSD	Conexant parameter that sets the upstream PSD to be either extended or standard. Used for GSpan Plus only.
Conf PM Mode	PM-related parameter used by the ATU-C to set the allowed link states. Both bit values can be given simultaneously in the input. Additional value to disable pmmode is disable, which is equal to 0.
Conf PML0 Time(sec)	PM configuration parameter, related to the L2 low power state. This parameter represents the minimum time (in seconds) between an exit from the L2 state and the next entry into the L2 state. It ranges from 0 to 255 seconds.
Conf PML2 Time(sec)	PM configuration parameter, related to the L2 low power state. This parameter represents the minimum time (in seconds)

	between an Entry into the L2 state and the first Power Trim in the L2 state and between two consecutive Power Trims in the L2 State. It ranges from 0 to 255 seconds.
Conf PML2 ATPR (dB/10)	PM configuration parameter, related to the L2 low power state. This parameter represents the maximum aggregate transmit power reduction (in dB) that can be performed through a single Power Trim in the L2 state. It ranges from 0 dB/10 to 310 dB/10.
Conf PML2 Min Rate(bps)	PM configuration parameter, related to the L2 low power state. This parameter specifies the minimum net data rate during the low power state (L2). The data rate is coded in bit/s, and can range from 0x1F40 (8000) bps to 0xFA000 (1024000) bps.
MSG Min Ds	Configures downstream overhead channel bandwidth. This feature is not supported by DSLPHY as yet.
Min Snr Mrg(dB/10)	Atuc Configured Minimum Signal/Noise Margin. This is the Noise Margin, the modem must achieve with a BER of 10 to the power -7 or better, to successfully complete initialization. The default value mentioned is an indicative value only.
FrontEnd H/W Design	Front end hardware reference design
H/W Pwr Reduction	Hardware configuration parameter
GsUsBitSwap	This parameter enables/disables upstream bit swapping
Minimum INP	Parameter used to specify the minimum impulse noise protection for the downstream bearer channel.
PML2 Entry Thresh Rate	PM config param. L2 state entry data rate.
PML2 Exit Thresh Rate	PM config param. L2 state exit data rate.
PML2 Entry Rate Min Time	PM config param.Min L2 entry rate time
CabinetHsEnable	Enable/Disable HS tones in Cabinet mode
GsSeltLoopType	Conexant parameter that is used to specify the loop type for SELT. The default value mentioned is an indicative value only.
GsRxStartBinU1	Conexant parameter that specifies lowest bin number allowed for Rx signal in G.Span Plus SUQ mode. By selecting the receive start and end bin numbers, the user can limit the bins for special configurations.(length = 4 bytes)
GsRxEndBinU1	Conexant parameter that specifies highest bin number allowed for Rx signal in G.Span Plus SUQ mode. By selecting the receive start and end bin numbers, the user can limit the bins for special configurations.(length = 4 bytes)
PSD MoD Enable	Conexant parameter that is used to configure the switching point between DBM-OL and XOL.(length = 4 bytes)
PsdMod FallBackEnable	Conexant parameter used to enable Mask on Demand (MoD) fallback mode. When enabled, the system chooses MoD or the

	base ADSL2 depending upon the downstream rate. It is avaiable only for ADSL2 Annex A.(length = 4 bytes)
Max Nom PSD(dB/10)	This parameter specifies the maximum nominal transmit PSD(MAXNOMPSD) level during initialization and showtime. Value depends on CO MIB element settings and near end transmitter capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from -60 to -40 in steps of 0.1 dBm/Hz.(length = 4 bytes)
Max Nom AtpPsd(dB/10)	This parameter specifies the maximum nominal aggregate transmit power(MAXNOMATP) level during initialization and showtime. Value depends on CO MIB element settings and local capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from 0 to 25.5 in steps of 0.1 dBm.(length = 4 bytes)
DS PSD Mask	This configuration parameter defines that the downstream PSD mask applicable at the U-C2 reference point. This MIB PSD mask may impose PSD restrictions in addition to the Limit PSD mask defined in the relevant Recommendation (e.g., G.992.5). (length = 4 bytes).
GsAnnexCOlToCxSwitch	Conexant parameter that is used to configure the switching point between DBM-OL and XOL.(length = 4 bytes)
GsAnnexCSwitch	Conexant parameter that is used to configure the switching point between Annex C and G.Span (IFM) and between Annex C and G.Span Plus.(length = 4 bytes)
GsAnnexCToUqSwitch	Conexant parameter that is used to configure the switching point between Annex C and G.Span Plus SUQ.(length = 4 bytes)
Min SnrMgnTime(sec)	This parameter indicates the time when the snr margin violation is allowed. After this time expires and current snr is less than min snr, the DSL line is dropped by the APIs.
Customer ID	This parameter indicates the customer ID.
GsMPsdMaskType	Conexant parameter that selects the PSD mask option to be used for Adsl2M.
GsSeltLoopGauge	This parameter should be set to the expected loop gauge.
Rate Ratio	This parameter specifies the latency rate for both channels in a dual latency configuration. This parameter must be set the parameter to a value greater than 0 and less than 100.
Target Snr Margin(dB/10)	Noise Margin the modem must achieve with a BER of 10 to the power 7 or better to successfully complete initialization
Dnshift SnrMargin(dB/10)	Configured Signal/ Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to

	decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0.
Upshift SnrMargin(dB/10)	Configured Signal/ Noise Margin for rate upshift. If the noise margin rises above this level, the modem should attempt to increase itís transmit rate. In the case that RADSL is not present, the value will be 0.
Min Upshift Time(sec)	Minimum time that the current margin is above UpshiftSnrMgn, before an upshift occurs. In the case that RADSL is not present, the value will be 0.
Min Dnshift Time(sec)	Minimum time that the current margin is below DownshiftSnrMgn, before a downshift occurs. In the case that RADSL mode is not present, the value will be 0.
Fast Min Tx Rate(bps)	Configured Minimum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and ATU-C transmit rate for ATU-R receive rates.
Intl Min Tx Rate(bps)	Configured Minimum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATUR receive rates.
Fast Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATUR receive rates.
Intl Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATU-R receive rates.
Max Intl Delay(ms)	Configured maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing for improved impulse noise immunity at the expense of payload latency
MSG Min Us	Configures upstream overhead channel bandwidth.This feature is not supported by DSLPHY as yet.
Minimum Snr Margin(dB/10)	Atuc Configured Minimum Signal/Noise Margin. This is the Noise Margin, the modem must achieve with a BER of 10 to the power -7

	or better, to successfully complete initialization. The default value mentioned is an indicative value only.
Maximum Snr Margin(dB/10)	Configured Maximum acceptable downstream Signal/Noise Margin. If the Noise Margin is above this the modem attempts to reduce its power output to optimize its operation. The value set by the user is in dB/10, and ranges from 0 to 31 dB in 1 dB steps.
PSD MoD Enable	Conexant parameter used to enable the Mask on Demand(MoD) feature in the upstream direction. It is available only for ADSL2 Annex A ONLY.(length = 4 bytes)
PsdMod FallBackEnable	Conexant parameter used to enable Mask on Demand (MoD) fallback mode. When enabled, the system chooses MoD or the base ADSL2 depending upon the upstream rate. It is avaiable only for ADSL2 Annex A.(length = 4 bytes)
Max Nom PSD(dB/10)	This parameter specifies the maximum nominal transmit PSD(MAXNOMPSD) level during initialization and showtime. Value depends on CO MIB element settings and near end transmitter capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from -60 to -38 in steps of 0.1 dBm/Hz.(length = 4 bytes)
Max Nom AtpPsd(dB/10)	This parameter specifies the maximum nominal aggregate transmit power(MAXNOMATP) level during initialization and showtime. Value depends on CO MIB element settings and local capabilities and is exchanged in the G.994.1 Phase. It is available only for ADSL2/ADSL2plus. Value ranges from 0 to 25.5 in steps of 0.1 dBm.(length = 4 bytes)
Rate Adaptation	Defines what form of transmit rate adaptation is configured on this modem. The default value mentioned is an indicative value only.
Min INP	Parameter used to specify the minimum impulse noise protection for the upstream bearer channel. Supported for ADSL2/ADSL2plus ONLY
US PSD Mask	This configuration parameter defines that the upstream PSD mask applicable at the U C2 reference point. This MIB PSD mask may impose PSD restrictions in addition to the Limit PSD mask defined in the relevant Recommendation (e.g., G.992.5). It is available only for Annexes J and M of ADSL2/ADSL2plus.(length = 4 bytes)

References:

- ADSL Commands

5.9.24 Dsl chip Commands

5.9.24.1 Get adsl chip

Description:
Use this command to get.

Command Syntax:
get dsl chip [**chipid** <chipid-val>]

5.9.24.2 Create dsl chip

Description:
Use this command to get.

Command Syntax:
create dsl chip chipid <chipid-val> [**dsltype** Adsl | Sdsl | Shdsl | Vdsl] [**linecoding** Other | Dmt | Cap | Qam | Mcm | Scm] [**adsltxcfg** ansit1413 | etsi | q9921PotsNonOverlapped | q9921PotsOverlapped | q9921IsdnNonOverlapped | q9921IsdnOverlapped | q9921TcmIsdnNonOverlapped | q9921TcmIsdnOverlapped | q9922PotsNonOverlapped | q9922PotsOverlapped | q9922TcmIsdnNonOverlapped | q9922TcmIsdnOverlapped | q9921TcmIsdnSymmetric | adslPlusPotsNonOverlapped | q9921GspanPlusPotsNonOverlapped | q9921GspanPlusPotsOverlapped | q9923Adsl2PotsOverlapped | q9923Adsl2PotsNonOverlapped | q9925Adsl2PlusPotsOverlapped | q9925Adsl2PlusPotsNonOverlapped | q9923Readsl2PotsOverlapped | q9923Readsl2PotsNonOverlapped | adslPlusPotsOverlapped | q9921GspanPlusPlusPotsNonOverlapped | q9921GspanPlusPlusPotsOverlapped | q9923IsdnNonOverlapped | q9923IsdnOverlapped | q9925IsdnNonOverlapped | q9925IsdnOverlapped | q9923AnnexMPotsExtUsNonOverlapped | q9923AnnexMPotsExtUsOverlapped | q9925AnnexMPotsExtUsNonOverlapped | q9925AnnexMPotsExtUsOverlapped] [**shdsltxmode** Region1 | Region2]

5.9.24.3 Delete dsl chip

Description:

Use this command to get.

Command Syntax:

delet dsl chip chipid <chipid-val>

Parameters:

Name	Description
chipid <chipid-val>	Identifies the chip to be build and initialized. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 9
dsltype Adsl | Sdsl | Shdsl | Vdsl	Identifies the firmware to be downloaded. **Type:** Create -- Optional
linecoding Other | Dmt | Cap | Qam | Mcm | Scm	ADSL line coding type. Not valid for SHDSL. **Type:** Create -- Optional
adsltxcfg ansit1413 | etsi | q9921PotsNonOverlapped | q9921PotsOverlapped | q9921IsdnNonOverlapped | q9921IsdnOverlapped | q9921TcmIsdnNonOverlapped | q9921TcmIsdnOverlapped | q9922PotsNonOverlapped | q9922PotsOverlapped | q9922TcmIsdnNonOverlapped | q9922TcmIsdnOverlapped | q9921TcmIsdnSymmetric | adslPlusPotsNonOverlapped | q9921GspanPlusPotsNonOverlapped | q9921GspanPlusPotsOverlapped | q9923Adsl2PotsOverlapped | q9923Adsl2PotsNonOverlapped | q9925Adsl2PlusPotsOverlapped | q9925Adsl2PlusPotsNonOverlapped | q9923Readsl2PotsOverlapped |	Transmission capabilities with which the DSL system is configured. Its default value depends on the Annex Type supported. Not valid for SHDSL. **Type:** Create -- Optional

q9923Readsl2PotsNonOverlapped | adslPlusPotsOverlapped | q9921GspanPlusPlusPotsNonOverlapped | q9921GspanPlusPlusPotsOverlapped | q9923IsdnNonOverlapped | q9923IsdnOverlapped | q9925IsdnNonOverlapped | q9925IsdnOverlapped | q9923AnnexMPotsExtUsNonOverlapped | q9923AnnexMPotsExtUsOverlapped | q9925AnnexMPotsExtUsNonOverlapped | q9925AnnexMPotsExtUsOverlapped	
shdsltxmode Region1 | Region2	Annexure Type, specifies the regional settings for the SHDSL line. Only valid for SHDSL. **Type:** Create -- Optional

Example:

$ create dsl chip chipid 1 dsltype Adsl linecoding Dmt adsltxcfg ansit1413 q9921PotsOverlapped q9921PotsNonOverlapped shdsltxmode region1 Region2

Output:

Verbose Mode On
Entry Created

Chip Id : 1
DSL Type : Adsl
Line coding : Dmt
Adsl Tx Config : ansit1413 q9921PotsOverlapped q9921PotsNonOverlapped
Shdsl Tx Mode : region1 Region2
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Chip Id	Identifies the chip to be build and initialized.
DSL Type	Identifies the firmware to be downloaded.
Line coding	ADSL line coding type. Not valid for SHDSL.
Adsl Tx Config	Transmission capabilities with which the DSL system is configured. Its default value depends on the Annex Type supported. Not valid for SHDSL.
Shdsl Tx Mode	Annexure Type, specifies the regional settings for the SHDSL line. Only valid for SHDSL.

5.9.25 Dsl dsp chip Commands

5.9.25.1 Get dsl dsp chip

Description:

Use this command to get.

Command Syntax:

get dsl dsp chip [**chipid** <chipid-val>]

5.9.25.2 Reset dsl dsp chip

Description:

Use this command to get.

Command Syntax:

reset dsl dsp chip

Parameters:

Name	Description
chipid chipid	This object is the Index of Dsl Chip for which reset is to be done. **Type:** Reset -- Mandatory Get -- Optional **Valid values:** 1 - 9

Example:

$ get dsl dsp chip chipid 1

Output:

ChipId

1

Output Fields:

FIELD	Description
ChipId	This object is the Index of Dsl Chip for which reset is to be done.

5.9.26 Dsl dsp port Commands

5.9.26.1 Get dsl dsp port

Description:

Use this command to get.

Command Syntax:

get dsl dsp port [**ifname** <interface-name>]

5.9.26.2 Reset dsl dsp port

Description:

Use this command to get.

Command Syntax:

reset dsl dsp port ifname <interface-name>

Parameters:

Name	Description
ifname <interface-name>	This object is the Index of Dsl Port for which reset is to be done. **Type:** Reset -- Mandatory Get -- Optional **Valid values:** dsl-0 – dsl-23

Example:

$ get dsl dsp port ifname dsl-0

Output:

Ifname

---

dsl-0

Output Fields:

FIELD	Description
Ifname	This object is the Index of Dsl Port for which reset is to be done.

5.9.27 Dsl system Commands

5.9.27.1 Get dsl system

Description:
Use this command to get.

Command Syntax:
get dsl system

5.9.27.2 Create dsl system

Description:
Use this command to create.

Command Syntax:
create dsl system [**dsltype** Adsl | Sdsl | Shdsl | Vdsl] [**linecoding** Other | Dmt | Cap | Qam | Mcm | Scm] [**adsltxcfg** ansit1413 | etsi | q9921PotsNonOverlapped | q9921PotsOverlapped | q9921IsdnNonOverlapped | q9921IsdnOverlapped | q9921TcmIsdnNonOverlapped | q9921TcmIsdnOverlapped | q9922PotsNonOverlapped | q9922PotsOverlapped | q9922TcmIsdnNonOverlapped | q9922TcmIsdnOverlapped | q9921TcmIsdnSymmetric | adslPlusPotsNonOverlapped | q9921GspanPlusPotsNonOverlapped | q9921GspanPlusPotsOverlapped | q9923Adsl2PotsOverlapped | q9923Adsl2PotsNonOverlapped | q9925Adsl2PlusPotsOverlapped | q9925Adsl2PlusPotsNonOverlapped | q9923Readsl2PotsOverlapped | q9923Readsl2PotsNonOverlapped | adslPlusPotsOverlapped | q9921GspanPlusPlusPotsNonOverlapped | q9921GspanPlusPlusPotsOverlapped | q9923IsdnNonOverlapped | q9923IsdnOverlapped | q9925IsdnNonOverlapped | q9925IsdnOverlapped | q9923AnnexMPotsExtUsNonOverlapped | q9923AnnexMPotsExtUsOverlapped | q9925AnnexMPotsExtUsNonOverlapped | q9925AnnexMPotsExtUsOverlapped] [**shdsltxmode** Region1 | Region2]

5.9.27.3 Delete dsl system

Description:

Use this command to get.

Command Syntax:

delet dsl system

Parameters:

Name	Description
dsltype Adsl | Sdsl |Shdsl | Vdsl	Identifies the firmware to be downloaded. **Type:** Create – Optional **Default value:** Adsl
linecoding Other | Dmt |Cap | Qam | Mcm | Scm	ADSL line code type. **Type:** Create – Optional **Default value:** Dmt
adsltxcfg ansit1413 | etsi| q9921PotsNonOverlapped | q9921PotsOverlapped |q9921IsdnNonOverlapped |q9921IsdnOverlapped |q9921TcmIsdnNonOverlapped| q9921TcmIsdnOverlapped | q9922PotsNonOverlapped |q9922PotsOverlapped |q9922TcmIsdnNonOverlapped| q9922TcmIsdnOverlapped | q9921TcmIsdnSymmetric |adslPlusPotsNonOverlapped|q9921GspanPlusPotsNonOverlapped |q9921GspanPlusPotsOverlapped |q9923Adsl2PotsOverlapped|q9923Adsl2PotsNonOverlapped |q9925Adsl2PlusPotsOverlapped |q9925Adsl2PlusPotsNonOverlapped |q9923Readsl2PotsOverlapped |q9923Readsl2PotsNonOverlapped |adslPlusPotsOverlapped |q9921GspanPlusPlusPotsNonOverlapped |q9921GspanPlusPlusPotsOverlapped |q9923IsdnNonOverlapped	Transmission capabilities with which the DSL system is configured. Its default value depends on the Annex Type supported. Not valid for SHDSL. **Type:** Create – Optional

|q9923IsdnOverlapped |q9925IsdnNonOverlapped |q9925IsdnOverlapped |q9923AnnexMPotsExtUsNonOverlapped |q9923AnnexMPotsExtUsOverlapped |q9925AnnexMPotsExtUsNonOverlapped |q9925AnnexMPotsExtUsOverlapped	
shdsltxmode Region1 |Region2	Annexure Type specifies the regional settings for the SHDSL line. Only valid for SHDSL. **Type:** Create — Optional **Default value:** Region1 |Region2

Example:

$ create dsl system dsltype Adsl linecoding Dmt adsltxcfg ansit1413 shdsltxmode region1 Region2

Output:

Verbose Mode On
Entry Created

DSL Type : Adsl
Line coding : Dmt
Adsl Tx Config : ansit1413
Shdsl Tx Mode : region1 Region2
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
DSL Type	Identifies the firmware to be downloaded.
Line coding	ADSL line code type.
Adsl Tx Config	Transmission capabilities with which the DSL system is configured. Its default value depends on the Annex Type supported. Not valid for SHDSL.
Shdsl Tx Mode	Annexure Type specifies the regional settings for the SHDSL line. Only valid for SHDSL.

5.10 EHDLC Commands

5.10.1 Ehdlc intf Commands

5.10.1.1 Get ehdlc intf

Description:
Use this command to get.

Command Syntax:
get ehdlc intf [**ifname** <interface-name>]

5.10.1.2 Create ehdlc intf

Description:
Use this command to create.

Command Syntax:
create ehdlc intf ifname <interface-name>**lowif** <lowif-val> [**sarstatus** Enable | Disable] [enable | disable]

5.10.1.3 Delete ehdlc intf

Description:
Use this command to delete

Command Syntax:
delete ehdlc intf [**ifname** <interface-name>]

5.10.1.4 Modify ehdlc intf

Description:
Use this command to modify
Command Syntax:
modify ehdlc intf ifname <interface-name>**lowif** <lowif-val> [**sarstatus** Enable | Disable] [enable | disable]

Parameters:

Name	Description
ifname <interface-name>	This parameter specifies the name assigned to this interface. Valid Values starts from ehdlc-0 and continues to ehdlc-* **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** IAD_MIN_EHDLC_IFINDEX - IAD_MAX_EHDLC_IFINDEX
lowif<lowif-val>	This specifies the lower interface index. This is the ifindex of the DSL port on which EHDLC is being created. Valid Values start from dsl-0 and continues to dsl-* **Type:** Create -- Mandatory **Valid values:** dsl-0 – dsl-23
sarstatus Enable | Disable	This defines the segmentation and reassembly status of the hdlc/dsl interface. HDLC supports only 508 as frame size, to support longer snmp messages, it should be turn off. By default, the option taken is 'disable'. **Type:** Create -- Optional Modify -- Optional **Default value:** disable
enable | disable	Administrative status of the Ehdlc interface **Type:** Optional

Example:

$ create ehdlc intf ifname ehdlc-0 lowif dsl-0 SarStatus Enable enable

Output:

Verbose Mode On
Entry Created

IfName : ehdlc-0 LowIfName : dsl-0
EHDLC Sar Status : enable Admin Status : Enable

Verbose Mode Off:
Entry Created

Output field:

Field	Description
IfName	This parameter specifies the name assigned to this interface. Valid Values starts from ehdlc-0 and continues to ehdlc-*
LowIfName	This specifies the lower interface index. This is the ifindex of the DSL port on which EHDLC is being created. Valid Values start from dsl-0 and continues to dsl-*
EHDLC Sar Status	This defines the segmentation and reassembly status of the hdlc/dsl interface. HDLC supports only 508 as frame size, to support longer snmp messages, it should be turned off. By default, the option taken is 'disable'.
Admin Status	Administrative status of the Ehdlc interface

5.11 Ethemet Commands

5.11.1 Dot3 stats Commands

5.11.1.1 Get dot3 stats

Description:
Use this command to get.

Command Syntax:
get dot3 stats [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	An index name that uniquely identifies an interface to an ethernet-like medium. **Type:** Get -- Optional **Valid values:**eth-0 – eth01

Example
$ get dot3 stats Ifname eth-0
Output
IfName : eth-0
Alignment Errors : 11 FCS Errors : 12
Single Collision Frames : 13 Multiple Collision Frames : 14
Deferred Tx Frames : 15 Late Collisions : 16
Excess Collisions Frames : 17 Mac Tx Errors Frames : 18

Carrier Sense Errors : 18 Too Long Frames : 19
Mac Rx Error Frames : 20 Duplex Status :
FullDuplex

Output field:

Field	Description
IfName	An index name that uniquely identifies an interface to an ethernet-like medium.
Alignment Errors	A count of frames received on a particular interface that are not an integral number of octets in length and do not pass the FCS check. The count represented by an instance of this object is incremented when the alignmentError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions pertain are, according to the conventions of IEEE 802.3 Layer Management, counted exclusively according to the error status presented to the LLC. This counter does not increment for group encoding schemes greater than 4 bits per group. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsAlignmentErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
FCS Errors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check. This count does not include frames received with frame-too-long or frame-too-short error. The count represented by an instance of this object is incremented when the frameCheckError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions pertain are, according to the conventions of IEEE 802.3 Layer Management, counted exclusively according to the error status presented to the LLC. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in

	order to avoid a loss of information, a management station is advised to poll the dot3HCStatsFCSErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at e-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Single Collision Frames	A count of frames that are involved in a single collision, and are subsequently transmitted successfully. A frame that is counted by an instance of this object is also counted by the corresponding instance of the ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts, and is not counted by the corresponding instance of the dot3StatsMultipleCollisionFrames object. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Multiple Collision Frames	A count of frames that are involved in more than one collision and are subsequently transmitted successfully. A frame that is counted by an instance of this object is also counted by the corresponding instance of either the ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts, and is not counted by the corresponding instance of the dot3StatsSingleCollisionFrames object. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Deferred Tx Frames	A count of frames for which the first transmission attempt on a particular interface is delayed because the medium is busy. The count represented by an instance of this object does not include frames involved in collisions. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Late Collisions	The number of times that a collision is detected on a particular interface later than one slotTime into the transmission of a packet. A (late) collision included in a count represented by an instance of this object is also considered as a (generic) collision for purposes of other collision-related statistics. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at

	re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Excess Collisions Frames	A count of frames for which transmission on a particular interface fails due to excessive collisions. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Mac Tx Errors Frames	A count of frames for which transmission on a particular interface fails due to an internal MAC sublayer transmit error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsLateCollisions object, the dot3StatsExcessiveCollisions object, or the dot3StatsCarrierSenseErrors object. The precise meaning of the count represented by an instance of this object is implementation-specific. In particular, an instance of this object may represent a count of transmission errors on a particular interface that are not otherwise counted. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsInternalMacTransmitErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Carrier Sense Errors	The number of times that the carrier sense condition was lost or never asserted when attempting to transmit a frame on a particular interface. The count represented by an instance of this object is incremented at most once per transmission attempt, even if the carrier sense condition fluctuates during a transmission attempt. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Too Long Frames	A count of frames received on a particular interface that exceed the maximum permitted frame size. The count represented by an instance of this object is incremented when the frameTooLong status is returned by the MAC service to the LLC (or other MAC

	user). Received frames for which multiple error conditions pertain are, according to the conventions of IEEE 802.3 Layer Management, counted exclusively according to the error status presented to the LLC. For interfaces operating at 10 Gb/s, this counter can roll over in less than 80 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsFrameTooLongs object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Mac Rx Error Frames	A count of frames for which reception on a particular interface fails due to an internal MAC sublayer receive error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsFrameTooLongs object, the dot3StatsAlignmentErrors object, or the dot3StatsFCSErrors object. The precise meaning of the count represented by an instance of this object is implementation-specific. In particular, an instance of this object may represent a count of receive errors on a particular interface that are not otherwise counted. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsInternalMacReceiveErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
Duplex Status	The current mode of operation of the MAC entity.'unknown' indicates that the current duplex mode could not be determined. Management control of the duplex mode is accomplished thrugh 'duplexmode' in ethernet command. Note that this object provides redundant information with etherActualDuplexMode inetherIfTable.

5.11.2 Ethernet Commands

5.11.2.1 Create ethernet intf

Description:
Use this command to create a physical Ethernet interface.

Command Syntax:
create ethernet intf ifname <interface-name> [**ip** <ip-address>] [**mask** <net-mask>][**usedhcp** true|false] [**speed** {auto|100BT|1000BT}] [**type** uplink|downlink][enable | disable] [**pkttype** Mcast|Bcast|UnknownUcast|All|None] [**orl** decvalue][**duplex** half| full|auto] [**profilename** <profilename-val>] [**mgmtvlanid** <mgmtvlanid-val>] [**priority** <priority-val>] [**trfclassprofileid** <trfclassprofileid-val>] [**Ctlpktinstid** <ctlpktinstid-val>] [**ctlpktgroupid** <ctlpktgroupid-val> | none] [**mgmtsvlanid** <mgmtsvlanid-val>] [**m2vmacdbid** <m2vmacdbid-val> |none] [**mgmttvlanid** <mgmttvlanid-val>]

5.11.2.2 Delete ethernet intf

Description:
Use this command to delete a physical Ethernet interface.

Command Syntax:
delete ethernet intf ifname <interface-name>

5.11.2.3 Get ethernet intf

Description:
Use this command to get information about a particular physical Ethernet interface, or about all the interfaces.
Command Syntax:
get ethernet intf [**ifname** <interface-name>]

5.11.2.4 Modify ethernet intf

Description:
Use this command to modify physical Ethernet interface configuration.

Command Syntax:
modify ethernet intf ifname <interface-name> [**ip** <ip-address>] [**mask** <net-mask>][**usedhcp** true|false] [**speed** {auto|100BT|1000BT}] [**type** uplink|downlink][enable | disable] [**pkttype** Mcast|Bcast|UnknownUcast|All|None] [**orl** decvalue][**duplex** half| full|auto] [**profilename** <profilename-val>]

[**mgmtvlanid** <mgmtvlanid-val>] [**priority** <priority-val>] [**trfclassprofileid** <trfclassprofileid-val>] [**Ctlpktinstid** <ctlpktinstid-val>] [**ctlpktgroupid** <ctlpktgroupid-val> | none] [**mgmtsvlanid** <mgmtsvlanid-val>] [**m2vmacdbid** <m2vmacdbid-val> |none] [**mgmttvlanid** <mgmttvlanid-val>]

Parameters:

Name	Description
ifname <interface-name>	This parameter specifies the interface index used for the Ethernet type of interfaces. Valid Values starts from eth-0 and continues to eth-* **Type** : Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory **Valid values** : eth-0 - *
ip <ip-address>	This parameter specifies the IP address configured for the interface. This is required to be configured only if this interface is used for management IP traffic. If it is not configured and 'etherUseDhcp' is configured as GS_FALSE, then management IP traffic will not flow through this interface. 'Modify' of IP Address for an Ethernet interface shall be supported only if some IP address is configured on the interface or 'etherUseDhcp' was configured to "GS_TRUE" previously. If Usedhcp is GS_TRUE and 'modify' is done for this field, then Usedhcp field shall be set to GS_FALSE. Both 'Usedhcp' and this field shall not be specified together. **Type** **:** Create - Optional. Modify - Optional **Valid Values:** Any valid class A/B/C / Classless IP address. **Default Value:** None

Mask <net-mask>	This parameter specifies the network mask configured for the interface. This is given in conjunction with IP Address configured and shall be given only if IP address has been given. This shall be removed whenever IP Address is removed. 'Modify' of network mask for an Ethernet interface shall be supported only if some IP address is configured on the interface or 'etherUseDhcp' was configured to "GS_TRUE" previously. If Usedhcp is GS_TRUE and 'modify' is done for this field, then usedhcp field shall be set to GS_FALSE. Both usedhcp and this field shall not be specified together. **Type :** This field is not allowed when a physical interface is specified and IP is 0.0.0.0. In all other cases the field is mandatory. **Valid Values :** 255.0.0.0 - 255.255.255.255 **Default Value:** None
usedhcp true | false	This parameter specifies whether a DHCP client is to be triggered to obtain an IP address for this interface. If this is configured as GS_FALSE and 'etherIfIpAddress' is not configured, then management IP traffic will not flow through the interface. If an IP address is configured and 'modify' is done for this field, then 'tEtherIfIpAddress' and 'tAggrIfNetMask' fields shall be set to Zero (0.0.0.0). Both Usedhcp and 'tEtherIfIpAddress' shall not be specified together. In case Iftype is 'slave', then this field can not be set to GS_TRUE. **Type :** Optional **Valid value :** true or false **Default value:** false
speed {auto |100 BT| 1000BT}+	The Ethernet speed for the net-side interfaces. **Type** : Optional. **Valid Values** : auto, 100BT, 1000BT. **Default Value** : auto.
type uplink|downink	This parameter specifies the type of the Ethernet interfaces. The Net is towards the NET side (2 at most) and slave means the physical interface connected to the slave device. **Type :** Optional. **Valid Values :** uplink, downlink. **Default Value :** uplink.
enable|disable	Administrative status of the Ethernet interface. **Type** : Modify - Mandatory **Valid values** : enable or disable **Default value**: enable

Duplex auto|half|ful**l**	This parameter defines the modes, in which the Ethernet Interface can come up. It can be configured as 'auto', 'half', 'full duplex' or a combination of these. Based on the values configured, the Ethernet interface negotiates with the peer entity. **Type** : optional **Valid values**: auto, half, full **Default value**: auto
Pkttype Mcast|Bcast|UnknownUcast | All|None	This parameter defines the packet type supported by the interface. 'etherPktTypeSupported' shall be configured for every Ethernet interface. By default, all packets will be transmitted. The interface shall not transmit any other packet type than that configured. **Type:** Create - optional Modify - optional **Valid values :** Mcast, Ucast, UnknownUcast, All **Default Value:** All
Orl decvalue	This parameter specifies the output rate limiting value to be applied on this Interface. The unit for the same is in Mbits/sec. **Type:** Create - Optional Modify - Optional **Valid Values:** 1 -100 **Default Value:** 100
ProfileName <profilename-val>	This parameter specifies the scheduling profile to be associated with the Ethernet interface. **Type : Optional.** **Default Value :** SPROFILE
mgmtvlanid <mgmtvlanid>	This parameter specifies the VLAN (C-Vlan) for management traffic on this interface. Non-zero value of this field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. If no Management VLAN id is specified (in the create operation) or its value is set to zero (either in create or modify operation), then the system shall use the value of 'portvlanid' associated with the bridge port created on this interface as the Management VLAN Index. In case the management VLAN (i.e. 'mgmtvlanid' or the associated 'portvlanid', if 'mgmtvlanid' is zero) does not exist on the system, then IP-based management on this management VLAN shall not happen on the interface till the corresponding VLAN is created with the Net-side port as its member. In stacked-VLAN mode, the VLAN filtering mentioned above is based on virtual-VLAN mapped to C-Vlan and S-Vlan for the frame. **Type :** Create - optional Modify - optional **Valid values:** 0 -4095

priority <priority-val>	This parameter specifies the priority to be set in Tagged Ethernet PDUs sent on Management VLAN over this interface. This field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. In Native-VLAN mode, this priority shall be used for C-Vlan tag, while in stacked-VLAN mode it shall be used for S-Vlan tag. **Type**: Create - optional Modify - optional **Valid values**: 0 -7
trfclassprofileid	This parameter specifies the traffic class profile identifier to be associated with the Ethernet interface. **Type**: Optional **Valid values**:1 to 10 **Default Value**: 1
Ctlpktinstid	This specifies the control packet instance identifier associated with this interface. If the user does not provide any instance identifier while creating an interface, an instance is created internally from the default profile governed by the macro 2 and associated to the interface. This will reduce the total number to instances that can be now created by one. The default instance is governed by the macro 0. **TYPE**: Create -- Optional **Valid Values**:1 - 26 **Default Value**: 0
ctlpktgroupid <ctlpktgroupid-val> **|** none	This parameter specifies the Control packet instance group associated with this Ethernet interface. The flows for this interface shall be mapped to control packet instances as mapped for the flows corresponding to the groupid configured in ctlpkt group info command. If this group does not have entries for all of the flows, then those flows shall be mapped to the ctlpktinstid. If groupid is 0, then all the flows shall be mapped to ctlpktinstid. **Type**: Create -- Optional **Valid values**: 0 -50 **Default value**: 0

mgmtsvlanid	This parameter specifies the S-VLAN for management traffic on this interface. It is applicable only in stacked-VLAN Mode. Non-zero value of this field is valid only if either 'etherIfIpAddress' field is non-zero or 'etherUseDhcp' field is true. If no management S-Vlan id is specified (in the create operation) or its value is set to zero (either in create or modify operation), then the system shall use the value of 'psvlanid' associated with the bridge port created on this interface as the management VLAN id. In case the management VLAN (virtual VLAN mapped to S-VLAN and C-VLAN for the frame) does not exist (ie. Virtual VLAN mapped to 'mgmtsvlanid' or the associated 'psvlanid', if 'mgmtsvlanid' is zero) on the system, then IP-based management shall not happen on the interface till the corresponding virtual-VLAN is created with the Net-side port as its member. **Type :** Create - optional Modify - optional **Valid values:** 0 - 4095
m2vmacdbid	This field specifies the M2VMac Database Id associated with this interface. The value 0 means Virtual MAC feature is disabled on this interface. This field can be modified only when the interface is disabled. **Type:** Create - optional Modify - optional **Valid values:** 1 -GS_CFG_MAX_M2VMAC_DATABASES
mgmttvlanid <mgmttvlanid-val>	This specifies the value to be used for inserting TVLAN id or vlan id of the third Vlan tag in the transmitted Ethernet frames and that is expected in received frames over this interface. Currently this is configurable and supported only for management Ethernet interface. For data Ethernet interface, the value of TVLAN id is configurable and used from the system sizing table. If the value for TVLAN id configured on a management Ethernet interface is zero then third vlan tag shall not be added neither shall it be supported in received frames. This attribute is applicable only in stacked-VLAN mode. **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 - 4095 **Default value:** 0

Example:

create ethernet intf ifname eth-0 ip 192.168.1.1 mask 255.255.255.0 speed 100bt profilename sprofile mgmtvlanid 2 priority 2 trfclassprofileid 1 Ctlpktinstid 1 ctlpktgroupid 1

Output:

Verbose Mode On
Entry Created

Interface : eth-0
Type : Uplink UseDhcp : False
IP Address : 192.168.1.1 Mask : 255.255.0.0
Pkt Type : Mcast
Orl(mbps) : 100
Configured Duplex : Auto Duplex : None
Configured Speed : Auto
Profile Name : SPPROFILE
Mgmt VLAN Index : 2
Mgmt S-VLAN Index : 2
Mgmt T-VLAN Index : 2
Tagged Mgmt PDU Prio: 2
trfclassprofileid : 1
Ctl Pkts Instance Id:1 Ctl Pkts Group Id : 1
Speed : -
Operational Status : Down Admin Status : Up

Verbose Mode Off:
Entry Created

Output field:

Field	Description
If-Name	This parameter specifies the interface index used for the Ethernet type of interfaces. Valid Values starts from eth-0 and continues to eth-*
Type	This parameter specifies the type of the Ethernet interfaces. The Net is towards the NET side (2 at most) and slave means the physical interface connected to the slave device.
UseDhcp	This parameter specifies whether a DHCP client is to be triggered to obtain an IP address for this interface. If this is configured as GS_FALSE and 'etherIfIpAddress' is not configured, then management IP traffic will not flow through the interface. If an IP address is configured and 'modify' is done for this field, then 'tEtherIfIpAddress' and 'tAggrIfNetMask' fields shall be set to Zero (0.0.0.0). Both Usedhcp and 'tEtherIfIpAddress' shall not be specified

	together. In case Iftype is ‘slave’, then this field can not be set to GS_TRUE.
Ip Address	This parameter specifies the IP address configured for the interface. This is required to be configured only if this interface is used for management IP traffic. If it is not configured and 'etherUseDhcp' is configured as GS_FALSE, then management IP traffic will not flow through this interface. ‘Modify’ of IP Address for an Ethernet interface shall be supported only if some IP address is configured on the interface or 'etherUseDhcp' was configured to "GS_TRUE" previously. If Usedhcp is GS_TRUE and ‘modify’ is done for this field, then Usedhcp field shall be set to GS_FALSE. Both ‘Usedhcp’ and this field shall not be specified together.
Mask	This parameter specifies the network mask configured for the interface. This is given in conjunction with IP Address configured and shall be given only if IP address has been given. This shall be removed whenever IP Address is removed. ’Modify’ of network mask for an Ethernet interface shall be supported only if some IP address is configured on the interface or 'etherUseDhcp' was configured to "GS_TRUE" previously. If Usedhcp is GS_TRUE and ’modify’ is done for this field, then usedhcp field shall be set to GS_FALSE. Both usedhcp and this field shall not be specified together.
pkttype	This parameter defines the packet type supported by the interface. ‘etherPktTypeSupported’ shall be configured for every Ethernet interface. By default, all packets will be transmitted. The interface shall not transmit any other packet type than that configured.
Orl	This parameter specifies the output rate limiting value to be applied on this Interface.The units for the same is in Mbits/sec
Configured Duplex	The duplex mode to be used by the interface, as configured by the user.
Duplex	This parameter defines the modes, in which the Ethernet Interface can come up. It can be configured as ‘auto’, ‘half’, ‘full duplex’ or a combination of these. Based on the values configured, the Ethernet interface negotiates with the peer entity.

Configured Speed	The Ethernet speed for the net-side interfaces.
Mgmt VLAN Index	This parameter specifies the VLAN (C-Vlan) for management traffic on this interface. Non-zero value of this field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. If no Management VLAN id is specified (in the create operation) or its value is set to zero (either in create or modify operation), then the system shall use the value of 'portvlanid' associated with the bridge port created on this interface as the Management VLAN Index. In case the management VLAN (i.e. 'mgmtvlanid' or the associated 'portvlanid', if 'mgmtvlanid' is zero) does not exist on the system, then IP-based management on this management VLAN shall not happen on the interface till the corresponding VLAN is created with the Net-side port as its member. In stacked-VLAN mode, the VLAN filtering mentioned above is based on virtual-VLAN mapped to C-Vlan and S-Vlan for the frame.
Mgmt S-VLAN Index	This parameter specifies the S-VLAN for management traffic on this interface. It is applicable only in stacked-VLAN Mode. Non-zero value of this field is valid only if either 'etherIfIpAddress' field is non-zero or 'etherUseDhcp' field is true. If no management S-Vlan id is specified (in the create operation) or its value is set to zero (either in create or modify operation), then the system shall use the value of 'psvlanid' associated with the bridge port created on this interface as the management VLAN id. In case the management VLAN (virtual VLAN mapped to S-VLAN and C-VLAN for the frame) does not exist (ie. Virtual VLAN mapped to 'mgmtsvlanid' or the associated 'psvlanid', if 'mgmtsvlanid' is zero) on the system, then IP-based management shall not happen on the interface till the corresponding virtual-VLAN is created with the Net-side port as its member.
Tagged Mgmt PDU Prio	This parameter specifies the priority to be set in Tagged Ethernet PDUs sent on Management VLAN over this interface. This field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true. In Native-VLAN mode, this priority shall be used for C-Vlan tag, while in stacked-VLAN mode it shall be used for S-Vlan tag.
ProfileName	This parameter specifies the scheduling profile to be associated with the Ethernet interface.

Speed	The actual speed of the interface.
Operational Status	The operational status of the interface.
Admin Status	The administrative status of the interface.
trfclassprofileid	This parameter specifies the traffic class profile identifier to be associated with the Ethernet interface.
Ctl Pkts Instance Id	This specifies the control packet instance identifier associated with this interface. If the user does not provide any instance identifier while creating an interface, an instance is created internally from the default profile governed by the macro 2 and associated to the interface. This will reduce the total number to instances that can be now created by one. The default instance is governed by the macro 0.
Ctl Pkts Group Id	This parameter specifies the Control packet instance group associated with this Ethernet interface. The flows for this interface shall be mapped to control packet instances as mapped for the flows corresponding to the groupid configured in ctlpkt group info command. If this group does not have entries for all of the flows, then those flows shall be mapped to the ctlpktinstid. If groupid is 0, then all the flows shall be mapped to ctlpktinstid.
M2VMacDbId	This field specifies the M2VMac Database Id associated with this interface. The value 0 means Virtual MAC feature is disabled on this interface. This field can be modified only when the interface is disabled.
Mgmt T-VLAN Index	This specifies the value to be used for inserting TVLAN id or vlan id of the third Vlan tag in the transmitted Ethernet frames and that is expected in received frames over this interface. Currently this is configurable and supported only for management Ethernet interface. For data Ethernet interface, the value of TVLAN id is configurable and used from the system sizing table. If the value for TVLAN id configured on a management Ethernet interface is zero then third vlan tag shall not be added neither shall it be supported in received frames. This attribute is applicable only in stacked-VLAN mode.

References:

- Ethernet stats command.

5.12 EOA Commands

5.12.1 EOA Commands

5.12.1.1 Create eoa intf

Description:
Use this command to create an EoA interface towards the CPE side.

Command Syntax:
create eoa intf ifname <interface-name> **lowif** <low-interface-name> [**pkttype** {**multicast |broadcast |unknown-unicast} + | all|None**] [**fcs** false | true] [enable|disable] [**inactivitytmrintrvl** <inactivitytmrintrvl-val>] [**m2vmacdbid** <m2vmacdbid-val> |**none**] [**configstatus** normal | config]

5.12.1.2 Delete oea intf

Description:
Use this command to delete an EoA interface.

Command Syntax:
delete eoa intf ifname <interface-name>

5.12.1.3 Get eoa intf

Description:
Use this command to get information on a particular EoA interface, or on all the EoA interfaces.
Command Syntax:
get eoa intf [**ifname** <interface-name>]

5.12.1.4 Modify eoa intf

Description:
Use this command to modify the properties of an eoa interface.

Command Syntax:
modify eoa intf ifname <interface-name> [**pkttype** {**multicast |broadcast |unknown- unicast**} + | **all| none**] [**fcs false | true**] [**m2vmacdbid** <m2vmacdbid-val> | **none**] [**enable|disable**] [**inactivitytmrintrvl** <inactivitytmrintrvl>]

Parameters:

Name	Description
ifname<interface-name>	This parameter specifies the name assigned to this interface. **Type**: Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory **Valid values**: eoa-0,eoa-1….
lowif <low-interface-name>	This parameter specifies the lower interface index. It contains ifindex of the AAL5 or VC Aggregation interface. **Type**: Mandatory **Valid Values** : aal5-0 - *
pkttype {multicast |broadcast |unknownunicast}+ | all|none	This parameter defines the packet type supported by the interface. 'EoAPktTypeSupported' shall be configured for every CPE side Ethernet interface. By default, the option taken is 'ALL' and it means that all packets will be transmitted. The value 'None' means that normal Ucast packets will be transmitted. The interface shall not transmit any other packet type than the ones configured. **Type:** Optional. **Valid Values:** {multicast |broadcast |unknown-unicast}+ | all **Default Value:** all.
fcs false | true	This specifies whether Ethernet FCS needs to be computed for the CPE side Ethernet interfaces. This can be set to true only if encaptype of the lower interface is Ethernet. **Type:** Optional **Valid Values:** false or true **Default Value:** false.
Enable|disable	Administrative status of the interface **Type**: Optional **Valid values** : enable or disable **Default Values:** enable
inactivitytmrintrvl <inactivitytmrintrvl-val>	This field specifies the time (in seconds) after which interfaces shall be marked inactive if there is no data activity on this interface during this interval. This is used only when the bit corresponding to "ConfigEntry" is set for gsvEoaConfigStatus field. A value of zero means the timer is not running. In Aautosensing scenario, an inactive interface is a candidate to deletion in case another protocol is sensed on Atm Vc Interface on which this interface is created. **Type**: Optional **Valid Values**: 0 to 0xffffffff

	Default Value: 0
configstatus normal | config	This parameter describes the configuration mode for this interface.The value of this parameter can be normal or config. If the value is config, then this interface shall be created, but will have a dormant status. Only after the receipt of an EoA packet from the CPE side, this interface shall become active. **Type**: Optional **Valid Values**: normal | config **Default Value**: normal
m2vmacdbid <m2vmacdbid-val> **| none**	This field specifies the M2VMac Database Id associated with this interface. The value 0 means Virtual MAC feature is disabled on this interface. This field can be modified only when the interface is disabled. **Type:** Create – Optional Modify – Optional **Valid values:** 1 - 1154 **Default value:** 0

Example:

$create eoa intf ifname eoa-0 lowif aal5-0 m2vmacdbid 1 enable fcs false

Output:

Verbose Mode On
Entry Created

IfName : eoa-0 LowIfName : aal5-0
FCS : False
Pkt Type : ALL
InActivity Tmr Interval : 3
M2VMac Database Id : 1
Config Status : Normal
Oper Status : Down Admin Status : Up

Output Fields:

FIELD	Description
IfName	The name of the interface that has been created.
LowIfName	This parameter specifies the lower interface index. It contains ifindex of the AAL5 or VC Aggregation interface.
FCS	This specifies whether Ethernet FCS needs to be computed for the CPE side Ethernet interfaces. This can

	be set to true only if encaptype of the lower interface is Ethernet.
Pkt Type	This parameter defines the packet type supported by the interface. 'EoAPktTypeSupported' shall be configured for every CPE side Ethernet interface. By default, the option taken is 'ALL' and it means that all packets will be transmitted. The value 'None' means that normal Ucast packets will be transmitted. The interface shall not transmit any other packet type than the ones configured.
Admin Status	The desired state of the interface. It may be either Up or Down
Oper Status	The actual/current state of the interface. It can be either up or down.
InActivity Tmr Interval	This field specifies the time (in seconds) after which interfaces shall be marked inactive if there is no data activity on this interface during this interval. This is used only when the bit corresponding to "ConfigEntry" is set for gsvEoaConfigStatus field. A value of zero means the timer is not running. In Aautosensing scenario, an inactive interface is a candidate to deletion in case another protocol is sensed on Atm Vc Interface on which this interface is created.
Config Status	This parameter describes the configuration mode for this interface.The value of this parameter can be Normal, Config, NotInUse, or InUse. If the value is Config, then this interface shall be created, but will have a dormant status. Only after the receipt of an EoA packet from the CPE side, this interface shall become active. The 'InUse' and 'NotInUse' bits are read-only bits. The 'NotInUse' bit indicates that the entry is dormant and the 'InUse' bit indicates that the entry is activated.
M2VMac Database Id	This field specifies the M2VMac Database Id associated with this interface. The value 0 means Virtual MAC feature is disabled on this interface. This field can be modified only when the interface is disabled.

References:

- Ethernet commands
- Ethernet Stats commands.

5.13 Filtering Commands

5.13.1 ACL Global Macentry Commands

5.13.1.1 Get acl global macentry

Description:
Use this command to get.

Command Syntax:
get acl global macentry [**macaddr** <macaddr-val >]

5.13.1.2 Create acl global macentry

Description:
Use this command to create.
Command Syntax:
create acl global macentry macaddr <macaddr-val > [**deny** disable |enable] [**track** disable | enable]

5.13.1.3 Delete acl global macentry

Description:
Use this command to delete.

Command Syntax:
delete acl global macentry macaddr <macaddr-val >

5.13.1.4 Modify acl global macentry

Description:
Use this command to modify.

Command Syntax:
modify acl global macentry macaddr <macaddr-val > [**deny disable | enable**] [**track disable | enable**]

Parameters:

Name	Description
macaddr <macaddr-val >	Unicast Source MAC Address, which needs to be tracked/denied access **Type:** Create --Mandatory Delete --Mandatory Modify -- Mandatory Get Optional
deny disable | enable	This flag specifies if the MAC address is to be denied access. **Type:** Create --Optional Modify -- Optional **Default value:** enable
track disable | enable	This flag specifies if the MAC address is to be tracked accross different ports. A trap is raised when packet from the address comes over a port for the first time and when it changes the port. **Type:** Create --Optional Modify -- Optional **Default value:** disable

Example:

$ create acl global macentry macaddr 00:30:4f:a0:d1:34 deny enable track enable

Output:

Verbose Mode On
Entry Created

Mac Address : 00:30:4f:a0:d1:34
Deny : true Track : enable
Number of times Port changed : 2
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Mac Address	Unicast Source MAC Address, which needs to be tracked/denied access
Deny	This flag specifies if the MAC address is to be denied access.
Track	This flag specifies if the MAC address is to be tracked accross different ports. A trap is raised in case packet from the address comes over a port for the first time and when it changes the port.
Number of times Port changed	This specifies the number of times port has been changed by the MAC address.

5.13.2 Clfr list genentry commands

5.13.2.1 Get clfr list genentry

Description:
Use this command to get.

Command Syntax:

5.13.2.2 Create clfr list genentry

Description:
Use this command to create.

Command Syntax:
create clfr list genentry ifname <interface-name>**value** <value-val> [**valtype** U8|U16|U32]

5.13.2.3 Delete clcfr list genentry

Description:
Use this command to delete.

Command Syntax:
delete clfr list genentry ifname <interface-name> [**value** <value-val>

Parameter:

Name	Description
ifname <interface-name>	Name of ethernet, eoa, ipoe or pppoe interface, for which the classifier generic list is created. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or between IPOE-0 and IPOE-191 or between PPPOE-0 and PPPOE-192. **Type**: Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values**: eth-*, eoa-*, pppoe-*,ipoe*
value <value-val>	List Entry Value, of the classifier generic list **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional

Valtype U8|U16|U32	This field specifies value type of the entry. The value type for all entries on an interface should be same. Value type should match value type of matchingenlist nodes in case a tree attached on same interface. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as InGenList or NotInGenList is attached on same interface. Currently only 'U32' value is supported.Create -- Optional. **Create** -- Optional

Example:

$ create clfr list genentry Ifname eoa-1 value 0xAC1901AA valtype u8

Output:

Verbose Mode On
Entry Created
If Name : eoa-1
Value : 0xAC1901AA
Value Type : U32

Verbose Mode Off:
Entry Created

Output field:

Field	Description
If Name	Name of ethernet, eoa, ipoe or pppoe interface, for which the classifier generic list is created. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or between IPOE-0 and IPOE-191 or between PPPOE-0 and PPPOE-192.
Value	List Entry Value, of the classifier generic list
Value Type	This field specifies value type of the entry. The value type for all entries on an interface should be same. Value type should match value type of matchingenlist nodes in case a tree attached on same interface. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as InGenList or NotInGenList is attached on same interface. Currently only 'U32' value is supported.

5.13.3 ACL Port Macentry Commands

5.13.3.1 Get acl port macentry

Description:
Use this command to get.

Command Syntax:
get acl port macentry [**portid** <portid-val >] [**macaddr** <macaddr-val >]

5.13.3.2 Create acl port macentry

Description:
Use this command to create.

Command Syntax:
create acl port macentry portid <portid-val > **macaddr** <macaddr-val >

5.13.3.3 Delete acl port macentry

Description:
Use this command to delete.

Command Syntax:
delete acl port macentry portid <portid-val > **macaddr** <macaddr-val>

Parameter:

Name	Description
portid <portid-val>	Bridge Port Id, for which the port MAC Address entry is created **Type:** Create --Mandatory Delete --Mandatory Get -- Optional **Valid values:** 1-578
macaddr <macaddr-val>	Unicast Source MAC Address, which is to be allowed access over the particular port. **Type:** Create --Mandatory Delete --Mandatory Get -- Optional

Example:
$ create acl port macentry portId 2 macaddr 00:30:4f:a0:d1:34

Output:
Verbose Mode On
Entry Created

PortId : 2
Mac Address : 00:30:4f:a0:d1:34
Verbose Mode Off:
Entry Created

Output field:

Field	Description
PortId	Bridge Port Id, for which the port MAC Address entry is created
Mac Address	Unicast Source MAC Address, which is to be allowed access over the particular port.

Caution:

- An entry in this table shall not be applicable for a bridge port created over PPPOE/IPOE interface.

5.13.4 Clfr namedlist genentry Commands

5.13.4.1 Get namedlist genentry

Description:
Use this command to get.

Command Syntax:
get clfr namedlist genentry [**listid** <listid-val>] [**value** <value-val>]

5.13.4.2 Create clfr namedlist genentry

Description:
Use this command to create.

Command Syntax:
create clfr namedlist genentry listid <listid-val>**value** <value-val>

5.13.4.3 Delete clfr namedlist genentry

Description:
Use this command to delete.

Command Syntax:
delete clfr namedlist genentry listid <listid-val>**value** <value-val>

Parameter:

Name	Description
listid <listid-val>	This field stores the list identifier value. There must be a row indexed on the same id in the Classifier Named List Table. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 65535
value <value-val>	This field specifies the list entry value. The value range depends upon value type of list, as specified in Classifier Named List table. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional

Example:
$ create clfr namedlist genentry listid 2 value 0xAC1901AA

Output:
Verbose Mode On
Entry Created
ListId : 2
Value : 0xAC1901AA
Verbose Mode Off:
Entry Created

Output field:

Field	Description
ListId	This field stores the list identifier value. There must be a row indexed on the same id in the Classifier Named List Table.
Value	This field specifies the list entry value. The value range depends upon value type of list, as specified in Classifier Named List table.

5.13.5 Clfr namedlist info Commands

5.13.5.1 Get clfr namedlist info

Description:
Use this command to get.

Command Syntax:
get clfr namedlist info [**listid** <listid-val>]

5.13.5.2 Create clfr namedlist info

Description:
Use this command to create.

Command Syntax:
create clfr namedlist info listid <listid-val> [**valtype** U8 | U16 | U32]

5.13.5.3 Delete clfr namedlist info

Description:
Use this command to delete.

Command Syntax:
delete clfr namedlist info listid <listid-val>

5.13.5.4 Delete clfr namedlist info

Description:
Use this command to modify.

Command Syntax:
modify clfr namedlist info listid <listid-val> [**valtype** U8 | U16 | U32]

Parameter:

Name	Description
listid listid	This field stores the list identifier value. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 65535

valtype U8 | U16 | U32	This field specifies the value type of list. Value type should match value type of matchingenlist nodes in case a tree attached on same interface as the list. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as InGenList or NotInGenList is attached on same interface. Currently only 'U32' value is supported. **Type:** Create -- Optional Modify -- Optional **Default value:** U32

Example:

$ create clfr namedlist info listid 2 valtype u32

Output:

Verbose Mode On
Entry Created

ListId : 2
Value Type : u32
Verbose Mode Off:
Entry Created

Output field:

Field	Description
ListId	This field stores the list identifier value.
Value Type	This field specifies the value type of list. Value type should match value type of matchingenlist nodes in case a tree attached on same interface as the list. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as InGenList or NotInGenList is attached on same interface. Currently only 'U32' value is supported.

5.13.6 Clfr namedlist map Commands

5.13.6.1 Get clfr namedlist map

Description:
Use this command to get.

Command Syntax:
get clfr namedlist map [**ifname** <interface-name>]

5.13.6.2 Create clfr namedlist map

Description:
Use this command to create.

Command Syntax:
create clfr namedlist map ifname <interface-name>**listid** <listid-val>

5.13.6.3 Delete clfr namedlist map

Description:
Use this command to delete.

Command Syntax:
delete clfr namedlist map ifname <interface-name>

Parameter:

Name	Description
ifname <interface-name>	This specifies the eoa ,pppoe, ipoe or ethernet interface to which named generic list is attached. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or between IPOE-0 and IPOE-191 or between PPPOE-0 and PPPOE-192. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
listid <listid-val>	This field stores the list identifier value. **Type:** Create -- Mandatory **Valid values:** 1 - 65535

Example
$ create clfr namedlist map ifname eoa-1 listid 2

Output:
Verbose Mode On
Entry Created

IfName : eoa-1
ListId : 2
Verbose Mode Off:
Entry Created

Output field:

Field	Description
IfName	This specifies the eoa ,pppoe, ipoe or ethernet interface to which named generic list is attached. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or between IPOE-0 and IPOE-191 or between PPPOE-0 and PPPOE-192.
ListId	This field stores the list identifier value.

5.13.7 Clfr profile branch Commands

5.13.7.1 Get clfr profile branch

Description:
Use this command to get.

Command Syntax:
get clfr profile branch [**pname** <pname-val>] [**nodeid** <nodeid-val>] [**brtype** <brtype-val>]

5.13.7.2 Create clfr profile branch

Description:
Use this command to create.

Command Syntax:
create clfr profile branch pname <pname-val>**nodeid** <nodeid-val>**brtype** <brtype-val> [**cnodeid** <cnodeid-val>]

5.13.7.3 Delete clfr profile branch

Description:

Use this command to delete.

Command Syntax:

delete clfr profile branch pname <pname-val> **nodeid** <nodeid-val>**brtype** <brtype-val>

Parameter:

Name	Description
pname <pname-val>	Name of the classifier profile **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
nodeid <nodeid-val>	Node Id of the node, with which the branch is to be attached. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 4
brtype <brtype-val>	This specifies the branch types. For a unary type node, only onlybr(0xfffffffffffffff9) branch type is allowed. For binary type and Linear/Non-Linear(Access Deny only) type, TrueBr(0xfffffffffffffffd) and FalseBr(0xfffffffffffffffe) are allowed. For ternary type nodes LtBr(0xfffffffffffffffc), GtBr (0xfffffffffffffffb), EqBr (0xfffffffffffffffa) are allowed. For Linear, Non-Linear (match in list) the actual value is allowed. The actual value can be U8, U16, U32, U64, atmIf, ethernetIf, aal5vc. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
cnodeid <cnodeid-val>	Child Node Id **Type:** Create -- Optional **Default value:** 0

Example:

$ create clfr profile branch pname IGMP nodeid 3 brtype truebr

Output

Verbose Mode On
Entry Created

Profile Name : IGMP
Node Id : 3 Branch type : true
Child NodeId : 5
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Profile Name	Name of the classifier profile
Node Id	Node Id of the node, with which the branch is to be attached.
Branch type	This specifies the branch types. For a unary type node, only onlybr(0xfffffffffffffff9) branch type is allowed. For binary type and Linear/Non-Linear(Access Deny only) type, TrueBr(0xfffffffffffffffd) and FalseBr(0xfffffffffffffffe) are allowed. For ternary type nodes LtBr(0xfffffffffffffffc), GtBr (0xfffffffffffffffb), EqBr (0xfffffffffffffffa) are allowed. For Linear, Non-Linear (match in list) the actual value is allowed. The actual value can be U8, U16, U32, U64, atmIf, ethernetIf, aal5vc.
Child NodeId	Child Node Id

5.13.8 Clfr profile info Commands

5.13.8.1 Get clfr profile info

Description:

Use this command to get.

Command Syntax:

get clfr profile info [**pname** <pname-val>]

5.13.8.2 Create clfr profile info

Description:
Use this command to create.

Command Syntax:
create clfr profile info pname <pname-val>

5.13.8.3 Delete clfr profile info

Description:
Use this command to delete.

Command Syntax:
delete clfr profile info pname <pname-val>

5.13.8.4 Modify clfr profile info

Description:
Use this command to modify.

Command Syntax:
modify clfr profile info pname <pname-val> [**descr** <descr-val>] [**rnode** <rnode-val>] [enable | disable]

Parameter:

Name	Description
pname <pname-val>	Name of the classifier profile **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Default value:** -----
descr <descr-val>	A brief description can be given with profile, to identify the profile **Type:** Create -- Optional Modify -- Optional **Default value:** 0
rnode <rnode-val>	Root node Id of the profile. Each profile can have only one root node id **Type:** Create -- Optional Modify -- Optional **Default value:** 0

enable | disable	A Profile can only be modified, if it is disabled. A tree can only use a profile, if it is enabled. A profile cannot be disabled, if a tree is using it. **Type:** Create -- Optional Modify -- Optional **Default value:** 2

Example:

$ create clfr profile info pname IGMP

Output:

Verbose Mode On
Entry Created

Profile Name : IGMP
Root NodeId : 0 Status : Enable
Description : Profile to match the IGMP packet
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Profile Name	Name of the classifier profile
Root NodeId	Root node Id of the profile. Each profile can have only one root node id
Status	A Profile can only be modified, if it is disabled. A tree can only use a profile, if it is enabled. A profile cannot be disabled, if a tree is using it.
Description	A brief description can be given with profile, to identify the profile

5.13.9 Clfr profile node Commands

5.13.9.1 Get clfr profile node

Description:
Use this command to get.

Command Syntax:
get clfr profile node [**pname** <pname-val>] [**nodeid** <nodeid-val>]

5.13.9.2 Create clfr profile node

Description:
Use this command to create.
Command Syntax:
create clfr profile node pname <pname-val>**nodeid** <nodeid-val> [**descr** <descr-val>] [**export** true|false] **Ntype** Leaf|Unary|Binary|Ternary|Linear|NonLinear **modmask** Act|ValType|Offset|Mask|Val|ValueEnd|SBType|SBShiftCnt|SBMplr|Descrip|None [**actval** Drop|Fwd|FwdToCtl|CpToCtl|Eq|Gt|Lt|InRange|TerCmp|SetPrio|MatchInList|AccDeny|SetBase|Count|Retagprio | MatchIngenlist|GoToNextRule|allow] [**valuetype** U8|U16|U32|U64|AtmIf|Aal5Vc|EoaIf|EthIf|Dir|Prio|Len|VlanId][**offsetval** <offsetval-val>] [**maskval** <maskval-val>] [**value** <value-val>] [**valend** <valend-val>] [**sbasetype** Abs|Add|Compute|SetFromVar] [**shiftcnt** <shiftcnt-val>] [**mplr** <mplr-val>] [**sbvarindex** l2start|l3start] [**nodeprio** low|high|asintree]

5.13.9.3 Delete clfr profile node

Description:
Use this command to delete.

Command Syntax:
delete clfr profile node pname <pname-val> **nodeid** <nodeid-val>

5.13.9.4 Modify clfr profile node

Description:
Use this command to modify.

Command Syntax:

modify clfr profile node pname <pname-val>**nodeid** <nodeid-val> [descr descr] [**export** true|false] **Ntype** Leaf|Unary|Binary|Ternary|Linear|NonLinear **modmask** Act|ValType|Offset|Mask|Val|ValueEnd|SBType|SBShiftCnt|SBMplr|Descrip|None [**actval** Drop|Fwd|FwdToCtl|CpToCtl|Eq|Gt|Lt|InRange|TerCmp|SetPrio|MatchInList|AccDeny|SetBase|Count|Retagprio | MatchIngenlist|GoToNextRule|allow] [**valuetype** U8|U16|U32|U64|AtmIf|Aal5Vc|EoaIf|EthIf|Dir|Prio|Len|VlanId][**offsetval** <offsetval-val>] [**maskval** <maskval-val>] [**value** <value-val>] [**valend** <valend-val>] [**sbasetype** Abs|Add|Compute|SetFromVar] [**shiftcnt** <shiftcnt-val>] [**mplr** <mplr-val>] [**sbvarindex** l2start|l3start] [**nodeprio** low|high|asintree]

Parameter:

Name	Description
pname <pname-val>	Name of the classifier profile **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Default value:** -----
nodeid <nodeid-val>	Node Id, should be unique within a profile **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 0xffffffff **Default value:** -----
descr <descr-val>	A brief description can be given with node, to identify the node. If the ActVal is FwdToCtl or CpToCtl then this field is mandatory and it can be used by the applications to receive the packets coming from control plane because of this node. **Type:** Create -- Optional Modify -- Optional **Default value:** 0
export true|false	Some of the nodes of a profile can be exported. This flag tells whether this node is exported or not **Type:** Create -- Optional Modify -- Optional

	Default value: FALSE
Ntype Leaf|Unary|Binary|Ternary|Linear|NonLinear	This specifies the type of the Classifier node. **Type:** Create -- Optional
maskval <maskval-val>	Mask, used to select the individual bits to be matched in a packet. If gsvClfrProfileNodeAction is SetBase and gsvClfrProfileNodeSetBaseType is Compute, then this value is used to specify the mask, which shall be used to identify the individual bits of the field of the packet used to compute the new base offset. This field is valid only if the gsvClfrProfileNodeValType is U8, U16, U32 or U64. This field is also valid if the g gsvClfrProfileNodeAction is MatchInGenList. **Type :** Create --Optional **Default Value :** --
value <value-val>	Value, to be matched. For NonLinear node types, this field is not valid. For Linear node types, this value is used to specify the start of the range. If gsvClfrProfileNodeAction is SetBase and gsvClfrProfileNodeSetBaseType is Compute then this field is used to specify the value, which is to be added to base offset to calculate new base offset. If the gsvClfrProfileNodeAction is SetPrio or RetagPrio then this field is used to specify the priority which is to be assigned to the packet. If the gsvClfrProfileNodeAction is MatchInGenList then this field is not valid. If the gsvClfrProfileNodeAction is Count then this field is read only and specifies total number of octets of the packets hitting this node. **Type:** Create -- Optional **Default value:** ---
valend <valend-val>	For Linear nodes this field is used to specify the end of the range. If the gsvClfrProfileNodeAction is InRange then this field is used to specify the end of the range. If the gsvClfrProfileNodeAction is count then this field is used to specify the total number of packet hitting this node. For other actions this field is not valid. **Type:** Create -- Optional **Default value:** -----
sbasetype Abs | Add | Compute |	This field is valid only for the SET_BASE action type. It is used to specify, whether the base off set is to be set to an absolute value,

	or some value is to be added to existing base offset value to calculate new base offset value, or the new base offset value is to be computed using some value in the packet. **Type:** Create -- Optional Modify -- Optional **Default value:** ---
shiftcnt <shiftcnt-val>	ShiftCount, is the number of times the Value in the packet is to be shifted before multiplying it with the gsvClfrProfileNodeMultiplier. This field is valid only if the gsvClfrProfileNodeAction is SetBase. Value 32 is meant for internal purpose and Agents should not pass this value to GAG. GAG may return 32 value to Agent, in which case Agent should treat it as invalid. **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 - 31 **Default value:** ---
mplr <mplr-val>	Multiplier, is used to multiply the value shifted by ShiftCount. It is used to calculate the new base offset. This field is valid only if the gsvClfrProfileNodeAction is SetBase. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 32 **Default value:** ----
Modmask Act|ValType|Offset|Mask|Val|None|ValueEnd|Sbtype|SBShiftCnt|SBMlpr|Descrip	This specifies what fields of an exported node are modifiable and can be modified while the profile is part of a classifier tree. **Type:** Create -- Optional Modify -- Optional
Actval Drop|Fwd|FwdToCtl|CpToCtl|Eq|Gt|Lt|InRange|TerCmp|SetPrio|MatchInList|AccDeny|SetBase|Count|Retagprio |MatchIngenlist|GoToNextRule|allow	Action tells what is to be done by a node. 'Drop' means drop the packet. 'Fwd' means Forward the packet. 'FwdToCtl' means Forward the packet to control plane. 'CpToCtl' means forward the packet and also send a copy of the packet to control plane.'Allow' means give the packet to the next stage. 'GoToNextRule' means go to the next rule (ruleid) attached on that interface and if no next rule is attached on that interface then forward the packet. 'Eq' means check if value specified in the packet is equal to 'Value'. 'Gt' means check if the value at the location specified in the packet is greater than 'Value'. 'Lt' means check if the value at the location specified in the packet is Less than 'Value'. 'InRange' means

	check if the value at the location specified in the packet is in the range specified by 'Value' and 'ValEnd'. 'TerCmp' means check if the value at the location specified in the packet is less than, equals to or greater than the 'Value'. 'MatchInList' means take the branch of the node whose value is equals to the value at the location specified in the packet. 'AccDeny' means check if the value at the location specified in the packet is equals to any of the value of the branches of this node. 'SetBase' means set the base address as specified by 'setbase action'. 'SetPrio' means set the internal priority, which is used along with egress port traffic class mapping table, to determine the output queue. 'Count' means count the number of packet and bytes in the packets reaching this nodes. 'RetagPrio' means set the priority in the outgoing packet, which is also used along with egress port traffic class mapping table, to determine the output queue. 'MatchInGenList' means match value in packet with values in genlist. For Leaf node, Drop, Fwd, FwdToCtl, CpToCtl, Allow and GoToNextRule are valid actions. For Unary node, Count, SetPrio and RetagPrio are valid actions. For Binary node, Eq, Gt, Lt, SetBase and MatchInGenList are valid actions. For Ternary node, TerCmp and InRange are valid actions. For Linear node, only MatchInList is a valid action. For NonLinear node, MatchinList and AccDeny are valid actions. **Type:** Create -- Mandatory Modify -- Optional **Default value:** -----
Ntype Leaf|Unary|Binary|Ternary|Linear|NonLinear	This specifies the type of the Classifier node. **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 0xffffffff **Default value:** -----
Offsetval offsetval	OffSet, in the packet with respect to the base offset, from where we have to take the value, which is to be matched. If gsvClfrProfileNodeAction is SetBase and gsvClfrProfileNodeSetBaseType is Compute then this value is used to specify the offset with respect to the base offset, which shall be used to specify the field of the packet used to compute the new base offset. If the gsvClfrProfileNodeValType is U8 the offset can be odd or even. If the gsvClfrProfileNodeValType is U16, U32 or U64 then the offset can only be even. This field is not valid for any other value type.

	Type: Create -- Optional Modify -- Optional **Valid values**: 0 - 64 **Default value:** -----
Valuetype valuetype	Value type tells, the type of value which is to be matched/set. For leaf type nodes this field is not valid. If gsvClfrProfileNodeAction is SetBase and gsvClfrProfileNodeSetBaseType is Compute then this value is used to specify the value type (U8, U16, U32), which shall be used to compute the new base offset. This field is not valid for other values of gsvClfrProfileNodeSetBaseType. **Type:** Create -- Optional Modify -- Optional **Default value:** -----
sbvarindex **L2Start|L3Start**	This specifies setbase variable index. This field is valid only if 'SetBaseType' is 'SetFromVar'. 'L2Start' is read-only containing Layer 2 header start offset. 'L3Start' is read-only containing Layer 3 header start offset. It should be ensured that packet is IP packet before using 'L3Start' value .**Type:** Create -- Optional Modify -- Optional **Default value:** Invalid
nodeprio **Low|High|AsInTree**	This specifies the priority of profile node. Based on this priority value, the profile node is created in fast or slow memory. In case priority is specified as 'AsInTree', node priority will be same as specified in the tree. **Type:** Create -- Optional Modify -- Optional **Default value:** AsInTree

Example:

$ create clfr profile node pname IGMP nodeid 1 ntype binary actval eq valuetype u16 value 0xffff offsetval 12 maskval 0xffff

Output:

Verbose Mode On
Entry Created

Profile Name : IGMP
Node Id : 3
Exported : true Node Type : Binary
Modification Mask : Act
Action : eq
Value Type : u16 Offset : 12
Mask : 0xffff
Value : 0x800
Value End : None
Set Base type : none
Shift Count : none Multiplier : none
Description : Node to match the ip address
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Profile Name	Name of the classifier profile
Node Id	Node Id, should be unique within a profile
Exported	This specifies what fields of an exported node are modifiable and can be modified while the profile is part of a classifier tree.
Node Type	This specifies the type of the Classifier node
Modification Mask	This specifies what fields of this nodes can be modified, if this node is an exported node.
Action	Action tells what is to be done by a node.
Value Type	Value type tells the type of value, which is to be matched/set. For leaf type nodes this field is not valid. if ActVal is SetBase and SBaseType is Compute then this value is used to specify the value type (U8, U16, U32), which shall be used to compute the new base offset. This field is not valid for other values of SBaseType.
Offset	OffSet, in the packet with respect to the base offset, from where we have to take the value, which is to be matched. If ActVal is SetBase and SBaseType is Compute then this value is used to specify the offset with respect to the base offset, which shall be used to specify the field of the packet used to compute the new

	base offset. if the valuetype is U8 the offset can be odd or even. If the ValueType is U16, U32 or U64 then the offset can only be even. This field is not valid for any other value type.
Mask	Mask, used to select the individual bits to be matched in a packet. If ActVal is SetBase and SBaseType is Compute then this value is used to specify the mask, which shall be used to identify the individual bits of the field of the packet used to compute the new base offset. This field is valid only if the ValueType is U8, U16, U32 or U64. This field is also valid if the ActVal is MatchInGenList.
Value	Value, to be matched. For NonLinear node types, this field is not valid. For Linear node types, this value is used to specify the start of the range. if ActVal is SetBase and SBaseTypeis Compute then this field is used to specify the value, which is to be added to base offset to calculate new base offset. If the ActVal is SetPrio or RetagPrio then this field is used to specify the priority which is to be assigned to the packet. If the ActVal is MatchInGenList then this field is not valid. If the ActVal is Count then this field is read only and specifies total number of octet of the packets hitting this node.
Value End	For Linear nodes this field is used to specify the end of the range. If the ActVal is InRange then this field is used to specify the end of the range. If the ActVal is count then this field is used to specify the total number of packet hitting this node. For other actions this field is not valid.
Set Base type	SetBaseType is used to specify whether the base off set is to be set to an absolute value, or some value is to be added to existing base offset value to calculate new base offset value or the new base offset value is to be computed using some value in the packet. This field is valid only if the ActVal is SetBase.
Shift Count	ShiftCount, is the number of times the Value in the packet is to be shifted before multiplying it with the Mplr. This field is valid only if the ActVal is SetBase. Value 32 is used to set shift count to an invalid value.
Multiplier	Multiplier is used to multiply the value shifted by ShiftCount. It is used to calculate the new base offset. This field is valid only if the ActVal is SetBase.
Description	Description of the profile node. If the ActVal is FwdToCtl or CpToCtl then this field is mandatory and it can be used by the applications to receive the packets coming from control plane

	because of this node.
SBVar Index	This specifies setbase variable index. This field is valid only if 'SetBaseType' is 'SetFromVar'. 'L2Start' is read-only containing Layer 2 header start offset. 'L3Start' is read-only containing Layer 3 header start offset. It should be ensured that packet is IP packet before using 'L3Start' value
Node Priority	This specifies the priority of profile node. Based on this priority value, the profile node is created in fast or slow memory. In case priority is specified as 'AsInTree', node priority will be same as specified in the tree.

5.13.10 Clfr tree branch Commands

5.13.10.1 Get clfr tree branch

Description:
Use this command to get.

Command Syntax:
get clfr tree branch [**tname** <tname-val>] [**pid** <pid-val>] [**nodeid** <nodeid-val>] [**brtype** <brtype-val>]

5.13.10.2 Create clfr tree branch

Description:
Use this command to create.

Command Syntax:
create clfr tree branch tname <tname-val>**pid** <pid-val>**nodeid** <nodeid-val>**brtype** <brtype-val>**childpid** <childpid-val>

5.13.10.3 Delete clfr tree branch

Description:
Use this command to delete.

Command Syntax:
create clfr tree branch tname <tname-val>**pid** <pid-val>**nodeid** <nodeid-val>**brtype** <brtype-val>

Parameter:

Name	Description
tname <tname-val>	Name of the classifier tree **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** ND - ND
pid <pid-val>	Profile Id. It should be unique within a tree **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 4
nodeid <nodeid-val>	Node Id, should be unique within a profile **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 4
brtype <brtype-val>	This specifies the branch types. For a unary type node, only onlybr (0xfffffffffffffff9) branch type is allowed. For binary type and Linear/Non-Linear(Access Deny only) type, TrueBr(0xfffffffffffffffd) and FalseBr(0xfffffffffffffffe) are allowed. For ternary type nodes LtBr(0xfffffffffffffffc), GtBr (0xfffffffffffffffb), EqBr (0xfffffffffffffffa) are allowed. For Linear, Non-Linear (match in list) the actual value is allowed. The actual value can be U8, U16, U32, U64, atmIf, ethernetIf, aal5vc. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
childpid <childpid-val>	This object specifies Child Profile Id. The Child Profile Id value 0 is used to add true and false branches to a AccessDeny type node. **Type:** Create -- Mandatory **Default value:** 0

Example:

$ create clfr tree branch tname t1 pid 2 nodeid 1 brtype truebr childpid 1

Output:

Verbose Mode On
Entry Created

Tree Name : tree1
Profile Id : 3 Node Id : 2
Branch type : eq Child Profile Id : 4
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Tree Name	Name of the classifier tree
Profile Id	Profile Id. It should be unique within a tree
Node Id	Node Id, should be unique within a profile
Branch type	This specifies the branch types. For a unary type node, only onlybr(0xfffffffffffffff9) branch type is allowed. For binary type and Linear/Non-Linear(Access Deny only) type, TrueBr(0xfffffffffffffffd) and FalseBr(0xfffffffffffffffe) are allowed. For ternary type nodes LtBr(0xfffffffffffffffc), GtBr (0xfffffffffffffffb), EqBr (0xfffffffffffffffa) are allowed. For Linear, Non-Linear (match in list) the actual value is allowed. The actual value can be U8, U16, U32, U64, atmIf, ethernetIf, aal5vc.
Child Profile Id	This object specifies Child Profile Id. The Child Profile Id value 0, is used to add true and false branches to a AccessDeny type node.

5.13.11 Clfr tree info Commands

5.13.11.1 Get clfr tree info

Description:
Use this command to get.

Command Syntax:
get clfr tree info [**tname** <tname-val>]

5.13.11.2 Create clfr tree info

Description:
Use this command to create.

Command Syntax:
create clfr tree info tname <tname-val> [**descr** <descry-val>] [enable | disable] [**treeprio** low | high]

5.13.11.3 Delete clfr tree info

Description:
Use this command to delete.

Command Syntax:
delete clfr tree info tname <tname-val>

5.13.11.4 Modify clfr tree info

Description:
Use this command to create.

Command Syntax:
modify clfr tree info tname <tname-val> [**descr** <descry-val>] [enable | disable] [**treeprio** low | high]

Parameter:

Name	Description
tname <tname-val>	Name of the classifier tree which is to be included as subrule of this rule. This classifier tree should exist and be enabled. A classifier tree can be used only in one subrule. The Maximum length of Name should be 32. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Default value:** -----
descr <descry-val>	A brief description can be given with tree, to identify the tree **Type:** Create -- Optional Modify -- Optional **Default value:** 0
enable | disable	A tree cannot be deleted or modified, if it is enabled. A tree can only be used, if it is enabled. A tree can not be disabled, if it is being used. **Type:** Create -- Optional Modify -- Optional **Default value:** 2
treeprio low | high	Tells the priority of the tree. Based on this priority value, the tree is created in fast or slow memory. **Type:** Create -- Optional Modify -- Optional **Default value:** low

Example:

$ create clfr tree info tname tree1

Output:

Verbose Mode On
Entry Created

Tree Name : tree1
Status : disable
Description : tree1
Tree Priority : High

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Tree Name	Name of the classifier tree
Status	A tree cannot be deleted or modified, if it is enabled. A tree can only be used, if it is enabled. A tree can not be disabled, if it is being used.
Description	A brief description can be given with tree, to identify the tree
TreePriority	Tells the priority of the tree. Based on this priority value, the tree is created in fast or slow memory.

5.13.12 Clfr tree map Commands

5.13.12.1 Get clfr tree map

Description:
Use this command to get.

Command Syntax:
get clfr tree map [**ifname** <interface-name>]

5.13.12.2 Create clfr tree map

Description:
Use this command to create.

Command Syntax:
create clfr tree map ifname <interface-name>**tname** <tname-val> **entrypid** <entrypid-val>

5.13.12.3 Delete clfr tree map

Description:
Use this command to delete.

Command Syntax:
delete clfr tree map ifname <interface-name>

Parameter:

Name	Description
ifname <interface-name>	Interface name, with which the tree is to be associated **Type:** Create -- Mandatory Delete -- Mandatory Get -- Mandatory
tname <tname-val>	**Type:** Create -- Mandatory
entrypid <entrypid-val>	**Type:** Create -- Mandatory **Valid values:** 1 - 0xffffffff

Example:

$ create clfr tree map Ifname aal5-3 tname tree1 EntryPId 5

Output:

Verbose Mode On
Entry Created

If Name : aal5-3
Tree Name : tree1 Entry Profile Id : 5
Verbose Mode Off:
Entry Created

Output field

Field	Description
If Name	Interface name, with which the tree is to be associated
Tree Name	
Entry Profile Id	

5.13.13 Clfr tree node Commands

5.13.13.1 Get clfr tree node

Description:

Use this command to get.

Command Syntax:

get clfr tree node [**tname** <tname-val>] [**pid** <pid-val>] [**nodeid** <nodeid-val>]

5.13.13.2 Modify clfr tree node

Description:

Use this command to get.

Command Syntax:

modify clfr tree node tname <tname-val>**pid** <pid-val>**nodeid** <nodeid-val> [**descr** <descry-val>] [**offset** <offset-val>] [**mask** <mask-val>] [**value** <value-val>] [**act** Drop|Fwd|FwdToCtl|CpToCtl|Eq|Gt|Lt|InRange |TerCmp| SetPrio|MatchInList|AccDeny|SetBase|Count| Retagprio | MatchIngenlist|GoToNextRule| allow] [valend valend] [sbasetype Abs | Add | Compute] [**shiftcnt** <shiftcnt-val>] [**mplr** <mplr-val>] [**valtype** U8|U16|U32|U64|AtmIf|Aal5Vc|EoaIf|EthIf|Dir|Prio|Len|vlanid][**sbvarindex** l2start|l3start] [**nodeprio** low]

Parameter:

Name	Description
tname tname	Name of the classifier tree **Type:** Modify -- Mandatory Get -- Optional **Default value:** -----
pid pid	Profile Id. It should be unique within a tree. **Type:** Modify -- Mandatory Get -- Optional **Valid values:** 1 - 0xffffffff **Default value:** -----
nodeid nodeid	Node Id, should be unique within a profile **Type:** Modify -- Mandatory Get -- Optional **Valid values:** 1 - 0xffffffff **Default value:** -----
descr descr	Description of the tree node. If the ActVal is FwdToCtl or CpToCtl then this field is mandatory and it can be used by the applications to receive the packets coming from control plane because of this node. **Type:** Modify -- Optional **Default value:** -----
offset offset	OffSet, in the packet with respect to the base offset, from where we have to take the value, which is to be matched. If ActVal is SetBase and SBaseType is Compute then this value is used to specify the offset with respect to the base offset, which shall be used to specify the field of the packet used to compute the new base offset. If the

	ValueType is U8 the offset can be odd or even. If the ValueType is U16, U32 or U64 then the offset can only be even. This field is not valid for any other value type. **Type:** Modify -- Optional **Valid values:** 0 - 65 **Default value:** -----
mask mask	Mask, used to select the individual bits to be matched in a packet. If gsvClfrTreeNodeAction is SetBase and gsvClfrTreeNodeSetBaseType is Compute, then this value is used to specify the mask, which shall be used to identify the individual bits of the field of the packet used to compute the new base offset. This field is valid only if the gsvClfrTreeNodeValType is U8, U16, U32 or U64. This field is also valid if the gsvClfrTreeNodeAction is MatchInGenList. **Type:** Modify -- Optional **Default value:** -----
value value	Value, to be matched. For NonLinear node types, this field is not valid. For Linear node types, this value is used to specify the start of the range. If gsvClfrTreeNodeAction is SetBase and NodeSetBaseType is Compute then this field is used to specify the value, which is to be added to base offset to calculate new base offset. If the gsvClfrTreeNodeAction is SetPrio or RetagPrio then this field is used to specify the priority which is to be assigned to the packet. If the gsvClfrTreeNodeAction is MatchInGenList then this field is not valid. If the gsvClfrTreeNodeAction is Count, then this field is read only and specifies total number of octets of the packets hitting this node. **Type:** Modify -- Optional **Default value:** -----
act Drop|Fwd|FwdToCtl| CpToCtl|Eq|Gt|Lt|InRange|TerCmp| SetPrio|MatchInList|AccDeny|SetBase|Count| Retagprio | MatchIngenlist| GoToNextRule|allow	Action tells what is to be done by a node. 'Drop' means drop the packet. 'Fwd' means Forward the packet. 'FwdToCtl' means Forward the packet to control plane. 'CpToCtl' means forward the packet and also send a copy of the packet to control plane.'Allow' means give the packet to the next stage. 'GoToNextRule' means go to the next rule (ruleid) attached on that interface and if no next rule is attached on that interface then forward the packet. 'Eq' means check if value specified in the packet is equal to 'Value'. 'Gt' means check if the value at the location specified in the packet is greater than 'Value'. 'Lt' means check if the value at the location specified in the packet is Less than 'Value'. 'InRange' means check if the value

	at the location specified in the packet is in the range specified by 'Value' and 'ValEnd'. 'TerCmp' means check if the value at the location specified in the packet is less than, equals to or greater than the 'Value'. 'MatchInList' means take the branch of the node whose value is equals to the value at the location specified in the packet. 'AccDeny' means check if the value at the location specified in the packet is equals to any of the value of the branches of this node. 'SetBase' means set the base address as specified by setbase action. 'SetPrio' means set the internal priority, which is used along with egress port traffic class mapping table, to determine the output queue. 'Count' means count the number of packet and bytes in the packets reaching this nodes. 'RetagPrio' means set the prirority in the outgoing packet, which is also used along with egress port traffic class mapping table, to determine the output queue. 'MatchInGenList' means match value in packet with values in genlist. For Leaf node, Drop, Fwd, FwdToCtl, CpToCtl, Allow and GoToNextRule are valid actions. For Unary node, Count, SetPrio and RetagPrio are valid actions. For Binary node, Eq, Gt, Lt, SetBase and MatchInGenList are valid actions. For Ternary node, TerCmp and InRange are valid actions. For Linear node, only MatchInList is a valid action. For NonLinear node, MatchinList and AccDeny are valid actions. **Type:** Modify -- Optional
valend valend	For Linear nodes this field is used to specify the end of the range. If the gsvClfrTreeNodeAction is InRange then this field is used to specify the end of the range. If the gsvClfrTreeNodeAction is count then this field is used to specify the total number of packets hitting this node. For other actions this field is not valid. **Type:** Modify -- Optional **Default value:** -----
sbasetype Abs | Add | Compute	SetBaseType, is used to specify, whether the base off set is to be set to an absolute value, or some value is to be added to existing base offset value to calculate new base offset value or the new base offset value is to be computed using some value in the packet.This field is valid only if the ActVal is SetBase. **Type:** Modify -- Optional **Default value:** 4
shiftcnt shiftcnt	ShiftCount, is the number of times the Value in the packet is to be shifted before multiplying it with the gsvClfrTreeNodeMultiplier. This field is valid only if the gsvClfrTreeNodeAction is SetBase.

	Type: Modify -- Optional **Valid values:** 0 – 31 Default value: ----
mplr mplr	Multiplier, is used to multiply the value shifted by ShiftCount. It is used to calculate the new base offset. This field is valid only if the gsvClfrTreeNodeAction is SetBase. **Type:** Modify -- Optional **Valid values:** 1 - 32 **Default value:** ----
valtype U8|U16|U32|U64|Atmlf|Aal5Vc|Eoalf|Ethlf|Dir|Prio|Len|vlanid	Value type tells the type of value that is to be matched/set.
Sbvarindex l2start|l3start	This specifies the setbase variable index. 'L2Start' is read-only, containing Layer 2 header start offset. 'L3Start' is read-only, containing Layer 3 header start offset.
Nodeprio low|high|asintree	This specifies the priority of the tree node. Based on this priority value, the tree node is created in fast or slow memory.

Example:

$ get clfr tree node tname tree1 pid 2 nodeid 3

Output:

Tree Name : tree1
Profile Id : 2 Node Id : 3
Exported : true Node Type : Binary
Modification Mask : act offset
Action : eq
Value Type : u32 Offset : 12
Mask : 0x0000000f
Value : 0x0000000f
ValueEnd : NA
Set Base type : NA
Shift Count : NA Multiplier : NA
Description : Node to match the ip address

Output field:

Field	Description
Tree Name	Name of the classifier tree.
Profile Id	Profile Id. It should be unique within a tree
Node Id	Node Id, should be unique within a profile
Exported	This specifies what fields of an exported node are modifiable and can be modified while the profile is part of a classifier tree.
Node Type	This specifies the type of the Classifier node
Modification Mask	This specifies what fields of this nodes can be modified, if this node is an exported node.
Action	Action tells what is to be done by a node.
Value Type	Value type tells, the type of value which is to be matched/set. For leaf type nodes this field is not valid. If ActVal is SetBase and SBaseType is Compute then this value is used to specify the value type (U8, U16, U32), which shall be used to compute the new base offset. This field is not valid for other values of SBaseType.
Offset	OffSet, in the packet with respect to the base offset, from where we have to take the value, which is to be matched. If ActVal is SetBase and SBaseType is Compute then this value is used to specify the offset with respect to the base offset, which shall be used to specify the field of the packet used to compute the new base offset. If the valuetype is U8 the offset can be odd or even. If the ValueType is U16, U32 or U64 then the offset can only be even. This field is not valid for any other value type.
Mask	Mask, used to select the individual bits to be match in a packet. If ActVal is SetBase and SBaseTypeis Compute then this value is used to specify the mask, which shall be used to identify the individual bits of the field of the packet used to compute the new base offset.This field is valid only if the ValueType is U8, U16, U32 or U64. This field is also valid if the ActVal is MatchInGenList.
Value	Value, to be matched. For NonLinear node types, this field is not valid. For Linear node types, this value is used to specify the start of the range. if ActVal is SetBase and SBaseTypeis Compute then this field is used to specify the value, which is to be added to base offset to calculate new base offset. If the ActVal is SetPrio or RetagPrio then this field is used to specify the priority which is to be assigned to the packet. If the ActVal is MatchInGenList then this field is not valid. If the ActVal is Count then this field is read only and specifies total number of octet of the packets hitting this node.
ValueEnd	For Linear nodes this field is used to specify the end of the range. If the ActVal is InRange then this field is used to specify the end of the range. If the ActVal is count then this field is used to specify the total number of packet hitting this node.

	For other actions this field is not valid.
Set Base type	SetBaseTyp, is used to specify whether the base off set is to be set to an absolute value, or some value is to be added to existing base offset value to calculate new base offset value or the new base offset value is to be computed using some value in the packet. This field is valid only if the ActVal is SetBase.
Shift Count	ShiftCount is the number of times the Value in the packet is to be shifted before multiplying it with the Mplr. This field is valid only if the ActVal is SetBase. Value 32 is used to set shift count to an invalid value.
Multiplier	Multiplier is used to multiply the value shifted by ShiftCount. It is used to calculate the new base offset. This field is valid only if the ActVal is SetBase.
Description	Description of the profile node. If the ActVal is FwdToCtl or CpToCtl then this field is mandatory and it can be used by the applications to receive the packets coming from control plane because of this node.

5.13.14 Clfr tree profile Commands

5.13.14.1 Get clfr tree profile

Description:
Use this command to get.

Command Syntax:
get clfr tree profile [**tname** <tname-val>] [**pid** <pid-val>]

5.13.14.2 Create clfr tree profile

Description:
Use this command to create.

Command Syntax:
create clfr tree profile tname <tname-val>**pid** <pid-val>**pname** <pname-val> [**isroot** <isroot-val>]

5.13.14.3 Delete clfr tree profile

Description:
Use this command to delete.

Command Syntax:
get clfr tree profile tname <tname-val> **pid** <pid-val>

5.13.14.4 Modify clfr tree profile

Description:

Use this command to modify.

Command Syntax:

modify clfr tree profile tname <tname-val>**pid** <pid-val> [**isroot** true|false]

Parameter:

Name	Description
tname <tname-val>	Name of the classifier tree **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Default value:** -----
pid <pid-val>	Profile Id. It should be unique within a tree **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 0xffffffff **Default value:** -----
pname <pname-val>	Name of the profile which is to be added **Type:** Create -- Mandatory Delete -- Optional Modify -- Optional Get -- Optional **Default value:** -----
isroot <isroot-val>	This specifies whether this profile is exported as a root profile or not. Only root profiles of the nodes can be specified as an entry point on an interface. **Type:** Create -- Optional Delete -- Optional Modify -- Optional Get -- Optional **Valid values:** true, false **Default value:**FALSE

Example:

$ create clfr tree profile tname tree1 pid 4 pname srcip

Output:
Verbose Mode On
Entry Created

Tree Name : tree1 Profile Id : 4
Profile Name : srcip
Is Root : false
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Tree Name	Name of the classifier tree
Profile Id	Profile Id. It should be unique within a tree
Profile Name	Name of the profile which is to be added
Is Root	This specifies whether this profile is exported as a root profile or not. Only root profiles of the nodes can be specified as an entry point on an interface.

5.13.15 Filter expr entry Commands

5.13.15.1 Get filter expr entry

Description:
Use this command to get.

Command Syntax:
get filter expr entry [**exprid** <exprid-val>]

5.13.15.2 Create filter expr entry

Description:
Use this command to create.

Command Syntax:
create filter expr entry exprid <exprid-val>**exprstring** <exprstring-val>

5.13.15.3 Delete filter expr entry

Description:

Use this command to delete.

Command Syntax:

delete filter expr entry exprid <exprid-val>

Parameter

Name	Description
exprid <exprid-val>	Unique identifier for a filter expression. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 -65535
exprstring <exprstring-val>	Expression string contains the expression relating the subrules of a rule using the & (AND), | (OR), ! (NOT) operators, parenthesis (for precedance) and actions to be executed. Valid actions are drop, allow, setprio, sendtocontrol, retagprio, copytocontrol, gotonextrule, forwardexit. If 'ruleDir' value is 'out', only drop, allow, gotonextrule and forwardexit action types are valid. For eg. "(1|2):drop" will be used to drop all packets which match subrules 1 or 2. **Type:** Create -- Mandatory

Example:

$ create filter expr entry exprid 1 exprstring “(1|2):drop”

Output:

Verbose Mode On
Entry Created

Expr Id : 1
Exprstring : (1|2):drop
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Expr Id	Unique identifier for a filter expression.
Exprstring	Expression string contains the expression relating the subrules of a rule using the & (AND), | (OR), ! (NOT) operators, parenthesis (for precedance) and actions to be executed. Valid actions are drop, allow, setprio, sendtocontrol, retagprio, copytocontrol, gotonextrule, forwardexit. If 'ruleDir' value is 'out', only drop, allow, gotonextrule and forwardexit action types are valid. For eg. "(1|2):drop" will be used to drop all packets which match subrules 1 or 2.

5.13.16 Filter list genentry Commands

5.13.16.1 Get filter list genentry

Description:
Use this command to get.

Command Syntax:

5.13.16.2 Create filter list genentry

Description:
Use this command to create.

Command Syntax:
create filter list genentry ifname <interface-name>**value** <value-val>] [**valtype** U8 | U16 | U32]

5.13.16.3 Delete filter list genentry

Description:
Use this command to delete.
Command Syntax:
delete filter list genentry ifname <interface-name> **value** <value-val>

Parameter:

Name	Description
ifname <interface-name>	Name of ethernet, eoa, ipoe or pppoe interface, for which the generic filter generic list is created. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or between IPOE-0 and IPOE-191 or between PPPOE-0 and

	PPPOE-191. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
value <value-val>	List Entry Value, for the generic filter generic list. This value must be consistent with the mentioned valuetype of generic list. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
valtype U8 | U16 | U32	This field specifies value type of the entry. The value type for all entries on an interface should be same. Value type should match value type of subrule field for which comparsion type is ingenlist or notingenlist incase the rule containing the subrule is attached on the same interface. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as InGenList or NotInGenList is attached on same interface. Currently only 'U32' value is supported. **Type:** Create -- Optional **Default value:** U32

Example:

$ create filter list genentry ifname eoa-1 value 0xAC1901AA valtype u32

Output:

Verbose Mode On
Entry Created

IfName : eoa-1
Value : 0xAC1901AA
Value Type : u32
Verbose Mode Off:
Entry Created

Output field

Field	Description
IfName	Name of ethernet, eoa, ipoe or pppoe interface, for which the generic filter generic list is created. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or between IPOE-0 and IPOE-191 or between PPPOE-0 and PPPOE-191.
Value	List Entry Value, for the generic filter generic list. This value must be

	consistent with the mentioned valuetype of generic list.
Value Type	This field specifies value type of the entry. The value type for all entries on an interface should be same. Value type should match value type of subrule field for which comparsion type is ingenlist or notingenlist incase the rule containing the subrule is attached on the same interface. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as InGenList or NotInGenList is attached on same interface. Currently only 'U32' value is supported.

5.13.17 Filter namedlist genentry Commands

5.13.17.1 Get filter namedlist genentry

Description:
Use this command to get.

Command Syntax:
get filter namedlist genentry [**listid** <listid-val>] [**value** <value-val>]

5.13.17.2 Create filter namedlist genentry

Description:
Use this command to create.

Command Syntax:
create filter namedlist genentry listid <listid-val> **value** value-val>] [**valueto** <valueto-val>]

5.13.17.3 Delete filter namedlist genentry

Description:
Use this command to delete.

Command Syntax:
delete filter namedlist genentry listid <listid-val> **value** <value-val>

Parameter:

Name	Description
listid <listid-val>	This field stores the list identifier value. There must be a row indexed on the same id in the Generic Filter Named List Table. **Type:** Create -- Mandatory

	Delete -- Mandatory Get -- Optional **Valid values:** 1 - 65535
value <value-val>	This value is mandatory for all list types. The interpretation of value depends upon the type of the list. If the list type is discrete, then this value is the list entry value. If the list type is range, then this value is the lower limit of range. The upper limit of range is specified in valueto field. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
valueto <valueto-val>	This value is not required for discrete lists but is mandatory for lists of type range. For range type lists this value specifies the upper limit of range. **Type:** Create -- Optional **Default value:** 0

Example:

$ create filter namedlist genentry listid 2 value 0xAC1901AA valueto 0xAC1901AA

Output:

Verbose Mode On
Entry Created

ListId : 2
Value : 0xAC1901AA
ValueTo : 0xAC1901AA
Verbose Mode Off:
Entry Created

Output field:

Field	Description
ListId	This field stores the list identifier value. There must be a row indexed on the same id in the Generic Filter Named List Table.
Value	This value is mandatory for all list types. The interpretation of value depends upon the type of the list. If the list type is discrete, then this value is the list entry value. If the list type is range, then this value is the lower limit of range. The upper limit of range is specified in valueto field.
ValueTo	This value is not required for discrete lists but is mandatory for lists of type range. For range type lists this value specifies the upper limit of range.

5.13.18 Filter namedlist info Commands

5.13.18.1 Get filter namedlist info

Description:
Use this command to get.

Command Syntax:
get filter namedlist info [**listid** <listid-val>]

5.13.18.2 Create filter namedlist info

Description:
Use this command to get.

Command Syntax:
create filter namedlist info listid <listid-val> [**listtype** discrete | range] [**valtype** U8 | U16 | U32]

5.13.18.3 Delete filter namedlist info

Description:
Use this command to get.

Command Syntax:
delete filter namedlist info listid <listid-val>

5.13.18.4 Modify filter namedlist info

Description:
Use this command to get.

Command Syntax:
modify filter namedlist info listid <listid-val> [**valtype** U8 | U16 | U32]

Parameter:

Name	Description
listid <listid-val>	This field stores the list identifier value. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional

	Valid values: 1 - 65535
listtype discrete | range	This field identifies the type of list. If the type is discrete, then list can contain max. of 8 discrete entries. If the type is range, then list can contain max 4 entries. Lists of type range cannot be specified with subrules having cmptype as innamedlist or notinnamedlist. It can only be used for mapping to create genlist of an interface. **Type:** Create -- Optional **Default value:** discrete
valtype U8 | U16 | U32	This field specifies the value type of list. Value type should match value type of subrule field for which comparsion type is innamedlist or notinnamedlist. It should be 'U32' in case a rule containing IP subrule or Generic subrule with comparision type (srcaddrcmp / gencmp) as 'ingenlist' or 'notingenlist' is attached on same interface. Currently only 'U32' value is supported. **Type:** Create -- Optional Modify -- Optional **Default value:** U32

Example:

$ create filter namedlist info listid 2 listtype discrete valtype u32

Output

Verbose Mode On
Entry Created

ListId : 2
List Type : discrete
Value Type : u32
Verbose Mode Off:
Entry Created

Output field:

Field	Description
ListId	This field stores the list identifier value.
List Type	This field identifies the type of list. If the type is discrete, then list can contain max. of 8 discrete entries. If the type is range, then list can contain max 4 entries. Lists of type range cannot be

	specified with subrules having cmptype as innamedlist or notinnamedlist. It can only be used for mapping to create genlist of an interface.
Value Type	This field specifies the value type of list. Value type should match value type of subrule field for which comparsion type is innamedlist or notinnamedlist. It should be 'U32' in case a rule containing IP subrule or Generic subrule with comparision type (srcaddrcmp / gencmp) as 'ingenlist' or 'notingenlist' is attached on same interface. Currently only 'U32' value is supported.

5.13.19 Filter namedlist map Commands

5.13.19.1 Get filter namedlist map

Description:
Use this command to get.

Command Syntax:
get filter namedlist map [**ifname** <interface-name>]

5.13.19.2 Create filter namedlist map

Description:
Use this command to create.

Command Syntax:
create filter namedlist map ifname <interface-name> **listid** <listid-val>

5.13.19.3 Delete filter namedlist map

Description:
Use this command to delete.

Command Syntax:
delete filter namedlist map ifname <interface-name>

Parameter:

Name	Description
ifname <interface-name>	This specifies the eoa ,pppoe, ipoe or ethernet interface to which named generic list is attached. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or

	between IPOE-0 and IPOE-191 or between PPPOE-0 and PPPOE-191. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
listid <listid-val>	This field stores the list identifier value. A row indexed by this id must exist in Generic Filter Named List Table. Value type of the list should match subrule field for which comparsion type is ingenlist or notingenlist incase the rule containing the subrule is attached on the same interface. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as ingenlist or notingenlist is attached on same interface. The list type can either discrete or range. **Type:** Create -- Mandatory **Valid values:** 1 - 65535

Example:

$ create filter namedlist map ifname eoa-1 listid 2

Output:

Verbose Mode On
Entry Created

IfName : eoa-1
ListId : 2
Verbose Mode Off:
Entry Created

Output field:

Field	Description
IfName	This specifies the eoa, pppoe, ipoe or ethernet interface to which named generic list is attached. Valid values for the field are between EOA-0 and EOA-23 or between eth-0 and eth-1or between IPOE-0 and IPOE-191 or between PPPOE-0 and PPPOE-191.
ListId	This field stores the list identifier value. A row indexed by this id must exist in Generic Filter Named List Table. Value type of the list should match subrule field for which comparsion type is ingenlist or notingenlist incase the rule containing the subrule is attached on the same interface. It should be 'U32' in case a rule containing IP subrule or Generic subrule with cmptype as ingenlist or notingenlist is attached on same interface. The list type can either discrete or range.

5.13.20 Filter rule actionmap Commands

5.13.20.1 Get Filter rule actionmap

Description:
Use this command to get.

Command Syntax:
get filter rule actionmap [**ruleid** <ruleid-val >] [**orderindex** <orderindex-val >]

5.13.20.2 Create filter rule actionmap

Description:
Use this command to create.

Command Syntax:
create filter rule actionmap ruleid <ruleid-val > **orderindex** <orderindex-val> **action** SetPrio | RetagPrio | CopyToControl | ModifyTos | SetBacLevel | PktVlanId | RetagVlanId | PktServiceVlanId | RetagServiceVlanId | RetagServicePrio | Mirror [**priority** <priority-val>] [**actionval** <actionval-val>] [**actionmask** <actionmask-val>]

5.13.20.3 Delete filter rule actionmap

Description:
Use this command to delete.

Command Syntax:
delete filter rule actionmap ruleid <ruleid-val> **orderindex** <orderindex-val>

5.13.20.4 Modify filter rule actionmap

Description:
Use this command to modify.

Command Syntax:
modify filter rule actionmap ruleid <ruleid-val> **orderindex** <orderindex-val> [**action** SetPrio | RetagPrio | CopyToControl | ModifyTos | SetBacLevel | PktVlanId | RetagVlanId | PktServiceVlanId | RetagServiceVlanId | RetagServicePrio | Mirror] [**priority** <priority-val>] [**actionval** <actionval-val>] [**actionmask** <actionmask-val>]

Parameter:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule entry for which this mapping is being created **Type:** Create - — Mandatory Delete — Mandatory Modify — Mandatory Get — Optional **Valid values:** 1 - 65535
orderindex <orderindex-val>	This is the order index to allow creation of multiple entries in this table with a single rule identified by 'ruleid'. Multiple actions of the rule are applied in the increasing order of this field **Type:** Create — Mandatory Delete — Mandatory Modify — Mandatory Get — Optional **Valid values:** 1 -255
action SetPrio | RetagPrio| CopyToControl |ModifyTos | SetBacLevel |PktVlanId | RetagVlanId |PktServiceVlanId |RetagServiceVlanId |RetagServicePrio | Mirror	This field specifies the action of the rule **Type:** Create — Mandatory Modify — Optional
priority <priority-val>	This field specifies the priority to be set for the matching packets. It is valid only if 'action' is either 'setprio' or 'retagprio'or 'retagserviceprio'. **Type:** Create — Optional Modify — Optional **Valid values:** 0 - 7 **Default value:** 0
actionval <actionval-val>	The parameter should contain valid value for some actions that require an additional input, other than setprio, retagprio, and retagserviceprio actions. For copytocontrol action this parameter should contain trap level 0 (trap disabled) or 1 (trap enabled). Other values are invalid for this action. For modifytos action this parameter should contain value to be set in TOS

	field in the packet in the range 0 to 255. Other values are invalid for this action. The application of this value is dependent on the mask parameter. For setbaclevel action this parameter should contain valid Buffer Admission Control level value of 0 or 1. For pktvlanid, retagvlanid, pktservicevlanid and retagservicevlanid actions this parameter should be filled with VLAN ID value in the range 1 to 4094. For mirror action this parameter should be filled with valid mirror context id. **Type:** Create – Optional Modify – Optional **Valid values:** 0 - 0xffffffff **Default value:** 0
actionmask **<**actionmask -val>	This field is valid for modifytos action only. Only lower 8-bits are taken into consideration for modifytos action and other bits are ignored. In the mask if a bit location contains 1, then the corresponding bit in the TOS field is overwritten with the corresponding bit in action value. In the mask if a bit location contains 0, then the corresponding bit in the TOS field remains unchanged. **Type:** Create – Optional Modify – Optional **Valid values:** 0 - 0xffffffff **Default value:** 0xffffffff

Example:

$ create filter rule actionmap ruleid 1 orderindex 1 action SetPrio priority 3 actionval 0x00000000 actionmask 0xffffffff

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Order Index : 1
Action : SetPrio Priority : 3
ActionValue : 0x00000000
Action Mask : 0xffffffff

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule entry for which this mapping is being created
Order Index	This is the order index to allow creation of multiple entries in this table with a single rule identified by 'ruleid'. Multiple actions of the rule are applied in the increasing order of this field
Action	This field specifies the action of the rule
Priority	This field specifies the priority to be set for the matching packets. It is valid only if 'action' is either 'setprio' or 'retagprio'or 'retagserviceprio'.
ActionValue	The parameter should contain valid value for some actions that require an additional input, other than setprio, retagprio, and retagserviceprio actions. For copytocontrol action this parameter should contain trap level 0 (trap disabled) or 1 (trap enabled). Other values are invalid for this action. For modifytos action this parameter should contain value to be set in TOS field in the packet in the range 0 to 255. Other values are invalid for this action. The application of this value is dependent on the mask parameter. For setbaclevel action this parameter should contain valid Buffer Admission Control level value of 0 or 1. For pktvlanid and pktservicevlanid actions this parameter should be filled with VLAN ID value in the range 1 to 4094. For mirror action this parameter should be filled with valid mirror context id.
Action Mask	This field is valid for modifytos action only. Only lower 8-bits are taken into consideration for modifytos action and other bits are ignored. In the mask if a bit location contains 1, then the corresponding bit in the TOS field is overwritten with the corresponding bit in action value. In the mask if a bit location contains 0, then the corresponding bit in the TOS field remains unchanged.

5.13.21 Filter rule entry Commands

5.13.21.1 Get Filter rule entry

Description:
Use this command to get.

Command Syntax:
get filter rule entry [**ruleid** <ruleid-val>]

5.13.21.2 Create filter rule entry

Description:
Use this command to create.

Command Syntax:
create filter rule entry ruleid r<ruleid-val> [**action** drop | allow | setprio | sendtocontrol | retagprio | copytocontrol | clfrdef | gotonextrule | forwardexit| exprdef | modifytos | setbaclevel | pktvlanid | retagvlanid | pktservicevlanid | retagservicevlanid | retagserviceprio | ratelimiter **|** Mirror] [**description** <description-val>] [**priority** <priority-val>] [**status** enable | disable] [**statsstatus** enable | disable] [**ruleprio** low | high] [**ruledir** in | out] [**applywhenreq** enable | disable] [**pkttype** Mcast | Bcast | Ucast] [**snooplevel** interface | bridge] [**exprid** <exprid-val>] [**actionval** <actionval-val>] [**actionmask** <actionmask-val>]

5.13.21.3 Delete filter rule entry

Description:
Use this command to delete.

Command Syntax:
delete filter rule entry ruleid <ruleid-val >

5.13.21.4 Modify filter rule entry

Description:
Use this command to modify.

Command Syntax:

modify filter rule entry ruleid <ruleid-val> [**action** drop | allow | setprio | sendtocontrol | retagprio | copytocontrol | clfrdef | gotonextrule | forwardexit | exprdef | modifytos | setbaclevel | pktvlanid | retagvlanid | pktservicevlanid | retagservicevlanid | retagserviceprio | ratelimiter | Mirror] [**description** <description-val>] [**priority** <priority-val>] [**status** enable | disable] [**statsstatus** enable | disable] [**ruleprio** low | high] [**applywhenreq** enable | disable] [**pkttype** Mcast | Bcast | Ucast] [**snooplevel** interface | bridge] [**exprid** <exprid-val>] [**actionval** <actionval-val>] [**actionmask** <actionmask-val>]

Parameters:

Name	Description
ruleid <ruleid-val >	Unique identifier of a filter rule. **Type:** Create — Mandatory Delete — Mandatory Modify — Mandatory Get — Optional **Valid values:** 1-65535
action drop | allow |setprio | sendtocontrol |retagprio | copytocontrol| clfrdef | gotonextrule |forwardexit | exprdef |modifytos | setbaclevel |pktvlanid | retagvlanid |pktservicevlanid |retagservicevlanid |retagserviceprio |ratelimiter | Mirror	Action to be applied for the packets matching this filter rule. This field can be modified only if 'ruleStatus' has the value 'disable'. 'exprdef(10)' action has a special significance that action is defined in the expression. In this case the 'ExprId' field must be specified. For other types of actions, the default relationship between subrules is all ANDed. If 'ruleDir' value is 'out', 'clfrdef' and 'ratelimiter' action types are invalid. If the action is 'clfrdef', then the rule can have at most one subrule, that too of type 'clfrtree'. The actions setprio, retagprio and setserviceprio require priority value to be specified in ruleSetPrio parameter. The actions sendtocontrol, copytocontrol, modifytos, setbaclevel, setvlanid, retagvlanid, setservicevlanid, retagservicevlanid, ratelimiter and mirror require an additional value to be specified in ruleActionVal parameter. The actions sendtocontrol, copytocontrol and modifytos also require ruleActionMask parameter to be specified. **Type:** Create — Optional Modify — Optional **Default value:** drop
description **<**description-val>	Description of the application that receives packets matching this rule. This field is valid and mandatory only if RuleAction is 'sendtocontrol' or RuleApplyWhenReq is 'enable'. This field can be modified only if 'status' has the value 'disable' **Type:** Create —

	Optional Modify — Optional **Default value:** "\0"
priority <priority-val>	Priority to be set for packets matching this rule. This field is valid only if RuleAction is 'setprio' or 'retagprio'. If the RuleAction is 'setprio' then this value is internal priroity and is used along with egress port traffic class mapping table, to determine the output queue. If the RuleAction is 'retagprio' then this value is priority which is to be tagged into the outgoing packet and it is also used along with egress port traffic class mapping table, to determine the output queue. This field can be modified only if 'status' has the value 'disable'. **Type:** Create — Optional Modify — Optional **Valid values:** 0 - 7 **Default value:** 0
status enable | disable	Admin status of the rule **Type:** Create — Optional Modify — Optional **Default value:** disable
statsstatus enable |disable	Admin status of rule statistics. Statitics of a rule are collected only when this field is set to 'enable'. This field can be modified only if 'status' has the value 'disable'. NOTE - Statistics may not reflect correctly the number of egress mcast, bcast and unknown unicast packets hitting the rule. **Type:** Create — Optional Modify — Optional **Default value:** disable
ruleprio low | high	Tells the priority of the rule. Based on this priority value, the rule is created in fast or slow memory. This field can be modified only if 'status' has the value 'disable'. This field is ignored if the 'ruleAction' has value 'clfrdef' **Type:** Create — Optional Modify — Optional **Default value:** high
ruledir in | out	Specifies whether the rule will be applied on incoming interfaces (ingress)or outgoing interfaces(egress). **Type:** Create — Optional **Default value:** in

applywhenreq enable |disable	This specifies whether this rule is to be applied only when required. Rule description field is mandatory if this field is set to value 'enable'. This field can be modified only if 'status' has the value 'disable'. This field is ignored if the 'ruleAction' has value 'clfrdef'. **Type:** Create — Optional Modify — Optional **Default value:** disable
pkttype Mcast | Bcast |Ucast	This field specifies the types of packets on which this rule is to be applied. 'Mcast' means this rule is valid for multicast packets, 'Bcast' means this rule is valid for broadcast packets and 'Ucast' means this rule is valid for unicast packets. This field is valid only if 'ruleDir' is 'out'. This field can be modified only if 'status' has the value 'disable'. **Type:** Create — Optional Modify — Optional **Default value:** Ucast
snooplevel interface |bridge	Snoop level specifies whether packet will be snooped directly from Interface or from Bridge after applying Bridging functionality .If none of the Rule actions is 'sendtoControl' or 'copytocontrol', then this field has no significance. This field can be modified only if 'status' has the value 'disable'. **Type:** Create — Optional Modify — Optional **Default value:** interface
exprid <exprid-val>	Identifies the expression id from the Generic Filter Expression Table to be used. This field is used only if 'ruleAction' is 'exprdef'. In absence of this field, the default relationship between all subrules is all ANDed. **Type:** Create — Optional Modify — Optional **Valid values:** 1 - 65535 **Default value:** 0

Example:

$ create filter rule entry ruleid 1 action setprio description lacp priority 7 status enable statsstatus disable ruleprio high ruledir in applywhenreq disable pkttype Ucast snooplevel interface exprid exprid 1 actionval 0x00000000 actionmask 0xffffffff

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Rule Action : setprio
Set Priority : 7 Admin status : enable
Stats admin status : disable Rule Priority : high
Rule Direction : in ApplyWhenReq : disable
Pkt Type : Ucast
Application Description : lacp
Snoop Level : interface
Expression Id : exprid 1
Action Value : 0x00000000
Action Mask : 0xffffffff

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule.
Rule Action	Action to be applied for the packets matching this filter rule. This field can be modified only if 'ruleStatus' has the value 'disable'. ‘exprdef (10)' action has a special significance that action is defined in the expression. In this case the 'ExprId' field must be specified. For other types of actions, the default relationship between subrules is all ANDed. If 'ruleDir' value is 'out', 'clfrdef' and 'ratelimiter' action types are invalid. If the action is 'clfrdef', then the rule can have at most one subrule, that too of type 'clfrtree'. The actions setprio, retagprio and setserviceprio require priority value to be specified in ruleSetPrio parameter. The actions sendtocontrol, copytocontrol, modifytos, setbaclevel, setvlanid, retagvlanid, setservicevlanid, retagservicevlanid, ratelimiter and mirror require an additional value to be specified in ruleActionVal parameter. The actions sendtocontrol, copytocontrol and modifytos also require ruleActionMask parameter to be specified.
Set Priority	Priority to be set for packets matching this rule. This field is valid only if RuleAction is 'setprio' or 'retagprio'. If the RuleAction is 'setprio' then this value is internal priroity and is used along with egress port traffic class mapping table, to determine the output

	queue. If the RuleAction is 'retagprio' then this value is priority which is to be tagged into the outgoing packet and it is also used along with egress port traffic class mapping table, to determine the output queue. This field can be modified only if 'status' has the value 'disable'.
Admin status	Admin status of the rule
Stats admin status	Admin status of rule statistics. Statitics of a rule are collected only when this field is set to 'enable'. This field can be modified only if 'status' has the value 'disable'. NOTE - Statistics may not reflect correctly the number of egress mcast, bcast and unknown unicast packets hitting the rule.
Rule Priority	Tells the priority of the rule. Based on this priority value, the rule is created in fast or slow memory. This field can be modified only if 'status' has the value 'disable'. This field is ignored if the 'ruleAction' has value 'clfrdef'
Rule Direction	Specifies whether the rule will be applied on incoming interfaces (ingress)or outgoing interfaces(egress).
ApplyWhenReq	This specifies whether this rule is to be applied only when required. Rule description field is mandatory if this field is set to value 'enable'. This field can be modified only if 'status' has the value 'disable'. This field is ignored if the 'ruleAction' has value 'clfrdef'.
Pkt Type	This field specifies the types of packets on which this rule is to be applied. 'Mcast' means this rule is valid for multicast packets, 'Bcast' means this rule is valid for broadcast packets and 'Ucast' means this rule is valid for unicast packets. This field is valid only if 'ruleDir' is 'out'. This field can be modified only if 'status' has the value 'disable'.
Application Description	Description of the application that receives packets matching this rule. This field is valid and mandatory only if RuleAction is 'sendtocontrol' or RuleApplyWhenReq is 'enable'. This field can be modified only if 'status' has the value 'disable'
Snoop Level	Snoop level specifies whether packet will be snooped directly from Interface or from Bridge after applying Bridging functionality .If none of the Rule actions is 'sendtoControl' or 'copytocontrol', then this field has no significance. This field can be modified only if 'status' has the value 'disable'.
Expression Id	Identifies the expression id from the Generic Filter Expression Table to be used. This field is used only if 'ruleAction' is 'exprdef'. In absence of this field, the default relationship between all

	subrules is all ANDed.
Action Value	The parameter should contain valid value for some actions that require an additional input, other than setprio, retagprio, and retagserviceprio actions. For sendtocontrol and copytocontrol actions this parameter should contain control flow id (0-3). Other values are invalid for this action. For modifytos action this parameter should contain value to be set in TOS field in the packet in the range 0 to 255. Other values are invalid for this action. The application of this value is dependent on the mask parameter. For setbaclevel action this parameter should contain valid Buffer Admission Control level value of 0 or 1. For pktvlanid, retagvlanid, pktservicevlanid and retagservicevlanid actions this parameter should be filled with VLAN ID value in the range 1 to 4094. For ratelimiter action this parameter should be filled with the valid user-defined flow type value. For mirror action this parameter should be filled with valid mirror context id. This parameter is ignored for other actions. Specifying an invalid value for an action would result in error when the rule is enabled.
Action Mask	This field is valid for sendtocontrol, copytocontrol and modifytos actions only. For sendtocontrol and copytocontrol actions this parameter should contain trap level 0xffffffff (trap disabled) or 0x00000000(trap enabled). Other values are invalid for this action. For modifytos action, only lower 8-bits are taken into consideration and other bits are ignored. In the mask if a bit location contains 1, then the corresponding bit in the TOS field is overwritten with the corresponding bit in action value. In the mask if a bit location contains 0, then the corresponding bit in the TOS field remains unchanged.

5.13.22 Filter rule map Commands

5.13.22.1 Get Filter rule map

Description:
Use this command to get.

Command Syntax:
get filter rule map [ifname <interface-name> **| all | alleoa | alleth | allpppoe | allcpe | allipoe**] [**stageid** <stageid-val>] [**ruleid** <ruleid-val>]

5.13.22.2 Create filter rule map

Description:
Use this command to create.

Command Syntax:
create filter rule map ifname <interface-name>**| all | alleoa | alleth | allpppoe | allcpe | allipoe stageid** <stageid-val> **ruleid** <ruleid-val> [**orderid** <orderid-val>]

5.13.22.3 Delete filter rule map

Description:
Use this command to delete.

Command Syntax:
delete filter rule map ifname <interface-name>**| all | alleoa | alleth | allpppoe | allcpe | allipoe stageid** <stageid-val> **ruleid** <ruleid-val>

5.13.22.4 Modify filter rule map

Description:
Use this command to modify.

Command Syntax:
modify filter rule map ifname <interface-name>**| all | alleoa | alleth | allpppoe | allcpe | allipoe stageid** <stageid-val> **ruleid** <ruleid-val> [**orderid** <orderid-val>]

Parameters:

Name	Description
Ifname <interface-name>| all |alleoa | alleth | allpppoe| allcpe | allipoe	Name of the interface whose mapping is being created. Only EOA, PPPoE, IPOE and ethernet interfaces are allowed. If the value of this field is 'All', it indicates all interfaces, 'AllEoa' indicates all 'eoa' interfaces, and 'AllEth' indicates all 'ethernet'interfaces. AllPppoe' indicates all 'PPPoE'interfaces, 'AllIpoe' indicates all 'IPOE' interfaces and 'AllCpe' indicates all eoa , all ipoe and pppoe interfaces. If a bridge port on aggregated interface is created then this field can not have ifIndex of any specific ethernet interface. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** , all , alleoa, alleth, allpppoe, allcpe,| allipoe

stageid <stageid-val>	This field specifies the stage on the interface to which the rule in the mapping belongs **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 1
ruleid <ruleid-val>	Rule Id of the rule in the mapping **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 1 - 65535
orderid <ordered-val>	This field indicates the order of the rule in the attached sequence. The default value for this field will be same as the ruleid of the entry. **Type:** Create – Optional Modify – Optional **Valid values:** 1 - 65535 **Default value:** Same As Ruleid

Example:

$ create filter rule map ifname eoa-0 stageid 1 ruleid 1 orderId 1

Output:

Verbose Mode On
Entry Created

Interface : eoa-0 Stage Id : 1
Rule Id : 1 Order Id : 1

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Interface	Name of the interface whose mapping is being created. Only EOA, PPPoE, IPOE and ethernet interfaces are allowed. If the value of this field is 'All', it indicates all interfaces, 'AllEoa' indicates all 'eoa' interfaces, and 'AllEth' indicates all 'ethernet'interfaces. AllPppoe' indicates all 'PPPoE'interfaces, 'AllIpoe' indicates all 'IPOE'

	interfaces and 'AllCpe' indicates all eoa , all ipoe and pppoe interfaces. If a bridge port on aggregated interface is created then this field can not have ifIndex of any specific ethernet interface.
Stage Id	This field specifies the stage on the interface to which the rule in the mapping belongs
Rule Id	Rule Id of the rule in the mapping
Order Id	This field indicates the order of the rule in the attached sequence. The default value for this field will be same as the ruleid of the entry.

5.13.23 Filter rule stats Commands

5.13.23.1 Get Filter rule stats

Description:

Use this command to get.

Command Syntax:

get filter rule stats [**ruleid** <ruleid-val>]

Parameter:

Name	Description
ruleid <ruleid>	Unique identifier of a filter rule **Type:** Get -- Optional **Valid values:** 1- 65535

Example:

$ get filter rule stats ruleid 1

Output:

Rule Id : 1 Num Hits : 4354

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule
Num Hits	Number of packets that hit this rule

References:

- Generic Filter Commands

5.13.24 Filter seq entry Commands

5.13.24.1 Get Filter seq entry

Description:
Use this command to get.

Command Syntax:
get filter seq entry [**seqid** <seqid-val >] [**ruleid** <ruleid-val >]

5.13.24.2 Create filter seq entry

Description:
Use this command to create.

Command Syntax:
create filter seq entry seqid <seqid-val > **ruleid** <ruleid-val > [**orderid** <ordered-val >]

5.13.24.3 Delete filter seq entry

Description:
Use this command to delete.

Command Syntax:
delete filter seq entry seqid <seqid-val > **ruleid** <ruleid-val >

5.13.24.4 Modify filter seq entry

Description:
Use this command to modify.

Command Syntax:
modify filter seq entry seqid <seqid-val > **ruleid** <ruleid-val > [**orderid** <ordered-val >]

Parameters:

Name	Description

seqid <seqid-val >	Sequence Id of the sequence **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get – Optional **Valid Values:** 1-65535
ruleid <ruleid-val >	Rule Id of the rule **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid Values:** 1-65535
orderid <ordered-val >	This field indicates the order of the rule in the sequence. The default value for this field will be same as the ruleid of the entry. **Type:** Create -- Optional Modify -- Optional **Valid Values**: 1-65535

Example:
$ create filter seq entry seqid 1 ruleid 1 orderId 1

Output:
Verbose Mode On
Entry Created

Sequence Id : 1 Rule Id : 1
Order Id : 1

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Sequence Id	Sequence Id of the sequence
Rule Id	Rule Id of the rule
Order Id	This field indicates the order of the rule in the sequence. The default value for this field will be same as the ruleid of the entry.

References:

- Generic filter related commands

5.13.25 Filter seq info Commands

5.13.25.1 Get Filter seq info

Description:
Use this command to get.

Command Syntax:
get filter seq info [**seqid** <seqid-val >]

5.13.25.2 Create filter seq info

Description:
Use this command to create.

Command Syntax:
create filter seq info seqid seqid [ifname <interface-name> | **alleth**] [**stageid** <stageid-val>] [**seqdir in | out**]

5.13.25.3 Delete filter seq info

Description:
Use this command to delete.

Command Syntax:
delete filter seq info seqid <seqid-val>

5.13.25.4 Modify filter seq info

Description:
Use this command to modify.

Command Syntax:
modify filter seq info seqid <seqid-val > [**ifname** <interface-name>| **alleth**] [**stageid** <stageid-val>] [**seqdir in | out**]

Parameters:

Name	Description

seqid <seqid-val>	Sequence Id of the sequence **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional **Valid Values:** 1-65535
ifname <interface-name>	The name of the interface whose mapping is being created. Only EoA, PPPoE, and Ethernet interfaces are allowed. If the value of this field is 'alleth', it indicates all 'Ethernet' interfaces. If the bridge port is created over the aggregated interface, then this field cannot have IfIndex of any specific Ethernet interface. If the bridge port over the aggregated interface is not created, then this field cannot have the value 'alleth'. This field should not be specified during creation of an entry in this table and must be specified during modify of an entry in this table. **Type:** Create -- Optional Modify -- Optional
stageid <stageid-val>	Identifier of the stage on the interface for which the sequence is being applied.This field should not be specified during creation of an entry in this table and must be specified during modify of an entry in this table **Type:** Create -- Optional Modify -- Optional **Valid values**: 1-2 **Default Value:**1
seqdir in | out	This field specifies whether the sequence to be applied in ingress direction or egress direction on the interface.This field should not be specified during creation of an entry in this table and must be specified during modify of an entry in this table. **Type:** Create -- Optional Modify -- Optional **Default value:** In

Example:

$ create filter seq info seqid 1 ifname eoa-0 stageid 1 seqdir 1

Output:

Verbose Mode On
Entry Created

Sequence Id : 1

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Sequence Id	Sequence Id of the sequence

References:

- Generic filter related commands

5.13.26 Filter subrule arp Commands

5.13.26.1 Get Filter subrule arp

Description:
Use this command to get.

Command Syntax:
get filter subrule arp [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val>]

5.13.26.2 Create filter subrule arp

Description:
Use this command to create.

Command Syntax:
create filter subrule arp ruleid <ruleid-val>**subruleid** <subruleid-val>]
[**opcode** request | reply | any] [**srcmacaddrfrom** <srcmacaddrfrom-val>]
[**srcmacaddrto** <srcmacaddrto-val>] [**dstmacaddrfrom** <dstmacaddrfrom-val>]
[**dstmacaddrto** <dstmacaddrto-val>] [**srcipaddrfrom** <srcipaddrfrom-val>]
[**srcipaddrto** <srcipaddrto-val>] [**dstipaddrfrom** <dstipaddrfrom-val>]
[**dstipaddrto** <dstipaddrto-val>] [**srcmacaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [dstmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**srcipaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist] [**dstipaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist] [**ipsrcaddrmask** <ipsrcaddrmask-val>]
[**ipdstaddrmask** <ipdstaddrmask-val>] [**subruleprio** low | high | asinrule]

5.13.26.3 Delete filter subrule arp

Description:
Use this command to get.

Command Syntax:
delete filter subrule arp ruleid <ruleid-val>**subruleid** <subruleid-val>

5.13.26.4 Modify filter subrule arp

Description:
Use this command to create.

Command Syntax:
modify filter subrule arp ruleid <ruleid-val>**subruleid** <subruleid-val>]
[**opcode** request | reply | any] [**srcmacaddrfrom** <srcmacaddrfrom-val>]
[**srcmacaddrto** <srcmacaddrto-val>] [**dstmacaddrfrom** <dstmacaddrfrom-val>]
[**dstmacaddrto** <dstmacaddrto-val>] [**srcipaddrfrom** <srcipaddrfrom-val>]
[**srcipaddrto** <srcipaddrto-val>] [**dstipaddrfrom** <dstipaddrfrom-val>]
[**dstipaddrto** <dstipaddrto-val>] [**srcmacaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [dstmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**srcipaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist] [**dstipaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist] [**ipsrcaddrmask** <ipsrcaddrmask-val>]
[**ipdstaddrmask** <ipdstaddrmask-val>] [**subruleprio** low | high | asinrule]

Parameters:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule of which this sub rule is being created. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 65535
subruleid <subruleid-val>	Unique identifier of a filter subrule. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4294967295

opcode request | reply | any	The opcode identifies whether the packet is ARP request or reply. This field specifies the type of packets on which the subrule is to be applied. If 'any' is specified, both request and reply packets are filtered. **Type:** Create -- Optional Modify -- Optional **Default value:** any
srcmacaddrfrom **<**srcmacaddrfrom-val>	Start source Mac address of the range of source Mac addresses. This field is invalid if srcmacaddrcmp is 'any'. This field and the srcmacaddrto field specify a range of source Mac addresses if srcmacaddrcmp is either 'inrange' or'exrange'. **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"
srcmacaddrto **<**srcmacaddrto-val>	End source Mac address of the range of source Mac addresses. This field and the srcmacaddrfrom field specify a range of source Mac addresses, if srcmacaddrcmp is either 'inrange' or'exrange'.Otherwise this field is invalid. **Type:** Create -- Optional Modify -- Optional **Default value:** "\xff\xff\xff\xff\xff\xff"
dstmacaddrfrom **<**dstmacaddrfrom-val>	Start destination Mac address of the range of destination Mac addresses. This field is invalid if'dstmacaddrcmp'is 'any'.This field and the dstmacaddrto field specify a range of destination Mac addresses if dstmacaddrcmp is either 'inrange' or'exrange'. **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"
dstmacaddrto **<**dstmacaddrto-val>	End destination Mac address of the range of destination Mac addresses. This field and the dstmacaddrfrom field specify a range of destination Mac addresses, if dstmacaddrcmp is either'inrange' or'exrange'.Otherwise this field is invalid. **Type:** Create -- Optional Modify -- Optional **Default value:** "\xff\xff\xff\xff\xff\xff"

srcipaddrfrom **<**srcipaddrfrom-val>	Start source IP address of the range of source IP addresses. This field is invalid if srcaddrcmp is 'any','ingenlist' or'notingenlist'.If srcaddrcmp is either 'inrange' or 'exrange', this field and srcipaddrto field specify a range of source IP addresses. **Type:** Create -- Optional Modify -- Optional **Default value:** 0.0.0.0
srcipaddrto **<**srcipaddrto-val>	End source IP address of the range of source IP addresses. This field is invalid if srcaddrcmp is 'any','ingenlist' or 'notingenlist'.If srcaddrcmp is either 'inrange' or 'exrange', this field and srcipaddrfrom field specify a range of source IP addresses. **Type:** Create -- Optional Modify -- Optional **Default value:** 255.255.255.255
dstipaddrfrom **<**dstipaddrfrom-val>	Start destination IP address of the range of destination IP addresses. This field is invalid if dstaddrcmp is 'any','ingenlist' or 'notingenlist'.If dstaddrcmp is either 'inrange' or 'exrange', this field and dstipaddrto field specify a range of destination IP addresses. **Type:** Create -- Optional Modify -- Optional **Default value:** 0.0.0.0
dstipaddrto **<**dstipaddrto-val>	End destination IP address of the range of destination IP addresses. This field is invalid if dstaddrcmp is 'any','ingenlist' or 'notingenlist'.This field and the previous field specifiy a range of destination IP addresses, if dstaddrcmp is either 'inrange' or 'exrange'.Otherwise this field is invalid. **Type:** Create -- Optional Modify -- Optional **Default value:** 255.255.255.255
srcmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	Source Mac address comparison type. **Type:** Create -- Optional Modify -- Optional **Default value:** any
dstmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	Destination Mac address comparison type. **Type:** Create -- Optional Modify -- Optional **Default value:** any

srcipaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist	Source IP address comparison type.'Ingenlist' means check if source IP address present in interface classifier generic list.'Notingenlist' means check if source IP address not present in interface classifier generic list. 'Ingenlist' and 'Notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'. **Type:** Create -- Optional Modify -- Optional **Default value:** any
dstipaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist	Destination IP address comparison type.'Ingenlist' means check if destination IP address present in interface classifier generic list.'Notingenlist' means check if destination IP address not present in interface classifier generic list.'Ingenlist' and 'Notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'. **Type:** Create -- Optional Modify -- Optional **Default value:** any
ipsrcaddrmask <ipsrcaddrmask-val>	The mask value for source IP address. The mask is applied over the source IP address before checking against a value. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 0xffffffff **Default value:** 0xffffffff
ipdstaddrmask <ipdstaddrmask-val>	The mask value for destination IP address. The mask is applied over the destination IP address before checking against a value. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 0xffffffff **Default value:** 0xffffffff
subruleprio low | high | asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create -- Optional Modify -- Optional **Default value:** asinrule

Example:

$ create filter subrule arp ruleid 1 subruleid 2 opcode request srcmacaddrfrom 00:01:02:03:04:05 srcmacaddrto 00:01:02:03:04:10 dstmacaddrfrom 00:02:03:04:05:11 dstmacaddrto 00:02:03:04:05:15 srcipaddrfrom 172.25.1.125 srcipaddrto 172.25.5.125 dstipaddrfrom 172.25.6.125 dstipaddrto 172.25.10.125 srcmacaddrcmp inrange dstmacaddrcmp exrange srcipaddrcmp inrange dstipaddrcmp exrange ipsrcaddrmask 0xffff0000 ipdstaddrmask 0xffff0000 subruleprio high

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Opcode : request
Start Src Mac Addr : 00:01:02:03:04:05 End Src Mac Addr : 00:01:02:03:04:10
Start Dest Mac Addr : 00:02:03:04:05:11 End Dest Mac Addr : 00:02:03:04:05:15
Start Src Ip Addr : 172.25.1.125 End Src Ip Addr : 172.25.5.125
Start Dest Ip Addr : 172.25.6.125 End Dest Ip Addr : 172.25.10.125
Src Mac Addr Cmp : inrange
Dest Mac Addr Cmp : exrange
Src Ip Addr Cmp : inrange
Dest Ip Addr Cmp : exrange
Ip Src Addr Mask : 0xffff0000
Ip Dest Addr Mask : 0xffff0000
Subrule Prio : high

Verbose Mode Off:
Entry Created

Parameters

Name	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created.
Subrule Id	Unique identifier of a filter subrule.
Opcode	The opcode identifies whether the packet is ARP request or reply. This field specifies the type of packets on which the subrule is to be applied. If 'any' is specified, both request and reply packets are filtered.

Start Src Mac Addr	Start source Mac address of the range of source Mac addresses. This field is invalid if srcmacaddrcmp is 'any'. This field and the srcmacaddrto field specify a range of source Mac addresses if srcmacaddrcmp is either 'inrange' or'exrange'.
End Src Mac Addr	End source Mac address of the range of source Mac addresses. This field and the srcmacaddrfrom field specify a range of source Mac addresses, if srcmacaddrcmp is either 'inrange' or'exrange'.Otherwise this field is invalid.
Start Dest Mac Addr	Start destination Mac address of the range of destination Mac addresses. This field is invalid if'dstmacaddrcmp'is 'any'.This field and the dstmacaddrto field specify a range of destination Mac addresses if dstmacaddrcmp is either 'inrange' or'exrange'.
End Dest Mac Addr	End destination Mac address of the range of destination Mac addresses. This field and the dstmacaddrfrom field specify a range of destination Mac addresses, if dstmacaddrcmp is either'inrange' or'exrange'.Otherwise this field is invalid.
Start Src Ip Addr	Start source IP address of the range of source IP addresses. This field is invalid if srcaddrcmp is 'any','ingenlist' or'notingenlist'.If srcaddrcmp is either 'inrange' or 'exrange', this field and srcipaddrto field specify a range of source IP addresses.
End Src Ip Addr	End source IP address of the range of source IP addresses. This field is invalid if srcaddrcmp is 'any','ingenlist' or 'notingenlist'.If srcaddrcmp is either 'inrange' or 'exrange', this field and srcipaddrfrom field specify a range of source IP addresses.
Start Dest Ip Addr	Start destination IP address of the range of destination IP addresses. This field is invalid if dstaddrcmp is 'any','ingenlist' or 'notingenlist'.If dstaddrcmp is either 'inrange' or 'exrange', this field and dstipaddrto field specify a range of destination IP addresses.
End Dest Ip Addr	End destination IP address of the range of destination IP addresses. This field is invalid if dstaddrcmp is 'any','ingenlist' or 'notingenlist'.This field and the previous field specifiy a range of destination IP addresses, if dstaddrcmp is either 'inrange' or 'exrange'.Otherwise this field is invalid.
Src Mac Addr Cmp	Source Mac address comparison type.
Dest Mac Addr Cmp	Destination Mac address comparison type.

Src Ip Addr Cmp	Source IP address comparison type.'Ingenlist' means check if source IP address present in interface classifier generic list.'Notingenlist' means check if source IP address not present in interface classifier generic list. 'Ingenlist' and 'Notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'.
Dest Ip Addr Cmp	Destination IP address comparison type.'Ingenlist' means check if destination IP address present in interface classifier generic list.'Notingenlist' means check if destination IP address not present in interface classifier generic list.'Ingenlist' and 'Notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'.
Ip Src Addr Mask	The mask value for source IP address. The mask is applied over the source IP address before checking against a value.
Ip Dest Addr Mask	The mask value for destination IP address. The mask is applied over the destination IP address before checking against a value.
Subrule Prio	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule.

5.13.27 Filter subrule clfrtree Commands

5.13.27.1 Get Filter subrule clfrtree

Description:
Use this command to get.

Command Syntax:
get filter subrule clfrtree [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val >]

5.13.27.2 Create filter subrule clfrtree

Description:
Use this command to create.

Command Syntax:
create filter subrule clfrtree ruleid <ruleid-val > **subruleid** <subruleid-val >
tname <tname-val > **entrypid** <entrypid-val >

5.13.27.3 Delete filter subrule clfrtree

Description:

Use this command to delete.

Command Syntax:

delete filter subrule clfrtree ruleid <ruleid-val > **subruleid** <subruleid-val >

5.13.27.4 Modify filter subrule clfrtree

Description:

Use this command to modify.

Command Syntax:

modify filter subrule clfrtree ruleid <ruleid-val > **subruleid** <subruleid-val > [**tname** <tname-val >] [**entrypid** <entrypid-val >]

Parameter:

Name	Description
ruleid <ruleid>	Unique identifier of a filter rule of which this sub rule is being created. **Type:** Create -- Mandatory Delete -- Mandatory Modify --Mandatory Get -- Optional **Valid values:** 1**-** 65535
Subruleid <subruleid>	Unique identifier of a filter subrule. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional **Valid values:** 1 - 4294967295
tname <tname>	Name of the classifier tree which is to be included as subrule of this rule. This classifier tree should exist and be enabled. A classifier tree can be used only in one subrule. The Maximum length of Name should be 32. **Type:** Create -- Mandatory Modify -- Optional
entrypid <entrypid>	Profile Id of the tree, which shall be treated as an entry point for it. **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 0xffffffff

Example:

$ create filter subrule clfrtree ruleid 1 subruleid 2 tname igmp entrypid 2

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Tree Name : igmp
Entry Profile Id : 2

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created.
Subrule Id	Unique identifier of a filter subrule.
Tree Name	Name of the classifier tree which is to be included as subrule of this rule. This classifier tree should exist and be enabled. A classifier tree can be used only in one subrule. The Maximum length of Name should be 32.
Entry Profile Id	Profile Id of the tree, which shall be treated as an entry point for it.

References:

- see generic filter related commands

5.13.28 Filter subrule ether Commands

5.13.28.1 Get Filter subrule ether

Description:
Use this command to get.

Command Syntax:
get filter subrule ether [**ruleid** <ruleid-val >] [**subruleid** <subruleid-val >]

5.13.28.2 Create filter subrule ether

Description:
Use this command to create.

Command Syntax:
create filter subrule ether ruleid <ruleid-val > **subruleid** <subruleid-val >[**srcmacaddrfrom** <srcmacaddrfrom-val>] [**srcmacaddrto** <srcmacaddrto-val>] [**dstmacaddrfrom** <dstmacaddrfrom-val>] [**dstmacaddrto** <dstmacaddrto-val>] [ethertypefrom <ethertypefrom-val>] [**ethertypeto** <ethertypeto-val>] [**vlanidfrom** <vlanidfrom-val>] [**vlanidto** <vlanidto-val>] [**priotagfrom** <priotagfrom-val>] [**priotagto** <priotagto-val>] [**dsapfrom** <dsapfrom-val>] [**dsapto** <dsapto-val>] [**ssapfrom** <ssapfrom-val>] [**ssapto** <ssapto-val>] [**srcmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**dstmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**ethertypecmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**vlanidcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**priotagcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**dsapcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**ssapcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**subruleprio low | high | asinrule**] [**servicevlanidfrom** <servicevlanidfrom-val>] [**servicevlanidto** <servicevlanidto-val>] [**servicepriotagfrom** <servicepriotagfrom-val>] [**servicepriotagto** <servicepriotagto-val>] [**servicevlanidcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**servicepriotagcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**]

5.13.28.3 Delete filter subrule ether

Description:
Use this command to delete.

Command Syntax:
delete filter subrule ether ruleid <ruleid-val > **subruleid** <subruleid-val >

5.13.28.4 Modify filter subrule ether

Description:
Use this command to modify.

Command Syntax:
modify filter subrule ether ruleid <ruleid-val > **subruleid** <subruleid-val >[**srcmacaddrfrom** <srcmacaddrfrom-val>] [**srcmacaddrto** <srcmacaddrto-val>] [**dstmacaddrfrom** <dstmacaddrfrom-val>] [**dstmacaddrto** <dstmacaddrto-val>] [ethertypefrom <ethertypefrom-val>] [**ethertypeto** <ethertypeto-val>] [**vlanidfrom** <vlanidfrom-val>] [**vlanidto** <vlanidto-val>] [**priotagfrom** <priotagfrom-val>] [**priotagto** <priotagto-val>] [**dsapfrom** <dsapfrom-val>] [**dsapto** <dsapto-val>] [**ssapfrom** <ssapfrom-val>] [**ssapto** <ssapto-val>] [**srcmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**dstmacaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**ethertypecmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**vlanidcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**priotagcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**dsapcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**ssapcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**subruleprio low | high | asinrule**] [**servicevlanidfrom** <servicevlanidfrom-val>] [**servicevlanidto** <servicevlanidto-val>] [**servicepriotagfrom** <servicepriotagfrom-val>] [**servicepriotagto** <servicepriotagto-val>] [**servicevlanidcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**servicepriotagcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**]

Parameter:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule of which this sub rule is being created **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 1 - 65535
subruleid **<**subruleid-val>	Unique identifier of a filter subrule **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 1 - 4294967295
srcmacaddrfrom **<**srcmacaddrfrom-val>	Start source MAC address of the range of source MAC addresses. This field is invalid if 'srcmacaddrcmp' is 'any'. This field and 'srcmacaddrto' specify a range of source MAC addresses if 'srcmacaddrcmp' is either 'inrange' or 'exrange' **Type:** Create – Optional Modify – Optional **Default value:** "\0"
srcmacaddrto **<**srcmacaddrto-val>	End source MAC address of the range of source MAC addresses. This field and 'srcmacaddrfrom' specify a range of source MAC addresses, if 'srcmacaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid **Type:** Create – Optional Modify – Optional **Default value:** "\xff\xff\xff\xff\xff\xff"
dstmacaddrfrom **<**dstmacaddrfrom-val>	Start destination MAC address of the range of destination MAC addresses. This field is invalid if 'dstmacaddrcmp' is 'any'. This field and the next field specify a range of destination MAC addresses if 'dstmacaddrcmp' is either 'inrange' or 'exrange' **Type:** Create – Optional Modify – Optional **Default value:** "\0"
dstmacaddrto **<**dstmacaddrto-val>	End destination MAC address of the range of destination MAC addresses. This field and the previous field specify a range of destination MAC addresses if 'dstmacaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid **Type:** Create – Optional

	Modify – Optional **Default value:** "\xff\xff\xff\xff\xff\xff"
ethertypefrom <ethertypefrom-val>	Start ether type of the range of ether types. This field is invalid if 'ethertypecmp' is 'any'. This field and the next field specify a range of ether types, if 'ethertypecmp' is either 'inrange' or 'exrange' **Type:** Create – Optional Modify – Optional **Default value:** 0
ethertypeto <ethertypeto-val>	End ether type of the range of ether types. This field and the previous field specify a range of ether types, if 'ethertypecmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid **Type:** Create – Optional Modify – Optional **Default value:** 0xFFFF
vlanidfrom <vlanidfrom-val>	Start VLAN Id of the range of VLAN IDs. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'vlanidcmp' is 'any'(7). This field and the vlanidto field specify a range of VLAN Ids, if 'vlanidcmp' is either 'inrange'(8) or'exrange'(9).In VLAN stacking mode this parameter maps to customer VLAN ID. **Type:** Create – Optional Modify – Optional **Valid values:** 1 - 4094 **Default value:** 1
vlanidto <vlanidto-val>	End VLAN Id of the range of VLAN IDs.Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the vlanidfrom field specify a range of VLAN Ids, if 'vlanidcmp' is either 'inrange'(8) or 'exrange'(9). Otherwise, this field is invalid. In VLAN stacking mode this parameter maps to customer VLAN ID. **Type:** Create – Optional Modify – Optional **Valid values:** 1 - 4094 **Default value:** 4094
priotagfrom <priotagfrom-val>	Start priority tag of the range of priority tags. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'priotagcmp' is 'any'(7). This field and the priotagto field specify a range of priority tags, if 'priotagcmp' is either 'inrange'(8) or 'exrange'(9).In VLAN stacking mode this parameter maps to priority in the customer VLAN tag. **Type:** Create – Optional Modify – Optional **Valid values:** 0 - 7 **Default value:** 0

priotagto **<**priotagto-val>	End priority tag of the range of priority tags. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the priotagfrom field specify a range of priority tags, if 'priotagcmp' is either 'inrange'(8) or 'exrange'(9). Otherwise this field is invalid. In VLAN stacking mode this parameter maps to priority in the customer VLAN tag. **Type:** Create — Optional Modify — Optional **Valid values:** 0 - 7 **Default value:** 7
dsapfrom **<**dsapfrom-val>	Start DSAP of the range of DSAPs. This object is invalid if 'dsapcmp' is 'any'. This object and the next object specify a range of DSAPs, if 'dsapcmp' is either 'inrange' or 'exrange' **Type:** Create — Optional Modify — Optional **Default value:** 0x00
dsapto <dsapto-val>	End DSAP of the range of DSAPs. This object is invalid if 'dsapcmp' is 'any'. This object and the previous object specify a range of DSAPs, if 'dsapcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Type:** Create — Optional Modify — Optional **Default value:** 0xff
ssapfrom **<**ssapfrom-val>	Start SSAP of the range of SSAPs. This object is invalid if 'ssapcmp' is 'any'. This object and the next object specify a range of SSAPs, if 'ssapcmp' is either 'inrange' or 'exrange' **Type:** Create — Optional Modify — Optional **Default value:** 0x00
ssapto <ssapto-val>	End SSAP of the range of SSAPs. This object is invalid if 'ssapcmp' is 'any'. This object and the previous object specify a range of SSAPs, if 'ssapcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid **Type:** Create — Optional Modify — Optional **Default value:** 0xff
srcmacaddrcmp e**q | neq |lt | leq | gt | geq | any| inrange | exrange**	Source mac address comparison type **Type:** Create — Optional Modify — Optional **Default value:** any
dstmacaddrcmp eq | neq |lt | leq | gt | geq | any| inrange | exrange	Destination mac address comparison type **Type:** Create — Optional Modify — Optional

	Default value: any
ethertypecmp eq | neq | lt| leq | gt | geq | any |inrange | exrange	Ether type comparison type **Type:** Create – Optional Modify – Optional **Default value:** any
vlanidcmp eq | neq | lt |leq | gt | geq | any |inrange | exrange	VLAN Id comparison type. This field must be 'any', if 'priotagcmp' is not equal to 'any' **Type:** Create – Optional Modify – Optional **Default value:** any
priotagcmp eq | neq | lt |leq | gt | geq | any |inrange | exrange	Priority tag comparison type. This field must be 'any', if 'vlanidcmp' is not equal to 'any'"' **Type:** Create – Optional Modify – Optional **Default value:** any
ssapcmp eq | neq | lt | leq| gt | geq | any | inrange| exrange	SSAP comparison type. **Type:** Create – Optional Modify – Optional **Default value:** any
subruleprio low | high |asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create – Optional Modify – Optional **Default value:** asinrule
servicevlanidfrom <servicevlanidfrom-val>	Start service VLAN Id of the range of service VLAN IDs. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'vlanidcmp' is 'any'(7). This field and the servicevlanidto field specify a range of service VLAN Ids, if 'servicevlanidcmp' is either 'inrange'(8) or 'exrange'(9).In native mode configuring this parameter will result in error. **Type:** Create – Optional Modify – Optional **Valid values:** 1 - 4094 **Default value:** 1
servicevlanidto <servicevlanidto-val>	End service VLAN Id of the range of service VLAN IDs.Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the servicevlanidfrom field specify a range of service VLAN Ids, if 'servicevlanidcmp' is either 'inrange'(8) or 'exrange'(9).Otherwise, this field is invalid In native mode configuring this parameter will result in error. **Type:** Create – Optional

	Modify — Optional **Valid values:** 1 - 4094 **Default value:** 4094
servicepriotagfrom <servicepriotagfrom-val>	Start service priority tag of the range of priority tags. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'etherhPrioTagCmpType' is 'any'(7). This field and the etherPriorityTagTo field specify a range of priority tags, if 'etherhPrioTagCmpType' is either 'inrange'(8) or 'exrange'(9).In native mode configuring this parameter will result in error. **Type:** Create — Optional Modify — Optional **Valid values:** 0 - 7 **Default value:** 0
servicepriotagto <servicepriotagto-val>	End service priority tag of the range of priority tags. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the etherhPriorityTagFrom field specify a range of service priority tags, if 'etherhServicePrioTagCmpType' is either 'inrange'(8) or 'exrange'(9). Otherwise this field is invalid. In native mode configuring this parameter will result in error. **Type:** Create — Optional Modify — Optional **Valid values:** 0 - 7 **Default value:** 7
servicevlanidcmp eq | neq| lt | leq | gt | geq | any| inrange | exrange	Service VLAN Id comparison type. This field must be ‘any (7)', if etherhPrioTagCmpType is not equal to ‘any (7)'In native mode configuring this parameter will result in error. **Type:** Create — Optional Modify — Optional **Default value:** any
servicepriotagcmp eq | neq| lt | leq | gt | geq | any| inrange | exrange	Service Priority tag comparison type.This field must be ‘any (7)', if vlanidcmp is not equal to ‘any (7)'.In native mode configuring this parameter will result in error. **Type:** Create — Optional Modify — Optional **Default value:** any

Example:

$ create filter subrule ether ruleid 1 subruleid 2 srcmacaddrfrom 00:01:02:03:04:05 srcmacaddrto 00:01:02:03:04:10 dstmacaddrfrom 00:02:03:04:05:11 dstmacaddrto 00:02:03:04:05:15 ethertypefrom 0x0800 ethertypeto 0x0810 vlanidfrom 2 vlanidto 5 priotagfrom 2 priotagto 5 dsapfrom 0xf0 dsapto 0xff ssapfrom 0xf0 ssapto 0xff srcmacaddrcmp inrange dstmacaddrcmp exrange

ethertypecmp inrange vlanidcmp exrange priotagcmp inrange dsapcmp inrange ssapcmp inrange subruleprio high servicevlanidfrom 2 servicevlanidto 5 servicepriotagfrom 2 servicepriotagto 5 servicevlanidcmp exrange servicepriotagcmp inrange

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Start source mac address : 00:01:02:03:04:05
End source mac address : 00:01:02:03:04:10
Start destination MAC address : 00:02:03:04:05:11
End destination MAC address : 00:02:03:04:05:15
Start ethernet type : 0x0800 End ethernet type : 0x0810
Start VLAN Id : 2 End VLAN Id : 5
Start priority tag : 2 End priority tag : 5
Start DSAP : 0xf0 End DSAP : 0xff
Start SSAP : 0xf0 End SSAP : 0xff
Source MAC addrees comparison : inrange
Desination MAC addr comparison : exrange
Ether type comparison : inrange
Vlan Id comparison : exrange
Priority tag comparison : inrange
DSAP comparison : inrange
SSAP comparison : inrange
Subrule Priority : high
Start service VLAN Id : 2
End service VLAN Id : 5
Start service priority tag : 2
End service priority tag : 5
service Vlan Id comparison : exrange
Service Priority tag comparison : inrange

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created
Subrule Id	Unique identifier of a filter subrule
Start source mac address	Start source MAC address of the range of source MAC addresses. This field is invalid if 'srcmacaddrcmp' is 'any'. This field and 'srcmacaddrto' specify a range of source MAC addresses if 'srcmacaddrcmp' is either 'inrange' or 'exrange'
End source mac address	End source MAC address of the range of source MAC addresses. This field and 'srcmacaddrfrom' specify a range of source MAC addresses, if 'srcmacaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
Start destination MAC address	Start destination MAC address of the range of destination MAC addresses. This field is invalid if 'dstmacaddrcmp' is 'any'. This field and the next field specify a range of destination MAC addresses if 'dstmacaddrcmp' is either 'inrange' or 'exrange'
End destination MAC address	End destination MAC address of the range of destination MAC addresses. This field and the previous field specify a range of destination MAC addresses if 'dstmacaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
Start ethernet type	Start ether type of the range of ether types. This field is invalid if 'ethertypecmp' is 'any'. This field and the next field specify a range of ether types, if 'ethertypecmp' is either 'inrange' or 'exrange'
End ethernet type	End ether type of the range of ether types. This field and the previous field specify a range of ether types, if 'ethertypecmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
Start VLAN Id	Start VLAN Id of the range of VLAN IDs. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'vlanidcmp' is 'any'(7). This field and the vlanidto field specify a range of VLAN Ids, if 'vlanidcmp' is either 'inrange'(8) or'exrange'(9).In VLAN stacking mode this parameter maps to customer VLAN ID.
End VLAN Id	End VLAN Id of the range of VLAN IDs.Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the vlanidfrom field specify a range of VLAN Ids, if 'vlanidcmp' is either 'inrange'(8) or 'exrange'(9). Otherwise, this field is invalid. In VLAN stacking mode this parameter maps to customer VLAN ID.
Start priority tag	Start priority tag of the range of priority tags. Invalid, if the direction

	of the rule for which this subrule is being created is 'out'. This field is invalid if 'priotagcmp' is 'any'(7). This field and the priotagto field specify a range of priority tags, if 'priotagcmp' is either 'inrange'(8) or 'exrange'(9).In VLAN stacking mode this parameter maps to priority in the customer VLAN tag.
End priority tag	End priority tag of the range of priority tags. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the priotagfrom field specify a range of priority tags, if 'priotagcmp' is either 'inrange'(8) or 'exrange'(9). Otherwise this field is invalid. In VLAN stacking mode this parameter maps to priority in the customer VLAN tag.
Start DSAP	Start DSAP of the range of DSAPs. This object is invalid if 'dsapcmp' is 'any'. This object and the next object specify a range of DSAPs, if 'dsapcmp' is either 'inrange' or 'exrange'
End DSAP	End DSAP of the range of DSAPs. This object is invalid if 'dsapcmp' is 'any'. This object and the previous object specify a range of DSAPs, if 'dsapcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid.
Start SSAP	Start SSAP of the range of SSAPs. This object is invalid if 'ssapcmp' is 'any'. This object and the next object specify a range of SSAPs, if 'ssapcmp' is either 'inrange' or 'exrange'
End SSAP	End SSAP of the range of SSAPs. This object is invalid if 'ssapcmp' is 'any'. This object and the previous object specify a range of SSAPs, if 'ssapcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
Source MAC addrees comparison	Source mac address comparison type
Desination MAC addr comparison	Destination mac address comparison type
Ether type comparison	Ether type comparison type
Vlan Id comparison	VLAN Id comparison type. This field must be 'any', if 'priotagcmp' is not equal to 'any'
Priority tag comparison	Priority tag comparison type. This field must be 'any', if 'vlanidcmp' is not equal to 'any'"
DSAP comparison	DSAP comparison type.
SSAP comparison	SSAP comparison type.
Subrule Priority	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule.

Start service VLAN Id	Start service VLAN Id of the range of service VLAN IDs. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'vlanidcmp' is 'any'(7). This field and the servicevlanidto field specify a range of service VLAN Ids, if 'servicevlanidcmp' is either 'inrange'(8) or 'exrange'(9).In native mode configuring this parameter will result in error.
End service VLAN Id	End service VLAN Id of the range of service VLAN IDs.Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the servicevlanidfrom field specify a range of service VLAN Ids, if 'servicevlanidcmp' is either 'inrange'(8) or 'exrange'(9).Otherwise, this field is invalid In native mode configuring this parameter will result in error.
Start service priority tag	Start service priority tag of the range of priority tags. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'etherhPrioTagCmpType' is 'any'(7). This field and the etherPriorityTagTo field specify a range of priority tags, if 'etherhPrioTagCmpType' is either 'inrange'(8) or 'exrange'(9).In native mode configuring this parameter will result in error.
End service priority tag	End service priority tag of the range of priority tags. Invalid, if the direction of the rule for which this subrule is being created is 'out'. This field and the etherhPriorityTagFrom field specify a range of service priority tags, if 'etherhServicePrioTagCmpType' is either 'inrange'(8) or 'exrange'(9). Otherwise this field is invalid. In native mode configuring this parameter will result in error.
service Vlan Id comparison	Service VLAN Id comparison type. This field must be 'any(7)', if etherhPrioTagCmpType is not equal to 'any(7)'In native mode configuring this parameter will result in error.
Service Priority tag comparison	Service Priority tag comparison type.This field must be 'any(7)', if vlanidcmp is not equal to 'any(7)'.In native mode configuring this parameter will result in error.

References:

- Generic filter commands

5.13.29 Filter subrule generic Commands

5.13.29.1 Get Filter subrule generic

Description:
Use this command to get.

Command Syntax:
get filter subrule generic [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val >]

5.13.29.2 Create filter subrule generic

Description:
Use this command to create.

Command Syntax:
create filter subrule generic ruleid <ruleid-val> **subruleid** <subruleid-val> [**offsethdr** <Ethernet-val> | ip | tcp | udp | icmp | igmp | l3Hdr | ppp | pppoe] [**offset** <offset-val>] [**mask** <mask-val>] [**valuefrom** <valuefrom-val>] [**valueto** <valueto-val>] [**gencmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist | innamedlist | notinnamedlist] [**subruleprio** low | high | asinrule] [**namedlistid** <namedlistid-val>] [**transporthdr** ethernet | pppoe]

5.13.29.3 Delete filter subrule generic

Description:
Use this command to delete.

Command Syntax:
delete filter subrule generic ruleid <ruleid-val>**subruleid** <subruleid-val>

5.13.29.4 Modify filter subrule generic

Description:
Use this command to modify.

Command Syntax:
modify filter subrule generic ruleid <ruleid-val> **subruleid** <subruleid-val> [**offsethdr** <Ethernet-val> | ip | tcp | udp | icmp | igmp | l3Hdr | ppp | pppoe] [**offset** <offset-val>] [**mask** <mask-val>] [**valuefrom** <valuefrom-val>] [**valueto** <valueto-val>] [**gencmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist | innamedlist | notinnamedlist] [**subruleprio** low | high | asinrule] [**namedlistid** <namedlistid-val>] [**transporthdr** ethernet | pppoe]

Parameter:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule of which this sub rule is being created **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 1 - 65535
subruleid **<**subruleid-val>	Unique identifier of a filter subrule. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4294967295
offsethdr ethernet | ip | tcp | udp | icmp | igmp | l3Hdr | ppp | pppoe	Type of offset header from where 'offset' to be measured. The value 'ethernet' is invalid if the rule for which this subrule is being created is of direction 'out'. **Type:** Create -- Optional Modify -- Optional **Default value:** ethernet
offset <offset-val>	Offset value to be added to 'offsethdr' to get the field value **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 - 64 **Default value:** 0
mask <mask-val>	Mask to be applied to the contents of a packet at 'offset' **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 0xffffffff **Default value:** 0xffffffff
valuefrom **<**valuefrom-val>	Start generic value of the range of generic values. This field is invalid if 'gencmp' is 'any', 'ingenlist' or 'notingenlist','innamedlist',or'notinnamedlist'.This field and next field specifiy a range of generic values,if 'gencmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 0

valueto <valueto-val>	End generic value of the range of generic values. This field and the previous field specifiy a range of generic values,if 'gencmp' is either 'inrange' or 'exrange'.Otherwise this field is invalid **Type:** Create -- Optional Modify -- Optional **Default value:** 0xffffffff
gencmp eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist | innamedlist | notinnamedlist	Generic value comparision type. **Type:** Create -- Optional Modify -- Optional **Default value:** any
subruleprio low | high | asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create -- Optional Modify -- Optional **Default value:** asinrule
namedlistid <namedlistid-val>	This specifies the list identifier value of the named list which will be used to do the lookup .In case 'gencmp' is 'innamedlist' or 'notinnamedlist', this field is manadatory else it is extra. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 65535 **Default value:** 1
transporthdr ethernet | pppoe	This specifies the type of Transport header in the packet in which corresponding IP is being transported. If value of this field is 'ethernet', then IP is being carried in ethernet header and if it is 'pppoe' then corresponding IP is being carried in PPP header.This field is valid only when value of 'offsethdr' is any one of ip, tcp, udp, icmp or igmp.Otherwise this field is extra **Type:** Create -- Optional Modify -- Optional **Default value:** ethernet

Example:

$ create filter subrule generic ruleid 1 subruleid 2 offsethdr tcp offset 20 mask 0xFF valuefrom 0x20 valueto 0x40 gencmp inrange subruleprio high namedlistid - transporthdr Ethernet

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Offset header : tcp Offset : 20
Generic header comparison : inrange Mask : 0xFF
Subrule Priority : high Start value : 0x20
End value : 0x40
Transport Header : ethernet
NamedList Id : -
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule for which this sub rule is being created.
Subrule Id	Unique identifier of a filter subrule.
Offset header	Type of offset header from where 'offset' to be measured. The value 'ethernet' is invalid if the rule for which this subrule is being created is of direction 'out'.
Offset	Offset value to be added to 'offsethdr' to get the field value
Generic header comparison	Generic value comparision type.
Mask	Mask to be applied to the contents of a packet at 'offset'
Subrule Priority	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule.
Start value	Start generic value of the range of generic values. This field is invalid if 'gencmp' is 'any', 'ingenlist' or 'notingenlist','innamedlist',or'notinnamedlist'.This field and next field specifiy a range of generic values,if 'gencmp' is either 'inrange' or 'exrange'
End value	End generic value of the range of generic values. This field and the previous field specifiy a range of generic values,if 'gencmp' is either 'inrange' or 'exrange'.Otherwise this field is invalid
Transport Header	This specifies the type of Transport header in the packet in

	which corresponding IP is being transported. If value of this field is 'ethernet', then IP is being carried in ethernet header and if it is 'pppoe' then corresponding IP is being carried in PPP header.This field is valid only when value of 'offsethdr' is any one of ip, tcp, udp, icmp or igmp.Otherwise this field is extra
NamedList Id	This specifies the list identifier value of the named list which will be used to do the lookup .In case 'gencmp' is 'innamedlist' or 'notinnamedlist', this field is manadatory else it is extra.

References:

- Generic filter commands

5.13.30 Filter subrule ICMP Commands

5.13.30.1 Get Filter subrule icmp

Description:
Use this command to get.

Command Syntax:
get filter subrule icmp [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val>]

5.13.30.2 Create filter subrule icmp

Description:
Use this command to create.

Command Syntax:
create filter subrule icmp ruleid <ruleid-val>**subruleid** <subruleid-val> [**icmptype**<icmptype-val>] [**icmpcode** <icmpcode-val>] [**icmptypecmp** eq | neq | any] [**icmpcodecmp** eq | neq | any] [**subruleprio** low | high | asinrule] [**transporthdr** ethernet | pppoe]

5.13.30.3 Delete filter subrule icmp

Description:
Use this command to delete.

Command Syntax:
delete filter subrule icmp ruleid <ruleid-val> **subruleid** <subruleid-val>

5.13.30.4 Modify filter subrule icmp

Description:

Use this command to modify.

Command Syntax:

modify filter subrule icmp ruleid <ruleid-val>**subruleid** <subruleid-val> [**icmptype**<icmptype-val>] [**icmpcode** <icmpcode-val>] [**icmptypecmp** eq | neq | any] [**icmpcodecmp** eq | neq | any] [**subruleprio** low | high | asinrule] [**transporthdr** ethernet | pppoe]

Parameter:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule of which this sub rule is being created **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 65535
subruleid <subruleid-val>	Unique identifier of a filter subrule **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4294967295
icmptype <icmptype-val>	ICMP type **Type:** Create -- Optional Modify -- Optional **Default value:** 0
icmpcode <icmpcode-val>	ICMP code **Type:** Create -- Optional Modify -- Optional **Default value:** 0
icmptypecmp eq | neq | any	ICMP type comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any

icmpcodecmp eq | neq | any	ICMP code comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
subruleprio low | high | asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create -- Optional Modify -- Optional **Default value:** asinrule
transporthdr ethernet | pppoe	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is ethernet, then the IP is being carried in the ethernet header. If it is 'pppoe', then the corresponding IP is being carried in the PPP header. **Type**: Create -- Optional Modify -- Optional **Default value**: ethernet

Example:

$ create filter subrule icmp ruleid 1 subruleid 2 icmptype 0 icmpcode 0 icmptypecmp neq icmpcodecmp neq subruleprio high

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Icmp type : 0 Icmp code : 0
ICMP type comparison : neq ICMP code comparison : neq
Subrule Priority : high
Transport Header : Ethernet

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created
Subrule Id	Unique identifier of a filter subrule
Icmp type	ICMP type
Icmp code	ICMP code
ICMP type comparison	ICMP type comparison type
ICMP code comparison	ICMP code comparison type
Subrule Priority	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule.
Transport Header	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is ethernet, then the IP is being carried in the ethernet header. If it is ‘pppoe’, then the corresponding IP is being carried in the PPP header.

References:

- Generic Filter commands

5.13.31 Filter subrule IGMP Commands

5.13.31.1 Get Filter subrule igmp

Description:

Use this command to get.

Command Syntax:

get filter subrule igmp [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val>]

5.13.31.2 Create filter subrule igmp

Description:

Use this command to create.

Command Syntax:

create filter subrule igmp ruleid <ruleid-val>**subruleid** <subruleid-val> [**igmptype** <igmptype-val>] [**igmpcode** <igmpcode-val>] [**groupaddrfrom** <groupaddrfrom-val>] [**groupaddrto** <groupaddrto-val>] [**igmptypecmp** eq | neq | any] [**igmpcodecmp** eq | neq | any] [**igmpgroupaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**subruleprio** low | high | asinrule] [**transporthdr** ethernet | pppoe]

5.13.31.3 Delete filter subrule igmp

Description:

Use this command to delete.

Command Syntax:

get filter subrule igmp ruleid <ruleid-val>**subruleid** <subruleid-val>

5.13.31.4 Modify filter subrule igmp

Description:

Use this command to modify.

Command Syntax:

modify filter subrule igmp ruleid <ruleid-val>**subruleid** <subruleid-val> [**igmptype** <igmptype-val>] [**igmpcode** <igmpcode-val>] [**groupaddrfrom** <groupaddrfrom-val>] [**groupaddrto** <groupaddrto-val>] [**igmptypecmp** eq | neq | any] [**igmpcodecmp** eq | neq | any] [**igmpgroupaddrcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**subruleprio** low | high | asinrule] [**transporthdr** ethernet | pppoe]

Parameter:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule of which this sub rule is being created **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 65535

subruleid <subruleid-val>	Unique identifier of a filter subrule **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4294967295
igmptype <igmptype-val>	IGMP type **Type:** Create -- Optional Modify -- Optional **Default value:** 0
igmpcode <igmpcode-val>	This fields specifies the Max Response Code (time) fields of IGMP packet. This field is invalid if igmphCodeCmpType is any. **Type:** Create -- Optional Modify -- Optional **Default value:** 0
groupaddrfrom <groupaddrfrom-val>	Start group address of the range of igmp group addresses.This field is invalid if 'igmpgroupaddrcmp' is 'any'. This field and 'groupaddrto' specify a range of IGMP group addresses, if 'igmpgroupaddrcmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 0
groupaddrto <groupaddrto-val>	End group address of the range of igmp group addresses. This field and 'groupaddrfrom' specify a range of IGMP group addresses, if 'igmpgroupaddrcmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 4294967295
igmptypecmp eq | neq | any	IGMP type comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
igmpcodecmp eq | neq | any	IGMP code comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
igmpgroupaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	IGMP group address comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any

subruleprio low | high | asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create -- Optional Modify -- Optional **Default value:** asinrule
transporthdr ethernet | pppoe	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is Ethernet(0x1), then the IP is being carried in the ethernet header. If it is pppoe(0x2), then the corresponding IP is being carried in the PPP header. **Type**: Create -- Optional Modify -- Optional **Default value**: ethernet

Example:

$ create filter subrule igmp ruleid 1 subruleid 2 igmptype 0 igmpcode 0 groupaddr from 224.0.2.3 groupaddrto 224.10.20.30 igmptypecmp eq igmpcodecmp eq igmpgroupaddrcmp inrange subruleprio high

Output:

Verbose Mode On
Entry Created
Rule Id : 1 Subrule Id : 2
Igmp type : 0 IGMP type comparison : neq
Igmp code : 0 IGMP code comparison : neq
Start group address : 224.0.2.3 End group address : 224.10.20.30
IGMP group address comparison : inrange Subrule Priority : high
Transport Header : Ethernet
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created
Subrule Id	Unique identifier of a filter subrule
Igmp type	IGMP type

IGMP type comparison	IGMP type comparison type
Igmp code	This field specifies the Max Response Code (time) fields of IGMP packet. This field is invalid if igmphCodeCmpType is any.
IGMP code comparison	IGMP code comparison type
Start group address	Start group address of the range of igmp group addresses.This field is invalid if 'igmpgroupaddrcmp' is 'any'. This field and 'groupaddrto' specify a range of IGMP group addresses, if 'igmpgroupaddrcmp' is either 'inrange' or 'exrange'
End group address	End group address of the range of igmp group addresses. This field and 'groupaddrfrom' specifiy a range of IGMP group addresses, if 'igmpgroupaddrcmp' is either 'inrange' or 'exrange'
IGMP group address comparison	IGMP group address comparison type
Subrule Priority	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule.
Transport Header	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is Ethernet(0x1), then the IP is being carried in the ethernet header. If it is pppoe(0x2), then the corresponding IP is being carried in the PPP header.

References:

- Generic Filter commands

5.13.32 Filter subrule IP Commands

5.13.32.1 Get Filter subrule ip

Description:

Use this command to get.

Command Syntax:

get filter subrule ip [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val >]

5.13.32.2 Create filter subrule ip

Description:
Use this command to create.

Command Syntax:
create filter subrule ip ruleid <ruleid-val > **subruleid** <subruleid-val >
[**srcipaddrfrom** <srcipaddrfrom-val >] [**srcipaddrto** <srcipaddrto-val >]
[**dstipaddrfrom** <dstipaddrfrom-val >] [**dstipaddrto** <dstipaddrto-val >]
[**prototypefrom** <prototypefrom-val >] [**prototypeto** <prototypeto-val >]
[**srcaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist**] [d**staddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist**] [**prototypecmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**ipsrcaddrmask** <ipsrcaddrmask-val>] [**ipdstaddrmask** <ipdstaddrmask-val>] [**subruleprio low | high | asinrule**] [**transporthdr ethernet | pppoe**] [**tosfrom** <tosfrom-val>] [**tosto** <tosto-val>] [**tosmask** <tosmask-val>] [**toscmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**]

5.13.32.3 Delete filter subrule ip

Description:
Use this command to delete.

Command Syntax:
delete filter subrule ip ruleid <ruleid-val > **subruleid** <subruleid-val >

5.13.32.4 Modify filter subrule ip

Description:
Use this command to modify.

Command Syntax:
modify filter subrule ip ruleid <ruleid-val > **subruleid** <subruleid-val >
[**srcipaddrfrom** <srcipaddrfrom-val >] [**srcipaddrto** <srcipaddrto-val >]
[**dstipaddrfrom** <dstipaddrfrom-val >] [**dstipaddrto** <dstipaddrto-val >]
[**prototypefrom** <prototypefrom-val >] [**prototypeto** <prototypeto-val >]
[**srcaddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist**] [d**staddrcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange | ingenlist | notingenlist**] [**prototypecmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**ipsrcaddrmask** <ipsrcaddrmask-val>] [**ipdstaddrmask** <ipdstaddrmask-val>] [**subruleprio low | high | asinrule**] [**transporthdr**

ethernet | pppoe] [**tosfrom** <tosfrom-val>] [**tosto** <tosto-val>] [**tosmask** <tosmask-val>] [**toscmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**]

Parameter:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule of which this sub rule is being created. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 1 - 65535
subruleid **<**subruleid-val>	Unique identifier of a filter subrule. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 1 - 4294967295
srcipaddrfrom **<**srcipaddrfrom-val>	Start source IP address of the range of source IP addresses. This field is invalid if 'srcaddrcmp' is 'any', 'ingenlist' or 'notingenlist'. This field and 'srcipaddrto' specify a range of source IP addresses if 'srcaddrcmp' is either 'inrange' or 'exrange'. **Type:** Create – Optional Modify – Optional **Default value:** 0.0.0.0
srcipaddrto **<**srcipaddrto-val>	End source IP address of the range of source IP addresses. This field and 'srcipaddrfrom' specify a range of source IP addresses, if 'srcaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Type:** Create – Optional Modify – Optional **Default value:** 255.255.255.255
dstipaddrfrom **<**dstipaddrfrom-val>	Start destination IP address of the range of destination IP addresses. This field is invalid if 'dstaddrcmp' is 'any', 'ingenlist' or 'notingenlist'. This field and 'dstipaddrto' specify a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange'. **Type:** Create – Optional Modify – Optional **Default value:** 0.0.0.0

dstipaddrto <dstipaddrto-val>	End destination IP address of the range of destination IP addresses. This field and 'dstipaddrfrom' specifiy a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid **Type:** Create — Optional Modify — Optional **Default value:** 255.255.255.255
prototypefrom <prototypefrom-val>	Start IP protocol type of the range of IP protocol types. This field is invalid if 'prototypecmp' is 'any'.This field and 'prototypeto' specify a range of IP protocol types, if 'prototypecmp' is either 'inrange' or 'exrange'. **Type:** Create — Optional Modify — Optional **Default value:** 0
prototypeto <prototypeto-val>	End IP protocol type of the range of IP protocol types.This field and 'prototypefrom' specifiy a range of IP protocol types, if 'prototypecmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Type:** Create — Optional Modify — Optional **Default value:** 27
srcaddrcmp eq | neq | lt |leq | gt | geq | any |inrange | exrange |ingenlist | notingenlist	Source IP addresss comparison type. 'ingenlist' means check if source ip address present in interface classifier generic list. 'notingenlist' means check if source ip address not present in interface classifier generic list. 'ingenlist' and 'notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out' **Type:** Create — Optional Modify — Optional **Default value:** any
dstaddrcmp eq | neq | lt |leq | gt | geq | any |inrange | exrange |ingenlist | notingenlist	Destination IP address comparison type. 'ingenlist' means check if destination ip address present in interface classifier generic list. 'notingenlist' means check if destination ip address not present in interface classifier generic list. 'ingenlist' and 'notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'. **Type:** Create — Optional Modify — Optional **Default value:** any
prototypecmp eq | neq | lt| leq | gt | geq | any	IP Protocol type comparison type. **Type:** Create — Optional

|inrange | exrange	Modify – Optional **Default value:** any
ipsrcaddrmask <ipsrcaddrmask-val>	The mask value for source ip address. The mask is applied over the source ip address before checking against a value. **Type:** Create – Optional Modify – Optional **Valid values:** 1 - 0xffffffff **Default value:** 0xffffffff
ipdstaddrmask <ipdstaddrmask-val>	The mask value for destination ip address. The mask is applied over the destination ip address before checking against a value. **Type:** Create – Optional Modify – Optional **Valid values:** 1 - 0xffffffff **Default value:** 0xffffffff
subruleprio low | high |asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as asinrule, subrule priority will be same as specified in the rule. **Type:** Create – Optional Modify – Optional **Default value:** asinrule
transporthdr ethernet | pppoe	This specifies the type of Transport header in the packet in which IP is being transported. If value of this field is ethernet (1), then IP is being carried in ethernet header and if it is pppoe (2) then then IP is being carried in PPP header. **Type:** Create – Optional Modify – Optional **Default value:** ethernet
tosfrom <tosfrom-val>	Start TOS value of the range of TOS values. This field is invalid if 'TosCmpType' is 'any'(7).This field and TosTo field specify a range of TOS values, if 'TosCmpType' is either 'inrange'(8) or 'exrange'(9). **Type:** Create – Optional Modify – Optional **Valid values:** 0 - 0xff **Default value:** 0
tosto <tosto-val>	End TOS value of the range of TOS values. This field is invalid if 'toscmp' is 'any'.This field and 'tosfrom' field specify a range of TOS values, if 'toscmp' is either 'inrange' or 'exrange'. **Type:** Create – Optional Modify – Optional

	Valid values: 0 - 0xff **Default value:** 0xff
tosmask **<**tosmask-val>	The mask value for TOS field. The mask is applied over the TOS field value before checking against configured values in 'tosfrom' and 'tosto'. **Type:** Create — Optional Modify — Optional **Valid values:** 0x01 - 0xff **Default value:** 0xff
toscmp eq | neq | lt | leq| gt | geq | any | inrange| exrange	TOS comparision type. **Type:** Create — Optional Modify — Optional **Default value:** any

Example:

$ create filter subrule ip ruleid 1 subruleid 2 srcipaddrfrom 172.25.1.125 srcipaddrto 172.25.5.125 dstipaddrfrom 172.25.6.125 dstipaddrto 172.25.10.125 prototypefrom 1 prototypeto 6 srcaddrcmp inrange dstaddrcmp inrange prototypecmp inrange ipsrcaddrmask 0xffffffff ipdstaddrmask 0xffffffff subruleprio high transportHdr ethernet tosfrom 0x01 tosto 0x06 tosmask 0xff toscmp inrange

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Start src ip addr : 172.25.1.125 End src ip addr : 172.25.5.125
Start dest ip addr : 172.25.6.125 End dest ip addr : 172.25.10.125
Start IP prot type : 1 End IP prot type : 6
Start TOS value : 0x01 End TOS value : 0x06
Src ip addr comp : inrange Dest ip addr comp : inrange
IP prot type comp : inrange TOS comp type : inrange
IP Src Addr Mask : 0xffffffff IP Dest Addr Mask : 0xffffffff
Subrule Priority : high
Transport Header : ethernet
TOS Mask : 0xff
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created.
Subrule Id	Unique identifier of a filter subrule.
End src ip addr	End source IP address of the range of source IP addresses. This field and 'srcipaddrfrom' specify a range of source IP addresses, if 'srcaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid.
Start dest ip addr	Start destination IP address of the range of destination IP addresses. This field is invalid if 'dstaddrcmp' is 'any', 'ingenlist' or 'notingenlist'. This field and 'dstipaddrto' specify a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange'.
End dest ip addr	End destination IP address of the range of destination IP addresses. This field and 'dstipaddrfrom' specifiy a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
Start IP prot type	Start IP protocol type of the range of IP protocol types. This field is invalid if 'prototypecmp' is 'any'.This field and 'prototypeto' specify a range of IP protocol types, if 'prototypecmp' is either 'inrange' or 'exrange'.
End IP prot type	End IP protocol type of the range of IP protocol types.This field and 'prototypefrom' specifiy a range of IP protocol types, if 'prototypecmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid.
Start TOS value	Start TOS value of the range of TOS values. This field is invalid if 'TosCmpType' is 'any'(7).This field and TosTo field specify a range of TOS values, if 'TosCmpType' is either 'inrange'(8) or 'exrange'(9).
End TOS value	End TOS value of the range of TOS values. This field is invalid if 'toscmp' is 'any'.This field and 'tosfrom' field specify a range of TOS values, if 'toscmp' is either 'inrange' or 'exrange'.
Src ip addr comp	Source IP addresss comparison type. 'ingenlist' means check if source ip address present in interface classifier generic list. 'notingenlist' means check if source ip address not present in interface classifier generic list. 'ingenlist' and 'notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'
Dest ip addr comp	Destination IP address comparison type. 'ingenlist' means check if destination ip address present in interface classifier generic list. 'notingenlist' means check if destination ip address not present in interface classifier generic list. 'ingenlist' and 'notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'.
IP prot type comp	IP Protocol type comparison type.
TOS comp type	TOS comparision type.
IP Src Addr Mask	The mask value for source ip address. The mask is applied over the source ip address before checking against a value.

IP Dest Addr Mask	The mask value for destination ip address. The mask is applied over the destination ip address before checking against a value.
Subrule Priority	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as asinrule, subrule priority will be same as specified in the rule.
Transport Header	This specifies the type of Transport header in the packet in which IP is being transported. If value of this field is ethernet (1), then IP is being carried in ethernet header and if it is pppoe (2) then then IP is being carried in PPP header.
TOS Mask	The mask value for TOS field. The mask is applied over the TOS field value before checking against configured values in 'tosfrom' and 'tosto'.

References:

- Generic filter commands

5.13.33 Filter subrule PPP Commands

5.13.33.1 Get Filter subrule ppp

Description:
Use this command to get.

Command Syntax:
get filter subrule ppp [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val>]

5.13.33.2 Create filter subrule ppp

Description:
Use this command to create.

Command Syntax:
create filter subrule ppp ruleid <ruleid-val> **subruleid** <subruleid-val> [**prototypefrom** <prototypefrom-val>] [**prototypeto** <prototypeto-val>] [**prototypecmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**subruleprio** low | high | asinrule]

5.13.33.3 Delete filter subrule ppp

Description:
Use this command to delete.

Command Syntax:
delete filter subrule ppp ruleid <ruleid-val>**subruleid** <subruleid-val>

5.13.33.4 Modify filter subrule ppp

Description:
Use this command to modify.

Command Syntax:
modify filter subrule ppp ruleid <ruleid-val> **subruleid** <subruleid-val> [**prototypefrom** <prototypefrom-val>] [**prototypeto** <prototypeto-val>] [**prototypecmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**subruleprio** low | high | asinrule]

Parameter:

Name	Description
ruleid <ruleid-val>	Unique identifier of a filter rule of which this sub rule is being created **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 65535
subruleid <subruleid-val>	Unique identifier of a filter subrule **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4294967295
prototypefrom <prototypefrom-val>	Start of range of PPP protocol types. Invalid if 'prototypecmp' is 'any'. This field and the next field specify a range of protocol types, if 'prototypecmp' is either 'inrange' or 'exrange'. Otherwise only this field is valid **Type:** Create -- Optional Modify -- Optional **Default value:** 0

prototypeto <prototypeto-val>	End PPP protocol type of the range of PPP protocol types. This field and 'prototypefrom' specifiy a range of ppp protocol types if 'prototypecmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 65535
prototypecmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	Protocol comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
subruleprio low | high | asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create -- Optional Modify -- Optional **Default value:** asinrule

Example:

$ create filter subrule ppp ruleid 1 subruleid 2 prototypefrom 0x1 prototypeto 0x5 prototypecmp inrange subruleprio high

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Start ProtoType : 0x1 End ProtoType : 0x5
Protocol comparison : inrange Subrule Priority : high

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created
Subrule Id	Unique identifier of a filter subrule
Start ProtoType	Start of range of PPP protocol types. Invalid if 'prototypecmp' is

	'any'. This field and the next field specify a range of protocol types, if 'prototypecmp' is either 'inrange' or 'exrange'. Otherwise only this field is valid
End ProtoType	End PPP protocol type of the range of PPP protocol types. This field and 'prototypefrom' specifiy a range of ppp protocol types if 'prototypecmp' is either 'inrange' or 'exrange'
Protocol comparison	Protocol comparison type
Subrule Priority	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule.

References:

- see generic filter related commands

5.13.34 Filter subrule TCP Commands

5.13.34.1 Get Filter subrule tcp

Description:
Use this command to get.

Command Syntax:
get filter subrule tcp [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val>]

5.13.34.2 Create filter subrule tcp

Description:
Use this command to create.

Command Syntax:
create filter subrule tcp ruleid <ruleid-val> **subruleid** <subruleid-val> [**srcportfrom** <srcportfrom-val>] [**srcportto** <srcportto-val>] [**dstportfrom** <dstportfrom-val>] [**dstportto** <dstportto-val>] [**srcportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**dstportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**subruleprio low | high | asinrule**] [**transporthdr ethernet | pppoe**]

5.13.34.3 Delete filter subrule tcp

Description:
Use this command to delete.

Command Syntax:
delete filter subrule tcp ruleid <ruleid-val > **subruleid** <subruleid-val >

5.13.34.4 Modify filter subrule tcp

Description:
Use this command to modify.

Command Syntax:
modify filter subrule tcp ruleid <ruleid-val > **subruleid** <subruleid-val > [**srcportfrom** <srcportfrom-val >] [**srcportto** <srcportto-val >] [**dstportfrom** <dstportfrom-val >] [**dstportto** <dstportto-val >] [**srcportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**dstportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**subruleprio low | high | asinrule**] [**transporthdr ethernet | pppoe**]

Parameters:

Name	Description
ruleid <ruleid-val >	Unique identifier of a filter rule of which this sub rule is being created **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional **Valid values:** 1-65535
subruleid <subruleid-val >	Unique identifier of a filter subrule **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional **Valid values:** 1 - 4294967295
srcportfrom <srcportfrom-val >	Start port number of the range of source port numbers. This field is invalid if 'srcportcmp' is 'any'.This field and 'srcportto' specify a range of tcp source port numbers if 'srcportcmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 0

srcportto <srcportto-val >	End port number of the range of source port numbers. This field and 'srcportfrom' specifiy a range of TCP source port numbers if 'srcportcmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 65535
dstportfrom <dstportfrom-val >	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is 'any'. This field and 'dstportto' specifiy a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange' **Type:** Create --Optional Modify --Optional **Default value:** 0
dstportto <dstportto-val >	End port number of the range of destination port numbers. This field and 'dstportfrom' specifiy a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid **Type:** Create -- Optional Modify -- Optional **Default value:** 65535
srcportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	Source port comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
dstportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	Destination port comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
subruleprio low | high | asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create -- Optional Modify -- Optional **Default value:** asinrule
transporthdr ethernet | pppoe	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is 'Ethernet', then the IP is being carried in the Ethernet header. If it is 'PPPoE', then the corresponding IP is being carried in the PPP header. **Type**: Create -- Optional Modify -- Optional **Default value**: Ethernet

Example:

$create filter subrule tcp ruleid 1 subruleid 2 srcportfrom 21 srcportto 23 dstportfrom 21 dstportto 23 srcportcmp inrange dstportcmp inrange subruleprio high

Output:

Verbose Mode On
Entry Created

Rule Id : 1 Subrule Id : 2
Start source port : 21 End source port : 23
Start destination port : 21 End destination port : 23
Source port comparison : inrange Destination port comparison : inrange
Subrule Priority : high
Transport Header : Ethernet
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created.
Subrule Id	Unique identifier of a filter subrule
Start source port	Start port number of the range of source port numbers. This field is invalid if 'srcportcmp' is 'any'. This field and 'srcportto' specifiy a range of tcp source port numbers if 'srcportcmp' is either 'inrange' or 'exrange'
End source port	End port number of the range of source port numbers. This field and 'srcportfrom' specifiy a range of tcp source port numbers if 'srcportcmp' is either 'inrange' or 'exrange'
Start destination port	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is 'any'. This field and 'dstportto' specifiy a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'
End destination port	End port number of the range of destination port numbers. This field and 'dstportfrom' specifiy a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'.Otherwise this field is invalid
Source port comparison	Source port comparison type
Destination port comparison	Destination port comparison type
Subrule Priority	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as

	'asinrule', subrule priority will be same as specified in the rule.
Transport Header	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is 'Ethernet', then the IP is being carried in the Ethernet header. If it is 'PPPoE', then the corresponding IP is being carried in the PPP header.

References:

- Generic Filter Commands

5.13.35 Filter subrule UDP Commands

5.13.35.1 Get Filter subrule udp

Description:
Use this command to get.

Command Syntax:
get filter subrule udp [**ruleid** <ruleid-val>] [**subruleid** <subruleid-val>]

5.13.35.2 Create filter subrule udp

Description:
Use this command to create.

Command Syntax:
create filter subrule udp ruleid <ruleid-val > **subruleid** <subruleid-val > [**srcportfrom** <srcportfrom-val >] [**srcportto** <srcportto-val >] [**dstportfrom** <dstportfrom-val >] [**dstportto** <dstportto-val >] [**srcportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**dstportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange**] [**subruleprio low | high | asinrule**] [**transporthdr ethernet | pppoe**]

5.13.35.3 Delete filter subrule udp

Description:
Use this command to delete.

Command Syntax:
delete filter subrule udp ruleid <ruleid-val > **subruleid** <subruleid-val >

5.13.35.4 Modify filter subrule udp

Description:

Use this command to modify.

Command Syntax:

modify filter subrule udp ruleid <ruleid-val> **subruleid** <subruleid-val> [**srcportfrom** <srcportfrom-val>] [**srcportto** <srcportto-val>] [**dstportfrom** <dstportfrom-val>] [**dstportto** <dstportto-val>] [**srcportcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**dstportcmp** eq | neq | lt | leq | gt | geq | any | inrange | exrange] [**subruleprio** low | high | asinrule] [**transporthdr** ethernet | pppoe] [**transporthdr** ethernet | pppoe]

Parameters:

Name	Description
ruleid <ruleid-val >	Unique identifier of a filter rule of which this sub rule is being created **Type:** Create --Mandatory Delete --Mandatory Modify Mandatory Get --Optional **Valid values:** 1-65535
subruleid <subruleid-val >	Unique identifier of a filter subrule **Type:** Create --Mandatory Delete – Mandatory Modify-- Mandatory Get --Optional **Valid values:** 1 - 4294967295
srcportfrom <srcportfrom-val >	Start port number of the range of source port numbers. This field is invalid if 'srcportcmp' is 'any'. This field and 'srcportto' specifiy a range of udp source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 0
srcportto <srcportto-val >	End port number of the range of source port numbers.This field and 'srcportfrom' specifiy a range of udp source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 65535
dstportfrom <dstportfrom-val >	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is 'any'.This field and 'dstportto' specifiy a range of

	udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange' **Type:** Create -- Optional Modify -- Optional **Default value:** 0
dstportto <dstportto-val >	End port number of the range of destination port numbers. This field and 'dstportfrom' specifiy a range of udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange'.Otherwise this field is invalid **Type:** Create -- Optional Modify -- Optional **Default value:** 65535
srcportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	Source port comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
dstportcmp eq | neq | lt | leq | gt | geq | any | inrange | exrange	Destination port comparison type **Type:** Create -- Optional Modify -- Optional **Default value:** any
subruleprio low | high |asinrule	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Type:** Create -- Optional Modify -- Optional **Default value:** asinrule
transporthdr ethernet | pppoe	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is Ethernet, then the IP is being carried in the Ethernet header. If it is PPPoE, then the corresponding IP is being carried in the PPP header. **Type**: Create -- Optional Modify -- Optional **Default value**: Ethernet

Example:

$ create filter subrule udp ruleid 1 subruleid 2 srcportfrom 21 srcportto 23 dstportfrom 21 dstportto 23 srcportcmp inrange dstportcmp inrange subruleprio high

Output:

Verbose Mode On

Entry Created

Rule Id : 1 Subrule Id : 2

Start source port : 21 End source port : 23

Start destination port : 21 End destination port : 23

Source port comparison : inrange Destination port comparison : inrange

Subrule Priority : high

Transport Header : ethernet

Verbose Mode Off:

Entry Created

Output field:

Field	Description
Rule Id	Unique identifier of a filter rule of which this sub rule is being created
Subrule Id	Unique identifier of a filter subrule
Start source port	Start port number of the range of source port numbers. This field is invalid if 'srcportcmp' is 'any'. This field and 'srcportto' specifiy a range of udp source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange'
End source port	End port number of the range of source port numbers. This field and 'srcportfrom' specifiy a range of udp source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange'
Start destination port	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is 'any'.This field and 'dstportto' specifiy a range of udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange'
End destination port	End port number of the range of destination port numbers. This field and 'dstportfrom' specifiy a range of udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange'.Otherwise this field is invalid
Source port comparison	Source port comparison type
Destination port comparison	Destination port comparison type
Subrule Priority	This specifies the priority of the subrule. Based on this

	priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule.
Transport Header	This specifies the type of the transport header in the packet in which the corresponding IP is being transported. If the value of this field is Ethernet, then the IP is being carried in the Ethernet header. If it is PPPoE, then the corresponding IP is being carried in the PPP header.

References:

- Generic Filter Commands

5.14 IGMP Commands

5.14.1 Igmpsnoop cfg info Commands

5.14.1.1 Get igmpsnoop cfg info

Description:
Use this command to get.

Command Syntax:
get igmpsnoop cfg info

5.14.1.2 Modify igmpsnoop cfg info

Description:
Use this command to modify.

Command Syntax:
modify igmpsnoop cfg info [**queryinterval** <queryinterval-val>] [**anxioustimer** <anxioustimer-val>] [**v1hosttimer** <v1hosttimer-val>] [**lastmembqryinterval** <lastmembqryinterval-val>] [**robustness** <robustness-val>] [**status** Enable | Disable] [**reportsup** Enable | Disable] [**qryrespinterval** <qryrespinterval-val>] [**proxyreportstatus** Enable | Disable] [**versionmask** v1 | v2 | v3] [**startupqryinterval** <startupqryinterval-val>] [**startupqrycount** <startupqrycount-val>] [**lastmemberqrycount** <lastmemberqrycount-val>] [**unsolicrprtinterval** <unsolicrprtinterval-val>]

Parameters:

Name	Description
queryinterval **<**queryinterval-val>	This parameter is used to calculate the entry age out timer, when no reports or queries are received on the entry. When the value of this parameter multiplied by 10, it should be greater than the Query Interval configured at the router. The time for which an entry created at Igmpsnoop module exists, if no messages are received for it is approximately (((QueryInterval*10)*Robustness) + Query Response Time received in Last Query) **Type:** Modify -- Optional **Valid values:** 1 - 0xff
anxioustimer **<**anxioustimer-val>	This parameter specifies the maximum time (in seconds) before which the IgmpSnoop module will forward all IGMP membership reports received. It is started once, whenever the first membership report is received for a group, to ensure that reports are forwarded for a sufficiently long time, to take care of any lost reports. The unit is seconds. **Type:** Modify -- Optional **Valid values:** 1 - 65535
v1hosttimer **<**v1hosttimer-val>	This parameter specifies the maximum time (in seconds), for which the IgmpSnooping module can assume that there are Version 1 group members present, for the group for which this timer is running. The unit of this parameter is seconds. **Type:** Modify -- Optional **Valid values:** 1 - 260
lastmembqryinterval **<**lastmembqryinterval-val>	This parameter specifies the Last Member Query Interval that is the Max Response Time inserted into Group-Specific Queries sent in response to Leave Group messages, and is also the amount of time between Group-Specific Query messages. The value of this parameter may be tuned to modify the leave latency of the network. A reduced value results in reduced time to detect the loss of the last member of a group. The unit of this parameter is one-tenth of second. **Type:** Modify -- Optional **Valid values:** 1 – 255
robustness **<**robustness-val>	This parameter allows tuning for the expected packet loss on a subnet. The IgmpSnooping module is robust to [RobustnessVar] packet losses. **Type:** Modify -- Optional **Valid values:** 2 - 255

status Enable | Disable	This parameter specifies whether Igmp Snooping needs to be enabled in the system. **Type:** Modify -- Optional
reportsup Enable | Disable	Report Suppression is enabled or not. **Type:** Modify -- Optional
qryrespinterval **<**qryrespinterval-val>	This parameter is used to derive Max Response Code to be filled in General query that will be initiated from Columbia **Type:** Modify -- Optional **Valid values:** 1 - 0xff
proxyreportstatus Enable | Disable	This parameter controls whether proxy reporting will be supported at the global level. **Type:** Modify -- Optional
versionmask v1 | v2 | v3	This parameter controls which versions of IGMP are currently supported at Columbia. Depending on the version mask, IGMP messages of unsupported version, will be dropped **Type:** Modify -- Optional
startupqryinterval **<**startupqryinterval-val>	This parameter specifies the interval between General Queries sent on receiving Port Up topology change trigger. **Type:** Modify -- Optional **Valid values:** 1 - 0xff
startupqrycount **<**startupqrycount-val>	This parameter specifies the number of General Queries sent on receiving Port Up topology change trigger, separated by the StartupQryInterval **Type:** Modify -- Optional **Valid values:** 0 - 0xff
lastmemberqrycount **<**lastmemberqrycount-val>	This parameter specifies the number of Group-specific or Group-and-Source-specific Queries sent before assuming there are no listener for this Group or Group-Source pair. **Type:** Modify -- Optional **Valid values:** 1 - 0xff
unsolicrprtinterval **<**unsolicrprtinterval-val>	This parameter specifies the interval between unsolicited membership reports of a group sent for robustness no of times.This field is applicable only when proxy reporting is enabled. **Type:** Modify -- Optional **Valid values:** 1 - 0xff

Example:

$ get igmpsnoop cfg info

Output:

Query Interval : 12 Query Response Interval : 10
StartUp Query Interval : 10 UnSolicRprtInterval : 10
Anxious Timer : 125 V1 Host Timer : 130
Last Member Query Interval : 125 Robustness Variable : 2
Igmp Snoop Status : Enable
Version Mask : v3
Report Suppression Status : Enable Proxy Report Status : Enable
StartUp QryCount : 2 Last Member QryCount : 100

Output field:

Field	Description
Query Interval	This parameter is used to calculate the entry age out timer, when no reports or queries are received on the entry. When the value of this parameter multiplied by 10, it should be greater than the Query Interval configured at the router. The time for which an entry created at Igmpsnoop module exists, if no messages are received for it is approximately (((QueryInterval*10)*Robustness) + Query Response Time received in Last Query)
Query Response Interval	This parameter is used to derive Max Response Code to be filled in General query that will be initiated from Columbia
StartUp Query Interval	This parameter specifies the interval between General Queries sent on receiving Port Up topology change trigger.
UnSolicRprtInterval	This parameter specifies the interval between unsolicited membership reports of a group sent for robustness no of times.This field is applicable only when proxy reporting is enabled.
Anxious Timer	This parameter specifies the maximum time (in seconds) before which the IgmpSnoop module will forward all IGMP membership reports received. It is started once, whenever the first membership report is received for a group, to ensure that reports are forwarded for a sufficiently long time, to take care of any lost reports. The unit is seconds.
V1 Host Timer	This parameter specifies the maximum time (in seconds), for which the IgmpSnooping module can assume that there are Version 1 group members present, for the group for which this timer is running. The unit of this parameter is seconds.
Last Member Query Interval	This parameter specifies the Last Member Query Interval that is the Max Response Time inserted into Group-Specific Queries

	sent in response to Leave Group messages, and is also the amount of time between Group-Specific Query messages. The value of this parameter may be tuned to modify the leave latency of the network. A reduced value results in reduced time to detect the loss of the last member of a group. The unit of this parameter is one-tenth of second.
Robustness Variable	This parameter allows tuning for the expected packet loss on a subnet. The IgmpSnooping module is robust to [RobustnessVar] packet losses.
Igmp Snoop Status	This parameter specifies whether Igmp Snooping needs to be enabled in the system.
Version Mask	This parameter controls which versions of IGMP are currently supported at Columbia. Depending on the version mask, IGMP messages of unsupported version, will be dropped
Report Suppression Status	Report Suppression is enabled or not.
Proxy Report Status	This parameter controls whether proxy reporting will be supported at the global level.
StartUp QryCount	This parameter specifies the number of General Queries sent on receiving Port Up topology change trigger, separated by the StartupQryInterval
Last Member QryCount	This parameter specifies the number of Group-specific or Group-and-Source-specific Queries sent before assuming there are no listener for this Group or Group-Source pair.

5.14.2 Igmpsnoop mvlan config Commands

5.14.2.1 Get igmpsnoop mvlan config

Description:
Use this command to get.

Command Syntax:
get igmpsnoop mvlan config [**grpipaddr** <grpipaddr-val>] [**srcipaddr** <srcipaddr-val>] [**vlanid** <vlanid-val> | none]

5.14.2.2 Create igmpsnoop mvlan config

Description:
Use this command to create.

Command Syntax:
create igmpsnoop mvlan config grpipaddr <grpipaddr-val> **srcipaddr** srcipaddr **vlanid** <vlanid-val> | none [**mcastvlanstag** <mcastvlanstag-val> | none] [**mcastvlanctag** <mcastvlanctag-val> | invlan | none] [**portlist** <portlist-val> | none]

5.14.2.3 Delete igmpsnoop mvlan config

Description:
Use this command to delete.

Command Syntax:
delete igmpsnoop mvlan config [**grpipaddr** <grpipaddr-val>] [**srcipaddr** <srcipaddr-val>] [**vlanid** <vlanid-val> | none]

5.14.2.4 Modify igmpsnoop mvlan config

Description:
Use this command to modify.

Command Syntax:
modify igmpsnoop mvlan config grpipaddr <grpipaddr-val> **srcipaddr** <srcipaddr-val> **vlanid** <vlanid-val> | none [**mcastvlanstag** <mcastvlanstag-val> | none] [**mcastvlanctag** <mcastvlanctag-val> | invlan | none] [**portlist** <portlist-val> | none]

Parameters:

Name	Description
grpipaddr **<**grpipaddr-val>	This parameter specifies the Destination Group IP address for a multicast stream. The source address and destination group address together define a multicast stream. In case of value 0, this parameter is ignored while determining Multicast Vlan **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional

srcipaddr **<**srcipaddr-val>	This parameter specifies the source IP address of the Multicast Server. The source address and destination group address together define a multicast stream. In case of value 0, this parameter is ignored while determining Multicast Vlan. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional
vlanid <vlanid-val> | none	This parameter specifies the Dot1q tag of an IGMP packet received. This will be PVID in case an untagged IGMP packet was received. In case of value 0, this parameter is ignored while determining Multicast Vlan. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4095 **Additional Values:** 0
mcastvlanstag **<**mcastvlanstag-val> | none	This parameter specifies the Multicast SVlanId to be used in case of stacked mode. In the native mode, this parameter is not applicable. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 4095 **Additional Values:** 0
mcastvlanctag **<**mcastvlanctag-val> | invlan | none	This parameter specifies the Multicast CVlanId to be used. Two special values of this parameter are supported in stacked mode: One value (4097) to signify that repot/leave shall be forwarded to querier with the C tag with which it was received from the subscriber port and the S tag specified in multicast Vlan's definition One value (0) to signify that report/leave shall be forwarded to querier with S tag specified in multicast Vlan's definition and no C tag. Other Value shall signify that, report/leave shall be forwarded to querier with S and C tag specified in multicast Vlan's definition. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 -4095 **Additional Values:** 0, 4097

portlist <portlist-val> | none	This parameter specifies the list of ports on which a given combination of (Group Address, Source Address, VlanId) maps to a specified multicast vlan (STag, CTag) **Type:** Create -- Optional Modify -- Optional **Default value:** 0

Example:

$ create igmpsnoop mvlan config grpipaddr 224.0.0.7 srcipaddr 12.23.34.45 vlanid 6 mcastvlanstag 5 mcastvlanctag 5 portlist 5 6 10

Output:

Verbose Mode On
Entry Created

Grp IPAddress : 224.0.0.7
Src IPAddres : 12.23.34.45
VLAN Index : 6
McastVlan STag : 5 McastVlan CTag : 5
PortList : 5 6 10

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Grp IPAddress	This parameter specifies the Destination Group IP address for a multicast stream. The source address and destination group address together define a multicast stream. In case of value 0, this parameter is ignored while determining Multicast Vlan
Src IPAddres	This parameter specifies the source IP address of the Multicast Server. The source address and destination group address together define a multicast stream. In case of value 0, this parameter is ignored while determining Multicast Vlan.
VLAN Index	This parameter specifies the Dot1q tag of an IGMP packet received. This will be PVID in case an untagged IGMP packet was received. In case of value 0, this parameter is ignored while determining Multicast Vlan.
McastVlan STag	This parameter specifies the Multicast SVlanId to be used in case of stacked mode. In the native mode, this parameter is not

	applicable.
McastVlan CTag	This parameter specifies the Multicast CVlanId to be used. Two special values of this parameter are supported in stacked mode: One value (4097) to signify that repot/leave shall be forwarded to querier with the C tag with which it was received from the subscriber port and the S tag specified in multicast Vlan's definition One value (0) to signify that report/leave shall be forwarded to querier with S tag specified in multicast Vlan's definition and no C tag. Other Value shall signify that, report/leave shall be forwarded to querier with S and C tag specified in multicast Vlan's definition.
PortList	This parameter specifies the list of ports on which a given combination of (Group Address, Source Address, VlanId) maps to a specified multicast vlan (STag, CTag)

5.14.3 Igmpsnoop port info Commands

5.14.3.1 Get igmpsnoop port info

Description:
Use this command to get.

Command Syntax:
get igmpsnoop port info [**portid** <portid-val >]

5.14.3.2 Modify igmpsnoop port info

Description:
Use this command to modify.

Command Syntax:
modify igmpsnoop port info portid portid [**status** Enable | Disable]
[**leavemode** Normal | Fast | FastNormal] [**pktpriority** <pktpriority-val> | none]
[**maxgrpallowed** <maxgrpallowed-val>] [**querierstatus** Enable | Disable]
[**mcastvlanstatus** Enable | Disable] [**nomatchaction** Drop |
Transparentlyforward | Learn]

Parameters:

Name	Description
portid <portid-val>	This parameter specifies a bridge port for which IGMP Snooping needs to be enabled or disabled. **Type:** Modify -- Mandatory Get -- Optional **Valid values:** 1 - 194
status Enable | Disable	This parameter specifies whether IGMP Snooping is to be enabled on the port. **Type:** Modify -- Optional
leavemode Normal | Fast | FastNormal	This parameter specifies the Igmp Snooping Leave message processing mode for the port. If the mode is set to 'Normal', the Leave message is forwarded to the Querier. Then, based on the Query received from Querier, the Leave processing is triggered. If the mode is set to 'Fast', the port is immediately deleted from that multicast group on Leave message reception and then the Leave message is forwarded. The mode should be set to 'Fast' for a port only if there is one host behind the port. This is because if there are multiple hosts behind the port then it will lead to traffic disruption for other hosts who might still be listening to that multicast group. If the mode is set to 'FastNormal', the Leave message is forwarded and the Leave processing is triggered immediately without waiting for any trigger from the Querier. The 'FastNormal' mode, thus, saves the delay (equal to the time taken for Leave message to reach router and Querier processing time for it and the time taken for Query to reach IGMP Snoop module) in Leave processing. **Type:** Modify -- Optional **Valid values:** op module) in Leave processing.
pktpriority **<**pktpriority-val> | none	This parameter specifies the Egress Priority to be set in case the Ethernet frames carrying IGMP packets sent over this port need to be tagged by the control plane. In case the frame came tagged, priority that came in the tagged frame will not be changed. The configured priority will also be used for choice of traffic class/Queue on outgoing interface whether the frame is tagged . In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent. There is an additional support of invalid value for egress priority in IGMP port info to indicate that the priority is not to be forced on egress frame for this port.

	Type: Modify -- Optional **Valid values:** 0 - 7
maxgrpallowed <maxgrpallowed-val>	This parameter controls the no. of simultaneous channels that can be received by this port **Type:** Modify -- Optional **Valid values:** 0 - 256
querierstatus Enable | Disable	This parameter controls whether a port can become querier **Type:** Modify -- Optional
mcastvlanstatus Enable | Disable	This parameter controls the status of Multicast Vlan option on a port **Type:** Modify -- Optional
nomatchaction Drop | Transparentlyforward | Learn	This parameter specifies the action to be taken when multicast vlan can not be determined for a port where multicast vlan option is enabled Possible action values will be :Drop, Transparently forward, and Learn based on ingress vlan **Type:** Modify -- Optional

Example:

$ get igmpsnoop port info portid 6

Output:

Port Index : 6
Port Igmp Snoop Status : Enable Leave Mode : Normal
IGMP PacketsPrio:2MaxGroupAllowed:2'
Querier Status : Enable McastVlan Status : Enable
No McastVlan Match Action : Learn

Output field:

Field	Description
Port Index	This parameter specifies a bridge port for which IGMP Snooping needs to be enabled or disabled.
Port Igmp Snoop Status	This parameter specifies whether IGMP Snooping is to be enabled on the port.
Leave Mode	This parameter specifies the Igmp Snooping Leave message processing mode for the port. If the mode is set to 'Normal', the Leave message is forwarded to the Querier. Then, based on the Query received from Querier, the Leave processing is triggered. If the mode is set to 'Fast', the port is immediately deleted from that multicast group on Leave message reception and then the Leave message is forwarded. The mode should be set to 'Fast' for a port

	only if there is one host behind the port. This is because if there are multiple hosts behind the port then it will lead to traffic disruption for other hosts who might still be listening to that multicast group. If the mode is set to 'FastNormal', the Leave message is forwarded and the Leave processing is triggered immediately without waiting for any trigger from the Querier. The 'FastNormal' mode, thus, saves the delay (equal to the time taken for Leave message to reach router and Querier processing time for it and the time taken for Query to reach IGMP Snoop module) in Leave processing.
IGMP PacketsPrio'	This parameter specifies the Egress Priority to be set in case the Ethernet frames carrying IGMP packets sent over this port need to be tagged by the control plane. In case the frame came tagged, priority that came in the tagged frame will not be changed. The configured priority will also be used for choice of traffic class/Queue on outgoing interface whether the frame is tagged . In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent. There is an additional support of invalid value for egress priority in IGMP port info to indicate that the priority is not to be forced on egress frame for this port.
MaxGroupAllowed	This parameter controls the no. of simultaneous channels that can be received by this port
Querier Status	This parameter controls whether a port can become querier
McastVlan Status	This parameter controls the status of Multicast Vlan option on a port
No McastVlan Match Action	This parameter specifies the action to be taken when multicast vlan can not be determined for a port where multicast vlan option is enabled Possible action values will be :Drop, Transparently forward, and Learn based on ingress vlan

Caution:

- An entry in this table shall not be applicable for a bridge port created over the PPPoE interface.

5.14.4 Igmpsnoop port stats Commands

5.14.4.1 Get igmpsnoop port stats

Description:
Use this command to get.

Command Syntax:
get igmpsnoop port stats [**vlanid** <vlanid-val>] [**mcastaddr** <mcastaddr-val>] [**portid** <portid-val>]

5.14.4.2 Reset igmpsnoop port stats

Description:
Use this command to reset.

Command Syntax:
reset igmpsnoop port stats [**vlanid** vlanid] **mcastaddr** <mcastaddr-val> **portid** <portid-val>

Parameters:

Name	Description
vlanid <vlanid-val >	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is optional and can be passed as zero or a valid vlanid value. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For the case when the attribute "McastDeviceCapabilities" of MO "sysSizingTable" has value "none", VLAN id is not required. This feature is not supported for VLAN with vlanid as 4097.VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1-4095

Mcastaddr <mcastaddr-val >	A multicast MAC Address, learned through Igmp Snooping, within the Vlan (igmpVlanIndex), to uniquely identify the entry, for which the IgmpSnooping statistics are desired. The range of accepted values is 00:30:4F:00:00:00 to 00:30:4F:7F:FF:FF **Type:** Reset — Optional Get — Optional **Valid values:** 00:30:4F:00:00:00 - 00:30:4F:7F:FF:FF
portid <portid>	A Bridge Port belonging to the Vlan (igmpVlanIndex) and Group (igmpsnoopMcastAddress), for which the IgmpSnooping statistics are desired. **Type:** Reset --Optional Get –Optional **Valid values:** 1 - 386

Example:

$ get igmpsnoop port stats vlanid 6 mcastaddr 00:30:4f:0a:00:01 portid 6

Output:

VLAN Index : 6
Mcast Group Address : 00:30:4f:0a:00:01
Port Index : 6
Query Received : 100 Report Received : 200
Filter Mode : Include
Include SrcList : 10.12.14.16 12.10.45.76
Exclude SrcList : 10.12.34.56 34.54.76.87

Output field

Field	Description
VLAN Index	This parameter specifies the VlanId to uniquely identify the VlanId of the entry, for which the IgmpSnooping statistics are desired. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across vlans. Therefore, VlanId is an optional parameter. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence VlanId is a mandatory parameter in all the commands other than the get command. For no Vlan case, VlanId is not required.
Mcast Group Address	This parameter specifies a multicast MAC address, learnt through Igmp Snooping, within the Vlan (igmpVlanIndex), to uniquely identify the entry, for which the IgmpSnooping statistics are desired. The range of

	accepted values is 00:30:4F:00:00:00 to 00:30:4F:7F:FF:FF.
Port Index	This parameter specifies a bridge port belonging to the Vlan (igmpVlanIndex) and Group (igmpsnoopMcastAddress), for which the IgmpSnooping statistics are desired.
Query Received	This parameter specifies thenumber of Igmp queries received on the port belonging to a particular multicast group and Vlan.
Report Received	This parameter specifies thenumber of Membership reports received on the port belonging to a particular multicast group and Vlan.
Filter Mode	This parameter specifies the current filter mode on a port for a given group.
Include SrcList	This parameter specifies the Include Source list, which is the list of sources to be included in case of Include filter mode and the list of conflicting sources in case of exclude mode of the port for a given group
Exclude SrcList	This parameter specifies the Exclude Source list, which is the list of sources to be excluded in case of exclude filter mode of the port for a given group

Caution:

- An entry in this table shall not be applicable for a bridge port created over the PPPoE interface.

5.14.5 Igmpsnoop querier info Commands

5.14.5.1 Get igmpsnoop querier info

Description:

Use this command to get.

Command Syntax:

get igmpsnoop querier info [**vlanid** <vlanid-val >] [**portid** <portid-val>]

5.14.5.2 Create igmpsnoop querier info

Description:

Use this command to create.

Command Syntax:

create igmpsnoop querier info vlanid <vlanid-val > **portid** <portid-val >

5.14.5.3 Delete igmpsnoop querier info

Description:

Use this command to delete.

Command Syntax:

delete igmpsnoop querier info vlanid <vlanid-val > **portid** <portid>

Parameters:

Name	Description
vlanid <vlanid-val>	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across VLANS. Hence, vlanid is optional and can be passed as zero or a valid vlanid value. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a multicast MAC address. Hence, VLAN id is a mandatory parameter and a valid value of vlanid must be passed. For the case when the attribute "McastDeviceCapabilities" of MO "sysSizingTable" has value "none", VLAN id is not required. This feature is not supported for VLAN with vlanid as 4097.VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1-4095
portid <portid-val>	A Bridge Port, belonging to the Vlan (dot1qVlanIndex), on which the Querier exists. **Type:** Create -- Mandatory Delete -- Mandatory Get --Optional **Valid values:** 1 - 65535

Example:

$ create igmpsnoop querier info vlanid 6 portid 6

Output:

Verbose Mode On
Entry Created

VLAN Index : 6 Port Index : 6
Querier Port Status : Mgmt
Verbose Mode Off:
Entry Created

Output field:

Field	Description
VLAN Index	VlanId to uniquely identify the vlanid of the entry for which the IgmpSnooping Querier is configured/ learned. In devices supporting "Shared Vlan for multicast" capability, the information for a Querier port is shared across vlans. Hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability, each vlan can have its own information for a Querier port. Hence vlanid is a mandatory parameter in all the commands other than - get. For No Vlan case, vlan id is not required. This Feature is not supported for VLAN with vlanid as 4097.
Port Index	A Bridge Port, belonging to the Vlan (dot1qVlanIndex), on which the Querier exists.
Querier Port Status	Specifies whether Querier Port has been learned dynamically or configured by the user.

Caution:

- An entry in this table shall not be applicable for a bridge port created over the PPPoE interface.

5.15 Interface Commands

5.15.1 Interface Commands

5.15.1.1 Get interface stats

Description:

Use this command to view statistics for one interface or all the interfaces.

Command Syntax:

get interface stats [**ifname** <interface-name>]

Parameters:

Name	Description
Ifname <interface-name>	Index of the interface having one to one mapping with IfTable. Only Ethernet, EOA, Aggregator, HDLC, PPPOE, IPOE, ABOND, ATM, ATM VC Aggregation and ATM VC interface index are supported for reset operation. **Type :** Optional **Valid values:** aal5-*, eth-0, eth-1,atm-*, eoa-*, dsl-*, dslf-*, dsli-*, aggr-*, ehdlc-*, pppoe-*, pppr-*, vdsl-*, ipoe-*, abond-* , vcaggr-*

Example:

$ get interface stats ifname eth-0

Output:

Verbose Mode On
Entry Created

Interface : eth-0 Description : eth-0
Type : ETHERNET Mtu : 1500
Bandwidth : 100000000 Phy Adddr : 00:BB:CC:DD:EE:F1
Last Change(sec) : 219 Unknown Prot Pkts : 0
Admin Status : Up Operational Status : Up
In Octets : 396312 Out Octets : 168929
In Discards : 0 Out Discards : 0
In Errors : 0 Out Errors : 0
In Ucast Pkts : 2291 Out Ucast Pkts : 2518

In Mcast Pkts : 428 Out Mcast Pkts : 0
In Bcast Pkts : 1456 Out Bcast Pkts : 0
LinkUpDnTrapEnable : Enable Promiscous Mode : True
Connector Present : True CounterDiscontTime : 0
HC In Octets : 0x000060c18
HC OutOctets : 0x0000293e1

Output Fields:

Field	Description
Interface	Index of the interface having one to one mapping with IfTable. Only Ethernet, EOA , Aggregator, HDLC, PPPOE, IPOE, ABOND, ATM , ATM VC Aggregation and ATM VC interface index are supported for reset operation.
Description	This is general information about the interface
Type	The type of interface, distinguished according the physical/link/network protocol, immediately below the IP layer. It may be: ATM, ETHERNET, AAL5, EOA, DSL, FAST, INTERLEAVED, AGGR. EHDLC, PPP, LOOPBACK, IPOA, PPPR, PPPOE, SHDSL, ABOND, IPOE, VCAGGR, VDSL, USB. .
Mtu	The size (in bytes) of the largest packet, which can be sent/received on this interface in octets.
Bandwidth	The current bandwidth of the interface, in bps.
Phy Addr	Interface's address, at its protocol sublayer.
Admin Status	This is the desired state of the interface. It may be: Up, Down.
Operational Status	The current operational state of the interface. If ifAdminStatus is disable (2), then ifOperStatus should be disable (2). If ifAdminStatus is changed to enable (1), then ifOperStatus should change to enable (1), if the interface is ready to transmit and receive network traffic. Interface will have the OperStatus value as dormant (5) if the 'configstatus' of the entry is 'config' and the interface is waiting for a packet to be sensed to get activated.
Last Change	Value of System UpTime (in seconds) at the time the interface entered its current operational state.
Unknown Prot Pkts	The number of packets received via the interface, which were discarded because of an unknown or unsupported protocol.
In Octets	The total number of octets received on the interface, including the framing characters. For Ethernet interfaces, this will have the lower 32 bits of HC in octets. Valid for atm-*, eoa-*, aal5-*, eth-0, eth-1, dsl-*, dslf-*, dsli-*, aggr-*.
Out Octets	The total number of octets transmitted out of the interface, including framing characters. For Ethernet interfaces, this will have the lower 32 bits of HC Out octets. Valid for atm-*, eoa-*, aal5-*, eth-0, eth-1, dsl-*, dslf-*, dsli-*, aggr-*.
In Discards	The number of inbound packets, which were discarded, though no errors were detected.

Out Discards	The number of outbound packets chosen to be discarded even though there were no errors.
In Errors	The number of inbound packets, which were not delivered to upper layers because of errors.
Out Errors	The number of outbound packets chosen to be discarded because there were errors.
In Ucast Pkts	The number of unicast packets delivered to a higher layer protocol.
Out Ucast Pkts	The total number of packets requested to be sent to unicast addresses, by upper layer protocols.
HC In Octets	The total number of octets received on the interface, including framing characters. This object is a 64-bit version of **ifInOctets**. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times, as indicated by the value of ifCounterDiscontinuityTime. Valid for eth-*.
HC OutOctets	The total number of octets transmitted out of the interface, including framing characters. This object is a 64-bit version of **ifOutOctets**. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times, as indicated by the value of ifCounterDiscontinuityTime. Valid for eth-*.
In Mcast Pkts	The number of multicast packets delivered to a higher layer protocol.
Out Mcast Pkts	The total number of packets requested to be sent to multicast addresses, by upper layer protocols.
In Bcast Pkts	The number of broadcast packets delivered to a higher layer protocol.
Out Bcast Pkts	The total number of packets requested to be sent to broadcast addresses, by upper layer protocols.
LinkUpDnTrapEnable	Indicates whether linkUp/ linkDown traps should be generated for this interface.
Promiscous Mode	This object has a value of false if this interface only accepts packets/frames that are addressed to this station. This object has a value of true when the station accepts all packets/frames transmitted on the media. The value true is legal only for Ethernet interfaces. The value of PromiscuousMode does not affect the reception of broadcast and multicast packets/frames by the interface.
Connector Present	This indicates whether the interface sublayer has a physical connector or not. This is true only for physical Ethernet interfaces.
CounterDiscontTime	The value of **sysUpTime** on the most recent occasion, at which any one or more of this interface's counters suffered a discontinuity.

5.15.1.2 Reset interface stats

Description:

Use this command to reset the statistics of Ethernet, EoA, ATM, AAL5, DSL, DSLF, DSLI, Aggr and EHDLC interfaces.

Command Syntax:

reset interface stats ifname<interface-name>

5.15.1.3 Get interface config

Description:

Use this command to view Interface Configuration.

Command Syntax:

get interface config ifname <interface-name>

5.15.1.4 Modify interface config

Description:

Use this command to modify interface configuration.

Command Syntax:

modify interface config ifname <interface-name> [**trap** enable|disable]

Parameters:

Name	Description
Ifname <interface-name>	Interface name, for which configuration is to be modified or viewed. **Type**: Get -Optional Modify - Mandatory **Valid values**: eth-*,atm-*,aal5-*, eoa-*, dsl-*, dslf-*, dsli-*, aggr-*, ehdlc-*.
trap enable|disable	Indicates whether linkUp/linkDown traps should be generated for this interface. **Type**: Modify – Optional **Valid values** : enable or disable

Example:

$ get interface Config

Output:

Verbose Mode On

IfName LinkUp/DnTrap

---

aal5-0 Enable

Output Fields:

FIELD	Description
IfName	Interface name, for which configuration is to be viewed.
LinkUp/DnTrap	Indicates whether linkUp/linkDown traps shall be generated for this interface.

Caution:

- Reset of ATM VC interface stats also result in atm vc stat reset for the interface and reset of Ethernet interface stats also result in dot3stats reset for the ethernet interface.

References

- ATM Interface commands
- Ethernet commands
- EoA commands
- DSL commands

5.16 IP Commands

5.16.1 IP Net to Media Table Commands

5.16.1.1 Get arp

Description:
Use this command to display either the full ARP table or a single entry.

Command Syntax:
get arp [**rid** <rid-val>] [**ip** <ip-address>]

5.16.1.2 Create arp

Description:
Use this command to create a static entry in the ARP Table.

Command Syntax:
create arp [**rid** <rid-val>] **ip** <ip-address> **macaddr** <mac-address>

5.16.1.3 Delete arp

Description:
Use this command to delete an entry from the ARP table.

Command Syntax:
delete arp [**rid** <rid-val>] **ip** <ip-address>

Parameters:

Name	Description
rid <rid-val>	RID refers to the Routing Information Database. This database contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD (Independent Routing Database) where there are more than one RIDs in the system and each RID defines separate routes in context of itself. . If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define flow for packets coming on VLAN Id <X>. The other mode for the database is SRD (Shared Routing

	Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than one RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing. **Type:** Create – Optional Delete – Mandatory Get – Optional **Valid values:** 0 - 4095
ip <ip-address>	IP address corresponding to the media-dependent physical address. **Type:** Create – Mandatory Delete – Mandatory Get – Optional **Valid values:** 0.0.0.0 - 223.255.255.255
macaddr <mac-address>	The media-dependent physical address **Type:** Create – Mandatory **Valid values:** 0:0:0:0:0:1 - ff:ff:ff:ff:ff:fe

Example:

$ create arp rid 1 ip 192.168.161.11 macaddr 00:11:22:33:44:55

Output:

Verbose Mode On
Entry Created

RID : 1 Ifname : -
Type : static Mac Address : 00:11:22:33:44:55
Ip Address. : 192.168.161.11
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
RID	RID refers to the Routing Information Database. This database contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD(Independent Routing Database) where there are more than one RIDs in

	the system and each RID defines separate routes in context of itself. . If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define flow for packets coming on VLAN Id <X>. The other mode for the database is SRD(Shared Routing Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than one RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing.
Ifname	This specifies the physical interface for the media. It indicates the interface over which the IP address for which the IP Net to media mapping has been created can be reached.
Ip Address.	IP address corresponding to the media-dependent physical address.
Type	This defines the type of mapping in use. The value Invalid has the effect that this entry is not used. It may be: Static, Dynamic, Other
Mac Address	The media-dependent physical address

Cautions:

- The specified interface should pre-exist. Please refer to the create ethernetintf command.

References:

- delete arp command
- get arp command
- create ethernet intf command
- ip route related commands

5.16.2 IP Route Commands

5.16.2.1 Get ip route

Description: Use this command to get.

Command Syntax:

get ip route [**rid** <rid-val>] **ip** <dest-ip-address> **mask** <net-mask>

5.16.2.2 Create up route

Description:
Use this command to create.

Command Syntax:
create ip route [rid <rid-val>] **ip** <dest-ip-address> **mask mask** <net-mask> **gwyip** <gwy-ip-address> [**ifname** <interface-name> **|** anywan] [**proxyarpstatus** enable | disable]

5.16.2.3 Delete ip route

Description:
Use this command to create a routing table entry.

Command Syntax:
delete ip route [**rid** <rid-val>] **ip** <dest-ip-address> **mask mask** <net-mask>

Parameters:

Name	Description
rid <rid-val>	RID refers to the Routing Information Database. This database contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD (Independent Routing Database) where there are more than one RIDs in the system and each RID defines separate routes in context of itself. If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define flow for packets coming on VLAN Id <X>. The other mode for the database is SRD (Shared Routing Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than one RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing. **Type:** Create — Optional Delete — Optional Modify — Mandatory Get — Optional **Valid values:** 0 - 4095
ip <dest-ip-address>	Destination IP address of this route.

	Type: Create — Mandatory Delete — Mandatory Modify — Mandatory Get — Optional **Valid values:** 0.0.0.0 - 223.255.255.0
mask<net-mask>	Indicates the mask to be logical-ANDed with the destination address before being compared to the value in the ipRouteDest field. Only absolute routes can be added in the downstream direction for the IPOE interfaces (gsvIpRouteIfIndex as ipoe-*). The mask for all such routes has to be 255.255.255.255. The creation of default route in upstream (gsvIpRouteIfIndex as GS_CFG_ANY_WAN) can have the mask as 0.0.0.0 only. **Type:** Create — Mandatory Delete — Mandatory Modify — Mandatory Get — Optional **Valid values:** 0.0.0.0 - 255.255.255.0
gwyip <gwy-ip-address>	The IP address of the next hop of this route. Only absolute routes can be added in the downstream direction for the IPOE interfaces (gsvIpRouteIfIndex as ipoe-*). The next hop in such cases has to be same as the destination IP address (gsvIpRouteDest) specified. **Type:** Create — Mandatory **Valid values:** 0.0.0.0 - 223.255.255.0
ifname <interface-name> | anywan	The index value which uniquely identifies the local interface through which the next hop of this route should be reached. If IpRouteRid is not 0, than u32IpRouteIfIndex shall be mandatory to be specified in the "create ip route" command. The ifname value can be either ANYWAN (0xffffffff) or ifindex of any of the ipoe interface (ipoe-*). **Type:** Create — Optional Modify — Optional
proxyarpstatus enable |disable	This specifies if the Proxy ARP has to be done for this iproute table entry.If IpRouteRid value is 0, then ProxyArpStatus will not be specified while creating/modifying an entry in IpRoute Table. **Type:** Create — Optional Modify — Optional **Default value:** disable

Example:

$ create ip route rid 0 ip 192.168.161.12 mask 255.255.0.0 gwyip 172.26.6.100 ifname eth-0 routetype DIR ProxyArpStatus disable configstatus Auto

Output:

Verbose Mode On
Entry Created

Rid : 0 Destination : 192.168.161.12
Net Mask : 255.255.0.0 Gateway : 172.26.6.100
Ifname : eth-0 Route Type : DIR
Route Orig : LCL Age : 0
ProxyArpStatus : disable
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Rid	RID refers to the Routing Information Database. This database contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD (Independent Routing Database) where there are more than one RIDs in the system and each RID defines separate routes in context of itself. If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define flow for packets coming on VLAN Id <X>. The other mode for the database is SRD(Shared Routing Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than one RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing.
Destination	Destination IP address of this route.
Net Mask	Indicates the mask to be logical-ANDed with the destination address before being compared to the value in the ipRouteDest field. Only absolute routes can be added in the downstream direction for the IPOE interfaces (gsvIpRouteIfIndex as ipoe-*). The mask for all such routes has to be 255.255.255.255. The creation of default route in upstreamcan has the mask as 0.0.0.0 only.
Gateway	The IP address of the next hop of this route. Only absolute routes

	can be added in the downstream direction for the IPOE interfaces (gsvIpRouteIfIndex as ipoe-*). The next hop in such cases has to be same as the destination IP address (gsvIpRouteDest) specified.
Ifname	The index value which uniquely identifies the local interface through which the next hop of this route should be reached. If IpRouteRid is not GS_CFG_MGMT_RID, than u32IpRouteIfIndex shall be mandatory to be specified in the "create ip route" command. The ifname value can be either ANYWAN or ifindex of any of the ipoe interface (ipoe-*).
Route Type	The type of route. It may be: dir (for Direct) or ind (for Indirect).
Route Orig	The routing mechanism, through which this route was learned. It may be: NET (for Network Management), LCL (for Local), RIP, ICMP,DYI (Dynamic through Interface creation).
Age	The number of seconds since this route was last updated or otherwise determined to be correct.
ProxyArpStatus	This specifies if the Proxy ARP has to be done for this iproute table entry.If IpRouteRid value is 0, then ProxyArpStatus will not be specified while creating/modifying an entry in IpRoute Table.

References:

- get ip route command
- delete ip route command
- arp related commands.

5.16.3 Ipoa intf Commands

5.16.3.1 Get ipoa intf

Description:

Use this command to get.

Command Syntax:

get ipoa intf [**ifname** <interface-name>]

5.16.3.2 Create ipoa intf

Description:

Use this command to create.

Command Syntax:

create ipoa intf ifname <interface-name> **lowif** <**lowif-val**> [**configstatus** Normal | Config] [enable|disable]

5.16.3.3 Delete ipoa intf

Description:

Use this command to delete.

Command Syntax:

delete ipoa intf ifname <interface-name>

5.16.3.4 Modify ipoa intf

Description:

Use this command to modify.

Command Syntax:

modify ipoa intf ifname <interface-name> [enable|disable]

Parameters:

Name	Description
ifname **<**interface-name>	The Ipoa Interface **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0 -575
lowif <lowif-val>	This specifies the name of the lower AAL5 interface. **Type:** Create – Mandatory **Valid values:** 0 - 574
configstatus Normal |Config	This mode describes the configuration status for this interface. If the "config" bit is set then this interface shall be created but will have a dormant status. Only after the receipt of an Ipoa packet from CPE side this interface shall become active. The "In-Use" and "Not-In-Use" bits are read only bits. The "Not-In-Use" indicates that the entry is dormant and "In-Use" indicates that the entry is activated. **Type:** Create – Optional **Default value:** NormalEntry

enable|disable	Administrative status of the interface. **Type:** Optional **Valid values:** enable or disable

Example:
$ create ipoa intf ifname Ipoa-0 lowif aal5-0 configstatus Normal enable

Output:
Verbose Mode On
Entry Created

Ifname : Ipoa-0 Low IfName : aal5-0
Config Status : Normal
Oper Status : Up Admin Status : Enable
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Ifname	The Ipoa Interface
Low IfName	This specifies the name of the lower AAL5 interface.
Config Status	This mode describes the configuration status for this interface. If the "config" bit is set then this interface shall be created but will have a dormant status. Only after the receipt of an Ipoa packet from CPE side this interface shall become active. The "In-Use" and "Not-In-Use" bits are read only bits. The "Not-In-Use" indicates that the entry is dormant and "In-Use" indicates that the entry is activated.
Admin Status	Administrative status of the interface.
Oper Status	Operational status of the interface.

5.16.4 Ipoe intf Commands

5.16.4.1 Get ipoe intf

Description:
Use this command to get.

Command Syntax:
get ipoe intf [**ifname** <interface-name>]

5.16.4.2 Create ipoe intf

Description:
Use this command to create.

Command Syntax:
create ipoe intf ifname <interface-name> **lowif** <lowif-val> **macaddrprof** <macaddrprof-val> [**ethpkttype** Type2 | 802_3] [**inactivitytmrintrvl** <inactivitytmrintrvl-val>] [**routingstatus** enable | disable] [enable | disable]

5.16.4.3 Delete ipoe intf

Description:
Use this command to delete.

Command Syntax:
delete ipoe intf ifname <interface-name>

5.16.4.4 Modify ipoe intf

Description:
Use this command to modify.

Command Syntax:
modify ipoe intf ifname <interface-name> **lowif** <lowif-val> **macaddrprof** <macaddrprof-val> [**ethpkttype** Type2 | 802_3] [**inactivitytmrintrvl** <inactivitytmrintrvl-val>] [**routingstatus** enable | disable] [enable | disable]

Parameters:

Name	Description
ifname <interface-name>	The IPOE Tunneling Interface. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0-575
lowif <lowif-val>	This specifies the lower interface index.It contains the ifindex of the IPoA interface. **Type:** Create – Mandatory **Valid values:** 0 – 575
macaddrprof macaddrprof	Profile Id corresponding to the MAC address assigned to this IPOE interface. This Profile is created using the MacAddrProfileTable. **Type:** Create – Mandatory Modify – Optional **Valid values:** 1 -8
ethpkttype Type2 | 802_3	This specifies the type of the Packet. **Type:** Create – Optional Modify – Optional **Default value:** Type2
inactivitytmrintrvl inactivitytmrintrvl	This field specifies the time (in seconds) after which interfaces shall be marked inactive, if there is no data activity on this interface during this interval. This is used only when the bit corresponding to "ConfigEntry" is set for gsvIpoeConfigStatus field. A value of zero means the timer is not running. In autosensing scenario, an inactive interface is a candidate to deletion, if another protocol is sensed on Atm Vc Interface on which this interface is created **Type:** Create – Optional Modify – Optional **Valid values:** 0- 0xffffffff **Default value:** 0
routingstatus enable |disable	This specifies if the IP Routing Lookup has to be done for this interface. By default, for the downstream traffic destined for IPOE interface, IP lookup is done based on the downstream route configured for the IPOE interface.If iproutingstatus is disabled, layer 2 lookup shall be used instead, for forwarding the downstream traffic for this IPOE interface.

	Type: Create – Optional Modify – Optional **Default value:**enable
enable|disable	Administrative Status of the interface. **Type:** Optional **Valid values:** enable or disable

Example:

$ create ipoe intf ifname Ipoe-0 lowif Ipoa-0 macaddrprof 1 ethpkttype Type2 inactivitytmrintrvl 10 routingstatus disable cfgmode Auto enable

Output:

Verbose Mode On
Entry Created
Ifname : Ipoe-0 Low If Name : Ipoa-0
Mac Addr Prof : 1 Eth Pkt Type : Type2
InActivity Tmr Interval : 10
RoutingStatus : disable
Oper Status : Up Admin Status : Enable
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Ifname	The IPOE Tunneling Interface.
Low If Name	This specifies the lower interface index.It contains the ifindex of the IPoA interface.
Mac Addr Prof	Profile Id corresponding to the MAC address assigned to this IPOE interface. This Profile is created using the MacAddrProfileTable.
Eth Pkt Type	This specifies the type of the Packet.
InActivity Tmr Interval	This field specifies the time (in seconds) after which interfaces shall be marked inactive, if there is no data activity on this interface during this interval. This is used only when the bit corresponding to "ConfigEntry" is set for gsvIpoeConfigStatus field. A value of zero means the timer is not running. In autosensing scenario, an inactive interface is a candidate to deletion, if another protocol is sensed on Atm Vc Interface on which this interface is created

RoutingStatus	This specifies if the IP Routing Lookup has to be done for this interface. By default, for the downstream traffic destined for IPOE interface, IP lookup is done based on the downstream route configured for the IPOE interface.If iproutingstatus is disabled, layer 2 lookup shall be used instead, for forwarding the downstream traffic for this IPOE interface.
Admin Status	Administrative status of the interface.
Oper Status	Operational status of the interface.

5.16.5 Rid static Commands

5.16.5.1 Create rid static

Description:
Use this command to create.

Command Syntax:
create rid static rid <rid-val>

5.16.5.2 Delete rid static

Description:
Use this command to delete.

Command Syntax:
delete rid static rid <rid-val>

Parameters:

Name	Description
rid <rid-val>	RID refers to the Routing Information Database. This database contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD (Independent Routing Database) where there are more than one RIDs in the system and each RID defines separate routes in context of itself. If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define

	flow for packets coming on VLAN Id <X>. The other mode for the database is SRD(Shared Routing Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than one RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing. A value of RID as 0 has a special meaning. RID value 0 refers to management RID and all entries created in context of RID value 0 shall be for routes related to the management/control. In Stacked Vlan Mode the Vlan Corresponding to RID is Virtual Vlan while in Native Vlan mode this is normal Vlan(C-VLAN). **Type:** Create – Mandatory Delete – Mandatory Get – Optional **Valid values:** 1 - 4095

Example:

$ create rid static rid 1

Output:

Verbose Mode On

Entry Created

RID : 1

Verbose Mode Off:

Entry Created

Output Fields:

FIELD	Description
RID	RID refers to the Routing Information Database. This database contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD (Independent Routing Database) where there are more than one RIDs in the system and each RID

	defines separate routes in context of itself. . If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define flow for packets coming on VLAN Id <X>. The other mode for the database is SRD(Shared Routing Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than one RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing. A value of RID as 0 has a special meaning. RID value 0 refers to management RID and all entries created in context of RID value 0 shall be for routes related to the management/control. In Stacked Vlan Mode the Vlan Corresponding to RID is Virtual Vlan while in Native Vlan mode this is normal Vlan(C-VLAN).

5.17 MacProfile Commands

5.17.1 Macprofile globle Commands

5.17.1.1 Get macprofile global

Description:
Use this command to get.

Command Syntax:
get macprofile global [**profileid** <profileid-val>]

5.17.1.2 Create macprofile global

Description:
Use this command to create.

Command Syntax:
create macprofile global profileid <profileid-val>**macaddr** <macaddr-val>

5.17.1.3 Delete macprofile global

Description:
Use this command to delete.

Command Syntax:
get macprofile global profileid <profileid-val>

Parameters:

Name	Description
profileid <profileid-val>	Profile Id of the MAC Address configured. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 8
macaddr <macaddr-val>	MAC Address for the profile. **Type:** Create -- Mandatory

Example:
$ create macprofile global profileid 3 macaddr 00:30:4F:61:C1:BE

Output:
Verbose Mode On
Entry Created

Profile Id MAC Address
---
3 00:30:4F:61:C1:BE
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Profile Id	Profile Id of the MAC Address configured.
MAC Address	MAC Address for the profile.

5.17.2 Resvdmac profile info Commands

5.17.2.1 Get resvdmac profile info

Description:
Use this command to get.

Command Syntax:
get resvdmac profile info [**profileid** <profileid-val>]

5.17.2.2 Create resvdmac profile info

Description:
Use this command to create.

Command Syntax:
create resvdmac profile info profileid <profileid-val>

5.17.2.3 Delete resvdmac profile info

Description:
Use this command to delete.

Command Syntax:

delete resvdmac profile info profileid <profileid-val>

Parameters:

Name	Description
profileid <profileid-val>	Profile Id of the MAC Address configured. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 8

Example:

$ create resvdmac profile info profileid 4

Output:

Verbose Mode On

Entry Created

Profile ID : 4

Verbose Mode Off:

Entry Created

Output Fields:

FIELD	Description
Profile Id	Profile Id of the MAC Address configured.

5.17.3 Resvdmac profile param Commands

5.17.3.1 Get resvdmac profile param

Description:

Use this command to get.

Command Syntax:

get resvdmac profile param [**profileid** <profileid-val>] [**mcastaddr** <mcastaddr-val>]

5.17.3.2 Create resvdmac profile param

Description:

Use this command to create.

Command Syntax:

create resvdmac profile param profileid <profileid-val>**mcastaddr** <mcastaddr-val>**action** Drop | TransformedBcast | Participate

5.17.3.3 Delete resvdmac profile param

Description:

Use this command to delete.

Command Syntax:

get resvdmac profile param profileid <profileid-val> **mcastaddr** <mcastaddr-val>

Parameters:

Name	Description
profileid <profileid-val>	Profile Id of the MAC Address configured. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 8
mcastaddr <mcastaddr-val>	This is Reserved Multicast address. This multicast address can only be 00:30:4F:00:00:xx, where 'xx' lies between 00-0f and 20-2f. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional
action Drop | TransformedBcast | Participate	This is the action corresponding to reserved multicast address. 'Drop' action leads to dropping of corresponding frames. 'TransformedBcast' leads to sending of the frames broadcasted over all the ports as if for a broadcast frame (bridging restrictions, filtering, transformations shall apply). 'Participate' action leads to frame coming to Control Plane and it shall be given to the registered protocol module. **Type:** Create -- Mandatory

Example:

$ create resvdmac profile param Profileid 4 mcastaddr 00:30:4f:00:00:00 action Drop

Output

Verbose Mode On
Entry Created

Profile ID : 4 Multicast address : 00:30:4f:00:00:00
Action : Drop

Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Profile Id	Profile Id of the MAC Address configured.
Multicast address	This is Reserved Multicast address. This multicast address can only be 00:30:4F:00:00:xx, where 'xx' lies between 00-0f and 20-2f.
Action	This is the action corresponding to reserved multicast address. 'Drop' action leads to dropping of corresponding frames. 'TransformedBcast' leads to sending of the frames broadcasted over all the ports as if for a broadcast frame (bridging restrictions, filtering, transformations shall apply). 'Participate' action leads to frame coming to Control Plane and it shall be given to the registered protocol module.

5.18 Management Traffic Commands

5.18.1 Ctlpkt group info Commands

5.18.1.1 Get ctlpkt group info

Description:
Use this command to get.

Command Syntax:
get ctlpkt group info [**groupid** <groupid-val>] [**ctlflowid** <ctlflowid-val>]

5.18.1.2 Create ctlpkt group info

Description:
Use this command to create.

Command Syntax:
create ctlpkt group info groupid <groupid-val>**ctlflowid** <ctlflowid-val>**instanceid** <instanceid-val>]

5.18.1.3 Delete ctlpkt group info

Description:
Use this command to delete.

Command Syntax:
delete ctlpkt group info groupid <groupid-val>**ctlflowid** <ctlflowid-val>

Parameters:

Name	Description
groupid <groupid-val>	The control packet group identifier **Type**: Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values**: 1 - 50
ctlflowid <ctlflowid-val>	The Control packet flow id. **Type**: Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values**: 1 - 0x4

instanceid <instanceid-val>	The Control packet instance Id. **Type**: Create -- Mandatory **Valid values**: 1 - 26

Example:

$ create ctlpkt group info groupid 1 ctlflowid 1 instanceid 1

Output:

Verbose Mode On
Entry Created

Group Id : 1
Control Flow Id : 1 Instance Id : 1

Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Group Id	The control packet group identifier
Control Flow Id	The Control packet flow id.
Instance Id	The Control packet instance Id.

References:

- See Control Packet Instance Group related commands

5.18.2 Ctlpkt instance info Commands

5.18.2.1 Get ctlpkt instance info

Description:

Use this command to get.

Command Syntax:

get ctlpkt instance info [**instanceid** <instanceid-val>]

5.18.2.2 Create ctlpkt instance info

Description:

Use this command to create.

Command Syntax:
create ctlpkt instance info instanceid <instanceid-val>**profileid** <profileid-val> **classid** <classid-val>

5.18.2.3 Delete ctlpkt instance info

Description:
Use this command to delete.

Command Syntax:
delete ctlpkt instance info instanceid <instanceid-val>

5.18.2.4 Modify ctlpkt instance info

Description:
Use this command to modify.

Command Syntax:
modify ctlpkt instance info instanceid <instanceid-val>**profileid** <profileid-val> **classid** <classid-val>

Parameters:

Name	Description
instanceid <instanceid-val>	The control packets instance id. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 26
profileid <profileid-val>	This field identifies the control packet profile whose instance is being created. **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 8
classid <classid-val>	This field specifies the classid of the Instance. Class id shall be treated as the service priority of this instance. **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 0x4

Example:
$ create ctlpkt instance info instanceid 1 profileid 1 classid 1

Output:
Verbose Mode On
Entry Created

Instance Id : 1
Profile Id : 1 Class Id : 1

Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Instance Id	The control packets instance id.
Profile Id	This field identifies the control packet profile whose instance is being created.
Class Id	This field specifies the classid of the Instance. Class id shall be treated as the service priority of this instance.

References:
- see control packet profile instance related commands

5.18.3 Ctlpkt profile info Commands

5.18.3.1 Get ctlpkt profile info

Description:
Use this command to get.

Command Syntax:
get ctlpkt profile info [**profileid** <profileid-val>]

5.18.3.2 Create ctlpkt profile info

Description:
Use this command to create.

Command Syntax:
create ctlpkt profile info profileid <profileid-val>**maxctlpkts** <maxctlpkts-val> **thrshld1** <thrshld1-val>

5.18.3.3 Delete ctlpkt profile info

Description:
Use this command to delete.

Command Syntax:
delete ctlpkt profile info [**profileid** <profileid-val>]

5.18.3.4 Modify ctlpkt profile info

Description:
Use this command to modify.

Command Syntax:
modify ctlpkt profile info profileid <profileid-val> [**maxctlpkts** <maxctlpkts-val>] [**thrshld1** <thrshld1-val>]

Parameters:

Name	Description
profileid <profileid-val>	The control packet's profile id. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 8
maxctlpkts <maxctlpkts-val>	This specifies the maximum control packets that can be pending for an instance of this profile. **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 63
thrshld1 <thrshld1-val>	This specifies the number of outstanding control packets for each instance, when control plane is congested. **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 -63

Example:

$ create ctlpkt profile info profileid 1 maxctlpkts 32 thrshld1 32

Output:

Verbose Mode On
Entry Created

Profile Id : 1
Max Ctl Pkts : 32 Threshold1 : 32

Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Profile Id	The control packet's profile id.
Max Ctl Pkts	This specifies the maximum control packets that can be pending for an instance of this profile.
Threshold1	This specifies the number of outstanding control packets for each instance, when control plane is congested.

References:

- See control packet profiles related commands.

5.19 PPPoE Tunneling Commands

5.19.1 PPPoE Global ACprofile Commands

5.19.1.1 Get pppoe global acprofile

Description:
Use this command to get.

Command Syntax:
get pppoe global acprofile [**profileid** <profileid-val>]

5.19.1.2 Create pppoe global acprofile

Description:
Use this command to create.

Command Syntax:
create pppoe global acprofile profileid <profileid-val> **acname** <acname-val>

5.19.1.3 Delete pppoe global acprofile

Description:
Use this command to delete.

Command Syntax:
delete pppoe global acprofile profileid <profileid-val>]

Parameters:

Name	Description
profileid profileid	Profile Id of the AC Name configured. **Type:** Create – Mandatory Delete – Mandatory Get – Optional **Valid values:** 1 - 8
acname acname	AC Name for the Session, based on which, the AC is selected. **Type:** Create – Mandatory

Example:
$ create pppoe global acprofile profileid 2 acname ABCServer

Output:

Verbose Mode On

Entry Created

Profile Id AC Name

---

2 ABCServer

Verbose Mode Off:

Entry Created

Output Fields:

FIELD	Description
Profile Id	Profile Id of the AC Name configured.
AC Name	AC Name for the Session, based on which, the AC is selected.

References:

- PPPoE global ACprofile related commands.

5.19.2 PPPoE Global Config Commands

5.19.2.1 Get pppoe global config

Description:

Use this command to get.

Command Syntax:

get pppoe global config

5.19.2.2 Create pppoe global config

Description:

Use this command to modify.

Command Syntax:

modify pppoe global config [**padimaxnumretries <**padimaxnumretries-val>] [**padrmaxnumretries <**padrmaxnumretries-val>] [**paditxintrvl** <paditxintrvl-val>] [**padrtxintrvl<**padrtxintrvl-val>] [**wandntmrintrvl** <wandntmrintrvl-val>] [**inactivitytmrintrvl** <inactivitytmrintrvl-val> **]** [**discmaxnumretries** <discmaxnumretries-val>]

Parameters:

Name	Description
padimaxnumretries <padimaxnumretries-val>	Maximum number of times the PPPoE Client sends a PADI for establishing a PPPoE Session. **Type:** Modify – Optional **Valid values:** 1 -10
padrmaxnumretries <padrmaxnumretries val>	Maximum number of times the PPPoE Client sends a PADR for establishing a PPPoE Session. **Type:** Modify – Optional **Valid values:** 1 -10
paditxintrvl <paditxintrvl -val>	The time, n seconds, between PADI retries from the PPPoE Client. **Type:** Modify – Optional **Valid values:** 1 -60
padrtxintrvl <padrtxintrvl-val>	The time, n seconds, between PADR retries from the PPPoE Client. **Type:** Modify – Optional **Valid values:** 1 -60
wandntmrintrvl <wandntmrintrvl-val>	The time, n seconds, for timeout of the WAN Down Timer. The timer is started when the WAN goes down, and if the timer times out, the session is teared down. A value of zero for this timer means it is not running. **Type:** Modify – Optional **Valid values:** 0 - 0xffffffff
inactivitytmrintrvl <inactivitytmrintrvl-val>	The time, n seconds, for timeout of the Inactivity Timer. The session can remain inactive for atmost these n seconds after which it is teared down. A value of zero means the timer is not running. **Type:** Modify – Optional **Valid values:** 0 - 0xffffffff
discmaxnumretries <discmaxnumretries-val>	The maximum number of times the PPPoE client does a discovery stage for establishing a PPPoE session. A trap is given to GAG on reaching this number. **Type:** Modify – Optional **Valid values:** 1 -5

Example:

$ get pppoe global Config

Output:

Max Total Sessions : 10 PADI Max Num Retries : 10
PADR Max Num Retries : 10 PADI Tx Interval : 5
PADR Tx Interval : 5 WAN Dn Tmr Interval : 10
InActivity Tmr Interval : 20 DISC Max Num Retries : 3

Output Fields:

FIELD	Description
Max Total Sessions	Maximum number of PPPoE sessions supported.
PADI Max Num Retries	Maximum number of times the PPPoE Client sends a PADI for establishing a PPPoE Session.
PADR Max Num Retries	Maximum number of times the PPPoE Client sends a PADR for establishing a PPPoE Session.
PADI Tx Interval	The time, n seconds, between PADI retries from the PPPoE Client.
PADR Tx Interval	The time, n seconds, between PADR retries from the PPPoE Client.
WAN Dn Tmr Interval	The time, n seconds, for timeout of the WAN Down Timer. The timer is started when the WAN goes down, and if the timer times out, the session is teared down. A value of zero for this timer means it is not running.
InActivity Tmr Interval	The time, n seconds, for timeout of the Inactivity Timer. The session can remain inactive for atmost these n seconds after which it is teared down. A value of zero means the timer is not running.
DISC Max Num Retries	The maximum number of times the PPPoE client does a discovery stage for establishing a PPPoE session. A trap is given to GAG on reaching this number.

References:

- PPPoE global config related commands.

5.19.3 PPPoE Global Serviceprofile Commands

5.19.3.1 Get pppoe global serviceprofile

Description:
Use this command to get.

Command Syntax:
get pppoe global serviceprofile [**profileid** <profileid-val>]

5.19.3.2 Create pppoe global serviceprofile

Description:
Use this command to create.

Command Syntax:
create pppoe global serviceprofile profileid <profileid-val> **servicename** <servicename-val>

5.19.3.3 Delete pppoe global serviceprofile

Description:
Use this command to delete.

Command Syntax:
delete pppoe global serviceprofile profileid <profileid-val>

Parameters:

Name	Description
profileid <profileid-val>	Profile Id of the Service Name configured. **Type:** Create – Mandatory Delete – Mandatory Get – Optional **Valid values:** 1 -4
servicename **<**servicename-val>	Service Name for the Session, based on which, the AC is selected. **Type:** Create – Mandatory

Example:
$ create pppoe global serviceprofile profileid 1 servicename any

Output:

Verbose Mode On
Entry Created

Profile Id Service Name
---
1 any
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Profile Id	Profile Id of the Service Name configured.
Service Name	Service Name for the Session, based on which, the AC is selected.

References:

- PPPoE global serviceprofile related commands.

5.19.4 PPPoE Global Stats Commands

5.19.4.1 Get pppoe global stats

Description:

Use this command to get.

Command Syntax:

get pppoe global stats

Parameters:

none

Example:

$ get pppoe global stats

Output:

Active Sessions : 10 Total Sessions : 12
Peak Active Sessions : 12 Num of PADI Tx : 20
Num of PADI Timeouts : 3 Num of PADR Tx : 15
Num of PADR Timeouts : 2 Num of PADT Tx : 2
Num of PADT Rx : 3 Num of PADT Rejected : 1

Num of PADO Rx : 2 Num of PADO Rejected : 1
Num of PADS Rx : 12 Num of PADS Rejected : 0
Num of Malformed Pkts Rx : 2

Output Fields:

FIELD	Description
Active Sessions	The number of active pppoe sessions in the system.
Total Sessions	The total number of PPPoE sessions.
Peak Active Sessions	Peak number of active PPPoE sessions.
Num of PADI Tx	The number of PPPoE PADI transmitted.
Num of PADI Timeouts	The number of PPPoE timeouts waiting for a response to a PADI.
Num of PADR Tx	The number of PPPoE PADR transmitted.
Num of PADR Timeouts	The number of PPPoE timeouts waiting for a response to a PADR.
Num of PADT Tx	The number of PPPoE PADT transmitted.
Num of PADT Rx	The number of PPPoE PADT received.
Num of PADT Rejected	The number of PPPoE PADT discarded.
Num of PADO Rx	The number of PPPoE PADO received.
Num of PADO Rejected	The number of PPPoE PADO discarded.
Num of PADS Rx	The number of PPPoE PADS received.
Num of PADS Rejected	The number of PPPoE PADS discarded.
Num of Malformed Pkts Rx	The number of PPPoE malformed packets received.

References:

- PPPoE global stats related commands.

5.19.5 Pppoe intf Commands

5.19.5.1 Get pppoe intf

Description:
Use this command to get.

Command Syntax:
get pppoe intf [**ifname** <interface-name>]

5.19.5.2 Create pppoe intf

Description:
Use this command to create.

Command Syntax:
create pppoe intf ifname <interface-name> **lowif** <lowif –val>[**wanbridgeport** <wanbridgepor-val>t] [**sessionid** <sessionid-val>] [**acmacaddr** <acmacaddr-val>] **macaddrprof** <macaddrprof-val> [**servicenameprof** <servicenameprof-val> | any | anyconfigured] [**acnameprof** <acnameprof-val> | any | anyconfigured] [**ethpkttype** Type2 | 802_3] [**nature** dynamic | static] [enable | disable]

5.19.5.3 Delete pppoe intf

Description:
Use this command to delete.

Command Syntax:
delete pppoe intf ifname <interface-name>

5.19.5.4 Modify pppoe intf

Description:
Use this command to modify.

Command Syntax:
modify pppoe intf ifname <interface-name> **lowif** <lowif –val>[**wanbridgeport** <wanbridgepor-val>t] [**sessionid** <sessionid-val>] [**acmacaddr** <acmacaddr-val>] **macaddrprof** <macaddrprof-val> [**servicenameprof** <servicenameprof-val> | any | anyconfigured] [**acnameprof** <acnameprof-val> | any | anyconfigured] [**ethpkttype** Type2 | 802_3] [**nature** dynamic | static] [enable | disable]

Parameters:

Name	Description
lowif <lowif-val>	This specifies the lower interface index. It contains the ifindex of the PPP relay interface. **Type:** Create – Mandatory **Valid values:** 0 - 254
wanbridgeport <wanbridgeport-val>	WAN side bridge port. A value of zero means any WAN side port is acceptable. Currently, only value zero is supported.

	Type: Create — Optional Modify — Optional **Default value:** 0x0
sessionid **<**sessionid-val>	Session Id for the session given only in case a static session is being created. **Type:** Create — Optional Modify — Optional **Valid values:** 1 - 0xffff **Default value:** 0x0
acmacaddr **<**acmacaddr-val>	MAC address of the remote AC given only in case a static session is being created. **Type:** Create — Optional Modify — Optional **Default value:** 00:00:00:00:00:00
macaddrprof **<**macaddrprof-val>	Profile Id for self MAC addresses. The profile for the same is created using the PPPoEMacAddrProfileTable. **Type:** Create — Mandatory Modify — Optional
servicenameprof <servicenameprof-val> | any |anyconfigured	Profile Id related to Service Name for the Session based on which the AC is selected.The Profile for the same is created using the PPPoESessionProfileTable. A value of "any" means no specific service is needed to select an AC. A value of "anyconfigured"means any configured service name profile can be used for selecting an AC. **Type:** Create — Optional Modify — Optional **Valid values:** , 0-0xffffffff **Default value:** 0
acnameprof <acnameprof-val> |any | anyconfigured	Profile Id related to AC Name for the Session based on which the AC is selected. The Profile for the same is created using the PPPoEAcProfileTable. A value of "any" means no specific AC is needed for establishing a session on the WAN side. A value of "anyconfigured"means any configured AC name profile can be used for selecting an AC. **Type:** Create — Optional Modify — Optional **Valid values:** 0-0xffffffff **Default value:** 0
ethpkttype Type2 | 802_3	This specifies the type of the packet. **Type:** Create — Optional Modify — Optional

	Default value: Type2
nature dynamic | static	Specifies if the interface is dynamic or static in nature. The session is assumed to be in established state when the interface is static in nature. **Type:** Create – Optional Modify – Optional **Default value:** dynamic
enable | disable	Administrative status of the interface. **Type:** Create – Optional Modify – Optional **Valid values:** enable, disable **Default value:** enable

Example:

$ create pppoe intf ifname pppoe-0 lowif ppp-0 wanbridgeport 1 sessionid 10 acmacaddr 00:30:4F:61:C1:BE macaddrprof 1 servicenameprof 2 acnameprof 4 ethpkttype Type2 nature dynamic 0x1 enable

Output:

Verbose Mode On
Entry Created

Ifname : pppoe-0 Low If Name : ppp-0
WAN Bridge Port : 1 Session Id : 10
AC Mac Addr : 00:30:4F:61:C1:BE Mac Addr Prof : 1
Service Name Profile : 2
AC Name Prof : 4
Eth Pkt Type : Type2 Nature : dynamic
Oper Status : Up Admin Status : Enable
Verbose Mode Off:
Entry Created

Output Fields

FIELD	Description
Ifname	The PPPoE Interface.
Low If Name	This specifies the lower interface index. It contains the ifindex of the PPP relay interface.
WAN Bridge Port	WAN side bridge port. A value of zero means any WAN side port is acceptable. Currently, only value zero is supported.

Session Id	Session Id for the session given only in case a static session is being created.
AC Mac Addr	MAC address of the remote AC given only in case a static session is being created.
Mac Addr Prof	Profile Id for self MAC addresses. The profile for the same is created using the PPPoEMacAddrProfileTable.
Service Name Profile	Profile Id related to Service Name for the Session based on which the AC is selected.The Profile for the same is created using the PPPoESessionProfileTable. A value of "any" means no specific service is needed to select an AC. A value of "anyconfigured"means any configured service name profile can be used for selecting an AC.
AC Name Prof	Profile Id related to AC Name for the Session based on which the AC is selected. The Profile for the same is created using the PPPoEAcProfileTable. A value of "any" means no specific AC is needed for establishing a session on the WAN side. A value of "anyconfigured"means any configured AC name profile can be used for selecting an AC.
Eth Pkt Type	This specifies the type of the packet.
Nature	Specifies if the interface is dynamic or static in nature. The session is assumed to be in established state when the interface is static in nature.
Oper Status	The actual/current state of the interface. It can be either up or down.
Admin Status	The desired state of the interface. It may be either Up or Down.

References:

- PPPoE session config related commands.

5.19.6 PPPoE Session Stats Commands

5.19.6.1 Get pppoe session stats

Description:
Use this command to get.

Command Syntax:
get pppoe session stats [ifname <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	The PPPoE interface. **Type:** Get -- Optional **Valid values:** 0 - 254

Example:
$ get pppoe session stats ifname pppoe-0

Output:
Ifname : pppoe-0
Session Id : 10 Peer Mac Addr : 00:30:4F:61:C1:BE
Num of PADI Tx : 4 Num of PADI Timeouts : 2
Num of PADR Tx : 1 Num of PADR Timeouts : 0
Num of PADT Tx : 1 Num of PADT Rx : 1
Num of PADT Rejected : 1 Num of PADO Rx : 2
Num of PADO Rejected : 0 Num of Multi PADO Rx : 1
Num of PADS Rx : 1 Num of PADS Rejected : 0
Num of Malformed Pkts Rx : 5 Num of Generic Err Rx : 1
Version : 1 Type : 1
Connect Time : Mon Apr 18 14:00:59 2004
Duration (s) : 100 AC Cookie :
A1659E40766EDBD7214E18095A5E500C
Host Unique : 0000003E State : sessionStage
Service Name : dvt AC Name : REDBACK

Output Fields:

FIELD	Description
Ifname	The PPPoE interface.
Session Id	Session Id.
Peer Mac Addr	MAC address of the remote AC.
Num of PADI Tx	The number of PPPoE PADI transmitted.
Num of PADI Timeouts	The number of PPPoE timeouts waiting for a response to a PADI.
Num of PADR Tx	The number of PPPoE PADR transmitted.
Num of PADR Timeouts	The number of PPPoE timeouts waiting for a response to a PADR.
Num of PADT Tx	The number of PPPoE PADT transmitted.
Num of PADT Rx	The number of PPPoE PADT received.
Num of PADT Rejected	The number of PPPoE PADT discarded.
Num of PADO Rx	The number of PPPoE PADO received.
Num of PADO Rejected	The number of PPPoE PADO discarded.
Num of Multi PADO Rx	Number of times more than 1 PPPoE PADO was received.
Num of PADS Rx	The number of PPPoE PADS received.
Num of PADS Rejected	The number of PPPoE PADS discarded.
Num of Generic Err Rx	Number of generic errors received.
Version	Version as given in the PPPoE rfc-2516.
Type	Type as given in the PPPoE rfc-2516.
Connect Time	Time when the session was established.
Duration (s)	Number of seconds since the session was established.
AC Cookie	Binary sequence representing the AC cookie given in negotiations.
Host Unique	Binary sequence representing the host unique tag value.
State	State that session is in.
Service Name	Service name with which the session came up.
AC Name	AC name with which the session came up.
Num of Malformed Pkts Rx	The number of PPPoE malformed packets received.

References:

- PPPoE session stats related commands.

5.19.7 PPPPR Interface Commands

5.19.7.1 Get pppr intf

Description:
Use this command to get.

Command Syntax:
get pppr intf [**ifname** <interface-name>]

5.19.7.2 Create pppr intf

Description:
Use this command to create.

Command Syntax:
create pppr intf ifname <interface-name>**lowif** <lowif-val> [**maxpdu** <maxpdu-val>] [**pppprackto** <pppprackto-val>] [**lowiftoggletimerto** <lowiftoggletimerto-val>] [**nature** dynamic | static] **[configstatus** Normal | Config] [**pktpriority** <pktpriority-val>] [enable | disable]

5.19.7.3 Delete pppr intf

Description:
Use this command to delete.

Command Syntax:
delete pppr intf ifname <interface-name>

5.19.7.4 Modify pppr intf

Description:
Use this command to modify.

Command Syntax:
modify pppr intf ifname <interface-name> [**pppprackto** <pppprackto-val>] **lowiftoggletimerto** <lowiftoggletimerto-val>**] [nature** dynamic | static] [**pktpriority** <pktpriority-val>] [enable | disable]

Parameters:

Name	Description
ifname <interface-name>	The PPPR interface. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0 – 254
lowif <lowif-val>	This specifies the name of the lower AAL5 interface. **Type:** Create –Mandatory **Valid values:** 0 - 574
maxpdu <maxpdu-val>	This specifies the maximum PDU size on a PPPR interface. **Type:** Create – Optional **Valid values:** 0 - 1492 **Default value:** 1492
ppprackto <ppprackto-val>	Time in seconds to wait for LCP terminate Ack, after sending a terminate request. **Type:** Create – Optional Modify – Optional **Valid values:** 0 -10 **Default value:** 5
lowiftoggletimerto <lowiftoggletimerto-val>	Time in seconds to wait for lowif to come up without tearing down the pppr session. **Type:** Create – Optional Modify – Optional **Valid values:** 0 – 10 **Default value:** 5
nature dynamic | static	Specifies if the interface is dynamic or static in nature. **Type:** Create – Optional Modify – Optional **Default value:** Dynamic
configstatus Normal |Config	This mode describes the configuration status for the interface. If the "config" bit is set, this interface shall be created, but will have a dormant status. Only after the receipt of an pppoa packet from the CPE side, this interface shall become active. **Type:** Create – Optional

	Modify – Optional **Default value:** Normal
enable | disable	Administrative status of the interface **Type**: Optional **Valid values**: enable or disable **Default Value**: enable
pktpriority <pktpriority-val>	Priority to be set in tagged PPPOE frames or PPP packets sent over this port from Control Plane .This priority shall also be used for choice of traffic class/ Queue on outgoing interface whether the frame is tagged or not.In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent. **Type:** Create – Optional Modify – Optional **Valid values:** 0 – 7 **Default value:** 0

Example:

$ create pppr intf ifname pppr-0 lowif aal5-0 maxPdu 1484 ppprAckTO 10 lowifToggleTimerTO 10 nature dynamic configstatus Normal

Output:

Verbose Mode On
Entry Created

Ifname : pppr-0 Low IfName : aal5-0
Max PDU Size : 1484 Ter Ack TimeOut : 10
Lowif Toggle TimeOut : 10
Nature : dynamic Config Status : Normal
Operational Status : up Admin Status : up
PPPOA PacketsPrio:2
Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Ifname	The PPPR interface.
Low IfName	This specifies the name of the lower AAL5 interface.
Max PDU Size	This specifies the maximum PDU size on a PPPR interface.
Ter Ack TimeOut	Time in seconds to wait for LCP terminate Ack, after sending a terminate request.
Lowif Toggle TimeOut	Time in seconds to wait for lowif to come up without tearing down the pppr session.
Nature	Specifies if the interface is dynamic or static in nature.
Config Status	This mode describes the configuration status for the interface. If the "config" bit is set, this interface shall be created, but will have a dormant status. Only after the receipt of an pppoa packet from the CPE side, this interface shall become active. The "In-Use" and "Not-In-Use" bits are read-only bits. The "Not-In-Use" bit indicates that the entry is dormant and "In-Use" bit indicates that the entry is activated.
Operational Status	The actual/current state of the interface. It may be either Up or Down.
Admin Status	The desired state of the interface. It may be either Up or Down.
PPPOA PacketsPrio	Priority to be set in tagged PPPOE frames or PPP packets sent over this port from Control Plane .This priority shall also be used for choice of traffic class/ Queue on outgoing interface whether the frame is tagged or not.In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent.

5.20 IA (Intermeida Agent) Commands

5.20.1 Dra global stats Commands

5.20.1.1 Get dra global stats

Description:
Use this command to get t.

Command Syntax:
get dra global stats

5.20.1.2 Reset dra global stats

Description:
Use this command to reset.

Command Syntax:
reset dra global stats

Parameter:
None

Example:
$ get dra global stats

Output:

DRA Disc Count : 40	DRA Req Count : 40
DRA Decline Count : 30	DRA Inform Count : 20
DRA Offer Count : 10	DRA Ack Count : 10
DRA Nack Count : 50	

Output field:

Field	Description
DRA Disc Count	Number of DHCP discovery packets received
DRA Req Count	Number of DHCP request packets received
DRA Decline Count	Number of DHCP decline packets received
DRA Inform Count	Number of DHCP inform packets received
DRA Offer Count	Number of DHCP offer packets received
DRA Ack Count	Number of DHCP Ack packets received
DRA Nack Count	Number of DHCP Nack packets received

References:
DHCP Relay Agent commands

5.20.2 Dra instance entry Commands

5.20.2.1 Get dra instance entry

Description:
Use this command to get.

Command Syntax:
get dra instance entry [**portid** <portid-val>] [**vlan** <vlan-val>]

5.20.2.2 Create dra instance entry

Description:
Use this command to create.

Command Syntax:
create dra instance entry portid <portid-val> **vlan** <vlan-val> **profileid** <profileid-val> [**status** disable | client | server] [**op82** disable | AddAlways | AddIfNotExists] [**configsuboption** aci | Portid | None] [**acival** <acival-val>] [**raival** <raival-val>] [**syncratefields** ActualDataRateupstrm | ActualDataRatednstrm | MinDataRateupstrm | MinDataRatednstrm | AttainableDataRateupstrm | AttainableDataRatednstrm | MaxDataRateupstrm | MaxDataRatednstrm | MinLpDataRateupstrm | MinLpDataRatednstrm | MaxDelayupstrm | ActualDelayupstrm | MaxDelaydnstrm | ActualDelaydnstrm | None] [**op82fromclientact** drop | forward] [**learning** disable | enable] [**portno** <portno-val>] [**draaddop82tounicast** disable | enable]

5.20.2.3 Delete dra instance entry

Description:
Use this command to Delete.

Command Syntax:
delete dra instance entry portid <portid-val> **vlan** <vlan-val>

5.20.2.4 Modify dra instance entry

Description:
Use this command to modify.

Command Syntax:
modify dra instance entry portid <portid-val> **vlan** <vlan-val> [**profileid** <profileid-val>] [**status** disable | client | server] [**op82** disable | AddAlways | AddIfNotExists] [**configsuboption** aci | Portid | None | None] [**acival** <acival-val>] [**raival** <raival-val>] [**syncratefields** ActualDataRateupstrm | ActualDataRatednstrm | MinDataRateupstrm | MinDataRatednstrm | AttainableDataRateupstrm | AttainableDataRatednstrm | MaxDataRateupstrm | MaxDataRatednstrm | MinLpDataRateupstrm | MinLpDataRatednstrm | MaxDelayupstrm | ActualDelayupstrm | MaxDelaydnstrm | ActualDelaydnstrm | None | None] [**op82fromclientact** drop | forward] [**learning** disable | enable] [**portno** <portno-val>] [**draaddop82tounicast** disable | enable]

Parameters

Name	Description
portid <portid-val>	Bridge Port Identifier **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 194
vlan <vlan-val>	VLAN identifier. In case of stacked mode this is virtual VLAN **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4095

profileid <profileid-val>	DRA profile identifier. This shall be used for this DRA instance **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 4
status disable | client | server	This field is used to configure the status of DHCP relay agent per instance. It can be disabled or configured as client port or server port. If it is configured as client port then it adds option 82 and /or do learning as per configuration. If it is configured as server port then it removes option 82 and does learning if we dont get portid from agent circuit id. **Type:** Create -- Optional Modify -- Optional **Default value:** disable
op82 disable | AddAlways | AddIfNotExists	This specifies the action to be performed on Option 82 on receiving DHCP discovery packets for this instance. If disabled DRA will not add Option82 tag to the DHCP packets. If AddAlways is set then Option 82 is always added. If AddIfNotExists is set then Option 82 is added only if the received DHCP packet does not contain Option 82. **Type:** Create -- Optional Modify -- Optional **Default value:** AddAlways
configsuboption aci | Portid | None | None	This bitmask is used to indicate which all parameters are configured for this instance. Parameter bit set in this bitmask will overwrite the automatically derived values of agent circuit Id and/or port id by the values configured in this MO. **Type:** Create -- Optional Modify -- Optional **Default value:** None
acival <acival-val>	This is use to configure agent circuit id for this instance. If ACI bit is set in gsvDRAConfigSubOptionthen this parameter will overwrite the generated Agent Circuit Id **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"
raival <raival-val>	This is use to configure remote agent id for this instance. This parameter uniquely identifies the subscriber on the associated access loop logical port on the Columbia. **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"

syncratefields ActualDataRateupstrm | ActualDataRatednstrm | MinDataRateupstrm | MinDataRatednstrm | AttainableDataRateupstrm | AttainableDataRatednstrm | MaxDataRateupstrm | MaxDataRatednstrm | MinLpDataRateupstrm | MinLpDataRatednstrm | MaxDelayupstrm | ActualDelayupstrm | MaxDelaydnstrm | ActualDelaydnstrm | None | None	This bitmask is used to indicate what all access loop characteristic parameters are to be added to access loop characteristic suboption. **Type:** Create -- Optional Modify -- Optional
op82fromclientact drop | forward	This specifies the action to be taken on receiving DHCP message from the client with option 82. If DHCP message contains option82 and we want the packet to be dropped then drop should be set and if we want the packet to be forwarded then forward should be set. **Type:** Create -- Optional Modify -- Optional **Default value:** drop
learning disable | enable	This field specifies whether DHCP learning is to be done on this port or not. If enabled DRA will learn the IP Addresses assigned towards this port using upstream/downstream packets received on this port. **Type:** Create -- Optional Modify -- Optional **Default value:** enable
portno <portno-val>	This field specifies Atm Port number.Its value is considered only when the bitmask for portid is set in ConfigSubOptionBitmask **Type:** Create -- Optional Modify -- Optional **Default value:** \0

draaddop82tounicast disable | enable	This field specifies whether Option 82 is to be added to DHCP Unicast packets or not. If enabled Option 82 will be added to DHCP Unicast Packets and when disabled, it will not be added. **Type:** Create -- Optional Modify -- Optional **Default value:** enable

Example:
$ create dra instance entry portid 1 vlan 5 profileid 1 status client op82 AddAlways configsuboption aci acival "[ANI] atm 3/10:100.33" (slot = 3, port = 10, vpi = 100, vci = 33)" raival "conexant noida" syncratefields ActualDelaydnstrm op82fromclientact drop learning enable portno 10 draaddop82tounicast enable Auto

Output:
Verbose Mode On
Entry Created

Port Id : 1 VLAN : 5
Profile Id : 1 DRA status : client
Option82 : AddAlways
Config Sub-Option : aci
Agent Circuit Id : "[ANI] atm 3/10:100.33" (slot = 3, port = 10, vpi = 100, vci = 33)"
Remote Agent Id : "conexant noida"
SyncRateInfoField : ActualDelaydnstrm
DRA Act For Op82 From Client : drop
DRA learning : enable Port No : 10
VCI : 33 VPI : 100
L2 type : Eth Encap Type : Llcmux
DRA Add Op82 To Unicast : enable

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Port Id	Bridge Port Identifier
VLAN	VLAN identifier. In case of stacked mode this is virtual VLAN
Profile Id	DRA profile identifier. This shall be used for this DRA instance

DRA status	This field is used to configure the status of DHCP relay agent per instance. It can be disabled or configured as client port or server port. If it is configured as client port then it adds option 82 and /or do learning as per configuration. If it is configured as server port then it removes option 82 and does learning if we dont get portid from agent circuit id.
Option82	This specifies the action to be performed on Option 82 on receiving DHCP discovery packets for this instance. If disabled DRA will not add Option82 tag to the DHCP packets. If AddAlways is set then Option 82 is always added. If AddIfNotExists is set then Option 82 is added only if the received DHCP packet does not contain Option 82.
Config Sub-Option	This bitmask is used to indicate which all parameters are configured for this instance. Parameter bit set in this bitmask will overwrite the automatically derived values of agent circuit Id and/or port id by the values configured in this MO.
Agent Circuit Id	This is use to configure agent circuit id for this instance. If ACI bit is set in gsvDRAConfigSubOptionthen this parameter will overwrite the generated Agent Circuit Id
Remote Agent Id	This is use to configure remote agent id for this instance. This parameter uniquely identifies the subscriber on the associated access loop logical port on the Columbia.
SyncRateInfoField	This bitmask is used to indicate what all access loop characteristic parameters are to be added to access loop characteristic suboption.
DRA Act For Op82 From Client	This specifies the action to be taken on receiving DHCP message from the client with option 82. If DHCP message contains option82 and we want the packet to be dropped then drop should be set and if we want the packet to be forwarded then forward should be set.
DRA learning	This field specifies whether DHCP learning is to be done on this port or not. If enabled DRA will learn the IP Addresses assigned towards this port using upstream/downstream packets received on this port.
Port No	This field specifies Atm Port number.Its value is considered only when the bitmask for portid is set in ConfigSubOptionBitmask
VCI	VCI Identifier of the AAL5 VC corresponding the bridge port for this instance is created
VPI	VPI Identifier of the AAL5 VC corresponding the bridge port for

	this instance is created
L2 type	This Parameter represents the L2 type used
Encap Type	This Parameter specifies the encapsulation type of the aal5 VC corresponding the bridge port for which this instance is created
DRA Add Op82 To Unicast	This field specifies whether Option 82 is to be added to DHCP Unicast packets or not. If enabled Option 82 will be added to DHCP Unicast Packets and when disabled, it will not be added.

References:

DHCP Relay Agent commands

5.20.3 Dra stats entry Commands

5.20.3.1 Get dra stats entry

Description:

Use this command to get.

Command Syntax:

get dra stats entry [**portid** <portid-val>] [**vlan** <vlan-val>]

5.20.3.2 Reset dra stats entry

Description:

Use this command to reset.

Command Syntax:

get dra stats entry [**portid** <portid-val>] [**vlan** <vlan-val>]

Parameters:

Name	Description
portid <portid-val>	Bridge port identifier **Type:** Reset -- Mandatory Get -- Optional **Valid values:** 1 - 194
vlan <vlan-val>	VLAN identifier. In case of stacked mode this is virtual VLAN **Type:** Reset -- Mandatory Get -- Optional **Valid values:** 1 - 4095

Example:
$ get dra stats entry portid 1 vlan 1

Output:
Port Id : 1 VLAN : 1
Dhcp Pkt Received : 40 Dhcp Pkt Sent : 90
Dhcp Pkt Discarded : 40

Output field:

Field	Description
Port Id	Bridge port identifier
VLAN	VLAN identifier. In case of stacked mode this is virtual VLAN
Dhcp Pkt Received	Number of DHCP packets received for this instance
Dhcp Pkt Sent	Number of DHCP packets sent for this instance
Dhcp Pkt Discarded	Number of DHCP packets discarded for this instance

References:
DHCP Relay Agent commands

5.20.4 Dra global config Commands

5.20.4.1 Get dra global config

Description:
Use this command to get.

Command Syntax:
get dra global config

5.20.4.2 Modify dra global config

Description:
Use this command to modify.

Command Syntax:
modify dra global config [**status** Enable | Disable]

Parameters:

Name	Description
status Enable | Disable	Global status of DRA Type: Modify -- Optional

Example:
$ get dra global Config

Output:
DRA global Status

Enable

Output field:

Field	Description
DRA global Status	Global status of DRA

References:
DHCP Relay Agent commands

5.20.5 Ia profile entry Commands

5.20.5.1 Get ia profile entry

Description:
Use this command to get.

Command Syntax:
get ia profile entry [**profileid** <profileid-val>]

5.20.5.2 Create ia profile entry

Description:
Use this command to create.

Command Syntax:
create ia profile entry profileid <profileid-val> [**anitype** auto | config] [**anival** <anival-val>] [**aciprefixstr** <aciprefixstr-val>] [**acifieldlist** AniVal | Chassis | Rack | Frame | Slot | SubSlot | L2Type | Port | Vpi | Vci | VlanTag | None] [**suboption** Aci | Rai | EncapType | AccessLoopChar | None] [chassisval

chassisval] [**rackval** <rackval-val>] [**frameval** <frameval-val>] [**slotval** <slotval-val>] [**subslotval** <subslotval-val>]

5.20.5.3 Delete ia profile entry

Description:
Use this command to delete.

Command Syntax:
delete ia profile entry [**profileid** <profileid-val>]

5.20.5.4 Modify ia profile entry

Description:
Use this command to modify.

Command Syntax:
modify ia profile entry profileid <profileid-val> [**anitype** auto | config] [**anival** <anival-val>] [**aciprefixstr** <aciprefixstr-val>] [**acifieldlist** AniVal | Chassis | Rack | Frame | Slot | SubSlot | L2Type | Port | Vpi | Vci | VlanTag | None | None] [**suboption** Aci | Rai | EncapType | AccessLoopChar | None | None] [**chassisval** <chassisval-val>] [**rackval** <rackval-val>] [**frameval** <frameval-val>] [**slotval** <slotval-val>] [**subslotval** <subslotval-val>]

Parameters:

Name	Description
profileid <profileid-val>	Intermediate Agent Profile Identifier. This can be applied on multiple PIA or DRA instances. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4
anitype auto | config	This field specifies whether the Access node Identifier should be automatically derived or is configured by the user. If its value is auto, the ANI is derived from MAC address of access node. **Type:** Create -- Optional Modify -- Optional **Default value:** auto

anival <anival-val>	This is used to configure access node identifier. This field will be used only when value of gsvIaAniType is config. **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"
aciprefixstr <aciprefixstr-val>	This is used to configure user defined string to be concatenated as a part of flexible syntax in Agent Circuit Id. It is a string of characters with spaces and special characters. **Type:** Create -- Optional Modify -- Optional **Default value**: "\0"
acifieldlist AniVal | Chassis | Rack | Frame | Slot | SubSlot | L2Type | Port | Vpi | Vci | VlanTag | None | None	This field represents list of parameters which will take part in auto generation of Agent Circuit Id. **Type**: Create -- Optional Modify -- Optional
suboption Aci | Rai | EncapType | AccessLoopChar | None | None	This field represents bitmask for suboptions to be added to VSA tag in case of PIA and Option82 tag in case of DRA. The options which can be added include Agent Circuit Id, Agent Remote Id, EncapType and AccessLoopCharacterstics. Agent Circuit id identifies the circuit, Agent Remote id specifies the subscriber information, EncapType and AccessLoopChar identify with the encapsulation type and access loop characterstics respectively. **Type**: Create -- Optional Modify -- Optional
chassisval <chassisval-val>	Chasis number of access node **Type**: Create -- Optional Modify -- Optional **Default value**: \0
rackval <rackval-val>	Rack no of access node **Type**: Create -- Optional Modify -- Optional **Default value**: \0
frameval <frameval-val>	Frame number of access node. **Type**: Create -- Optional Modify -- Optional **Default value**: \0

slotval <slotval-val>	Slot number of access node **Type**: Create -- Optional Modify -- Optional **Default value**: \0
subslotval <subslotval-val>	Sub-slot number of access node. **Type**: Create -- Optional Modify -- Optional **Default value**: \0

Example:
$ create ia profile entry profileid 1 anitype auto anival 00aabbccddff aciprefixstr "Conexant Noida" acifieldlist port vpi vci suboption Aci chassisval 1 rackval 1 frameval 1 slotval 3 subslotval 1Output

Output:
Verbose Mode On
Entry Created

Profile Id : 1 ANI Type : auto
ANI value : 00aabbccddff
Aci Prefix Str : "Conexant Noida"
ACI Field List : port vpi vci
Sub Option : Aci
Chassis : 1 Rack : 1
Frame : 1 Slot : 3
Sub Slot : 1

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Profile Id	Intermediate Agent Profile Identifier. This can be applied on multiple PIA or DRA instances.
ANI Type	This field specifies whether the Access node Identifier should be automatically derived or is configured by the user. If its value is auto, the ANI is derived from MAC address of access node.
ANI value	This is used to configure access node identifier. This field will be used only when value of gsvIaAniType is

	config.
Aci Prefix Str	This is used to configure user defined string to be concatenated as a part of flexible syntax in Agent Circuit Id. It is a string of characters with spaces and special characters.
ACI Field List	This field represents list of parameters which will take part in auto generation of Agent Circuit Id.
Sub Option	This field represents bitmask for suboptions to be added to VSA tag in case of PIA and Option82 tag in case of DRA. The options which can be added include Agent Circuit Id, Agent Remote Id, EncapType and AccessLoopCharacterstics. Agent Circuit id identifies the circuit, Agent Remote id specifies the subscriber information, EncapType and AccessLoopChar identify with the encapsulation type and access loop characterstics respectively.
Chassis	Chasis number of access node
Rack	Rack no of access node
Frame	Frame number of access node.
Slot	Slot number of access node
Sub Slot	Sub-slot number of access node.

References:
Intermediate Agent commands

5.20.6 Pia instance entry Commands

5.20.6.1 Get pia instance entry

Description:
Use this command to get.

Command Syntax:
get pia instance entry [**portid** <portid-val>] [**vlan** <vlan-val>]

5.20.6.2 Create pia instance entry

Description:
Use this command to create.

Command Syntax:
create pia instance entry portid <portid-val> **vlan** <vlan-val> **profileid** <profileid-val> [**status** enable | disable] [**vsatag** disable | AddAlways | AddIfNotExists] [**configsuboptionbitmask** aci | PortId | None] [**acival** <acival-val>] [**raival** <raival-val>] [**syncratefields** ActualDataRateupstrm | ActualDataRatednstrm | MinDataRateupstrm | MinDataRatednstrm | AttainableDataRateupstrm | AttainableDataRatednstrm | MaxDataRateupstrm | MaxDataRatednstrm | MinLpDataRateupstrm | MinLpDataRatednstrm | MaxDelayupstrm | ActualDelayupstrm | MaxDelaydnstrm | ActualDelaydnstrm | None] [iwftagfromclientact drop | forward] [**insertiwfsubop** enable | disable] [**portno** <portno-val>]

5.20.6.3 Delete pia instance entry

Description:
Use this command to delete.

Command Syntax:
delete pia instance entry portid <portid-val> **vlan** <vlan-val>

5.20.6.4 Modify pia instance entry

Description:
Use this command to modify.

Command Syntax:
modify pia instance entry portid <portid-val> **vlan** <vlan-val> [**profileid** <profileid-val>] [**status** enable | disable] [**vsatag** disable | AddAlways | AddIfNotExists] [**configsuboptionbitmask** aci | PortId | None | None] [**acival** <acival-val>] [**raival** <raival-val>] [**syncratefields** ActualDataRateupstrm | ActualDataRatednstrm | MinDataRateupstrm | MinDataRatednstrm | AttainableDataRateupstrm | AttainableDataRatednstrm | MaxDataRateupstrm | MaxDataRatednstrm | MinLpDataRateupstrm | MinLpDataRatednstrm | MaxDelayupstrm | ActualDelayupstrm | MaxDelaydnstrm | ActualDelaydnstrm | None | None] [**iwftagfromclientact** drop | forward] [**insertiwfsubop** enable | disable] [**portno** <portno-val>]

Parameters:

Name	Description
portid <portid-val>	Bridge Port Identifier **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 194
vlan <vlan-val>	VLAN identifier. In case of stacked mode this is virtual VLAN **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 4095
profileid <profileid-val>	PIA profile identifier. This shall be used for this PIA Instance **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 4
status enable | disable	Used to enable or disable PPPOE intermmediate agent for this instance **Type:** Create -- Optional Modify -- Optional **Default value:** disable
vsatag disable | AddAlways | AddIfNotExists	This specifies the action to be performed on VSA Tag on receiving PPPoE discovery packets for this instance. If disabled PIA will not add VSA tag to the PPPoE packets. If AddAlways is set then VSA tag is always added. If AddIfNotExists is set then VSA tag is added only if the received packet does not contain the VSA tag. **Type:** Create -- Optional Modify -- Optional **Default value:** AddAlways
configsuboptionbitmask aci | PortId | None | None	This bitmask is used to indicate which all parameters are configured for this instance. Parameter bit set in this bitmask will overwrite the automatically derived values of agent circuit Id and/or port id by the values configured in this MO. **Type:** Create -- Optional

	Modify -- Optional **Default value:** None
acival <acival-val>	This is use to configure Agent Circuit Id for this instance. If ACI bit is set in gsvPiaConfigSubOptionBitmask then this parameter will overwrite the generated Agent Circuit Id **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"
raival <raival-val>	This is used to configure Remote Agent Id for this instance. This parameter uniquely identifies the subscriber on the associated access loop logical port on Columbia. **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"
syncratefields ActualDataRateupstrm | ActualDataRatednstrm | MinDataRateupstrm | MinDataRatednstrm | AttainableDataRateupstrm | AttainableDataRatednstrm | MaxDataRateupstrm | MaxDataRatednstrm | MinLpDataRateupstrm | MinLpDataRatednstrm | MaxDelayupstrm | ActualDelayupstrm | MaxDelaydnstrm | ActualDelaydnstrm | None | None	This bitmask is used to indicate what all access loop characteristic parameters are to be added to access loop characteristic suboption. **Type:** Create -- Optional Modify -- Optional
iwftagfromclientact drop | forward	This field specifies the Action to be taken on receiving PPPoE discovery msg with IWF suboption from client. It can be configured as either drop or forward. Default action is to drop the packet silently. **Type:** Create -- Optional Modify -- Optional **Default value:** drop

insertiwfsubop enable | disable	This is used to indicate whether to add IWF suboption to Columbia originated PPPoE discovery packets received for this instance. This field is valid only for PPPOAE interface. **Type:** Create -- Optional Modify -- Optional **Default value:** enable
portno <portno-val>	This field specifies Atm Port number.Its value is considered only when the bitmask for portid is set in ConfigSubOptionBitmask **Type:** Create -- Optional Modify -- Optional **Default value:** \0

Example:

$ create pia instance entry portid 1 vlan 1 profileid 1 status enable vsatag AddAlways configsuboptionbitmask aci acival "[ANI] atm 3/10:100.33î (slot = 3, port = 10, vpi = 100, vci = 33)" raival "conexant noida" syncratefields ActualDelaydnstrm iwftagfromclientact drop insertiwfsubop enable portno 10 Auto Output

Output:

Verbose Mode On

Entry Created

Port Id : 1 VLAN : 1

Profile Id : 1 PIA status : enable

PIAVsaOption : AddAlways

Config Sub Options Bitmask : aci

Agent Circuit Id : "[ANI] atm 3/10:100.33î (slot = 3, port = 10, vpi = 100, vci = 33)"

Remote Agent Id : "conexant noida"

SyncRateInfoField Bitmask : ActualDelaydnstrm

Act for IWFTag From Client : drop

Insert Iwf Subop : enable

Port No : 10

VCI : 33 VPI : 100

L2 type : Eth

Encap Type : Llcmux

Verbose Mode Off:

Entry Created

Output field:

Field	Description
Port Id	Bridge Port Identifier
VLAN	VLAN identifier. In case of stacked mode this is virtual VLAN
Profile Id	PIA profile identifier. This shall be used for this PIA Instance
PIA status	Used to enable or disable PPPOE intermmediate agent for this instance
PIAVsaOption	This specifies the action to be performed on VSA Tag on receiving PPPoE discovery packets for this instance. If disabled PIA will not add VSA tag to the PPPoE packets. If AddAlways is set then VSA tag is always added. If AddIfNotExists is set then VSA tag is added only if the received packet does not contain the VSA tag.
Config Sub Options Bitmask	This bitmask is used to indicate which all parameters are configured for this instance. Parameter bit set in this bitmask will overwrite the automatically derived values of agent circuit Id and/or port id by the values configured in this MO.
Agent Circuit Id	This is use to configure Agent Circuit Id for this instance. If ACI bit is set in gsvPiaConfigSubOptionBitmask then this parameter will overwrite the generated Agent Circuit Id
Remote Agent Id	This is used to configure Remote Agent Id for this instance. This parameter uniquely identifies the subscriber on the associated access loop logical port on Columbia.
SyncRateInfoField Bitmask	This bitmask is used to indicate what all access loop characteristic parameters are to be added to access loop characteristic suboption.
Act for IWFTag From Client	This field specifies the Action to be taken on receiving PPPoE discovery msg with IWF suboption from client. It can be configured as either drop or forward. Default action is to drop the packet silently.
Insert Iwf Subop	This is used to indicate whether to add IWF suboption to Columbia originated PPPoE discovery packets received for this instance. This field is valid only for PPPOAE interface.
Port No	This field specifies Atm Port number.Its value is

	considered only when the bitmask for portid is set in ConfigSubOptionBitmask
VCI	VCI Identifier of the AAL5 VC corresponding the bridge port for this instance is created
VPI	VPI Identifier of the AAL5 VC corresponding the bridge port for this instance is created
L2 type	This Parameter specifies the L2 type used
Encap Type	This Parameter specifies the encapsulation type of the aal5 VC corresponding the bridge port for which this instance is created

References:
PPPoE Intermediate Agent commands

5.20.7 Pia stats entry Commands

5.20.7.1 Get pia stats entry

Description:
Use this command to get.

Command Syntax:
get pia stats entry [**portid** <portid-val>] [**vlan** <vlan-val>]

5.20.7.2 Reset pia stats entry

Description:
Use this command to reset.

Command Syntax:
reset pia stats entry portid <portid-val> **vlan** <vlan-val>

Parameters:

Name	Description
portid <portid-val>	Bridge port Identifier **Type:** Reset -- Mandatory Get -- Optional **Valid values:** 1 - 194

vlan <vlan-val>	VLAN identifier. In case of stacked mode this is virtual VLAN **Type:** Reset -- Mandatory Get -- Optional **Valid values:** 1 - 4095 **Additional Values:** 4097

Example:
$ get pia stats entry portid 1 vlan 1

Output:
Port Id : 1 VLAN : 1
Padi Received : 10 Padi Discarded : 4354
Padr Received : 4354 Padr Discarded : 4354

Output field:

Field	Description
Port Id	Bridge port Identifier
VLAN	VLAN identifier. In case of stacked mode this is virtual VLAN
Padi Received	Number of PADI received for this instance
Padi Discarded	Number of PADI discarded for this instance
Padr Received	Number of PADR received for this instance
Padr Discarded	Number of PADR packets discarded for this instance

References:
PPPoE Intermediate Agent commands

5.20.8 Pia global config Commands

5.20.8.1 Get pia global config

Description:
Use this command to get.

Command Syntax:
get pia global config

5.20.8.2 Modify pia global config

Description:

Use this command to modify.

Command Syntax:

modify pia global config [**status** Enable | Disable]

Parameters:

Name	Description
status Enable | Disable	Global status of PIA **Type:** Modify -- Optional

Example:

$ get pia global Config

Output:

PIA global Status : Enable

Output field:

Field	Description
PIA global Status	Global status of PIA

References:

PPPoE Intermediate Agent commands

5.21 QoS Commands

5.21.1 IRL Map Commands

5.21.1.1 Get irl map

Description:
Use this command to get.

Command Syntax:
get irl map [**ifname** <interface-name>]

5.21.1.2 Create irl map

Description:
Use this command to create.

Command Syntax:
create irl map ifname < interface-name > **profilename** <profile-name>

5.21.1.3 Delete irl map

Description:
Use this command to delete.

Command Syntax:
delete irl map ifname < interface-name >

Parameters:

Name	Description
ifname < interface-name >	Interface Name whose IRL mapping information is to be configured. **Valid Values:** aal5-0 - aal5-* **Type :** Create Mandatory Delete Mandatory Get --Optional **Valid values:** ND - ND
profilename **<**profile-name>	Specifies the name of the IRL profile to be associated with the interface. String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ';' **Type:** Create Mandatory

Example:
$ create irl map ifname aal5-0 profilename gold

Output:
Verbose Mode On
Entry Created

Interface Profile Name
---
aal5-0 gold
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Interface	Interface Name whose IRL mapping information is to be configured. **Valid Values:** aal5-0 - aal5-*
Profile Name	Specifies the name of the IRL profile to be associated with the interface. String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ';'

5.21.2 IRL Profile Commands

5.21.2.1 Get irl profile

Description:
Use this command to get.

Command Syntax:
get irl profile [**profilename** <profile-name>]

5.21.2.2 Create irl profile

Description:
Use this command to create.

Command Syntax:

create irl profile profilename <profile-name> [**irltype** sr2cm | trtcm] [**cir** <cir-val>] [**cbs** <cbs-val >] [**pir** <pir-val >] [**pbs** <pbs-val >] [**conformaction** <colorgreen-val>] [**exceedaction** drop |coloryellow] [**violateaction** drop | coloryellow]

5.21.2.3 Delete irl profile

Description:

Use this command to delete.

Command Syntax:

delete irl profile profilename <profile-name>

5.21.2.4 Modify irl profile

Description:

Use this command to modify.

Command Syntax:

modify irl profile profilename <profile-name> [**irltype** sr2cm | trtcm] [**cir** <cir-val >] [**cbs** <cbs-val >] [**pir** <pir-val >] [**pbs** <pbs-val >] [**conformaction** <colorgreen-val>] [**exceedaction** drop |coloryellow] [violateaction drop | coloryellow]

Parameters:

Name	Description
profilename <profile-name>	Profile name uniquely identify an IRL profile in the system. String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ';'. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** ND - ND
irltype sr2cm | trtcm	This field specifies the type of IRL. Two types of IRLs are supported. Single Rate Two Color Marker (sr2cm) and Two Rate Three Color Marker (trtcm). **Type:** Create – Optional Modify – Optional **Valid values:** trtcm

cir <cir-val >	Committed Information Rate of the IRL in kbps. This field is valid for both sr2cm and trtcm type of profiles. The value of this field cannot be more than PIR. **Type:** Create -- Optional Modify -- Optional **Default value**:0-16000
cbs <cbs-val >	Committed Burst Size of the IRL in bytes. This field is valid in both sr2cm and trtcm type of profiles. The value of this field cannot be more than PBS in case of trTcm. **Type:** Create -- Optional Modify -- Optional **Default value**: 96-10000 **Default value:** 7500
pir <pir-val >	Peak Information Rate of the IRL in kbps. This field is valid only for trtcm type of profile. The value of this field cannot be less than CIR. **Type:** Create -- Optional Modify -- Optional **Default value**: 96-16000 **Default value:** 1000
pbs <pbs-val >	Peak burst size of the IRL in bytes. This field is valid only for trtcm type of profile. The value of this field cannot be less than CBS. **Type:** Create -- Optional Modify -- Optional **Default value**: 96-15000 **Default value:** 10000
conformaction colorgreen	Color type to be applied for conforming packets. This field is valid in both sr2cm and trtcm type of profiles **Type:** Create -- Optional Modify -- Optional **Default value:** colorgreen
exceedaction drop | coloryellow	Color for exceeding packets. This field is valid only for trtcm type of profiles **Type:** Create -- Optional Modify -- Optional **efault value:** coloryellow
violateaction drop | coloryellow	Color type to be applied for violating packets. This field is valid in both sr2cm and trtcm type of profiles **Type:** Create -- Optional Modify -- Optional **Default value:** drop

Example:

$ create irl profile profilename gold irltype trtcm cir 1000 cbs 400 pir 2000 pbs 12000 conformaction colorgreen exceedaction coloryellow violateaction drop

Output:

Output field:

Field	Description
Profile name	Profile name uniquely identifies an IRL profile in the system. String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ';'.
Profile Type	This field specifies the type of IRL. Two type of IRLs are supported. Single Rate Two Color Marker (sr2cm) and Two Rate Three Color Marker (trtcm).
CIR(kbps)	Committed Information Rate of the IRL in kbps. This field is valid for both sr2cm and trtcm type of profiles. The value of this field cannot be more than PIR.
CBS(bytes)	Committed Burst Size of the IRL in bytes. This field is valid in both sr2cm and trtcm type of profiles. The value of this field cannot be more than PBS in case of trTcm.
PIR(kbps)	Peak Information Rate of the IRL in kbps. This field is valid only for trtcm type of profile. The value of this field cannot be less than CIR.
PBS(bytes)	Peak burst size of the IRL in bytes. This field is valid only for trtcm type of profile. The value of this field cannot be less than CBS.
Conform action	Color type to be applied for conforming packets. This field is valid in both sr2cm and trtcm type of profiles.
Exceed action	Color for exceeding packets. This field is valid only for trtcm type of profiles.
Violate action	Color type to be applied for violating packets. This field is valid in both sr2cm and trtcm type of profiles

References:

- IRL Commands

5.21.3 IRL Stats Commands

5.21.3.1 Get irl stats

Description:

Use this command to get.

Command Syntax:

get irl stats [**ifname** <interface-name>]

Parameters:

Name	Description
ifname <interface-name>	Interface Name whose IRL statistics are requested. **Valid Values:** aal5-0 - aal5-*. **Type :** Get -- Optional **Valid values :** ND - ND

Example:

$ get irl stats ifname aal5-0

Output:

Interface : aal5-0 Num packets violated : 100

Num packets exceeded : 300 Num packets conformed : 1000

Output field:

Field	Description
Interface	Interface Name whose IRL statistics are requested.
Num packets violated	Number of packets that violated PIR in case of trTcm. In case of crTcm it is the number of packets violating CIR.
Num packets exceeded	Number of packets that exceeded CIR. This field is valid only for trtcm type of profiles.
Num packets conformed	Number of packets that conformed to CIR.

References:

- IRL Commands

5.21.4 Bridge rlin stance map Commands

5.21.4.1 Get bridge rlinstance map

Description: Use this command to get.

Command Syntax: get bridge rlinstance map [**portid** <portid-val>] [**flowtype** <flowtype-val> | **bcast** | **unregmcast** | **unknownucast**]

5.21.4.2 Create bridge rlinstance map

Description: Use this command to create.

Command Syntax: create bridge rlinstance map portid <portid-val>**flowtype** <flowtype-val>| **bcast** | **unregmcast | unknownucast** | **instanceid** <instanceid-val>

5.21.4.3 Delete bridge rlinstance map

Description: Use this command to get.

Command Syntax: delete bridge rlinstance map portid <portid-val> **flowtype** <flowtype-val> | **bcast** | **unregmcast** | **unknownucast**

5.21.4.4 Modify bridge rlinstance map

Description: Use this command to modify.

Command Syntax: modify bridge rlinstance map portid <portid-val>**flowtype** <flowtype-val>| **bcast** | **unregmcast | unknownucast** [**instanceid** <instanceid-val>]

Parameters

Name	Description
portid <portid-val>	Bridge Port Identifier with which an instance is associated. If the value of this field is 'All', it indicates all bridge ports. For a particular flow, instance map cannot be created both for a specific port as well as for 'all' the bridge ports. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 194

flowtype <flowtype-val>| **bcast | unregmcast | unknownucast**	This field identifies the flow for which this instance is applied. Three flow types are reserved for broadcast, unregistered multicast and unknown unicast traffic. The other user defined flows are identified by filtering rules by associating flow type with a rule action of type 'ratelimiter'. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 16 - 32
instanceid <instanceid-val>	This field identifies the Rate limiting instance. **Type:** Create -- Mandatory Modify -- Optional **Valid values:** 1 - 250

Example:

$ create bridge rlinstance map portid 6 flowtype bcast instanceid 1 configstatus Auto

Output:

Verbose Mode On
Entry Created

Port Id : 6
Flow Type : bcast
Instance Id : 1

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Port Id	Bridge Port Identifier with which an instance is associated. If the value of this field is 'All', it indicates all bridge ports. For a particular flow, instance map cannot be created both for a specific port as well as for 'all' the bridge ports.
Flow Type	This field identifies the flow for which this instance is applied. Three flow types are reserved for broadcast, unregistered multicast and unknown unicast traffic. The

	other user defined flows are identified by filtering rules by associating flow type with a rule action of type 'ratelimiter'.
Instance Id	This field identifies the Rate limiting instance.

Cautions:

- An entry in this table shall not be applicable for a bridge port created over PPPOE and IPOE interface.

5.21.5 Rl actionprofile info Commands

5.21.5.1 Get rl actionprofile info

Description:
Use this command to get.

Command Syntax:
get rl actionprofile info [**profileid** <profileid-val>] [**result** conform | exceed | violate] [**action** drop | allow | sendtocontrol | copytocontrol | modifytos | setbaclevel]

5.21.5.2 Create rl actionprofile info

Description:
Use this command to create.

Command Syntax:
create rl actionprofile info profileid <profileid-val> **result** conform | exceed | violate action drop | allow | sendtocontrol | copytocontrol | modifytos | setbaclevel [**actionval** <actionval-val>] [**actionmask** <actionmask-val>] [**description** <description-val>]

5.21.5.3 Delete rl actionprofile info

Description:
Use this command to delete.

Command Syntax:
get rl actionprofile info profileid <profileid-val>**result** conform | exceed | violate **action** drop | allow | sendtocontrol | copytocontrol | modifytos | setbaclevel

5.21.5.4 Modify rl actionprofile info

Description:

Use this command to modify.

Command Syntax:

modify rl actionprofile info profileid <profileid-val> **result** conform | exceed | violate action drop | allow | sendtocontrol | copytocontrol | modifytos | setbaclevel [**actionval** <actionval-val>] [**actionmask** <actionmask-val>] [**description** <description-val>]

Parameters:

Name	Description
profileid <profileid-val>	Rate limiter's action profile identifier, which uniquely identifies the action profile. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 32
result conform | exceed | violate	The result type for which action is configured to be taken. Multiple actions can be configured for a result type.There shall be multiple entries with same profile identifier and a result type if multiple actions are configured for the result type. If there is no entry configured for a result type, the action is assumed to be 'allow' for that result. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional
action drop | allow | sendtocontrol | copytocontrol | modifytos | setbaclevel	Action to be taken on the packet. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional

actionval <actionval-val>	The parameter should contain valid value for some actions that require an additional input.For sendtocontrol and copytocontrol actions this parameter should contain control flow id (0 - 3). Other values are invalid for this action. For modifytos action this parameter should contain value to be set in tos field in the packet in the range 0 to 255. Other values are invalid for this action. The application of this value is dependent on the mask field. For setbaclevel action this parameter should contain Buffer Admission Control level 0 or 1. Other values are invalid for this action. This parameter is ignored for other actions. **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 - 0xffffffff **Default value:** 0
actionmask <actionmask-val>	This field is valid for sendtocontrol, copytocontrol and modifytos actions only.For sendtocontrol and copytocontrol actions this parameter should contain trap disabled (0xffffffff) or trap enabled (0x00000000). Other values are invalid for this action.Only lower 8-bits are taken into consideration for modifytos action and other bits are ignored. In the mask if a bit location contains 1, then the corresponding bit in the TOS field is overwritten with the corresponding bit in action value. In the mask if a bit location contains 0, then the corresponding bit in the TOS field remains unchanged. **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 - 0xffffffff **Default value:** 0xffffffff
description <description-val>	Description of the application that receives packets matching this RL. This field is mandatory if Action is 'sendtocontrol' or 'copytocontrol'.The description string should not begin with underscore '_' as it is reserved for special usage e.g. _PPPOE_CONTROL. **Type:** Create -- Optional Modify -- Optional **Default value:** "\0"

Example:

$ create rl actionprofile info profileid 1 result conform action copytocontrol actionval 0x00000000 actionmask 0xffffffff description lacp

Output:

Verbose Mode On
Entry Created

Action Profile Id : 1 Action Result : conform
Profile Action : copytocontrolActionVal : 0x00000000
Action Mask : 0xffffffff Application Description : lacp

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Action Profile Id	Rate limiter's action profile identifier, which uniquely identifies the action profile.
Action Result	The result type for which action is configured to be taken. Multiple actions can be configured for a result type.There shall be multiple entries with same profile identifier and a result type if multiple actions are configured for the result type. If there is no entry configured for a result type, the action is assumed to be 'allow' for that result.
Profile Action	Action to be taken on the packet.
ActionVal	The parameter should contain valid value for some actions that require an additional input.For sendtocontrol and copytocontrol actions this parameter should contain control flow id (0 - 3). Other values are invalid for this action. For modifytos action this parameter should contain value to be set in tos field in the packet in the range 0 to 255. Other values are invalid for this action. The application of this value is dependent on the mask field. For setbaclevel action this parameter should contain Buffer Admission Control level 0 or 1. Other values are invalid for this action. This parameter is ignored for other actions.
Action Mask	This field is valid for sendtocontrol, copytocontrol and modifytos actions only.For sendtocontrol and copytocontrol actions this parameter should

	contain trap disabled (0xffffffff) or trap enabled (0x00000000). Other values are invalid for this action.Only lower 8-bits are taken into consideration for modifytos action and other bits are ignored. In the mask if a bit location contains 1, then the corresponding bit in the TOS field is overwritten with the corresponding bit in action value. In the mask if a bit location contains 0, then the corresponding bit in the TOS field remains unchanged.
Application Description	Description of the application that receives packets matching this RL. This field is mandatory if Action is 'sendtocontrol' or 'copytocontrol'.The description string should not begin with underscore '_' as it is reserved for special usage e.g. _PPPOE_CONTROL.

5.21.6 Rl instance info Commands

5.21.6.1 Get rl instance info

Description:
Use this command to get.

Command Syntax:
get rl instance info [**instanceid** <instanceid-val>]

5.21.6.2 Create rl instance info

Description:
Use this command to create.

Command Syntax:
create rl instance info instanceid <instanceid-val> **profileid** <profileid-val> **actionprofileid** <actionprofileid-val>

5.21.6.3 Delete rl instance info

Description:
Use this command to delete.

Command Syntax:

delete rl instance info instanceid <instanceid-val>

Parameters:

Name	Description
instanceid <instanceid-val>	Rate limiter instance identifier, which uniquely identifies a rate limiter instance. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 250
profileid <profileid-val>	This field identifies the rate limiter instance's configuration profile. The rate limiter's algorithm and associated parameters are based on the configuration profile. **Type:** Create -- Mandatory **Valid values:** 1 - 16
actionprofileid <actionprofileid-val>	This field identifies the rate limiter instance's action profile. The rate limiter's actions on a packet depending on the result are based on the action profile. **Type:** Create -- Mandatory **Valid values:** 1 - 32

Example:

$ create rl instance info instanceid 3 profileid 2 actionprofileid 1

Output:

Verbose Mode On
Entry Created

Instance Id : 3
Profile Id : 2 Action Profile Id : 1

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Instance Id	Rate limiter instance identifier, which uniquely identifies a rate limiter instance.
Profile Id	This field identifies the rate limiter instance's configuration profile. The rate limiter's algorithm and associated parameters are based on the configuration profile.
Action Profile Id	This field identifies the rate limiter instance's action profile. The rate limiter's actions on a packet depending on the result are based on the action profile.

5.21.7 Rl profile info Commands

5.21.7.1 Get rl profile info

Description:
Use this command to get.

Command Syntax:
get rl profile info [**profileid** <profileid-val>]

5.21.7.2 Create rl profile info

Description:
Use this command to create

Command Syntax:
create rl profile info profileid <profileid-val> [**rate** <rate-val>] [**mbs** <mbs-val>] [**level** packet | byte] [**type** sr2cm | trtcm] [**peakrate** <peakrate-val>] [**pbs** <pbs-val>]

5.21.7.3 Delete rl profile info

Description:
Use this command to delete.

Command Syntax:
get rl profile info profileid <profileid-val>

5.21.7.4 Modify rl profile info

Description:

Use this command to modify

Command Syntax:

modify rl profile info profileid <profileid-val> [**rate** <rate-val>] [**mbs** <mbs-val>] [**level** packet | byte] [**type** sr2cm | trtcm] [**peakrate** <peakrate-val>] [**pbs** <pbs-val>]

Parameters:

Name	Description
profileid <profileid-val>	Rate limiter's configuration profile identifier, whichuniquely identifies the configuration profile. The configuration profile contains all parameters required for rate limiting algorithm to operate. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 16
rate <rate-val>	This field defines the committed information rate. If 'level' is 'packet'(1), the unit is packets per second. If 'level' is 'byte'(2), the unit is bits per second. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 100000000 **Default value:** 100000000
mbs <mbs-val>	This field defines the committed burst size. If 'level' is 'packet'(1), the unit is number of packets. If 'level' is 'byte'(2), the unit is number of bytes. **Type:** Create -- Optional Modify -- Optional **Valid values:** 4 - 65535 **Default value:** 65535

level packet | byte	Level of the rate limiter identifies whether the algorithm executes in terms of number of packets or number of bytes.If the 'level' is 'packet'(1), rate is configured in terms of packets per second and burst size is configured in terms of number of packets.If the 'level' is 'byte'(2), rate is configured in terms of bits per second and burst size is configured in terms of number of bytes. **Type:** Create -- Optional Modify -- Optional **Default value:** packet
type sr2cm | trtcm	Type identifies the algorithm for rate limiting.The sr2cm (single rate two color marker) is a single-rate algorithm. It takes rate and burst size as input parameters.The trtcm (two rate three color marker) is a dual-rate algorithm. It takes two sets of rate and burstsize as inputs, one each for peak and committed information. **Type:** Create -- Optional Modify -- Optional **Default value:** sr2cm
peakrate peakrate-val>	This field is relevant only if 'type' is 'trtcm'(2). This field defines the peak information rate. If 'level' is 'packet'(1), the unit is packets per second. If level is byte, the unit is bits per second. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 100000000 **Default value:** 100000000
pbs <pbs-val>	This field is relevant only if 'type' is 'trtcm'(2). This field defines the peak burst size. If 'level' is 'packet'(1), the unit is number of packets. If 'level' is 'byte'(2), the unit is number of bytes. **Type:** Create -- Optional Modify -- Optional **Valid values:** 4 - 65535 **Default value:** 65535

Example:

$ create rl profile info profileid 1 rate 24 mbs 24 level packet type trtcm peakrate 30 pbs 30

Output:

Verbose Mode On

Entry Created

Profile Id : 1

Level : packet Type : trtcm

Rate : 24 Max Burst Size : 24

Peak Rate : 30 Peak Max Burst Size : 30

Verbose Mode Off:

Entry Created

Output field:

Field	Description
Profile Id	Rate limiter's configuration profile identifier, whichuniquely identifies the configuration profile. The configuration profile contains all parameters required for rate limiting algorithm to operate.
Level	Level of the rate limiter identifies whether the algorithm executes in terms of number of packets or number of bytes.If the 'level' is 'packet'(1), rate is configured in terms of packets per second and burst size is configured in terms of number of packets.If the 'level' is 'byte'(2), rate is configured in terms of bits per second and burst size is configured in terms of number of bytes.
Type	Type identifies the algorithm for rate limiting.The sr2cm (single rate two color marker) is a single-rate algorithm. It takes rate and burst size as input parameters.The trtcm (two rate three color marker) is a dual-rate algorithm. It takes two sets of rate and burstsize as inputs, one each for peak and committed information.
Rate	This field defines the committed information rate. If 'level' is 'packet'(1), the unit is packets per second. If 'level' is 'byte'(2), the unit is bits per second.
Max Burst Size	This field defines the committed burst size. If 'level' is 'packet'(1), the unit is number of packets. If 'level' is 'byte'(2), the unit is number of bytes.
Peak Rate	This field is relevant only if 'type' is 'trtcm'(2). This field defines the peak information rate. If 'level' is 'packet'(1), the unit is packets per second. If level

	is byte, the unit is bits per second.
Peak Max Burst Size	This field is relevant only if 'type' is 'trtcm'(2). This field defines the peak burst size. If 'level' is 'packet'(1), the unit is number of packets. If 'level' is 'byte'(2), the unit is number of bytes.

5.21.8 Scheduling profile class Commands

5.21.8.1 Get sched profile class

Description:
Use this command to get.

Command Syntax:
get sched profile class [**name** <name-val>] [**classid** <classid-val>]

5.21.8.2 Modify sched profile class

Description:
Use this command to modify.

Command Syntax:
modify sched profile class name <name-val> **classid** <classid-val> [**param1** <param1-val>] [**param2** <param2-val>] [**param3** <param3-val>] [**param4** <param4-val>] [**param5** <param5-val>]

Parameters:

Name	Description
name <name-val>	Name of the scheduling profile. **Type:** Modify — Mandatory Get — Optional
classid <classid-val>	Scheduling profile class identifier **Type:** Modify -- Mandatory Get -- Optional **Valid values:** 1— 8
param1 <param1-val>	This specifies the first parameter for the class queue that is used in the scheduling algorithm of the profile. For PP scheduling algorithm, this parameter specifies the weight of the class queue on the scale of 1-100. Value 100 means

	Strict Priority in PP scheduling profile.This weight will be normalized with the sum of all classId weights. For Custom scheduling algorithm, this parameter specifies the excess bandwidth sharing weight of the class on the scale of 1-100. If for a class, both Minimum bandwidth and the Excess sharing weight are configured as zero, then the queue shall never be scheduled. Default value of this parameter is calculated as (classid * 10). The default value listed is only an indicative value. **Type**: Modify — Optional
param2 <param2-val>	This specifies the second parameter for the class queue that is used in the scheduling algorithm of the profile. For PP scheduling algorithm, it is ignored. For Custom scheduling algorithm, this parameter specifies the Minimum bandwidth in Kbps. Value zero means no minimum bandwidth guarantee for the class. **Type**: Modify — Optional
param3 <param3-val>	This specifies the third parameter for the class queue that is used in the scheduling algorithm of the profile. For PP scheduling algorithm, it is ignored. For Custom scheduling algorithm, this parameter specifies the Maximum bandwidth limit in Kbps for the class. Value zero means no maximum bandwidth limit for the class. **Type**: Modify — Optional
param4 <param4-val>	This specifies the fourth parameter for the class queue that is used in the scheduling algorithm of the profile. For PP and Custom scheduling algorithms, it is ignored. The default value listed is only an indicative value. **Type**: Modify -- Optional
param5 <param5-val>	This specifies the fifth parameter for the class queue that is used in the scheduling algorithm of the profile. For PP and Custom scheduling algorithms, it is ignored. The default value listed is only an indicative value. **Type**: Modify — Optional

Example:

$ get sched profile class name gold classid 1

Output:

Profile Name : gold

Class Id : 1

Profile Class Param1 : 20 Profile Class Param2 : 25

Profile Class Param3 : 25 Profile Class Param4 : 0

Profile Class Param5 : 25

Output field:

Field	Description
Profile Name	Name of the scheduling profile
Class Id	Scheduling profile class identifier
Profile Class Param1	This specifies the first parameter for the class queue that is used in the scheduling algorithm of the profile. For PP scheduling algorithm, this parameter specifies the weight of the class queue on the scale of 1-100. Value 100 means Strict Priority in PP scheduling profile.This weight will be normalized with the sum of all classId weights. For Custom scheduling algorithm, this parameter specifies the excess bandwidth sharing weight of the class on the scale of 1-100. If for a class, both Minimum bandwidth and the Excess sharing weight are configured as zero, then the queue shall never be scheduled. Default value of this parameter is calculated as (classid * 10). The default value listed is only an indicative value.
Profile Class Param2	This specifies the second parameter for the class queue that is used in the scheduling algorithm of the profile. For PP scheduling algorithm, it is ignored. For Custom scheduling algorithm, this parameter specifies the Minimum bandwidth in Kbps. Value zero means no minimum bandwidth guarantee for the class.
Profile Class Param3	This specifies the third parameter for the class queue that is used in the scheduling algorithm of

	the profile. For PP scheduling algorithm, it is ignored. For Custom scheduling algorithm, this parameter specifies the Maximum bandwidth limit in Kbps for the class. Value zero means no maximum bandwidth limit for the class.
Profile Class Param4	This specifies the fourth parameter for the class queue that is used in the scheduling algorithm of the profile. For PP and Custom scheduling algorithms, it is ignored. The default value listed is only an indicative value.
Profile Class Param5	This specifies the fifth parameter for the class queue that is used in the scheduling algorithm of the profile. For PP and Custom scheduling algorithms, it is ignored. The default value listed is only an indicative value.

References:

- Scheduling profile related commands

5.21.9 Scheduling profile info Commands

5.21.9.1 Get sched profile info

Description:

Use this command to get.

Command Syntax:

get sched profile info [**name** <name-val>]

5.21.9.2 Create sched profile info

Description:

Use this command to create.

Command Syntax:

create sched profile info name <name-val> [**algo pp | custom**] **iftype eth| atm**

5.21.9.3 Delete sched profile info

Description:

Use this command to delete.

Command Syntax:

delete sched profile info name <name-val>

Parameters:

Name	Description
name <name-val>	Name of the scheduling profile **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional
algo pp | custom	Scheduling algorithm of the profile. Currently only Proabalistic Priority is supported over ethernet and custom is supported over ATM. In Proabalistic Priority algorithm, the traffic class parameter determines the probablity with which its corresponding queue is served when it is polled by the server. In Custom algorithm, user shall have flexibility to assign minimum rate, maximum rate, and excess bandwidth sharing weight for classes and the scheduling shall be done based on these parameters among classes. **Type:** Create -- Optional **Default value:** pp
iftype eth | atm	The type of the interface Ethernet/ATM port for which the scheduling profile is applicable. **Type**: Create – Mandatory

Example:

$ create sched profile info name gold algo pp iftype atm

Output :

Verbose Mode On
Verbose Mode On
Entry Created
Profile Name : gold
Scheduling Algorithm : pp Interface Type : eth
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Profile Name	Name of the scheduling profile
Scheduling Algorithm	Scheduling algorithm of the profile. Currently only Proabalistic Priority is supported over ethernet and custom is supported over ATM. In Proabalistic Priority algorithm, the traffic class parameter determines the probablity with which its corresponding queue is served when it is polled by the server. In Custom algorithm, user shall have flexibility to assign minimum rate, maximum rate, and excess bandwidth sharing weight for classes and the scheduling shall be done based on these parameters among classes.
Interface Type	The type of the interface Ethernet/ATM port for which the scheduling profile is applicable.

Caution:

- For a scheduling profile that has iftype as atm, upto 8 classes can be configured, while for a scheduling profile that has iftype as eth, 8 classes can be configured.

References:

- Scheduling profile related commands.

5.21.10 Trfclass profile class Commands

5.21.10.1 Get trfclass profile class

Description:

Use this command to get.

Command Syntax:

get trfclass profile class [**profileid** <profileid-val>] [**classid** <classid-val>]

5.21.10.2 Modify trfclass profile class

Description:

Use this command to get.

Command Syntax:modify trfclass profile class profileid <profileid-val>**classid** <classid-val> [**size** <size-val>] [**thrshld1** <thrshld1-val>]

Parameters:

Name	Description
profileid <profileid-val>	Traffic class profile identifier. **Type:** Modify -- Mandatory Get -- Optional **Valid values:** 1 - 10
classid <classid-val>	Traffic class profile class identifier. **Type:** Modify -- Mandatory Get -- Optional
size <size-val>	This parameter specifies the size of the Traffic class. **Type:** Modify -- Optional
thrshld1 <thrshld1-val>	This parameter specifies the low threshold of the queue, as a percentage of the queue size. When the queue is full beyond this threshold, only conforming frames are passed and non-conforming frames are dropped. Conformance of frames is determined as per IRL configured on input the ATM port. **Type:** Modify -- Optional **Valid values:** 0 - 100

Example:

$ get trfclass profile class profileid 1 classid 1

Output:

Profile Identifier : 1 Class Id : 1

Traffic Class Param Size : 32 Traffic Class Param Thresh : 50

Output field:

Field	Description
Profile Identifier	Traffic class profile identifier.
Class Id	Traffic class profile class identifier.
Traffic Class Param Size	This parameter specifies the size of the Traffic class.
Traffic Class Param Thresh	This parameter specifies the low threshold of the queue, as a percentage of the queue size. When the queue is full beyond this threshold, only conforming frames are passed and non-conforming frames are dropped. Conformance of frames is determined as per IRL configured on input the ATM port.

References:

- See traffic class profile related commands.

5.21.11 Trfclass profile info Commands

5.21.11.1 Get trfclass profile info

Description:
Use this command to get.

Command Syntax:
get trfclass profile info [**profileid** <profileid-val>]

5.21.11.2 Create trfclass profile info

Description:
Use this command to get.

Command Syntax:
create trfclass profile info profileid <profileid-val> **iftype** eth | atm

5.21.11.3 Delete trfclass profile info

Description:
Use this command to delete.

Command Syntax:
get trfclass profile info profileid <profileid-val>

Parameters:

Name	Description
profileid <profileid-val>	Traffic class profile identifier. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 10
iftype eth | atm	Interface type. **Type:** Create -- Mandatory

Example:

$ create trfclass profile info profileid 3 iftype eth

Output:

Verbose Mode On
Entry Created

Profile identifier : 3 Interface Type : eth

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Profile identifier	Traffic class profile identifier.
Interface Type	Interface type.

5.21.12 Trfclass stats Commands

5.21.12.1 Get trfclass stats

Description:

Use this command to get.

Command Syntax:

get trfclass stats [**ifname** <ifname-val>] [**classid** <classid-val>]

5.21.12.2 Reset trfclass stats

Description:

Use this command to get.

Command Syntax:

reset trfclass stats [**ifname** <ifname-val>] [**classid** <classid-val>]

Parameters:

Name	Description
ifname <ifname-val>	Interface name **Type:** Reset -- Mandatory Get -- Optional
classid <classid-val>	Traffic class identifier **Type:** Reset -- Mandatory Get -- Optional

Example:

$ get trfclass stats ifname 149 classid 1

Output:

Interface Name : 149 Class Id : 1

NumDiscardPkts : 10

Output field:

Field	Description
Interface Name	Interface name
Class Id	Traffic class identifier
NumDiscardPkts	Number of packets discarded

5.22 RMON Commands

5.22.1 RMON Statistics Group Commands

5.22.1.1 Create srmon probe

Description:
Use this command to create RMON probe.

Command Syntax:
create srmon probe rindex <rindex-val> **ifname** <interface-name> **owner** <owner-string>

5.22.1.2 Delete srmon probe

Description:
Use this command to delete the RMON probe.

Command Syntax:
delete srmon probe rindex <rindex-val>

5.22.1.3 Get srmon probe

Description:
Use this command to get RMON probe information and statistics.

Command Syntax:
get srmon probe [**rindex** <rindex-val>]

Parameters:

Name	Description
rindex <rindex-val>	Unique identifier of the probe. **Type**: Create – Mandatory Delete – Mandatory Get - Optional **Valid values** : 0 －20
Ifname <interface-name>	This specifies the Interface name. **Type**: Create – Mandatory **Valid values** : eoa-0 - *, eth-0-*
owner <owner-string>	The entity that configured this probe, and is therefore using the resources assigned to it**.**

	Type : Create – Mandatory **Valid values:** Strings of up to 64 ASCII characters.

Example:

$ get srmon probe rindex 1

Output :

Verbose Mode On

RMON Probe Index : 1

If-Name : eth-0 Stats Owner : Conexant

Total Octets : 800 Total Packets : 200

Total Broadcast Packets : 138 Total Multicast Packets : 200

Total 64 Octets : 100 Total 65-127 Octets : 200

Total 128-255 Octets : 200 Total 256-511 Octets : 300

Total 512-1023 Octets : 50 Total 1024-1518 Octets : 100

Output field:

Field	Description
RMON Probe Index	Unique identifier of RMON probe.
If-Name	This specifies the Interface name. It can be : eoa-0 - *, eth-*
Stats Owner	The entity that configured this entry and is therefore using the resources assigned to it.
Total Octets	The total number of octets of data (including those in bad packets) received on the network (excluding framing bits but including FCS octets).
Total Packets	The total number of packets (including bad packets, broadcast packets, and multicast packets) received.
Total Broadcast Packets	The total number of good packets received, that were directed to the broadcast address.
Total Multicast Packets	The total number of good packets received, that were directed to a multicast address.
Total 64 Octets	The total number of packets (including bad packets) received, that were 64 octets in length (excluding framing bits but including FCS octets).
Total 65-127 Octets	The total number of packets (including bad packets) received, that were between 65 and 127 octets in length inclusive (excluding framing

	bits but including FCS octets).
Total 128-255 Octets	The total number of packets (including bad packets) received that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
Total 256-511 Octets	The total number of packets (including bad packets) received that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
Total 512-1023 Octets	The total number of packets (including bad packets) received that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
Total 1024-1518 Octets	The total number of packets (including bad packets) received that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).

Caution:

- This command is not supported on an EoA interface for which ConfigStatus is set to Config.

5.22.2 RMON Task Info Commands

5.22.2.1 Get rmon task

Description:

Use this command to get.

Command Syntax:

get rmon task [**rname** <task-name>]

Parameters:

Name	Description
Rname< taskname>	This parameter specifies the name of a particular task. **Valid values**: Any task name present in the system.

Example:

$ get rmon task taskname tsk1

Output:

Name : TSK1 Status : EVENT SUSPEND
Sched Count : 1 Priority : 10
Preempt : Yes Time Slice : 0
Stack Base : 0x520cc18 Stack Size : 2048
CleanStackSize : 14080
LastSchedTime : Thu Jan 01 00:00:08 1970-

Output field:

Field	Description
Name	This parameter specifies the name of the task.
Status	This parameters specifies the status of the task. The task can in ready state, terminated state, suspended state or finished state.
Sched Count	This parameter specifies the Schedule count of the task i.e. number of times the task has been scheduled.
Priority	This parameter tells the priority of the task.
Preempt	This parameter tells whether the task preemption is allowed or not. If the value is yes then task can be preempted .If the value is No , then task can not be preempted.
Time Slice	This parameters tell the time slice of the task. If this value is zero, it means that time slicing is disabled for this task.
Stack Base	This parameter specifies the base address (starting address) of the stack associated with this task. The stack of the task would span from the address as given by Stack Base till the address as given by (Stack Base + Stack Size). Note that the stack grows from the address as given by (Stack Base + Stack Size) towards Stack Base.
Stack Size	This parameters tells the total number of bytes in the task's stack.
CleanStackSize	This Parameter tells the free stack size i.e. the number of bytes that have never been accessed in the stack of task. Basically this gives an idea of the stack watermark.
LastSchedTime	This parameter tells the system time at which the task was lastly scheduled.

5.22.3 RMON Memory Pool Info Commands

5.22.3.1 Get rmon mpool

Description:
Use this command to get.

Command Syntax:
get rmon mpool [**rname** <mpool-name>]

Parameters:

Name	Description
rname mpool	This parameter specifies the name of a particular memory pool. **Valid values** : Any memory pool name present in the system. A user can also give first few characeters of a memory pool name. In that case all the memory pools whose name start with those characters shall be displayed.

Example 1:
For variable size memory pool
$ get rmon mpool DCLFR113

Output:
Name : DCLFR113 Size : 5392
Min : 16 Free : 5360
Tasks Waiting : 0 Suspend Type : FIFO
StartAddr : 0x147b7d28 FirstTaskName : -
FirstAllocator : CLFR LastAllocator : CLFR
LastDellocater : CLFR LastFailUser : -
LastFailDellocater : - WaterMark : 84
TotalMemAlloc : 52 TotalMemFree : 52
MemAllocFailCount : 0 MemFreeFailCount : 0
MPoolType : DYNAMIC Threshold : 5392
Threhold Count : 0
LastMemAllocTime : Thu Jan 01 00:01:08 1970
LastMemFreeTime : Thu Jan 01 00:02:18 1970
LastMemAllocFailTime: -
LastMemFreeFailTime : -
ThresholdHitTime : -

Output field:

Field	Description
Name	Name of the memory pool. For fixed size pool, the name starts with 'D'.
Size	Size of memory pool i.e.number of bytes in the pool.
Min	Minimum number of bytes for each allocation from this pool.
Free	Number of free bytes in the pool i.e. Number of bytes that are available in the pool for allocation and has not been yet allocated.
Task Waiting	Number of tasks waiting on this pool.
Suspend Type	The task suspended type. Task suspend type on a memory pool can be either FIFO (First In First Out) or Priority.
Start Addr	The Starting Address of the memory pool.
FirstTaskName	Name of the first suspended task on this memory pool.
FirstAllocator	Name of the module which has firstly allocated memory from the pool.
LastAllocator	Name of the module which has lastly (i.e. most recently) allocted memory from the pool.
LastDellocater	Name of the module which has lastly (ie. most recently)deallocated memory to the pool.
LastFailAllocator	Name of the module which has lastly failed to allocate the memory from the pool.
LastFailDeallocator	Name of the module which has lastly failed to deallocate the memory to the pool.
WaterMark	WaterMark of the memorypool i.e. the maximum amount of memory that has been allocated from the memory pool at some point in time.
TotalMemAlloc	Total amount of memory allocated from the memory pool (since its creation). This field is a running counter and it only increments. When the memory is freed this field is not decremented rather the TotalMemFree field is incremented.
TotalMemFree	Total amount of memory that has been deallocted from the memory pool (since its creation). This is also a running counter.
MemAllocFailCount	The number of times memory allocation from this

	pool has been failed.
MemFreeFailCount	The number of times the memory deallocation to the pool has been failed.
MPoolType	Type of the pool. If the value is DYNAMIC , the memory pool is of variable size . If it is PARTITION, it is fixed type memory pool.
Threshold	Threshold Value set for the memory pool, in number of bytes.
ThresholdCOunt	Number of times the threshold value has been hit for this memory pool.
LastMemAllocTime	The system time when memory was lastly allocated from the pool.
LastMemFreeTime	The system time when memory was lastly freed into the pool.
LastMemAllocFailTime	The system time when the last memory allocation from the pool has failed.
LastMemFreeFailTime	The system time when the last memory deallocation has failed.
ThresholdHitTime	The system time when threshold of the pool has hit most recently.

Example 2:

For fixed size memory pool

$ get rmon mpool FTSK142

Output:

Name : FTSK142 Size : 280
Partion Size : 20 Allocated : 1
Free : 9
Tasks Waiting : 0 Suspend Type : FIFO
StartAddr : 0x5307e40 FirstTaskName : -
FirstAllocator : TSK1 LastAllocator : TSK1
LastDellocater : TSK1 LastFailUser : -
LastFailDellocater : - WaterMark : 84
TotalMemAlloc : 3 TotalMemFree : 2
MemAllocFailCount : 0 MemFreeFailCount : 0
MPoolType : PARTTION Threshold : 280
Threhold Count : 0
LastMemAllocTime : Thu Jan 01 00:02:34 1970
LastMemFreeTime : Thu Jan 01 00:02:49 1970

LastMemAllocFailTime: -
LastMemFreeFailTime : -
ThresholdHitTime : -

Output field:

Field	Description
Name	Name of the memory pool. For fixed size pool, the name starts with 'F'.
Size	Size of memory pool i.e.number of bytes in the pool.
Partition Size	Partition size specifies the size of each partition in bytes.
Allocated	Number of partitions allocated.
Free	Number of free partitions in the pool i.e. Number of partitions that are available in the pool for allocation and has not been yet allocated.
Task Waiting	Number of tasks waiting on this pool.
Suspend Type	The task suspended type. Task suspend type on a memory pool can be either FIFO (First In First Out) or Priority.
StartAddr	The Starting Address of the memory pool.
FirstTaskName	Name of the first suspended task on this memory pool.
FirstAllocator	Name of the module which has firstly allocated partition from the pool.
LastAllocator	Name of the module which has lastly (i.e. most recently) allocted partition from the pool.
LastDellocater	Name of the module which has lastly (ie. most recently) freed the partition to the pool.
LastFailUser	Name of the module which has lastly failed to allocate the partition from the pool.
LastFailDellocater	Name of the module which has lastly failed to free the partition in to the pool.
WaterMark	WaterMark of the memorypool i.e. the maximum amount of memory that has been allocated from the memory pool at some point in time. This figure (displayed in bytes) includes the memory allocated as well as the overhead that nucleus keeps while allocating partitions.
TotalmemAlloc	Total number of partitions allocated from the

	memory pool (since its creation). This is a running counter, it always increments never decrements.
TotalMemFree	Total number of partitions that has been freed into the memory pool (since its creation). This is a running counter, it always increments never decrements.
MemAllocFailCount	The number of times partition allocation from this pool has failed.
MemFreeFailCount	The number of times the partition deallocation to the pool has failed.
MPoolType	Type of the pool. If the value is DYNAMIC , the memory pool is of variable size . If it is PARTITION, it is fixed type memory pool.
Threshold	Threshold Value set for the memory pool, in number of bytes.
Threshold Count	Number of times the threshold value has been hit for this memory pool.
LastMemAllocTime	The last system time when a partition has been allocated from the pool.
LastMemFreeTime	The last system time when a partition has been freed into the pool.
LastMemAllocFailTime	The last system time when the partition allocation from the pool has failed.
LastMemFreeFailTime	The last system time when the partition deallocation has failed.
ThresholdHitTime	The last system time when threshold of the pool has hit.

5.22.3.2 Get rmon mpool threshold

Description:

Use this command to get the critical events logged for the memory pool. This command will display 20 entries (maximum) .Events are logged for the memory pool for the following 3 cases:

- Mem Pool Allocation Fail.
- Mem Pool Deallocation Fail.
- Threshold Hit.

Command Syntax:
get rmon mpool threshold

Parameters:
None

Example:
$ get rmon mpool threshold

Output:
Task Name : TSK1
Mpool Name : FTSK143
Pool Type : PARTITION
ThresholdHitTimeStamp :Thu Jan 01 00:20:53 1970
Event Type : Allocation Fail

Output field:

Field	Description
Task Name	Name of the module which tries to allocate or deallocate from memory pool during a critical event.
MPool Name	The name of memory pool.
Pool Type	Type of memory pool. DYNAMIC for variable size of memory pool and PARTITION for fixed size memory pool.
ThresholdHitTimeStamp	The system time at which event logging is done.
Event Type	Cause of event logging. Its value can be: Allocation Fail - If allocation from pool has failed. Deallocation Fail - If deallocation from pool has failed. Threshold Hit - If threshold value of pool has been hit while allocation.

5.22.3.3 Reset rmon mpool

Description:

Use this command to reset some parameters of memory pool. This command will reset the following parameters of memory pool.

- Set MemAllocFailCount value to zero.
- Set MemFreeFailCount value to zero.
- Set watermark value to the value of the currently allocated memory from that pool.
- Set ThresholdCount value to the zero.

Command Syntax:

reset rmon mpool

Parameters:

None

Example:

$ reset rmon mpool

Output Field:

None

5.22.4 RMON Queue Info Commands

5.22.4.1 Get rmon queue

Description:

Use this command to get the information about a particular queue or about all the queues present in the system.

Command Syntax:

get rmon queue [rname <queue-name>]

Parameters:

Name	Description
rname <queue-name>	This parameter specifies the name of a particular queue. **Valid values**: Any queue name present in the system.

Example:

$ get rmon queue rname tsk173

Output:

Name : TSK173 Start Addr : 0x520c700
Size : 10 Available Size : 9
Pending Msgs : 1 Msg Type : FIXED
Msg Size : 1 Suspend Type : PRIORITY
Tasks Waiting : 0 FirstTaskName : -
TotalMsgIn : 3 TotalMsgOut : 2
DropCount : 0 WaterMark : 3
LastMsgInFailPtr: 0x0 LastSender : TSK2
LastRecvr : TSK1 LastSenderFail : -
LastRecvFail : - ThreshHold : 10
ThresholdHitCount: 0
LastMsgOutTime : Thu Jan 01 00:04:17 1970
LastMsgInTime : Thu Jan 01 00:03:50 1970
LastMsgOutFailTime : -
LastMsgInFailTime : -
ThresholdHitTime : -

Output field:

Field	Description
Name	Name of the Queue.
Start Addr	The Starting Address of the queue.
Size	Size of the queue i.e the total number of unsigned words (4 bytes) in the queue.
Available Size	Available size of the queue i.e. number of unsigned words (4 bytes) free in the queue.
Pending Msgs	Number of messages present in the queue.
Msg Type	Type of the messages in the queue. If it is FIXED, then all the messages in the queue are of a fixed size. If it is VARIABLE , then the messages present in the queue can be of varying size.
Msg Size	Size of the message in number of unsigned words (4 bytes). If the msg type is fixed, then it tells the exact size of each message , else if the msg type is variable then it tells the maximum message size.
Suspend Type	The task suspended type. Task suspend type on the queue can be either FIFO (First In First Out) or

	Priority.
Tasks Waiting	Number of tasks waiting on this queue.
FirstTaskName	Name of the first suspended task on this queue.
TotalMsgIn	Total number of messages enqueued i.e. the number of messages send to this queue (since its creation). This is a running counter and never decrements.
TotalMsgOut	Total number of messages dequed i.e. the number of messages received from this queue(since creation). This is a running counter and never decrements.
DropCount	Number of messages dropped i.e. total number of times message send to this queue failed. This is a running counter and never decrements.
WaterMark	WaterMark of the queue i.e the maximum number of unsigned words (4 bytes) that has been present in this queue at some point in time.
LastMsgInFailPtr	Address of the message buffer that failed to enqueue in the queue lastly.
LastSender	Name of the module which has lastly (i.e. most recently) send the message to the queue.
LastRecvr	Name of the module which has lastly (ie. most recently)recieved the message from the queue.
LastSenderFail	Name of the module which has lastly failed to send the message to the queue.
LastRecvFail	Name of the module which has lastly failed to receive the message from the queue.
Threshold	Threshold Value set for the queue, in number of unsigned words (4 bytes).
ThresholdHitCount	Number of times threshold has been hit for the queue.
LastMsgOutTime	The system time when the message was lastly received from the queue.
LastMsgInTime	The system time when the message was lastly send to the queue.
LastMsgOutFailTime	The system time when the message receiving from the queue has lastly failed.
LastMsgInFailTime	The system time when the message send to the queue has lastly failed.
ThresholdHitTime	The system time when threshold of the queue has lastly hit.

5.22.4.2 Get rmon queue threshold

Description:

Use this command to get the critical events logged for the queue. This command will display 20 entries (maximum) . Events are logged for the queue for the following 3 cases:

- Message Receiving From Queue Fail.
- Message Send To Queue Fail.
- Threshold Hit.

Command Syntax:

get rmon queue threshold

Parameters

None

Example

$ get rmon queue threshold

Output

```
Queue Name      : TSK173                    Task  Name: TSK1
ThreshHitTime : Thu Jan 01 00:00:14 1970
Event Type      : Msg Recv From Q Fail
```

Output field:

Field	Description
Queue Name	Name of the queue.
Task Name	Name of the module which has tried to send or receive the message from the queue when the event has happened.
ThresholdHitTime	The system time at which event logging is done.
Event Type	Cause of event logging. Its value can be: Msg Send To Q Fail - If failure occurred while sending message to queue. Msg Recv From Q Fail - If failure occurred while receiving a message from the queue. Threshold Hit - If threshold value of queue has been hit while sending the message to queue.

5.22.4.3 Reset rmon queue

Description:
Use this command to reset some parameters of queue. This command will reset the following parameters of queue.

- Set DropCount value to zero.
- Set watermark value to the value of the currently used size of queue .
- Set ThresholdCount value to the zero.

Command Syntax:
Reset rmon queue

Parameters:
None

Example:
$ reset rmon queue

Output Field:
None

5.22.5 RMON Net buffers Info Commands

5.22.5.1 Get rmon netbuf

Description:
Use this command to get the information about all the net buffers present in the system.

Command Syntax:
get rmon netbuf

Parameters
None

Example:
$ get rmon netbuf

Output

TotalNetBuf : 116 TotalUsed : 8
TotalFree : 7 WaterMark : 3
Threshold : 116 ThresholdHitCount: 0
AllocFailCount : 0 FreeFailCount : 0
LastUserTask : PKEV LastFreeTask : PKEV
LastUserFailTask : LastFreeFailTask :
ThresholdHitTask :
LastUsedTime : Thu Jan 01 00:04:45 1970
LastFreeTime : Thu Jan 01 00:05:01 1970
LastUseFailTime : -
ThresholdHitTime : -

Output field:

Field	Description
TotalNetBuf	Total number of net buffers present in the system.
TotalUsed	Total number of net buffers allocated by the system since the system has come up. This is a running counter and never decrements.
TotalFree	Total number of net buffers freed by the system since the system has come up. This is a running counter and never decrements.
WaterMark	WaterMark of the net buffer i.e. maximum number of net buffers used by the system at some point in time.
Threshold	Threshold value set for net buffer in the system in terms of number of net buffers.
ThresholdHitCount	Number of times threshold has been hit for the net buffer.
AllocFailCount	Number of times net buffer allocation has failed.
FreeFailCount	Number of times net buffer freeing has failed.
LastUserTask	Name of the task which has lastly allocated (used)the net buffer.
LastFreeTask	Name of the task which has lastly deallocated (freed) the net buffer.
LastUserFailTask	Name of the task which has lastly failed to allocate (used) the net buffer.
LastFreeFailTask	Name of the task which has lastly failed to deallocate (freed) the net buffer.
ThresholdHitTask	Name of the task which has lastly allocated (used) the net buffer, causing threshold hit.
LastUsedTime	The last system time when net buffer was lastly used.
LastFreeTime	The last system time when net buffer was lastly freed.
LastUseFailTime	The last system time when the net buffer allocation has lastly failed.
ThresholdHitTime	The last system time when the threshold has hit while allocating the net buffer.

5.22.5.2 Get rmon netbuf threshold

Description:

Use this command to get the critical events logged for the netbuffer. This command will display 20 entries(maximum). Events are logged for netbuffer in the following 3 cases:

- Allcation of net buffer failed.
- Threshold Hit.

Command Syntax:

get rmon netbuf threshold

Parameters:

None

Example:

$ get rmon netbuf threshold

Output:

Task Name : TSK1
ThresholdHitTimeStamp : Thu Jan 01 00:00:39 1970
Event Type : Allocation Fail

Output field:

Field	Description
Task Name	The name of Task which tries to allocate the netbuffer during a critical event.
ThresholdHitTimeStamp	The system time when event logging is done.
Event Type	Cause of event logging. Its value can be: Allocation Fail - If allocation of net buffer has failed. Threshold Hit - If threshold value of net buffer has been hit while allocation.

5.22.5.3 Reset rmon netbuf

Description:
Use this command to reset some parameters of netbuf. This command will reset the following parameters of netbuf.

- Set ThresholdCount value to zero.
- Set AllocFailCount value to zero
- Set WaterMark to the number of net buffers currently used by system.
- Set FreeFailCount value to the zero.

Command Syntax:
reset rmon netbuf

Parameters:
None

Example:
$ reset rmon netbuf

Output Field:
None

5.22.6 RMON Semaphore Info Commands

5.22.6.1 Get rmon semaphore

Description:
Use this command to get the information about all the semaphores present in the system.

Command Syntax:
get rmon semaphore

Parameters:
None

Example:
$ get rmon semaphore

Output:

Name Count Suspend Type Tasks Waiting First Task

SACL4 1 FIFO 0 -

Output field:

Field	Description
Name	This specifies the name of the semaphore.
Count	This specifies the current instance count of the semaphore.
Suspend Type	This specifies the task suspended type on this semaphore. It can be either FIFO type or priority type.
Task Waiting	This specifies the number of tasks waiting on this semaphore.
First Task	This specifies the name of the first task suspended on the semaphore.

5.22.7 RMON Event Group Info Commands

5.22.7.1 Get rmon eventgrp

Description:

Use this command to get the information about all the event groups present in the system.

Command Syntax:

get rmon eventgrp

Parameters:

None

Example:

$ get rmon eventgrp

Output:

```
Name                Event Flags         Tasks Waiting       First
Task
------------------------------------------------------------
EDSLM11             0                   1
DSLM
```

Output field:

Field	Description
Name	This specifies the name of the event flag group.
Count	This specifies the current event flags.
Suspend Type	This specifies the task suspended type on this semaphore. It can be either FIFO type or priority type.
Task Waiting	This specifies the number of tasks waiting on the event flag group.
First Task	This specifies the name of the first task suspended on the event flag group.

5.23 SNMP Commands

5.23.1 SNMP Comm Commands

5.23.1.1 Get snmp comm

Description:
Use this command to get.

Command Syntax:
get snmp comm [**community** <community-val >]

5.23.1.2 Create snmp comm

Description:
Use this command to create.

Command Syntax:
create snmp comm community <community-val > [**access** ro | rw]

5.23.1.3 Delete snmp comm

Description:
Use this command to delete.

Command Syntax:
delete snmp comm community <community-val>

Parameter:

Name	Description
community <community-val >	This specifies the Community name. **Type:** Create – Mandatory Delete – Mandatory Get – Optional
access ro | rw	This specifies the access permissions given to man-agers with this community name. ro implies Read Only permissions and rw implies Read-Write per-missions. **Type:** Create – Optional **Default value:** ro

Example:
$ create snmp comm community public

Output:

Verbose Mode On
Verbose Mode On
Entry Created

Access community
---
ro public
Verbose Mode Off:
Entry Created

Output field:

Field	Description
community	This specifies the Community name.
Access	This specifies the access permissions given to man-agers with this community name.ro implies Read Only permissions and rw implies Read-Write per-missions.

References:

- SNMP commands

5.23.2 SNMP Host Commands

5.23.2.1 Get snmp host

Description:
Use this command to get.

Command Syntax:
get snmp host

5.23.2.2 Create snmp host

Description:
Use this command to create.

Command Syntax:
create snmp host ip <ip-address > **community** <community-val >

5.23.2.3 Delete snmp host

Description:
Use this command to delete.

Command Syntax:
delete snmp host ip <ip-address > **community** <community-val >

Parameter:

Name	Description
ip <ip-address >	This specifies the IP address of the manager that has access permissions. **Type:** Create – Mandatory Delete – Mandatory Get – Optional
community <community-val >	This specifies the Community name. This must be a valid community in the snmp community table. **Type:** Create – Mandatory Delete – Mandatory Get – Optional

Example:
$ create snmp host ip 172.25.34.34 community public

Output:
Verbose Mode On
Entry Created

Host Address Community

172.25.34.34 public
Verbose Mode Off:
Entry Created

Output field:

Field	Description
Ip Address	This specifies the IP address of the manager that has access permissions.
Community	This specifies the Community name. This must be a valid community in the snmp community table.

References:

- SNMP commands

5.23.3 SNMP Stats Commands

5.23.3.1 Snmp stats

Description:

Use this command to get.

Command Syntax:

get snmp stats

5.23.3.2 Modify snmp stats

Description:

Use this command to modify.

Command Syntax:

modify snmp stats [**authentraps** enable | disable]

Parameter:

Name	Description
authentraps enable |disable	Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information; as such, it provides a means whereby all authentication-failure traps may be disabled. **Type:** Modify – Optional **Default value:** disable

Example:

$ get snmp stats

Output:

InPkts : 100 OutPkts : 100
InBadVersions : 0 InBadCommunityNames : 0
InBadCommunityUses : 0 InASNParseErrs : 0
InTooBigs : 0 InNoSuchNames : 0
InBadValues : 0 InReadOnlys : 0
InGenErrs : 0 InTotalReqVars : 200
InTotalSetVars : 0 InGetRequests : 100
InGetNexts : 0 InSetRequests : 0
InGetResponses : 0 InTraps : 0
OutTooBigs : 0 OutNoSuchNames : 0
OutBadValues : 0 OutGenErrs : 0
OutGetRequests : 0 OutGetNexts : 0
OutSetRequests : 0 OutGetResponses : 100
OutTraps : 0 AuthenTraps : disable
SilentDrops : 0 ProxyDrops : 0

Output field:

Field	Description
InPkts	The total number of Messages delivered to the SNMP entity from the transport service.
OutPkts	The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.
InBadVersions	The total number of SNMP Messages which were delivered to the SNMP protocol entity and were for an unsupported SNMP version.
InBadCommunityNames	The total number of SNMP Messages delivered to the SNMP protocol entity which used a SNMP com-munity name not known to say entity.
InBadCommunityUses	The total number of SNMP Messages delivered to the SNMP protocol entity which represented an SNMP operation which was not allowed by the SNMP community named in the Message.
InASNParseErrs	The total number of ASN.1 or BER errors encountered by the SNMP protocol entity when decoding received SNMP Messages.
InTooBigs	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'tooBig'.
InNoSuchNames	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'noSuchName'.
InBadValues	The total number of SNMP PDUs which were delivered to the SNMP protocol

	entity and for which the value of the error-status field is 'badValue'.
InReadOnlys	The total number valid SNMP PDUs which were de-livered to the SNMP protocol entity and for which the value of the error-status field is `readOnly'. It should be noted that it is a protocol error to generate an SNMP PDU which contains the value 'readOnly' in the error-status field, as this object is provided as a means of detecting incorrect implementations of the SNMP.
InGenErrs	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'genErr'.
InTotalReqVars	The total number of MIB objects which have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.
InTotalSetVars	The total number of MIB objects which have been altered successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.
InGetRequests	The total number of SNMP Get-Request PDUs which have been accepted and processed by the SNMP protocol entity.
InGetNexts	The total number of SNMP Get-Next PDUs which have been accepted and processed by the SNMP protocol entity.
InSetRequests	The total number of SNMP Set-Request PDUs which have been accepted and processed by the SNMP protocol entity.
InGetResponses	The total number of SNMP Get-Response PDUs which have been accepted and processed by the SNMP protocol entity.
InTraps	The total number of SNMP Trap PDUs which have been accepted and processed by the SNMP protocol entity.
OutTooBigs	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is 'tooBig'.
OutNoSuchNames	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status is 'noSuchName'.
OutBadValues	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is 'badValue'.
OutGenErrs	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is 'genErr'.
OutGetRequests	The total number of SNMP Get-Request PDUs which have been generated by the SNMP protocol entity.
OutGetNexts	The total number of SNMP Get-Next PDUs which have been generated by the SNMP protocol entity.
OutSetRequests	The total number of SNMP Set-Request PDUs which have been generated by the SNMP protocol entity.
OutGetResponses	The total number of SNMP Get-Response PDUs which have been generated by the SNMP protocol entity.

OutTraps	The total number of SNMP Trap PDUs which have been generated by the SNMP protocol entity.
AuthenTraps	Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration infor-mation; as such, it provides a means whereby all au-thentication-failure traps may be disabled.
SilentDrops	The total number of GetRequest-PDUs, GetNextRequest-PDUs, GetBulkRequest-PDUs, SetRe-quest-PDUs, and InformRequest-PDUs delivered to the SNMP entity which were silently dropped be-cause the size of a reply containing an alternate Re-sponse-PDU with an empty variable-bindings field, was greater than, either a local constraint, or the maximum message size associated with the origi-nator of the request.
ProxyDrops	The total number of GetRequest-PDUs, GetNex-tRequest-PDUs, GetBulkRequest-PDUs, SetRequest-PDUs, and InformRequest-PDUs delivered to the SNMP entity, which were silently dropped, be-cause the transmission of the (possibly translated) message to a proxy target failed in a manner (other than a time-out) such that no Response-PDU could be returned.

References:

- SNMP commands.

5.23.4 SNMP Traphost Commands

5.23.4.1 Get snmp traphost

Description:

Use this command to get.

Command Syntax:

get snmp traphost [**ip** <ip-address>] [**port** <port-val >]

5.23.4.2 Create snmp traphost

Description:

Use this command to create.

Command Syntax:

create snmp traphost ip <ip-address > **community** <community-val > [**port** <port-val >] [**version** v1 | v2c]

5.23.4.3 Delete snmp traphost

Description:
Use this command to delete.

Command Syntax:
delete snmp traphost ip < ip-address > [**port** <port-val >]

5.23.4.4 Modify snmp traphost

Description:
Use this command to modify

Command Syntax:
modify snmp traphost ip <ip> [**port** <port>] [**version v1 | v2c**] **[severity** critical | major | minor | info**]**

Parameter:

Name	Description
ip<ip-address >	This specifies the IP address of the manager where trap is to be sent. **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional
port <port-val >	This specifies the Port at which the trap is to be sent. **Type:** Create –Optional Get – Optional Modify – Optional Delete – Optional
version v1 | v2c	This specifies the Trap version to be sent to the Manager. **Type:** Create–Optional Get – Optional Modify – Optional **Default value:** v2c
severity critical | major | minor | info	This specifies the Trap severity which is used for trap classification.The given trap severity will be used for filtering of traps on per manager basis i.e. manager will receive traps on the basis of configured severity **Type:** Create – Optional Modify – Optional

Example:

$ create snmp traphost ip 172.25.34.34 port 162 community public version v2c severity minor

Output:

Verbose Mode On
Entry Created

Ip Address : 172.25.34.34
Community : public
Port : 162 Version : v2c
Severity : minor

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Ip Address	This specifies the IP address of the manager where trap is to be sent.
Port	This specifies the Port at which the trap is to be sent.
Community	This specifies the Community name used in the trap.
Version	This specifies the Trap version to be sent to the Manager
Severity	This specifies the Trap severity which is used for trap classification.The given trap severity will be used for filtering of traps on per manager basis i.e. manager will receive traps on the basis of configured severity

5.24 SNTP Commands

5.24.1 SNTP Cfg Commands

5.24.1.1 Get sntp cfg

Description:
Use this command to get.

Command Syntax:
get sntp cfg

5.24.1.2 Modify sntp cfg

Description:
Use this command to modify.

Command Syntax:
modify sntp cfg [**enable | disable**]

Parameter:

Name	Description
enable|disable	This specifies whether the SNTP service is enabled or disabled. True means that SNTP is enabled and False means that SNTP is disabled. **Type:** Modify — Optional **Valid values:** enable, disable

Example:
$ modify sntp cfg enable

Output:
Verbose Mode On/Off
Status : Enable

Output field:

Name	Description
Status	This specifies whether the SNTP service is enabled or disabled. True means that SNTP is enabled and False means that SNTP is disab

5.24.2 SNTP servaddr Commands

5.24.2.1 Get sntp servaddr

Description:
Use this command to get.

Command Syntax:
get sntp servaddr

5.24.2.2 Create sntp servaddr

Description:
Use this command to create.

Command Syntax:
create sntp servaddr <ip-address>

Example:
$ create sntp servaddr 172.23.3.45

Output:
Verbose Mode On
Verbose Mode On
Entry Created

Server Addr : 172.23.3.45 Status : Standby
Verbose Mode Off
Entry Created

Output field:

Field	Description
Server Addr	This specifies the IP Address of the SNTP Server.
Status	Server is in Use. OR Server is in standby mode i.e. not in use.

5.24.3 SNTP Stats Commands

5.24.3.1 Get sntp stats

Description:
Use this command to get.

Command Syntax:
get sntp stats

5.24.3.2 Reset sntp stats

Description:
Use this command to reset.

Command Syntax:
reset sntp stats

Example:
$ get sntp stats

Output:
Verbose Mode On/Off
Requests count : 0 Response count : 0
Invalid Response count : 0 Lost Response count : 0
Last Time Stamp [MM/DD/YYYY::HH:MM:SS] : Thu Jan 01 00:00:00 1970

Output field:

Field	Description
Requests count	This specifies the number of requests sent to SNTP Server.
Responses count	This specifies the Number of responses received from SNTP Server.
Invalid Responses count	This specifies the Number of invalid responses received from SNTP Server.
Lost Responses count	This specifies the number of responses which do not come within time limit.
Last Time Stamp [MM/DD/ YYYY::HH:MM:SS]	This specifies time at which the local clock was last set or corrected. The display format shall be mm/dd/ yyyy:hr:min:sec.

5.25 System Commands

5.25.1 Cbuftrace cfg Commands

5.25.1.1 Get cbuftrace cfg

Description:

Use this command to get.

Command Syntax:
get cbuftrace cfg [**module** <module-val>]

5.25.1.2 Reset cbuftrace cfg

Description:

Use this command to reset.

Command Syntax:

reset cbuftrace cfg module <module-val>

Parameters:

Name	Description
module <module-val>	This specifies the module, for which c-buftrace configuration is to be modified **Type:** Reset -- Mandatory Get -- Optional

Example:

$ get cbuftrace cfg module GAG

Output:

module : GAG
flow : 3 level : 0xff

Output field:

Field	Description
module	This specifies the module, for which c-buftrace configuration is to be modified
flow	This indicates a Hexadecimal bitmask, which sets the filter for c-buftrace flow.
level	This indicates a Hexadecimal bitmask, which sets the filter for c-buftrace level.

5.25.2 System Configuration Save and Restore Commands

5.25.2.1 Commit

Description:
Use this command to commit the active configuration to the flash. This command is not supported

Command Syntax:
commit [nbsize]

Parameters:
None

Example:
$ commit

Output:
Set Done

Caution:
This command will take some time to execute.

References:
reboot command
Download command.

5.25.2.2 Reboot

Description:
Use this command to reboot the system and to set the boot configuration.

Command Syntax:
reboot [**control** <nvram|network>] [**dataplane** <nvram|network>] [**config** <network | default | last | backup | clean | minimum | safe >]

Parameters:

Name	Description
control <nvram|network>	This specifies whether the control plane binaries are to be fetched from the network or the binaries already present in NVRAM are to be used. **Type :** Optional **Default value:** Binary present in NVRAM.
dataplane <**nvram|network**>	This specifies whether the data plane binaries are to be fetched from the network or the binaries already present in NVRAM are to be used. **Type:** Optional **Default value:** Binaries present in NVRAM.
config <network|default|last|backup|clean|minimum>	This specifies the boot configuration – the <last|backup|clean|minimum> source, from which to boot up. The boot configuration is set to last automatically, whenever a commit command is given. The boot configuration being an optional parameter, if it is not specified, it retains the previous value. So giving reboot after a commit will result in a reboot from the committed configuration. Default: Use Default factory configuration while booting up. Backup: Use the Backup configuration to boot the system. Last: Use last committed configuration to boot the system. Minimum: Use a configuration in which: • the size command is executed. • the user (login name and password as root) is created. • an Ethernet interface with IP address 192.168.1.1 mask 255.255.0.0 is created. Clean: The system comes up with nothing configured. Network: The system fetches the default configuration file from the remote host and system comes up with this default configuration, fd.cfg. **Type :** Optional **Default value:** If a reboot is being given for the first time, then the default value is default. Otherwise, the default value is the same as what was given the last time.

Mode:
Super-User.

Example:
$ reboot

Output:
None

Output Fields:
None
References:
Commit command.

5.25.3 System Control Table Commands

5.25.3.1 Create user

Description:
Use this command to create a user account. A maximum two accounts can exist.

Command Syntax:
create user name <user-name> **passwd** <password> [**root|user**]

5.25.3.2 Delete user

Description:
Use this command to delete a user login.

Command Syntax:
delete user name <user-name>

5.25.3.3 Get user

Description:
Use this command to display information of all the users. Password information isnot displayed.

Command Syntax:
get user

Parameters:

Name	Description
Name <user-name>	This specifies the User Name to be created. **Type:** Mandatory **Valid values:** String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ";"
passwd <password>	This specifies the password required by this user to login to the unit. **Type :** Mandatory **Valid values:** String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ";".
Root|user	This indicates the privilege level of the user. **Type :** Optional **Default value:** user

Example:

$ create user name user1 passwd temp1 user

Output:

Verbose Mode On
Entry Created

Privilege UserName
---
user user1
Verbose Mode Off
Entry Created

Output Fields:

FIELD	Description
UserName	This shows the new user login, which has been cre-ated.
Privilege	This represents the privilege level associated with the user name shown. It may be: user, root

References:

Delete user command.
get user command
passwd related commands.

5.25.3.4 Passwd

Description:

Use this command to change the password associated with a user login. An ordinary user may change the password for another user if he knows the old password. However, the root does not need to know a user's existing password before changing it. The passwords are not echoed on to the screen.

Command Syntax:

passwd [name]

Parameters:

Name	Description
name	The id of the user whose password is to be changed. If not specified then the current user is as-sumed. **Type:** Mandatory, if user is logged in through serial port and user authentication is disabled through se-rial port. Otherwise, Optional. **Valid values:** String of up to 64 characters (All print-able characters except ';')

Mode:

Super-User, User.

Example:

Normal Usage
$passwd
Old Password:
New Password:
Confirm New Password:
Set Done.

Super User (for ordinary user)
$passwd User1
Enter New Password:
Confirm New Password:
Set Done.

Output::
None

Caution:
None.

References:
user command

5.25.4 System crash info Commands

5.25.4.1 Get system crash info

Description:
T This command is used to display a list of crashes that were encountered by the system. This command is not supported on the Flashless system.

Command Syntax:
get system crash info [**numentries** <numentries-val>] [**showview** [general | ctrlandstatusregs | stackregs | stackinfo | altwinregs | stdwinregs | stdwinregsdetailed | coprocessorregs] +]

Parameters:

Name	Description
Numentries <numentries-val>	This specifies the last <numentries> number of crashes encountered in the system. **Type**: Optional **Valid values**: 1 to 128 **Default** : 1
showview general | ctrlandstatusregs | stackregs | stackinfo | altwinregs | stdwinregs | stdwinregsdetailed | coprocessorregs]+	The optional showview parameter shall help the user to view selective details of the crash dump. The information on any one or combination of crash dump sections can be retrieved by ORing the following parameters: •general •ctrlandstatusregs •stackregs •stackinfo •altwinregs •stdwinregs •stdwinregsdetailed

	•coprocessorregs **Note:** You cannot use the stdwinregs and stdwinregsdetailed parameters simultaneously.

Mode:

Super-User, User

Example:

$ get system crash info numentries 1 showview general ctrlandstatusregs stackregs stackinfo altwinregs stdwinregs coprocessorregs

Output:

General crash info

Crash Id : 1 Crash IU : 0

Time of Crash : Thu Jan 01 00:00:43 1970

DP Version : DP_B02_10_15_09_ip1000a

CP Version : COL2.10.3.0.060317

Crash Cause : CP crashed after DP Init

SystemUpTime Days Hours Mins Secs

---

0 0 0 43

User Crash Info :

Control And Status Registers

PSR Reg : 0x940060c7 Wim Reg : 0x1

Single Fault PC : 0x4d3cdb8 Single Fault nPC : 0x4d3cdbc

Double Fault PC : 0x0 Double Fault nPC : 0x0

Y Reg MSW : 0x0 Y Reg LSW : 0x12345678

Single Fault Trap Num : 0x7 Double Fault Trap Num : 0xffffffff

Fault Status Reg : 0x14 Double Fault Reg : 0xcf70

IER : 0x2000 Trap Base Reg : 0x4f7a070

Alternate Window # 0x1f

Reg#:Local : In |Reg#:Local : In |

0 : 0x0 : 0x0 | 1 : 0x0 : 0x0

2 : 0x0 : 0x0 | 3 : 0x0 : 0x0

4 : 0x0 : 0x0 | 5 : 0x0 : 0x0

6 : 0x0 : 0x0 | 7 : 0x0 : 0x0

Alternate Window # 0x1e

Reg#:Local : In |Reg#:Local : In |

0 : 0x0 : 0x0 | 1 : 0x0 : 0x0
2 : 0x0 : 0x0 | 3 : 0x0 : 0x0
4 : 0x0 : 0x0 | 5 : 0x0 : 0x0
6 : 0x0 : 0x0 | 7 : 0x0 : 0x0

Alternate Window # 0x1d

Reg#:Local : In |Reg#:Local : In |

0 : 0x0 : 0x0 | 1 : 0x0 : 0x0
2 : 0x0 : 0x0 | 3 : 0x0 : 0x0
4 : 0x0 : 0x0 | 5 : 0x0 : 0x0
6 : 0x0 : 0x0 | 7 : 0x0 : 0x0

....

....

....

Alternate Window # 0x18

Reg#:Local : In |Reg#:Local : In |

0 : 0x0 : 0x0 | 1 : 0x0 : 0x0
2 : 0x0 : 0x0 | 3 : 0x0 : 0x0
4 : 0x0 : 0x0 | 5 : 0x0 : 0x0
6 : 0x0 : 0x0 | 7 : 0x0 : 0x0

Current Standard Window Dump # 0x8

Registers : Global : Out : Local : In

New Func Called

0 : 0x0 : 0x0 : 0x1 : 0x30800005
1 : 0x0 : 0x0 : 0x52a7164 : 0x0
2 : 0x7 : 0x0 : 0x5c67400 : 0x2800005
3 : 0x18 : 0x5 : 0x5c67400 : 0x2
4 : 0x4f6cca8 : 0x4f6cca8 : 0x0 : 0x52bdce0
5 : 0x144805cc : 0x1 : 0xffff : 0x0
6 : 0x5c67400 : 0x52bdbb0 : 0x59ec : 0x52bdc18
7 : 0x0 : 0x4f6e040 : 0x0 : 0x4ce765c

Standard Window Dump # 0x9

Registers :	Global	: Out	: Local	: In
0	: 0x0	: 0x30800005	: 0x1	: 0x0
1	: 0x0	: 0x0	: 0x52bde30	: 0xf
2	: 0x7	: 0x2800005	: 0x2	: 0x4fcbf38
3	: 0x18	: 0x2	: 0x5c67400	: 0xf
4	: 0x4f6cca8	: 0x52bdce0	: 0x0	: 0x567
5	: 0x144805cc	: 0x0	: 0x5c67000	: 0x51eb851f
6	: 0x5c67400	: 0x52bdc18	: 0x0	: 0x52bdc98
7	: 0x0	: 0x4ce765c	: 0x0	: 0x4ce591c

Standard Window Dump # 0xa

Registers :	Global	: Out	: Local	: In
0	: 0x0	: 0x0	: 0x5b70ed0	: 0x542a810
1	: 0x0	: 0xf	: 0x52bde18	: 0x0
2	: 0x7	: 0x4fcbf38	: 0x20000000	: 0x5abc6f8
3	: 0x18	: 0xf	: 0x0	: 0x542a810
4	: 0x4f6cca8	: 0x567	: 0x4f6cbb8	: 0x5c36448
5	: 0x144805cc	: 0x51eb851f	: 0xffffffff	: 0x5b69300
6	: 0x5c67400	: 0x52bdc98	: 0x0	: 0x52bdd18
7	: 0x0	: 0x4ce591c	: 0x52bdcd9	: 0x4ce52f0

....

....

....

Wim Window # 0x0

Registers :	Global	: Out	: Local	: In
0	: 0x0	: 0x0	: 0x0	: 0x0
1	: 0x0	: 0xb	: 0x0	: 0x0
2	: 0x7	: 0x0	: 0x0	: 0x0
3	: 0x18	: 0x5c67400	: 0x0	: 0x0
4	: 0x4f6cca8	: 0xffffffff	: 0x0	: 0x0
5	: 0x144805cc	: 0x0	: 0x0	: 0x0
6	: 0x5c67400	: 0x52bdff8	: 0x0	: 0x5c67410
7	: 0x0	: 0x0	: 0x0	: 0x4f62f7c

Standard Window Dump # 0x1

Registers : Global : Out : Local : In

0	: 0x0	: 0x0	: 0x0	: 0x57e2688
1	: 0x0	: 0x0	: 0x52bd8e5	: 0x0
2	: 0x7	: 0x0	: 0x1	: 0xf7
3	: 0x18	: 0x0	: 0x0	: 0xe7
4	: 0x4f6cca8	: 0x0	: 0x0	: 0x54758a4
5	: 0x144805cc	: 0x0	: 0x0	: 0x40
6	: 0x5c67400	: 0x5c67410	: 0x8000	: 0x5c67410
7	: 0x0	: 0x4f62f7c	: 0x52a69a8	: 0x4d501fc

Standard Window Dump # 0x2

Registers : Global : Out : Local : In

0	: 0x0	: 0x57e2688	: 0x944060c2	: 0xedd
1	: 0x0	: 0x0	: 0x4d4bbec	: 0x0
2	: 0x7	: 0xf7	: 0x4d4bbf0	: 0x0
3	: 0x18	: 0xe7	: 0x2000708	: 0x0
4	: 0x4f6cca8	: 0x54758a4	: 0x0	: 0x0
5	: 0x144805cc	: 0x40	: 0x5c67000	: 0x0
6	: 0x5c67400	: 0x5c67410	: 0x0	: 0x5c67410
7	: 0x0	: 0x4d501fc	: 0x1	: 0x4a58968

Coprocessor Register Dump

CCSR Register : 0x2f7f72a7 CCCRC Register : 0x7fffffff

CCPR Register : 0xfe5bf8b7

CCIR Register : 0xffffffff CCIBR Register : 0xffffffff

CCOBR Register : 0xfffffffe CCOR Register : 0xdfffffff

Call Stack at the time of Crash :

StackDepth : CallAddress : Return Address: Frame Ptr : StackPtr

8	: 0x4f6e040	: 0x4ce765c	:0x52bdc18	: 0x52bdbb0
7	: 0x4ce765c	: 0x4ce591c	:0x52bdc98	: 0x52bdc18
6	: 0x4ce591c	: 0x4ce52f0	:0x52bdd18	: 0x52bdc98
5	: 0x4ce52f0	: 0x4ce3140	:0x52bdd90	: 0x52bdd18
4	: 0x4ce3140	: 0x4ce333c	:0x52bde30	: 0x52bdd90
3	: 0x4ce333c	: 0x4ce44dc	:0x52bdec8	: 0x52bde30
2	: 0x4ce44dc	: 0x4f62830	:0x52bdf90	: 0x52bdec8

Stack dump at the time of Crash:

0x052bb528: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

0x052bb538: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x052bb548: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x052bb558: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x052bb568: 00 00 00 00 00 00 00 00 00 00 00 27 00 00 00 00
0x052bb578: 00 00 00 00 00 00 04 04 00 00 00 23 00 00 00 00
0x052bb588: 00 00 00 00 00 00 00 04 05 a4 d9 50 00 00 00 00
0x052bb598: 00 00 00 00 00 00 00 00 00 00 12 34 05 a5 14 68
0x052bb5a8: 01 23 45 67 00 00 21 44 00 00 00 00 05 a4 d9 50
0x052bb5b8: 05 2b b5 f0 05 bf c4 00 00 00 00 00 80 00 00 02
0x052bb5c8: 05 2b bb d8 04 a4 0a 40 00 00 00 17 ff ff ff ff
0x052bb5d8: 05 2b b5 f0 00 00 00 24 00 00 00 15 05 a4 d9 7c
0x052bb5e8: 00 00 3a d4 00 00 00 00 0d 0a 00 40 04 b8 24 78
0x052bb5f8: 00 00 00 00 05 a5 14 50 00 00 00 00 00 00 00 00
0x052bb608: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x052bb618: 00 00 00 21 00 00 21 47 00 00 00 00 00 00 00 00
0x052bb628: 00 00 00 00 00 00 00 00 05 a5 14 68 00 00 00 00
0x052bb638: 05 a5 f2 3c 05 2b b0 08 00 00 00 1d 00 00 00 17
0x052bb648: cc cc cc cd 00 00 3a d4 00 00 00 01 00 00 00 01
0x052bb658: 00 01 38 00 05 a4 d9 50 ff ff ff bc 00 00 3a d4
0x052bb668: 00 00 00 01 00 00 00 01 00 00 00 02 05 26 47 f0
0x052bb678: 00 00 00 00 05 2b b7 28 05 2b bd 88 05 a5 14 50
0x052bb688: 05 2b bd 88 05 2b b7 28 05 a5 14 68 04 a4 43 8c
0x052bb698: 00 00 00 00 00 00 00 00 00 00 00 00 05 a6 13 2c
0x052bb6a8: 00 00 00 77 00 00 3a d4 00 00 00 00 00 00 00 00

Task for which stack over flow occur

NO Stack Overflow

Output Fields:

Field	Description
Crash Id	The crash number.
Crash IU	The internal processor number.
Time of Crash	This specifies the time of the crash.
DP Version	Version of Crashed DP
CP Version	Version of Crashed CP
Crash Cause	This specifies the crash cause. Following are the possible causes: - Ctrl Transfer To CP Failed

	- Crash in CP self processing - DP Init Failure - CP crashed after DP Init - DP crashed after DP Init - DP internal Failure - System in Loop - Crash in DP Processing
SystemUpTime	This specifies the system up time in: Days : Hours : Minutes : Seconds
PSR Reg	This specifies the value of the processor state register at the time of the crash.
Wim Reg	The window invalid mask register.
PC	This specifies the value of the program counter at the time of the crash.
nPC	This specifies the value of the next program counter at the time of the crash.
Y Reg MSW	This specifies the value of MSW of the Y Register at the time of the crash.
Y Reg LSW	This specifies the value of LSW of the Y Register at the time of the crash.
Trap Num	This specifies the number of traps that caused the crash.
Trap Base Reg	This specifies the value of the Trap Base register at the time of the crash.
Fault Status Reg	This specifies the value of the Fault Status Register at the time of the crash.
Double Fault Reg	This specifies the value of the Double Fault Register at the time of the crash.
IER	This specifies the value of the Implementation Extension Register at the time of the crash.
Alternate Window - Reg# Local	For crashes involving Alternate Windows, this capture specifies all local register for Alternate Windows # 24 to 31 (0x1f to 0x18).
Alternate Window - Reg# In	For crashes involving Alternate Windows, this capture specifies all input register for Alternate Windows # 24 to 31(0x1f to 0x18).
Standard Window Dump - Registers - Global	The Sparclet Global register.
Standard Window Dump - Registers - Out	The output registers of the specified Sparclet Window.
Standard Window Dump	The local registers of the specified Sparclet Window.

- Registers - Local	
Standard Window Dump - Registers - In	The input registers of the specified Sparclet Window.
CCSR Register	The CCP Status register.
CCCRC Register	The CCP CRC register.
CCPR Register	The CCP Polynomial register.
CCIR Register	The CCP InReg register.
CCIBR Register	The CCP InBuf register.
CCOBR Register	The CCP OutBuf register.
CCOR Register	The CCP OutReg register.
Stack at the time of the Crash - StackDepth - CallAddress	The callee function address.
Stack at the time of the Crash - StackDepth - Return Address	The return address back to the caller function.
Stack at the time of the Crash - StackDepth - Frame Ptr	The frame pointer at the time of the call.
Stack at the time of the Crash - StackDepth - StackPtr	The stack pointer at the time of the call.
Stack dump at the time of Crash	The stack dump at the time of crash. The total size of the dump would be the minimum between the hash define 400 and the total number of bytes actually in the stack.
Tasks for which Stack Overflow Occurred	In case the crash is due to stack overflow, the task for which stack overflow has occurred will be displayed here. Otherwise, it would specify that stack overflow hasn't occurred - meaning that the crash is due to some other reason.

Note:

The Current Standard Window dump displays the current dump corresponding to Global, Out, Local, and In.

5.25.4.2 Get system crash configinfo

Description:

This command gets system crash configuration parameters..

Command Syntax:

get system crash configinfo

5.25.4.3 Modify system crash configinfo

Description:

This command modifies system crash configuration parameters

Command Syntax:

modify system crash configinfo [**action** reboot | debug]

Parameters:

Name	Description:
Action reboot|debug	This parameter defines the state of the system after a DP IU crashes. If the action is set to reboot, the system shall reboot after DP IU crash. If it is set to debug, the system shall not reboot and a CLI prompt shall be given to the user for further debugging. **Type** **:**Modify - Optional **Valid values :** reboot - debug

Example:

$ modify system crash configinfo action reboot

Output:

Crash Config Info : reboot

Output Fields:

Field	Description
Crash Config Info	This parameter defines the state of the system after a DP IU crashes. If the action is set to reboot, the system shall reboot after DP IU crash. If it is set to debug, the system shall not reboot and a CLI prompt shall be given to the user for further debugging.

5.25.5 System info Commands

5.25.5.1 Get system info

Description:
This command to get system parameters.

Command Syntax:
get system info

5.25.5.2 Modify system info

Description:
Use this command to modify the system parameters.

Command Syntax:
modify system info [**contact** <sys-contact>] [**name** <sys-name>] [**location** <sys-location>] [**vendor** <sys-vendor-info>] [**logthresh** <sys-log-threshold>] [**systime** <systime>] [**dst** <on |off>] [**timezone** <timezone>]

Parameters:

Name	Description:
contact <sys-contact>	This contains the textual identification of the contact person for this modem, together with information on how to contact this person **Type:** Optional **Valid values:** String of up to 63 ASCII Characters
name <sys-name>	This specifies the name of the modem **Type:** Optional **Valid values:** String of up to 63 ASCII Characters
Location <sys-location>	This specifies the physical location of this modem **Type:** Optional **Valid values:** String of up to 63 ASCII Characters
vendor <sys-vendor-info>	This contains the vendor-specific information **Type:** Optional **Valid values:** String of up to 63 ASCII Characters
logthresh <sys-logthreshold>	This specifies the severity level of the trap equal to or lower than that shall be logged. 1 is the lowest and represents critical traps. Changing the parameter's value in a flashless system shall have no effect as there is no NVRAM support present to log traps. **Type:** Optional

	Valid values: 1-4
Systime <system-time>	This specifies the current system time. **Type:** Optional **Valid values:** System Time String in format. The total string length must be 20 characters. Single digits should be prepended with a `0', e.g. `1' should be given as `01' mon dd hh:mm:ss year e.g. "Feb 01 21:20:10 2001"
dst <on | off>	This specifies if the Daylight Savings Time has been enabled or not. **Type:** Optional **Valid values:** on|off
timezone <timezone>	Time zone **Type:** Optional **Valid values:** Given below, are the valid values withinì ì, followed by their descriptions. "IDLW" - International Date Line West "NT" - Nome "HST" - Hawaii Standard ìCAT" - Central Alaska "AHST"- Alaska-Hawaii Standard "YST" - Yukon Standard "PST"- US Pacific Standard "MST"- US Mountain Standard "CST"- US Central Standard "EST"- US Eastern Standard "AST"- Atlantic Standard "NFST"- Newfoundland Standard "NFT"- Newfoundland "BRST"-Brazil Standard "AT"- Azores ìWAT" - West Africa "GMT" - Greenwich Mean "UTC" - Universal (Coordinated) "WET" - Western European "CET" - Central European "FWT" - French Winter "MET" - Middle European "MEWT" - Middle European Winter "SWT" - Swedish Winter "EET" - Eastern Europe, Russia Zone 1

	"IST" - Israeli Standard "BT" - Baghdad, Russia Zone 2 "IT" - Iran "ZP4" - "Russia Zone 3" "ZP5" - "Russia Zone 4" "INST" - "Indian Standard" "ZP6" - "Russia Zone 5" "NST" - "North Sumatra" "WAST" - West Australian Standard "SSMT" - South Sumatra, Russia Zone 6 "JT" - Java "CCT" - China Coast, Russia Zone 7 "ROK" - Korean Standard "KST" - Korean Standard "JST" - Japan Standard, Russia Zone 8 "CAST" - Central Australian Standard "EAST" - Eastern Australian Standard "GST" - Guam Standard, Russia Zone 9 "IDLE" - International Date Line East "NZST" - New Zealand Standard "NZT" - New Zealand Example: ìIDLWî , that stands for International Date Line West

Example:

$ get system info

Output:

Verbose Mode On
Description : Columbia
Name : conexant.com
Location : Conexant Systems, Inc.,100 Schulz Drive, RedBank,NJ 07701,U.S.A
Contact : Conexant Systems, Inc.,100 Schulz Drive, RedBank,NJ 07701,U.S.A
Vendor : Conexant Systems, Inc.,100 Schulz Drive, RedBank,NJ 07701,U.S.A
LogThreshold : 0
Object-id : 1.3.6.1.4.1.200
Up Time(HH:MM:SS) : 5:2:0
HwVersion : c023b6d3

CPSwVersion : COL2.6.3.0.040707
DPSwVersion :
System Time : Thu Jan 01 05:02:00 1970
Time Zone : GMT
DST : off
Services : physical datalink internet end-to-end applications

Output Fields:

Field	Description
Description	This is a textual description of the entity.
Name	This specifies the name of the system.
Location	This specifies the physical location of this node.
Contact	This shows the textual identification of the contact person for this managed node, together with the information on how to contact this person.
Vendor	This shows the vendor-specific information.
LogThreshold	This specifies the severity level of the trap equal to or lower than that shall be logged. 1 is the lowest and represents critical traps.
Object-id	This shows the vendor's authoritative identification of the network management subsystem contained in the entity.
Up Time	This specifies the time in seconds since the system is up.
HwVersion	This specifies the hardware and firmware version of the system.
CPSwVersion	This specifies the software version of the CP.
DPSwVersion	This specifies the software version of the DP.
System Time	This shows the current system time.
Time Zone	This specifies the time zone that has been set on the modem.
DST	This specifies whether Daylight Saving Time has been enabled or not.
Services	This specifies the functionality provided by this node. These may be: physical, datalink, internet, end-to-end, or applications.

References:

Get/modify nbsize
Get system stats

5.25.5.3 Get rmon idletime

Description:

Use this command to display a list of idle time records.

Command Syntax:

get rmon idletime [**numentries** <numentries-val>]

Parameters:

Name	Description:
Numentries <numentries-val>	This specifies last numentries idle time records to be displayed **Type**: Optional **Valid values** : 1 to 6 **Default** : 10

Mode:

Super-User, User

Example:

$ get rmon idletime numentries 1

Output:

$get rmon idletime numentries 1

Start Time End Time Total Idle Util %
Time Time

Thu Jan 1 12:34:51 1970 Thu Jan 1 12:35:00 1970 10s 7s 30

Output Fields:

FIELD	Description
Start Time	This specifies the starting time of the period for which the idle time was recorded
End Time	This specifies the end time of the period for which the idle time was recorded
Total Time	This specifies the total time (in seconds) elapsed in this period.
Idle Time	This specifies the time (in seconds) for which the

	system was idle during this period.
Util %	This specifies the Utilization (in percentage) of the system during this period

5.25.6 System manuf info Commands

5.25.6.1 Get system manuf info

Description:
This command is used to display manufacturing text information in the system.

Command Syntax:
get system manuf info

Example:
$ get system manuf info

Output:

```
CpeUtopiaMode              : Tx 16 Bit Rx 8 Bit
NetUtopiaMode              : Tx 16 Bit Rx 8 Bit
CpeUtopiaMaster            : True          NetUtopiaMaster          : False
MaxEthMacPhy               : 2             ColumbiaIdSel            : 18
CpeUtopiaFreq              : 40 MHz
Eth Speed                  : 100 Mbps

S.No   |   SelfMacAddr          |   EthPortIdSel |      EthType
-------------------------------------------------
1       | 00:BB:CC:DD:EE:FF   |   16              |     Data       Mgmt
2       | 00:BB:CC:DD:EE:FE   |   17              |     Data       Mgmt

Dsl manuf Text Info
--------------------
Num of LBRams              : 2             Num of Chips             : 2
Num of Ports               : 24            Interface Type           : Host Bus
Chip Type                  : G24
Serial Number              : <co-0123456>
Vendor Id                  : FFBSGSPN
Version Number             : Z3219

Chip No      Base Addr        LBRam
------------------------------
```

```
1            0x84a00000          0
2            0x84a00c00          1

Logical To Physical Port Mapping
--------------------------------
[   0 - 7   ]       0     1     2     3     4     5     6     7
[   8 - 15 ]        8     9     10    11    12    13    14    15
[ 16 - 23 ]         16    17    18    19    20    21    22    23
[ 24 - 31 ]         24    25    26    27    28    29    30    31
[ 32 - 39 ]         32    33    34    35    36    37    38    39
[ 40 - 47 ]         40    41    42    43    44    45    46    47

UART manuf Text Info
--------------------

Num of UARTs                : 1

HSSL Port Id                : 1             Baud Rate               : 9600
Data Bits                   : 8             Stop Bit                : 2
Parity                      : Even          UART Mode               : Polling
Application Type            : Console
$
```

Output Fields:

FIELD	Description
CpeUtopiaMode	Mode of operation of CPE side Utopia interface
NetUtopiaMode	Mode of operation of NET side Utopia interface
CpeUtopiaMaster	This specifies whether CPE side Utopia interface is master
NetUtopiaMaster	This specifies whether NET side Utopia interface is master
MaxEthMacPhy	This specifies the maximum number of MACs that can be configured
ColumbiaIdSel	Specifies the address bit in the PCI bus, which is connected to IDSEL pin of the Columbia
CpeUtopiaFreq	CPE Frequency for Utopia Interface
Eth Speed	This specifies the speed of operation. Supported speeds are – 10 Mbps, 100 Mbps, and 1000 Mbps. It is a bitmask.
SelfMacAddr	This specifies the self MAC address
EthPortIdSel	This specifies the address bit in the PCI bus, which is connected to IDSEL pin of the Ethernet device

EthType	This specifies the Defines the ethernet types – data , mgmt, or both. It is a bitmask.
Num of LBRams	This specifies the number of LBRams in the system.
Num of Chips	This specifies the number of Chips in the system.
Num of Ports	This specifies the number of Ports per Chip in the system.
Interface Type	This specifies the InterfaceType. Following are the values it can take – Host Bus, PCI, Utopia
Chip Type	This specifies the Type of Chip – G24, G16, and octane.
Serial Number	This specifies the vendor specific string that identifies the vendor equipment.
Vendor Id	This specifies the binary vendor identification field.
Version Number	This specifies the vendor specific version number sent by this ATU as part of the initialization message
Base Addr	This specifies the base address of the chip.
LBRam	This specifies the LBRam associated with the chip
Logical To Physical Port Mapping	This specifies the Logical To Physical Port Mapping.
No of UARTs	This specifies the number of UARTs configured.
HSSL Port Id	This specifies the HSSL port to be used for UART.
Baud Rate	This specifies the Baud Rate of the port
Data Bits	This specifies the number of data bits to be used
Stop Bit	This specifies the stop bits used on HSSL – 1, 2, 1.5
Parity	This specifies the parity used on HSSL – even, odd, none
UART Mode	This specifies the UART Mode – polling, interrupt based
Application Type	This specifies the application name using this UART.

5.25.7 System reboot info Commands

5.25.7.1 Get system reboot info

Description:

This command is used for displaying a list of reboot failures that were encountered when the system was trying to come up.

Command Syntax:

get system reboot info [**numentries**]

Parameters:

Name	Description:
numentries <numentries-val>	This specifies the last <numentries> number of reboot failures recorded in the system. **Type**: Optional **Valid values** : 1 to 100 **Default** : 1

Example:

$ get system reboot info numentries 1

Output :

Verbose Mode On
CP Bin Version : 1.6
DP Bin Version : 1.8
Time of Reboot : Thu Jan 2 12:34:56 1970
Reboot Failure Cause : DP Init Failure
Reboot Type : Secondary CFG

Output Fields:

FIELD	Description
Control Plane Version	The control Plane Version with which the system could not come up.
Data Plane Version	The data Plane Version with which the system could not come up.
Time of Reboot	Time at which the reboot failure occured.
Type of Reboot	This tells the type of reboot with which the system is trying to come up. The various possible values are :- Last, Back Up, Default, Minimum, Clean.
Failure Cause	This tells the various causes of failure that system encountered while rebooting. It can be :- Sdram CP Decompress failed Nvram CP Decompress failed Sdram DP Decompress failed Nvram DP Decompress failed DP Init Failure Nvm CP Nvm DP CI Mismatch Nvm CP Sdram DP CI Mismatch Sdram CP Nvm DP CI Mismatch #

	Sdram CP Sdram DP CI Mismatch
	Sdram CP All DP CI Mismatch
	Nvm CP All DP CI Mismatch
	Applying Last cfg failed
	Applying BackUp cfg failed
	Applying Min cfg failed
	Applying Nvm FD failed
	Applying Sdram FD failed
	Nvm CP Last CFG CI Mismatch
	Nvm CP Backup CFG CI Mismatch
	Sdram CP Last CFG CI Mismatch
	Sdram CP Backup CFG CI Mismatch
	NVRAM CP had invalid sign
	SDRAM CP had invalid sign
	Control Plane wrongly linked
	CP mem req exceeds limit
	Applying Clean cfg Failed

5.25.8 Nbize Commands

5.25.8.1 Get nbsize

Description:
Use this command to view System Sizing parameters available on next boot.

Command Syntax:
get nbsize

5.25.8.2 Modify nbsize

Description:
Use this command to modify System Sizing parameters available on next boot.

Command Syntax:
modify nbsize [**maxatmport** <maxatmport-val>] [**maxvcperport** <maxvcperport-val>] [**maxvc** <maxvc-val>] [**maxatmoam** <maxatmoam-val>] [**maxrmon** <maxrmon-val>] [**maxnumethprioqs** <maxnumethprioqs-val>] [**maxnumeoaprioqs** <maxnumeoaprioqs-val>] [**maxmulticast** <maxmulticast-val>] [**maxmac** <maxmac-val>] [**maxhashbuck** <maxhashbuck-val>] [**maxnumvlan** <maxnumvlan-val>] [**maxvlanidval** <maxvlanidval-val>] [**maxnumacentry** <maxnumacentry-val>] [**devcap IVL |**

SVL | none] [**bridgingmode Restricted | Unrestricted | Residential**] [**maxhpriotreenodes** <maxhpriotreenodes-val>] [**maxlpriotreenodes** <maxlpriotreenodes-val>] [**maxclfrtrees** <maxclfrtrees-val>] [**maxclfrprofiles** <maxclfrprofiles-val>] [**maxinrules** <maxinrules-val>] [**maxoutrules** <maxoutrules-val>] [**maxinhpriosubrules** <maxinhpriosubrules-val>] [**maxinlpriosubrules** <maxinlpriosubrules-val>] [**maxouthpriosubrules** <maxouthpriosubrules-val>] [**maxoutlpriosubrules** <maxoutlpriosubrules-val>] [**mcastcap ivmcapable | svmcapable | none**] [**ridcap irdcapable | srdcapable**] [**maxnumac** <maxnumac-val>] [**maxnumsrcmac** <maxnumsrcmac-val>] [**vlanmode nativemode | stackedmode**] [**svlanprotocolid** <svlanprotocolid-val>] [**tvlanprotocolid** <tvlanprotocolid-val>] [**tvlanid** <tvlanid-val>] [**abondglbctrlvpi** <abondglbctrlvpi-val>] [**abondglbctrlvci** <abondglbctrlvci-val>] [**abondglbsidfmt** EightBitSid | TwelveBitSid]

Parameters:

Name	Description
maxatmport **<**maxatmport-val>	Maximum number of ATM ports that can be configured **Type:** Modify — Optional **Valid values:** 1 -144
maxvcperport **<**maxvcperport-val>	Maximum number of VCs possible per ATM port. **Type:** Modify — Optional **Valid values:** 1 -8
maxvc <maxvc-val>	Maximum number of VCs possible in the system. **Type:** Modify — Optional **Valid values:** 1 - (144 * 8)
maxatmoam **<**maxatmoam-val>	Maximum number of OAM activities that can be active at a time. **Type:** Modify — Optional **Valid values:** 1 - 10
maxrmon <maxrmon-val>	Maximum number RMON probes that can be applied simultaneously in the system **Type:** Modify — Optional **Valid values:** 1 - 20
maxnumethprioqs **<**maxnumethprioqs-val>	This specifies the max number of priority queues that can be configured on a bridge port created over an ethernet interface. **Type:** Modify — Optional **Valid values:** 1 - 8
maxnumeoaprioqs **<**maxnumeoaprioqs-val>	This specifies the max number of priority queues that can be configured on a bridge port created on EOA interface

	Type: Modify — Optional **Valid values:** 1 -8
maxmulticast <maxmulticast-val>	Maximum number of multicast groups that can be configured in the system **Type:** Modify — Optional **Valid values:** 1 - 4
maxmac <maxmac-val>	Maximum number of MAC addresses that can be learned by the system. This should be a multiple of 32 **Type:** Modify — Optional **Valid values:** 1 - 4000
maxhashbuck <maxhashbuck-val>	Maximum number of hash buckets for the Forwarding table. This value should be a power of 2. (1, 2, 4, 8 ,...) **Type:** Modify — Optional **Valid values:** 1 - 8192
maxnumvlan <maxnumvlan-val>	Maximum number of VLANs that can be configured on the Bridge either statically or dynamically **Type:** Modify — Optional **Valid values:** 0 - 512
maxvlanidval <maxvlanidval-val>	Maximum value of VLAN ID that this Bridge can support **Type:** Modify — Optional **Valid values:** 1 - 4095
maxnumacentry <maxnumacentry-val>	Maximum number of Static UCast Entries that can be configured on the Bridge **Type:** Modify — Optional **Valid values:** 0 - 512
devcap IVL | SVL | none	Device Capabilities of Q-Bridge MIB. In case of Stacked Vlan Mode this shall apply to Virtual Vlans. **Type:** Modify — Optional
bridgingmode Restricted |Unrestricted | Residential	This specifies the state of full bridging on the bridge. Value residential species that packets coming from CPE side would be forwarded to the net side port without a lookup. In case of restricted bridging, the packets would undergo a lookup and if the destination is another CPE port, the packet would be dropped, i.e. CPE to CPE traffic is not allowed. Unrestricted bridging is forwarding based on lookup in all cases. **Type:** Modify — Optional
maxhpriotreenodes <maxhpriotreenodes-val>	Maximum number of classifier tree nodes of high access priority that can be created. **Type:** Modify — Optional

	Valid values: 1 -32
maxlpriotreenodes **<**maxlpriotreenodes-val>	Maximum number of classifier tree nodes of low access priority that can be created. **Type:** Modify — Optional **Valid values:** 1 -256
maxclfrtrees **<**maxclfrtrees-val>	Maximum number of classifier trees that can be created. **Type:** Modify — Optional **Valid values:** 1 - 63
maxclfrprofiles **<**maxclfrprofiles-val>	Maximum number of classifier profiles that can be created. **Type:** Modify — Optional **Valid values:** 1 - 61
maxinrules **<**maxinrules-val>	Maximum number of generic filter ingress rules that can be created.This parameter is deprecated and the value is ignored. **Type:** Modify — Optional **Valid values:** 1 -275
maxoutrules **<**maxoutrules-val>	Maximum number of generic filter egress rules that can be created.This parameter is deprecated and the value is ignored. **Type:** Modify — Optional **Valid values:** 1 -25
maxinhpriosubrules **<**maxinhpriosubrules-val>	Maximum number of generic filter ingress subrules of high access priority that can be created.This parameter is deprecated and the value is ignored. **Type:** Modify — Optional **Valid values:** 1 -75
maxinlpriosubrules **<**maxinlpriosubrules-val>	Maximum number of generic filter ingress subrules of low access priority that can be created.This parameter is deprecated and the value is ignored. **Type:** Modify — Optional **Valid values:** 1 -425
maxouthpriosubrules **<**maxouthpriosubrules-val>	Maximum number of generic filter egress subrules of high access priority that can be created.This parameter is deprecated and the value is ignored. **Type:** Modify — Optional **Valid values:** 1 -25
maxoutlpriosubrules **<**maxoutlpriosubrules-val>	Maximum number of generic filter egress subrules of low access priority that can be created.This parameter is deprecated and the value is ignored. **Type:** Modify — Optional

	Valid values: 1 -175
mcastcap ivmcapable |svmcapable | none	It denotes the Multicast Device Capability. If the device capability is ivlcapable then svmcapable is not a valid value. If the device capability is neither ivlcapable nor svmcapable then the only valid value for this field is none. If the device capability is ivlcapable or svlcapable then this field can't have value none. ivmcapable and svmcapable can't be set together.In case of Stacked Vlan Mode this shall apply to Virtual Vlans. **Type:** Modify — Optional
ridcap irdcapable |srdcapable	RID refers to the Routing Information Database. This database contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD(Independent Routing Database) where there are more than one RIDs in the system and each RID defines separate routes in context of itself. If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define flow for packets coming on VLAN Id <X>. The other mode for the database is SRD(Shared Routing Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than 1 RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing. **Type:** Modify — Optional
maxnumac <maxnumac-val>	It denotes the maximum number of Access Concentrators supported. **Type:** Modify — Optional **Valid values:** 1 - 8
maxnumsrcmac <maxnumsrcmac-val>	It denotes the maximum number of Source MAC addresses that can be used across the different PPPOE and IPOE interfaces. **Type:** Modify — Optional **Valid values:** 1 - 8
vlanmode nativemode |stackedmode	Vlan Mode **Type:** Modify Optional
svlanprotocolid <svlanprotocolid-val>	This specifies the ProtocolId value to be used for Stacked Vlan/Service Vlan/Provider Vlan/Second Vlan tag. It is

	recommended to keep the value for this different from ProtocolId value defined for 802.1q Vlan(0x8100). This attribute is applicable only in 'VLAN Stacking mode'. **Type:** Modify — Optional **Valid values:** 0x8100 - 0xFFFF
tvlanprotocolid <tvlanprotocolid-val>	This specifies the ProtocolId value to be used for Stacked Vlan/Service Vlan/Provider Vlan/Second Vlan tag. It is recommended to keep the value for this different from ProtocolId value defined for 802.1q Vlan (0x8100). This attribute is applicable only in 'VLAN Stacking mode'. **Type:** Modify — Optional **Valid values:** 0x8100 — 0xFFFF
tvlanid <tvlanid-val>	This specifies the ProtocolId value to be used for Stacked Vlan/Service Vlan/Provider Vlan/Second Vlan tag. It is recommended to keep the value for this different from ProtocolId value defined for 802.1q Vlan(0x8100). This attribute is applicable only in 'VLAN Stacking mode'. **Type:** Modify — Optional **Valid values:** 0 - 4095
abondglbctrlvpi <abondglbctrlvpi-val>	This VPI value will be used for the control channel which will be created to run the ATM based multi pair bonding protocol. This is a system wide parameter and applies to all the abond group interfaces which can be created in the system. Change in this value will be applied at next boot only. **Type:** Modify — Optional
abondglbctrlvci <abondglbctrlvci-val>	This VCI value will be used for the control channel which will be created to run the ATM based multi pair bonding protocol. This is a system wide parameter and applies to all the abond group interfaces which can be created in the system. Change in this value will be applied at next boot only. **Type:** Modify — Optional
abondglbsidfmt EightBitSid | TwelveBitSid	This SID Format value will be used for all the Abond Group Interfaces which can be created in the system. Change in this value will be applied at next boot only. **Type:** Modify — Optional

Example:

$ get nbsize

Output:

Max ATM Ports : 48 Max VC per Port : 8
Max VCs : 384 Max OAM activities : 10
Max RMON probes : 20 Bridging Mode : Residential
Max Multicast groups : 256 Max MAC addresses : 4000
Max Hash buckets : 8192 Max Vlans : 512
Max VlanId Value : 4095 Max num Static Mac Entries : 512
Dev Capabilities : IVL
Max Num EOA Prio Qs : 3 Max Num Eth Prio Qs : 8
Max High Prio Tree Nodes : 100 Max Low Prio Tree Nodes : 200
Max Clfr Trees : 63 Max Clfr Profiles : 63
Max In Rules : 250 Max Out Rules : 50
Max In HighPrio SubRules : 100 Max In LowPrio SubRules : 300
Max Out HighPrio SubRules : 50 Max Out LowPrio SubRules : 150
Mcast Capabilities : ivmcapable
Max Access Concentrators : 2
Max Src MAC Addresses : 4
Vlan Mode : 1
S Vlan Protocol Id : 0x9100 T Vlan Protocol Id : 0x9200
T Vlan Id : 1
AbondGlbCtrlVpi : 0 AbondGlbCtrlVci : 20
AbondGlbSidFmt : TwelveBitSID
Ridcap : srdcapable

Output Fields:

FIELD	Description
Max ATM Ports	Maximum number of ATM ports that can be configured
Max VC per Port	Maximum number of VCs possible per ATM port.
Max VCs	Maximum number of VCs possible in the system.
Max OAM activities	Maximum number of OAM activities that can be active at a time.
Max RMON probes	Maximum number RMON probes that can be applied simultaneously in the system
Bridging Mode	This specifies the state of full bridging on the bridge. Value residential species that packets coming from CPE side would be forwarded to the net side port without a lookup. In case of restricted bridging, the packets would undergo a lookup and if the destination is another CPE port, the packet would be dropped, i.e. CPE to CPE traffic is not allowed. Unrestricted bridging is forwarding based on lookup in all cases.

Max Multicast groups	Maximum number of multicast groups that can be configured in the system
Max MAC addresses	Maximum number of MAC addresses that can be learned by the system. This should be a multiple of 32
Max Hash buckets	Maximum number of hash buckets for the Forwarding table. This value should be a power of 2. (1, 2, 4, 8 ,...)
Max Vlans	Maximum number of VLANs that can be configured on the Bridge either statically or dynamically
Max VlanId Value	Maximum value of VLAN ID that this Bridge can support
Max num Static Mac Entries	Maximum number of Static UCast Entries that can be configured on the Bridge
Dev Capabilities	Device Capabilities of Q-Bridge MIB. In case of Stacked Vlan Mode this shall apply to Virtual Vlans.
Max Num EOA Prio Qs	This specifies the max number of priority queues that can be configured on a bridge port created on EOA interface
Max Num Eth Prio Qs	This specifies the max number of priority queues that can be configured on a bridge port created over an ethernet interface.
Max High Prio Tree Nodes	Maximum number of classifier tree nodes of high access priority that can be created.
Max Low Prio Tree Nodes	Maximum number of classifier tree nodes of low access priority that can be created.
Max Clfr Trees	Maximum number of classifier trees that can be created.
Max Clfr Profiles	Maximum number of classifier profiles that can be created.
3Max In Rules	Maximum number of generic filter ingress rules that can be created.This parameter is deprecated and the value is ignored.
Max Out Rules	Maximum number of generic filter egress rules that can be created.This parameter is deprecated and the value is ignored.
Max In HighPrio SubRules	Maximum number of generic filter ingress subrules of high access priority that can be created.This parameter is deprecated and the value is ignored.
Max In LowPrio SubRules	Maximum number of generic filter ingress subrules of low access priority that can be created.This parameter is deprecated and the value is ignored.
Max Out HighPrio SubRules	Maximum number of generic filter egress subrules of high access priority that can be created.This parameter is deprecated and the value is ignored.
Max Out LowPrio SubRules	Maximum number of generic filter egress subrules of low access priority that can be created.This parameter is deprecated and the value is ignored.
Mcast Capabilities	It denotes the Multicast Device Capability. If the device

	capability is ivlcapable then svmcapable is not a valid value. If the device capability is neither ivlcapable nor svmcapable then the only valid value for this field is none. If the device capability is ivlcapable or svlcapable then this field can't have value none. ivmcapable and svmcapable can't be set together.In case of Stacked Vlan Mode this shall apply to Virtual Vlans.
Max Access Concentrators	It denotes the maximum number of Access Concentrators supported.
Max Src MAC Addresses	It denotes the maximum number of Source MAC addresses that can be used across the different PPPOE and IPOE interfaces.
Vlan Mode	Vlan Mode
S Vlan Protocol Id	This specifies the ProtocolId value to be used for Stacked Vlan/Service Vlan/Provider Vlan/Second Vlan tag. It is recommended to keep the value for this different from ProtocolId value defined for 802.1q Vlan(0x8100). This attribute is applicable only in 'VLAN Stacking mode'.
T Vlan Protocol Id	This specifies the ProtocolId value to be used for Stacked Vlan/Service Vlan/Provider Vlan/Second Vlan tag. It is recommended to keep the value for this different from ProtocolId value defined for 802.1q Vlan(0x8100). This attribute is applicable only in 'VLAN Stacking mode'.
T Vlan Id	This specifies the ProtocolId value to be used for Stacked Vlan/Service Vlan/Provider Vlan/Second Vlan tag. It is recommended to keep the value for this different from ProtocolId value defined for 802.1q Vlan(0x8100). This attribute is applicable only in 'VLAN Stacking mode'.
AbondGlbCtrlVpi	This VPI value will be used for the control channel which will be created to run the ATM based multi pair bonding protocol. This is a system wide parameter and applies to all the abond group interfaces which can be created in the system. Change in this value will be applied at next boot only.
AbondGlbCtrlVci	This VCI value will be used for the control channel which will be created to run the ATM based multi pair bonding protocol. This is a system wide parameter and applies to all the abond group interfaces which can be created in the system. Change in this value will be applied at next boot only.
AbondGlbSidFmt	This SID Format value will be used for all the Abond Group Interfaces which can be created in the system. Change in this value will be applied at next boot only.
Ridcap	RID refers to the Routing Information Database. This database

	contains information about the routes in the system. Each RID identifies a flow and defines route related information for that flow. The RID defines a flow based on the VLAN Id. The database can be of 2 types, IRD(Independent Routing Database) where there are more than one RIDs in the system and each RID defines separate routes in context of itself. If VlanId <X> and RID <X> have been created and the routing database is configured for IRD, than routes in RID <X> shall define flow for packets coming on VLAN Id <X>. The other mode for the database is SRD(Shared Routing Database) where there is a single RID in the system and all flows map to this RID. This RID has to be explicitly created and no more than 1 RID can be created in the system in this mode. Flows for all created VLANs shall map to this RID for routing.

5.25.9 System Stats Commands

5.25.9.1 Get system stats

Description:
Use this command to view System Statistics.

Command Syntax:
get system stats

5.25.9.2 Reset system stats

Description:
Use this command to reset System Statistics.

Command Syntax:
reset system stats

Example:
$ get system stats

Output :
Verbose Mode On
Verbose Mode On

CPE Ucast Addr Count	: 10	DnLink Ucast Addr Count	: 80
NET Ucast Addr Count	: 20	CPE Learn Entry Discards	: 90

DnLink Learn Entry Discards : 30 NET Learn Entry Discards : 100
Dyn Addr Conflicts Static : 40 Moved Dyn Addrs Count : 110
Ucast Lookup Fail Count : 50 Mcast Lookup Fail Count : 120
Tx Ctl Pkts Count : 60 Rx Ctl Pkts Count : 130
Ctl Pkts Discards Count : 70
PPPOE Session Look Up Failures: 5

Output Fields:

FIELD	Description
CPE Ucast Addr Count	Number of unicast addresses, which were learned from the CPE ports.
DnLink Ucast Addr Count	Number of unicast addresse,s which were learned from the Downlink port.
Learn Entry Discards	Number of addresses which, were not learned from the CPE ports, due to lack of space in the forwarding table.
DnLink Learn Entry Discards	Number of addresses which, were not learned from the Downlink port, due to lack of space in the for-warding table.
Dyn Addr Conflicts Static	Number of times a learned address conflicted with a static address.
Moved Dyn Addrs Count	Number of times a learned address moved from one port to another.
Ucast Lookup Fail Count	Number of times Unicast address lookup failed.
Mcast Lookup Fail Count	Number of times Multicast address lookup failed.
Tx Ctl Pkts Count	Number of packets sent to the Control module.
Rx Ctl Pkts Count	Number of packets received from Control module.
Ctl Pkts Discards Count	Number Control module packets discarded.
NumNetUcastAddrCount	Number of unicast addresses which were learned from the Net ports.
NumNetLearnEntryDiscards	Number of addresses, which were not learned from the Net ports, due to lack of space in the forwarding table.

References:

get/modify system info
get/modify nbsize

5.25.10 System Traps Commands

5.25.10.1 Reset traps

Description:
Use this command to delete all trap logs.

Command Syntax:
reset traps

Mode :
super-user

Example:
$ reset traps

Output:
Set Done

Output Fields:
None

References:
get traps command.

5.25.11 System Traps Log Table Commands

5.25.11.1 Get traps

Description:
Use this command to get the listing of all Trap Log Table entries (tTraps) or the last few tentries (Traps). This command is not supported on a flashless system.

Command Syntax:
get traps [num-of-traps]

Parameters:

Name	Description
Num-of-traps	This specifies the maximum number of (entries) traps to be displayed from trap log table; if not specified then all entries are displayed. **Type**: Optional **Valid values** : 0 to 4294967295

Mode:

Super-User, User

Example:

$ get traps

Output

Thu Jan 01 00:00:13 1970 : STATUS ALARM : ATM VC Up :Interface Name–aal5-0

Thu Jan 01 00:00:13 1970 : STATUS ALARM : System Up

Output Fields

FIELD	Description
Trap time	This specifies the time at which the trap was logged.
Trap severity	This specifies the severity level of the trap. It can be – CRITICAL ALARM MAJOR ALARM WARNING STATUS ALARM
Trap name	This specifies the name of the trap. It can be – **System Init Failed** - This trap is originated at the time of system initialization failures. The failure could be due to an internal error or due to a wrong/corrupted configuration file. Trap parameters are Module and Cause. **System Up** - This trap is originated after the unit boots up successfully. **ADSL ATUC Up** - This trap indicates that the DSL port is in data mode. **ADSL ATUC Down** - This trap indicates that the DSL port is no longer in data mode. **ATM Interface Up** - This trap indicates that the ATM port is operationally up. Trap parameter is Interface No. **ATM Interface Down** - This trap indicates that the ATM port is operationally down. Trap parameter is Interface No.
	ETHER Interface Up - This trap indicates that the Ethernet port is

	operationally up. Trap parameter is Interface No. **ETHER Interface Down** - This trap indicates that the Ethernet port is operationally down. Trap parameter is Interface No. **ATM VC Up** - This trap indicates that the ATM VC is operationally up. Trap parameter is Interface Name. **ATM VC Down** - This trap indicates that the ATM VC is operationally down. Trap parameter is Interface Name. ADSL ATUC Loss of Frame 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUC Loss of Frame has reached. ADSL ATUC Loss of Signal 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUC Loss of Signal has reached. ADSL ATUC Loss of Link 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUC Loss of Link has reached. ADSL ATUC Loss of Power 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUC Loss of Power has reached. ADSL ATUC Errored Seconds 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUC Errored Seconds has reached. **EoA Interface Up** – This trap indicates that the EOA interface is operationally up. Trap parameter is Interface name **EOA Interface Down** - This trap indicates that the EOA Interface is operationally down. Trap parameter is Interface Name. **ADSL Loss of Frame Threshold hit** - This trap indicates that Loss of Framing 15-minute interval threshold has reached.
	ADSL Loss of Signal Threshold hit - This trap indicates that Loss of Signal 15-minute interval threshold has reached ADSL Loss of Power Threshold hit - This trap indicates that Loss of Power 15-minute interval threshold has reached. **ADSL Errored Seconds Threshold hit** - This trap indicates that Errored Second 15-minute interval threshold has reached **ADSL ADUC Tx Rate changed** - This trap indicates that the ATUCs transmit rate has changed (RADSL mode only). **ADSL Loss of Link Threshold hit**- This trap indicates that Loss of Link 15-minute interval threshold has reached **ADSL ATUC Init failed** - This trap indicates that ATUC initialization failed. See adslAtucCurrStatus for potential reasons **ADSL Failed Fast Retrains Threshold hit** - This trap indicates that Failed Fast Retrains 15-minute threshold has reached **ADSL ATUC Severely Errored Seconds 15-Minute Threshold hit** - This trap indicates that 15-minute interval threshold for ATUC Severely Errored Seconds has reached.

	ADSL ATUC Unavailable Seconds 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUC Unavailable Seconds has reached. **ADSL Unavailable Seconds Threshold hit** - This trap indicates that unavailable seconds-line 15-minute threshold has reached **ADSL Severely Errored Seconds Threshold hit** - This trap indicates that severely errored seconds-line 15-minute threshold has reached. **Aggregator Interface Up** - This trap indicates that the aggregator interface is operationally up. **Aggregator Interface Down** - This trap indicates that the aggregator interface is operationally down. The OP state of ADSL line <interface name> has changed from <previous **status> to <current status>-** This trap indicates the change in the operational status of the port. **ADSL ATUR Loss of Frame Threshold hit -** This trap indicates that Loss of Framing 15-minute interval threshold has reached. **ADSL ATUR Loss of Frame 15-Minute Threshold hit -** This trap indicates that 15-minute interval threshold for ATUR Loss of Frame has reached.
	ADSL ATUR Loss of Signal 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUR Loss of Signal has reached. ADSL ATUR Loss of Power 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUR Loss of Power has reached ADSL ATUR Errored Seconds 15-Minute Threshold hit - This trap indicates that 15-minute interval threshold for ATUR Errored Seconds has reached. **ADSL ATUR Loss of Signal Threshold hit -** This trap indicates that Loss of Signal 15-minute interval threshold has reached. **ADSL ATUR Loss of Power Threshold hit -** This rap indicates that Loss of Power 15-minute interval threshold has reached. **ADSL ATUR Errored Seconds Threshold hit -** This trap indicates that Errored Second 15-minute interval threshold has reached. **ADSL ATUR Rate Changed -**This trap indicates that the ATUR rate has changed (RADSL mode only). **Port binding status changed** - This trap indicates that the port on which the mac address has been learned has changed. **Port binding status changed** - This trap indicates that the port on which the tracked MAC address is being received has changed. **Port binding status learnt** - This trap indicates that the particular mac address has been received for the first time. This trap will also be received if the tracked MAC address is received from an existing port and the port from

	which it was earlier received has been deleted by now. **Failed To Get IP Address** - This trap indicates that DHCP client could not get an ip address from DHCP server. **Chip Lockup Detected** **-** This trap indicates that a chip lockup has occurred. **Chip Recovery from Lockup OK** **-** This trap indicates that Chip Recovery from Lockup has occurred. **Chip Recovery from Lockup Failed** **-** This trap indicates that Chip Recovery from Lockup has Failed. **Chip Preinit CheckSum Failed** - This trap indicates that Preinit Checksum for Chip has Failed Xcvr Lockup Detected - This trap indicates that a transceiver lockup has occurred.
	Xcvr Recovery from Lockup OK - This trap indicates that a transceiver Recovery from Lockup has occurred. Xcvr Recovery from Lockup Failed - This trap indicates that a transceiver Recovery from Lockup has Failed EHDLC Interface Up - This trap indicates that HDLC Interface over EOC is operationally up. Trap Parameter is Interface Index. EHDLC Interface Down - This trap indicates that HDLC Interface over EOC is operationally down. Trap Parameter is Interface Index. **Control packet Q congestion start** **-** This trap indicates that Congestion has occurred on data plane to Control plane Packet Queue for the Interface. **Control packet Q congestion stop** **-** This trap indicates that Congestion has stopped on data plane to Control plane Packet Queue for the Interface. Statistics Reset - This trap indicates that Interface Stats has been reset . ADSL ATUC Loss of Frame 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUC Loss of Frame has reached. ADSL ATUC Loss of Signal 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUC Loss of Signal has reached. ADSL ATUC Loss of Link 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUC Loss of Link has reached. ADSL ATUC Loss of Power 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUC Loss of Power has reached. ADSL ATUC Errored Seconds 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUC Errored Seconds has reached. ADSL ATUC Severely Errored Seconds 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUC Severely Errored Seconds has reached. ADSL ATUC Unavailable Seconds 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUC Unavailable Seconds has reached.

	ADSL ATUR Severely Errored Seconds 15-Minute Threshold hit - This trap indicates that 15-Minute interval threshold for ATUR Severely Errored Seconds has reached.
	ADSL ATUR Unavailable Seconds 15-Minute Threshold hit - This trap indicates that 15-Minute interval threshold for ATUR Unavailable Seconds has reached. ADSL ATUR Loss of Frame 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUR Loss of Frame has reached. ADSL ATUR Loss of Signal 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUR Loss of Signal has reached. ADSL ATUR Loss of Power 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUR Loss of Power has reached ADSL ATUR Errored Seconds 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUR Errored Seconds has reached. ADSL ATUR Severely Errored Seconds 1-Day Threshold hit - This trap indicates that 1-Day interval threshold for ATUR Severely Errored Seconds has reached. **ADSL ATUR Unavailable Seconds 1-Day Threshold hit -** This trap indicates that 1-Day interval threshold for ATUR Unavailable Seconds has reached. **PPPOE Interface Up** - This trap indicates that the PPPoE interface is operationally up. The trap parameter is the interface name. **PPPOE Interface Down** - This trap indicates that the PPPoE interface is operationally down. The trap parameter is the interface name. **PPPOE Max Tries in Discovery Stage have exceeded for a PPPoE** - This trap indicates that the maximum tries for initiation of discovery stage for the PPPoE session establishment has exceeded for the PPPoE interface. The Trap parameter is the interface name. **PPPR Interface Up** - This trap indicates that the PPPR interface is operationally up. The trap parameter is the interface name. **PPPR Interface Down** - This trap indicates that the PPPR interface is operationally down. The trap parameter is the interface name. **Lock on GAG acquired:** This trap specifies that an agent has acquired an exclusive lock on GAG. Requests from other agents will not be serviced by GAG.

	Lock on GAG released: This trap specifies that an agent has released lock on GAG. Requests from other agents will now be serviced by GAG. **Bridge port status transitioned to dormant :** This trap specifies that bridge port status has changed to dormant. **ATM interface out of deficit :** This trap specifies that ATM interface is out of deficit. **ATM VC AAL5 EncapType Changed :** This trap specifies that encapsulation type of ATM VC AAL5 has changed. **AutoSensing Config Change Based Stack Tear DownFailed, RETRY:** **Change of Power Management State of ADSL Line:** This trap specifies that power management state of ADSL line has changed.Chip Local Bus Access Failed: This trap specifies that power management state of ADSL line has changed. **IPOA Interface Up:** This trap indicates that theIPOA interface is operationally up. The trapparameter is the interface name.I **POA Interface Down:** This trap indicates that the IPOA interface is operationally down. The trapparameter is the interface name. **IPOE Interface Up:** This trap indicates that thePPPR interface is operationally up. The trapparameter is the interface name. **IPOE Interface Down:** This trap indicates that the IPOE interface is operationally down. The trapparameter is the interface name. **ABOND Interface Up:** This trap indicates that the ABOND interface is operationally up. The trapparameter is the interface name. **ABOND Interface Down:** This trap indicates that the ABOND interface is operationally up. The trapparameter is the interface name. **VCAGGR Interface Up:** This trap indicates that the VCAGGR interface is operationally up. The trapparameter is the interface name. **VCAGGR Interface Down:** This trap indicates that the VCAGGR interface is operationally up. The trap parameter is the interface name. **SHDSL Loop Attenuation crossing:** This trap indicates that the SHDSL loop attenuation is crossing. **SHDSL SNR crossing:** This trap indicates that the SHDSL loop attenuation is crossing. **SHDSL Errored Seconds 15-Minute Threshold hit :** This trap indicates that 15-Minute interval threshold for SHDSL Errored Seconds has reached.
	SHDSL Severely Errored Seconds 15-Minute Threshold hit : This trap indicates that 15- minute interval threshold for ATUC Severely Errored Seconds has reached. **SHDSL CRC Anomalies 15-Minute Threshold hit:** This notification indicates that the CRC anomalies threshold (as set in SHDL End point alarm conf profile

	table) has been reached/exceeded for the SHDSL segment endpoint. Reached/exceeded is determined by comparing the endpoint's CRC anomalies in the current 15-minute interval (as set in SHDSL End Point Curr Table) with the specified threshold. **SHDSL Loss of Sync Word Seconds 15-Minute Threshold hit:** This notification indicates that the Loss of Sync Word (LOSW) seconds threshold (as set in SHDL End point alarm conf profile table) has been reached/exceeded for the SHDSL segment endpoint. Reached/exceeded is determined by comparing the endpoint's LOSW seconds in the current 15-minute interval (as set in SHDSL End Point Curr Table) with the specified threshold. **SHDSL Unavailable Seconds 15-Minute Threshold hit:** This trap indicates that 15-minuteinterval threshold for SHDSL Unavailable Secondshas reached. **SHDSL Invalid number of Repeaters detected:** This trap indicates the number of Invalid repeaters detected. **SHDSL Loopback Failure detected:**This trap indicates that loop back failure has been detected. **SHDSL Power Backoff Setting changed:** This trap specifies that Operational state of VDSL line has changed. **SHDSL STU-C Init Fail:** This notification indicates that STUC failure during initialization due to peer STU not able to support requested configuration **SHDSL Local Power Loss:** This trap specifies that local power loss of SHDSL **Change of OP state of SHDSL line:** This trap specifies change of Operational state of VDSL line. **SHDSL Framer OH and Defects Trap:** This notification indicates a change in values of overhead/defect data transmitted from the remote unit. LOSD, SEGA, PS, and SEGD values are reported. **SHDSL STU-C Up:** This trap indicates that the SHDSL STU-C is operationally up. The trap parameter is the interface name.
	SHDSL STU-C Down: This trap indicates that the SHDSL STU-C is operationally down. The trap parameter is the interface name. **SHDSL Remote ATM Cell Status Response:** This trap indicates that remote ATM Cell status response has been received. **SHDSL UTC received in response of STU-R Config Request:** This notification indicates the remote unit was unable to comply (UTC) with an STU-R Configuration Request -Management (EOC Message Id 18). **SHDSL UTC received in response of Remote EOC request:** This notification provides a generic unable to comply(UTC) indication. If the remote unit is unable to comply with a remote EOC request, this trap indicates the noncompliance of the remote unit. **SHDSL Generic Failure Trap:** This notification reports any failure that has

	occurred while processing any command issued by the customer.
Trap parameters	This specifies additional parameters describing the trap. Different traps have different combinations of trap parameters. There are also some traps with no additional parameters. The parameters can be - Module - <module name> Cause - <failure cause> Interface - <interface name> <user name> IP - <IP address> Port - <port number> VPI - <vpi> VCI - <vci> Current - <current value> Threshold - <threshold value> Previous - <previous value>

References:

- reset traps command
- logthresh parameter in modify system and get system commands.

5.25.12 System Version Commands

5.25.12.1 Get system version

Description:

This command is used to get the information of the versions with which the system has come up.

Command Syntax:

get system version

Parameters:

None

Example:

$ get system version

Output:

Verbose Mode On
Control Plane Binary : COL 2.6.0.0.040217
Data Plane Binary : DP_B02_06_19

Output Fields:

FIELD	Description
Control Plane Binary	This tells about the version of the control plane binary with which the system has come up.
Data Plane Binary	This tells about the version of the data plane binary with which the system has come up.

5.25.13 Trace Log Configuration Commands

5.25.13.1 Get trace cfg

Description:

Use this command to display the trace configuration for a specific module, or for all modules.

Command Syntax:

get trace cfg [**module** <module-name>]

5.25.13.2 Modify trace cfg

Description:

Use this command to modify the trace and log configuration for a specific module

Command Syntax:

modify trace cfg module <module-name> [**flow** <trace-flow>] [**level** <trace-level>] [**syslog|net|stdout**] [**dest** <ip-address>] [**port** <port-number>]

Parameters:

Name	Description
module <module-name>**|all**	This specifies the module, for which trace/log configuration is to be modified. **Type** : Modify – Mandatory Get – Optional **Valid values:** GCOS,OAM, CIN, GAG, CDB, CLI, ATM, EOA, TBG, DSLME, NVM, FFC, DNCD, DATAME, GARP,

	GVRP, LACP
flow<trace-flow>	This indicates a Hexadecimal bitmask, which sets the filter for trace flow. **Type :** Optional **Valid values:** 0x0 to 0xffffffff
level <trace-level>	This indicates a Hexadecimal bitmask, which sets the filter for trace level. **Type :** Optional **Valid values:** 0x0 to 0xffffffff
syslog|net|stdout	This specifies the type of logging to be done. Incase net or syslog is specified then dest and port must be specified. **Type:** Optional
dest<ip-address>	This specifies the IP address for host for logging for trace type syslog and net. It is invalid incase of trace type stdout **Type:** Mandatory when type is modified to net or syslog; else it is invalid **Valid values:** Any valid class A/B/C IP address
port <port-number>	Port number on which, host is listening for trace info to be logged incase of trace type syslog and net. It is invalid incase of trace type stdout **Type:** Mandatory when type is modified to net or syslog; else it is invalid **Valid values:** 0-4294967295

Mode:

Super-User

Example:

$ modify trace cfg module GAG flow 0x1 level 0x1

Output :

Verbose Mode On

```
Module      Flow            Level           Type        Destn               Port
-------------------------------------------------------------------------
GAG         0x0             0x0             Stdout      0.0.0.0             0

Set Done

Module      Flow            Level           Type        Destn               Port
-------------------------------------------------------------------------
GAG         0x1             0x1             Stdout      0.0.0.0             0
```

Verbose Mode Off
Set Done

Output Fields:

FIELD	Description
Module	This specifies the module for trace/log config whose information is being displayed: It can be : GCOS,OAM, CIN, GAG, CDB, CLI, ATM, EOA, TBG, DSLME, NVM, FFC, DNCD, DATAME, GARP, GVRP, LACP
Flow	This indicates a Hexadecimal bitmask, which sets the filter for trace flow.
Level	This indicates a Hexadecimal bitmask, which sets the filter for trace level.
Type	This specifies the type of logging to be done. It may be: Syslog, Net, Stdout
Destn	This specifies the IP address for host for logging for trace type syslog and net. It is invalid incase of trace type stdout
Port	Port number on which host is listening for trace info to be logged incase of trace type syslog and net. It is invalid incase of trace type stdout

References:

- get trace cfg command
- get trace stats command.

5.25.14 Trace Log Statistics Commands

5.25.14.1 Get trace stats

Description:
Use this command to display trace statistics.

Command Syntax:
get trace stats

Parameters:
None

Mode:

Super-User, User.

Example:

$ get trace stats

Output:

Verbose Mode On/Off

Bytes Logged: 2744 Bytes Discarded : 40595

Msgs Logged : 19 Msgs Discarded : 1045

Output Fields:

FIELD	Description
Bytes Logged	This specifies the number of bytes logged by the tracing/logging module.
Bytes Discarded	This specifies the number of bytes discarded by the tracing/ logging module due to filtering.
Msgs Logged	This specifies the number of message logged by the tracing/ logging module.
Msgs Discarded	This specifies the number of messages discarded by the tracing/logging module due to filtering.

References:

- get trace cfg command
- Modify trace cfg command.

5.26 VC Aggregation Commands

5.26.1 Atm vcaggr intf Commands

5.26.1.1 Get atm vcaggr intf

Description:
Use this command to get.

Command Syntax:
get atm vcaggr intf [**ifname** <interface-name>]

5.26.1.2 Create atm vcaggr intf

Description:
Use this command to create.

Command Syntax:
create atm vcaggr intf ifname <interface-name> **mapid** <mapid-val> defaultdnstrmvc <defaultdnstrmvc-val> [**enable | disable**]

5.26.1.3 Delete atm vcaggr intf

Description:
Use this command to delete.

Command Syntax:
delete atm vcaggr intf ifname<interface-name>

5.26.1.4 Modify atm vcaggr intf

Description:
Use this command to modify.

Command Syntax:
modify atm vcaggr intf ifname <interface-name> [**defaultdnstrmvc** <defaultdnstrmvc-val>] [**enable | disable**]

Parameters:

Name	Description
ifname <interface-name>	Name of the VC aggregation interface **Type:** Create – Mandatory Delete – Mandatory Modify – Mandatory Get – Optional **Valid values:** 0 – 142
mapid <mapid-val>	It contains the Id of VcAggrMap in VcAggrMap table. The VcAggrMap contains the list of VCs being aggregated and the priority assignment information. Once the aggregation interface is created with the specified MapId, no more entries canbe created in the VcAggrMap table for that MapId, however the priority assignment can be modified any time **Type:** Create – Mandatory **Valid values:** 1 - 144
defaultdnstrmvc <defaultdnstrmvc-val>	Default VC for the VC Aggregation interface. All the downstream priorities that are left unassigned in the VcAggrMap table with the associated MapId, will be mapped to the default VC. Default VC should be one of the VCs associated with MapId in the VcAggrMap table. **Type:** Create – Mandatory Modify – Optional **Valid values:** 0 – 574
enable | disable	Administrative status of the interface. **Type:** Create – Optional Modify – Optional **Valid values:** enable, disable **Default value:** enable

Example:

$ create atm vcaggr intf ifname VcAggr-0 mapid 1 defaultdnstrmvc aal5-0 enable

Output:

Verbose Mode On
Entry Created

Ifname : VcAggr-0 VC MapId : 1
default downstream VC : aal5-0

Oper Status : Up Admin Status : Down

Verbose Mode Off:
Entry Created

Output Fields:

FIELD	Description
Ifname	Name of the VC aggregation interface
VC MapId	It contains the Id of VcAggrMap in VcAggrMap table. The VcAggrMap contains the list of VCs being aggregated and the priority assignment information. Once the aggregation interface is created with the specified MapId, no more entries canbe created in the VcAggrMap table for that MapId, however the priority assignment can be modified any time
default downstream VC	Default VC for the VC Aggregation interface. All the downstream priorities that are left unassigned in the VcAggrMap table with the associated MapId, will be mapped to the default VC. Default VC should be one of the VCs associated with MapId in the VcAggrMap table.
Oper Status	The actual/current state of the interface. It can be either up or down.
Admin Status	The desired state of the interface. It may be either Up or Down.

5.26.2 Atm vcaggr map Commands

5.26.2.1 Get atm vcaggr map

Description:
Use this command to get.

Command Syntax:
get atm vcaggr map [**mapid** <mapid-val>] [**vc** <vc-val>]

5.26.2.2 Create atm vcaggr map

Description:
Use this command to create.

Command Syntax:
create atm vcaggr map mapid <mapid-val> **vc** <vc-val> [**dnstrmpriolist** {0|1|2|3|4|5|6|7} +|none] [**upstrmdefprio** <upstrmdefprio-val> |none] [**upstrmregenprio** <upstrmregenprio-val> |none]

5.26.2.3 Delete atm vcaggr map

Description:
Use this command to delete.

Command Syntax:
delete atm vcaggr map mapid <mapid-val>**vc** <vc-val>

5.26.2.4 Modify atm vcaggr map

Description:
Use this command to modify.

Command Syntax:
modify atm vcaggr map mapid <mapid-val> **vc** <vc-val> [**dnstrmpriolist** {0|1|2|3|4|5|6|7} +|none] [**upstrmdefprio** <upstrmdefprio-val> |none] [**upstrmregenprio** <upstrmregenprio-val> |none]

Parameters:

Name	Description
mapid <mapid-val>	It contains the Id of VcAggregation Map. The VcAggrMap contains the list of VCs being aggregated and the associated priorities in downstream and upstream directions. Once the VC aggregation interface is created with the a MapId, no more entries can be created in the VcAggrMap table for that MapId **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 1 - 24

vc <vc-val>	Name of the VC to be part of aggregation. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional **Valid values:** 101 -206
dnstrmpriolist 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | none	This field specifies the downstream priorities with which the specified VC interface shall be associated under a VC Aggregation interface. This field is used for demultiplexing downstream traffic. A VC can be mapped to multiple priorities. But not two VCs can be mapped to same priority. Value None has special significance. It specifies that this VC is part of VC Aggregation interface but no priority is mapped to it. **Type:** Create -- Optional Modify -- Optional **Default value:** 8
upstrmdefprio <upstrmdefprio-val>	Priority parameter to be used for tagging the untagged upstream traffic coming on a VC. Regeneration of priority at bridge level will be done on the basis of this priority.If value None is specified, then bridge port's defprio will be used for tagging the untagged packets **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 -8 **Default value:** 8
upstrmregenprio <upstrmregenprio-val>	Priority parameter to be used for retagging the tagged upstream traffic coming on a VC.Regeneration of priority at bridge level will be done on the basis of this priority.If value None is specified, then bridge port's priority regeneration map will be used. **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 - 8 **Default value:** 8

Example:

$ create atm vcaggr map mapid 1 vc aal5-0 dnstrmpriolist 1 3 7 upstrmdefprio 2 upstrmregenprio 2

Output:

Verbose Mode On
Entry Created

VC map Id : 1 VC Intf : aal5-0
Up Stream Default Priority : 2 Up Stream Regen Priority : 2
Downstream priority Map : 1 3 7

Verbose Mode Off:
Entry Created

Output Fields:

Field	Description
VC map Id	It contains the Id of VcAggregation Map. The VcAggrMap contains the list of VCs being aggregated and the associated priorities in downstream and upstream directions. Once the VC aggregation interface is created with the a MapId, no more entries can be created in the VcAggrMap table for that MapId
VC Intf	Name of the VC to be part of aggregation.
Up Stream Default Priority	Priority parameter to be used for tagging the untagged upstream traffic coming on a VC. Regeneration of priority at bridge level will be done on the basis of this priority.If value None is specified, then bridge port's defprio will be used for tagging the untagged packets
Up Stream Regen Priority	Priority parameter to be used for retagging the tagged upstream traffic coming on a VC.Regeneration of priority at bridge level will be done on the basis of this priority.If value None is specified, then bridge port's priority regeneration map will be used.
Downstream priority Map	This field specifies the downstream priorities with which the specified VC interface shall be associated under a VC Aggregation interface. This field is used for demultiplexing downstream traffic. A VC can be mapped to multiple priorities. But not two VCs can be mapped to same priority. Value None has special significance. It specifies that this VC is part of VC Aggregation interface but no priority is mapped to it.

5.27 VLAN Commands

5.27.1 GVRP Info Commands

5.27.1.1 Get gvrp info

Description:
Use this command to get GVRP information.

Command Syntax:
get gvrp info

5.27.1.2 Modify gvrp info

Description:
Use this command to modify GVRP information.

Command Syntax:
modify gvrp info gvrpstatus enable | disable

Parameter:

Name	Description
gvrpstatus enable | disable	The administrative status requested by management for GVRP **Type:** Optional

Example:
$ modify gvrp info gvrpstatus enable

Output:
Verbose Mode On:
VLAN Version Number : 1 Current VLANS : 1000
GVRP Status : enable

Set Done

VLAN Version Number : 1 Current VLANS : 1000
GVRP Status : enable

Verbose Mode Off:
Set Done

Output Fields:

Field	Description
VLAN Version Number	Version Number of IEEE802.1Q, that device supports.
Current VLANS	The current number of IEEE 802.1Q VLANs that are configured on this device.
GVRP Status	The administrative status requested by management for GVRP.

References:
gvrp port info commands
gvrp port stats commands

5.27.2 GVRP Port Info Commands

5.27.2.1 Get gvrp port info

Description:
Use this command to get.

Command Syntax:
get gvrp port info [**portid** <portid-val >]

5.27.2.2 Modify gvrp port info

Description:
Use this command to modify.

Command Syntax:
modify gvrp port info portid <portid-val > [**portvlanid** <portvlanid-val >] [**acceptframetypes** all | tagged] [**ingressfiltering** true|false] [**gvrpstatus** enable | disable] [**restrictedvlanreg** true|false][**pktpriority** <pktpriority-val>] [**psvlanid** <psvlanid-val> | **none**] [**ppstatus** enable | disable] [**ctosprofileid** <ctosprofileid-val> | **none**]

Parameter:

Name	Description
portid <portid-val>	The bridge port id. **Type:** Modify — Mandatory Get — Optional

	Valid values: 1 - 578
portvlanid <portvlanid-val>	The VLAN Identifier. **Type:** Modify — Optional **Valid values:** 1 - 4095
acceptframetypes all |tagged	When this is Tagged, the device will discard untagged frames or Priority-Tagged frames received on this port. When All, untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port. **Type:** Modify — Optional
ingressfiltering False |True	When this is true, the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When false, the port will accept all incoming frames. **Type:** Modify — Optional **Valid values:** False, True
gvrpstatus enable |disable	The state of GVRP operation on this port. The value 'enable', indicates that GVRP is enabled on this port, as long as 'gvrpstatus' in 'GVRP INFO' command is also enabled for this device. When this is 'disable', even if 'gvrpstatus' in 'GVRP INFO' command is 'enable' for the device, GVRP will be 'disable' on this port. In such a case, any GVRP packets received will be silently discarded and no GVRP registrations will be propagated from other ports. This object affects all GVRP Applicant and Registrar state machines on this port. This configuration shall not be effective for a bridge port created over PPPOE/IPOE interface. **Type:** Modify — Optional
restrictedvlanreg False |True	The state of Restricted VLAN Registration on this port. If the value of this control is true(1), then creation of a new dynamic VLAN entry is permitted only if there is a Static VLAN Registration Entry for the VLAN concerned, in which, the Registrar Administrative Control value for this port is, Normal Registration. **Type:** Modify — Optional **Valid values:** False, True
pktpriority <pktpriority-val>	For the GVRP PDUs generated by the Control Plane, this priority shall be used for choice of traffic class/ Queue on outgoing interface. In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent. **Type:** Modify — Optional

	Valid values: 0 - 7
psvlanid **<**psvlanid-val> | none	Port service Vlan Index, the Service VLAN ID assigned to frames received on this port. This is applicable only to Non-Provider ports. The value zero here means that this field is not applicable. psvlanid and ctosprofileid both can be non-zero. But they both can not be zero. In case of bridge port on PPPoE and IPoE interfaces psvlanid value must be non-zero, ctosprofileid is ignored for such a port. For other bridge ports† psvlanid value can be zero. If both psvlanid and ctosprofileid have non-zero value for such ports, the ctosprofileid shall be applied and psvlanid shall be ignored **Type:** Modify — Optional **Valid values:** 0 - 4095
ppstatus enable | disable	This specifies if the port is a provider port or a Non-Provider port as per Vlan stacking model. This field is applicable only in Vlan stacking scenario. The modification of this parameter is allowed only when the bridge port is disabled. If the value of this field is enable i.e the port is a provider port, then Priority of the incoming C-Vlan tag is kept preserved irrespective of gsvSVlanCvlanQosPreserveMode of the Svlan to which the packet belongs to. **Type:** Modify — Optional
ctosprofileid **<**ctosprofileid-val> | none	This specifies the CtoS profileId for the Vlan Map profile associated† with this interface. Value zero for this means no CtoS profile associated with this port.† psvlanid and ctosprofileid both can be non-zero. But they both can not be zero. In case of bridge port on PPPoE and IPoE interfaces psvlanid value must be non-zero, ctosprofileid is ignored for such a port. For other bridge ports† psvlanid value can be zero. If both psvlanid and ctosprofileid have non-zero value for such ports, the ctosprofileid shall be applied and psvlanid shall be ignored. **Type:** Modify — Optional **Valid values:** 0 -4

Example:

$ get gvrp port info portid 10

Output:

Verbose Mode On:

VLAN Version Number : 1 Current VLANS : 1000

GVRP Status : enable

Set Done

VLAN Version Number : 1 Current VLANS : 1000

GVRP Status : enable

Verbose Mode Off:

Set Done

Output Fields:

Field	Description
Port Id	The bridge port id.
Port VLAN Index	The VLAN Identifier.
Accept Frame Types	When this is Tagged, the device will discard untagged frames or Priority-Tagged frames received on this port. When All, untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port.
Ingress Filtering	When this is true, the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When false, the port will accept all incoming frames.
Gvrp Status	The state of GVRP operation on this port. The value 'enable', indicates that GVRP is enabled on this port, as long as 'gvrpstatus' in 'GVRP INFO' command is also enabled for this device. When this is 'disable', even if 'gvrpstatus' in 'GVRP INFO' command is 'enable' for the device, GVRP will be 'disable' on this port. In such a case, any GVRP packets received will be silently discarded and no GVRP registrations will be propagated from other ports. This object affects all GVRP Applicant and Registrar state machines on this port. This configuration shall not be effective for a bridge port created over PPPOE/IPOE interface.
Failed Registrations	The total number of failed GVRP registrations, for any reason, on this port.
Last Pdu Origin	The Source MAC Address of the last GVRP message received on this port.
Restricted Vlan Registration	The state of Restricted VLAN Registration on this port. If the value of this control is true(1), then creation of a new dynamic VLAN entry is

	permitted only if there is a Static VLAN Registration Entry for the VLAN concerned, in which, the Registrar Administrative Control value for this port is, Normal Registration.
GVRP PacketsPrio'	For the GVRP PDUs generated by the Control Plane, this priority shall be used for choice of traffic class/ Queue on outgoing interface. In case the bridge port is over an Aggregated ATM VC, this will also be used to identify the VC, on which the packet is to be sent.
PS VLAN Index	Port service Vlan Index, the Service VLAN ID assigned to frames received on this port. This is applicable only to Non-Provider ports. The value zero here means that this field is not applicable. psvlanid and ctosprofileid both can be non-zero. But they both can not be zero. In case of bridge port on PPPoE and IPoE interfaces psvlanid value must be non-zero, ctosprofileid is ignored for such a port. For other bridge ports† psvlanid value can be zero. If both psvlanid and ctosprofileid have non-zero value for such ports, the ctosprofileid shall be applied and psvlanid shall be ignored
Port Provider Status	This specifies if the port is a provider port or a Non-Provider port as per Vlan stacking model. This field is applicable only in Vlan stacking scenario. The modification of this parameter is allowed only when the bridge port is disabled. If the value of this field is GS_STATE_ENABLE i.e the port is a provider port, then Priority of the incoming C-Vlan tag is kept preserved irrespective of gsvSVlanCvlanQosPreserveMode of the Svlan to which the packet belongs to.
CtoS Profile Id	This specifies the CtoS profileId for the Vlan Map profile associated† with this interface. Value zero for this means no CtoS profile associated with this port.† psvlanid and ctosprofileid both can be non-zero. But they both can not be zero. In case of bridge port on PPPoE and IPoE interfaces psvlanid value must be non-zero, ctosprofileid is ignored for such a port. For other bridge ports† psvlanid value can be zero. If both psvlanid and ctosprofileid have non-zero value for such ports, the ctosprofileid shall be applied and psvlanid shall be ignored.

References:

gvrp commands

5.27.3 GVRP Port Stats Commands

5.27.3.1 Get gvrp port stats

Description:
Use this command to get GVRP port statistics.

Command Syntax:
get gvrp port stats [**portid** <portid-val >]

5.27.3.2 Reset gvrp port stats

Description:
Use this command to reset GVRP port statistics.

Command Syntax:
reset gvrp port stats portid <portid-val>

Parameter:

Name	Description
portid <portid-val >	The bridge port id. **Type :**Optional for all commands **Valid values:** 1-578

Example:
$ get gvrp port stats

Output:
ortId : 6
Recv Join Empty : 100 Send Join Empty : 100
Recv Join In : 200 Send Join In : 200
Recv Empty : 200 Send Empty : 200
Recv Leave : 300 Send Leave : 300
Recv Leave All : 300 Send Leave All : 300
Leave Empty Rx : 300 Leave Empty Tx : 300

Output Fields:

Field	Description
PortId	Index of the Bridge Port.
Recv Join Empty	Counter for the number of Join Empty Messages received.

Send Join Empty	Counter for the number of Join Empty Messages sent.
Recv Join In	Counter for the number of Join In Messages received.
Send Join In	Counter for the number of Join In Messages sent.
Recv Empty	Counter for the number of Empty Messages received.
Send Empty	Counter for the number of Empty Messages sent.
Recv Leave	Counter for the number of Leave Messages received.
Send Leave	Counter for the number of Leave Messages sent.
Recv Leave All	Counter for the number of Leave All Messages received.
Send Leave All	Counter for the number of Leave All Messages sent.
Leave Empty Rx	Counter for the number of Leave Empty Rx received.
Leave Empty Tx	Counter for the number of Leave Empty Tx sent.

References:

gvrp commands

5.27.4 Vlan curr info Commands

5.27.4.1 Get vlan curr info

Description:

Use this command to get.

Command Syntax:

get vlan curr info [**vlanid** <vlanid-val >]

Parameters:

Name	Description
vlanid <vlanid-val >	The VLAN Identifier. **Type**: Get -- Optional **Valid values**: 1 - 4095

Example:

$ get vlan curr info vlanid 45

Output:

VLAN Index : 45
VLAN Status : 1
Egress Ports : 24
Untagged Ports : 24
Bridging Mode : Residential
Flood support Status : enable
Broadcast support Status : enable
Reserved Mac Profile Id : 1

Output field:

Field	Description
VLAN Index	The VLAN identifier
VLAN Status	This value indicates the status of the VLAN Port corresponding to this entry. Other (1) - the entry is for the default VLAN created for the system. Permanent (2) - this entry, corresponding to an entry in dot1qVlanStaticTable, is currently in use and will remain so after the next reset of the device. The port lists for this entry include ports from the equivalent dot1qVlanStaticTable entry and ports learnt dynamically. Dynamic (3) - this entry is currently in use and will remain so until removed by GVRP. There is no static entry for this VLAN and it will be removed when the last port leaves the VLAN.
Egress Ports	The set of ports, which are transmitting traffic for this VLAN, as either tagged or untagged frames.
Untagged Ports	The set of ports, which are transmitting traffic for this VLAN as untagged frames. In Stacked Vlan mode this applies tagging/untagging for C-VLAN.
Bridging Mode	This specifies the state of full bridging for the Vlan. There can be 3 values associated with this based on global fullBridgingStatus. These values can be restricted bridging, unrestricted full bridging and residential bridging. The user can specify the bridging mode for the vlan in the Dot1qVlanStaticTable table as one of these

	values; otherwise the vlan inherits the globally set bridging mode. Unrestricted bridging is not applicable for bridge ports created over pppoe interface even though the vlan may be unrestricted.For a Vlan with bridging mode as CrossConnect there is no learning and lookup and there are at most two member ports for it. In band Management traffic cannot run for such a vlan. VLAN here means the 802.1q vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Flood support Status	This tells if the flooding shall be done for unknown unicast packets for this vlan or not. The unknown unicast packets shall be flooded to all ports for a vlan if global value (present in Dot1dTpInfo) is enabled or throttle and the value per vlan is also enabled else dropped. This field is not applicable if dot1qGsVlanFullBridgingStatus is CrossConnect
Broadcast support Status	This tells if the broadcast shall be done for this vlan or not. The broadcast packets shall be broadcasted on all ports for a vlan if global value (present in Dot1dTpInfo) and the value per vlan are both enabled else dropped. This field is not applicable if dot1qGsVlanFullBridgingStatus is CrossConnect.
Reserved Mac Profile Id	The Profile associated with this Vlan to be used to determine the behavior for Reserved Mac destined frames. Reserved Mac addresses are the multicast addresses defined as reserved in IEEE 802.1Q and IEEE 802.1ad.

5.27.5 VLAN mapprofile info Commands

5.27.5.1 Get vlan mapprofile info

Description:

Use this command to get.

Command Syntax:

get vlan mapprofile info [**profileid** <profileid-val>]

5.27.5.2 Create vlan mapprofile info

Description:

Use this command to create.

Command Syntax:

create vlan mapprofile info profileid <profileid-val>**profiletype** CtoS

5.27.5.3 Delete vlan mapprofile info

Description:

Use this command to delete.

Command Syntax:

delete vlan mapprofile info profileid <profileid-val>

Parameters:

Name	Description
profileid <profileid-val>	Vlan Map profile identifier **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 4
profiletype CToS	Profile type **Type:** Create -- Mandatory

Example:

$ create vlan mapprofile info profileid 3 profiletype CtoS

Output:

Verbose Mode On

Entry Created

Profile Id : 3 Profile Type : CtoS

Verbose Mode Off:

Entry Created

Output field:

Field	Description
Profile Id	Vlan Map profile identifier
Profile Type	Profile type

References:
VLAN commands

5.27.6 Vlan mapprofile param Commands

5.27.6.1 Get vlan mapprofile param

Description:
Use this command to get.

Command Syntax:
get vlan mapprofile param [**profileid** <profileid-val>] [**vlan1** <vlan1-val>]

5.27.6.2 Create vlan mapprofile param

Description:
Use this command to create.

Command Syntax:
create vlan mapprofile param profileid <profileid-val> **vlan1** <vlan1-val>**vlan2** <vlan2-val>

5.27.6.3 Delete vlan mapprofile param

Description:
Use this command to delete.

Command Syntax:
delete vlan mapprofile param profileid <profileid-val>**vlan1** <vlan1-val>

Parameters:

Name	Description
profileid <profileid-val>	Vlan Map profile identifier. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional

	Valid values: 1 - 4
vlan1 <vlan1-val>	This is the first Vlan for the Map entry. In case of CtoS type of profile this is C-VLAN. There can only be single entry for this parameter corresponding to a given profile. **Type:** Create -- Mandatory Delete -- Mandatory Get -- Optional **Valid values:** 1 - 4095
vlan2 <vlan2-val>	This is the second Vlan for the Map entry. In case of CtoS type of profile this is S-VLAN. GS_UNREGISTERED_VLANID is a special Virtual Vlan Id used for keeping configuration of the traffic for those VLANs that are unknown in the system. The valid range for this field also includes GS_UNREGISTERED_VLANID besides the range 1-GS_CFG_MAX_VLAN_ID. There can only be single entry for this parameter corresponding to a given profile. **Type:** Create -- Mandatory **Valid values:** 1 - 4095

Example:

$ create vlan mapprofile param profileid 1 vlan1 1 vlan2 2

Output:

Verbose Mode On
Entry Created

Profile Id : 1 Vlan 1 : 1
Vlan 2 : 2

Verbose Mode Off:
Entry Created

Output field:

Field	Description
Profile Id	Vlan Map profile identifier.
Vlan 1	This is the first Vlan for the Map entry. In case of CtoS type of profile this is C-VLAN. There can only be single entry for this parameter corresponding to a given profile.

Vlan 2	This is the second Vlan for the Map entry. In case of CtoS type of profile this is S-VLAN. GS_UNREGISTERED_VLANID is a special Virtual Vlan Id used for keeping configuration of the traffic for those VLANs that are unknown in the system. The valid range for this field also includes GS_UNREGISTERED_VLANID besides the range 1-4097. There can only be single entry for this parameter corresponding to a given profile.

References:
VLAN commands

5.27.7 VLAN Static Commands

5.27.7.1 Get vlan static

Description:
Use this command to get.

Command Syntax:
get vlan static [**vlanname** <vlan-name>] [**vlanid** <vlanid-val>]

5.27.7.2 Create vlan static

Description:
Use this command to create.

Command Syntax:
create vlan static vlanname <vlan-name>**vlanid** <vlanid-val> [**egressports** <egressports-val>] [**forbidegressports** <forbidegressports-val>] [**untaggedports** <untaggedports-val>] [**bridgingmode** Restricted | Unrestricted | Residential | CrossConnect] [**floodsupport** enable | disable] [**bcastsupport** enable | disable] [**resvmacprofileid** <resvmacprofileid-val>] [**igmpsnoopaction** Drop | TransparentlyForward | Learn] [**igmpsnoopproxyreporting** Enable | Disable] [**igmpsnoopingressprio** <igmpsnoopingressprio-val> | none] [**darpstatus** Enable | Disable] [**darpfailedhandling** Drop | **TransparentForward** | FloodTrustedPorts] [**drabcasttoucast** Enable | Disable] [**bngmac** <bngmac-val>] [**drastatus** Enable | Disable] [**piastatus** Enable | Disable] [**findoneportfailact** drop | floodtrusted | TransparentlyForward]

5.27.7.3 Modify vlan static

Description:

Use this command to modify.

Command Syntax:

modify vlan static vlanname <vlan-name>**vlanid** <vlanid-val> [**egressports** <egressports-val>] [**forbidegressports** <forbidegressports-val>] [**untaggedports** <untaggedports-val>] [**bridgingmode** Restricted | Unrestricted | Residential | CrossConnect] [**floodsupport** enable | disable] [**bcastsupport** enable | disable] [**resvmacprofileid** <resvmacprofileid-val>] [**igmpsnoopaction** Drop | TransparentlyForward | Learn] [**igmpsnoopproxyreporting** Enable | Disable] [**igmpsnoopingressprio** <igmpsnoopingressprio-val> | none] [**darpstatus** Enable | Disable] [**darpfailedhandling** Drop | **TransparentForward** | FloodTrustedPorts] [**drabcasttoucast** Enable | Disable] [**bngmac** <bngmac-val>] [**drastatus** Enable | Disable] [**piastatus** Enable | Disable] [**findoneportfailact** drop | floodtrusted | TransparentlyForward]

5.27.7.4 Delete vlan static

Description:

Use this command to delete.

Command Syntax:

delete vlan static vlanname <vlanname-val > | **vlanid** <vlanid-val >

Parameters:

Name	Description
vlanname <vlanname-val >	An administratively assigned string, which may be used to identify the VLAN. This is mandatory in the case of create cmnd. In case of get/modify/delete - either vlan name or vlan id can be given. **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional
vlanid <vlanid-val	The VLAN Identifier. GS_UNREGISTERED_VLANID is a special Vlan Id used for managing the traffic for those VLANs that are neither created nor learned in the system. The valid range for this field also includes GS_UNREGISTERED_VLANID besides the range 1-4095 **Type:** Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional

	Valid values: 1 - 4095
egressports <egressports-val>	The set of ports, which are permanently assigned to the egress list for this VLAN by management **Type:** Create -- Optional Modify -- Optional **Default value:** 0
forbidegressports <forbidegressports-val>	The set of ports which are prohibited by management from being included in the egress list for this VLAN. **Type:** Create -- Optional Modify -- Optional **Default value:** 0
untaggedports <untaggedports-val>	The set of ports, which should transmit egress packets for this VLAN, as untagged. **Type:** Create -- Optional Modify -- Optional **Default value:** 0
bridgingmode Restricted | Unrestricted | Residential | CrossConnect	This specifies the state of full bridging for the VLAN. There can be three values associated with this, based on global fullBridgingStatus. These values can be restricted bridging, unrestricted full bridging and residential bridging. If the user does not specify the bridging mode at the time of VLAN creation, the VLAN inherits the globally set bridging mode. The user can modify bridging mode for a created VLAN. If the dynamic entry for the VLAN to be created already exists, the user can only specify globally set bridging mode for this VLAN. The bridging modes are defined as Restricted Full Bridging, Unrestricted full bridging and Resedential bridging. The default residential VLAN, like any other residential VLAN allows only one net side bridge port as its member. This port shall be added automatically to the default VLAN if it is the only net side bridge port being added to the VLAN. Subsequently, the user can add another net side port to the egressportslist and untaggedportslist only after removing the previously added net side bridge port. Unrestricted bridging is not applicable for bridge ports created over the PPPoE interface even though the VLAN may be unrestricted. **Type:** Create -- Optional Modify -- Optional **Valid values:** usly added net side bridge port. Unrestricted bridging is not applicable for bridge ports created over the PPPoE interface even though the VLAN may be unrestricted.

	Default value: Resedential bridging
floodsupport enable | disable	This specifies if the flooding has to be done for unknown unicast packets for this vlan or not.The default value for this shall be taken from enable when vlan is created. The unknown unicast packets shall be flooded on all ports for a vlan if global value (present inDot1dTpInfo) is enabled or throttle, and the value pervlan is also enabled else dropped. **Type:** Create -- Optional Modify -- Optional **Default value:** enable
bcastsupport enable | disable	This specifies if the broadcast has to be done for this vlan or not. The default value for this shall be taken from enable when vlan is created. The broadcast packets shall be flooded on all ports for a vlan if global value (present in Dot1dTpInfo) and the value per vlan are both enabled else dropped. **Type:** Create -- Optional Modify -- Optional **Default value:**enable
resvmacprofileid **<**resvmacprofileid-val>	The Profile associated with this Vlan to be used to determine the behavior for Reserved Mac destined frames. Reserved Mac addresses are the multicast addresses defined as reserved in IEEE 802.1Q and IEEE 802.1ad. The existence of the specified "ResvdCtlPktProfile Table" entry is a must for VLAN static entry creation to succeed. Further, even if the specified "ResvdCtlPktProfile Table" entry exists, but the corresponding entry in "ResvdCtlPktProfile Param Table" is missing the packets will be dropped. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode. **Type:** Create -- Optional Modify -- Optional **Valid values:** 1 - 4 **Default value:** 1
igmpsnoopaction Drop | TransparentlyForward | Learn	This parameter specifies that if an action is "Learn" then igmpsnoop will be supported for this Vlan and an entry will be learnt. Here action will be applied in conjunction with global igmpsnoopStatus and port level igmpsnoopStatus flags, that is IGMP functionality will be executed for a frame if IGMP is enabled globally and on the port it has been received and for the vlan/virtual vlan on which it has come.If action is "drop" then igmpsnoop functionality is not supported for this vlan and IGMP frames shall

	be dropped. If action is "transparently forward", then IGMP frames received for this Vlan shall be forwarded transparently and learning will not be done **Type:** Create -- Optional Modify -- Optional **Default value:** Learn
igmpsnoopproxyreporting Enable | Disable	This parameter provides a configuration option to choose between transparent snooping or Proxy reporting behavior per Vlan. Depending on the type of mode, IGMP module will perform either transparent snooping or proxy reporting for the IGMP messages, received on a Vlan. Here the Vlan which is being referred is the one on which learning will happen. It will be multicast vlan, if "Multicast Vlan option" is enabled. **Type:** Create -- Optional Modify -- Optional **Default value:** Disable
igmpsnoopingressprio igmpsnoopingressprio | none	This parameter specifies the ingress priority to be forced on the incoming frame. If the ingress priority field has valid value, then that value will be used for traffic class determination and packet priority. If valid egress priority is configured for a port, then egress priority shall override the ingress priority. In addition, there is support of invalid value for ingress priority to indicate that the priority is not to be forced on ingress frame for this port.Here the Vlan which is being referred is the one on which learning shall happen. It will be multicast vlan, if "Multicast Vlan option" is enabled. **Type:** Create -- Optional Modify -- Optional **Valid values:** 0 -7 **Additional Values:** 8 **Default value:** 8
darpstatus Enable | Disable	This specifies whether ARP packets received on this VLAN are to be directed to a single port using (VLANId, IP address) to bridge port mapping learnt using DRA. This attribute is effective in conjunction with the attribute 'gsvDot1dPortDirectedARP' of 'Dot1dBasePortExtTable' MO. ARP packets are to be directed as mentioned above, only if both the flags are enabled. If any of the two is disabled, the ARP packets will be forwarded as per the normal bridging flow. **Type:** Create -- Optional Modify -- Optional

	Default value: enable
darpfailedhandling Drop | TransparentForward | FloodTrustedPorts	This specifies the action to be taken on an ARP packet received on this VLAN for which it is not possible to determine a single port using (VLANId, IP address) to bridge port mapping learnt using DRA. If the value is drop, the ARP packet will be dropped. If the value is Transparent Forwarding, the ARP packet will be forwarded as per the normal bridging. If the value is FloodTrustedPorts, the ARP packet will be forwarded as per the normal bridging, but only on ports that are trusted. **Type:** Create -- Optional Modify -- Optional **Default value:** FloodTrustedPorts
drabcasttoucast Enable | Disable	This Parameter is used to configure whether DHCP broadcast packet received for this vlan will be converted to unicast packet or not. **Type:** Create -- Optional Modify -- Optional **Default value:** Disable
bngmac <bngmac-val>	This is used to configure BNG Mac address of this VLAN. If VLAN is configured to convert DHCP broadcast packets to Unicast packets,then this MAC address is used as destination MAC address. **Type:** Create -- Optional Modify -- Optional **Default value:** "\xff\xff\xff\xff\xff\xff"
drastatus Enable | Disable	This Parameter specifies the status of DRA whether it is enabled for this Vlan or not. If enabled DRA will Act as per the port configuration on which DHCP packet is received. If disabled DRA will not perform any action on the DHCP packets received over this vlan. **Type:** Create -- Optional Modify -- Optional **Default value:** Enable
piastatus Enable | Disable	This Parameter specifies the status of PIA whether it is enabled for this Vlan or not. If enabled PIA will Act as per the port configuration on which PPPoE packet is received. If disabled PIA will not perform any action on the PPPoE packets received over this vlan. **Type:** Create -- Optional Modify -- Optional **Default value:** Enable

findoneportfailact drop | floodtrusted | TransparentlyForward	This field specifies the action to be taken when DRA fails to determine the destined port for downstream DHCP packets. If this field is set to drop then the packets are dropped. If it is specified as floodtrusted then packets are forwarded to trusted ports only. If it is set as TransparentlyForward then the packets are forwarded to all the ports as per normal bridging functionality. **Type:** Create -- Optional Modify -- Optional **Default value:** TransparentlyForward

Example :

$ create vlan static vlanname gsvlan vlanid 1 egressports 1 2 20 forbidegressports 34 5 untaggedports 2 bridgingmode Residential bcastsupport enable floodsupport enable resvmacprofileid 1

Output:

Verbose Mode On
Entry Created

VLAN Name : gsvlan
VLAN Index : 1
Egress ports : 1 2 20
Forbidden Egress Ports : 34 5
Untagged Ports : 2
Bridging Mode : Residential
Flood support Status : enable
Broadcast support Status : enable
Reserved Mac Profile Id : GS_CFG_DEF_RSVD_MAC_PROFILE_ID
Igmp Snoop Action : Learn
Igmpsnoop ProxyReporting Status : Normal
Igmpsnoop ingress Priority : 4 Directed ARP status : enable
DARPFailedHandling : enable
DRA Bcast To Ucast : Enable
BNG MAC address : 00:01:03:04:05:11
DRA Status : Enable
PIA Status : Enable Find One Port Fail Act : Drop

Verbose Mode Off:
Entry Created

Output field:

Field	Description
VLAN Name	An administratively assigned string, which may be used to identify the VLAN. This is mandatory in the case of create cmnd. In case of get/modify/delete - either vlan name or vlan id can be given.
VLAN Index	The VLAN Identifier. GS_UNREGISTERED_VLANID is a special Vlan Id used for managing the traffic for those VLANs that are neither created nor learned in the system. The valid range for this field also includes GS_UNREGISTERED_VLANID besides the range 1-4095.
Egress ports	The set of ports, which are permanently assigned to the egress list for this VLAN by management
Forbidden Egress Ports	The set of ports which are prohibited by management from being included in the egress list for this VLAN.
Untagged Ports	The set of ports, which should transmit egress packets for this VLAN, as untagged.
Bridging Mode	This specifies the state of full bridging for the VLAN. There can be three values associated with this, based on global fullBridgingStatus. These values can be restricted bridging, unrestricted full bridging and residential bridging. If the user does not specify the bridging mode at the time of VLAN creation, the VLAN inherits the globally set bridging mode. The user can modify bridging mode for a created VLAN. If the dynamic entry for the VLAN to be created already exists, the user can only specify globally set bridging mode for this VLAN. The bridging modes are defined as Restricted Full Bridging, Unrestricted full bridging and Resedential bridging. The default residential VLAN, like any other residential VLAN allows only one net side bridge port as its member. This port shall be added automatically to the default VLAN if it is the only net side bridge port being added to the VLAN. Subsequently, the user can add another net side port to the egressportslist and untaggedportslist only after removing the previously added net side bridge port. Unrestricted bridging is not applicable for bridge ports created over the PPPoE interface even though the VLAN may be unrestricted.

Flood support Status	This specifies if the flooding has to be done for unknown unicast packets for this vlan or not.The default value for this shall be taken from enable when vlan is created. The unknown unicast packets shall be flooded on all ports for a vlan if global value (present inDot1dTpInfo)is enabled or throttle, and the value pervlan is also enabled else dropped.
Broadcast support Status	This specifies if the broadcast has to be done for this vlan or not. The default value for this shall be taken from enable when vlan is created. The broadcast packets shall be flooded on all ports for a vlan if global value (present in Dot1dTpInfo) and the value per vlan are both enabled else dropped.
Reserved Mac Profile Id	The Profile associated with this Vlan to be used to determine the behavior for Reserved Mac destined frames. Reserved Mac addresses are the multicast addresses defined as reserved in IEEE 802.1Q and IEEE 802.1ad. The existence of the specified "ResvdCtlPktProfile Table" entry is a must for VLAN static entry creation to succeed. Further, even if the specified "ResvdCtlPktProfile Table" entry exists, but the corresponding entry in "ResvdCtlPktProfile Param Table" is missing the packets will be dropped. VLAN here means the 802.1q Vlan in case of Native Vlan mode and Virtual Vlan in case of Stacked Vlan Mode.
Igmp Snoop Action	This parameter specifies that if an action is "Learn" then igmpsnoop will be supported for this Vlan and an entry will be learnt. Here action will be applied in conjunction with global igmpsnoopStatus and port level igmpsnoopStatus flags, that is IGMP functionality will be executed for a frame if IGMP is enabled globally and on the port it has been received and for the vlan/virtual vlan on which it has come.If action is "drop" then igmpsnoop functionality is not supported for this vlan and IGMP frames shall be dropped. If action is "transparently forward", then IGMP frames received for this Vlan shall be forwarded transparently and learning will not be done
Igmpsnoop ProxyReporting Status	This parameter provides a configuration option to choose between transparent snooping or Proxy reporting behavior per Vlan. Depending on the type of mode, IGMP module will perform either transparent

	snooping or proxy reporting for the IGMP messages, received on a Vlan. Here the Vlan which is being referred is the one on which learning will happen. It will be multicast vlan, if "Multicast Vlan option" is enabled.
Igmpsnoop ingress Priority	This parameter specifies the ingress priority to be forced on the incoming frame. If the ingress priority field has valid value, then that value will be used for traffic class determination and packet priority. If valid egress priority is configured for a port, then egress priority shall override the ingress priority. In addition, there is support of invalid value for ingress priority to indicate that the priority is not to be forced on ingress frame for this port.Here the Vlan which is being referred is the one on which learning shall happen. It will be multicast vlan, if "Multicast Vlan option" is enabled.
Directed ARP status	This specifies whether ARP packets received on this VLAN are to be directed to a single port using (VLANId, IP address) to bridge port mapping learnt using DRA. This attribute is effective in conjunction with the attribute 'gsvDot1dPortDirectedARP' of 'Dot1dBasePortExtTable' MO. ARP packets are to be directed as mentioned above, only if both the flags are enabled. If any of the two is disabled, the ARP packets will be forwarded as per the normal bridging flow.
DARPFailedHandling	This specifies the action to be taken on an ARP packet received on this VLAN for which it is not possible to determine a single port using (VLANId, IP address) to bridge port mapping learnt using DRA. If the value is drop, the ARP packet will be dropped. If the value is Transparent Forwarding, the ARP packet will be forwarded as per the normal bridging. If the value is FloodTrustedPorts, the ARP packet will be forwarded as per the normal bridging, but only on ports that are trusted.
DRA Bcast To Ucast	This Parameter is used to configure whether DHCP broadcast packet received for this vlan will be converted to unicast packet or not.
BNG MAC address	This is used to configure BNG Mac address of this VLAN. If VLAN is configured to convert DHCP broadcast packets to Unicast packets,then this MAC address is used as destination MAC address.

DRA Status	This Parameter specifies the status of DRA whether it is enabled for this Vlan or not. If enabled DRA will Act as per the port configuration on which DHCP packet is received. If disabled DRA will not perform any action on the DHCP packets received over this vlan.
PIA Status	This Parameter specifies the status of PIA whether it is enabled for this Vlan or not. If enabled PIA will Act as per the port configuration on which PPPoE packet is received. If disabled PIA will not perform any action on the PPPoE packets received over this vlan.
Find One Port Fail Act	This field specifies the action to be taken when DRA fails to determine the destined port for downstream DHCP packets. If this field is set to drop then the packets are dropped. If it is specified as floodtrusted then packets are forwarded to trusted ports only. If it is set as TransparentlyForward then the packets are forwarded to all the ports as per normal bridging functionality.

References:

VLAN commands

5.28 Miscelleneous Commands

5.28.1 File Commands

5.28.1.1 Apply

Description:

Use this command to apply a configuration file stored on the system

Command Syntax:

Apply fname <file-name> [**version** <version>] [**besteffort** true|false]

Parameters:

Name	Description
fname <file-name>	This specifies the name of the configuration file (the extension of the file shall be .cfg) to be applied. The file shall contain valid CLI commands. The user shall specify the filename for files present in the system as directories. The directories are /nvram/cfg/ factorydef/, /nvram/user/, /sdram/cfg, /sdram/user. **Type:** mandatory **Valid values:** string of up to 128 characters: (‘A’-‘Z’, ‘a’-‘z’, ‘0’-‘9’, ’-‘,’_’)
version <version>	This specifies the version of the file that needs to be applied. **Type:** Optional **Default Value:** Incase of multiple version files the active copy gets applied. Not valid for single version file.
besteffort true|false	If the besteffort flag is false, command execution (as specified in "file-name"file) stops immediately after a command returns an error. If the besteffort flag is true, command execution (as specified in "file-name"file) continues even if a command returns an error. **Type :** Optional **Default value :** false

Mode:

Super-User

Example:
$ apply fname /nvram/user/commands.cfg version 2

Output:
The output of the command is dependent on the list of CLI commands in commands.cfg file.

Example 1:
The file commands*.cfg* has the following commands:
Verbose on
create atm port ifname atm-0 lowif dsl-0

Entry Created

If-Name : atm-0 LowIfName : dsl-0
MaxVccs : 2 MaxConfVccs : 4
MaxVpiBits : 3 MaxVciBits : 10
OAMSrc : 0xffffffffffffffffffffffffffffffff
Oper Status : Up Admin Status : Up

Example 2:
The file commands*.cfg* has the following commands:
create atm port ifname atm-0 lowif dsl-0
The output would be:

Entry Created

Output Fields:
None

References:
Upgrade command
Remove command
List command
Download command

5.28.1.2 Download

Description:

Use this command to download a binary, configuration or user specific file from the remote host.

Command Syntax:

download src <src-filename> **dest** <dest-filename> **ip** <ip-address> [**mode** tftp|ftp] [**savemode** comapact]

Parameters:

Name	Description
src <src-filename>	This specifies the name of the binary, configuration or user specific file to be downloaded from a remote host. The filename contains the complete path on the host. The filename extension can be .cfg or .bin or any other user specified extension. A cfg file can contain only valid CLI commands. A .bin file must bea valid image file. **Type:** Mandatory **Valid values:** String of up to 128 characters (all characters except ';', '', '?')
dest <dest-filename>	This specifies the name of the binary, configuration or user specific file on the system. The user shall specify the filename for files present in the system, as directories. The directories are **/nvram/bin/control/** - This directory contains control plane zipped image. There can be multiple versions of images. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/bin/dataplane/ -** This directory contains data plane zipped image. There can be multiple versions of images. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/bin/decompressor/** - This directory contains decompressor image. There can be multiple versions of images. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/bin/dslphy/** - This directory contains DSL physical layer image. Only one version of image is possible. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/cfg/factorydef/** - This directory contains factory default configuration files. There can be multiple versions of files. The name of the file shall be as specified in the configuration file of createfi tool. The files are stored in

	NVRAM. **/nvram/user/ -** This directory contains user specific files. There can be multiple versions of files. The files are stored in NVRAM. **/sdram/cfg/ -** This directory contains user specific Configuration files with .cfg extension. The files are stored in SDRAM **/sdram/user/ -** This directory contains user specific files. The files are stored in SDRAM. **Type:** Mandatory **Valid values:** String of up to 128 characters (all Characters except ';', '', '?')
ip <ip-address>	This specifies the IP address of the remote host from which the file is to be downloaded. **Type:** Mandatory **Valid values:** Any valid IP address.
mode tftp | ftp	This specifies the protocol to be used for downloading the file. Currently only TFTP is supported. **Type:** Optional **Default Value :** TFTP
savemode compact	It allows saving of files in the compact mode. This option is applicable for downloading user files only. **Note**: This option is enabled only when GS_CFG_USER_COMPACT_FILE_SYSTEM is TRUE. **Type:** Optional **Valid Values:** compact

Example:

$ download src myconfig.cfg dest /nvram/user/myconfig.cfg ip 198.168.1.1

Output:

Verbose Mode On
Downloading The Code File. . .
Download Completed
Verbose Mode Off
Downloading The Code File. . .
Download Completed

Output Fields:

None

Caution:
Ensure that the TFTP server is running on the remote host. After downloading the image in safe mode, the system should be rebooted and no other nvram operations should be tried on the system.

References:
upgrade command
remove command
list command
apply command

5.28.1.3 List

Description:
This command is used to list the Configuration or binary files stored on the unit

Command Syntax:
list fname [/nvram | /sdram]

Parameters:

Name	Description
fname [/nvram | /sdram]	This specifies whether the files of NVRAM or SDRAM are to be listed. **/nvram** – This lists all directories and files stored in NVRAM. **/sdram** - This lists all directories and files stored in SDRAM. **Type:** Optional. **Default Value:** All the files present in the NVRAM or SDRAM will be displayed.

Mode:
Super-User.

Example :
$ list fname /nvram

Output :

Verbose Mode On
Flash size : 4194304
Flash Block size : 131072
Free Blocks in Flash : 3

/nvram/bin/control/
Name : CP.bin.gz
Version : 1 Size(bytes) : 1424656
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 11

/nvram/bin/dataplane/
Name : DP.bin.gz
Version : 1 Size(bytes) : 293092
Time : Thu Jan 01 00:01:54 1970
Permission : RW State : active
Used Blocks : 3

/nvram/bin/dslphy/
Name : gsv_dsl_AD_DM_0000000C.bin.gz
Version : 1 Size(bytes) : 91632
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1
Name : gsv_dsl_AD_DM_0004200C.bin.gz
Version : 1 Size(bytes) : 159408
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 2

/nvram/cfg/factorydef/
Name : FD.cfg
Version : 1 Size(bytes) : 45
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1

/nvram/cfg/manuf/
Name : Manuf.txt

Version : 1 Size(bytes) : 5768
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1

/nvram/system/
Name : CFG1
Version : 1 Size(bytes) : 262056
Time :
Permission : SYS State : active
Used Blocks : 2
Name : CFG2
Version : 1 Size(bytes) : 262056
Time :
Permission : SYS State : active
Used Blocks : 2
Name : LOGS
Version : 1 Size(bytes) : 130988
Time :
Permission : SYS State : active
Used Blocks : 1

/nvram/user
Name : user.txt
Version : 1 Size(bytes) : 5768
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1

Verbose Mode Off
Flash size : 4194304
Flash Block size : 131072
Free Blocks in Flash : 4

/nvram/bin/control/
Name : CP.bin.gz
Version : 1 Size(bytes) : 1424656
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 11

/nvram/bin/dataplane/
Name : DP.bin.gz
Version : 1 Size(bytes) : 293092
Time : Thu Jan 01 00:01:54 1970
Permission : RW State : active
Used Blocks : 3

/nvram/bin/dslphy/
Name : gsv_dsl_AD_DM_0000000C.bin.gz
Version : 1 Size(bytes) : 91632
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1
Name : gsv_dsl_AD_DM_0004200C.bin.gz
Version : 1 Size(bytes) : 159408
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 2

/nvram/cfg/factorydef/
Name : FD.cfg
Version : 1 Size(bytes) : 45
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1

/nvram/cfg/manuf/
Name : Manuf.txt
Version : 1 Size(bytes) : 5768
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1

/nvram/system/
Name : CFG1
Version : 1 Size(bytes) : 262056
Time :
Permission : SYS State : active
Used Blocks : 2
Name : CFG2
Version : 1 Size(bytes) : 262056

Time :
Permission : SYS State : active
Used Blocks : 2
Name : LOGS
Version : 1 Size(bytes) : 130988
Time :
Permission : SYS State : active
Used Blocks : 1

/nvram/user
Name : user.txt
Version : 1 Size(bytes) : 5768
Time : Thu Dec 23 15:42:26 2004
Permission : RW State : active
Used Blocks : 1

Output Fields:

FIELD	Description
Flash Size	Total flash size in bytes. This field is relevant for NVRAM files
Flash Block Size	Flash Block Size in bytes.This field is relevant for NVRAM files.
Free Blocks in Flash	Number of free blocks in flash. This field is relevant for NVRAM files.
Name	The name of the file present in the directory. Name starting with ì/î indicates directory name.
Version	This specifies the version of the file.
Time	Time at which the file got created. This is displayed in Day Mon DD HH:MM:SS YEAR format.
Size	The size of the file in bytes.
Permissions	Permission of the file. It can be read only, read write or protected.
State	The state of the file. It can be active, inactive, tried, latest.
Used Blocks	Number of blocks used in the flash by the file.

References:

upgrade command
remove command
apply command
download command

5.28.1.4 Permission

Description:
Use this command to change the permission of the files stored on flash.

Command Syntax:
permission fname <fname-val> **type** ro|rw|pr [**version** <version-val>]

Parameters:

Name	Description
fname fname	Name of the file whose permission is to be changed. **Type:** mandatory **Valid values:** string of up to 128 characters: ('A'-'Z','a'-'z', '0'-'9', '-','_')
version version	This specifies the version of the file that need to be applied. **Type:** Optional for single version file. Mandatory for multiple version file.
type ro|rw|pr	This specifies that to what type, ro (read-only), rw (read-write), or pr (protected), permission of the file is to be changed. **Type:** mandatory **Valid Values :** ro | rw | pr

Mode:
Super-User

Example:
$ permission fname /nvram/user/commands.cfg version 1 type ro

Output:
Verbose Mode On
Set Done

Verbose Mode Off
Set Done

Output Fields:
None

References:

upgrade command

remove command

list command

download command

5.28.1.5 Ping

Description:

Use to send one or more ICMP messages to another host for a reply.

Command Syntax:

ping {**ip-address | domain-name**} [**-t | -n** <number>] [**-i** <time-to-live>] [**-w** <seconds>] [**-s** <size>]

Parameters:

Name	Description
ip-address | domain-name	This specifies the Destination address to be pinged. **Type** : Mandatory **Valid values** : Any Valid IP Address (0.0.0.0 – 255.255.255.255) or Domain Name - String of Max 63 characters (‘a’-‘z’, ’A’-‘Z’, ’0’-‘9’, ’-‘, ’_’and ‘.‘)
-t	This indicates continuous ping to host, until the user interrupts. **Type**: Optional
-n <number>	This specifies the number of pings to send to host. **Type** : Optional **Valid values** : 1-65535 **Default Value:** 4
-w <seconds>	This specifies the time interval between successive ping requests **Type** : Optional **Valid values** : 0-65535 **Default Value :** 2
-l <time-to-live>	This specifies the time-to-live, to be filled in the ping request **Type** : Optional **Valid values** : 0 – 255 **Default Value** : 64
-s <size>	This specifies the size of payload for ping. **Type** : Optional **Valid values** : 4-1500 **Default Value :** 64

Example:
$ ping 192.168.1.13

Output:
$ ping 192.168.1.13
64 bytes of data from 192.168.1.13, seq=0 ttl=64 rtt=0.000 msec
64 bytes of data from 192.168.1.13, seq=1 ttl=64 rtt=0.000 msec
64 bytes of data from 192.168.1.13, seq=2 ttl=64 rtt=0.000 msec
64 bytes of data from 192.168.1.13, seq=3 ttl=64 rtt=0.000 msec

---------- Ping Statistics ----------
4 packets transmitted, 4 packets received, 0 percent packet loss

Output Fields:

FIELD	Description
64 bytes of...	This denotes the number of bytes in the ping packet and the source IP Address.
Seq	This denotes the ping attempt counter value.
Ttl	This is the Time to live for the packet.
Rtt	This denotes the Round trip Time for the packet. A value less than 10ms is shown as 0.

5.28.1.6 Remove

Description:
Use this command to remove a configuration or binary file stored on the unit

Command Syntax:
remove fname <file-name> [**version** <version>]

Parameters:

Name	Description
fname <file-name>	This specifies the file name, which needs to be removed. The user shall specify the filename for files present in the system, as directories. The directories are /nvram/bin/control/, /nvram/bin/control/, /nvram/bin/dataplane/, /nvram/bin/dslphy, /nvram/cfg/factorydef/, /nvram/user/,/sdram/cfg, /sdram/user. **Type :** Mandatory **Valid values:** string of upto 128 characters ('A'-'Z', 'a'-'z', '0'-'9', '-', '_')

version <version>	This specifies the version of the file that need to be removed. **Type:** Optional for single version file. Mandatory for multiple version file. Default Value:

Example:
$ remove fname /nvram/user/commands.cfg

Output:
Verbose Mode On
File removed

Verbose Mode Off
File removed

Output Fields:
None

References:
apply command
list command
download command

5.28.1.7 Upgrade

Description:
Use this command to upgrade a configuration or binary file stored on the system.

Command Syntax:
upgrade fname <file-name> **version** <version>

Parameters:

Name	Description
fname <file-name>	This specifies the file name, which needs to be upgraded. The specified file becomes Active and the present active file is made inactive.The user shall specify the filename for files present in Columbia, as directories. The directories are /nvram/bin/control/, /nvram/bin/dataplane/, /nvram/bin/decompressor, /nvram/bin/dslphy, /nvram/cfg/factorydef/, /nvram/ user/, **Type :** Mandatory **Valid values:** string of upto 128 characters ('A'-'Z', 'a'-'z', '0'-'9', '-', '_')

version <version>	This specifies the version of the file that needs to be upgraded **Type :** Mandatory **Valid values:** Decimal number

Mode:
Super-User

Example:
$ upgrade fname /nvram/cfg/factorydef/commands.cfg version 2

Output:
Verbose Mode On
File upgraded
Verbose Mode Off
File upgraded

Output Fields:
None

References:
apply command
list command
download command

5.28.1.8 Upload

Description:
Use this command to upload the primary/secondary configuration file saved in flash on the Columbia system to the remote host.

Command Syntax:
Upload src <src-filename> **dest** <dest-filename> **ip** <ip-address> [**mode** tftp | ftp]

Parameters:

Name	Description
src <src-filename>	This specifies the name of the configuration file on the system. The files that can be uploaded are: **/nvram/system/primcfg** - The primary configuration file created on the system after commit operation has been performed once. **/nvram/system/seccfg** - The secondary configuration file created on the system after commit operation has been performed twice. **Type**: Mandatory **Valid values**: String of up to 128 characters (all characters except ';', ' ', '?')
dest <dest-filename>	This specifies the name of the configuration file to be uploaded to a remote host. The filename contains the complete path on the host. The filename extension can be .cfg or .bin or any other user specified extension. **Type**: Mandatory **Valid values**: String of up to 128 characters (all characters except ';', ' ', '?')
ip <ip-address>	This specifies the IP address of the remote host to which the file is to be uploaded. **Type:** Mandatory **Valid values:** Any valid IP address
mode tftp | ftp	This specifies the protocol to be used for uploading the file. Currently, only TFTP is supported. **Type:** Optional **Valid values:** TFTP

Example:

$ upload src /nvram/system/primcfg dest myconfig.cfg ip 198.168.1.1

Output:

Verbose Mode On
Uploading The Code File. . .
Upload Completed
Verbose Mode Off
Uploading The Code File. . .
Upload Completed

Output Fields:

None

Caution:

Ensure that the TFTP server is running on the remote host.

References:

Commit command

5.28.2 Other Commands

Description:
Use this command to create an alias for any CLI command. You can later call this command by using the alias-string along with any additional parameters, which you need to specify. It will display a list of all the aliases currently defined if no parameter is given.

Command Syntax:
alias [alias-string = aliased-command]

Parameters:

Name	Description
alias-string	The string, which you will use to refer to the aliased command, henceforth. It should not match any CLI keyword. **Type:** Optional **Valid values:** string of up to 14 characters ('A'-'Z', 'a'-'z', '0'-'9', '-', '_')
aliased-command	This is the total CLI command length (512 characters). **Type:** Mandatory **Valid values:** Any string (all printable characters except ';') as long as the total CLI Command length is not exceeded.

Mode:
Super-User, User

Output:
With Parameters
$alias abc = modify nbsize
Set Done
$abc maxatmport 48
Set Done

Without Parameters
$alias
Alias Command
---
abc modify nbsize

Output Fields:

FIELD	Description
Alias	This is the new abbreviated command, which you may use in place of the string specified in Command.
Command	The command string which has been aliased.

References:
Unalias command

5.28.2.1 Unalias

Description:
Use this command to delete an alias. Either a particular alias or all aliases can be removed using this command.

Command Syntax:
unalias [all | <name>]

Parameters:

Name	Description
all	Using this option all the aliases defined in the system will be removed. **Type:** Optional **Valid values:** String ìALL.î
Name	Name of the alias defined for a command. **Type:** Optional. **Valid values:** Any valid alias defined in the system.

Mode:
Super-User, User

Example :
Unalias abc

Output:
Entry Deleted

Output Fields:
None

5.28.2.2 Help

Description:
Use this command for a listing of all the user inputs permissible at the point. In case Help is asked for, as a parameter of any incomplete command, then it displays a list of all the pending/Extra parameters input by the user. In all other cases, the next set of permissible keywords required in order to shortlist a command, is displayed. The Incomplete Command keyed in by the user is made available again, after help is dispalyed.

Command Syntax:
help |? or <**Any Incomplete Command**>?

Mode:
Super-User, User

Example:

```
$help
Command            Description
-------          -----------
alias              To Alias a command
commit              Commit the active config to the flash
create             Create a new entry of specified type
delete             Delete the specified entry
.
.
$delete ?
Command            Description
-------          -----------
arp                IP Net To Media Table
atm                ATM Commands
bridge             Bridge Commands
dhcp               DHCP Commands
.
.
$delete atm ?
Command            Description
-------          -----------
port               ATM port commands
vc intf            ATM VC Interface commands
```

Output Fields:
None

Caution:
Currently help is not available between a parameter name and its value.

5.28.2.3 Logout

Description:
Use this command to exit from the CLI shell.

Command Syntax:
logout | quit | exit

5.28.2.4 Prompt

Description:
Use this command to set the new CLI prompt.

Command Syntax:
prompt <new-prompt>

Parameters:

Name	Description
prompt <new-prompt>	The new prompt string. **Type**: Mandatory **Valid values:** String of up to 19 characters (All characters except ';', ' ', '?')

Mode :
Super-User, User

Example :
$ prompt $$$

Output:
Set Done
$$$

Output Fields:
None

Caution:

None. The modified prompt is not saved across a reboot.

5.28.2.5 Traceroute

Description:

This command is used to trace the route to the specified destination.

Command Syntax:

traceroute {**ip** <ip-address> | **dname** <domain-name>} {**ping | udp**} [**-m** <num-of-hops>] [**-w** <wait-time>] [**-p** <udp-port-number>] [**-q** <numof-probes>]

Parameters:

Name	Description
ip-address | dname <domain-name>	This specifies the Destination address to be pinged. **Type**: Mandatory **Valid values** : Any Valid IP Address (0.0.0.0 – 255.255.255.255) or Domain Name (String of Max 63 characters (‘a’-‘z’, ’A’-‘Z’, ’0’-‘9’, ’-‘, ’_’and ‘.‘)
Ping | udp	Traceroute probe message type **Type**: Mandatory
-m <num-of-hops>	Maximum number of hops to search for ip-address **Type**: Optional **Valid Values:** 0-255 **Default Value :** 30
-w <wait-time>	This specifies the timeout in seconds **Type**: Optional **Valid values** : 0-65535 **Default Value :** 5
-p <udp-port-number>	Destination UDP port to be used, only when Probe is Udp **Type**: Optional. **Valid Values:** 0-65535 **Default Value :** 32768
-q <num-of-probes>	Number of probes to be sent for each TTL value **Type**: Optional **Valid Values:** 0-255 **Default Value :** 3

Example:

$ traceroute 192.168.1.13 ping

Output:

Tracing route to [192.168.1.13]

Over a maximum of 30 hops

1 0.000000 ms 0.000000 ms 0.000000 ms 192.168.1.13

Trace complete.

Output Fields:

FIELD	Description
1	This denotes the hop counter value.
2-4	These are the Round trip timings of the 3 probe packets sent. A * denotes that this probe was missed.
5	This is the ip address of the intermediate/destination node.

References:

ping command.

5.28.2.6 Verbose

Description:

Using this command, a user can view the status of entries before and after the execution of a command (create, delete, modify,get). However if this mode is turned off, then display only shows the final result of execution of command, i.e. whether it was successful or failure.

Command Syntax:

Verbose [on | off]

Parameters:

Name	Description
On	Used for switching on the verbose mode. **Type:** Optional **Valid values:** On.
Off	Used for switching off the verbose mode. **Type:** Optional. **Valid values:** Off

Mode:

Super-User

```
verbose off

create user name admin passwd admin root

create dsl system

create ethernet intf ifname eth-1 ip 192.168.100.111 mask 255.255.255.0
create bridge port intf portid 385 ifname eth-1 status enable

create ethernet intf ifname eth-3 ip 192.168.1.1 mask 255.255.255.0

modify bridge mode enable

create atm port ifname atm-1 lowif dsl-1
create atm vc intf ifname aal5-1 lowif atm-1 vpi 8 vci 81
create eoa intf ifname eoa-1 lowif aal5-1
create bridge port intf ifname eoa-1    portid 1 learning enable status enable

create atm port ifname atm-2 lowif dsl-2
create atm vc intf ifname aal5-2 lowif atm-2 vpi 8 vci 81
create eoa intf ifname eoa-2 lowif aal5-2
create bridge port intf ifname eoa-2    portid 2 learning enable status enable

create atm port ifname atm-3 lowif dsl-3
create atm vc intf ifname aal5-3 lowif atm-3 vpi 8 vci 81
create eoa intf ifname eoa-3 lowif aal5-3
create bridge port intf ifname eoa-3    portid 3 learning enable status enable

create atm port ifname atm-4 lowif dsl-4
create atm vc intf ifname aal5-4 lowif atm-4 vpi 8 vci 81
create eoa intf ifname eoa-4 lowif aal5-4
create bridge port intf ifname eoa-4    portid 4 learning enable status enable

create atm port ifname atm-5 lowif dsl-5
create atm vc intf ifname aal5-5 lowif atm-5 vpi 8 vci 81
create eoa intf ifname eoa-5 lowif aal5-5
create bridge port intf ifname eoa-5    portid 5 learning enable status enable
```

```
create atm port ifname atm-6 lowif dsl-6
create atm vc intf ifname aal5-6 lowif atm-6 vpi 8 vci 81
create eoa intf ifname eoa-6 lowif aal5-6
create bridge port intf ifname eoa-6    portid 6 learning enable status enable

create atm port ifname atm-7 lowif dsl-7
create atm vc intf ifname aal5-7 lowif atm-7 vpi 8 vci 81
create eoa intf ifname eoa-7 lowif aal5-7
create bridge port intf ifname eoa-7    portid 7 learning enable status enable

create atm port ifname atm-8 lowif dsl-8
create atm vc intf ifname aal5-8 lowif atm-8 vpi 8 vci 81
create eoa intf ifname eoa-8 lowif aal5-8
create bridge port intf ifname eoa-8    portid 8 learning enable status enable

create atm port ifname atm-9 lowif dsl-9
create atm vc intf ifname aal5-9 lowif atm-9 vpi 8 vci 81
create eoa intf ifname eoa-9 lowif aal5-9
create bridge port intf ifname eoa-9    portid 9 learning enable status enable

create atm port ifname atm-10 lowif dsl-10
create atm vc intf ifname aal5-10 lowif atm-10 vpi 8 vci 81
create eoa intf ifname eoa-10 lowif aal5-10
create bridge port intf ifname eoa-10    portid 10 learning enable status enable

create atm port ifname atm-11 lowif dsl-11
create atm vc intf ifname aal5-11 lowif atm-11 vpi 8 vci 81
create eoa intf ifname eoa-11 lowif aal5-11
create bridge port intf ifname eoa-11    portid 11 learning enable status enable

create atm port ifname atm-12 lowif dsl-12
create atm vc intf ifname aal5-12 lowif atm-12 vpi 8 vci 81
create eoa intf ifname eoa-12 lowif aal5-12
create bridge port intf ifname eoa-12    portid 12 learning enable status enable

create atm port ifname atm-13 lowif dsl-13
create atm vc intf ifname aal5-13 lowif atm-13 vpi 8 vci 81
create eoa intf ifname eoa-13 lowif aal5-13
create bridge port intf ifname eoa-13    portid 13 learning enable status enable

create atm port ifname atm-14 lowif dsl-14
```

create atm vc intf ifname aal5-14 lowif atm-14 vpi 8 vci 81
create eoa intf ifname eoa-14 lowif aal5-14
create bridge port intf ifname eoa-14 portid 14 learning enable status enable

create atm port ifname atm-15 lowif dsl-15
create atm vc intf ifname aal5-15 lowif atm-15 vpi 8 vci 81
create eoa intf ifname eoa-15 lowif aal5-15
create bridge port intf ifname eoa-15 portid 15 learning enable status enable

create atm port ifname atm-16 lowif dsl-16
create atm vc intf ifname aal5-16 lowif atm-16 vpi 8 vci 81
create eoa intf ifname eoa-16 lowif aal5-16
create bridge port intf ifname eoa-16 portid 16 learning enable status enable

create atm port ifname atm-17 lowif dsl-17
create atm vc intf ifname aal5-17 lowif atm-17 vpi 8 vci 81
create eoa intf ifname eoa-17 lowif aal5-17
create bridge port intf ifname eoa-17 portid 17 learning enable status enable

create atm port ifname atm-18 lowif dsl-18
create atm vc intf ifname aal5-18 lowif atm-18 vpi 8 vci 81
create eoa intf ifname eoa-18 lowif aal5-18
create bridge port intf ifname eoa-18 portid 18 learning enable status enable

create atm port ifname atm-19 lowif dsl-19
create atm vc intf ifname aal5-19 lowif atm-19 vpi 8 vci 81
create eoa intf ifname eoa-19 lowif aal5-19
create bridge port intf ifname eoa-19 portid 19 learning enable status enable

create atm port ifname atm-20 lowif dsl-20
create atm vc intf ifname aal5-20 lowif atm-20 vpi 8 vci 81
create eoa intf ifname eoa-20 lowif aal5-20
create bridge port intf ifname eoa-20 portid 20 learning enable status enable

create atm port ifname atm-21 lowif dsl-21
create atm vc intf ifname aal5-21 lowif atm-21 vpi 8 vci 81
create eoa intf ifname eoa-21 lowif aal5-21
create bridge port intf ifname eoa-21 portid 21 learning enable status enable

create atm port ifname atm-22 lowif dsl-22
create atm vc intf ifname aal5-22 lowif atm-22 vpi 8 vci 81

create eoa intf ifname eoa-22 lowif aal5-22
create bridge port intf ifname eoa-22 portid 22 learning enable status enable

create atm port ifname atm-23 lowif dsl-23
create atm vc intf ifname aal5-23 lowif atm-23 vpi 8 vci 81
create eoa intf ifname eoa-23 lowif aal5-23
create bridge port intf ifname eoa-23 portid 23 learning enable status enable

create atm port ifname atm-24 lowif dsl-24
create atm vc intf ifname aal5-24 lowif atm-24 vpi 8 vci 81
create eoa intf ifname eoa-24 lowif aal5-24
create bridge port intf ifname eoa-24 portid 24 learning enable status enable

create filter rule entry ruleid 1 action sendtocontrol description IGMP
create filter subrule ip ruleid 1 subruleid 1 prototypefrom 2 prototypecmp eq
modify filter rule entry ruleid 1 status enable

create filter rule map ruleid 1 ifname eth-1 stageid 1

create filter rule map ruleid 1 ifname eoa-1 stageid 1
create filter rule map ruleid 1 ifname eoa-2 stageid 1
create filter rule map ruleid 1 ifname eoa-3 stageid 1
create filter rule map ruleid 1 ifname eoa-4 stageid 1
create filter rule map ruleid 1 ifname eoa-5 stageid 1
create filter rule map ruleid 1 ifname eoa-6 stageid 1
create filter rule map ruleid 1 ifname eoa-7 stageid 1
create filter rule map ruleid 1 ifname eoa-8 stageid 1
create filter rule map ruleid 1 ifname eoa-9 stageid 1
create filter rule map ruleid 1 ifname eoa-10 stageid 1
create filter rule map ruleid 1 ifname eoa-11 stageid 1
create filter rule map ruleid 1 ifname eoa-12 stageid 1
create filter rule map ruleid 1 ifname eoa-13 stageid 1
create filter rule map ruleid 1 ifname eoa-14 stageid 1
create filter rule map ruleid 1 ifname eoa-15 stageid 1
create filter rule map ruleid 1 ifname eoa-16 stageid 1
create filter rule map ruleid 1 ifname eoa-17 stageid 1
create filter rule map ruleid 1 ifname eoa-18 stageid 1
create filter rule map ruleid 1 ifname eoa-19 stageid 1
create filter rule map ruleid 1 ifname eoa-20 stageid 1
create filter rule map ruleid 1 ifname eoa-21 stageid 1
create filter rule map ruleid 1 ifname eoa-22 stageid 1

create filter rule map ruleid 1 ifname eoa-23 stageid 1
create filter rule map ruleid 1 ifname eoa-24 stageid 1

modify igmpsnoop port info portid 385 status enable

modify igmpsnoop port info portid 1 status enable
modify igmpsnoop port info portid 2 status enable
modify igmpsnoop port info portid 3 status enable
modify igmpsnoop port info portid 4 status enable
modify igmpsnoop port info portid 5 status enable
modify igmpsnoop port info portid 6 status enable
modify igmpsnoop port info portid 7 status enable
modify igmpsnoop port info portid 8 status enable
modify igmpsnoop port info portid 9 status enable
modify igmpsnoop port info portid 10 status enable
modify igmpsnoop port info portid 11 status enable
modify igmpsnoop port info portid 12 status enable
modify igmpsnoop port info portid 13 status enable
modify igmpsnoop port info portid 14 status enable
modify igmpsnoop port info portid 15 status enable
modify igmpsnoop port info portid 16 status enable
modify igmpsnoop port info portid 17 status enable
modify igmpsnoop port info portid 18 status enable
modify igmpsnoop port info portid 19 status enable
modify igmpsnoop port info portid 20 status enable
modify igmpsnoop port info portid 21 status enable
modify igmpsnoop port info portid 22 status enable
modify igmpsnoop port info portid 23 status enable
modify igmpsnoop port info portid 24 status enable

verbose on

end

PropMib (Conexant)

- GSV-ABOND-MIB.mib
- GSV-ACL-MIB.mib
- GSV-ACT-STDBY-MIB.mib
- GSV-ADMIN-MIB.mib
- GSV-AGGR-MIB.mib
- GSV-ATM-MIB.mib
- GSV-BRIDGE-MIB.mib
- GSV-CLFR-MIB.mib
- GSV-CTLPKT-MIB.mib
- GSV-EHDLC-MIB.mib
- GSV-ENTERPRISE-INFO-MIB.mib
- GSV-ETHER-MIB.mib
- GSV-GENFLTR-MIB.mib
- GSV-IA-MIB.mib
- GSV-IGMP-MIB.mib
- GSV-IPOA-IPOE-MIB.mib
- GSV-IRL-MIB.mib
- GSV-LACP-MIB.mib
- GSV-PPPoE-MIB.mib
- GSV-PPPR-MIB.mib
- GSV-RDNCY-AGG-MIB.mib
- GSV-RL-MIB.mib
- GSV-SCHD-PRFL-MIB.mib
- GSV-SNTP-MIB.mib
- GSV-SYS-MIB.mib
- GSV-TC-MIB.mib
- GSV-TRAP-MIB.mib
- GSV-TRFCLASS-MIB.mib
- GSV-TRFCLASS-STATS-MIB.mib
- GSV-VC-AGGR-MIB.mib
- GSV-VMAC-MIB.mib

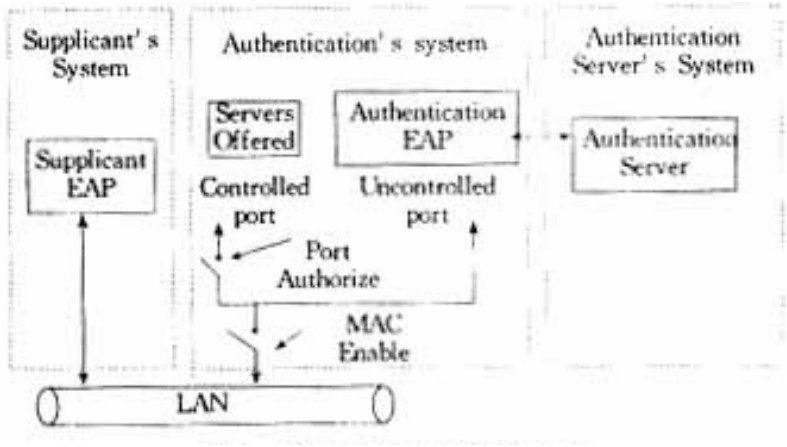
StdMib (Standard)

- ADSL-DMT-LINE-MIB.mib
- ADSL-TC-MIB
- ATM-TC-MIB
- draft-ietf-atommib-atm2-17
- draft-ietf-bridge-bridgemib-smiv2-02
- draft-ietf-bridge-ext-v2-00
- draft-ietf-bridge-ext-v2-01
- EtherLike-MIB
- HCNUM-TC
- HC-PerfHist-TC-MIB
- IANAifType-MIB.mib
- IEEE8023-LAG-MIB
- IF-MIB
- IP-MIB
- PerfHist-TC-MIB
- Q-BRIDGE-MIB
- RFC1213-MIB
- rfc2515
- rfc2662
- rfc2665
- rfc3440
- RMON2-MIB.mib
- RMON-MIB
- SNMP-FRAMEWORK-MIB
- SNMPv2-MIB
- SNMPv2-SMI
- SNMPv2-TC
- TOKEN-RING-RMON-MIB.mib
- VDSL-LINE-EXT-MCM-MIB
- VDSL-LINE-MIB.txt

Appendix C --- IEEE 802.1x protocol over IP DSLAM

Understanding How 802.1X Authentication Works

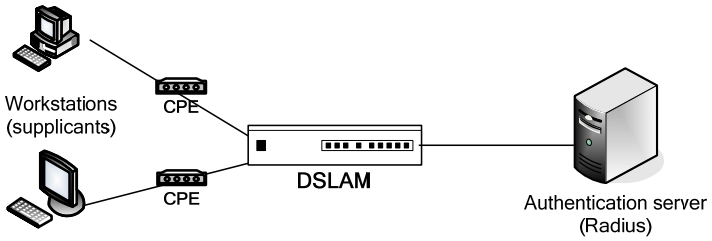
IEEE 802.1X is a client-server-based access control and authentication protocol that restricts unauthorized devices from connecting to a local area network (LAN) through publicly accessible ports. 802.1X authenticates each user device that is connected to a switch port before making available any services that are offered by the switch or the LAN. Until the device is authenticated, 802.1X access control allows only Extensible Authentication Protocol over LAN (EAPOL) traffic through the port to which the device is connected. After authentication is successful, normal traffic can pass through the port.



802.1X controls network access by creating two distinct virtual access points at each port (See Above Figure). One access point is an uncontrolled port; the other is a controlled port. All traffic through the single port is available to both access points. Only EAPOL traffic is allowed to pass through the uncontrolled port, which is always open. The controlled port is open only when the device that is connected to the port has been authorized by 802.1X. After this authorization takes place, the controlled port opens, allowing normal traffic to pass.

Device Roles

With 802.1X port-based authentication, the devices in the network have specific roles. (See below figure).



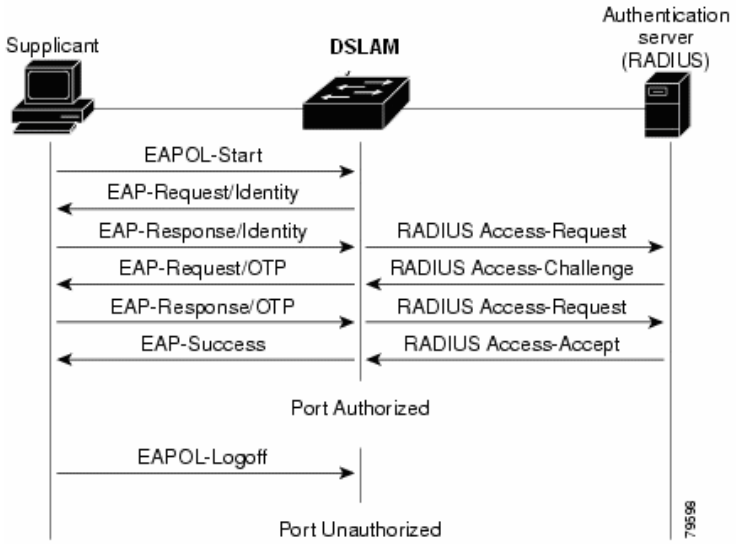
- Supplicant—Requests access to the LAN and switch services and responds to requests from the switch. The workstation must be running 802.1X-compliant software.
- Authentication server—performs the actual authentication of the host. The authentication server validates the identity of the host and notifies the DSLAM whether or not the host is authorized to access the LAN and DSLAM services. Because the DSLAM acts as the proxy, the authentication service is transparent to the host. In this release, the Remote Authentication Dial-In User Service (RADIUS) security system with Extensible Authentication Protocol (EAP) extensions is the only supported authentication server; it is available in Cisco Secure Access Control Server version 3.0. RADIUS operates in a client/server model in which secure authentication information is exchanged between the RADIUS server and one or more RADIUS clients.
- DSLAM (Authenticator)—Controls the physical access to the network that is based on the authentication status of the host. The DSLAM acts as an intermediary (proxy) between the host and the authentication server, requesting identity information from the host, verifying information with the authentication server, and relaying a response to the host. The DSLAM interacts with the RADIUS client. The RADIUS client encapsulates and decapsulates the EAP frames and interacts with the authentication server.
- When the DSLAM receives Extensible Authentication Protocol over LAN (EAPOL) frames and relays them to the authentication server, the Ethernet header is stripped and the remaining EAP frame is reencapsulated in the RADIUS format. The EAP frames are not modified or examined during encapsulation, and the authentication server must support EAP within the native frame format. When the DSLAM receives the frames from the authentication server, the server's frame header is removed, leaving the EAP frame, which is then encapsulated for Ethernet and sent to the host.

Authenticcation Initiation and Message Exchange

The host initiate authentication by sending an EAPOL-start frame, which prompts the DSLAM to request the host's identity.

When the host supplies its identity, the DSLAM acts as the intermediary, pass EAP frames between the host and the authentication server until authentication succeeds or fails. If the authentication succeeds, the DSLAM port becomes authorized.

The specific exchange of EAP frames depends on the authentication method that is being used. The below fiugre shows a message exchange that is initiated by the host using the One-Time-Password (OTP) authentication method with a RADIUS server.



Specifying RADIUS Servers

To specify one or more RADIUS servers, perform this task in privileged mode:

	Task	Command
Step 1	Specify the IP address of up to three RADIUS servers. Specify the primary server using the **primary** keyword. Optionally, specify the destination UDP port to use on the server.	**create radius server** ip_addr [**acct-port** port_number] [**primary**]
Step 2	Verify the RADIUS server configuration.	**get radius**

Specifying the RADIUS Key

Use the RADIUS key to encrypt and authenticate all communication between the RADIUS client and server. You must configure the same key on the client and the RADIUS server.

The length of the key is limited to 65 characters. It can include any printable ASCII characters except tabs.

To specify the RADIUS key, perform this task in privileged mode:

	Task	Command
Step 1	Specify the RADIUS key that is used to encrypt packets that are sent to the RADIUS server.	**create radius key** *key*
Step 2	Verify the RADIUS configuration.	**get radius**

Configuring 802.1X Authentication

The following sections describe how to configure 802.1X authentication on the switch.

Enabling 802.1X globally

You must enable 802.1X authentication for the entire system.

To globally enable 802.1X authentication, perform this task in privileged mode:

Task	Command
Globally enable 802.1X.	**create dot1x system-auth-control enable**

Disabling 802.1X globally

When you enable 802.1X authentication for the entire system, you can disable it globally.

To globally disable 802.1X authentication, perform this task in privileged mode:

Task	Command
Globally disable 802.1X.	**Create dot1x system-auth-control disable**

Enabling and Initializing 802.1X Authentication Individual Ports

After you enable 802.1X authentication globally, you can enable and initialize 802.1X authentication from the console only for individual ports.

To enable and initialize 802.1X authentication for access to the switch, perform this task in privileged mode:

	Task	Command
Step 1	Enable 802.1X control on a specific port.	**create port dot1x** *mod/port* **port-control auto**
Step 2	Initialize 802.1X on the same port.	**Create port dot1x** *mod/port* **initialize**
Step 3	Verify the 802.1X configuration.	**get port dot1x** *mod/port*

Enabling Multiple Hosts

You can enable a specific port to allow multiple users. When a port is enabled for multiple users, and a host that is connected to that port is authorized successfully, any host (with any MAC address) is allowed to send and receive traffic on that port. If you connect multiple hosts to that port through a hub, you can reduce the security level on that port.

To enable access for multiple users on a specific port, perform this task in privileged mode:

Task	Command
Enable multiple hosts on a specific port.	**create port dot1x** mod/port **multiple-host enable**

Disabling Multiple Hosts

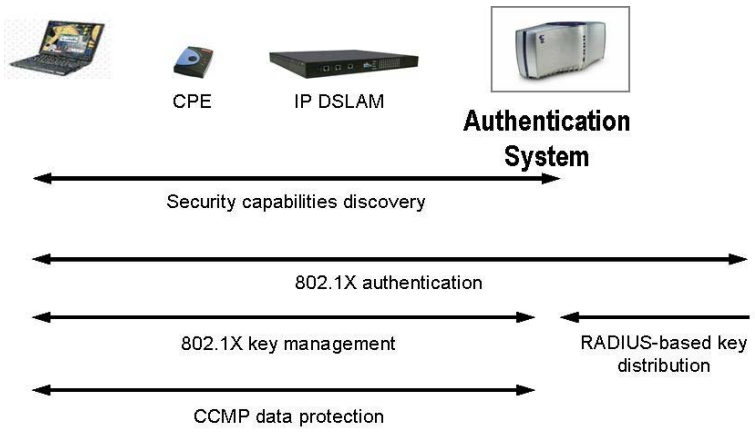
You must disable access for multiple users on any port where it is enabled.

To disable access for multiple users on a specific port, perform this task in privileged mode:

Task	Command
Disable multiple hosts on a specific port.	**create port dot1x** *mod/port* **multiple-host disable**

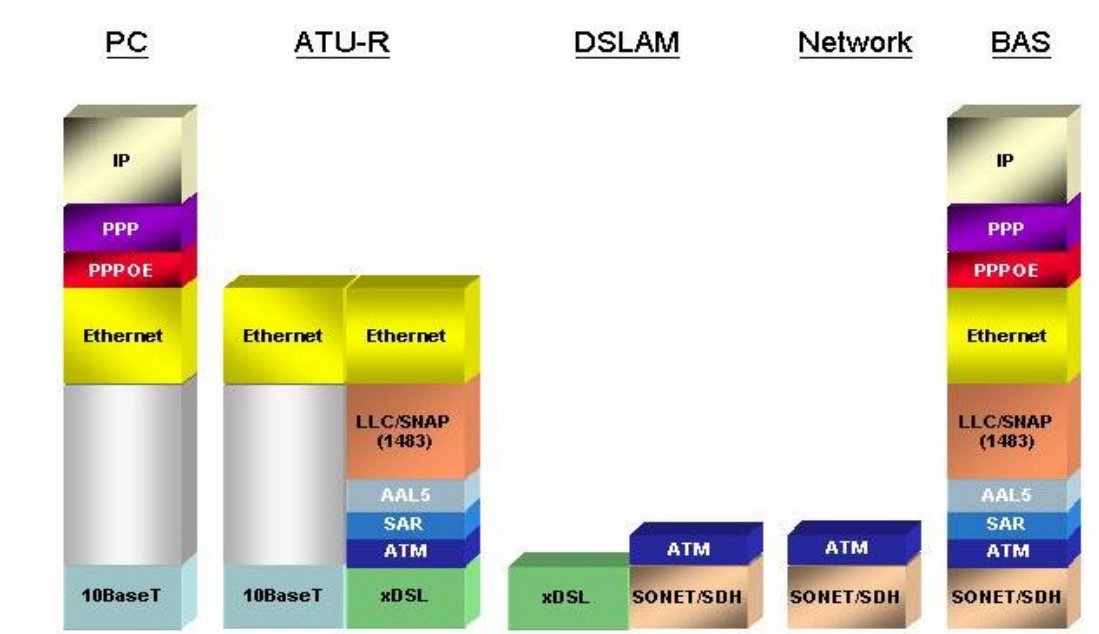
802.1X Protocol over IP DSLAM

In 802.1x application, the IP DSLAM acts as the pure Ethernet packets transport system. The 802.1x packets pass through the IP DSLAM without further operation (see below figure)



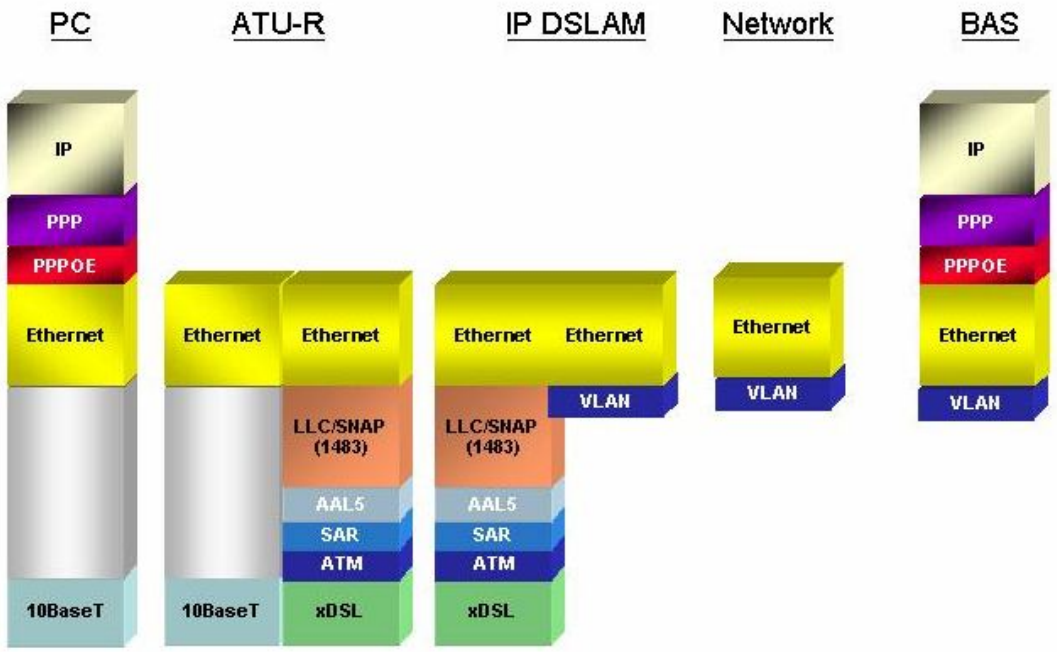
Appendix D --- What's IP DSLAM

DSLAM and IP DSLAM in PPPoE application sample.



As above Figure displays, in traditional ATM-based ADSL network, the user application information is encapsulated by ADSL CPE into ATM cells in pre-defined VC (Virtual Channel, PVC), and then upstream the ATM cells to DSLAM via ADSL link. (In this example, the user information (PPPoE encapsulated) is encapsulated by ATU-R using RFC-1483 Bridge-mode encapsulation format.).

All the ATM cells belong to the specified VC is concentrated by the DSLAM, and switched in the ATM network clouds, to the defined destination (ISPs or Offices), at there the ATM cells and PPPoE frames is resolved by the Broadband Access Server, and the user application information is serviced.



In addition to traditional ATM-based ADSL network. As above Figure displays, the user application information is still encapsulated by ADSL CPE into ATM cells in pre-defined VC (Virtual Channel, PVC), and then upstream the ATM cells to DSLAM via ADSL link.

In the IP DSLAM, all the ATM cells belong to the specified VC are decapsulated back to the original PPPoE encapsulated Ethernet packet (if VLAN-mode of the specified ADSL port is disabled), or mapped to the pre-defined Ethernet-VLAN packets (if VLAN-mode of the specified ADSL port is enabled). IP DSLAM concentrates all Ethernet-with/without VLAN-tag packets from 24/48 ports' ADSL and uplinks to ISP's Ethernet-All-The-Way network. The PPPoE frames will be resolved at Broadband Access Server (BAS), and the user application information was serviced.

The IP DSLAM supports ADSL CPE Bridge-mode. For future FW upgrade, the IP DSLAM can act as BRAS to process user application information directly.

IP DSLAM provides Ethernet-with/without VLAN tag to ATM-PVC mapping feature for the ISP to isolate user's data with security and to provide lots of service enhancement capabilities. IP DSLAM supports 8 ATM PVC links for each CPE.