

# ADSL2/2+ IP DSLAM

*User's Manual*

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First Edition (February 2005)

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Version 1.3



RECYCLABLE

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## About This Manual

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### Audience

This book is intended for anyone who installs, manages, and configures the ADSL2/2+ IP DSLAM via CID/RS-232 or Telnet/Ethernet CLI command interface. The ADSL2/2+ IP DSLAM is a standalone IP-based DSLAM which can concentrate and manage 48 or 24 ADSL ports, according to different model.

You must have a basic understanding of ADSL2/2+ and Layer 2 concentrator related technologies, be knowledgeable about data communications, and familiar with VT-100 terminal emulation tools.

### Purpose

This book describes how to install, manage, and configure the ADSL2/2+ IP DSLAM system via CLI command Line interface through CID/RS-232 interface or Telnet/Ethernet interface.

### Organization

This book provides task-based instructions for installing and using the CLI interface to configure and administrate the ADSL2/2+ IP DSLAM System.

The manual is organized as follows:

Chapter	Title & Description
1	<b>Introduction</b> Provides an overview of ADSL2/2+ IP DSLAM System, including features, fuctions, and applications of the ADSL2/2+ IP DSLAM.
2	<b>Getting Started</b> Presents platform and system requirements as well as procedures and instructions for installing the ADSL2/2+ IP DSLAM.
3	<b>EMS Configuration</b> Describes how to build up the EMS environment.
4	<b>Manage the ADSL2/2+ IP DSLAM</b> Describes how to manage a specified ADSL2/2+ IP DSLAM via EMS.
5	<b>System Administration with CLI</b> Provides all the instructions and procedures necessary for you to Administer your ADSL2/2+ IP DSLAM with CLI interface.
6	<b>Frequently Used CLI Examples</b> help users to be familiar with frequently used CLI commands
Appendix A	Describes the pin assignment for ADSL2/2+ IP DSLAM

## Document Conventions

Commands descriptions use these conventions:

[ ]	Elements in square brackets are optional
< >	Essential values
< x   y   z >	Alternative keywords are grouped in < > and separated by vertical bars

Others

Note	Means reader take note. Notes contain helpful suggestions.
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## What's the difference between ATM based DSLAM and IP based DSLAM?

Fig 0-1 & Fig 0-2 display the differences between traditional ATM-based DSLAM and ADSL2/2+ IP DSLAM in PPPoE application sample.

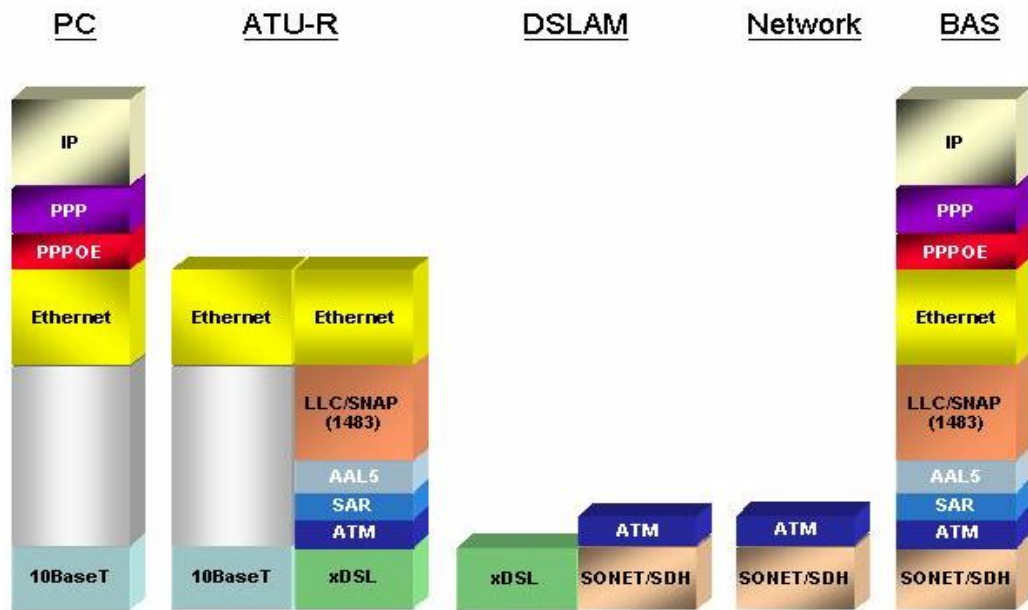


Figure 0-1 PPPoE application in Traditional ATM-based ADSL Network

As Fig 0-1 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.

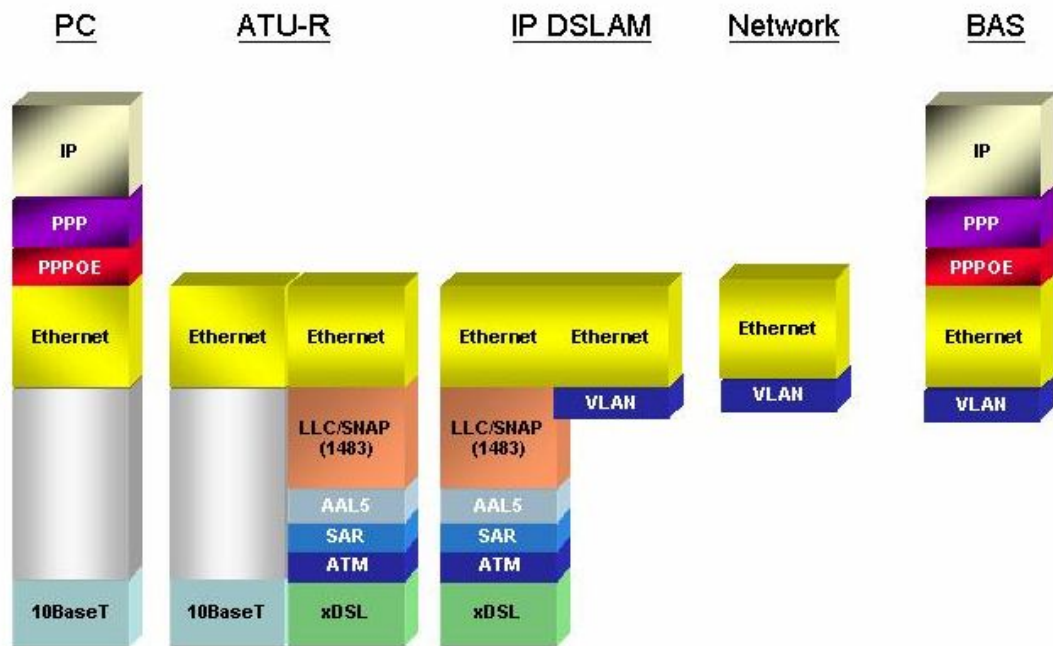


Figure 0-2 PPPoE application in ADSL2/2+ IP DSLAM with Ethernet-All-The-Way Network

In addition to traditional ATM-based ADSL network. As Fig 0-2 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 ADSL2/2+ 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). ADSL2/2+ IP DSLAM concentrates all Ethernet-with/without VLAN-tag packets from 48/24 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 ADSL2/2+ IP DSLAM supports ADSL CPE Bridge-mode. For future FW upgrade, the ADSL2/2+ IP DSLAM can act as BRAS to process user application information directly.

ADSL2/2+ 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. ADSL2/2+ IP

DSLAM supports 8 ATM PVC links for each ADSL/ADSL2/2+ CPE.

# 1

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## Introduction

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### 1.1 General

This chapter will help you understand the function and application of your ADSL2/2+ IP DSLAM. It covers

- **ADSL2/2+ IP DSLAM Overview**

This section describes the overview of your ADSL2/2+ IP DSLAM. The ADSL2/2+ IP DSLAM is cost effective solution for you to complete immediate implementation of multiple of services in private and public networks.

- **ADSL2/2+ IP DSLAM Application**

ADSL2/2+ IP DSLAM can be applied in MTU/MDU/MHU and Ethernet-all-the-way application.

- **ADSL2/2+ IP DSLAM Features**

This section describes the features of ADSL2/2+ IP DSLAM and its specification.

## 1.2 ADSL2/2+ IP DSLAM Overview

Using the latest xDSL technology, **ADSL2/2+ IP DSLAM** offers Internet service providers a very cost-effective solution for immediate implementation of multiple services in private and public networks. Currently, according to different port density, there are 2 models available: 48-port and 24-port. User can deploy different ADSL2/2+ IP DSLAM to satisfy their application requirements.

ADSL2/2+ IP DSLAM it acts as a standalone IP-based DSLAM, which can concentrate and manage up to 48/24 ADSL/ADSL2/2+ lines. User can use local RS-232 CID and/or remote TELNET/SNMP to manage the ADSL2/2+ IP DSLAM directly.

Since the ATM backbone coverage is not so general in the real broadband network environment. Instead of traditional DSLAM system provides ATM uplink interface, the ADSL2/2+ IP DSLAM concentrates 48/24 ports of the ATM over ADSL traffic which is encapsulated by ADSL CPEs, and maps each user's ata encapsulated in ATM-PVC to Ethernet-with/without VLAN-tag packet (depends on the VLAN was enabled or not for the specified ATM ports), and then uplink to Telco or ISP directly, User can enable VLAN-PVC mapping capability for each ADSL/ADSL2/2+ port independently. The ADSL2/2+ IP DSLAM acts as bridge for the ADSL/ADSL2/2+ ports without enabling the VLAN-PVC mapping feature. ADSL2/2+ IP DSLAM provides both Ethernet-VLAN and non-VLAN to ATM-PVC mapping feature and bridge mode for the ISP to isolate user's data with security and to provide lots of service enhancement capabilities. ADSL2/2+ IP DSLAM supports 8 ATM PVC links for each ADSL/ADSL2/2+ CPE. Following figures are front view of 48-port and 24-port models.



Figure 1-1 48-port model front view





Figure 1-2 24-port model front view

As Fig 1-1 and 1-2 display, in the front view of ADSL2/2+ IP DSLAM, there are several LEDs to indicate current system and link status and one replaceable uplink/downlink module with three Giga TX/LX Ethernet interfaces for uplink, downlink, and local management.

Through the uplink Ethernet, the ADSL2/2+ IP DSLAM can be stacked and managed via SNMP as one entity.

As Fig 1-3 and 1-4 displays, in the rear-panel, there is one power adaptor, both -42V ~ -56V DC or 90V ~ 240V AC power module can be selected. For 48-port model, there are two sets of DSL & POTS 50-pin Centronic connectors. Each set provides 24-port with built-in POTS-splitter ADSL/ADSL2/2+ module, totally 48 ADSL/ADSL2/2+ CPE users supported in one ADSL2/2+ IP DSLAM.



Figure 1-3 48-port model rear View

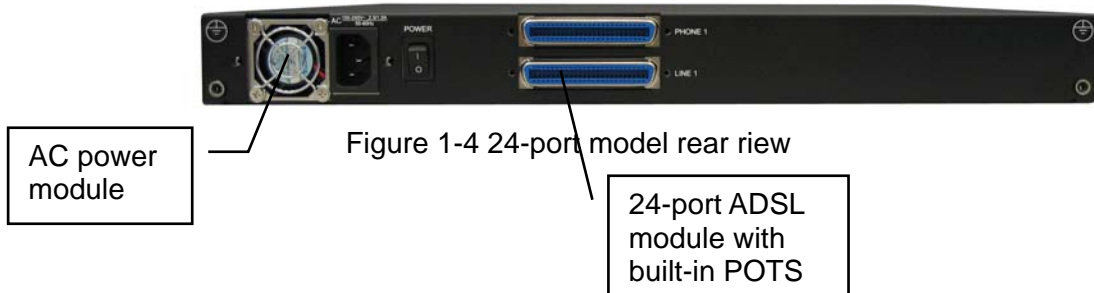


Figure 1-4 24-port model rear view

Fig 1-5 displays the LED identification of ADSL2/2+ IP DSLAM, and Table-1 describes its color definition and status description.



Figure 1-5 ADSL2/2+ IP DSLAM LED Identification

Table 1-1 ADSL2/2+ IP DSLAM LED Description

<LED ID>	Color	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).
100/Act	Green/ Blinking	Blink when information is transmitted through 100Mbps MGNT Ethernet interface.
1000/ACT	Green/ Blinking	Blink when information is transmitted through 1000 Mbps uplink Ethernet interface.
GIGA	Green/ Blinking	Blink when information is transmitted through 1000FX uplink Ethernet interface.
ACT	Green/ Blinking	Giga uplink is activated.
ADSL1 – ADSL48	Green/ Orange/ No Light Red	Lit Solid Green when ADSL link is in active state; when the specified ADSL link is in connection training state; LED off when ADSL link is not in service Lit Red when loss of signal occurs.

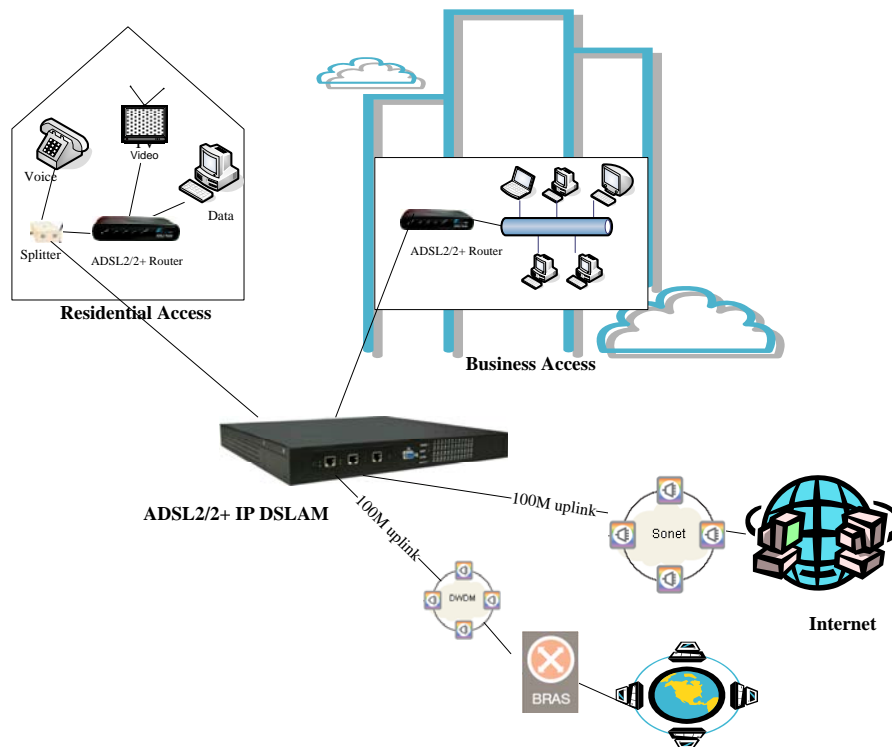
**Note:** Do not power off your ADSL2/2+ IP DSLAM when LEDs “MAINT”, “ALARM” and “FAULT” are blinking simultaneously.

The replaceable 10/100/1000BaseT or FX uplink/subtend module design provides the flexibility of the network implementation. Up to 8 IP DSLAMs can be cascaded and managed as one unit

LAN Side (Uplink or Extension Side)	
	1*1000BaseT-MGNT + 2*1000BaseT
	1*1000BaseT-MGNT+1*1000BaseT+ 1*1000Fx(SX/LX)

### 1.3 ADSL2/2+ IP DSLAM Application

As the following figure shown, ADSL2/2+ IP DSLAM is equipped with 48 or 24 ADSL/ADSL2/2+ ports with built-in POTS splitters so that it provides broadband data service over existing copper wires without affecting the conventional voice service. ADSL2/2+ IP DSLAM, therefore, is a perfect solution for both central office co-location and MTU/MHU markets.



## 1.4 ADSL2/2+ IP DSLAM Features

### 1.4.1 Cost Saving Solution for SMB

- ▶ 48/24 ports ADSL/ADSL2/ADSL2+ Subscriber Interface
- ▶ 100/1000BaseT or Fx Uplink/Subtend Interface (module selectable)
- ▶ Build in POTS Splitter
- ▶ Subtending capability allows up to 8 units to be cascaded and managed as one unit

### 1.4.2 Excellent Management with Security



- ▶ Microsoft NT/SNMP-based GUI EMS
- ▶ Local RS-232 CLI, and Ethernet SNMP/TELNET management
- ▶ Remote in-band SNMP/TELNET management
- ▶ 3-level user privilege for system management
- ▶ SNMP v1, v2c, v3
- ▶ Firmware upload/download via FTP or TFTP

### 1.4.3 Advanced Function for Broadband Service Offering



- ▶ IGMP snooping
- ▶ Support up to 8 VCs, 128 MAC address per xDSL ports
- ▶ Support up to 64\*128 MAC address & 2K Multicast MAC address per ADSL2/2+ IP DSLAM system
- ▶ Support 512 VLAN(any value in 4096)
- ▶ Support Static VLAN and Port-based VLAN
- ▶ Configurable packet size (64 to 1536)

- ▶ Security : VLAN filtering, MAC Filtering, IP Filtering, Access Control List by MAC and IP address
- ▶ Spanning Tree (802.1d) compliant
- ▶ Traffic prioritization (802.1p)
- ▶ Uplink Aggregation (802.3ad)
- ▶ Future(SW upgrade) BRAS support 802.1x, DHCP Server & Relay, PPPoE, MPLS, VLAN-based VPN, L3 router feature, L2TP
- ▶ Input Rate Limiting (IRL) on a per-AAL5 interface  
Output Rate Limiting (ORL) on a per ATM-port basis  
Output Rate Limiting (ORL) on a per-Physical Ethernet Interface basis

## 1.5 ADSL2/2+ IP DSLAM Specifications

System Architecture	ADSL/ADSL2/ADSL2+ Interface
<ul style="list-style-type: none"> <li>▶ 48/24 ports ADSL/ADSL2/ADS2+/SHDSL subscriber interface with built-in POTS Splitter</li> <li>▶ One 1000BaseT MGNT+ Two 1000BaseT or one Giga LX Uplink/Subtend Interface (module selectable)</li> <li>▶ Subtending capability allows up to 8 units to be cascaded and managed as one unit</li> <li>▶ Telco-50 pin Centronic connector for ADSL+POTS IN and POTS OUT</li> </ul>	<ul style="list-style-type: none"> <li>▶ Downstream DMT data rate from 32 kb/s up to 25 Mb/s; Upstream DMT data rate from 32 kb/s to 1 Mb/s</li> <li>▶ Comply with ITU G.992.1 (G.DMT),; G.DMT.bis; ITU G.992.2 (G.Lite); ANSI T1.413 issue 2; ITU G.994.1 (G.handshake) for ADSL, G.992.3 for ADSL2, and G.992.5 for ADSL2+</li> <li>▶ Extended power management capabilities to optimize power consumption for each application</li> <li>▶ Maximum reach exceeding 20Kft(6.1Km)</li> </ul>
Protocol Handling Capability	Management
<ul style="list-style-type: none"> <li>▶ 8 VCs per xDSL ports</li> <li>▶ 128 MAC address per xDSL ports</li> <li>▶ 64*128 MAC address</li> <li>▶ 2K Multicast MAC address</li> <li>▶ 512 VLAN(any value in 4096) support</li> <li>▶ Configurable packet size (64 to 1542)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Microsoft NT/SNMP-based GUI EMS</li> <li>▶ Local RS-232 CLI, and Ethernet SNMP/TELNET management</li> <li>▶ Remote in-band SNMP/TELNET management</li> <li>▶ Firmware upload/download via FTP or TFTP</li> <li>▶ SNMP v1, v2c, v3</li> </ul>
LAN Side (Uplink or Extension Side)	
	1* 1000BaseT-MGNT + 2*1000BaseT
	1*1000BaseT-MGNT+1*1000BaseT+ 1*1000Fx(SX/LX/LH/ZX)

## ADSL2/2+ IP DSLAM

	<p>1*10/100BaseT-MGNT+2*100FX(SM/MM)</p>
	<p>1* 10/100BaseT-MGNT + 2*10/100BaseT-UPLINK</p>
<p><b>ATM MIBs</b></p>	<p><b>Private MIBs</b></p>
<ul style="list-style-type: none"> <li>▶ RFC 1514, 2515 DEFINITIONS OF MANAGED OBJECTS FOR ATM MANAGEMENT</li> </ul>	<ul style="list-style-type: none"> <li>▶ ANY SPECIFIC PRIVATE TRAPS</li> </ul>
<p><b>Physical condition</b></p>	<p><b>Protocol</b></p>
<ul style="list-style-type: none"> <li>▶ Dimension: 400mm(D)x440mm(W)x44mm(H)</li> <li>▶ Weight: 6.8kg</li> </ul>	<ul style="list-style-type: none"> <li>▶ STP; IGMP snooping; GMRP; GVRP; LACP; LACP marker; SNMP/UDP/IP/MAC/Ethernet</li> </ul>
<p><b>Power</b></p>	<p><b>Operating Environment</b></p>
<ul style="list-style-type: none"> <li>▶ AC Power: auto ranging 90~240 VAC, 50-60 Hz, IEC connector</li> <li>▶ DC Power: -42~-56 VDC</li> <li>▶ Power Consumption: 150 watts</li> </ul>	<ul style="list-style-type: none"> <li>▶ Operating Temperature: 0°~50 °C, 32°~122 °F</li> <li>▶ Storage Temperature: -30c°~70 °C, -22°~158 °F</li> <li>▶ Humidity: 5% to 90% RH non-condensing</li> </ul>

# 2

## Getting Started

---

### 2.1 General

This chapter provides the installation instruction for the hardware installation and system configuration of your ADSL2/2+ IP DSLAM so that you can start up quickly. It includes the following sections:

▶ **Unpacking your ADSL2/2+ IP DSLAM**

This section describes how to unpacking your ADSL2/2+ IP DSLAM, and part number explanation.

▶ **Hardware Installation**

This section describes the power connection, loop connection and CID connection.

▶ **Ways of management connection**

This section describes how to engage in management connection by CLI and Telnet.

## 2.2 Unpacking your ADSL2/2+ IP DSLAM

This section describes how to unpack your ADSL2/2+ IP DSLAM. For a box of ADSL2/2+ IP DSLAM, there may contain the following materials:

1. ADSL2/2+ IP DSLAM
2. Mounting bracket package
3. RJ-45 Ethernet cable
4. Power cord (AC power module only)
5. RS 232 cable to facilitate the connection between CID and PC
6. CD including user manual and Quick Start Guide
7. A copy of Quick Start Guide
8. Accessory package

- ▶ Any other accessories requested at time of ordering.

Check the contents of the package and inspect the unit for any signs of damage. Report any defect to vendor's customer service representative. Retain all packing materials for future shipment.



## 2.3 Hardware Installation

The ADSL2/2+ IP DSLAM 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.

Follows the following procedures to connect and wire the system.

### 2.3.1 Safety Instruction

The following is the safety instructions for ADSL2/2+ IP DSLAM before installation:

1. Read and follows all warning notices and instructions of this user manual.
2. The maximum recommended operating temperature for the ADSL2/2+ IP DSLAM is 50°C. Care must be taken to allow sufficient air circulation or space between units when the ADSL2/2+ IP DSLAM is installed inside a closed rack assembly and racks should safely support the combined weight of all ADSL2/2+ IP DSLAM.
3. The connections and equipment that supply power to the ADSL2/2+ IP DSLAM should be capable of operating safely with the maximum power requirements of the ADSL2/2+ IP DSLAM. In the event of a power overload, the supply circuits and supply wiring should not become hazardous.
4. The AC adapter must plug in to 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 ADSL2/2+ IP DSLAM to malfunction.
5. Do not allow anything to rest on the power cord of the AC adapter, and do not locate the product where anyone can walk on the power cord.
6. 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.

7. 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.

### 2.3.2 ADSL2/2+ IP DSLAM Rear Panel Connection

The following figure shows the rear panel connection of ADSL2/2+ IP DSLAM:

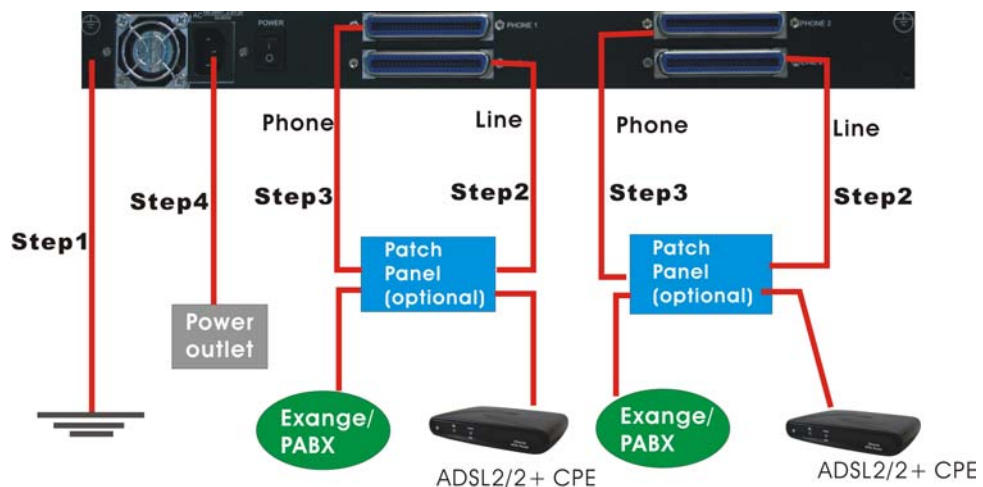


Figure 2-1 ADSL2/2+ IP DSLAM Rear Panel Connection

**Step 1:** Ground the ADSL2/2+ IP DSLAM by connecting a grounded wire (option).

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

**Step 3:** Connect the phone connector, a 50-pin centronic connector, of ADSL2/2+ IP DSLAM to Exchange/PBX by using telco cable. phone connector is an optional module supporting Voice path to Exchange/PBX; it must be along with Line Connector.

**Step 4:** Connect the power adapter and plug it into an outlet.

### 2.3.3 ADSL2/2+ IP DSLAM Front Panel Connection

Connect the uplink port of ADSL2/2+ IP DSLAM to internet or downlink to the other ADSL2/2+ IP DSLAM for stacking by using the RJ-45 cable. Furthermore, connect the CID port to the management station's CID port by using the RS-232 cable or connect the MGT port to the management station's Ethernet port by using RJ-45 in order to administer your ADSL2/2+ IP DSLAM through CLI or GUI EMS.

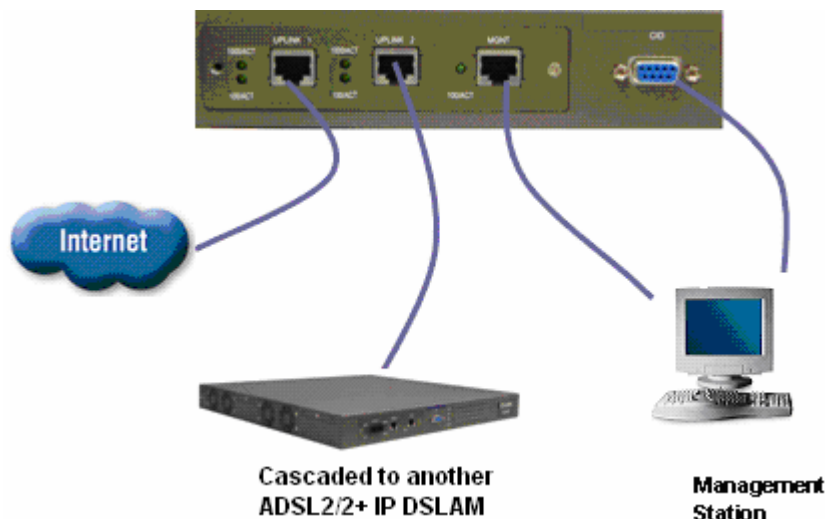


Figure 2-2 ADSL2/2+ IP DSLAM Front Panel Connections

**Note:** Please refer to Appendix B: pin assignment of telco cable, RJ-45 and RS-232 cable for those connectors' pin assignment.

## 2.4 Ways of Management Connection

This section will tell you how to connect and manage your ADSL2/2+ IP DSLAM through CLI and EMS.

### 2.4.1 EMS(Element Management System)


The **E**lement **M**anagement **S**ystem (EMS) is more user- friendly than CLI for your configuring ADSL2/2+ IP DSLAM. The HTML files embedded in ADSL2/2+ IP DSLAM are dynamically linked to the system's functional command sets. You can access a specified ADSL2/2+ IP DSLAM through EMS.

Perform initial configuration procedures as follows:

1. Click the EMS icon on the screen of autorun to install EMS into your PC.
2. Before you start to connect to EMS, it is necessary that your PC's IP and ADSL2/2+ IP DSLAM's IP are in the same group. **Note:** ADSL2/2+ IP DSLAM's default Uplink IP is 192.168.100.111
3. Create management IPs into the ADSL2/2+ IP DSLAM so that the authorized IP agent can manage ADSL2/2+ IP DSLAM through EMS. Connect to ADSL2/2+ IP DSLAM with RS-232 or Ethernet cable, and then write the IPs into ADSL2/2+ IP DSLAM by telnet or CLI. Input the following commands sequentially:

- a. create snmp comm community public
- b. create snmp host IP 192.168.100. xxx community public, where 192.168.100.xxx is the IP of your PC.
- c. create snmp traphost ip 192.168.100.xxx community public version v1, where 192.168.100.xxx is the IP of your PC.

**Note:** if to use CLI, bits per second, data bits, parity, and flow control should be set as 9600, 8, none and 1 respectively.

4. Launch the EMS and then log in with the “**Admin**” for both user name and password. Click on  to enter the EMS system. Log in as usual. (User account: **Admin**; Password: **Admin**)

## 2.4.2 Command Line Interface (CLI)

The Command Line Interface is the most primary character based configuration interface. Some of configurations not provided in Baliff can be configured through CLI. You can access CLI from the terminal emulation software.

The procedure of connecting to the CLI is as follows:

Start up the terminal emulation software on the management station.

If necessary, reconfigure the terminal-emulation software to match the switch console port settings.

Bits per second	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	None

Enter **Admin** when prompted for a user name and password. The ADSL2/2+ IP DSLAM prompt appears when you have logged in to the management interface successfully.

## 2.4.3 Telnet Client

ADSL2/2+ IP DSLAM supports only one Telnet client that you can use to connect with. Telnet provides a simple terminal emulation that allows you to see and interact with the CLI of ADSL2/2+ IP DSLAM. As with any remote connection, the network interface IP address for the ADSL2/2+ IP DSLAM must be established.

# 3

## EMS Configuration

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This Chapter describes how to install and set up the environment of EMS. Once you finish it, a specified ADSL2/2+ IP DSLAM can be managed remotely. Next chapter will introduce how to manage the ADSL2/2+ IP DSLAM through EMS.

### 3.1 EMS Functions

EMS is divided into the task-oriented functional groups as follows, which are further described in subsequent sections.

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

**Logout:** Allow you to terminate current session without shutting down the system.

**Exit:** Allow you to shut down the system.

**Tools:** Allow you to perform the following tools.

**Environmental options:** allow you to define SNMP, Desktop and Surveillance.

**Territory Manager:** Used to define the territory.

**Agent Manager:** Used to define agent IP addresses.

**Telnet:** allow you to login the CID screen of a specific agent IP address.

**Ping:** used to check whether a particular ADSL2/2+ IP DSLAM is current connected to the agent or not.

**User manager:** Allow you to define a user profile, including login ID and security level.

**Windows:** allow users to manage daughter windows in the EMS.

**Cascade:** allow users to cascade Windows.

**Next Window:** allow users to switch to next window.

Previous Window: allow users to switch to previous window.

Arrang Icons: those minimized icons will be located in the bottom of EMS.

**Help:** allow users to view the software version.

About: software version is displayed.


### 3.1.1 Installation

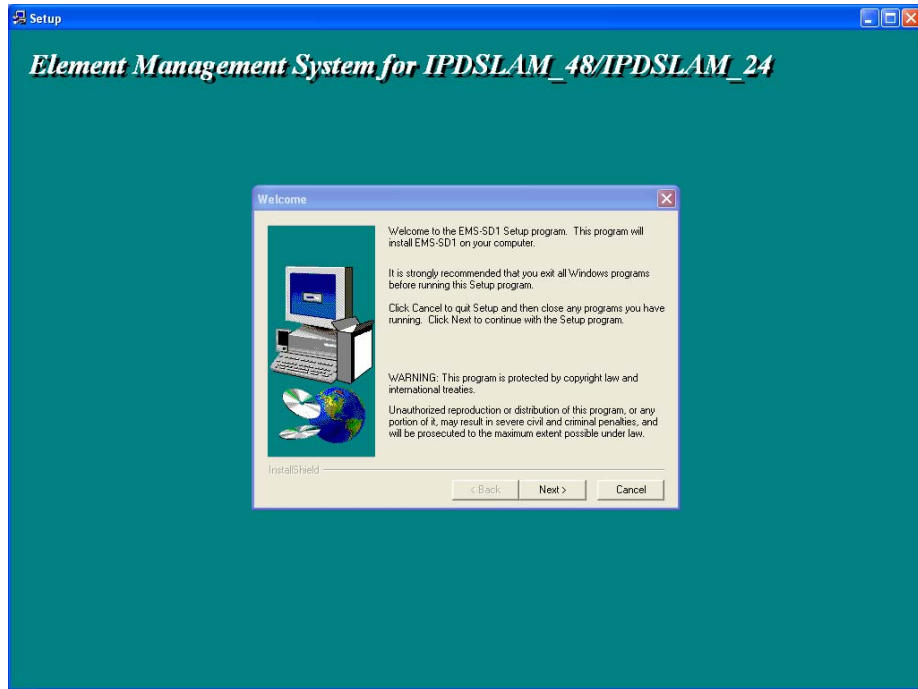
#### ▶ Hardware and Software Requirements


The following checklist provides the minimum hardware and software required to operate EMS.

1. Windows NT/2000/XP
2. Manual CD
3. 2GB Hard disk with a minimum of 650 MB of free space
4. An ethernet card.
5. Super VGA (800 x 600 resolution) or higher with 256 colors
6. CD-ROM drive

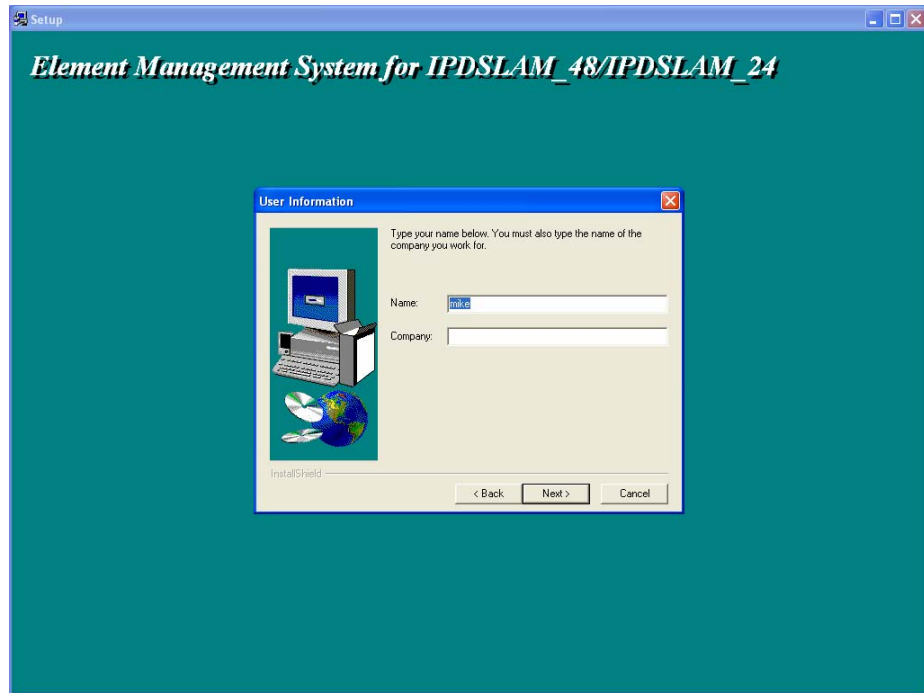
► **Installing EMS**

1. Insert Autorun CD into CD –ROM Drive.
2. From the autorun screen, double click the EMS icon to start the installation process.
3. The welcome window of EMS Setup appears. Click on  to continue.




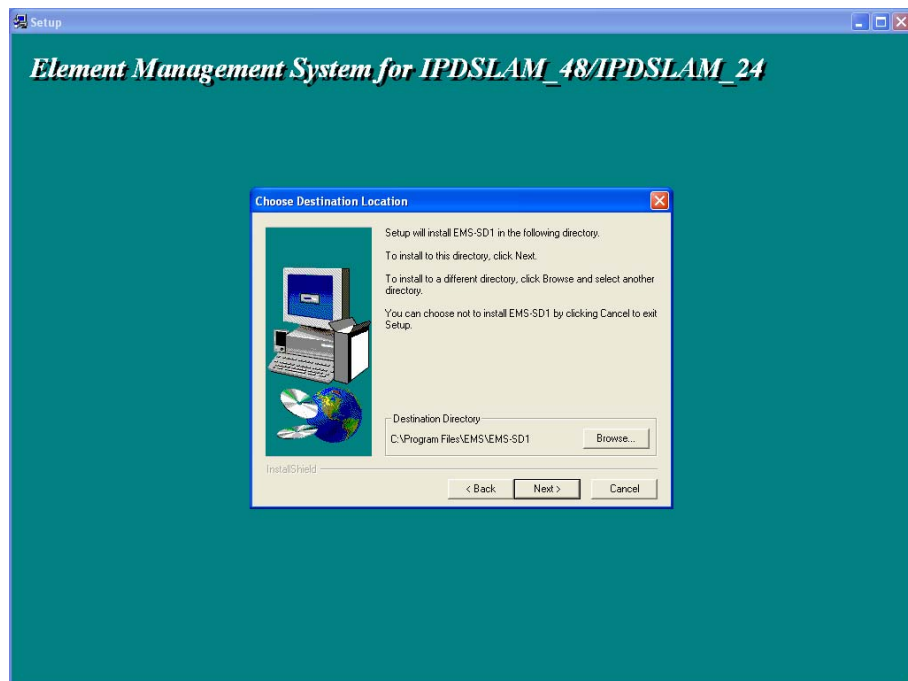
4. When the user information input window appears, enter your name and company name respectively, and then click on  to continue.




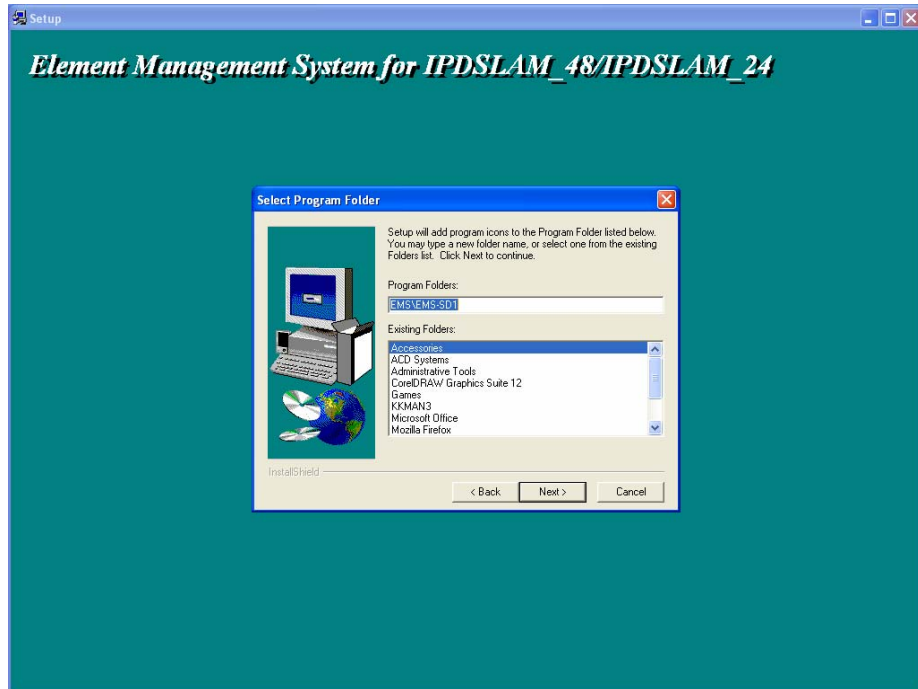



**Note:** please uninstall previous version of EMS if you want to install a new version.

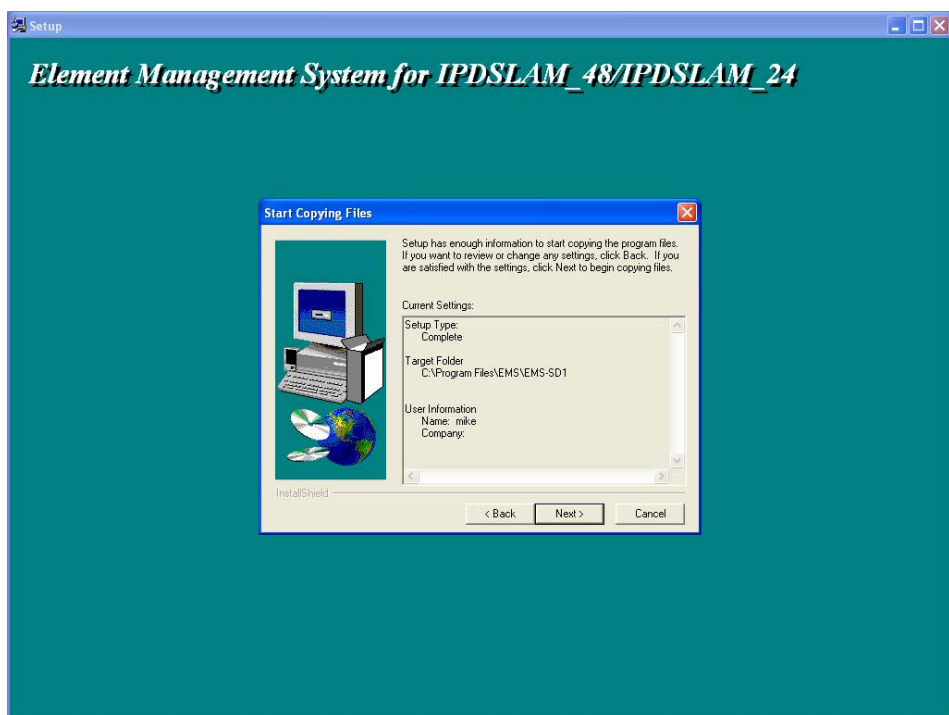
5. When the Destination Location window appears, click the Browse button to change the installation destination directory or simply use the default setting "C:\Program Files\EMS\EMS-SD1". Then, click on  to continue,



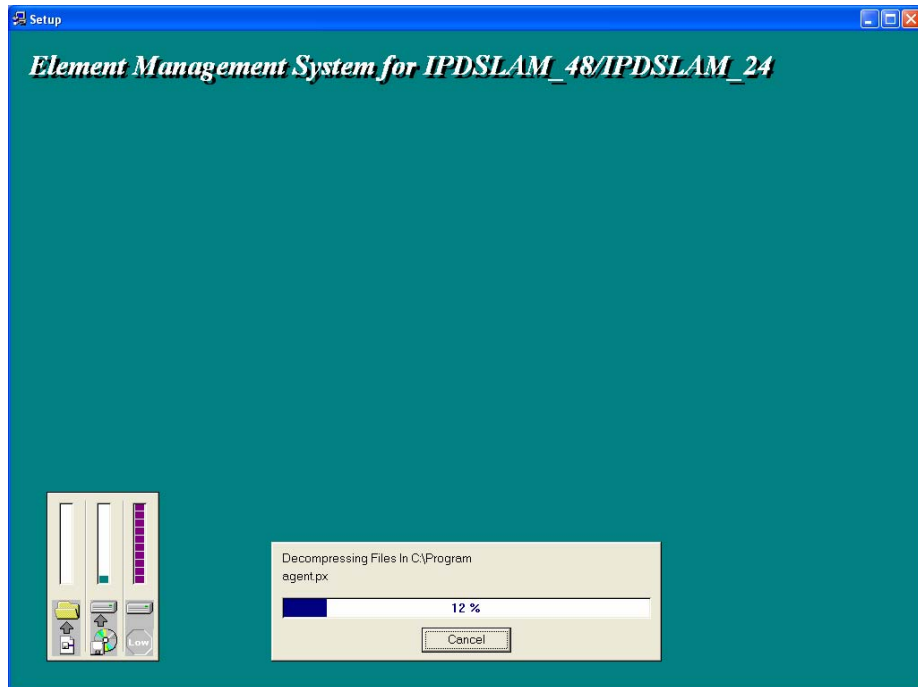
6. When the Select Program Folder window appears, you may either choose the default program folder, "EMS\EMS-SD1", or enter the name you prefer. Then, click on  to continue,



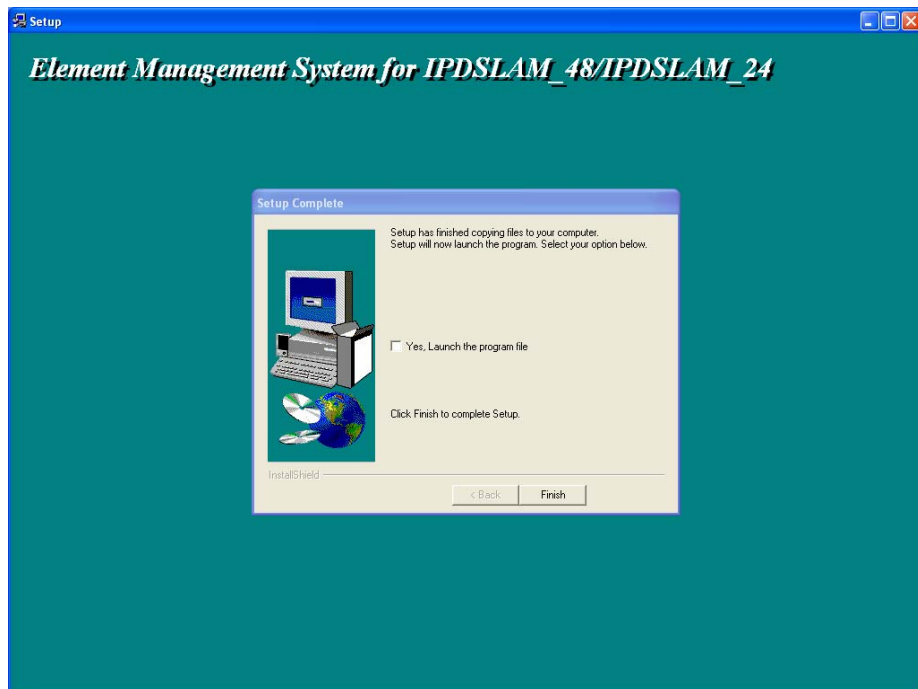
7. When the Start Copying Files window appears, you can confirm your current settings, if you are satisfied with the settings, click on  to start copying files.




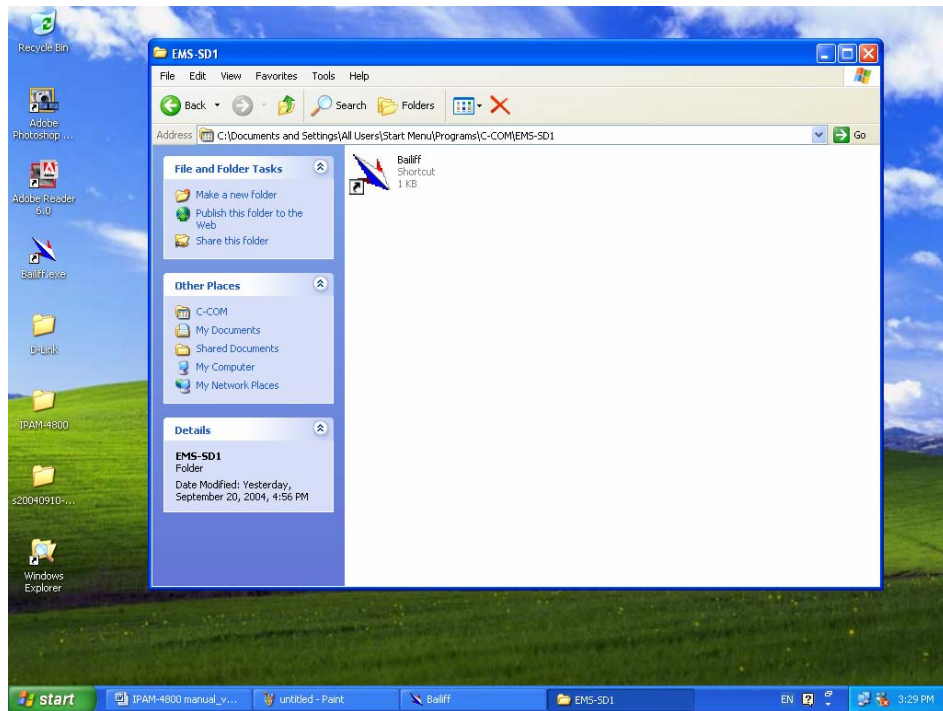
8. When Setup Process Status window appears, the installation process is now in progress. This window displays a bar indicating the percentage of completion for the current installation. In addition, the names of the files being installed appear above the bar until the installation is complete.



9. At the end of the installation process, the following "FINISH" window presents. Simply click on  to complete setup. Now the installation of EMS software is completed.

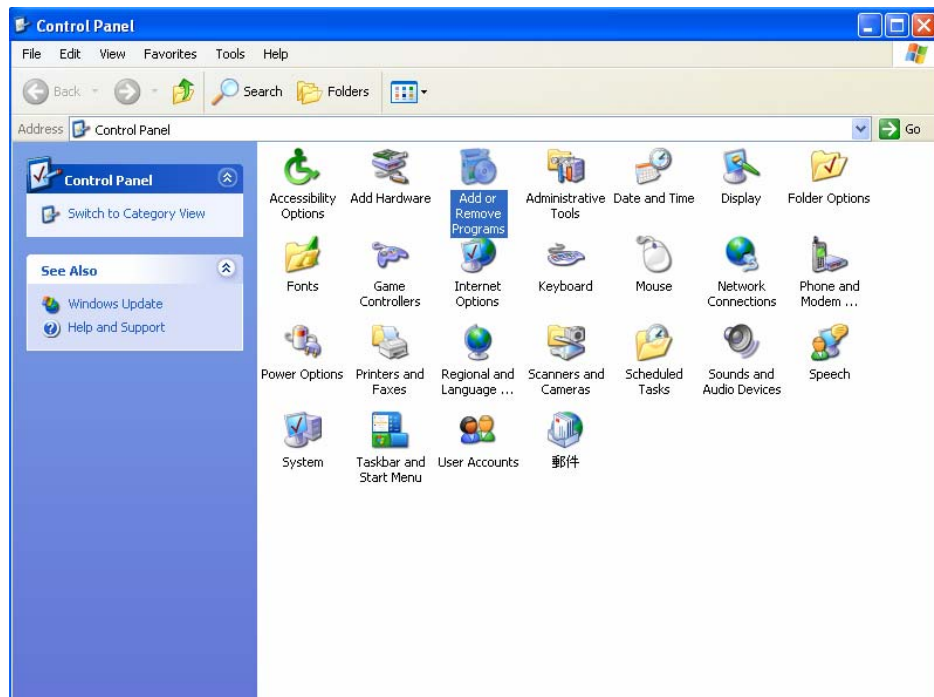


10. After finishing the installation process, a shortcut of EMS is displayed on the desktop. Click on  to activate EMS directly.

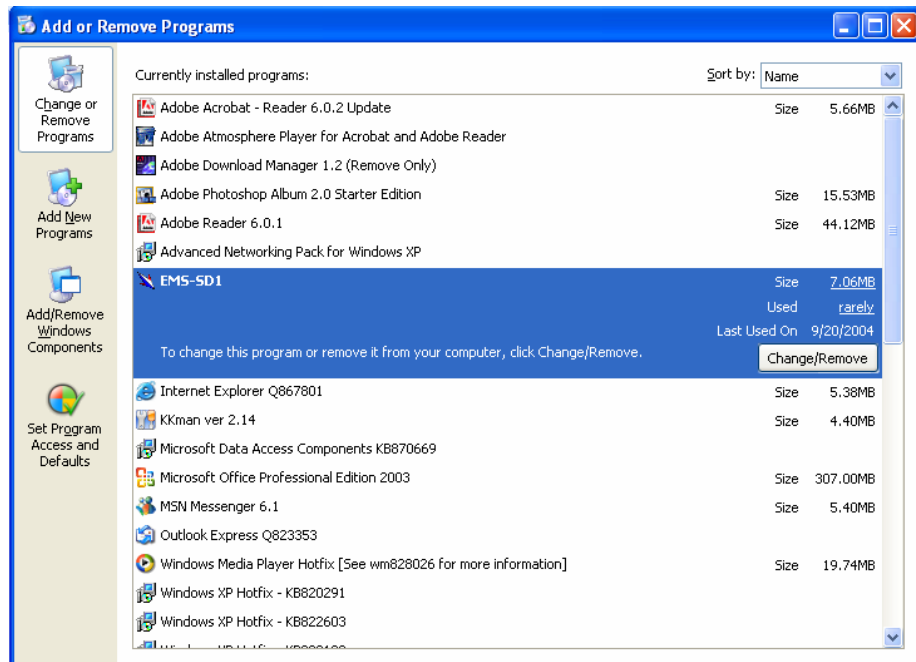


## 3.1.2 Un-installation of EMS

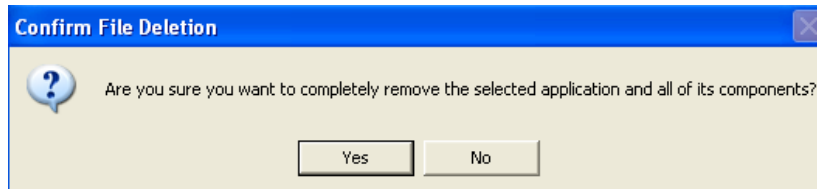
1. Double click the Add/Remove Programs icon in **Control Panel** to run the un-installation procedure.



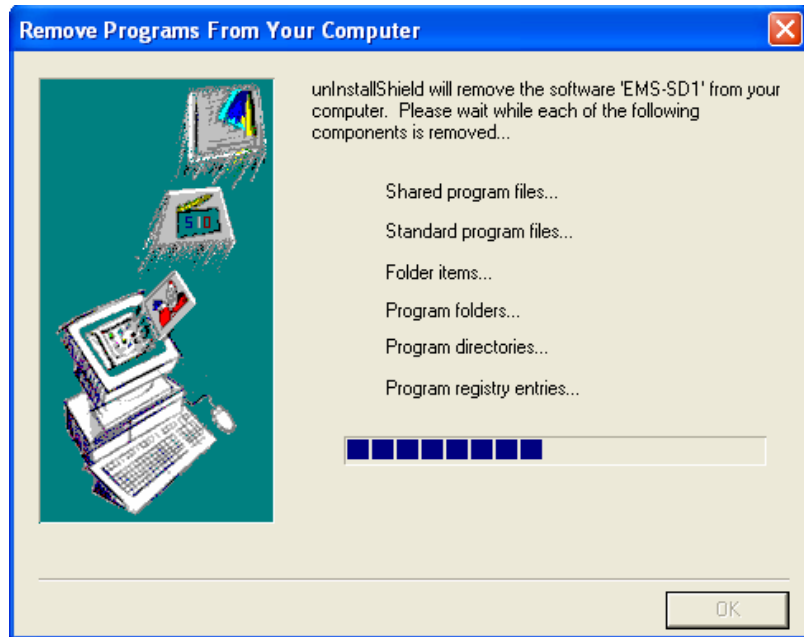
- In Add/Remove Programs Properties dialogue box, selecting the “EMS-SD1” folder and then click on  to remove EMS.



- After your clicking on , the following dialogue box then prompts to you for confirmation. Click on  to continue the removal process.



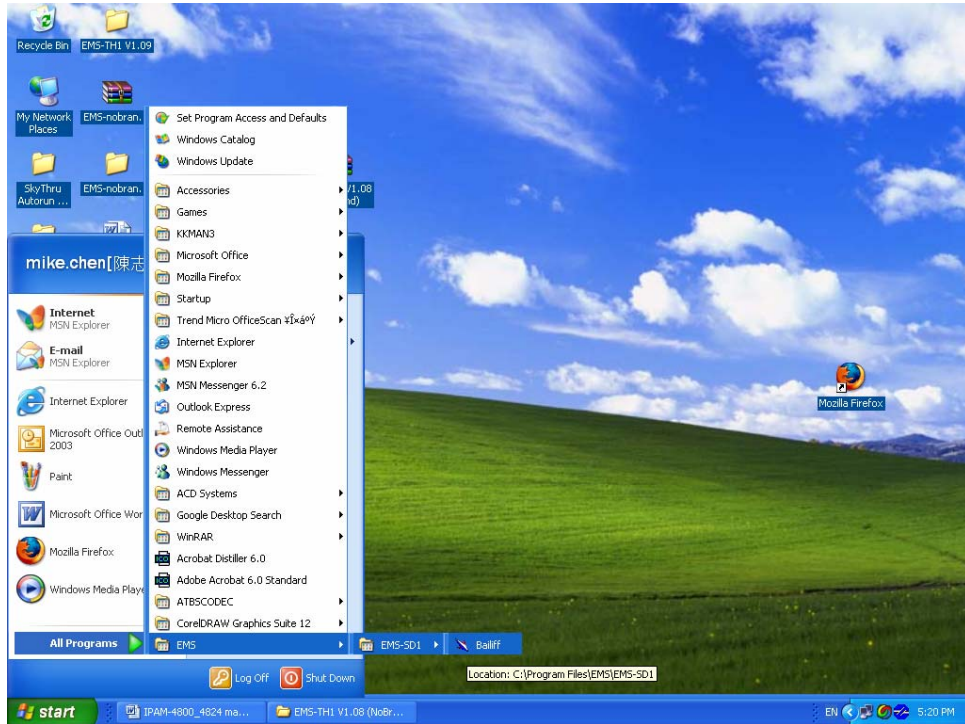
- The following window, “un-installation completion status” appears. Click  to complete the removal process when  become enable, indicating that the process is completed.



### 3.1.3 Starting the System

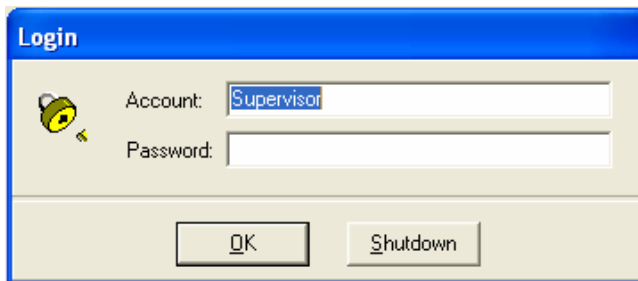
Users can activate the EMS either from Promgrame manger or clicking the shortcut icon on the desktop. From Program Manager, choose the “EMS” program group in the Program Manager window. Then, choose the “EMS-SD1” program item to launch the program.

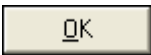
**Note:** before starting EMS, the SNMP comm command should be configured as “rw” via CLI so that read-write permissions are given to managers. For detailed instruction, refer to page 248.



### 3.1.4 Logging into the System


1. Once the system is started, the **Login window** then prompts as follows.



2. Simply enter your user account ID and password respectively, and then click on  to login.

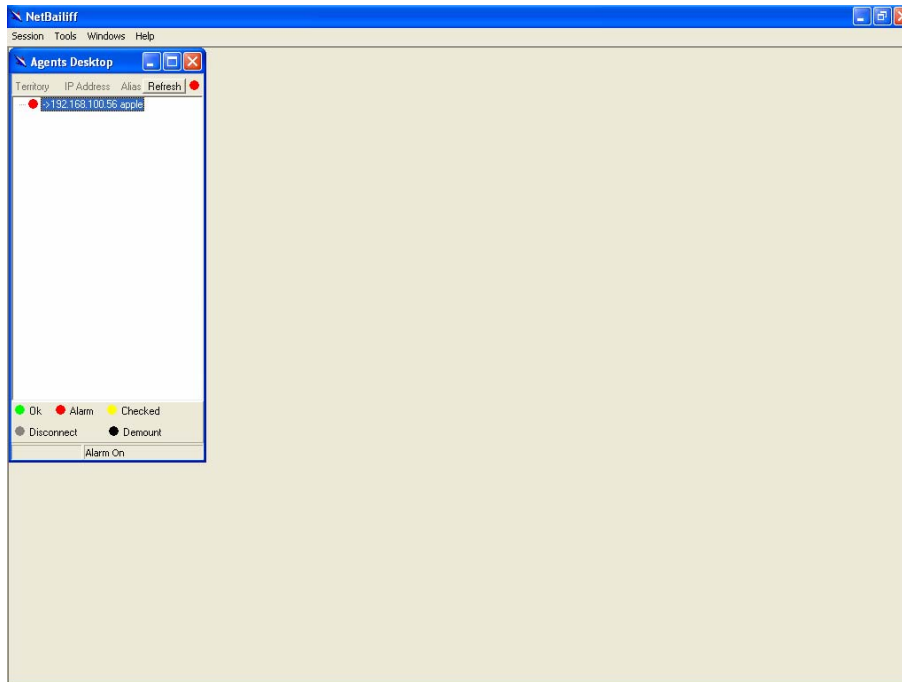
Default Account	Supervisor
Default Password	(blank)

**Note:** For the security concern, it is very important for you to change your password afterwards.

To terminate the login, simply click on .

3. After launching EMS and logging in with a valid username and password, the main window, EMS then prompts as shown in the

following figure.



### 3.1.5 Terminating the System

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

### 3.1.6 Logging out the Current Session

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.

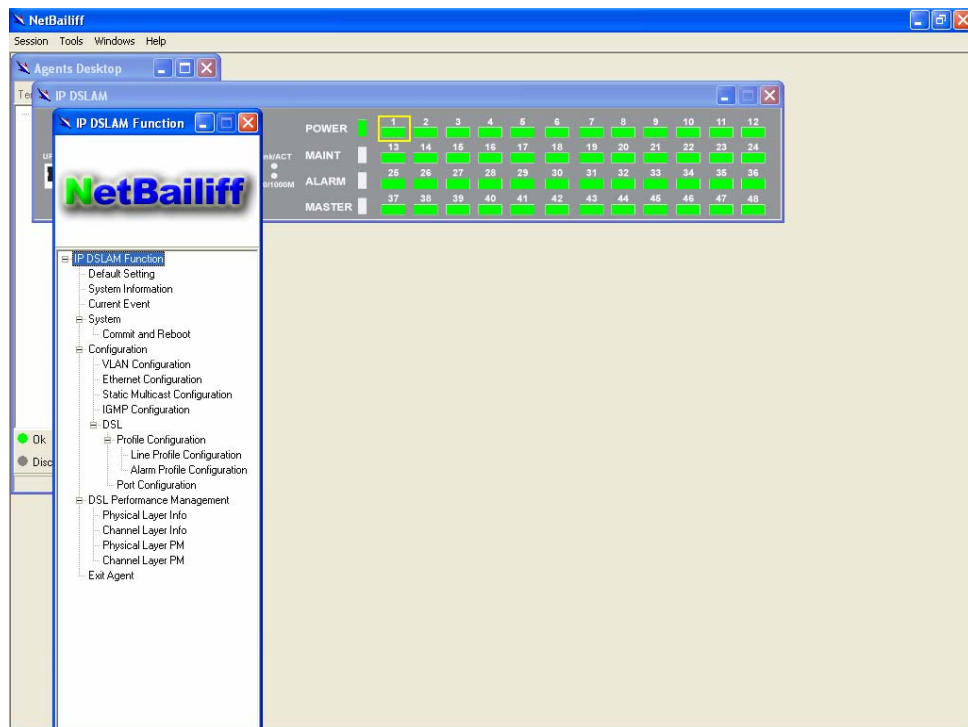
## 3.2 Windows Arrangement

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



### 3.2.1 Cascade

Choose **Cascade** from Windows menu in the EMS manu 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.



### 3.2.2 Next Window

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

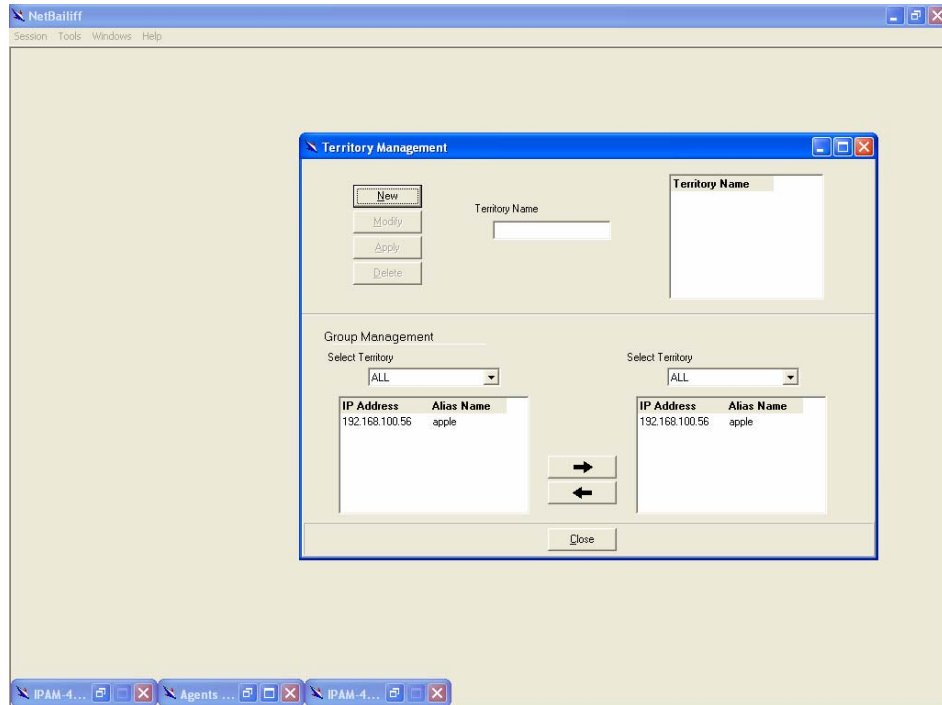
### 3.2.3 Previous Window

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


### 3.2.4 Arrange Icons

By selecting Arrange Icons of Windows Menu in the manu bar, it will locate

those minimized daughter windows in the bottom left of EMS window as the following figure shown. User can select a required icon to perform EMS management.



### 3.3 Help

To view the version of NatBailiff, choose **About** command via Help menu, as shown in the following figure. Click on  to exit the window.



## 3.4 Tools Menu Introduction



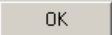
This chapter describes how to use tools in the EMS, including Environmental options, Territory manager, Agent manager, user manager and Telnet, which are detailed in the following sections.

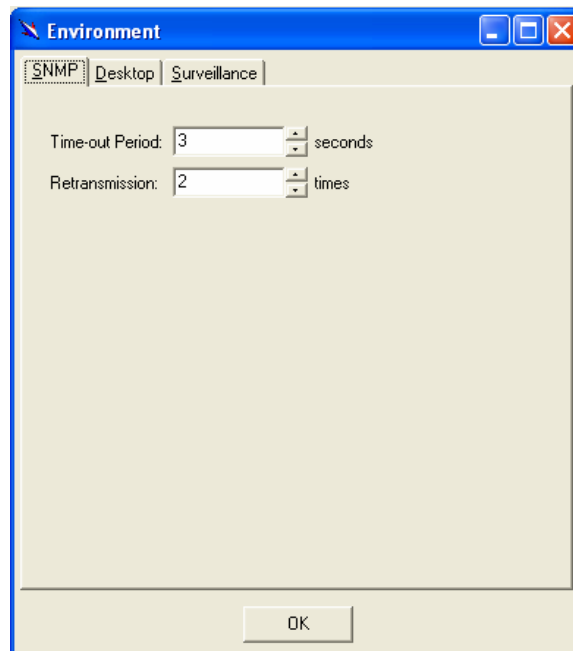
### 3.4.1 Environmental Options

Choose **Environmental Options** from **Tools Menu**, this Environment daughter window then appears. By this function, user can config SNMP, Desktop and Surveillance respectively.

#### ▶ **SNMP Configuration**

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

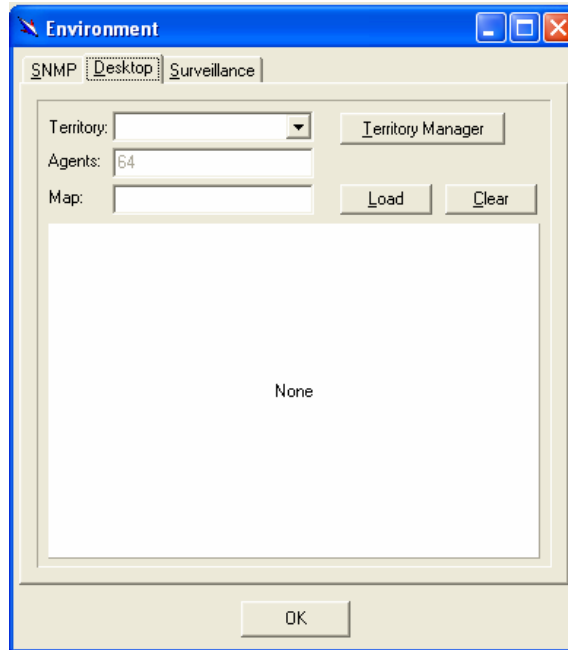
1. Click on the TabControl (SNMP/Desktop/Surveillance) of SNMP that will bring SNMP dialogue box to front.
2. Click on  or  to change the Time-out Period seconds and Retransmission times.
3. Click on  to submit your changes.



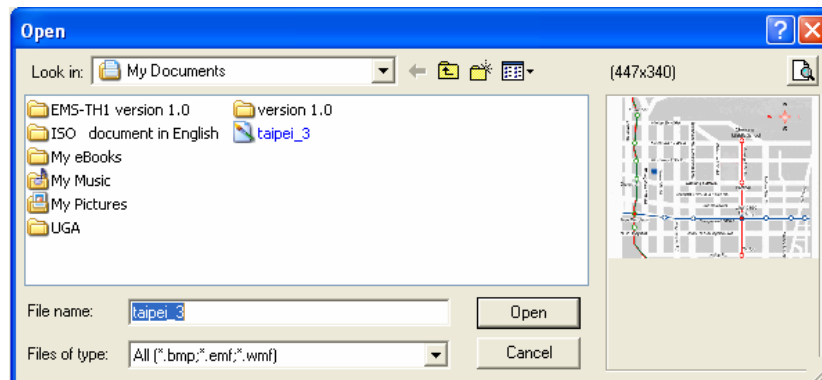
#### ▶ **Desktop configuration**

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

1. Click on the tab of Desktop that will bring Desktop dialogue box to front, as shown in the following figure.



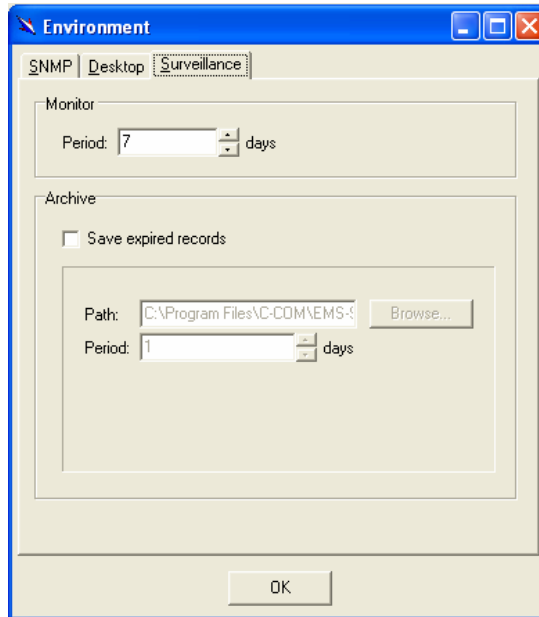
2. Click on **Territory Manager** to quick start territory manager in which users can define a desired territory. Please refer to page 36 for more details.
3. Click on **Load** to load the map of a territory or click on **Clear** to clear a loaded map. Note: the format of map is limited to \*.bmp, \*.emf and \*.wmf.





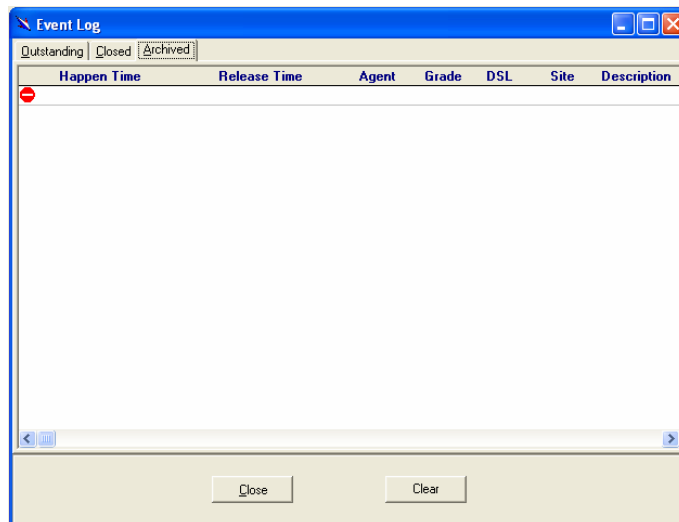
4. Click on **OK** to submit your setting, and then the map will apply to the Mounted Agent.




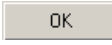
► **Surveillance configuration**

1. Click on the tab of Surveillance that will bring the Surveillance dialogue box to front, as shown in the following figure.



2. Click on  or  to change the monitoring period.
3. Select the checkbox of **Save expired records** to save surveillance archive, which can be browsed by clicking on the tab of **Archived** in the Event Log window as shown in the following figure:



4. Clicking on  to choose the directory to record surveillance data and press  or  to define expired period.
5. Click on  to submit your settings.

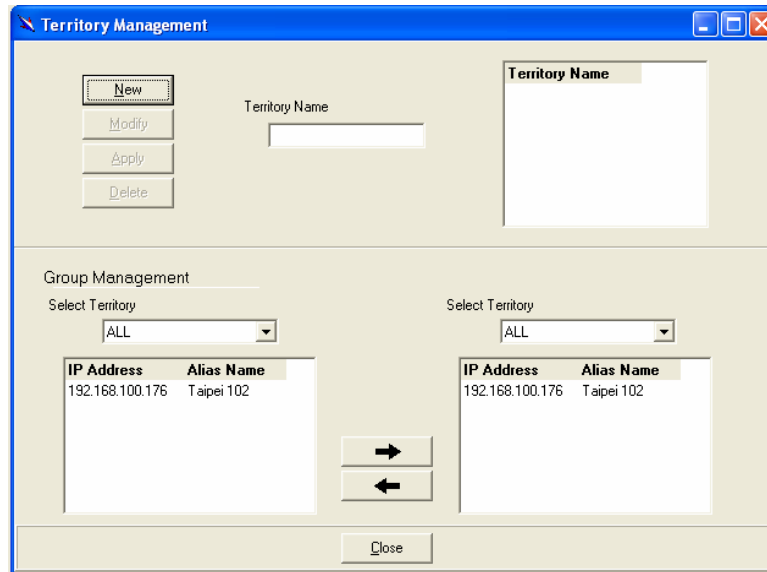
### 3.4.2 Territory manager configuration

Territory manager help users to build up monitoring territories and agents


could be categorized into different territories by users. That benefits users to monitor the status of PAMSPAN-2000 systems by territory. Territory manager can be activated either from menu bar or from environmental options.


► **Territory Manager window**

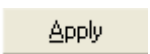
Choose **Territory Manager** via Tools Menu, or Environmental option, and then the Territory Management window appears.



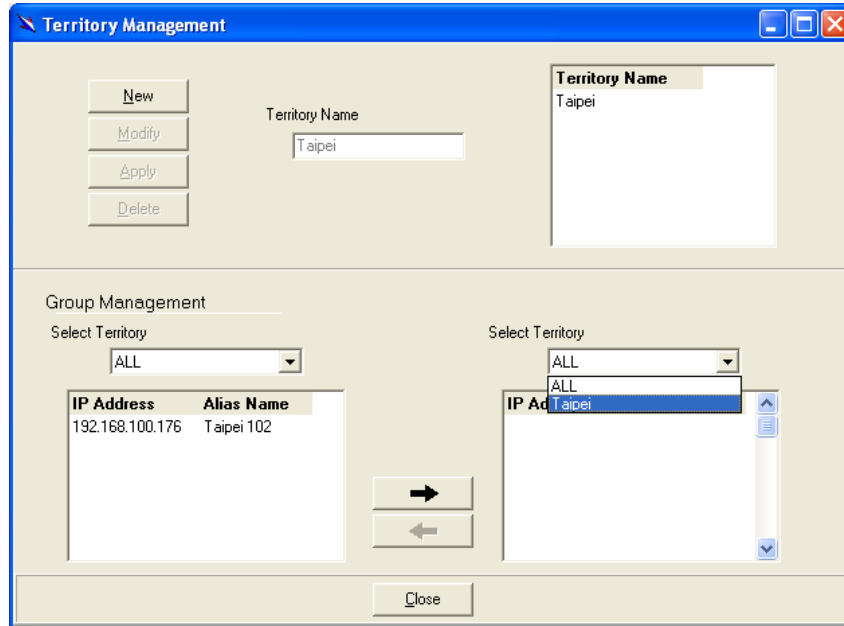
If to add a territory to the system,

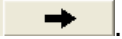
Click on , the Territory Name fields then cleared to blank for entering the data.

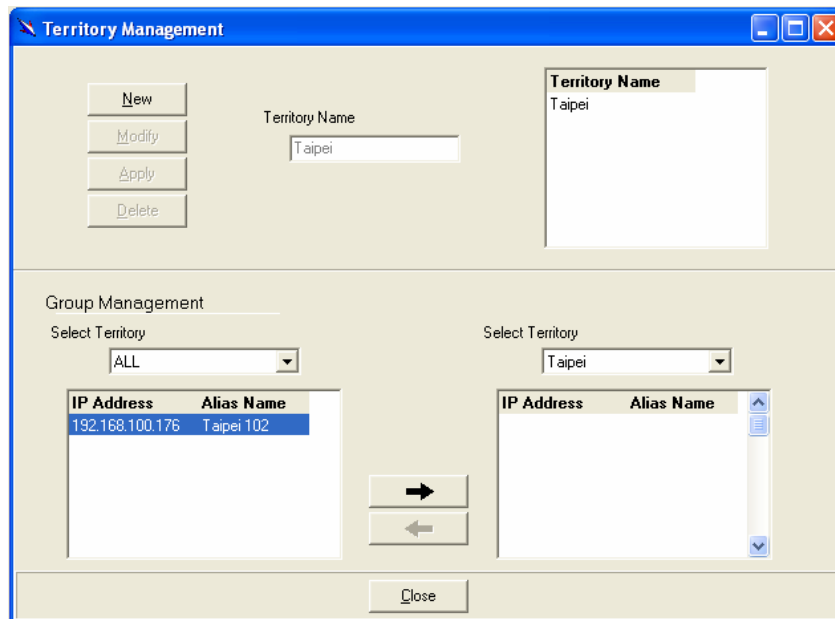
Enter Territory Name and  then become enable.

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

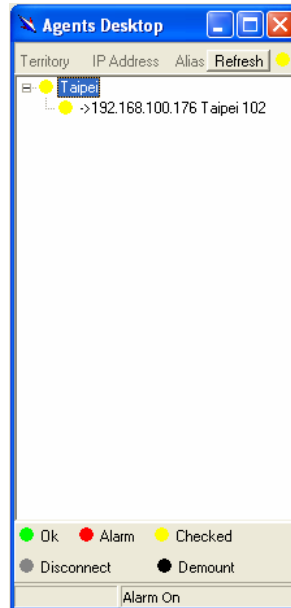
As the following figure shown, the agent, 192.168.100.176 is available in the territory named ALL on the left. Users can shift the monitoring territory from ALL to Taipei simply by selecting Taipei in the Drop-down list on the right.

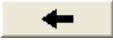


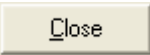
Choose the agent, 192.168.100.176 on the left and then click on . The agent IP will appear on the right and will be monitored under the territory, Taipei.



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



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.

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

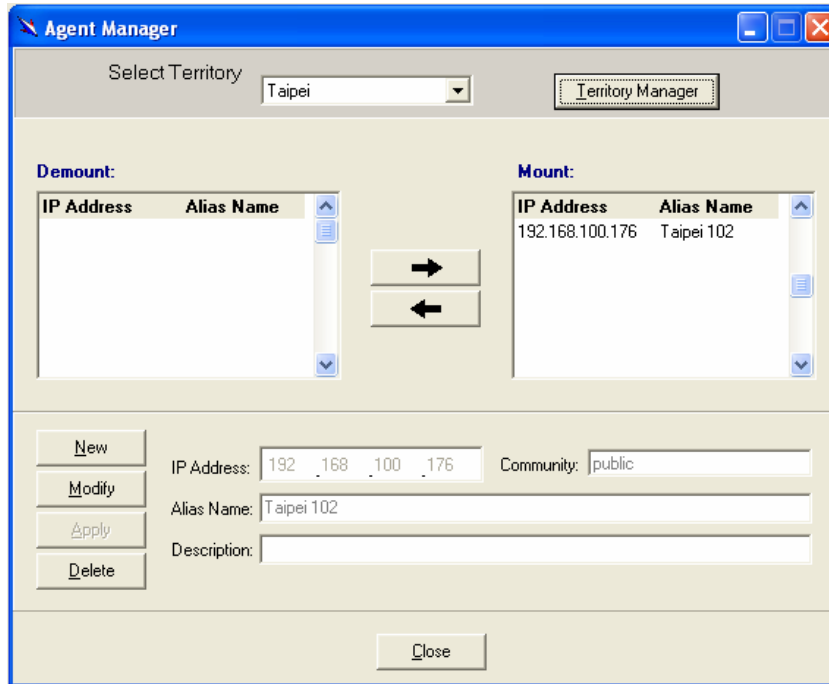
### 3.4.3 Agent Manager Configuration

All of the ADSL2/2+ IP DSLAM agents that are to be managed by the EMS 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.






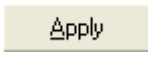
As mentioned above, Agent Manager is used to define the ADSL2/2+ IP DSLAM agent's IP address and community string that are to be used in the system, and to activate the system's monitoring of an agent; to deactivate an agent from the system's monitoring.

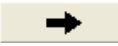
If to add an agent to the system,

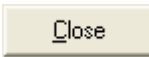
1. Select a territory that a new agent belongs to. Users can click on

 to activate territory manager.

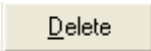
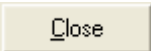
2. Click on , the data fields then cleared to blank for entering the data. Enter values in fields, IP Address, Alias Name and Description. The Apply buttons to the left of these fields then become enable.

3. Click on  to apply the agent to the system.




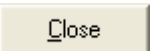
4. If to activate (so-called "Mount") the system's monitoring of an agent, click on the required agent entry in the Demount agent list, then click on . The agent will appear on the Mount agent list on the right.

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

If to remove an agent from the system,


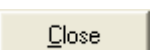
1. Click the required agent in the Demount agent list, and then click on . The agent will disappear.
2. Click on  to exit the window or continue to perform other operations in the same window.

If to change the information of an agent,

1. Select the required agent in the **Demount agent list**. The information of the selected agent will then presented on the data fields.
2. Click on  to Change IP, Alias Name, and Description and then  becomes enable.
3. Click on  to apply the change to the system.
4. Click on  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,

1. 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.
2. Click on  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,


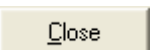
1. Select the required agent in the Mount agent list, and then click on the Demount button . The agent will then disappears from the Mount agent list and appears on the Demount agent list on the left.
2. Click on  to exit the window.

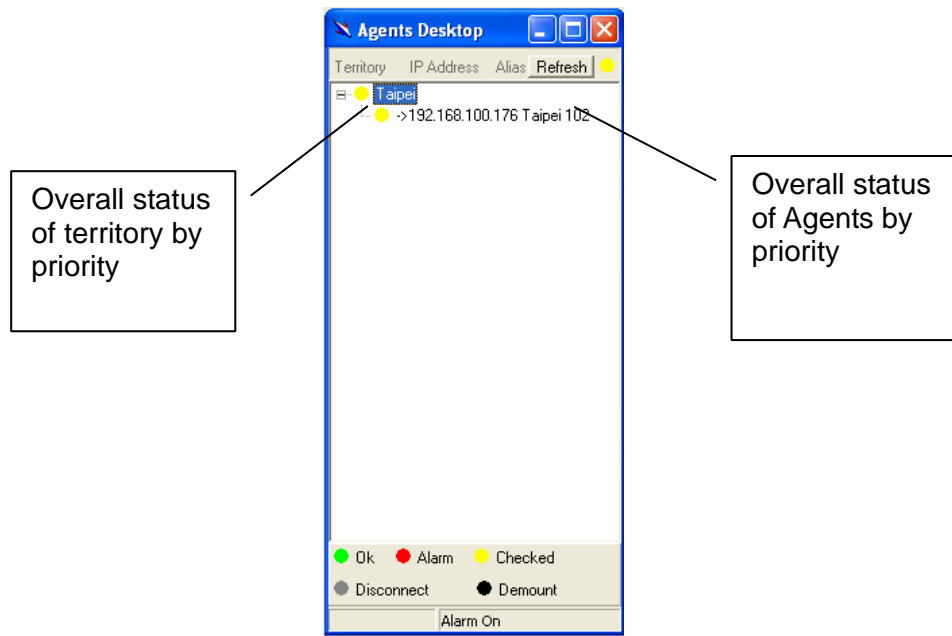
Table 3-1 Agent Management Field Definition

Field	Definition
IP Address	***.***.***.***
Alias name	Name of ADSL2/2+ IP DSLAM
Description	Note





► **Agent Desktop (Network Monitor)**

Agent Desktop (see below) 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 at all time 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.

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



**Legends:**

-  **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.**

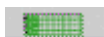
**Note:** the priority of colors: Gray>red>yellow>green>black

#### ► 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 the following figure. By the mounted agent desktop, the location of agents and overall network status of a specific territory is presented.



Legends:



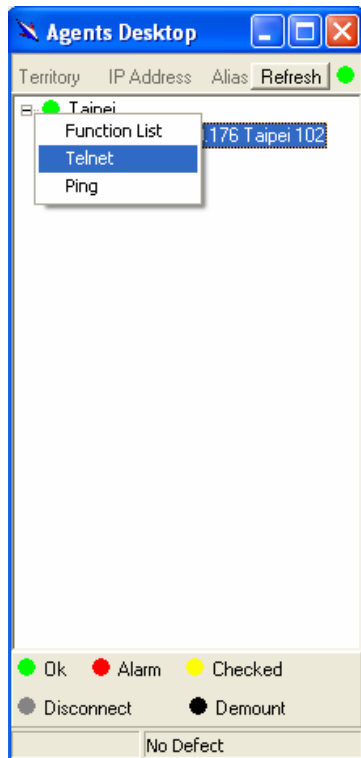
**Taipei 102:** This icon can be moved to where the agent is located in the map. In addition, its color also changes with the status of the agent. For example, the icon in red means that alarm is occurred to the agent and requires network administrator's attention.

### 3.4.4 Telnet

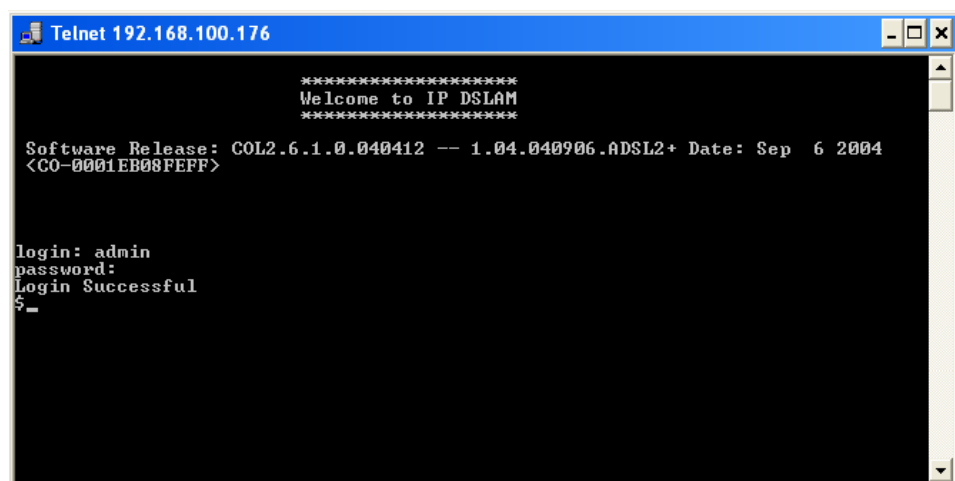
Users can use the Telnet to connect to a specific ADSL2/2+ IP DSLAM, and then monitor and interact with the system.

How to activate Telnet from Agent Desktop?

1. Select an agent IP on the Agent desktop.



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



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

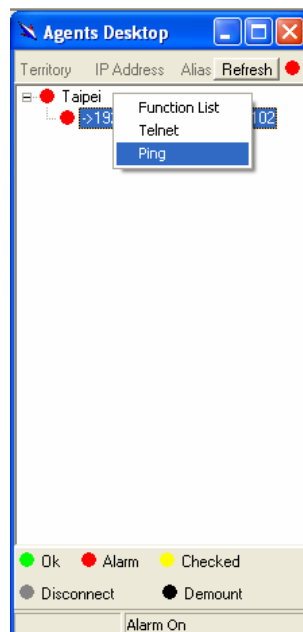
**Note:** The default login and password are admin.

### 3.4.5 Ping

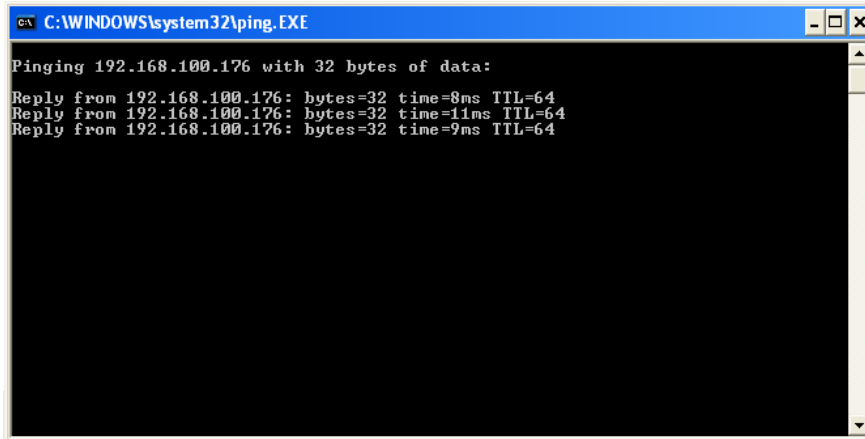
Ping is a command used to determine whether a particular ADSL2/2+ IP DSLAM is currently connected to the agent. It works by sending a packet to the specific IP address and waiting for reply.

How to activate Telnet from Agent Desktop?

1. Select an agent IP on the Agent desktop.



2. Click on the right button of mouse and then select **Ping** or choose it from tool menu in the EMS window's menu bar. Ping screen will come up immediately and then starts to send packets to check the connection with the ADSL2/2+ IP DSLAM.



```
C:\WINDOWS\system32\ping.EXE
Pinging 192.168.100.176 with 32 bytes of data:
Reply from 192.168.100.176: bytes=32 time=8ms TTL=64
Reply from 192.168.100.176: bytes=32 time=11ms TTL=64
Reply from 192.168.100.176: bytes=32 time=9ms TTL=64
```

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

### 3.4.6 User Manager window

The EMS 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,

1. 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.

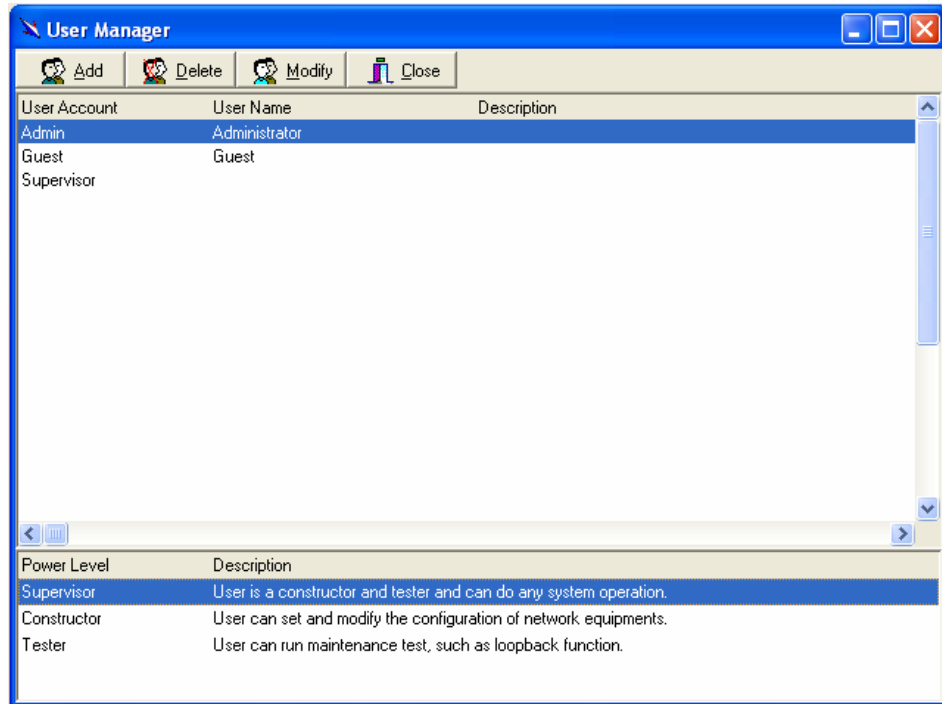

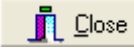




Table 3-2 User Manager Field Definition

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,

1. Click on , the Security window then prompts.
2. Enter the account information as described in Security window below.
3. Click on  to exit the window or continue to perform other operations in the same window.

If to remove a User Account from the system,

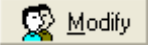
1. Select a user account by clicking on the desired entry in User Account selection list. After selection, the designated one will be highlighted.
2. Click on  to delete it.
3. Click on  to exit the window or continue to perform other operations in the same window.

If to change User Account Information,

1. Select a user account by clicking on the desired entry in User Account

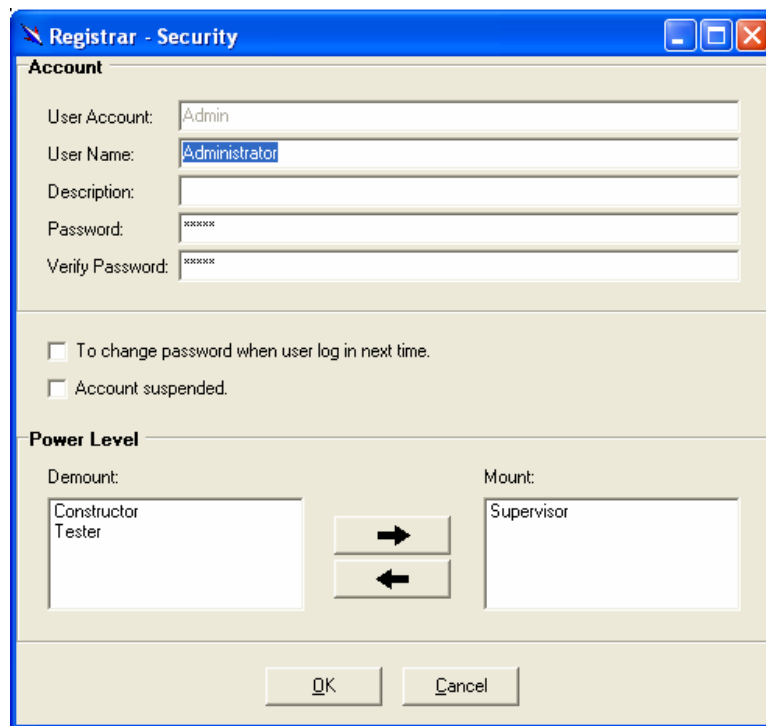




selection list. After selection, the designated one will be highlighted.

2. Click on  button, the Security window then prompts.
3. Change the account information as described in **Security window** below.
4. Click on **Close** button to exit the window or continue to perform other operations in the same window. 2. Click on **Add** button, the Security window then prompts.

► **User Manager window -- Security**

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



1. Either  or  is selected, this window appears.
2. Enter data in the fields, User Account, User Name, Description, Password as required. Re-enter the password in field, Verify Password, for purpose of verification.
3. 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.**
4. If to suspend a user account, click on the checkbox to the left of the field, **Account Suspended.**



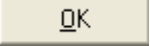
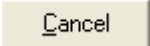
5. If to assign a new Power Level to the user, click on the desired entry in the **Demount** list, then click on the Mount button, . The selected Power Level entry will then be added to the **Mount** list on the right.
6. If to remove a Power Level from the user, click on the desired entry in the **Mount** list on the right, then click on the Demount button, . The selected Power Level entry will then be removed.
7. Click on  to complete the operation or  to abort the change. Either one is selected; the window is exited to User Manager Window.

Table 3-3 Register-Security Field Definition

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

# 4

## Manage the ADSL2/2+ IP DSLAM

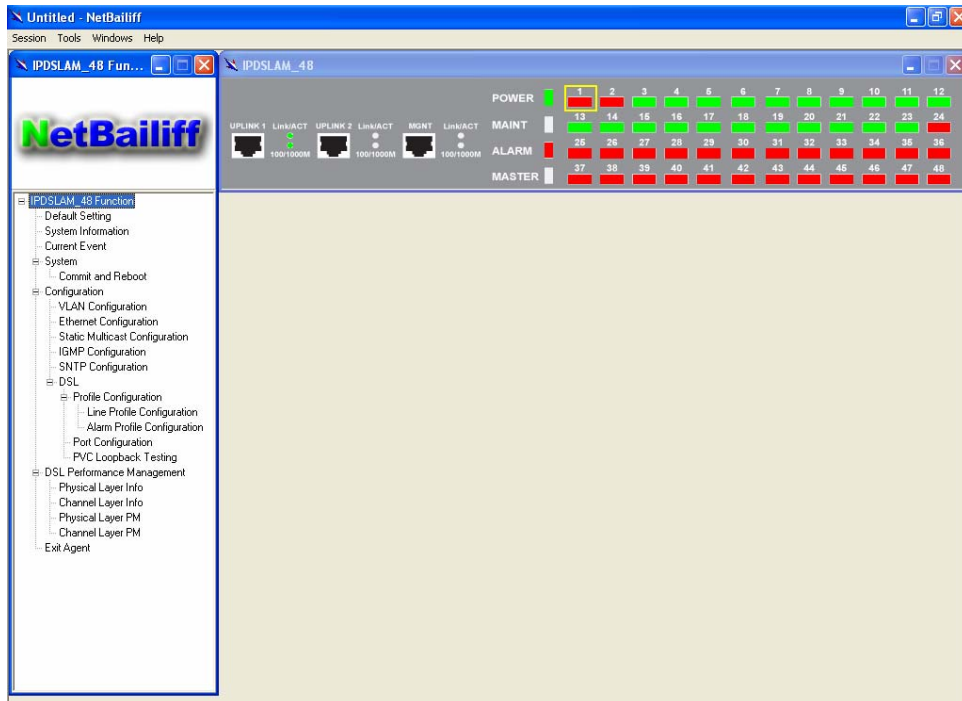
After successfully setting up the environment of EMS, you can manage different ADSL2/2+ IP DSLAM via your EMS remotely. This chapter will tell you how to interact with a specified ADSL2/2+ IP DSLAM.

### 4.1 Activate Function Management Windows

Via EMS, users can remotely monitor the current status of a specified IP DSLAM, and then proceed advanced configuration. To activate the function management windows, choose a specified agent that you want to manage, and then double click the agent, or click the right button of the mouse to select **Function List**, as shown in the following figure.,



After that, the function management windows, including Function window and Front panel status window, will prompt as shown in the following figure.

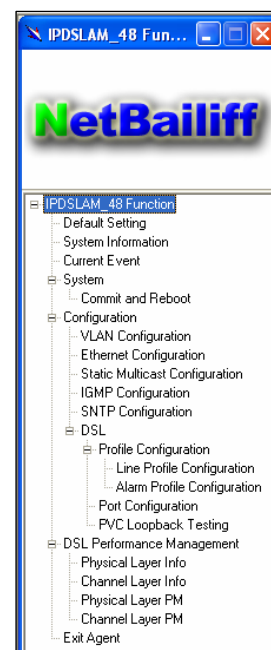


### 4.1.1 Function management Windows

The Function management windows, including function window and Front panel status window, which are provided to monitor the ADSL2/2+ IP DSLAM's status in real time and configure related settings. They will be introduced respectively.

► **Function Window:**

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



► **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 ADSL2/2+ IP DSLAM. As to the LED identification of front panel, refer to page 9 to get more information.

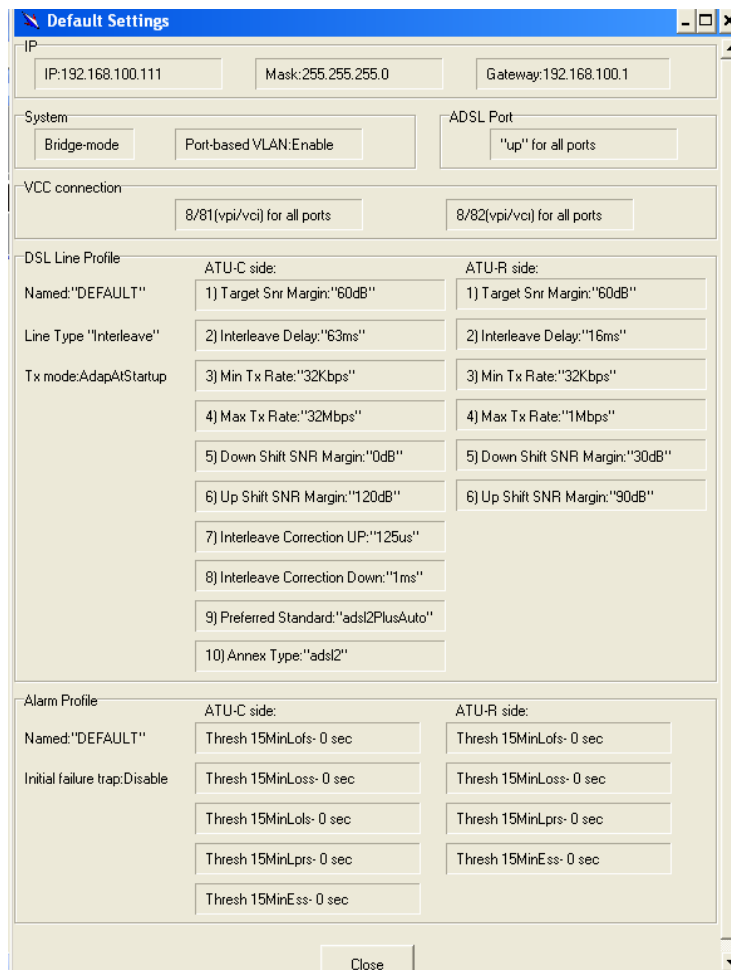


## 4.2 Default Setting

This section describes how to get the information of the default setting of the ADSL2/2+ IP DSLAM.

1. Click on **“Default Setting”** from the Function List window.

The **Default Setting** window appears as follows:



In the default setting window, the status of, IP, System, VCC connection,

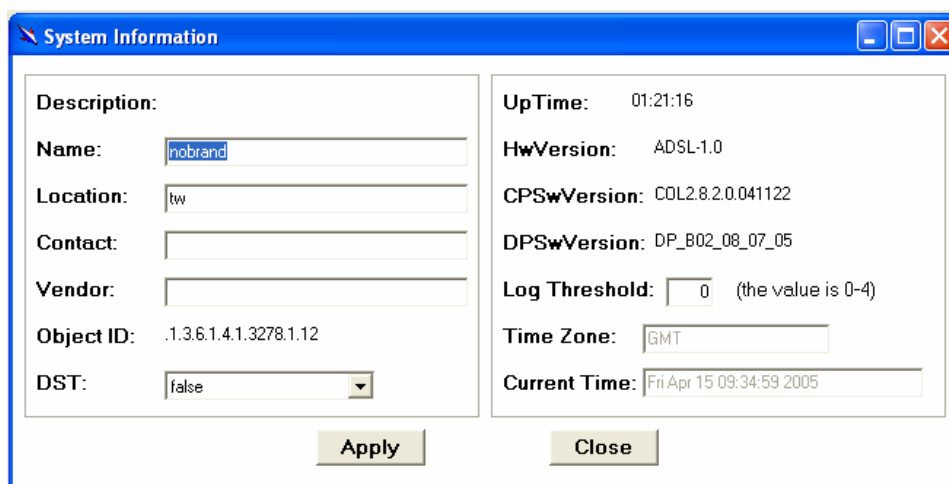
DSL line profile and Alarm profile are displayed clearly. How to modify them will be introduced in the following sections.

### 4.3 System Information

This section describes how to get and input the information of the ADSL2/2+ IP DSLAM.

1. Double Click on “**System Information**” from the Function List Window.

The **System Information** window appears as follows:



Input necessary information on those fields.

Table 4-1 Sysinfo field definition

Field	Definition
Name	Alias name of the ADSL2/2+ IP DSLAM
Location	Location of the ADSL2/2+ IP DSLAM
Contact	The contact person of the ADSL2/2+ IP DSLAM
Vendor	The vendor of the ADSL2/2+ IP DSLAM
Object ID	Vendor ID
DST	This specifies if the Daylight Savings Time has been enabled or not. <b>True:</b> on <b>False:</b> off
UpTime	System up time
HwVersion	Hardware version of the ADSL2/2+ IP DSLAM.
CPSwVersion	Control plant version
Log Threshold	This specifies the severity level of the trap equal to or lower than that shall be logged. 0 represents log threshold is disable. 1 is the lowest and represents critical traps. <b>Valid values:</b> 0-4
Time Zone	Time zone <b>Valid values:</b> 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	This indicates the current time.

3. Click on **Apply** to submit your settings or **Close** to close the window.

## 4.4 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:

**Outstanding Event:** Allow you to view the outstanding events or status and system information.

**Closed Event:** Allow you to trace events or status that are already closed and are still within the surveillance period as defined in **Environment Options**. It also allows you to view the system information.

**Archived:** Allow you to browse the expired records.

**Legends**

Icons	The grade of alarm indicated	Abbreviation	Icons after the alarm has been viewed.
	Major Alarm	MJ	
	Minor Alarm	MN	

**▶ Outstanding Event**

This window allows you to view the outstanding events of specific agents.

If to view the event log of a specific agent,

1. Click “**Current Event**” from Function List window. The Event Log window appears as follow:

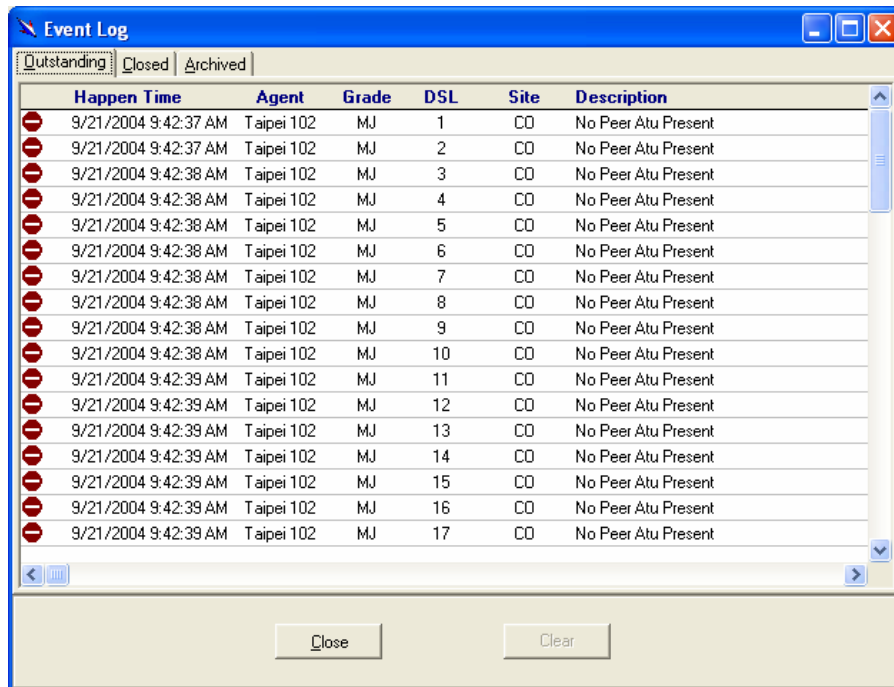


Table 4-2 Outstanding Event Window Field Definitions

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.

► **Closed Event**

This window allows you to browse the closed alarms and events of specified agents.

1. Click on the tab of **Closed** that will bring the **Closed** screen to front, as the following figure shown:

2. Click on  to clear all records.

3. Click on  to exit the window.

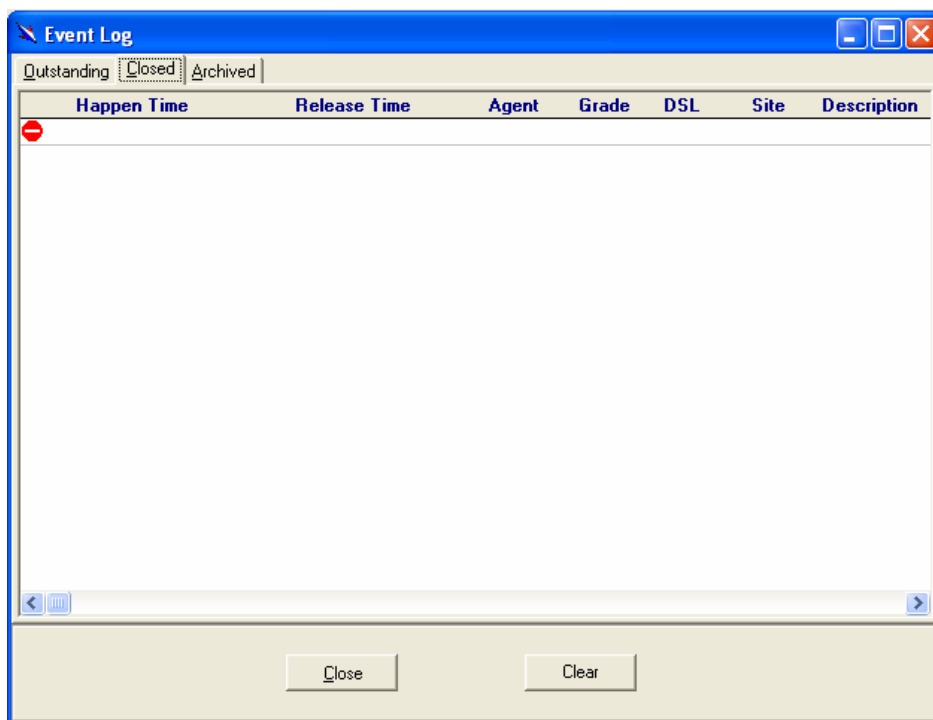


Table 4-3 Closed Event Window Field Definition

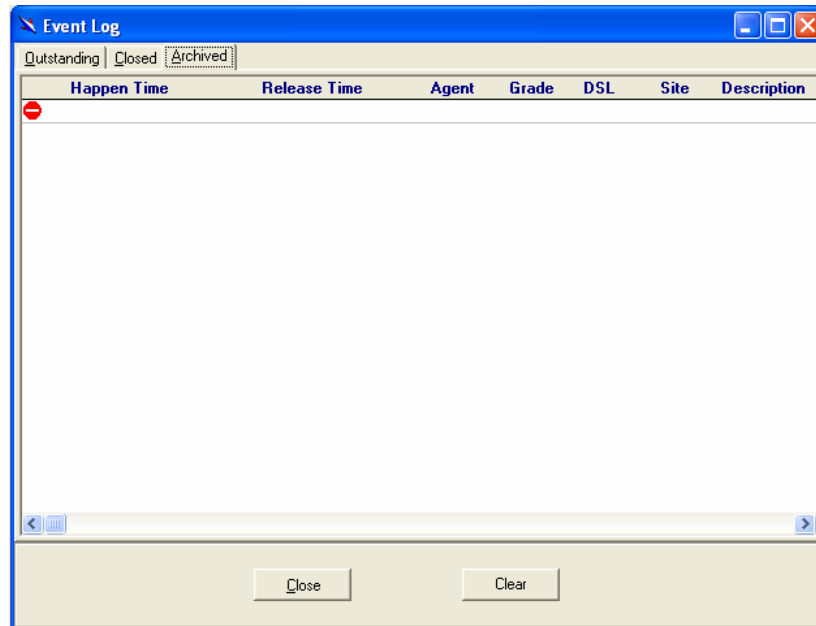
Field	Description
Release Time	The date/time when the event is closed.
Others	Rest of the fields is as same as described in "Outstanding Events".

► **Archived**

This window allows you to browse the expired records, which can be configured in the Environment window.

1. Click on the tab of **Archived** that will bring the **Archived** screen to front

as follows:



2. Click on  to clear all records.

3. Click on  to exit the window.

## 4.5 System

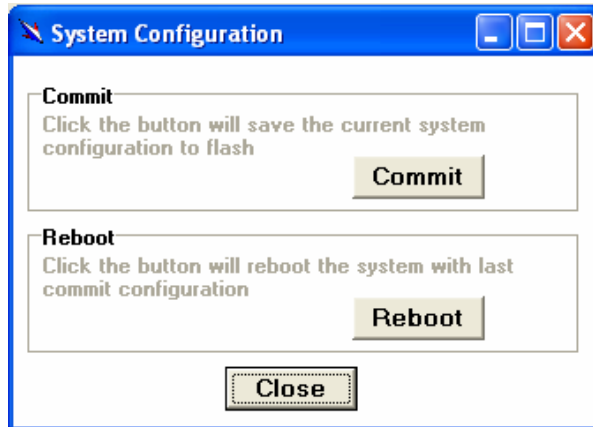
This section allows users to perform commit and reboot that will be introduced as follows:

### 4.5.1 Commit and Reboot

This section describes how to commit the current configuration to flash or reboot the ADSL2/2+ IP DSLAM.

1. Double Click on "**Commit and Reboot**" from the Function List Window.

The **System Information** screen appears as follows:



2. If to commit the active configuration to the flash, click on **Commit**.
3. If to reboot the system and to set the boot configuration, click on **Reboot**.
4. Click on **Close** to close the System Configuration window.

## 4.6 Configuration

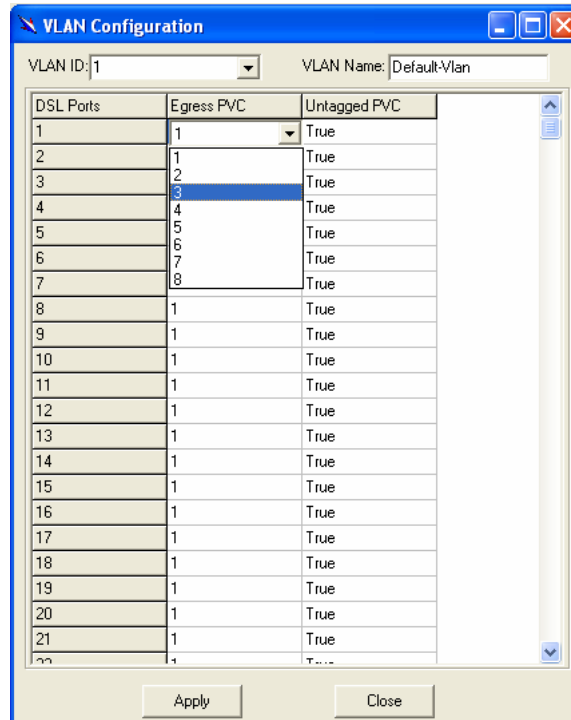
This section describes how to configure the ADSL2/2+ IP DSLAM by selecting **Configuration** from Function List window. This section will cover those functions:

### 4.6.1 VLAN Configuration

Allow user to view and modify VLAN configuration. To configure VLAN, proceed as follows:

1. Double Click on “**VLAN configuration**” from the Function List Window.

The VLAN configuration window appears as follows:





2. Select the VLAN to view or modify by using the VLAN ID drop-down list.
3. Use Egress PVC and Untagged PVC drop-down list to set the specified DSL port's Egress PVC and Untagged PVC.
4. Click on  to submit your settings or click on  to close the VLAN Configuration window.

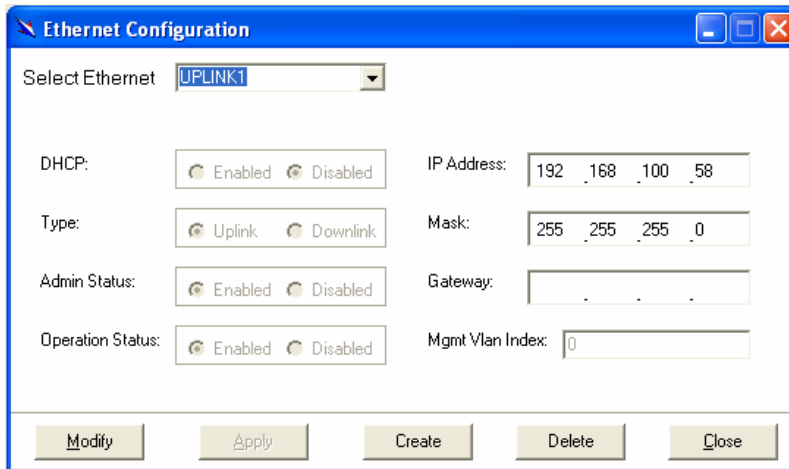
Table 4-4 VLAN Configuration Field Definitions

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.

### 4.6.2 Ethernet Configuration

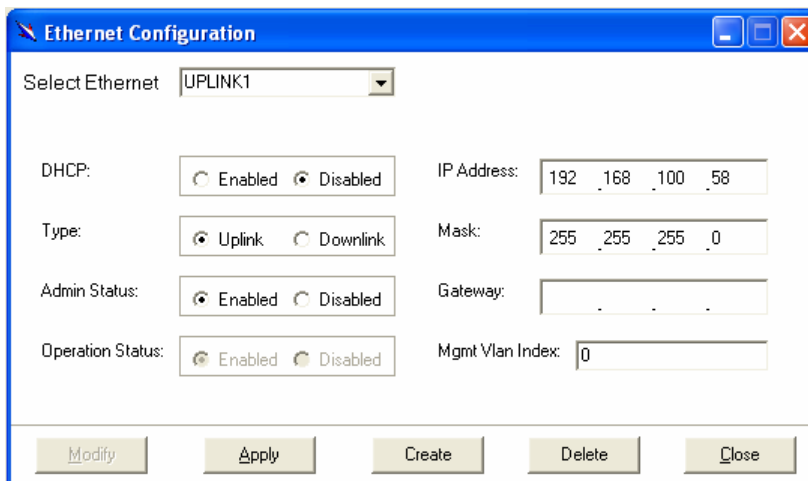
Allow user to view and modify Ethernet configuration. To view or configure Ethernet, proceed as follows:

1. Double Click on “**Ethernet configuration**” from the Function List Window. The Ethernet Configuration window appears.

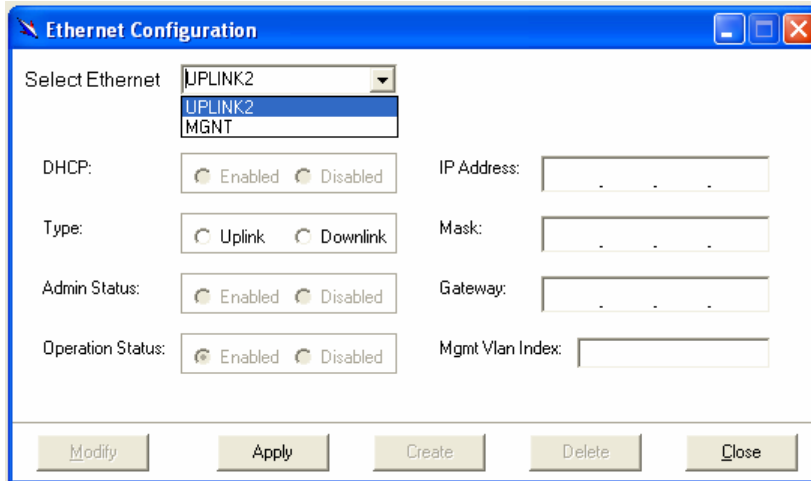


2. To view the Ethernet Configuration of UPLINK1, UPLINK2, or UPLINK3 by using the Slect Ethernet drop-down list.

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



4. If to create a new Ethernet configuration, click on **Create** and then select a new Ethernet configuration by using Slect Ethernet drop-down list. After that, users can set related peremeters as follows:



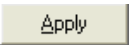

5. Click on  to submit your settings or click on  to close the Ethernet Configuration window.

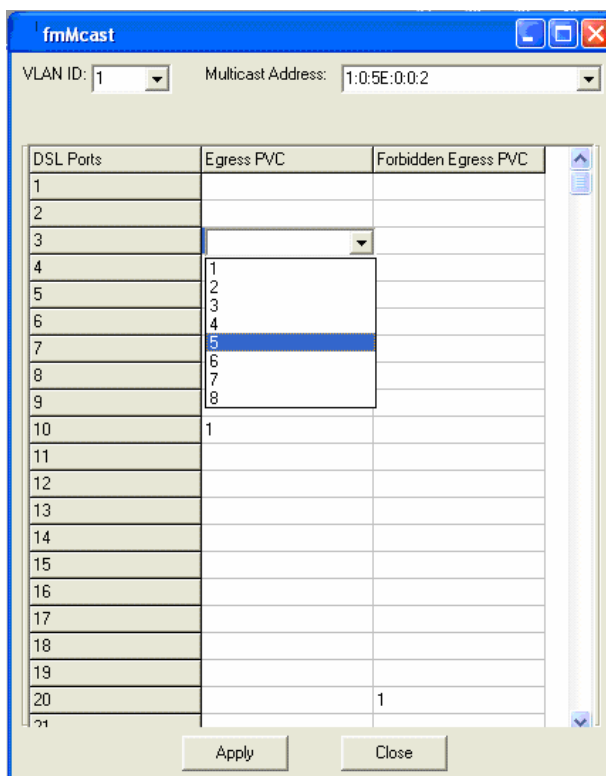
Table 4-5 Ethernet Configuration Field Definitions

Field	Definition
DHCP	DHCP client enabled or disabled
Type	Upstream or downstream
Admin Status	The desired state of UPLINK (enable/disable)
Operation Status	System is enabled or not.
IP address	IP address of the UPLINK
Mask	This specifies the network mask configured for 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.

### 4.6.3 Static Multicast Configuration

Allow user to view and modify Static Multicast configuration. To view or modify Static Multicast configuration, proceed as follows:

1. Double Click on “**Ethernet configuration**” from the Function List Window. The Static Multicast Configuration window appears.



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

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

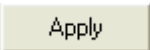
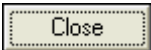
4. Click on  to submit your settings or click on  to close the VLAN Configuration window.

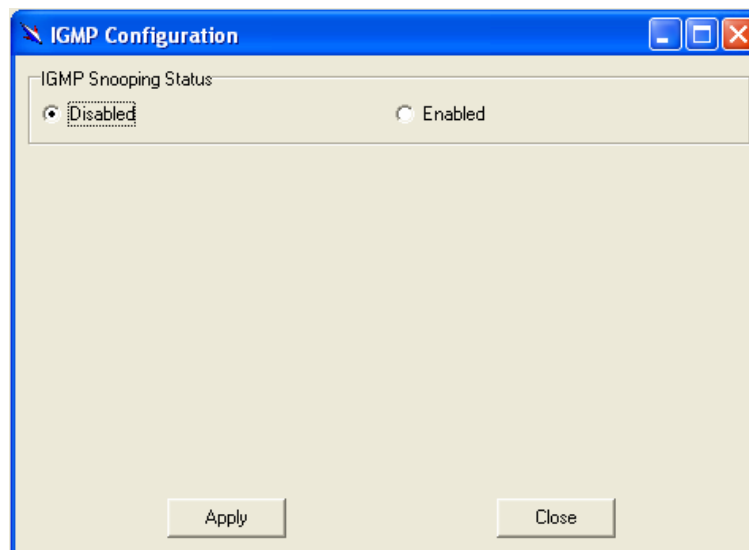
Table 4-6 VLAN Configuration Field Definitions

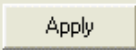
Field	Definition
VLAN ID	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast mac addr is shared across vlans hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability each vlan can have 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.
Multicast address	A multicast address is an address that designates a group of entities within a domain.
Egress PVC	The set of ports, which are permanently assigned to the egress list for this VLAN by managemen.
Forbidden Egress PVC	The set of ports, which should transmit egress packets for this VLAN, as untagged.

## 4.6.4 IGMP Snooping

IGMP snooping, as implied by the name, is a feature that allows an IP DSLAM to "listen in" on the IGMP conversation between hosts and routers. To set IGMP Snooping status as Disabled or Enable, the procedure is as follows:

1. Choose a specified port to execute IGMP snooping function.
2. Double click on IGMP Configuration via Function window. Then the IGMP Configuration window appears as follows:



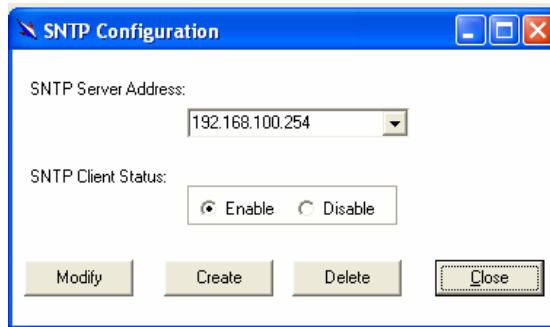
Select Disabled or Enabled, and then click  to submit your setting.

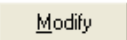
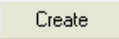
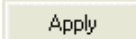
## 4.6.5 SNTP Configuration

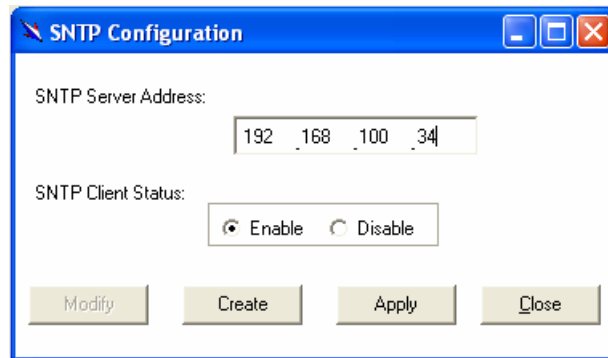
Allow you to view the SNTP client status and execute advanced configuration. The procedure shows as follows:

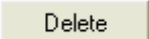
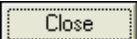
1. Choose a specified port to execute SNTP configuration function.
2. Double click on SNTP configuration via Function window. Then the SNTP configuration window appears as follows:





3. If to enable or disable current SNTP client, click on .
4. If to create a new SNTP client, click on  and then set SNTP Server address and SNTP client status. After that, click on  to submit your setting.



5. If to delete a certain SNTP client, select the SNTP server from the SNTP server address drop-down list and then set the SNTP client status as Disable. Finally, click on .
6. Click on  to close the SNTP Configuration window.

## 4.7 DSL

This section describes how to configure DSL settings by selecting **DSL** from Function List window. This section will cover those functions:

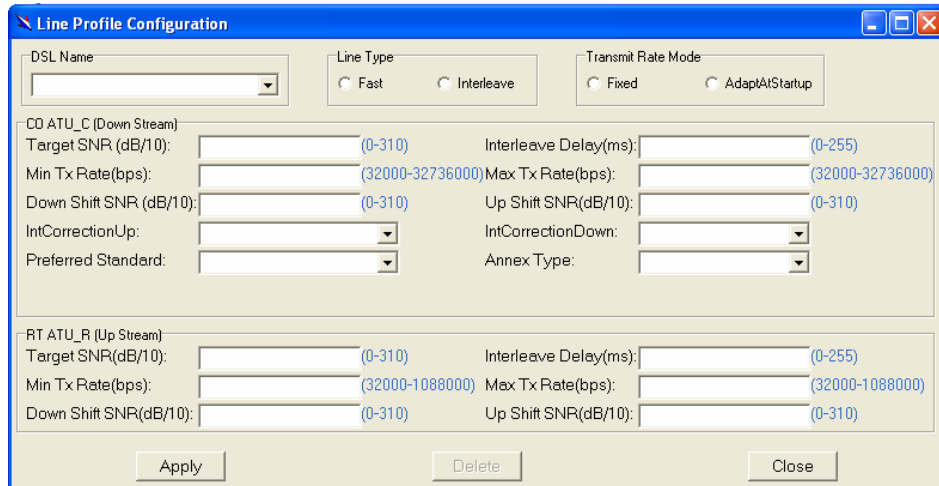
### 4.7.1 Profile Configuration

Allow users to configure Line Profile and alarm profile.

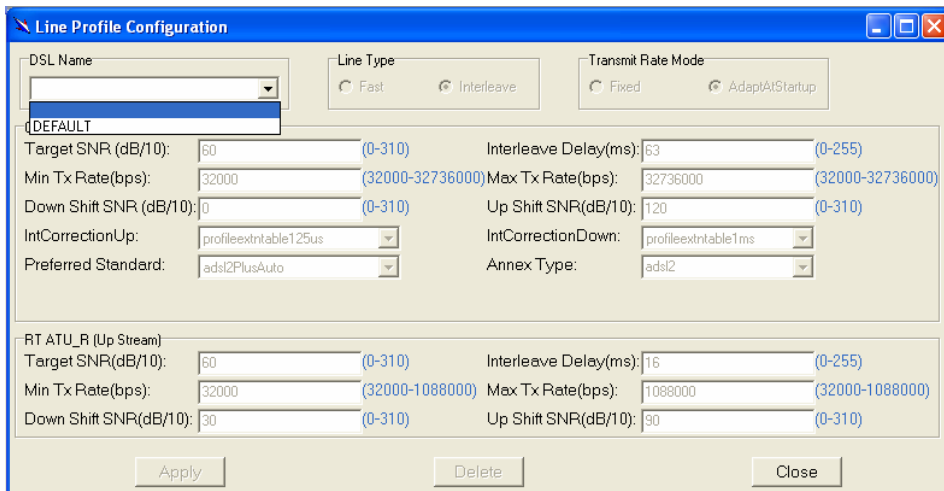
► **Line Profile Configuration**

If to configure Line Profile, proceed as follows.

1. Double Click on “**Line Profile configuration**” from the Function List Window. The Line Profile configuration window appears.



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



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

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

Table 4-7 Line Profile Field Definitions

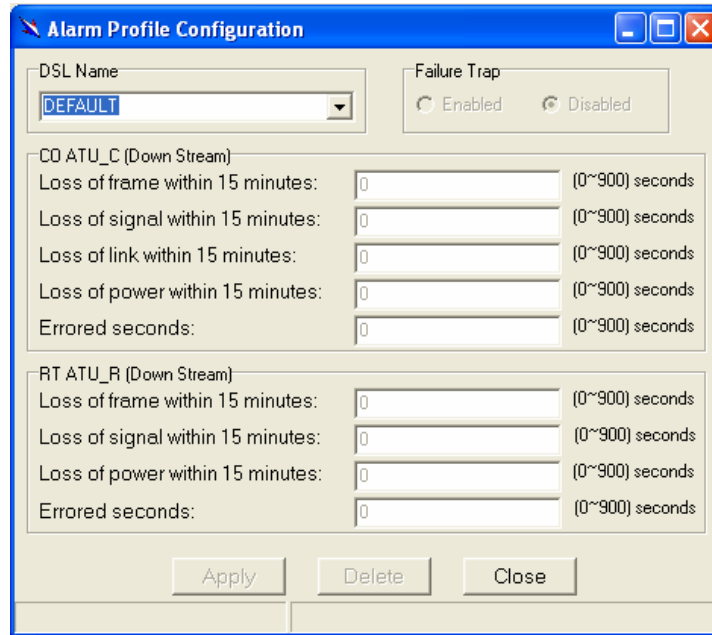
Field	Definition
Line Type	The ADSL line type, Fast or Interleaved
Transmit Rate Adaption	Defines what form of transmitting rate to be adapted, fixed or adaptAtStartup
Target SNR (dB/10)	Target Signal / Noise Margin.(0-310)

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. <b>Value: 125us   250us   500us   1ms   2ms   4ms   disable</b>
Preferred Standard	Preferred standard compliance. Outcome is dependent upon standard support of the remote unit. GlobespanVirata High Speed ADSL DMT (ADSL+) applications only <b>Value: t1413   gLite   gDmt   alctl14   multimode   adi   alctl   t1413Auto   adsIPlus   GspanPlus</b>
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.

► **Alarm Profile Configuration**

If to configure Alarm Profile, proceed as follows.

1. Double Click on “**Alarm Profile Configuration**” from the Function List Window. The Alarm Profile Configuration window appears.



2. To create a new alarm profile, click the DSL Name drop-down list and then select the blank.
3. After that, the fields become enable. Input the values in those fields and then name the new alarm profile.
4. Click on  to submit your setting or click on  to deliete a alarm profile.

Table 4-8 Alarm Profile Field Definitions

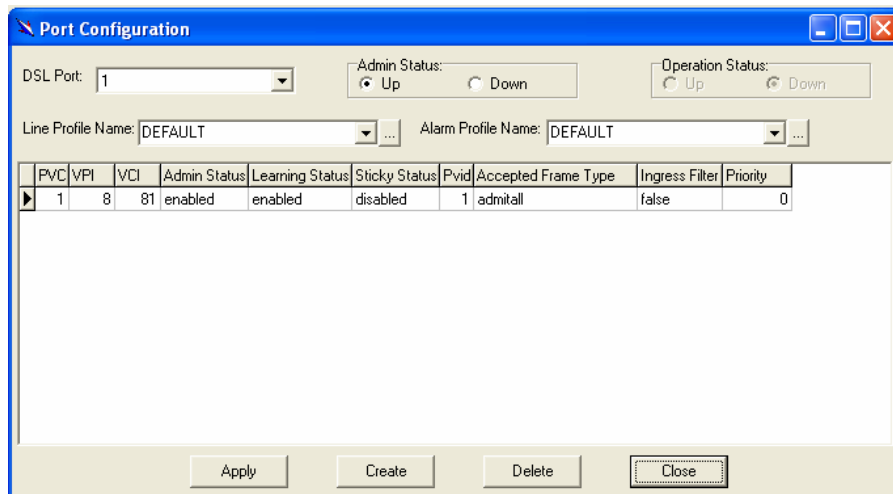
Field	Definition
Loss of frame within 15 minutes	The threshold of the number of “Loss of Frame Seconds” within 15 minutes performance data collection period.
Loss of signal within 15 minutes	The threshold of the number of “Loss of Signal Seconds” within 15 minutes performance data collection period.
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.



## 4.7.2 Port Configuration

Allow users to proceed port configuration. The procedures are as follows:

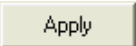
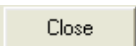
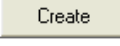
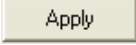
1. Double Click on “**Port Configuration**” from the Function List Window.

The Port Configuration window appears.



2. Choose the port to configure from the DSL Port drop-down list.
3. Configure the Administration status as “Up” or “Down”.
4. 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.
5. 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 a specified PVC, including VPI, VCI, Admin Status, Learning Status, Sticky Status, Pvid, Accepted Frame Type and Ingress Filter, and priority.

6. Click on  to submit your settings or click on  to close the fmBridgeport window.
7. If to create new PVC, click on  and then PVC2 appears and then users can set peremeters via PVC2. after that, click on  to submit your setting.

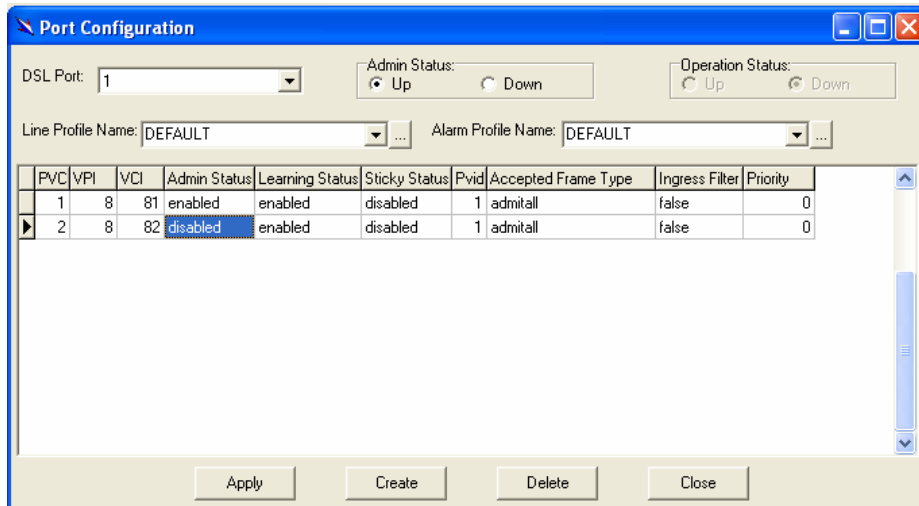


Table 4-9 Port Configuration Field Definitions

Field	Definition
DSL Port	Port No. of the ADSL2/2+ IP DSLAM
VPI	Virtual Path Identifier
VCI	Virtual Channel Identifier
Learning Status	The state of learning on this bridge port. The value <b>enable (1)</b> indicates that unicast Mac address learning is enabled and the value <b>disable</b> 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 <b>enable (1)</b> 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 <b>disable (2)</b> , so that the entries can be aged out.
Pvid	Port VID
Accepted Frame Type	Used to up/down connection.
Ingress Filter	When this is <b>true</b> , the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When <b>false</b> , the port will accept all incoming frames.
Priority	Optional Connection priority. No VLAN tag, no priority.

## 4.8 DSL Performance Management

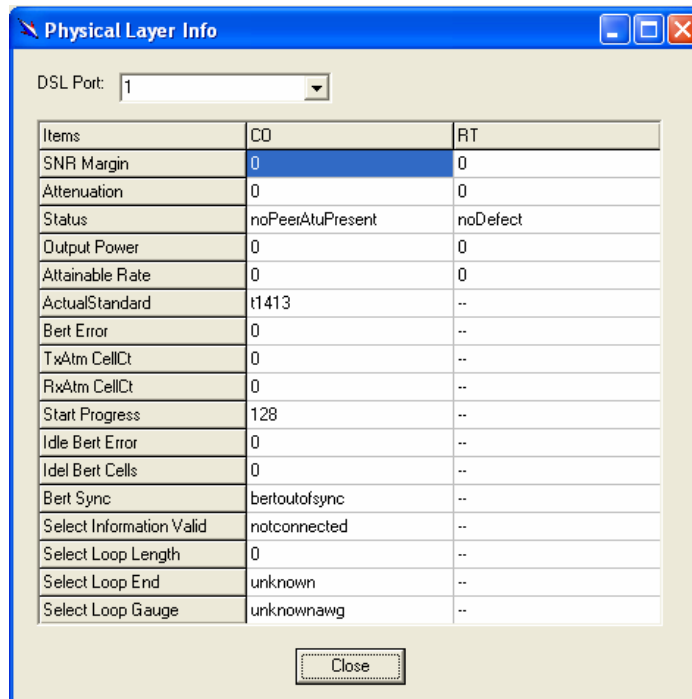
This section describes how to utilize DSL Performance Management by selecting **DSL Performance Management** from Function List window.

This section will cover those functions:

### 4.8.1 Physical Layer Info

Allow users to view the physical layer information of a specified DSL port from the ADSL2/2+ IP DSLAM. The procedures are as follows:

Double Click on “**Physical Layer Info**” from the Function List Window. The Physical Layer Info window appears.



Select the port ID from the DSL Port drop-down list to view a specified DSL’s physical Layer Info.

Click on  to close the window.

Table 4-10 Physical Layer Info Field Definitions

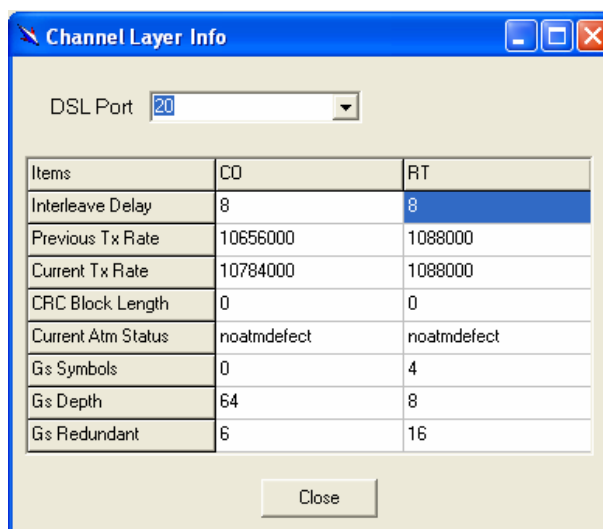
Field	Definition
SNR margin	Noise margin value. (dB)
Attenuation	Difference in the total power transmitted and the total power received by the peer atu. (db)
Status	Current status of the ATU line. The possible values displayed are as follows: No defect: there are no defect on the line los: atu-r failure due to not receiving signal lpr: atu-r failure due to loss of signal
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.

### 4.8.2 Channel Layer Info

Allow users to view the Channel layer information of a specified DSL port from the ADSL2/2+ IP DSLAM. The procedures are as follows:

Double Click on “**Channel Layer Info**” from the Function List Window. The Channel Layer Info window appears.



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

Click on  to close the window.

Table 4-11 Channel Layer Information Field Definitions

Field	Definition
-------	------------

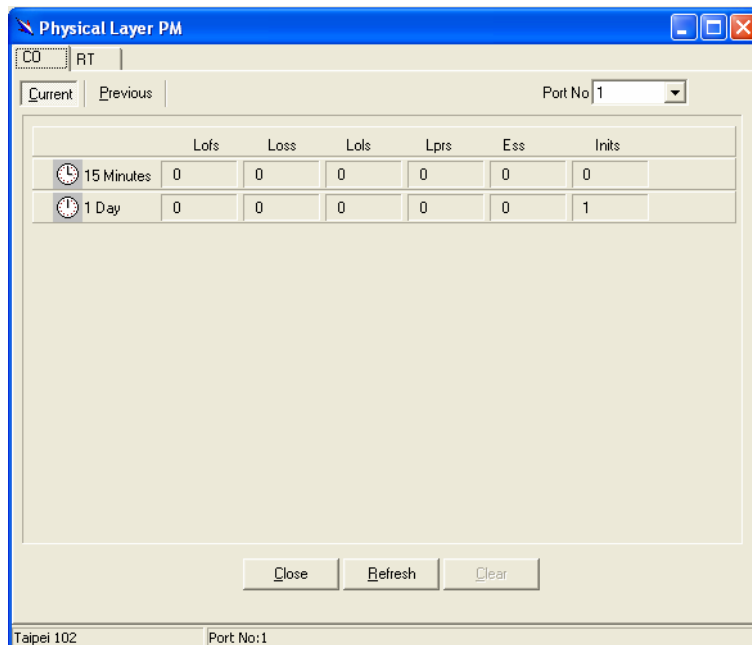


Interleave delay	Interleave delay for this channel. (milli-seconds)
Previous TX rate	Previous actual transmit rate on this channel if ADSL loop retain. (kbps)
Current TX rate	Actual transmit rate on this channel. (kbps)
CRC block length	The length of the channel data-block on which the CRC operates.
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 Redundancy	Indicates the number of redundant bytes (R), per Reed-Solomon code in the downstream direction

### 4.8.3 Physical Layer PM

Allow users to view the Physical layer performance of a specified DSL port from the ADSL2/2+ IP DSLAM. The procedures are as follows:

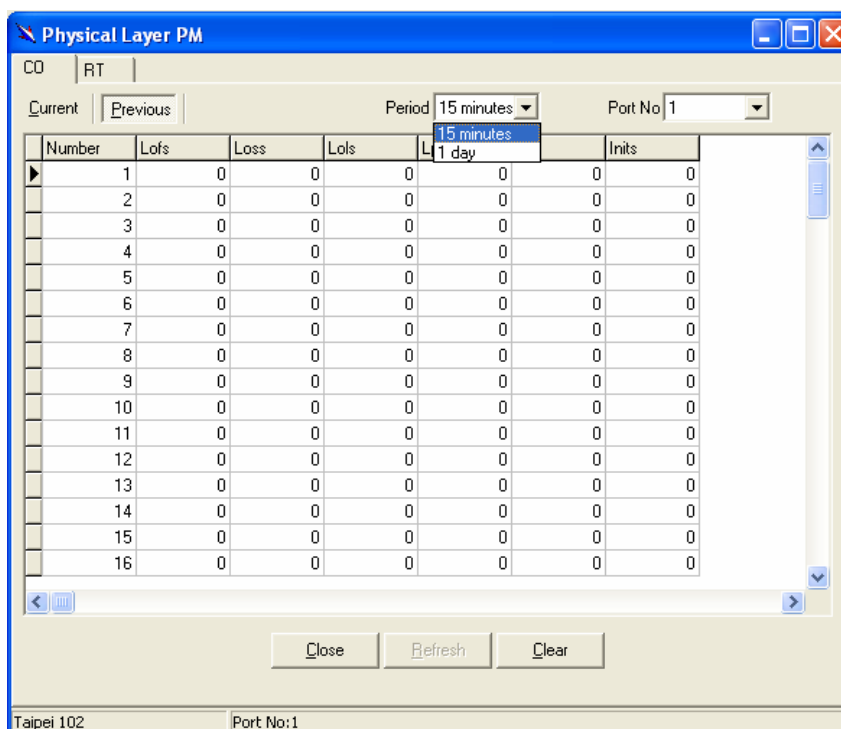
Double Click on “**Physical Layer PM**” from the Function List Window. The Physical Layer PM window appears.



Press Co or RT tab to view the Physical Layer Performance data at down stream or up stream.

Click on **Current** to activated Current page in which users can select Port No. to view 15 minutes and 1 Day ES, SES and UAS record. If to retrieve the latest data, press .

Click on **Previous** to activate previous 15 minutes and 1 day performance data page in which Period and Port No. are selectable. **Note:** refresh button is disable in this page.



Click on  to clear the physical layer data.

Click on  to close the window.

Table 4-12 Current Phy-Layer PM Information Field Definitions

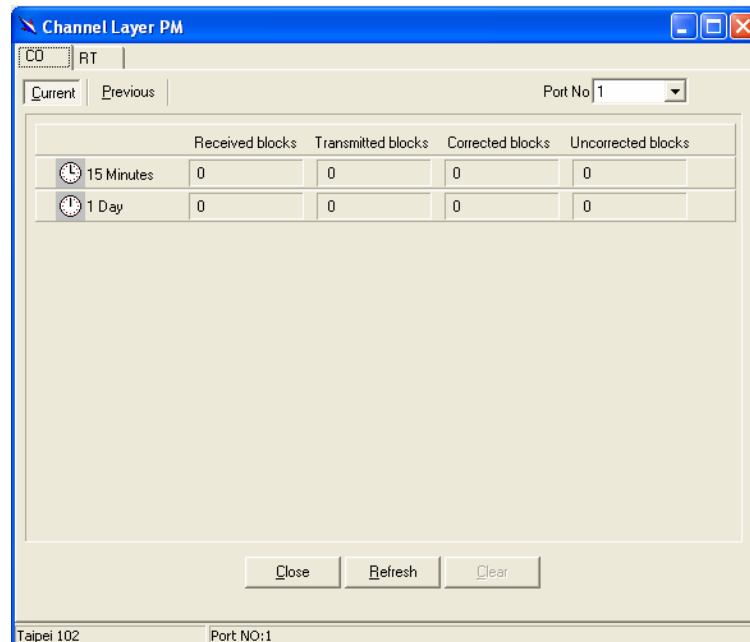
Field	Definition
CO	down stream
RT	up stream
Lofs	Number of lof failures since reset.
Loss	Number of los failures since reset.
Lols	Number of lol failures since reset.
Lprs	Number of lpr failures since reset.
Ess	Number of error seconds since reset.
Inits	Number of initialization attempts since reset. It includes both successful and failed attempts.
Current 15-min lofs	Number of seconds in the current 15-minute interval during which lof was detected.
Current 15-min loss	Number of seconds in the current 15-minute interval during which los was detected.
Current 15-min lols	Number of seconds in the current 15-minute interval during which lol was detected.
Current 15-min lprs	Number of seconds in the current 15-minute interval during which lpr was detected.
Current 15-min ess	Number of error seconds in the current

Field	Definition
	15-minute interval.
Current 15-min inits	Number of inits in the current 15-minute interval. It includes both successful and failed attempts.
Current 1-day time elapsed	Number of seconds that have elapsed since the beginning of the current 1-day interval.
Current 1-day lofs	Number of seconds in the current 1 day interval during which lof was detected.
Current 1-day loss	Number of seconds in the current 1 day interval during which los was detected.
Current 1-day lols	Number of seconds in the current 1 day interval during which lol was detected.
Current 1-day lprs	Number of seconds in the current 1 day interval during which lpr was detected.
Current 1-day ess	Number of error seconds in the current 1 day interval.

#### 4.8.4 Channel Layer PM

Allow users to view the Channellayer performance of a specified DSL port from the ADSL2/2+ IP DSLAM. The procedures are as follows:

Double Click on “**Channel Layer PM**” from the Function List Window. The Channel Layer PM window appears.

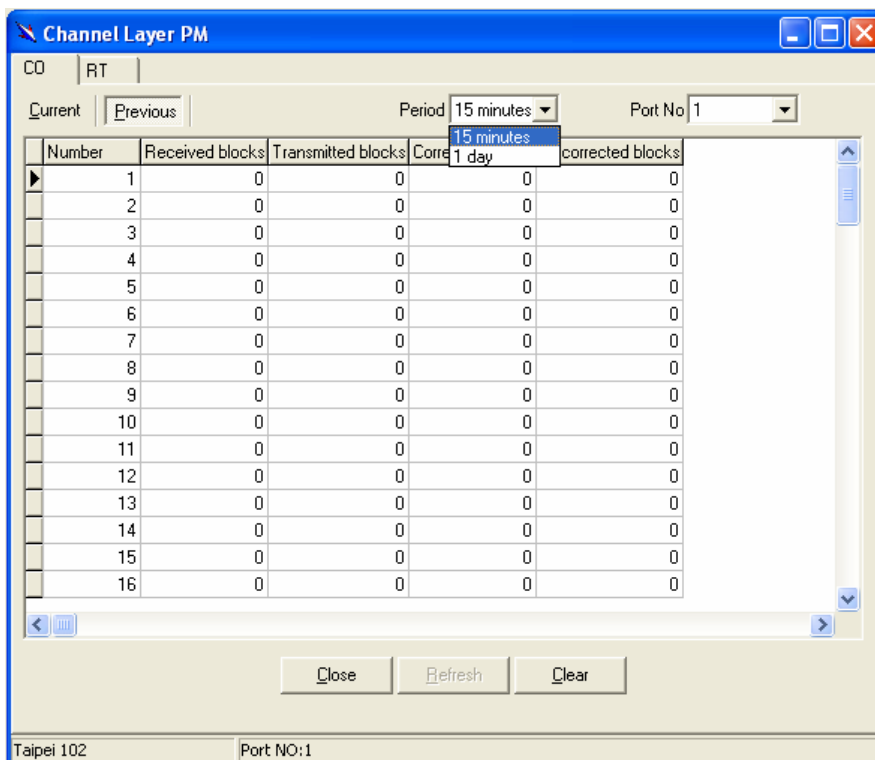


Press Co or RT tab to view the Channel Layer Performance data at down stream or up stream.

Click on **Current** to activated Current page in which users can select Port

No. to view 15 minutes and 1 Day ES, SES and UAS record. If to retrieve the latest data, press .

Click on **Previous** to activate previous 15 minutes and 1 day performance data page in which Period and Port No. are selectable. **Note:** refresh button is disable in this page.



Click on  to clear the channel layer data.

Click on  to close the window.

Table 4-13 Current Channel-Layer PM Information Field Definitions

Field	Definition
CO	down stream
RT	up stream
Received blocks	The total number of blocks of data received since the last agent reset.
Transmitted blocks	The total number of blocks of data transmitted since the last agent reset.
Corrected blocks	Number of corrected blocks of data transmitted since the last agent reset.
Uncorrected blocks	Number of corrected blocks of data transmitted since the last agent reset.
Current 15-min received blocks	Number of blocks of data received during the current 15-minute interval.
Current 15-min Transmitted blocks	Number of blocks of data transmitted during the current 15-minute interval.
Current 15-min corrected blocks	Number of corrected blocks of data transmitted during the current 15-minute interval.

Field	Definition
Current 15-min Uncorrected blocks	Number of uncorrected blocks of data transmitted during the current 15-minute interval.
current 1-day time elapsed	Number of seconds that have elapsed since the start of the current day interval.
Current 1-day received blocks	Number of blocks of data received during the current day interval.
Current 1-day transmitted blocks	Number of blocks of data transmitted during the current day interval.
Current 1-day corrected blocks	Number of corrected blocks of data transmitted during the current day interval.
Current 1-day uncorrected blocks	Number of uncorrected blocks of data transmitted during the current day interval.

---

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# 5

## Application Note

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### 5.1 Basic Configuration

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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.

#### 5.1.1 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
```



Refer to 6.18.2 System Control Table Commands for detailed information.

#### 5.1.2 FD.cfg Configuration

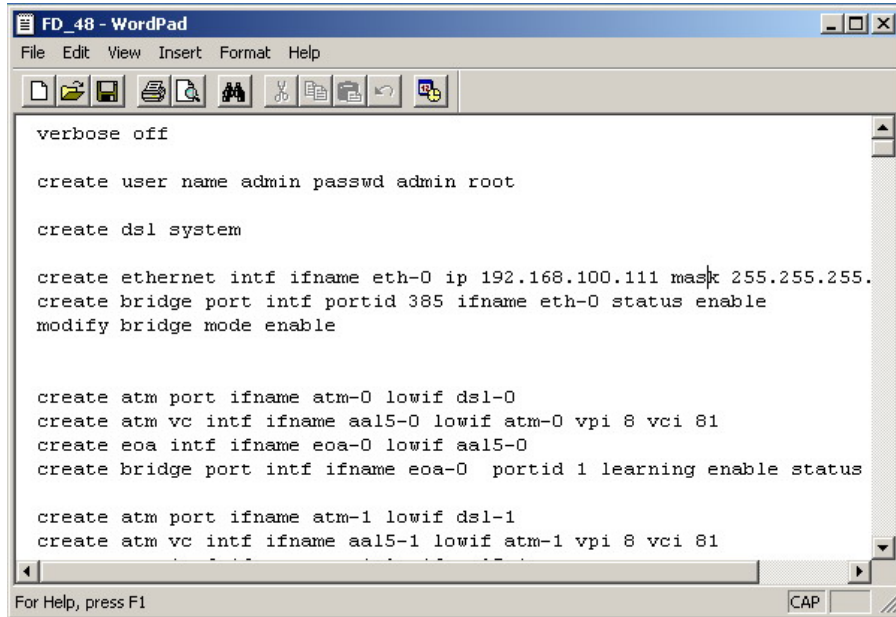
Fd.cfg is a useful tool that contains a set of default configuration commands for DSLAM. Using FD.cfg, you can

- restore the default configuration
- modify current configuration
- create new services

##### ► Contents of FD.cfg

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

## Application Note



```
verbose off

create user name admin passwd admin root

create dsl system

create ethernet intf ifname eth-0 ip 192.168.100.111 mask 255.255.255.
create bridge port intf portid 385 ifname eth-0 status enable
modify bridge mode enable

create atm port ifname atm-0 lowif dsl-0
create atm vc intf ifname aal5-0 lowif atm-0 vpi 8 vci 81
create eoa intf ifname eoa-0 lowif aal5-0
create bridge port intf ifname eoa-0 portid 1 learning enable status

create atm port ifname atm-1 lowif dsl-1
create atm vc intf ifname aal5-1 lowif atm-1 vpi 8 vci 81
```

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



To view the detailed contents, please refer to the appendix1.

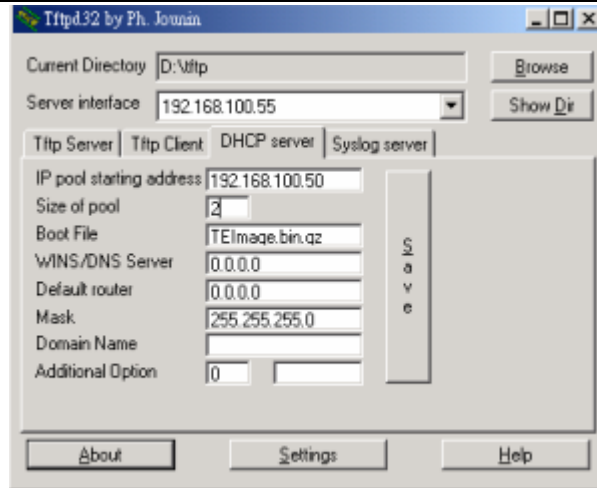
### ► Download procedure

This section describes how to upload FD.cfg to DSLAM by tftp server.

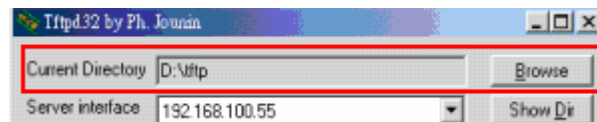
The configuration procedure is shown as follows:

- Step1. Prepare FD.cfg and tftp server (Including file\_id.diz, tftpd32.exe;TFTPD32.HLP and uninst.exe)
- Step2. Put the "FD.cfg" and "tftpd32" at the same folder on your PC.
- Step3. Activate tftpd32 and then tftpd32 window appears (see the following figure)

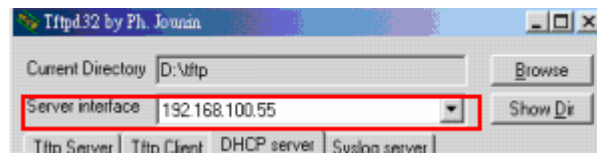
## Application Note



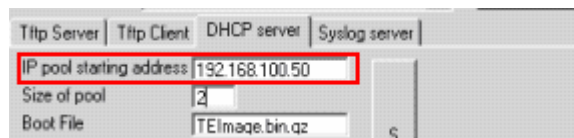
Step4. Click on **Browse** to set the current directory where fd.cfg located.



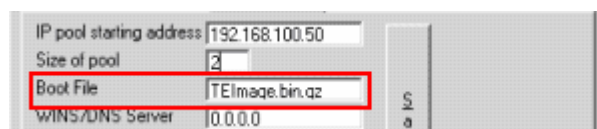
Step5. Click Sever interface drop-down list to select the DHCP Server 's IP.



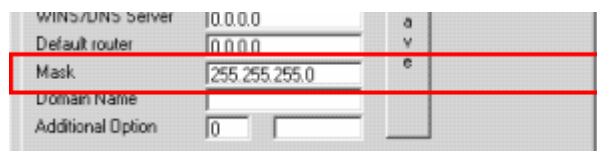
Step6. Assign an IP pool starting address.



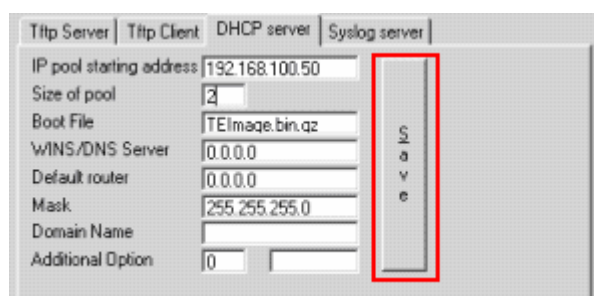
Step7. Input the boot file name (which is firmware name)



Step8. Input the mask



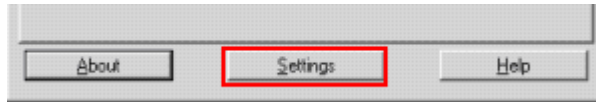
Step9. Save the configuration.





## Application Note

Step10. If needed, click the settings button to re-configure your setting.



Step11. Activate Telnet and login DSLAM.

Step12. Input 'list' to show the path and s/w information

```
$list
```

Name	Size	Acc	State	Ver	Time
-----					
/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	155220			1	Wed Jun 30 14:12:36 2004
RW			active		
/NVRAM/CFG/FACTORYDEF/ FD.cfg	19136			1	Wed Jun 30 14:12:36 2004
RW			active		

Step13. 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
$
```

Step14. 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 DSLAM.



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 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
#####

Step15. 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
```

Step16. Input 'commit' to store your new configuration before rebooting.

```
$commit
```

## Application Note

---

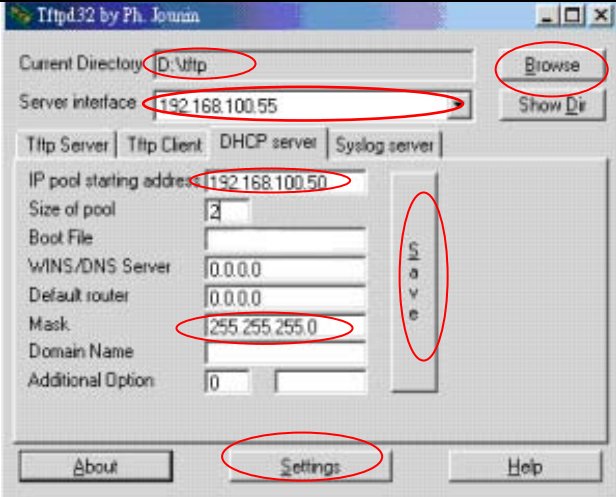
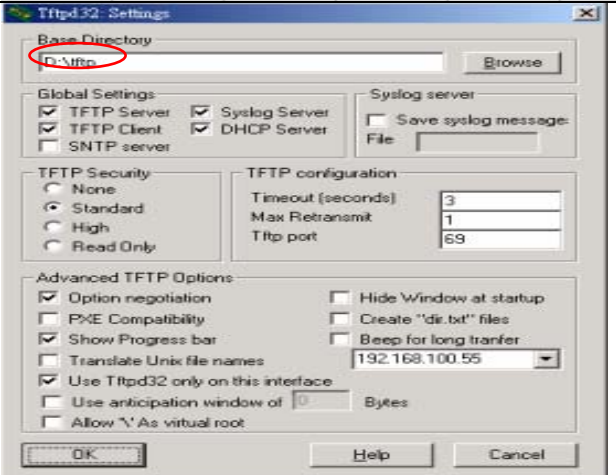
Step17. Input 'reboot config default' to let your new configuration take effect

```
$reboot config default
```

### 5.1.3 How to create myconfig.cfg

- Myconfig.cfg is a txt file that ensures all commands be executed at once.
- Step 3 was shown 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 IPAM if this would be executed after reboot
- Required of equipment: TFTP Server (Tftpd32)

► **TFTP Server configuration**

Step	Image	Usage
1		<ol style="list-style-type: none"> <li>1. Click "Browse" button to indicate current directory of firmware.</li> <li>2. Click down-arrow button to indicate IP of DHCP Server.</li> <li>3. Assign starting address for IP pool.</li> <li>4. Input subnet mask</li> <li>5. Save input parameters.</li> <li>6. Press "Setting" button to configure more details (option)</li> </ol>
2		<ol style="list-style-type: none"> <li>7. After assigned this parameter and reboot Tftpd32 that "Current Directory" at previous step will follow it.</li> </ol>

## Application Note

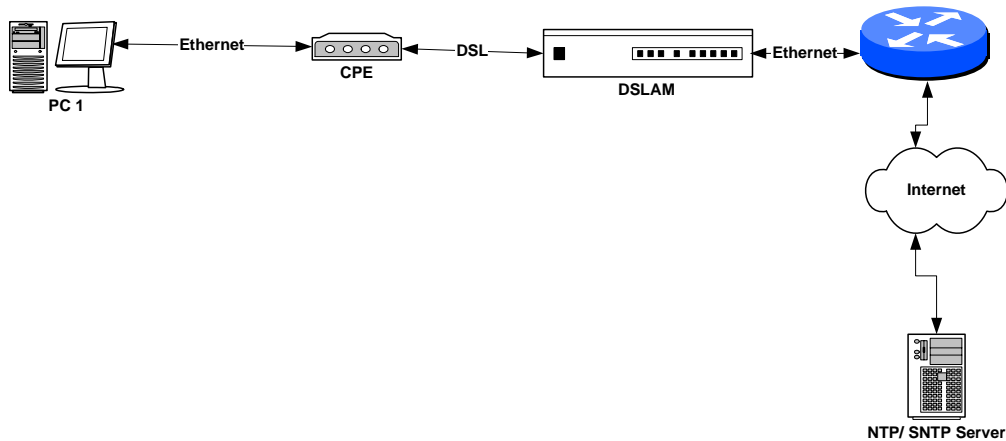
### ▶ myconfig.cfg configuration

Step	Image	Usage
1	Enable TFTP server (tftpd32)	1. Enable TFTP Server and direct the myconfig.cfg path for it.
2	<pre> \$!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_3C0000C.bin.gz1      1   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 </pre>	2. List the table and verify that myconfig.cfg had not created.
3	<pre> \$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... \$ </pre>	3. Download myconfig.cfg to NVRAM. 4. 192.168.100.188 is the PC of TFTP Server..
4	<pre> \$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 \$ </pre>	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".

## 5.1.4 Set System Time

The DSLAM supports SNTP (Simple Network Time Protocol), used to synchronize its clocks in the Internet. It will get the system time via SNTP server while a SNTP server is created.

### Scenario



### Configuration

Follow the steps below to set the SNTP server.



System time will be lost while the system is powered off.

Step 1: set the 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      :
    
```

## Application Note

```

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
$
    
```

Step2: 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
    
```

Step4: 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
    
```

## Application Note

```

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
    
```



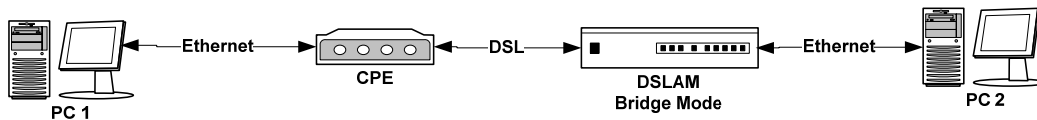
Refer to SNTP series commands for detailed format

### 5.1.5 VLAN Configuration

The DSLAM supports 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.

#### ► Scenario



#### ► 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 vlnname 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
Ingress Filtering : False
Failed Registrations : 0
Restricted Vlan Registration : False
Accept Frame Types: All
Gvrp Status       : Disable
Last Pdu Origin   : 00:00:00:00:00:00
Set Done
Port Id           : 1
Port VLAN Index   : 2
Ingress Filtering : True
Failed Registrations : 0
Restricted Vlan Registration : False
Accept Frame Types: All
Gvrp Status       : Disable
Last Pdu Origin   : 00:00:00:00:00:00
$
    
```

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
    
```

## Application Note

```

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 4: 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 5: Create a new VLAN group No.3, and assign to Bridge port 49(ADSL port 1 PVC 8/82), and 385(Eth-0)



## Application Note

```
$create vlan static vlnname 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 6: 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 7: Modify the VLAN group 2, and add Bridge port 2(ADSL port 2 PVC 8/81)

```
$modify vlan static vlnname 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 8: 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
```

## Application Note

Broadcast support Status : enable

Step 9: 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
<b>Admin Status</b>	: <b>Up</b>	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
<b>Admin Status</b>	: <b>Down</b>	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
<b>VPI</b>	: <b>8</b>	<b>VCI</b>	: <b>81</b>
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
<b>VPI</b>	: <b>0</b>	<b>VCI</b>	: <b>35</b>
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 9: Set AAL5 as enable

**\$modify atm vc intf ifname aal5-1 enable**

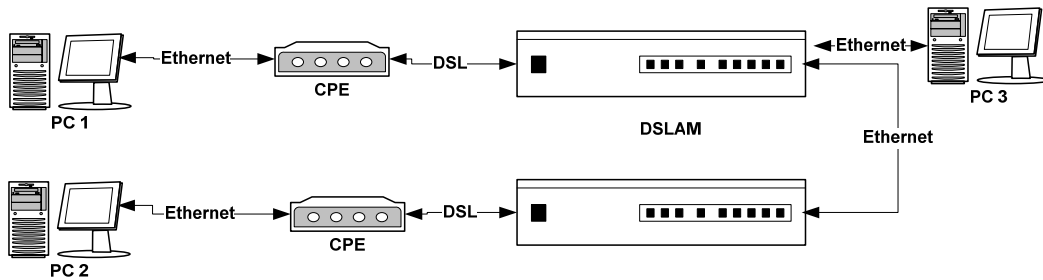
VC IfName	: aal5-1	Low IfName	: atm-1
VPI	: 0	VCI	: 35
<b>Admin Status</b>	: <b>Down</b>	Oper Status	: Down
Aal5 Tx Size	: 1536	Aal5 Rx Size	: 1536
AAL Type	: AAL5	AAL5 Encap	: LLC Mux
Channel	: Interleaved	Last Change (sec)	: 0
MgmtMode	: Data	Row Status	: active
VC Type	: PVC	VC Topology	: Point to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

Set Done

VC IfName	: aal5-1	Low IfName	: atm-1
VPI	: 0	VCI	: 35
<b>Admin Status</b>	: <b>Up</b>	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

## 5.1.6 Modify the Downstream/ Upstream Rate

### ► Scenario



### ► Configuration

Step1: 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  :
q9922Adsl2PlusPotsNonOverlappedq9922Adsl2PlusPotsOverlapp
e 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
    
```

Step2: Set ADSL port 12 interleave mode Downstream 512K.  
The value is hex so you must conversion to decimal.

```

$modify adsl line profile atucintlmaxtrate 0x7d000 ifname dsl-11

IfName          : dsl-11

ADSL ATUC Configuration :
-----
Rate Adaptation      : adaptAtStartup
    
```

## Application Note

```

Target Snr Margin(dB/10) : 60
GsRsIntCorrectionUp : 125us
Upshift SnrMargin(dB/10) : 120
Min Dnshift Time(sec) : 0
Intl Min Tx Rate(bps) : 0x7d00
Intl Max Tx Rate(bps) : 0x1f38300
GsTxStartBin : 0x20
GsRxStartBin : 0x6
GsMaxBitsPerBin : 15
GsRxBinAdjust : Disable
GsAdi2x : standard
GsInitiate : -
GsCodingGain : Auto
GsRsIntCorrectionDown : 1Ms
GsDrStby : Disable
GsEscapeFastRetrain : Disable
GsBitSwap : Enable
GsAnnexType : adsl2
GsUseCustomBin : Disable
GsPsdMaskType : -
GsExtRsMemory : notpresent
GsParamHybridLossTestEnd : 0x40
GsAdvertisedCapabilities : AnnexA
GslTriggerMode : Disable
Type : interleavedOnly
GsDnBinUsage :
0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFF
ParametricTestInputFile : -
Data Boost : Enable Upstream PSD : Standard
Conf PM Mode : pmstatal3enable pmstatal2enable
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
Upshift SnrMargin(dB/10): 120
Min Dnshift Time(sec) : 0
Intl Min Tx Rate(bps) : 0x7d00
Intl Max Tx Rate(bps) : 0x109a00
Dnshift SnrMargin(dB/10): 0
Min Upshift Time(sec) : 0
Fast Min Tx Rate(bps) : 0x7d00
Fast 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
GsRsIntCorrectionUp : 125us
Upshift SnrMargin(dB/10): 120
Min Dnshift Time(sec) : 0
Intl Min Tx Rate(bps) : 0x7d00
Intl Max Tx Rate(bps) : 0x7d000
GsTxStartBin : 0x20
GsRxStartBin : 0x6
GsMaxBitsPerBin : 15
GsRxBinAdjust : Disable
GsAdi2x : standard
GsInitiate : -
GsCodingGain : Auto
GsRsIntCorrectionDown : 1Ms
GsDrStby : Disable
GsEscapeFastRetrain : Disable
GsBitSwap : Enable
GsAnnexType : adsl2
GsUseCustomBin : Disable
GsPsdMaskType : -
GsExtRsMemory : notpresent
GsParamHybridLossTestEnd : 0x40
GsAdvertisedCapabilities : AnnexA
GslTriggerMode : Disable
Max Snr Margin(dB/10) : 310
Dnshift SnrMargin(dB/10) : 0
Min Upshift Time(sec) : 0
Fast Min Tx Rate(bps) : 0x7d00
Fast Max Tx Rate(bps) : 0x1f38300
Max Intl Delay(ms) : 0
GsTxEndBin : 0x1ff
GsRxEndBin : 0x1f
GsMaxDCo : 256
GsEraseProfiles : Disable
GsStandard : adsl2Plus
GsTxPowerAtten : -
GsRsFastOvrhdDown : 1
GsRsFastOvrhdUp : 1
GsExpandedExchange : Expanded
GsFastRetrain : Disable
GsNtr : LocalOcs
GsAlctlUsVer : Unknown
GsFullRetrain : Enable
DmtConfMode : fdmMode
ParamHybridLossTestStart : 0x2
GsDmtTrellis : on
    
```

## Application Note

```

Type : interleavedOnly
GsDnBinUsage :
0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFF
ParametricTestInputFile : -
Data Boost : Enable Upstream PSD : Standard
Conf PM Mode : pmstatal3enable pmstatal2enable
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
    
```

Step4: 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 GsAlctUsVer : Unknown
GsUseCustomBin : Disable GsFullRetrain : Enable
GsPsdMaskType : - DmtConfMode : fdmMode
GsExtRsMemory : notpresent ParamHybridLossTestStart : 0x2
GsParamHybridLossTestEnd : 0x40 GsDmtTrellis : on
GsAdvertisedCapabilities : AnnexA
GsITriggerMode : Disable
Type : interleavedOnly
GsDnBinUsage :
0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFF
ParametricTestInputFile : -
Data Boost : Enable Upstream PSD : Standard
Conf PM Mode : pmstatal3enable pmstatal2enable
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
    
```

## Application Note

Set Done

IfName : dsl-11

**ADSL ATUC Configuration :**

```

-----
Rate Adaptation : adaptAtStartup
Target Snr Margin(dB/10): 60          Max Snr Margin(dB/10) : 310
GsRslntCorrectionUp : 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
GsRslntCorrectionDown : 1Ms          GsRsFastOvrhdUp : 1
GsDrStby : Disable                  GsExpandedExchange : Expanded
GsEscapeFastRetrain : Disable        GsFastRetrain : Disable
GsBitSwap : Enable                  GsNtr : LocalOcs
GsAnnexType : adsl2                  GsAlctUsVer : Unknown
GsUseCustomBin : Disable             GsFullRetrain : Enable
GsPsdMaskType : -                   DmtConfMode : fdmMode
GsExtRsMemory : notpresent           ParamHybridLossTestStart: 0x2
GsParamHybridLossTestEnd: 0x40       GsDmtTrellis : on
GsAdvertisedCapabilities: AnnexA
GslTriggerMode : Disable
Type : interleavedOnly
GsDnBinUsage :
0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFF
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
    
```

Step5: 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

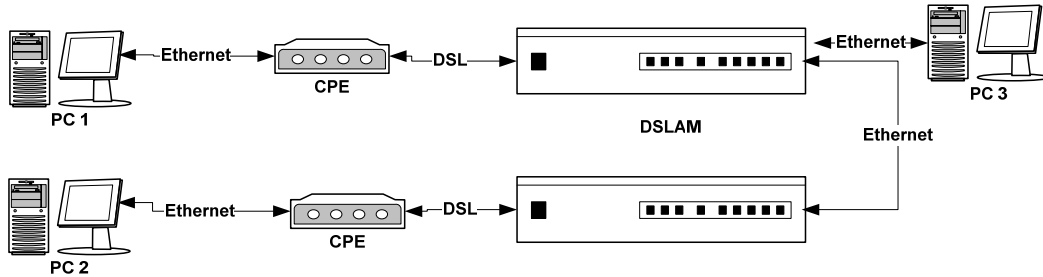
## Application Note

```
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
```

## 5.1.7 Enable SNMP function

SNMP (Simple Network Management Protocol) is used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security.

### ► Scenario



### ► Configuration

Step 1: Create SNMP community

```
$create snmp comm community public rw
```

Entry Created

Community	Access
public	RW

Step 2: Create SNMP host

```
$create snmp host ip 192.168.100.55 community public
```

Entry Created

Host Address	Community
192.168.100.55	public

\$

Step 3: Create SNMP trap host

```
$create snmp trap host ip 192.168.100.55 community public
```

Entry Created

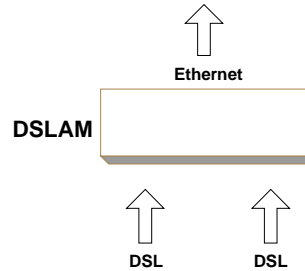
Ip Address : 192.168.100.55  
 Community : public  
 Port : 162 Version : v2c



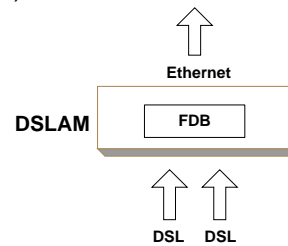
## 5.1.8 DSL ports filtering (bridging mode)

This specifies the state of full bridging on the bridge. 3 modes of bridging supported:

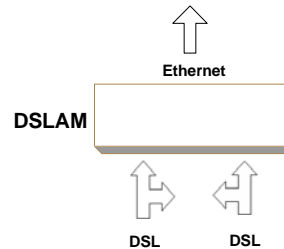
1. **Residential Bridging:** all packets from a CPE side port are sent to Net side port without doing a lookup in the forwarding table. All upstream traffic is forwarding uplink.



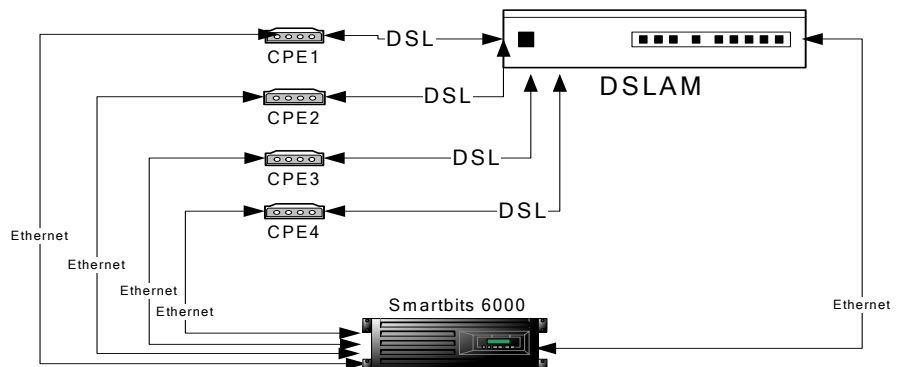
2. **Restricted (Full) Bridging:** there is a lookup and a packet coming from a CPE port destined for another CPE port is dropped. Hence, CPE-CPE switching is not permitted. There is Lookup overhead, but may be less traffic than (1).



3. **Unrestricted (Full) Bridging:** all traffic is forwarded based on lookup.



### ► Scenario



### ► Configuration

- Residential Bridging:

Command: modify nbsize bridgingmode residential

- Restricted Bridging:

Command: modify nbsize bridgingmode restricted

- Unrestricted (Full) Bridging:

Command: modify nbsize bridgingmode unrestricted

**Note:** if to build a connection between specified ports, refer to 1.1.5 VLAN Configuration.

## 5.2 Advanced Configuration

Following sections describes how to execute advanced configuration to meet the requirements of advanced application scenarios.

### 5.2.1 How to get QoS of uplink port

► **Overview**

The following template is provided for users with verify QOS of uplink port of DSLAM.

There are 3 PVCs will be created on bridge port by dsl 1 as follows.

VPI/VCI	Bridge port ID	Original priority	Redefined priority
8/81	1	0	2
8/82	49	0	3
8/83	96	0	4

All of upstream packets will be redefined priority by VLAN packets; we can verify it by VLAN tag.

► **Goals**

- Verify the relationship between priority of bridge port and VLAN
- Verify the output packets of Uplink 1 will have the priority of VLAN tag.

► **Requirements for test**

Equipment	Quantity	P.S
Smartbit 6000	1	
DSLAM	1	
AGA	1	
PC	1	

► **Configuration**

**DSLAM**

**Reboot system configuration**

- In order to clean all configuration so that I suggest you to reboot system default as below command.
- \$Reboot config default

**Create 3 PVCs and mapping to bridge port 1, 49 and 97 respectively.**

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

\$create atm vc intf ifname aal5-96 lowif atm-0 vpi 8 vci 83

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

\$create eoa intf ifname eoa-96 lowif aal5-96

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

\$create bridge port intf ifname eoa-96 portid 97 learning enable status disable

**Confirm priority info of bridge on dsl port 1, 49 and 97**

## Application Note

---

```
$get bridge port prioinfo portid 1
PortId      : 1
DefaultPriority : 0          NumTrafficClass : 4
```

```
$get bridge port prioinfo portid 49
PortId      : 49
DefaultPriority : 0          NumTrafficClass : 4
```

```
$get bridge port prioinfo portid 97
PortId      : 97
DefaultPriority : 0          NumTrafficClass : 4
```

**Modify priority of bridge port as below:**

Port ID	Priority
1	2
49	3
97	4

```
$modify bridge port prioinfo portid 1 defPrio 2
```

```
$modify bridge port prioinfo portid 49 defPrio 3
```

```
$modify bridge port prioinfo portid 97 defPrio 4
```

```
$modify bridge port intf portid 1 status enable
```

```
$modify bridge port intf portid 49 status enable
```

```
$modify bridge port intf portid 97 status enable
```

**Verify priority what we have created as below:**

```
$set bridge port prioinfo portid 1
PortId      : 1
DefaultPriority : 2          NumTrafficClass : 4
$set bridge port prioinfo portid 49
PortId      : 49
DefaultPriority : 3          NumTrafficClass : 4
$set bridge port prioinfo portid 97
PortId      : 97
DefaultPriority : 4          NumTrafficClass : 4
$
```

**Create VLAN as below.**

VLAN ID	Bridge port (Untag)	Bridge port (tag)
1	1	385
49	2	385
97	3	385

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

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

```
$create vlan static vlanname vlan4 vlanid 4 egressports 97
385 untaggedports 97
```

```
$modify gvrp port info portid 2 portvlanid 2 acceptframetypes
all ingressfiltering true
```

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

```
$modify gvrp port info portid 97 portvlanid 4
acceptframetypes all ingressfiltering true
```

## Application Note

### Create ACL (Access control list)

- To simulate different service applications, the CPEs with authorized mac address can access the Internet.

```
$create acl port macentry macaddr 00:00:00:00:10:01 portid 1
```

```
$create acl port macentry macaddr 00:00:00:00:20:01 portid 1
```

```
$create acl port macentry macaddr 00:00:00:00:10:02 portid 49
```

```
$create acl port macentry macaddr 00:00:00:00:20:02 portid 49
```

```
$create acl port macentry macaddr 00:00:00:00:10:03 portid 97
```

```
$create acl port macentry macaddr 00:00:00:00:20:03 portid 97
```

### ▶ AGA-100

Create 3 PVCs and mapping to 8/81, 8/82, 8/83 separately.

- Status
- Quick Start
- ▶ System
- ▼ Configuration
  - Save config
  - Authentication
  - LAN connections
  - WAN connections
  - Security
  - IP routes
  - DHCP server
  - DHCP relay
  - DNS client
  - DNS relay
  - VPN
  - Bridge
  - ▶ Ports

## WAN connections

---

WAN services currently defined:

Service Name	IP/Bridge Interface Name	Description	Creator		
rfc1483-0	rfc1483-0	pvc 1	WebAdmin	Edit... ▶	Delete... ▶
rfc1483-1	rfc1483-1	pvc 2	WebAdmin	Edit... ▶	Delete... ▶
rfc1483-2	rfc1483-2	pvc 3	WebAdmin	Edit... ▶	Delete... ▶
rfc1483-3	rfc1483-3	pvc 4	WebAdmin	Edit... ▶	Delete... ▶

Create a new service... ▶

### ▶ SmartBit 6000

Connect Port 05 to uplink 1 of DSLAM.

Create 3 VTEs of this port with VLAN tag as below.

#	Len	MAC Destination	MAC Source	VLAN	pri	cfi	vid	Type	Network Source	Network Destination	Signature	Gateway
<input type="checkbox"/>	1	1514 00 00 00 00 20 01	00 00 00 00 10 01	<input checked="" type="checkbox"/>	0	0	2	IP	198.019.001.002	198.019.001.001	<input checked="" type="checkbox"/>	001.001.001.001
<input checked="" type="checkbox"/>	2	1514 00 00 00 00 20 02	00 00 00 00 10 02	<input checked="" type="checkbox"/>	0	0	3	IP	198.019.001.002	198.019.001.001	<input checked="" type="checkbox"/>	001.001.001.001
<input type="checkbox"/>	3	1514 00 00 00 00 20 03	00 00 00 00 10 03	<input checked="" type="checkbox"/>	0	0	4	IP	198.019.001.002	198.019.001.001	<input checked="" type="checkbox"/>	001.001.001.001

Connect Port 06 to Ethernet port of AGA-100.

Create 3 VTEs of this port without VLAN tag as below.

#	Len	MAC Destination	MAC Source	VLAN	pri	cfi	vid	Type	Network Source	Network Destination	Signature	Gateway
<input checked="" type="checkbox"/>	1	1514 00 00 00 00 10 01	00 00 00 00 20 01	<input type="checkbox"/>				IP	198.019.001.002	198.019.001.001	<input checked="" type="checkbox"/>	001.001.001.001
<input checked="" type="checkbox"/>	2	1514 00 00 00 00 10 02	00 00 00 00 20 02	<input type="checkbox"/>				IP	198.019.001.002	198.019.001.001	<input checked="" type="checkbox"/>	001.001.001.001
<input type="checkbox"/>	3	1514 00 00 00 00 10 03	00 00 00 00 20 03	<input type="checkbox"/>				IP	198.019.001.002	198.019.001.001	<input checked="" type="checkbox"/>	001.001.001.001

### ▶ Result

Send the packets from port-06 and capture the packets from port-05 by PVC 1.





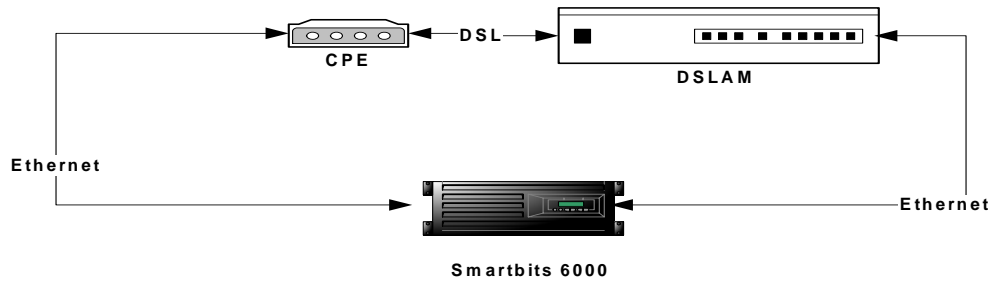
## 5.2.2 How to modify IRL /ORL

IRL (input rate limit)/ORL(output rate limit) which define the maximum rate for input /output.

IRL is only for upstream direction by aal5-x (PVC X).

ORL is only for downlink direction by atm-x.

### ► Scenario



### ► Configuration

**IRL:**

**Example,**

- Limit the maximum rate of input at 256k for aal5-0.

```
$ create irl profile profilename gold irltype sr2cm cir 256 cbs 6000
conformation colorgreen violateaction drop
$ create irl map ifname aal5-0 profilename gold
```

**ORL:**

**Example,**

- Limit the maximum rate of input at 128k for atm-0.

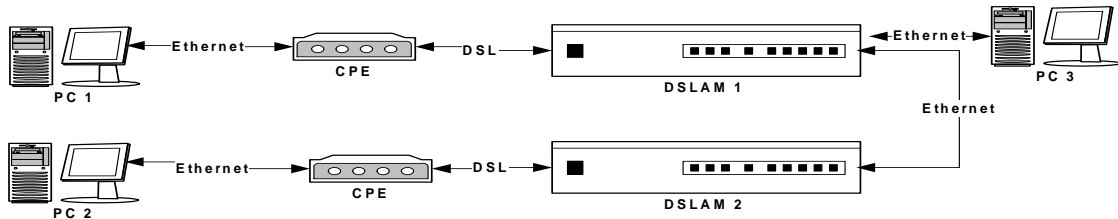
```
$ modify atm port ifname atm-0 orl 128
```



### 5.2.3 How to Stack 2 units

- Eth0 enable (for uplink), its bridge port number is 385
- Eth1 disable (for downlink)
- MGMT interface disable

► Scenario



► Configuration

Step1:

Command	Description
<b>( Master )</b> create ethernet intf ifname eth-0 ip 192.168.100.50 mask 255.255.255.0 enable create bridge port intf portid 385 ifname eth-0 learning disable status enable create ethernet intf ifname eth-1 type downlink enable create bridge port intf portid 386 ifname eth-1 learning enable status enable modify bridge mode enable <b>( Slave )</b> create ethernet intf ifname eth-0 ip 192.168.100.60 mask 255.255.255.0 enable create bridge port intf portid 385 ifname eth-0 learning disable status enable create ethernet intf ifname eth-1 type downlink enable create bridge port intf portid 386 ifname eth-1 learning enable status enable modify bridge mode enable	Master for unit 1 Slave for unit 2 IP is unnecessary for Downlink port

Step2:

Command	Description
<pre> \$get ethernet intf  Interface      : eth-0 Type           : Uplink      UseDhcp      : False IP Address    : 192.168.100.50  Mask       : 255.255.255.0 Pkt Type      : ALL Orl(mbps)     : 100 Configured Duplex : Auto      Duplex      : Full Configured Speed  : Auto Class0thrshld  : 100      Class1thrshld: 100 Class2thrshld  : 100      Class3thrshld: 100 Class4thrshld  : 100      Class5thrshld: 100 Class6thrshld  : 100      Class7thrshld: 100 ProfileName    : SPPROFILE Mgmt VLAN Index : -                     </pre>	Verify the configuration after stacking.

## Application Note

<p>Tagged Mgmt PDU Prio: 0  Speed : 100BT  Operational Status : Up</p> <p>Interface : eth-1  Type : Downlink  False  IP Address : 0.0.0.0  0.0.0.0  Pkt Type : ALL  Orl(mbps) : 100  Configured Duplex : Auto  None  Configured Speed : Auto  Class0thrshld : 100  Class2thrshld : 100  Class4thrshld : 100  Class6thrshld : 100  ProfileName : SPPROFILE  Mgmt VLAN Index :-  Tagged Mgmt PDU Prio: -  Speed :-  Operational Status : Down</p> <p>Interface : eth-2  Type : Uplink  False  IP Address : 10.90.91.91  255.255.255.0  Pkt Type : ALL  Orl(mbps) : 100  Configured Duplex : Auto  None  Configured Speed : Auto  Class0thrshld : 100  Class2thrshld : 100  Class4thrshld : 100  Class6thrshld : 100  ProfileName : SPPROFILE  Mgmt VLAN Index :-  Tagged Mgmt PDU Prio: 0  Speed :-  Operational Status : Down</p>	<p>Admin Status : Up</p> <p>UseDhcp :  Mask :  Duplex :  Class1thrshld: 100  Class3thrshld: 100  Class5thrshld: 100  Class7thrshld: 100</p> <p>Admin Status : Up</p> <p>UseDhcp :  Mask :  Duplex :  Class1thrshld: 100  Class3thrshld: 100  Class5thrshld: 100  Class7thrshld: 100</p> <p>Admin Status : Up</p>
--	--

## 5.2.4 How to debug ADSL line

The way to debug adsl line is shown as follows.



The command is different from others while loop start in interleave mode. (**dsl*i***)

Command dsl-x, x means which port was connected.

### ► Configuration

AGA (ADSL2+)	DSL-300G (G.dnt)
<pre> \$get adsl atuc channel ifname dsl-i-0 Ifname          : dsl-i-0 Interleave Delay(ms): <b>6</b>          Curr Tx Rate(bps)          : <b>21156200</b> Prev Tx Rate(bps) : <b>21286100</b>      Crc Block Length(byte)    : 46410 Gs Curr Atm Status : OK           GsSymbolsPerRsWord       : 37 GsRsDepth         : 64           GsRedundantBytesPerRsCode : 4 \$ </pre>	<pre> \$get adsl atuc channel ifname dsl-i-4 Ifname          : dsl-i-4 Interleave Delay(ms): <b>16</b>          Curr Tx Rate(bps)          : <b>8064000</b> Prev Tx Rate(bps) : <b>8064000</b>      Crc Block Length(byte)    : 17136 Gs Curr Atm Status : OK           GsSymbolsPerRsWord       : 1 GsRsDepth         : 64           GsRedundantBytesPerRsCode : 2 \$ </pre>
<pre> \$get adsl atur channel ifname dsl-i-0 Ifname          : dsl-i-0 Interleave Delay(ms) : <b>13</b>          Curr Tx Rate(bps)          : <b>1085200</b> Rate(bps)         : <b>1085200</b>      Crc Block Length(byte)    : 2540 Prev Tx Rate(bps) : <b>1085200</b>      Crc Block Length(byte)    : 2540 Length(byte)      : 2540 Gs Curr Atm Status : OK GsSymbolsPerRsWord : 695 GsRsDepth         : 8 GsRedundantBytesPerRsCode : 16 \$ </pre>	<pre> \$get adsl atur channel ifname dsl-i-4 Ifname          : dsl-i-4 Interleave Delay(ms) : <b>8</b>          Curr Tx Rate(bps)          : <b>1088000</b> Rate(bps)         : <b>1088000</b>      Crc Block Length(byte)    : 2312 Prev Tx Rate(bps) : <b>1088000</b>      Crc Block Length(byte)    : 2312 Length(byte)      : 2312 Gs Curr Atm Status : OK GsSymbolsPerRsWord : 4 GsRsDepth         : 8 GsRedundantBytesPerRsCode : 16 \$ </pre>
<pre> \$get adsl atuc physical ifname dsl-i-0 Ifname          : dsl-i-0 Serial Number   : (co-0123456) Vendor ID       : FFB54753504E0000C.12.1.2 Version Number  : C.12.1.2 Curr Status     : NoDefect Curr Snr Margin(dB/10) : 110      Curr Atn(dB/10)           : 0 CurrAttainable Rate(bps): 0        Curr Output Pwr(dB/10): 83 GsOpState       : Data           GsActualStandard         : adsl2Plus GsTxAtmCellCounter : 430      GsRxAtmCellCounter       : 0 GsStartProgress  : 0 GsIdleBertError  : 0            GsIdleBertCells          : 0 GsBertSync       : BertOutOfSync GsParametricTestResult : Ok GsBertError      : 0 GsSeltInfoValid  : NotConnected GsSeltLoopLen (in Feet) : 0 GsSeltLoopEnd    : unknown GsSeltLoopGauge  : - DataBoost Status : Disable GsSeltUpShannonCap (in bps) : 0 GsSeltDownShannonCap (in bps) : 0 Chan Perf CD     : 785608        Chan Perf BE              : 0 Delt HLINSCus   : 0            Delt HLOGMTus            : 0 Delt QLNMtUs    : 0            DELT Last Tx State       : dmtatucg9941 PM State         : dataoop      Chan Perf Cu              : 0 Extended PSD Status : standard  Chip Version              : 25 Bin Number       Number of bits/bin [0] 0 0 0 0 0 0 7 9 10 11 11 12 13 14 14 14 [16] 14 14 14 14 14 14 14 13 13 13 12 11 10 9 8 7 [32] 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 [48] 0 0 0 0 0 0 0 0 0 0 0 0 110 0 0 0 0 Parametric Info </pre>	<pre> \$get adsl atuc physical ifname dsl-i-4 Ifname          : dsl-i-4 Serial Number   : (co-0123456) Vendor ID       : FFB54753504E0000C.12.1.2 Version Number  : C.12.1.2 Curr Status     : NoDefect Curr Snr Margin(dB/10) : 110      Curr Atn(dB/10)           : 25 CurrAttainable Rate(bps): 10888000  Curr Output Pwr(dB/10): 95 GsOpState       : Data           GsActualStandard         : GDmt GsTxAtmCellCounter : 416      GsRxAtmCellCounter       : 0 GsStartProgress  : 140 GsIdleBertError  : 0            GsIdleBertCells          : 32728 GsBertSync       : BertInSync GsParametricTestResult : Ok GsBertError      : 0 GsSeltInfoValid  : NotConnected GsSeltLoopLen (in Feet) : 0 GsSeltLoopEnd    : unknown GsSeltLoopGauge  : - DataBoost Status : Disable GsSeltUpShannonCap (in bps) : 0 GsSeltDownShannonCap (in bps) : 0 Chan Perf CD     : 0            Chan Perf BE              : 0 Delt HLINSCus   : 0            Delt HLOGMTus            : 0 Delt QLNMtUs    : 0            DELT Last Tx State       : dmtatucg9941 PM State         : dataoop      Chan Perf Cu              : 0 Extended PSD Status : standard  Chip Version              : 25 Bin Number       Number of bits/bin [0] 0 0 0 0 0 0 0 9 10 12 12 13 13 14 14 14 14 [16] 14 14 14 14 14 14 14 14 13 13 12 12 11 11 11 10 [32] 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 [48] 0 0 0 0 0 0 0 0 0 0 0 0 110 0 0 0 0 Parametric Info </pre>
<pre> \$get adsl atur physical ifname dsl-i-0 Ifname          : dsl-i-0 Serial Number   : - Vendor ID       : FFB54753504E0007 Version Number  : - Curr Status     : NoDefect Curr Snr Margin(dB/10) : <b>60</b>          Curr Atn(dB/10)           : <b>37</b> CurrAttainable Rate(bps) : <b>4632000</b>      Curr Output Pwr(dB/10) : <b>0</b> Output Pwr(dB/10) : <b>0</b> AturGsConfig    : 0x0000B6000000A0000008E00000003000000000000000000000000000000 Chan Perf CD     : 300027251      Chan Perf CU              : 10960 Chan Perf BE     : 0            Delt HLINSCds            : 0 Delt HLOGMTds   : 0            Delt QLNMtds             : 0 </pre>	<pre> \$get adsl atur physical ifname dsl-i-04 Ifname          : dsl-i-4 Serial Number   : - Vendor ID       : 00B54753504E0000T93.3.44 Version Number  : T93.3.44 Curr Status     : NoDefect Curr Snr Margin(dB/10) : <b>140</b>          Curr Atn(dB/10)           : <b>15</b> CurrAttainable Rate(bps) : <b>1388000</b>      Curr Output Pwr(dB/10) : <b>124</b> AturGsConfig    : 0xFC0002200000000002004001100000804 Chan Perf CD     : 0            Chan Perf CU              : 0 Chan Perf BE     : 0            Delt HLINSCds            : 0 Delt HLOGMTds   : 0            Delt QLNMtds             : 0 DELT Last Tx State : dmtaturg9941 Bin Number       Number of bits/bin </pre>

## Application Note

DELTA Last Tx State : dmtatarg9941	Bin Number	Number of bits/bin
[0]	0	0
[16]	0	0
[32]	0	0
[48]	8	8
[64]	11	11
[80]	13	13
[96]	13	13
[112]	13	13
[128]	13	14
[144]	14	14
[160]	13	13
[176]	13	13
[192]	13	13
[208]	13	13
[224]	13	13
[240]	13	13
[256]	12	13
[272]	12	12
[288]	12	12
[304]	12	12
[320]	12	12
[336]	12	12
[352]	12	11
[368]	12	11
[384]	11	12
[400]	11	11
[416]	11	11
[432]	11	11
[448]	11	10
[464]	10	10
[480]	10	10
[496]	10	10
[512]	0	0
[528]	0	0
[544]	0	0
[560]	0	0
[576]	0	0
[1008]	0	0
Delt HLINpsds		
[0]	0	0
[4]	0	0
[508]	0	0
Delt HLOGpsds		
[0]	0	0
[4]	0	0
[252]	0	0
Delt QLNspsds		
[0]	0	0
[4]	0	0
[8]	0	0
[252]	0	0
Delt DMT Bin SNR		
[0]	0	0
[4]	0	0

[0]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[16]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[32]	0	0	0	0	0	0	0	2	2	3	4	5	6	7	7	8			
[48]	8	9	9	9	10	10	10	10	11	11	11	11	11	11	11	11	11	11	11
[64]	0	11	11	11	11	11	10	11	11	11	11	11	11	11	11	11	11	11	11
[80]	11	11	11	11	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12
[96]	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11
[112]	11	11	11	11	11	11	11	11	11	11	11	11	11	11	10	10	10	10	10
[128]	10	10	10	10	10	10	10	11	11	10	11	11	11	11	11	11	11	11	11
[144]	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	10	10	10
[160]	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
[176]	10	10	10	10	10	9	10	10	10	10	10	9	10	10	10	10	10	10	10
[192]	10	10	10	10	10	10	10	10	10	10	10	9	10	9	10	9	9	9	9
[208]	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
[224]	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
[240]	9	9	9	9	9	9	9	9	9	9	9	9	8	8	8	8	8	8	8
[256]	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	12	12	12	12
[272]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
[288]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
[304]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
[320]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
[336]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
[352]	12	12	12	12	12	11	12	12	12	12	12	12	12	11	12	12	12	12	12
[368]	12	11	11	12	12	12	11	12	12	12	12	12	12	11	12	12	12	12	12
[384]	11	12	11	12	11	11	12	12	12	12	12	11	12	12	12	12	12	12	12
[400]	11	12	11	12	12	11	11	12	12	12	12	11	11	11	11	11	11	11	11
[416]	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
[432]	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
[448]	11	11	11	11	11	11	10	10	10	10	10	10	10	10	10	10	10	10	10
[464]	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
[480]	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
[496]	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
[512]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[528]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[544]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[560]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[576]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[1008]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delt HLOGpsds																			
[0]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[508]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delt QLNspsds																			
[0]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[252]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delt DMT Bin SNR																			
[0]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

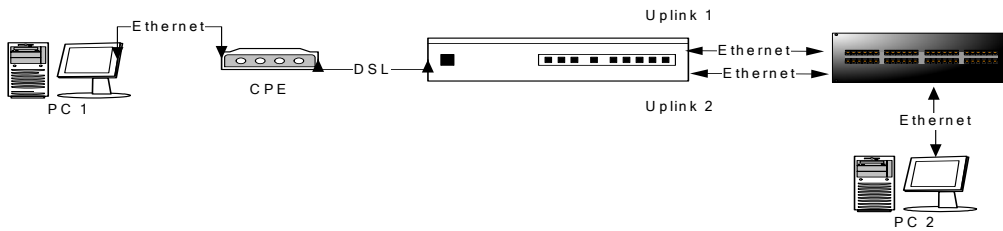
## Application Note

Delt DMT Bin SNR					:				
[0]	0	0	0	0	[252]	0	0	0	0
[4]	0	0	0	0	\$				
:									
:									
:									
[252]	0	0	0	0					

## 5.2.5 LACP aggregation (Port Aggregation)

Link Aggregation Control Protocol (LACP) allows you to bundle several physical ports together to form a single logical channel. LACP allows a switch to negotiate an automatic bundle by sending LACP packets to the peer. LACP is a protocol implementation in layer 2 which controls thru which physical links the traffic will be routed.

### ► Scenario



### ► Configuration

Step 1: Create Ethernet and Bridge port

```
$ create ethernet intf ifname eth-0

Entry Created

Interface      : eth-0
Type           : Uplink           UseDhcp       : False
IP Address    : 0.0.0.0           Mask          : 0.0.0.0
Pkt Type     : ALL
Orl(mbps)    : 300
Configured Duplex : Auto           Duplex        : None
Configured Speed  : Auto
Class0thrshld : 100              Class1thrshld: 100
Class2thrshld : 100              Class3thrshld: 100
Class4thrshld : 100              Class5thrshld: 100
Class6thrshld : 100              Class7thrshld: 100
ProfileName   : SPPROFILE
Mgmt VLAN Index : -
Tagged Mgmt PDU Prio: -
Speed        : -
Operational Status: Down           Admin Status: Up
$
Thu Jan 01 00:02:33 1970 : STATUS ALARM : ETHER Interface Up : Interface - eth-0
```

Step 2: Create Aggregator interface

```
$ create ethernet intf ifname eth-1

Entry Created

Interface      : eth-1
Type           : Uplink           UseDhcp       : False
IP Address    : 0.0.0.0           Mask          : 0.0.0.0
Pkt Type     : ALL
Orl(mbps)    : 300
Configured Duplex : Auto           Duplex        : None
Configured Speed  : Auto
Class0thrshld : 100              Class1thrshld: 100
Class2thrshld : 100              Class3thrshld: 100
Class4thrshld : 100              Class5thrshld: 100
Class6thrshld : 100              Class7thrshld: 100
ProfileName   : SPPROFILE
Mgmt VLAN Index : -
```

## Application Note

```

Tagged Mgmt PDU Prio: -
Speed                :-
Operational Status  : Down          Admin Status : Up
$modify bridge mode enable
Bridging Mode is Enabled

Set Done

Bridging Mode is Enabled
    
```

### Step 3: Create LACP Aggregator

```
$ create aggr intf ifname aggr-0 ip 192.168.100.111 mask 255.255.255.0 enable
```

Entry Created

```

Interface Index      : aggr-0
IP Address           : 192.168.100.111  Mask       : 255.255.255.0
UseDhcp              : False
Mgmt VLAN Index      : -
Tagged Mgmt PDU Prio : 0
Admin Status         : Up
Operational Status   : Up
$create bridge port intf portid 385 ifname aggr-0 status enable
    
```

Entry Created

```

Port Id              : 385          IfName          : aggr-0
Max Unicast Addresses : 256        Learning Status : Enable
Port Oper Status     : Enable       Port Admin Status: Enable
Sticky Status        : Disable      FDB Modify      : Enable
Acl Global Deny Apply : Disable
Acl Global Track Apply: Disable
Sensed IfIndex       : -
    
```

```
$ create lacp aggr aggrifname aggr-0 aggrtype static
```

Entry Created

```

Aggr IfName         : aggr-0
Mac Address          : FF:FF:FF:FF:FF:FF  Aggregate       : True
Actor Sys Priority: 10  Partner Sys Priority: 0
Actor Sys ID        : 00:01:EB:08:05:B9  Partner Sys ID   : FF:FF:FF:FF:FF:FF
Actor Oper Key      : -                  Partner Oper Key  : -
Actor Admin Key     : -                  Collector Max Delay : 0
Aggregation Type    : Static
    
```

```
$ modify lacp aggrport info ifname eth-0 aggrstatus enable
```

```

Interface           : eth-0          Port Is Aggregate : -
Actor Oper Key      : -              Partner Oper Key   : -
Actor Admin Key     : -              Partner Admin Key  : -
Actor Port Priority  : -              Partner Admin Port Priority : -
Actor System Priority : -            Partner Oper Port Priority  : -
Actor System ID     : -              Partner Admin Sys Priority : -
Actor Port          : -              Partner Oper Sys Priority  : -
Partner Admin Sys Id : -            Partner Admin Port     : -
Partner Oper Sys Id : -              Partner Oper Port      : -
Port Actor Admin State : -
Port Partner Admin State : -
Port Actor Oper State : -
Port Partner Oper State : -
Attached Agg ID      : -              Selected Agg ID    : -
Aggregation Status   : Disable
    
```

Set Done

```

Interface           : eth-0          Port Is Aggregate : True
Actor Oper Key      : 20              Partner Oper Key   : 1000
Actor Admin Key     : -              Partner Admin Key  : 1000
Actor Port Priority  : 10             Partner Admin Port Priority : 9
Actor System Priority : 10            Partner Oper Port Priority  : 10
    
```

## Application Note

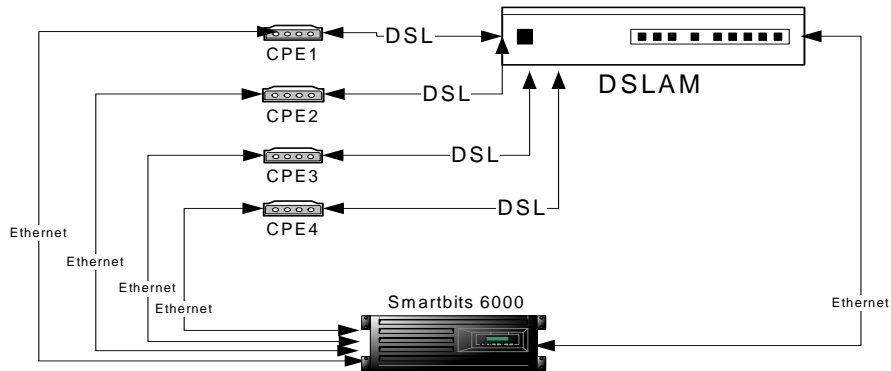
Actor System ID	: 00:01:EB:08:05:B9	Partner Admin Sys Priority	: 9
Actor Port	: 1	Partner Oper Sys Priority	: 9
Partner Admin Sys Id	: 01:02:03:04:05:06	Partner Admin Port	: 1
Partner Oper Sys Id	: 01:02:03:04:05:06	Partner Oper Port	: 1
Port Actor Admin State	: activity timeout	aggr	defaulted
Port Partner Admin State	: timeout aggr		defaulted
Port Actor Oper State	: activity timeout	aggr	defaulted
Port Partner Oper State	: timeout aggr		defaulted
Attached Agg ID	: -	Selected Agg ID	: -
Aggregation Status	: Enable		
<b>\$ modify lacp aggport info ifname eth-1 aggrstatus enable</b>			
Interface	: eth-1	Port Is Aggregate	: -
Actor Oper Key	: -	Partner Oper Key	: -
Actor Admin Key	: -	Partner Admin Key	: -
Actor Port Priority	: -	Partner Admin Port Priority	: -
Actor System Priority	: -	Partner Oper Port Priority	: -
Actor System ID	: -	Partner Admin Sys Priority	: -
Actor Port	: -	Partner Oper Sys Priority	: -
Partner Admin Sys Id	: -	Partner Admin Port	: -
Partner Oper Sys Id	: -	Partner Oper Port	: -
Port Actor Admin State	: -		
Port Partner Admin State	: -		
Port Actor Oper State	: -		
Port Partner Oper State	: -		
Attached Agg ID	: -	Selected Agg ID	: -
Aggregation Status	: Disable		
<b>Set Done</b>			
Interface	: eth-1	Port Is Aggregate	: True
Actor Oper Key	: -	Partner Oper Key	: -
Actor Admin Key	: -	Partner Admin Key	: 1000
Actor Port Priority	: 10	Partner Admin Port Priority	: 9
Actor System Priority	: 10	Partner Oper Port Priority	: 0
Actor System ID	: 00:01:EB:08:05:B9	Partner Admin Sys Priority	: 9
Actor Port	: 2	Partner Oper Sys Priority	: 0
Partner Admin Sys Id	: 01:02:03:04:05:06	Partner Admin Port	: 1
Partner Oper Sys Id	: FF:FF:FF:FF:FF:FF	Partner Oper Port	: 0
Port Actor Admin State	: activity timeout	aggr	defaulted
Port Partner Admin State	: timeout aggr		defaulted
Port Actor Oper State	: activity timeout	aggr	defaulted
Port Partner Oper State	: timeout aggr		defaulted
Attached Agg ID	: -	Selected Agg ID	:
-Aggregation Status	: Enable		



## 5.2.6 Multicast

Multicast is the transmission of information over the Internet to two or more users at the same time.

### ► Scenario



### ► Configuration

Step 1: Create static multicast group

```
$create bridge static mcast vlanid 3 egressports 1 3 5 385 forbidegressports 48
mcastaddr 01:00:5e:01:01:04
```

entry created

```
vlan index      : 3          mcast address : 01:00:5e:01:01:04
egress ports    : 1      3      5      385
forbidden egress ports : 48
```

```
$create bridge static mcast vlanid 5 egressports 2 4 6 385 forbidegressports 48
mcastaddr 01:00:5e:01:01:05
```

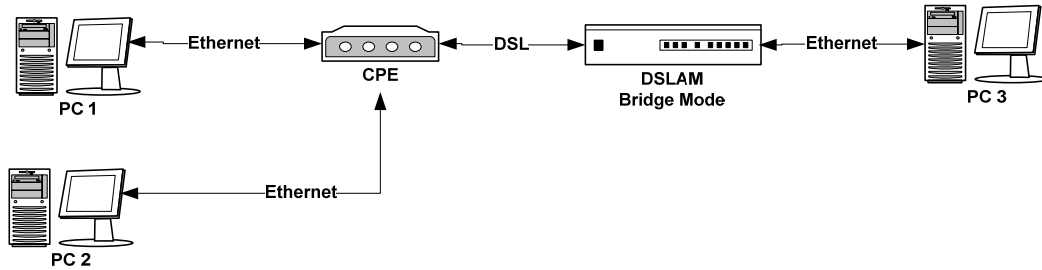
entry created

```
vlan index      : 5          mcast address : 01:00:5e:01:01:05
egress ports    : 2      4      6      385
forbidden egress ports : 48
$
```

## 5.2.7 IP Filter

IP Filter is software that provides statefull packet filtering capability. It can also be used to deliver NAT (Network Address Translation) capabilities. IP Filter provides protection to a single server or a network of servers and clients.

### ► Scenario



### ► Configuration

Step 1: create the filter rule for IP filter

```

$create filter rule entry ruleid 2 action drop ruledir in

entry created

rule id          : 2          rule action   : drop
set priority     :-          admin status  : disable
stats admin status : disable  rule priority  : high
rule direction   : in        applywhenreq  : disable
pkt type         : ucast
application description :-
snoop level      : interface
$
    
```

Step 2: create the subrule

```

$create filter subrule ip ruleid 2 subruleid 1 srcaddrcmp notingenlist

entry created

rule id          : 2          subrule id    : 1
start src ip addr :-          end src ip addr :-
start dest ip addr :-        end dest ip addr :-
start ip prot type :-        end ip prot type :-
ip src addr mask  : 0xfffffff ip dest addr mask :-
src ip addr comp  : not in gen list dest ip addr comp : any
subrule priority  : asinrule   ip prot type comp : any
transport header  : ethernet
$
    
```

Step 3: enable the rule

```

$create filter rule map ifname eoa-0 stageid 1 ruleid 2

entry created

interface : eoa-0    stage id : 1
rule id   : 2        order id : 2
$
    
```

Step 4: create the port to map this filter

```

$create filter rule map ifname eoa-1 stageid 1 ruleid 2

entry created

interface : eoa-1    stage id : 1
$
    
```

## Application Note

```
rule id : 2          order id : 2
```

Step 5: create the IP you want to filter

```
$modify filter rule entry ruleid 2 status enable
```

```
rule id          : 2          rule action : drop
set priority     :-          admin status : disable
stats admin status : disable  rule priority : high
rule direction   : in        applywhenreq : disable
pkt type         : ucast
application description : -
snoop level      : interface
```

set done

```
rule id          : 2          rule action : drop
set priority     :-          admin status : enable
stats admin status : disable  rule priority : high
rule direction   : in        applywhenreq : disable
pkt type         : ucast
application description : -
snoop level      : interface
$
```

```
$create clfr list genentry ifname eoa-0 value 0xc0a864c8 //192.168.100.200
```

entry created

```
if name : eoa-0
value   : 0xc0a864c8
value type : u32
$
```

\$

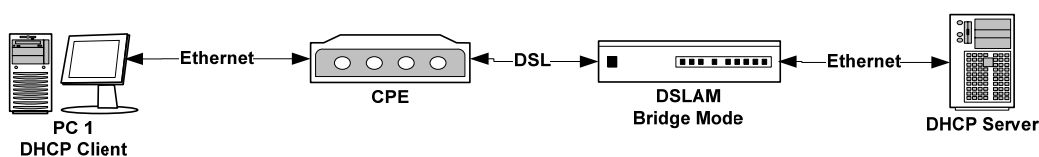
```
$create clfr list genentry ifname eoa-0 value 0xc0a864ca //192.168.100.202
```

entry created

```
if name : eoa-0
value   : 0xc0a864ca
value type : u32
$
```

## 5.2.8 DHCP filter

### ► Scenario



### ► Configuration

Step 1: create the filter rule for DHCP filter

```
$create filter rule entry ruleid 3 action drop ruledir in
```

Entry Created

```

Rule Id           : 3           Rule Action      : drop
Set Priority       : -           Admin status     : disable
Stats admin status : disable    Rule Priority    : High
Rule Direction    : IN          ApplyWhenReq    : disable
Pkt Type          : Ucast
Application Description : -
Snoop Level       : interface
$
    
```

Step 2: create the subrule

```
$create filter subrule udp ruleid 3 subruleid 1 dstportfrom 67 dstportto 68 srcportcmp any dstportcmp inrange subruleprio high
```

Entry Created

```

Rule Id           : 3           Subrule Id       : 1
Start source port : -           End source port  : -
Start destination port : 67      End destination port : 69
Source port comparison : Any      Destination port comparison : InRange
Subrule Priority   : high
Transport Header   : Ethernet
    
```

Step 3: enable the rule

```
$modify filter rule entry ruleid 3 status enable
```

```

Rule Id           : 3           Rule Action      : drop
Set Priority       : -           Admin status     : disable
Stats admin status : disable    Rule Priority    : High
Rule Direction    : IN          ApplyWhenReq    : disable
Pkt Type          : Ucast
Application Description : -
Snoop Level       : interface
$
    
```

Set Done

```

Rule Id           : 3           Rule Action      : drop
Set Priority       : -           Admin status     : enable
Stats admin status : disable    Rule Priority    : High
Rule Direction    : IN          ApplyWhenReq    : disable
Pkt Type          : Ucast
Application Description : -
Snoop Level       : interface
$
    
```

Step 4: create the port to map this filter

```
$create filter rule map ifname eoa-0 stageid 1 ruleid 3
```

Entry Created

```

Interface : eoa-0      Stage Id : 1
Rule Id   : 3          Order Id : 3
$
$
    
```

```
$create filter rule map ifname eth-0 stageid 1 ruleid 3
```

## Application Note

### Entry Created

Interface : eth-0

Stage Id : 1

Rule Id : 3

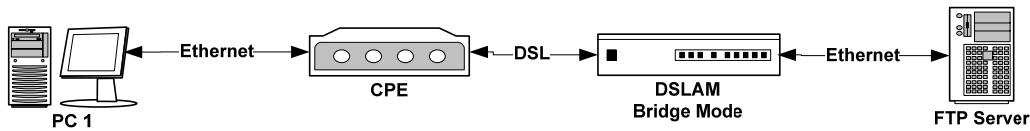
Order Id : 3

\$

## 5.2.9 FTP filter

FTP rules can be applied to restrict access to FTP servers on the Internet. Access can be restricted to file transfers between the permitted FTP server and the client.

### ► Scenario



### ► Configuration

Step 1: create the filter rule for FTP filter

```
$create filter rule entry ruleid 4 action drop ruledir in
```

entry created

```
rule id           : 4           rule action  : drop
set priority      : -           admin status : disable
stats admin status : disable    rule priority : high
rule direction    : in         applywhenreq : disable
pkt type          : ucast
application description : -
snoop level       : interface
$
```

Step 2: create the subrule

```
$create filter subrule tcp ruleid 4 subruleid 1 dstportfrom 21 dstportto 23 srcp ortcmp any dstportcmp inrange subruleprio high
```

entry created

```
rule id           : 4           subrule id    : 1
start source port : -           end source port : -
start destination port : 21      end destination port : 23
source port comparison : any     destination port comparison : inrange
subrule priority   : high
transport header   : ethernet
$
```

Step 3: enable the rule

```
$modify filter rule entry ruleid 4 status enable
```

```
rule id           : 4           rule action  : drop
set priority      : -           admin status : disable
stats admin status : disable    rule priority : high
rule direction    : in         applywhenreq : disable
pkt type          : ucast
application description : -
snoop level       : interface
```

set done

```
rule id           : 4           rule action  : drop
set priority      : -           admin status : enable
stats admin status : disable    rule priority : high
rule direction    : in         applywhenreq : disable
pkt type          : ucast
application description : -
snoop level       : interface
$
```

## Application Note

---

Step 4: create the port to map this filter

```
$create filter rule map ifname eoa-0 stageid 1 ruleid 4
```

```
entry created
```

```
interface : eoa-0      stage id : 1  
rule id   : 4          order id : 4  
$
```

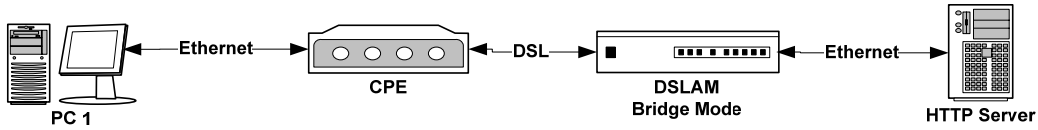
```
$create filter rule map ifname eoa-1 stageid 1 ruleid 4
```

```
entry created
```

```
interface : eoa-1      stage id : 1  
rule id   : 4          order id : 4
```

## 5.2.10 HTTP filter

### Scenario



### Configuration

Step 1: create the filter rule for HTTP filter

```

$create filter rule entry ruleid 5 action drop ruledir in
$
entry created

rule id          : 5          rule action : drop
set priority    : -          admin status : disable
stats admin status : disable  rule priority : high
rule direction  : in         applywhenreq : disable
pkt type        : ucast
application description : -
snoop level     : interface
$
  
```

Step 2: create the subrule

```

$create filter subrule tcp ruleid 5 subruleid 1 dstportfrom 80 srcportcmp any ds
tpportcmp inrange subruleprio high
entry created

rule id          : 5          subrule id       : 1
start source port : -          end source port   : -
start destination port : 80     end destination port : 65535
source port comparison : any    destination port comparison : inrange
subrule priority  : high
transport header  : ethernet
$
  
```

Step 3: enable the rule

```

$modify filter rule entry ruleid 5 status enable
rule id          : 5          rule action : drop
set priority    : -          admin status : disable
stats admin status : disable  rule priority : high
rule direction  : in         applywhenreq : disable
pkt type        : ucast
application description : -
snoop level     : interface

set done

rule id          : 5          rule action : drop
set priority    : -          admin status : enable
stats admin status : disable  rule priority : high
rule direction  : in         applywhenreq : disable
pkt type        : ucast
application description : -
snoop level     : interface
$
  
```

Step 4: create the port to map this filter

```

$create filter rule map ifname eoa-0 stageid 1 ruleid 5
entry created

interface : eoa-0    stage id : 1
rule id   : 5        order id : 5
  
```

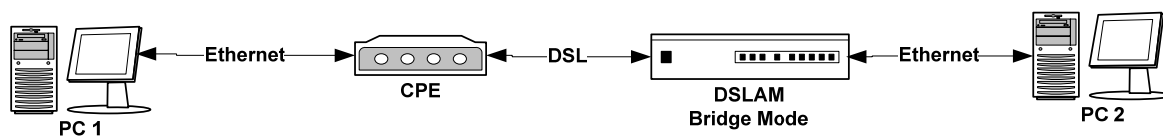




## 5.2.11 ACL Configuration

Most network security systems operate by allowing selective use of services. An ACL (Access Control List) is the usual means by which access to, and denial of, services are controlled. It is simply a list of the services available, each with a list of the hosts permitted to use the service.

### Scenario



### Configuration

Step 1: create ACL global

```
$create acl global maentry macaddr 00:01:eb:00:23:23 deny enable track enable
entry created
mac address          : 00:01:eb:00:23:23
deny                 : enable track : enable
number of times port changed : 0
$
```

Step 2: create ACL port

```
$create acl port maentry portid 1 macaddr 00:01:23:23:23:34
entry created
portid              : 1
mac address : 00:01:23:23:23:34
$

$create acl port maentry portid 2 macaddr 00:01:32:23:35:43
entry created
portid              : 2
mac address : 00:01:32:23:35:43
```

## 5.2.12 TOS Priority Rearrangement

Most of traditional broadband service, there is only one PVC was offered to the users. In such kind of service scenario, using the TOS field in the IP header to differentiate the applications is one of the solutions for ISPs to provide QoS service to its users.

The CPE (or router) shall have the capability to differentiate the service priority, and indicated in the TOS field, so that the DSLAM can classify the packets into different priority queues based upon the TOS field.

Following is an example to modify the priority of the packet based on IP TOS field. In this example, the **packets with IP TOS precedence value as 3 would be tagged as ethernet priority value 2.**

### Step 1:

```
$ create filter rule entry ruleid 2 action retagprio priority 2 statsstatus
enable description QoS
```

Entry Created			
Rule Id	: 2	Rule Action	: retagprio
Set Priority	: 2	Admin status	: disable
Stats admin status	: disable	Rule Priority:	high
Rule Direction	: in	ApplyWhenReq	: disable
Pkt Type	: Ucast		
Application Description	: QoS		
Snoop Level	: interface	Expression Id:	0

### Step 2:

```
$ create filter subrule generic ruleid 2 subruleid 1 offsethdr ip offset 0
mask 0x00ff0000 valuefrom 0x600000 gencmp eq
```

Entry Created			
Rule Id	: 2	Subrule Id	: 1
Offset header	: ip	Offset	: 0
Generic header comparison	: eq	Mask	: 0x00ff0000
Subrule Priority	: asinrule	Start value	: 0x00600000
End value	: -		
Transport Header	: ethernet		
NamedList Id	: -		

### Step 3:

```
$ modify filter rule entry ruleid 2 status enable
```

Rule Id	: 2	Rule Action	: retagprio
Set Priority	: 2	Admin status	: disable
Stats admin status	: disable	Rule Priority:	high
Rule Direction	: in	ApplyWhenReq	: disable
Pkt Type	: Ucast		
Application Description	: QoS		
Snoop Level	: interface	Expression Id:	0
Set Done			
Rule Id	: 2	Rule Action	: retagprio
Set Priority	: 2	Admin status	: enable
Stats admin status	: disable	Rule Priority:	high
Rule Direction	: in	ApplyWhenReq	: disable
Pkt Type	: Ucast		
Application Description	: QoS		
Snoop Level	: interface	Expression Id:	0

### Step 4:

```
$ create filter rule map ruleid 2 ifname eoa-0 stageid 1
```

Entry Created			
Interface	: eoa-2	Stage Id	: 1
Rule Id	: 2	Order Id	: 2

### Step 5:

## Application Note

To view the priority-to-class mapping associated with an egress bridge port, use –

```
$ get bridge port trfclassmap [portid portid] [regenprio regenprio]
```

You can modify the priority to traffic class mapping to define which priority value would be mapped to which outgoing Queue for a port.

PortId	: 3	regenPrio	: 0
TrafficClass	: 1		
PortId	: 3	regenPrio	: 1
TrafficClass	: 0		
PortId	: 3	regenPrio	: 2
TrafficClass	: 0		
PortId	: 3	regenPrio	: 3
TrafficClass	: 1		
PortId	: 3	regenPrio	: 4
TrafficClass	: 2		
PortId	: 3	regenPrio	: 5
TrafficClass	: 2		
PortId	: 3	regenPrio	: 6
TrafficClass	: 3		
PortId	: 3	regenPrio	: 7
TrafficClass	: 3		

### Step 6:

```
$ modify bridge port intf portid 3 status disable
```

Port Id	: 3	IfName	: eoa-2
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		
ProxyArpStatus	: disable	Sensed IfIndex	: -
Set Done			
Port Id	: 3	IfName	: eoa-2
Max Unicast Addresses	: 16	Learning Status	: Enable
Port Oper Status	: Disable	Port Admin Status	: Disable
Sticky Status	: Disable	FDB Modify	: Enable
Acl Global Deny Apply	: Enable		
Acl Global Track Apply	: Enable		
ProxyArpStatus	: disable	Sensed IfIndex	: -

### Step 7:

To re-configure the mapping, use –

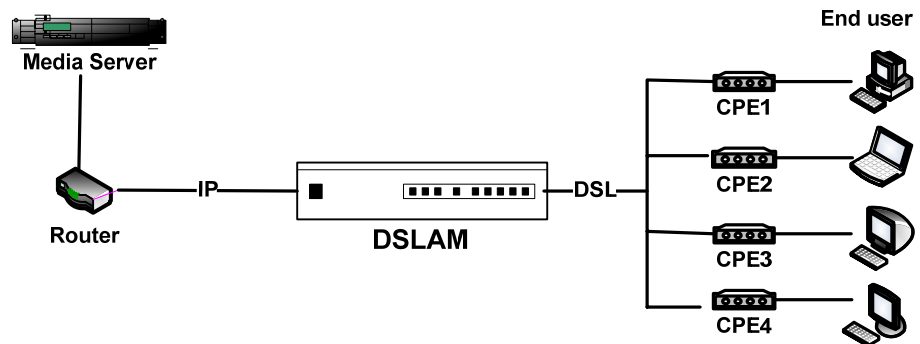
```
$ modify bridge port trfclassmap portid portid regenprio regenprio  
[trfclass  
trfclass]
```

modify bridge port trfclassmap portid 3 regenprio 2 trfclass 3			
PortId	: 3	regenPrio	: 2
TrafficClass	: 0		
Set Done			
PortId	: 3	regenPrio	: 2
TrafficClass			

## 5.2.13 IGMP Snooping

IGMP snooping, as implied by the name, is a feature that allows an Ethernet switch to "listen in" on the IGMP conversation between hosts and routers. When a Switch hears an IGMP report from a host for a given multicast group, the switch adds the host's port number to the IGMP list for that group. And, when the switch hears an IGMP leave, it removes the host's port from the IGMP list.

### ► Scenario



### ► Configuration

Step 1: create IGMP rule and map to the eoa ports

```
$ 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 eoa-0 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 eth-0 stageid 1
```

Step 2: enable the igmpsnoop on bridge ports

```
$ modify igmpsnoop cfg info 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
```

Step 3: Create multicast group on media server (IGMP version 2)

Add publish points on the specified media server.

Step 4: Join user1 to IGMP multicast group

Step 5: Join user2 to IGMP multicast group

Step 6: Join user3 to IGMP multicast group

Step 7: Join user4 to IGMP multicast group

---

# 6

## System Administration with CLI

---

### 6.1 Introduction

---

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 DSLAM easily. This chapter contains the whole CLI commands. If to understand primary CLI commands, refer to chapter 6 in which frequently used CLI commands are summarized.

#### 6.1.1 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 | 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.

#### 6.1.2 Command Structure

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

**<Action><Group><Sub group><Sub sub group> <tag1 value1>Ö<tagN valueN>**

**<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 "modify". For example, modify bridge port intf portid portid status enable and bridge port intf portid portid status enable 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.

## 6.1.3

## 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
DSL	Digital Subscriber Line
dsli	DSL interleave mode
dsf	DSL fast mode
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
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

## 6.1.4

# CLI Command Brief Description

### CLI Command - Action List

<action>	Description
get	Used to view information of the selected identifier and parameters.
reset	Used to reset a port of system.
modify	Used to set or modify existing configuration of objects corresponding to the identifier and parameters.
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.
help	Used to view the detailed usage of CLI commands.
reset	Used to reset a port of system.
reboot	Used to restart the system.
save	Used to save the configuration to Flash RAM.
logout	Used to terminate the CLI.
commit	Used to commit the active configuration to the flash.
passwd	Used to change the password associated with a user login.
apply	Used to apply a configuration file stored on the system
download	Used to download a binary, configuration or user specific file from the remote host.
list	Used to list the Configuration or binary files stored on the unit
remove	Used to remove a configuration or binary file stored on the unit
upgrade	Used to upgrade a configuration or binary file stored on the system.
alias	Used to create an alias for any CLI command.
unalias	Used to delete an alias.
prompt	Used to set the new CLI prompt.
traceroute	Used to trace the route to the specified destination.
verbose	Using this command, a user can view the status of entries before and after the execution of a command (create, delete, modify, get).



---

## 6.2 802.1p commands

---

### 6.2.1 Bridge port accessprio Commands

#### ► 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
<code>portid &lt;portid-val &gt;</code>	Port number of the port for which this entry contains bridge management information. <b>Type</b> : Get Optional
<code>regenprio &lt;regenprio-val &gt;</code>	Regenerated user priority from which the access priority is mapped. <b>Type</b> : Get Optional <b>Valid values:</b> 0 - 7

**Example** `$ get bridge port accessprio portid 1 regenPrio 1`

#### Output

```
PortId      : 1          regenPrio : 1  
AccessPriority : 0
```

#### Output field

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

#### References

- Bridge port commands

### 6.2.2 Bridge port prioinfo Commands

#### ► Get bridge port prioinfo

**Description** Use this command to get.

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

#### ► Modify bridge port prioinfo

**Description:** Use this command to modify.

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

#### Parameters

Name	Description
<code>portid &lt;portid-val &gt;</code>	Port number of the port for which this entry contains bridge management information. <b>Type:</b> Modify -- Mandatory Get -- Optional <b>Valid Values:</b> 1-386

<b>defprio</b> <defprio-val >	The default ingress User Priority for this port which can be configured by the user. The default user priority can be GS_CFG_DEF_ETH_CREATE_PRIO or GS_CFG_DEF_EOA_CREATE_PRIO depending on whether bridge port is created over ethernet or EOA interface. These values are defined in sys_conf.h <b>Type</b> : Modify - Optional <b>Valid Values:</b> 0-7
<b>numtrfclass</b> <numtrfclass-val >	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. <b>Type:</b> Modify --Optional

**Example** \$ get bridge port prioinfo portid 1

#### Output

```
PortId          : 1
DefaultPriority : 1          NumTrafficClass : 3
```

#### Output field

Field	Description
<b>PortId</b>	Port number of the port for which this entry contains bridge management information.
<b>DefaultPriority</b>	The default ingress User Priority for this port which can be configured by the user. The default user priority can be GS_CFG_DEF_ETH_CREATE_PRIO or GS_CFG_DEF_EOA_CREATE_PRIO depending on whether bridge port is created over ethernet or EOA interface. These values are defined in sys_conf.h
<b>NumTrafficClass</b>	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.

#### References

- Bridge port commands

## 6.2.3 Bridge port trfclassmap Commands

### ► Get bridge port trfclassmap

**Description** Use this command to get.

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

### ► 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
<b>portid</b> <portid-val >	Port number of the port for which this entry contains bridge management information. <b>Type:</b> Modify -- Mandatory Get -- Optional <b>Valid values:</b> 1-386
<b>regenprio</b> <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 <b>Type:</b> Modify -- Mandatory Get -- Optional <b>Valid values:</b> 0 - 7
<b>trfclass</b> <trfclass-val >	The Traffic Class the received frame is mapped to. The maximum value of trafficClass is defined by numTrfClass parameter of Bridge Port PriInfo. 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. <b>Type:</b> Modify --Optional

**Example** \$ get bridge port trfclassmap portid 1 regenPrio 1

#### Output

```
PortId      : 1      regenPrio : 1
TrafficClass : 2
```

#### Output field

Field	Description
<b>PortId</b>	Port number of the port for which this entry contains bridge management information.
<b>regenPrio</b>	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
<b>TrafficClass</b>	The Traffic Class the received frame is mapped to. The maximum value of trafficClass is defined by numTrfClass parameter of Bridge Port PriInfo. 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

## 6.2.4 Bridge port priomap Commands

### ► Get bridge port priomap

**Description:** Use this command to get.

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

### ► Modify bridge port priomap

**Description:** Use this command to modify.

---

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

### Parameters

Name	Description
<b>portid</b> <portid-val >	Port number of the port for which this entry contains bridge management information. <b>Type:</b> Modify -- Mandatory Get --Optional <b>Valid values:</b> 1-386
<b>usrprio</b> <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. <b>Type:</b> Modify -- Mandatory Get --Optional <b>Valid values:</b> 0 - 7
<b>regenprio</b> <regenprio-val >	The priority to which the incoming User priority is mapped for this port. <b>Type:</b> Modify --Optional <b>Valid values:</b> 0 - 7

**Example** \$ `get bridge port priomap portid 1 usrPrio 1`

### Output

```
PortId      : 1      UserPriority : 1
RegenUserPrio : 1
```

### Output field

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

### References

- Bridge port commands

## 6.3 Aggregation Commands

### 6.3.1 LACP AGGR Commands

► **Create lacp agg**

**Description:** Use this command to create an LACP aggregator.

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

► **Delete lacp aggr**

**Description:** Use this command to delete an LACP aggregator.

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

► **Get lacp aggr**

**Description:** Use this command to get a LACP aggregator.

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

► **Modify lacp aggr**

**Description:** Use this command to modify a LACP aggregator.

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

**Parameter**

Name	Description
<b>aggrifname</b> <aggrifname-val >	The Aggregator interface name. <b>Type :</b> Modify – Mandatory Get - Optional <b>Valid values:</b> aggr-*
<b>Actorsystemprio</b> <actorsystemprio-val >	A 2-octet read-write value indicating the priority value associated with the Actor's System ID. <b>Type :</b> Optional <b>Valid values:</b> 0 - 255
<b>actoradminkey</b> <actoradminkey>-val	The current administrative value of the Key for the Aggregator <b>Type :</b> Optional <b>Valid values:</b> 0 - 2 <sup>16</sup> – 1
<b>collectormaxdelay</b> <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. <b>Type :</b> Optional <b>Valid values:</b> 0 - 2 <sup>16</sup> – 1
<b>aggrtype</b> Static   Lacp	Aggregation type. It can be either static or lacp <b>Type:</b> Optional

**Example** \$ get lacp aggr aggrifname aggr-0

```

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
  
```

**Output Fields**

Field	Description
<b>Aggr IfName</b>	The Aggregator interface name.
<b>Mac Address</b>	A 6-octet read-only value carrying the individual MAC address assigned to the Aggregator.
<b>Aggregate</b>	A read-only Boolean value indicating whether the Aggregator represents an Aggregate (TRUE) or an Individual link (FALSE).
<b>Actor Sys Priority</b>	A 2-octet read-write value indicating the priority value associated with the Actor's System ID.
<b>Partner Sys Priority</b>	A 2-octet read-only value that indicates the priority value associated with the Partner's SystemID.
<b>Actor Sys ID</b>	A 6-octet read-write MAC address value used as a unique identifier for the System that contains this Aggregator.
<b>Partner Sys ID</b>	A 6-octet read-only MAC address value consisting of the unique identifier for the current protocol partner of this Aggregator. A value of <b>zero</b> indicates that there is no known Partner.
<b>Actor Oper Key</b>	The current operational value of the Key for the Aggregator.
<b>Partner Oper Key</b>	The current operational value of the Key for the Aggregator is current protocol Partner.
<b>Actor Admin Key</b>	The current administrative value of the Key for the Aggregator.
<b>Collector Max Delay</b>	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.
<b>Aggregation Type</b>	Aggregation type done over the aggregator.

#### References

- lacp aggrport list
- lacp aggrport info
- lacp aggrport stats.

## 6.3.2 LACP AGGRPort Info Commands

### ► Get lacp aggrport info

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

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

### ► 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]`

#### Parameter

Name	Description
<b>ifname</b> < interface name >	The <b>IfName</b> of the Ethernet interface for the aggregator. <b>Type :</b> Modify – Mandatory Get - Optional

	<b>Valid values</b> : eth-*, eoa-*
<b>actoradminkey</b> <actoradminkey>	The current administrative value of the Key for the Aggregator. <b>Type</b> : Optional <b>Valid values</b> : 1 - 2 <sup>16</sup> - 1
<b>partadminkey</b> <partadminkey-val >	The current administrative value of the Key for the Aggregator's current protocol Partner. <b>Type</b> : Optional <b>Valid values</b> : 1 - 2 <sup>16</sup> - 1
<b>actorportprio</b> <actorportprio-val >	The priority value assigned to this Aggregation Port <b>Type</b> : Optional <b>Valid values</b> : 0 - 2 <sup>8</sup> - 1
<b>partadminportprio</b> <partadminportprio-val >	The current administrative value of the port priority, for the protocol Partner. <b>Type</b> : Optional <b>Valid values</b> : 0 - 255
<b>actorsysprio</b> <actorsysprio-val >	A 2-octet read-write value indicating the priority value associated with the Actor's System ID. <b>Type</b> : Optional <b>Valid values</b> : 0 - 255
<b>partadminsyprio</b> <partadminsyprio-val >	A 2-octet read-only value that indicates the priority value associated with the Partner's System ID. <b>Type</b> : Optional <b>Valid values</b> : 0 - 255
<b>partadminsystid</b> <partadminsystid-val >	A 6-octet read-write MACAddress value representing the administrative value of the Aggregation Port's protocol Partner's SystemID <b>Type</b> : Optional <b>Valid values</b> : 00:00:00:00:00:00 - ff:ff:ff:ff:ff:ff
<b>partadminport</b> <partadminport-val >	The current administrative value of the port number for the protocol Partner. <b>Type</b> : Optional <b>Valid values</b> : 0 - 65535
<b>actoradminstate</b> activity   timeout   aggr	Administrative state of actor <b>Type</b> : Optional
<b>partadminstate</b> activity   timeout   aggr	Administrative state of Partner. <b>Type</b> : Optional
<b>aggrstatus</b> enable disable	Specifies whether aggregation(bonding) is to be enabled over this Aggregation Port. <b>Type</b> : Optional <b>Valid values</b> : enable disable

**Example** \$ get lacp aggrport info ifname eth-0

```

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

```

### Output Fields

Field	Description
<b>Interface</b>	The <b>ifName</b> of the Ethernet interface for the aggregator.
<b>Port Is Aggregate</b>	Boolean value indicating whether the Aggregation Port is able to Aggregate ('TRUE'), or is only able to operate as an Individual link ('FALSE').
<b>Actor Oper Key</b>	The current operational value of the Key for the Aggregator.
<b>Partner Oper Key</b>	The current operational value of the Key for the

	Aggregator's current protocol Partner.
<b>Actor Admin Key</b>	The current administrative value of the Key for the Aggregator.
<b>Partner Admin Key</b>	The current administrative value of the Key for the Aggregator's current protocol Partner.
<b>Actor Port Priority</b>	The priority value assigned to this Aggregation Port.
<b>Partner Admin Port Priority</b>	The current administrative value of the port priority for the protocol Partner.
<b>Actor System Priority</b>	A 2-octet, read-write value indicating the priority value associated with the Actor's System ID.
<b>Partner Oper Port Priority</b>	The current operational value of the port priority for the protocol Partner.
<b>Actor System ID</b>	A 6-octet, read-write MAC address value, used as a unique identifier for the System that contains this Aggregator.
<b>Partner Admin Sys Priority</b>	A 2-octet, read-only value that indicates the priority value associated with the Partner's System ID.
<b>Partner Oper Port Priority</b>	The current operational value of the port priority for the protocol Partner.
<b>Actor System ID</b>	A 6-octet, read-write MAC address value, used as a unique identifier for the System that contains this Aggregator.
<b>Partner Admin Sys Priority</b>	A 2-octet, read-only value that indicates the priority value associated with the Partner's System ID.
<b>Actor Port</b>	The port number locally assigned to the Aggregation Port.
<b>Partner Oper Sys Priority</b>	A 2-octet read-only value that indicates the priority value associated with the Partner's System ID.
<b>Partner Admin Sys Id</b>	A 6-octet read-write MACAddress value representing the administrative value of the Aggregation Port's protocol Partner's System ID.
<b>Partner Admin Port</b>	The current administrative value of the port number for the protocol Partner.
<b>Partner Oper Sys Id</b>	A 6-octet read-write MACAddress value representing the operational value of the Aggregation Port's protocol Partner's System ID.
<b>Partner Oper Port</b>	The current operational value of the port number for the protocol Partner.
<b>Port Actor Admin State</b>	Administrative state of Actor.
<b>Port Partner Admin State</b>	Administrative state of Partner.
<b>Port Actor Oper State</b>	Operational state of Actor.
<b>Port Partner Oper State</b>	Operational state of Partner.
<b>Attached Agg ID</b>	The identifier value of the Aggregator that this Aggregation Port has currently selected.
<b>Selected Agg ID</b>	The identifier value of the Aggregator that this Aggregation Port has currently selected.
<b>Aggregation Status</b>	Whether or not aggregation (bonding) is to be enabled over this Aggregation Port.

#### References

- lacp agrport list
- lacp agrport stats

## 6.3.3

### LACP AGGRPort List Command

#### ► Get lacp agrport list

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

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



## Parameter

Name	Description
<b>Aggrifname</b> <aggrifname-val >	The Aggregator interface name. <b>Type</b> : Optional <b>Valid values</b> : 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
<b>Aggr IfName</b>	The Aggregator interface name.
<b>Port List</b>	List of the ports corresponding to given aggregator index.

## References

- lacp aggr
- lacp aggrport info
- lacp aggrport stats

## 6.3.4

### LACP AGGRPort Stats Commands

#### ► Get lacp aggrport stats

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

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

#### ► Reset lacp aggrport stats

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

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

## Parameter

Name	Description
<b>ifname</b> < interface-name >	The <b>IfName</b> of the Ethernet interface for the aggregator. <b>Type</b> : Modify – Mandatory Get - Optional <b>Valid values</b> : 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
<b>Interface</b>	The Interface name of the Ethernet interface for the aggregator.
<b>LACPDUs Rx</b>	The number of valid LACP PDUs received on this Aggregation Port.
<b>LACPDUs Tx</b>	The number of LACP PDUs transmitted on this

	Aggregation Port.
<b>MarkerPDUs Rx</b>	The number of valid Marker PDUs received on this Aggregation Port.
<b>MarkerPDUs Tx</b>	The number of Marker PDUs transmitted on this Aggregation Port.
<b>Marker Response PDUs Rx</b>	The number of valid Marker Response PDUs received on this Aggregation Port.
<b>Marker Response PDUs Tx</b>	The number of Marker Response PDUs transmitted on this Aggregation Port.
<b>Unknown Rx</b>	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.
<b>Illegal Rx</b>	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

## 6.4 ATM Commands

### 6.4.1 ATM Interface Commands

#### ► Create atm port

**Description:** Use this command to create an ATM Port.

**Command Syntax:** `create atm port ifname <interface-name> lowif <dsl-port interface-name> [enable | disable] [Maxvpibits <maxvpibits-val>] [Maxvcibits <maxvcibits-val>] [oamsrc <oamsrc-val >] [Orl <Orl-val >] [ProfileName <profilename-val >] [trfclassprofileid <trfclassprofileid-val >] [Ctlpktinstid <ctlpktinstid-val >]`

#### ► Delete atm port

**Description:** This command is used to delete an ATM port.

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

#### ► Get atm port

**Description:** Use this command to get information about a specific or all ATM ports.

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

#### ► Modify atm port

**Description:** Use this command to enable or disable the administrative status of ATM port.

**Command Syntax:** `modify atm port ifname <interface-name> [enable | disable] [maxvcs <maxvcs-val>] [Maxvpibits <maxvpibits-val>] [Maxvcibits <maxvcibits-val>] [oamsrc <oam-src-id >] [Orl <Orl-val >] [ProfileName <profilename-val >] [trfclassprofileid <trfclassprofileid-val >]`

**Parameters:**

Name	Description
<b>ifname</b> <interface-name>	This specifies the name of the ATM port <b>Type:</b> Create - Mandatory Delete -Mandatory Get - Optional Modify -Mandatory <b>Valid values :</b> atm-0 - *
<b>maxvc</b> <max-num-vccs>	This specifies the maximum number of VCCs (PVCCs), supported at this ATM interface. <b>Type :</b> Optional <b>Valid values :</b> 1 -8 <b>Default Value :</b> 8
<b>oamsrc</b> <oam-src-id>	Loopback source id assigned to the ATM port. The ATM port will respond to all loopback cells, which carry this OAM id. <b>Type :</b> Optional <b>Valid values :</b> 0x followed by 32 Hex Digits <b>Default Value :</b> 0xffff ffff ffff ffff ffff ffff ffff ffff
<b>Maxvpibits</b> <max-vpi-bits>	Maximum number of VPI bits configured for use at this ATM interface. <b>Type :</b> Optional <b>Valid values:</b> 1 to 8.
<b>maxvcibits</b> <max-vci-bits>	Maximum number of VCI bits configured for use at this ATM interface. <b>Type :</b> Optional <b>Valid values:</b> 1 to 16. <b>Default Value:</b> 16.
enable disable	Administrative status of the ATM port <b>Type :</b> Optional

	<b>Valid values</b> : enable or disable <b>Default Value</b> : enable
<b>lowif</b> <dsl-port-interface-name>	This identifies the lower DSL interface, on which this ATM interface is configured. <b>Type</b> : Mandatory. <b>Valid values</b> : dsl-*
<b>Orl</b> <orl-val >	This parameter specifies the output rate limiting value in Kbps to be applied on this interface. <b>Type</b> : create – Optional <b>Valid values</b> : 64-24000

**Example:** \$ create atm port ifname atm-0 lowif dsl-0 maxvc 4  
Class0Thrshld 2 Class1Thrshld 3 Class2Thrshld 2  
Class3Thrshld 3 profilename gold

#### Output Verbose Mode On

```

IfName           : atm-0                               LowIfName        : dsl-0
MaxVccs          : 4                                   MaxConfVccs     : 0
MaxVpiBits       : 9                                   MaxVciBits       : 10
OAMSrc           : 0xfffffffffffffffffffffffffffffff
ORL (Kbps)       : 640                                  RowStatus        : Active
UnknownVPI       : 2                                   UnknownVCI       : 3
ProfileName      : gold
Current Output Rate : 0
trfclassprofileid : 3
Ctl Pkts Instance Id:1
Oper Status      : Up                                  Admin Status     : Up

```

#### Output Fields

FIELD	Description
<b>IfName</b>	This specifies the name of the ATM port. It can be: atm-0, atm-1, etc.
<b>LowIfName</b>	This specifies the name of the lower interface. It can be: dsl-0, dsl-1 etc.,.
<b>Max Vccs</b>	The maximum number of VCCs (PVCCs) supported at this ATM interface.
<b>MaxConfVccs</b>	This specifies the current number of VCCs configured on this port. It may be : 0 - Value defined in MaxVccs
<b>MaxVpiBits</b>	The maximum number of active VPI bits configured for use at the ATM interface.
<b>MaxVciBits</b>	This specifies the maximum number of active VCI bits configured for use at this ATM interface.
<b>Oper Status</b>	The actual/current state of the interface. It can be either Up or Down
<b>Admin Status</b>	The desired state of the interface. It may either be Up or Down
<b>Orl (Kbps)</b>	This parameter specifies the output rate limiting value in Kbps to be applied on this interface.
<b>RowStatus</b>	This defines the row-status of the interface entry.
<b>UnknownVPI</b>	This parameter specifies the last seen unknown VPI on this ATM interface.
<b>UnknownVCI</b>	This parameter specifies the last seen unknown VCI on this ATM interface.



The specified lower interface should already be created. If the parameter maxvcperport in nbsize command is modified, please ensure that MaxConfVccs in atm port command is less than or equal to maxvcperport.

#### References

- ATM VC commands
- ATM statistics commands
- DSL commands

## 6.4.2 AAL5 VC Statistics Commands

### ► 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
<b>ifname</b> <interface-name>	This parameter specifies the interface for which information is desired <b>Type:</b> Get -Optional <b>Valid values :</b> 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
<b>VC IfName</b>	The name of the <b>aal5</b> ( <i>aal5-0</i> etc) interface, for which statistics needs to be retrieved.
<b>Low IfName</b>	This specifies the ATM port name. It can be : <i>atm-0</i>
<b>VPI</b>	This is the Virtual Port Identifier.
<b>VCI</b>	This is the Virtual Circuit Identifier.
<b>Tx Frames count</b>	The number of AAL5 CPCS PDUs transmitted on this AAL5 VCC.
<b>Rx Frames count</b>	The number of AAL5 CPCS PDUs received on this AAL5 VCC.
<b>Tx Bytes count</b>	The number of octets contained in AAL5 CPCS PDUs received on this AAL5 VCC.
<b>Rx Bytes count</b>	The number of octets contained in AAL5 CPCS PDUs received on this AAL5 VCC.
<b>CRC Errors count</b>	This specifies the number of CRC errors encountered.
<b>Oversized SDU</b>	This specifies the number of oversized SDUs received.

**References**

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

## 6.4.3 ATM VC Commands

### ► 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 <atmport-interface-name> [enable | disable] [aal5] [a5txsize <aal5-cpcstx-sdu-size>] [a5rxsize <aal5-cpcs-rx-sdu-size>] [vcmux | llcmux | auto] [pvc] [channel fast|interleaved] [mgmtmode data|mgmt|DataAndMgmt|raw] [maxnumproto <maxnumproto-val> ] [ autostatus Enable|Disable ] [autosupportedprot none|pppoe | eoa+] [ autovcmuxforcedprot None |pppoe | eoa ] [ autosensetriggertype dynamic | opstatechange ]`

► **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>`

► **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>]`

► **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] [mgmtmode data | mgmt | DataAndMgmt | raw] [autosupportedprot none|{pppoa | eoa | ipoa}+] [ autovcmuxforcedprot None | pppoa | eoa | ipoa] [autosensetriggertype dynamic | opstatechange ]`

**Parameters:**

Name	Description
<b>ifname</b> <interface-name >	This specifies name of VC Interface. <b>Type:</b> Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory <b>Valid values :</b> aal5-0 - *
<b>lowif</b> <atm-port-interface-name>	Interface Index of the ATM port, on which this VC is getting configured. <b>Type :</b> Mandatory <b>Valid values :</b> atm-0 - *
<b>vpi</b> <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. <b>Type :</b> Create – Mandatory Modify – Optional <b>Valid values :</b> 0-2 <sup>8</sup>
<b>vci</b> <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. <b>Type :</b> Create – Mandatory Modify – Optional <b>Valid values :</b> 1-2 <sup>16</sup>

<p><b>mgmtmode</b> { Data   Mgmt   DataAndMgmt   Raw }</p>	<p>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 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 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 can not 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).  <b>Type</b> : Create Optional  <b>Default value</b>: Data</p>
<p>enable disable</p>	<p>This specifies the Admin Status of the VC.  <b>Type</b> : Optional  <b>Default Value</b>: enable</p>
<p><b>aal5</b></p>	<p>This specifies the AAL type in use for this VC. The only type of AAL supported in Columbia Packet is AAL5.  <b>Type</b>: The only value to be supported is aal5.  <b>Default value</b> : aal5</p>
<p><b>a5txsize</b> &lt;aal5-cpcs-tx-sdu-size&gt;</p>	<p>This specifies the maximum transmit CPCS SDU size to be used.  <b>Type</b> : Optional  <b>Valid values</b> : 1- 1536  <b>Default Value</b>:1536</p>
<p><b>a5rxsize</b> &lt;aal5-cpcs-rx-sdu-size&gt;</p>	<p>This specifies the maximum receive CPCS SDU size to be used  <b>Type</b> : Optional  <b>Valid values</b> : 1- 1536  <b>Default Value</b>:1536</p>
<p>vcmux llcmux  auto</p>	<p>This specifies the data multiplexing method to be used over the AAL5 SSCS layer.  <b>Type</b> : Optional  <b>Default Value</b>: llcmux</p>
<p><b>Pvc</b></p>	<p>This specifies the type of VC. The only value supported is PVC.  <b>Type</b> : Optional  <b>Default Value</b>: pvc</p>
<p><b>channel</b> fast interleaved</p>	<p>This extension specifies the type of channel on which the ATM VC's cells have to be transmitted/ received.  <b>Type</b> : Optional  <b>Default Value</b>: Interleaved</p>
<p><b>Maxnumproto</b> &lt;maxnumproto-val&gt;</p>	<p>This field specifies the maximum number of simultaneous active protocol stacks supported on this interface. Currently, only one protocol stack is supported.  <b>Type</b>: Create -- Optional  <b>Default value</b>: 1</p>
<p><b>Autostatus</b> Enable Disable</p>	<p>This field specifies whether the Auto mode is enabled or not. In the Auto mode, the stack above interface will be determined and created based</p>

	protocol packets sensed on this interface. For example, if the protocol packet sensed above interface is an EoA packet, then the corresponding EoA stack will be created above this interface. However, the corresponding EoA interface must be created with the gsvEoaConfigMode field's corresponding to the 'Auto' set. <b>Type:</b> Create – Optional <b>Default value:</b> disable
<b>autosupportedprot</b> 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. <b>Type:</b> Create – Optional Modify – Optional <b>Default value:</b> eoa   pppoa
<b>autovcmuxforcedprot</b> 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. <b>Type:</b> Create – Optional Modify – Optional <b>Default value:</b> None
<b>Autosensetriggertype</b> dynamic   opstatechange	This field specifies if the encap type detected is VCMux, the user can 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. <b>Type:</b> Create – Optional Modify – Optional <b>Default value:</b> dynamic

**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

#### 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

```

#### Output Fields

FIELD	Description
<b>VC IfName</b>	VC Interface Name. It can be : <i>aal5-0 - *</i>
<b>Low IfName</b>	Interface Index of the ATM port, on which this VC is getting configured.
<b>VPI</b>	It is the Virtual Path Identifier.
<b>VCI</b>	It is the Virtual Circuit Identifier.
<b>Oper Status</b>	The actual/current state of the interface. It can be either <i>Up</i> or <i>Down</i>
<b>Admin Status</b>	The desired state of the interface. It may be either <i>Up/Down</i> .
<b>Aal5 Tx Size</b>	This specifies the transmit CPCS SDU size to be used.



<b>Aal5 Rx Size</b>	This specifies the receive CPCS SDU size to be used.
<b>Aal Type</b>	This specifies the AAL type in use for this VC. The only type of AAL supported in Columbia Packet is AAL5.
<b>Aal5 Encap</b>	This specifies the data multiplexing method to be used on the VC.
<b>channel</b>	This extension specifies the type of channel, on which the ATM VC's cells have to be transmitted/received. 'fast (1)' means fast channel and 'inter(2)' means interleaved channel.
<b>Last Change</b>	The value of sysUpTime at the time this VC entered its current operational state.
<b>MgmtMode</b>	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 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 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 can not 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).
<b>RowStatus</b>	This defines the row-status of the interface entry
<b>VC Type</b>	This field specifies whether VC type is PVC or SVC.
<b>VC Topology</b>	This field specifies the VC connection topology type.
<b>Max simultaneous protocol</b>	This field specifies the maximum number of simultaneous active protocol stacks supported on this interface. Currently, only one protocol stack is supported.
<b>Auto Status</b>	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.
<b>Auto Supported Protocol</b>	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.
<b>Auto VC Mux Protocol</b>	This field specifies if the encap type detected is VCMux, the user can 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.
<b>Auto Sense Trigger Type</b>	This field specifies at what time the autodetection of the Encapsulation type or the higher protocol layers is to be done - At all times or only when the Operational Status of the 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 the Operational status of the ATM VC change to UP.
<b>Auto Curr Sensed EncapsType</b>	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.



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.

## 6.4.4 ATM VC Statistics Commands

### ► 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-nam>]`

#### Parameters

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

**Example** \$ get atm vc stats ifname aal5-0

```

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

#### References

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

---

## 6.5 Bridging Commands

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### 6.5.1 Bridge Mode Commands

► **Get bridge mode**

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

**Command Syntax:** `get bridge mode`

**Example** \$ `get bridge mode`

**Output**

```
Bridging Mode is enabled
```

**References**

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

### 6.5.2 Bridge Port Cap Commands

► **Get bridge port cap**

**Description:** Use this command is used to get.

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

**Parameters**

Name	Description
<code>portid &lt;portid-val &gt;</code>	The index of base port <b>Type</b> :Optional <b>Valid Values:</b> 1-4095 <b>Default value:</b> None

**Mode** Super-User, User

**Example** `get bridge port cap`

**Output**

```
portid          : 45  
Port Capabilites : Tagging Frame Types
```

**Output Fields**

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

### 6.5.3 Bridge Port Map Commands

► **Get bridge port map**

**Description:** Use this command to get.

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

► **Create bridge port map**

**Description:** Use this command to create.

---

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

► **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
<b>portid</b> <portid>	The bridge port with which a lower interface is being associated in the autosensing scenario. <b>Type:</b> Create Mandatory Delete Mandatory Get --Optional <b>Valid Values:</b> 1-4095
<b>ifname</b> < interface-name >	'ifname' associated with 'portid'. <b>Type:</b> Create Mandatory Delete Mandatory Get --Optional <b>Values:</b> eoa-*, pppoe-*

**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
<b>Port Id</b>	The bridge port with which a lower interface is being associated in the autosensing scenario.
<b>Interface Index</b>	'ifname' associated with 'portid'. Values: eoa-*, pppoe-*

## 6.5.4 Bridge Static Unicast Commands

► **Create bridge static ucast**

**Description:** This command is used to create.

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

► **Delete bridge static ucast**

**Description:** This command is used to delete.

**Command Syntax:** `delete bridge static ucast [vlanid <vlanid-val >] ucastaddr <uicastaddr-val >`

► **Get bridge static ucast**

**Description:** This command is used to get.

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

► **Modify bridge static ucast**

**Description:** This command is used to modify.

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

**Parameter**

Name	Description
<code>vlanid &lt;vlanid&gt;</code>	The VLAN id for this VLAN. For No Vlan case, vlan id is not required. <b>Type :</b> Optional <b>Valid values:</b> 1-4095
<code>uicastaddr &lt;uicastaddr&gt;</code>	The Destination unicast Mac Address, to which filtering info applies <b>Type:</b> Mandatory
<code>portid &lt;portid&gt;</code>	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. <b>Type :</b> Optional <b>Valid values:</b> 1-4095

## 6.5.5 Bridge Static Multicast Commands

► **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 >]`

► **Delete bridge static mcast**

**Description:** Use this command is used to delete.

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

► **Get bridge static mcast**

**Description:** Use this command is used to get.

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

► **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 >]`

**Parameter**

Name	Description
<code>Vlanid &lt;vlanid-val&gt;</code>	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 de-vices 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. <b>Type</b> :Optional for all commands <b>Valid values:</b> 1-4095

<b>mcastaddr</b> <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: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. <b>Type</b> : Create -- Mandatory Modify --Mandatory Delete -- Mandatory Get - Optional
<b>egressports</b> <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 <b>ForbidEgressPorts</b> . More than one val-ue can be given, separated by spaces. <b>Type</b> :Optional for all commands <b>Default value:</b> none
<b>Forbidegressports</b> <forbidegressports-val >  none	The set of ports, to which frames received from a specific port and destined for a specific Multicast MACaddress 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 <b>EgressPorts</b> . <b>Type</b> :Optional for all commands <b>Default value:</b> none

**Example** \$ create bridge static mcast vlanid 7 mcastaddr 01:00:5e:00:00:01 egressports 10 forbidegressports 20

**Output** Verbose Mode On:

```

Entry Created

Vlan Index      : 7          Mcast Address : 01:00:5E:00:00:01
Egress ports    : 10
Forbidden Egress ports : 20
  
```

Verbose Mode Off:

```
Entry Created
```

### Output Fields

Field	Description
<b>Vlan Index</b>	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 de-vices 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.
<b>Mcast Address</b>	The destination multicastcast MAC address in a frame, to which the filtering information of this entry applies.
<b>Egress ports</b>	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 <b>ForbiddenEgressPorts</b> .
<b>Forbidden Egress ports</b>	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 <b>EgressPorts</b> .

## 6.5.6 Bridge tbg traps Commands

### ► Get bridge tbg traps

**Description:** Use this command to get.

**Command Syntax:** `get bridge tbg traps`

### ► Modify bridge tbg traps

**Description:** Use this command to modify.

**Command Syntax:** `modify bridge tbg traps [bindingstatus enable | disable]`

#### Parameters

Name	Description
<b>bindingstatus</b> enable  disable	This allows the user to enable or disable the generation of 'binding status changed' trap. <b>Type:</b> Modify ---Optional

**Example**    \$ get bridge tbg traps

#### Output

```
Binding Status Changed Trap : enable
```

#### Output Fields

FIELD	Description
<b>Binding Status Changed Trap</b>	This allows the user to enable or disable the generation of 'binding status changed' trap.

## 6.5.7 Bridge Port Table Commands

### ► Create bridge port intf

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

**Command Syntax:** `create bridge port intf portid <portid-val > [maxucast <max-ucast-addresses>] [learning enable|disable][status enable|disable] [stickystatus enable | disable] [ acglbdenyapply enable | disable ] [ acglbtrackapply enable | disable ]`

### ► Delete bridge port intf

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

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

### ► Get bridge port intf

**Description:** Use this command to get the information about a specific bridge port or for all the ports.

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

### ► Modify bridge port intf

**Description:** Use this command to modify bridge port extension attributes

**Command Syntax:** `modify bridge port intf portid <portid-val > [maxucast <max-ucast-addresses>] [learning enable|disable] [status enable|disable] [stickystatus enable | disable] [acglbdenyapply enable | disable] [acglbtrackapply enable | disable]`

#### Parameters

Name	Description
------	-------------



<b>portid</b> <portid>	The bridge port id <b>Type:</b> Create --Optional Delete --Mandatory Modify --Mandatory Get -- Optional <b>Valid Values:</b> 1-4095
<b>ifname</b> <ifname>	The interface name associated with the given port. <b>Type</b> : Create --Mandatory
<b>maxucast</b> <max-ucast-addresses>	This specifies the maximum number of unicast addresses, which can be learned from this port. This can be modified when the admin status of bridge port is disabled. Max of number of unicast entries that can be learned/configured on a bridge port on CPE side is GS_CFG_MAX_NUM_CPE_PORT_UCAST_MAC_ENTRIES. The default value for number of unicast entries that can be learned or configured on a bridge port is GS_CFG_DEF_NUM_CPE_PORT_UCAST_MAC_ENTRIES. Max of number of unicast entries that can be learned/configured on a bridge port on NET side is GS_CFG_MAX_NUM_NET_PORT_UCAST_MAC_ENTRIES. The default value for number of unicast entries that can be learned or configured on a bridge port is GS_CFG_DEF_NUM_NET_PORT_UCAST_MAC_ENTRIES. Max of number of unicast entries that can be learned/configured on a bridge port on downlink side is GS_CFG_MAX_NUM_DNLINK_PORT_UCAST_MAC_ENTRIES. The default value for number of unicast entries that can be learned or configured on a bridge port is GS_CFG_DEF_NUM_DNLINK_PORT_UCAST_MAC_ENTRIES. <b>Type</b> : Create -- Optional Modify -- Optional <b>Default value:</b> 256
<b>learning</b> 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 GS_CFG_DEF_PORT_LEARNING_STATUS and for NET side bridge port default value shall be GS_CFG_DEF_NET_PORT_LEARNING_STATUS <b>Type</b> : Create --Optional Modify -- Optional <b>Valid Values:</b> enable or disable <b>Default value:</b> Enable
<b>status</b> enable disable	The desired state of the bridge port. On creation, the bridge port shall be created in enabled AdminStatus by default. <b>Type</b> : Create --Optional Modify -- Optional <b>Valid Values:</b> enable or disable <b>Default value:</b> disable
<b>stickystatus</b> enable   disable	Indicates if the port has been set as sticky. The value enable (1) indicates that the entries learnt on this port will not 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. <b>Type</b> : Create --Optional Modify -- Optional <b>Valid Values:</b> enable or disable <b>Default value:</b> enable

<b>acglbdenyapply</b> enable   disable	This specifies whether the global acl macency 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 GS_CFG_DEF_NET_PORT_ACL_GLB_DENY_S TATUS and for the cpe side ports the default value shall be GS_CFG_DEF_CPE_PORT_ACL_GLB_DENY_STAT US. <b>Type:</b> Modify --Optional
<b>acglbtrackapply</b> enable   disable	This specifies whether the global acl macency 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 GS_CFG_DEF_NET_PORT_ACL_GLB_TRACK_STATUS and for the cpe side ports the default value shall be GS_CFG_DEF_CPE_PORT_ACL_GLB_TRACK_STATUS. <b>Type:</b> Modify --Optional

**Example** \$ create bridge port intf ifname eth-0 portid 10 maxucast 200 learning enable stickystatus enable enable acglbdenyapply Disable acglbtrackapply Disable

**Output**

```

Port Id           : 10                IfName           : eth-0
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
Sensed IfIndex    : eoa-1

```

**Output Fields**

FIELD	Description
<b>Port Id</b>	The bridge port identifier
<b>If Name</b>	The interface name associated with the given port.
<b>Max Unicast Addresses</b>	This specifies the maximum number of unicast addresses, which can be learned from this port. This can be modified when the admin status of bridge port is disabled. Maximum number of unicast entries that can be learned/configured on a bridge port on CPE side is GS_CFG_MAX_NUM_CPE_PORT_UCAST_MAC_ENTRIES. The default value for number of unicast entries that can be learned or configured on a bridge port is GS_CFG_DEF_NUM_CPE_PORT_UCAST_MAC_ENTRIES. Maximum number of unicast entries that can be learned/configured on a bridge port on NET side is GS_CFG_MAX_NUM_NET_PORT_UCAST_MAC_ENTRIES. The default value for number of unicast entries that can be learned or configured on a bridge port is GS_CFG_DEF_NUM_NET_PORT_UCAST_MAC_ENTRIES. Maximum number of unicast entries that can be learned/ configured on a bridge port on down-link side is GS_CFG_MAX_NUM_DNLINK_PORT_UCAST_M AC_ENTRIES. The default value for number of uni-cast entries that can be learned or configured on a bridge port is GS_CFG_DEF_NUM_DNLINK_PORT_UCAST_M AC_ENTRIES.
<b>Learning status</b>	The state of learning on this bridge port. The value <b>enable (1)</b> indicates that unicast Mac address learning is enabled and the value <b>disable</b> 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 GS_CFG_DEF_PORT_LEARNING_STATUS and for NET side bridge port default value shall be GS_CFG_DEF_NET_PORT_LEARNING_STATUS.
<b>Port oper status</b>	The current operational state of the bridge port. If AdminStatus of the bridge port is <b>disable (2)</b> then OperStatus of the port should be <b>disable (2)</b> . If AdminStatus of the bridge port is changed to <b>enable (1)</b> then OperStatus of port should change to <b>enable (1)</b> if the bridge port is ready to transmit and receive network traffic.
<b>Port admin status</b>	The desired state of the bridge port. On creation the bridge port shall be created in enabled AdminStatus by default.
<b>Sticky Status</b>	Indicates if the port has been set as sticky. The value <b>enable (1)</b> 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 <b>disable (2)</b> , so that the entries can be aged out.
<b>AcI Global Deny Apply</b>	This specifies whether the global acI macency deny list represented by MO AcIGlobalMacList 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 GS_CFG_DEF_NET_PORT_ACL_GLB_DENY_STATUS and for the cpe side ports the default value shall be GS_CFG_DEF_CPE_PORT_ACL_GLB_DENY_STATUS.
<b>AcI Global Track Apply</b>	This specifies whether the global acI macency track list represented by MO AcIGlobalMacList 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 GS_CFG_DEF_NET_PORT_ACL_GLB_TRACK_STATUS and for the cpe side ports the default value shall be GS_CFG_DEF_CPE_PORT_ACL_GLB_TRACK_STATUS.

## 6.5.8 Bridge Port Stats Table Commands

### ► 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 >]`

### ► 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
<code>portid &lt;portid&gt;</code>	This is the bridge port identifier. If this is not specified in the <b>get</b> command, then information for all ports is displayed. <b>Type</b> : Get – Optional Reset -- Mandatory <b>Valid Values:</b> 1-4095

**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- GS_CFG_MAX_BRIDGE_PORTS
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.

## 6.5.9 STP Port Commands

### ► 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 >`

### ► 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 <path-cost>] [priority <priority-val>]`

### ► 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. <b>Type :</b> Mandatory <b>Valid values:</b> 1-386
enable disable	Spanning Tree Protocol to be enabled on the Port or not <b>Type :</b> Optional <b>Valid values:</b> enable, disable
pcost <path-cost>	The contribution of this port to the path cost of paths towards the spanning tree root, which include this port. <b>Type :</b> Optional <b>Valid values:</b> 1-65535

<b>priority</b> <priority-value>	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. <b>Type</b> : Optional <b>Valid values:</b> 0-63
----------------------------------	---

**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:80:00:00:10:5A:6C  Desig Bridge:80:00:00:10:5A: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:80:00:00:10:5A:6C  Desig Bridge:80:00:00:10:5A:6C
Desig Port : 0x8000       Fwd Transitions : 1
STP Status : Enable      Fwd Transitions : 1
```

Verbose Mode Off

Set Done

### Output Fields

Field	Description
<b>Port Id</b>	The port number of the port for which this entry contains Spanning Tree Protocol management information.
<b>Priority</b>	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.
<b>State</b>	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.
<b>Port Status</b>	The enabled/disabled status of the port.
<b>Path Cost</b>	The contribution of this port to the path cost of paths towards the spanning tree root which include this port.
<b>Desig Cost</b>	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.
<b>Desig Root</b>	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.
<b>Desig Bridge</b>	The Bridge Identifier of the bridge which this port considers to be the Designated Bridge for this port's segment.
<b>Desig Port</b>	The Port Identifier of the port on the Designated Bridge for this port's segment.
<b>Fwd Transitions</b>	The number of times this port has transitioned from the Learning state to the Forwarding state.

<b>STP status</b>	Spanning Tree Protocol to be enabled on the Bridge or not.
-------------------	--

**References**

- bridge port intf command

## 6.5.10 Transparent Bridging Table Commands

### ► Modify bridge tbg info

**Description:** Use this command to modify.

**Command Syntax:** `modify bridge tbg info [aging <aging-timeout> ] [slaveaging <aging-timeout>][netaging <aging-timeout>] [ floodsupport enable | disable | throttle] [bcastsupport enable | disable] [mcastsupport enable | disable] [mcastdrop enable | disable][throttlingrate <throttlingrate> ] [ pollinterval <pollinterval-val>]][ dropifdbfull <dropifdbfull-val> ] [ resnetlearning <resnetlearning-val> ]`

### ► Get bridge tbg info

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

**Command Syntax:** `get bridge tbg info`

**Parameters**

Name	Description
<b>Aging</b> <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. <b>Valid values:</b> 10 - 1000000
<b>slaveaging</b> <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.
<b>netaging</b> <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 iAgingi parameter. The value 0 can be configured when aging is to be stopped.
<b>floodsupport</b> enable disable throttl	This is used to specify whether the unknown unicast packets are to be flooded or not. The value 'throttle' specifies that throttling using the 'throttling rate' and 'polling interval' parameters, configured by the user, shall control the flooding. The fields 'throttleRate' and 'pollInterval' are valid only when the floodsupport is set to 'throttle'.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.
<b>bcastsupport</b> 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.
<b>mcastsupport</b> enable disable	Used to specify whether the multicast is supported or not. <b>Type :</b> Optional <b>Valid Values:</b> enable  disable

<b>mcastdrop</b> 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 <b>dot1dTpMcastSupport</b> is <b>false</b> . <b>Type</b> : Optional <b>Valid Values</b> : enable disable
<b>throttlingrate</b> <throttlingrate-val >	Defines the throttling Rate i.e. maximum number of FDB lookup failures resulting in flooding per second, beyond which, the flooding shall be throttled in the system. The value of this field is valid only if the ifloodsupport <sub>i</sub> parameter in the system is set to value Throttle.
<b>pollinterval</b> <pollinterval-val >	This indicates, in milliseconds, the polling interval. User can modify the polling interval at run time. The polling interval is defined in milliseconds with granularity of 100 ms. This interval allows user to have finer granularity and control over flooding in the system. The value of this field is valid only if the floodsupport parameter is set to value Throttle.
<b>dropiffdbfull</b> <dropiffdbfull-val >	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. <b>Type</b> : Optional <b>Valid Values</b> : enable or disable
<b>resnetlearning</b> 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. <b>Type</b> : Optional <b>Valid Values</b> : enable or disable

**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

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

```

**Output Fields**

Field	Description
-------	-------------

<b>MacAddress</b>	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.
<b>No. of Ports</b>	The maximum number of ports that can be controlled by this bridge.
<b>Base Type</b>	Indicates what type of bridging this bridge can perform. It is always Transparent Bridging or STP.
<b>Aging TimeOut</b>	The timeout period, in seconds, for aging out dynamically learned for warding information from CPEs. The value 0 can be configured when aging is to be stopped.
<b>Slaveaging TimeOut</b>	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.
<b>Floodsupport</b>	This is used to specify whether the unknown unicast packets are to be flooded or not. The value 'throttle' specifies that throttling using the 'throttling rate' and 'polling interval' parameters, configured by the user, shall control the flooding. The fields 'throttleRate' and 'pollInterval' are valid only when the floodsupport is set to 'throttle'. 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.
<b>Bcastsupport</b>	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.
<b>Mcastsupport</b>	Used to specify whether the multicast is supported or not.
<b>Mcastdrop</b>	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 <b>dot1dTpMcastSupport</b> is <b>false</b> .
<b>NetAgingTimeout</b>	The timeout period, in seconds, for aging out dynamically learned for warding 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.
<b>Bridging Mode</b>	This specifies the current state of full bridging on the bridge. The bridge 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.
<b>Throttling rate</b>	Defines the throttling Rate i.e. maximum number of FDB lookup failures resulting in flooding per second, beyond which, the flooding shall be throttled in the system. The value of this field is valid only if the iflood supporti parameter in the system is set to value Throttle.
<b>Polling Interval (milliseconds)</b>	This indicates, in milliseconds the polling interval. User can modify the polling interval at run time. The polling interval is defined in milliseconds with granularity of 100 ms. This interval allows user to have finer granularity and control over flooding in the system. The value of this field is valid only if the ifloodsupporti parameter is set to value Throttle.



<p><b>Drop If FDB full status</b></p>	<p>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.</p>
<p><b>ResidentialNetLearning</b></p>	<p>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'. <b>Currently the modification of this parameter is not supported.</b></p>

**References**

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

## 6.6 Bridge multicast Commands

### 6.6.1 Multicast Forwarding Table Commands

#### ► Get bridge mcast forwarding

**Description:** Use this command to get.

**Command Syntax:** `get bridge mcast forwarding [vlanid <vlanid-val>]  
[macaddress <macaddress-val >]`

#### Parameters

Name	Description
<b> vlanid &lt;vlanid&gt;</b>	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 - <b>get</b> . For <b>No Vlan</b> case, vlan id is not required. <b>Type:</b> Optional <b>Valid values:</b> 1-4095
<b> macaddress &lt;macaddress-val &gt;</b>	The destination Group MAC address in a frame to which this entry's filtering information applies. Bit 0 of the first octet of mac addr indicates a group (multicast) mac addr if the bit is SET. Eg 01:00:00:00:00:00, 03: FF: FF: FF: FF: FF. <b>Type:</b> Optional <b>Valid values:</b>

**Example** \$ get bridge mcast forwarding vlanid 1 macaddress  
01:00:5E:00:08:01

#### Output

```
Vlan Index      1          Mac Address : 01:00:5E:00:08:01  
Egress Ports : 10 20  
Group Learnt  : 10
```

#### Output Fields

Field	Description
<b>Vlan Index</b>	The VLAN id for this VLAN. In devices supporting "Shared Vlan for mul-ticast" 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.
<b>Mac Address</b>	The destination Group MAC address in a frame, to which this entry's filtering information, applies.
<b>Egress Ports</b>	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 <b>dot1qForwardAllPorts</b> list.
<b>Group Learnt</b>	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

## 6.6.2 Bridge mcast fwdunreg commands

### ► Get bridge mcast fwdunreg

**Description:** Use this command to get.

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

### ► Modify bridge mcast fwdunreg

**Description:** Use this command to create.

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

#### Parameters

Name	Description
<b> vlanid </b> <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, VLAN id is a mandatory parameter in all the commands other than - get. For No Vlan case, vlan id is not required. <b>Type</b> : Modify – Optional Get -- Optional <b>Default value</b> : 1-4095
<b>Egressports</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 1-386
<b>forbidegressports</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 1-386

**Example** \$ `modify bridge mcast fwdunreg vlanid 1 egressports 34 forbidegressports 345`

**Output** Verbose Mode On

```
VLAN Index : 1
Forward Unregistered Ports : 45
Forward Unregistered Static Ports : 45
Forward Unregistered Forbidden Ports : 34
```

Set Done

```
VLAN Index : 1
Forward Unregistered Ports : 45
Forward Unregistered Static Ports : 45
Forward Unregistered Forbidden Ports : 34
```

Verbose Mode Off

Set Done

#### Output Fields

Field	Description
<b>VLAN Index</b>	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, VLAN id is a mandatory parameter in all the commands other than - get. For No Vlan case, vlan id is not required
<b>Forward Unregistered Ports</b>	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.
<b>Forward Unregistered Static Ports</b>	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.
<b>Forward Unregistered Forbidden Ports</b>	The set of ports, configured by management in this VLAN, for which the Service Requirement attribute <b>Forward Unregistered Multicast Groups</b> , may not be dynamically registered by GMRP. More than one value can be given, separated by spaces.

---

## 6.7 DHCP Commands

---

### 6.7.1 DHCP Client Commands

#### ► 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
<b>Ifname</b> <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. <b>Type :</b> Optional <b>Valid values :</b> 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
<b>If-Name</b>	This is an interface on which DHCP is running: It can be : <i>eth-*</i> , <i>aggr-*</i>
<b>Server</b>	This specifies the address of the DHCP server with whom the client has obtained the IP address and other configuratio.s
<b>Status</b>	This specifies the current state of the client. It may be: <i>Init, Selecting, Bound, Requesting, Renew or Bind.</i>
<b>Lease Start Date</b>	This signifies the date on which the DHCP server leased out the IP address to the client.
<b>Lease Time</b>	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

#### ► 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
-------	-------------

<b>ifname</b> <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. <b>Type:</b> Optional <b>Valid values :</b> <i>eth-0- *</i>
--------------------------------	---

**Mode** Super-User, User

**Example** \$ get dhcp client stats ifname eth-0

**Output Fields**

```

If-name           : eth-0
Msgs Sent         : 4
Decline Sent      : 0
Discover Msgs Sent : 4
Req Sent          : 0
Rel Sent          : 0
Inform Sent       : 0
Msgs Rcvd        : 0
Offer Msgs Rcvd  : 0
Acks Rcvd        : 0
Nacks Rcvd       : 0
Invalid Rcvd     : 0

```

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

**References**

- dhcp client info related commands

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## 6.8 DSL Commands

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### 6.8.1 ADSL Line Profile Commands

► **Get adsl line profile**

**Description:** Use this command to get.

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

► **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> ] [ **atucargetsnr**  
<atucargetsnr-val > ] [ **atucmaxsnrmargin** <atucmaxsnrmargin-val > ]  
[ **atucgsrcsintcorrectionup** 125us | 250us | 500us | 1ms | 2ms | 4ms |  
disable ] [ **atucdnshiftsnrmargin** <atucdnshiftsnrmargin-val > ]  
[ **atucupshiftsnrmargin** <atucupshiftsnrmargin-val > ]  
[ **atucminupshifftime** <atucminupshifftime-val > ]  
[ **atucmindnshifftime** <atucmindnshifftime-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> ] [ **atucgsrxbinadjust** disable ]  
[ **atucgsltriggerrmode** disable | {locCrc | rmtCrc | snrInc | snrDec}+ ]  
[ **atucgsadi2x standard** ] [ **atucgsstandard** t1413 | gLite | gDmt |  
alctl14 | multimode | adi | alctl | t1413Auto | adslPlus | GspanPlus ]  
[ **atucgsinitiate** waitPn | ctone | initiatePn ] [ **atucgstxpoweratten**  
0|.1|.2|.3|.4|.5|.6|.7|.8|.9|1|2|3|4|5|6|7|8|9|10|11|12 ]  
[ **atucgscodinggain** Auto | 0 | 1 | 2 | 3 | 4 | 5 |  
6|7 ] [ **atucgsrcsfastovrhddn** 50 | 25 | 12 |6|3|1| Disable ]  
[ **atucgsrcsintcorrectiondn** 125Us | 250Us | 500Us | 1Ms | 2Ms | 4Ms |  
Disable ] [ **atucgsrcsfastovrhdup** 50 | 25 | 12 |6|3|1 | Disable ]  
[ **atucgsdrstby** Disable | Enable ] [ **atucgssexpexch** Expanded | Short ]  
[ **atucgscsfastretrain** Enable | Disable ] [ **atucgsfastretrain** Enable |  
Disable ] [ **atucgsbitswap** Disable | Enable ] [ **atucgsntr** LocalOcs |  
Refck8K ] [ **atucgsannex**type AnnexA | AnnexB | HighSpeed |  
GspanPlus | V1010 ] [ **atucgsalctl**usver Unknown ]  
[ **atucgsusecustombin** Enable | Disable ] [ **atucgsdnbinusage**  
<atucgsdnbinusage-val > ] [ **atucgsmaxdco** 64 | 128 | 256 ]  
[ **atucgsfullretrain** Enable | Disable ] [ **atucgsadv**cap disable | {annexa  
| annexb | adslplus | gspanplus}+ ] [ **atucgspsd**masktype Adsl |  
HsadsIM1 | HsadsIM2 ] [ **dmconfmode** ecMode | fdmMode ]  
[ **atucgserase**profs enable | disable ] [ **atucgs**extrsmemory present |  
notpresent ] [ **param**hybridlossteststart <paramhybridlossteststar-val  
>t ] [ **param**hybridlosstestend <paramhybridlosstestend> ] [ **dm**ttrellis  
on | off ] [ **atur**targetsnrmargin <aturtargetsnrmargin-val > ]  
[ **atur**dnshiftsnrmargin <aturdnshiftsnrmargin-val > ]  
[ **atur**upshiftsnrmargin <aturupshiftsnrmargin-val > ]  
[ **atur**minupshifftime <aturminupshifftime-val > ] [ **atur**mindnshifftime  
<aturmindnshifftime-val > ] [ **atur**fastmintxrate <aturfastmintxrate-val  
> ] [ **atur**intlmintxrate <aturintlmintxrate-val > ] [ **atur**fastmaxtxrate  
<aturfastmaxtxrate-val > ] [ **atur**intlmaxtxrate <aturintlmaxtxrate-val > ]  
[ **atur**maxintldelay <aturmaxintldelay-val > ] [ **data**boost  
Enable|Disable ] [ **up**streampsd Extended|Standard ]

**Parameters**

Name	Description
<b>ifname</b> <interface-name>	The ADSL line interface name, whose profile is to be modified or viewed <b>Type</b> : Modify -- Mandatory Get -- Optional <b>Valid values:</b> dsl-0 - dsl-*
<b>atucrateadaptation</b> fixed   adaptAtStartup   adaptAtRuntime	Defines what form of transmit rate adaptation is configured, on this modem. Refer to ADSL Forum TR- 005 for more information. <b>Type</b> : Modify -- Optional
<b>gsparamtestinputfile</b> <gsparamtestinputfile-val >	Indicates Name of the Input file, which contains the Mask Array Size, lower and upper mask Array. Null string means no file is specified. <b>Type</b> : Modify -- Optional
<b>atuctargetsnr</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 310
<b>atucmaxsnrmargin</b> <atucmaxsnrmargin-val >	Configured Maximum acceptable Signal/Noise Margin. If the Noise Margin is above this, the modem should attempt to reduce its power output to optimize its operation. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 310
<b>atucgrsintcorrectionup</b> 125us   250us   500us   1ms   2ms   4ms   disable	Sets the correction time for the upstream interleaved buffer. RS can also be disabled. <b>Type</b> : Modify -- Optional
<b>atucdnshiftsnrmargin</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 310
<b>atucupshiftsnrmargin</b> <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 the case that RADSL is not present, the value will be 0. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 310
<b>atucminupshifttime</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 16383
<b>atucmindnshifttime</b> <atucmindnshifttime-val >	Minimum time that the current margin is below DownshiftSnrMgn, before a downshift occurs. In the case that RADSL is not present, the value will be 0. <b>Type</b> : Modify -- Optional Get -- Optional <b>Valid values:</b> 0 - 16383
<b>atucfastmintxrate</b> <atucfastmintxrate-val >	Configured Minimum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode. Refer to ATU-R transmit rate for ATU-C receive rates. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 0xffffffff



<b>atucintlmintxrate</b> <atucintlmintxrate-val >	Configured Minimum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAtucConfRate-ChanRatio' for information regarding RADSL mode and refer to ATU-R transmit rate for ATU-C receive rates. <b>Type</b> : Modify --Optional <b>Valid values:</b> 0 - 0xffffffff
<b>Atucfastmaxtxrate</b> <atucfastmaxtxrate-val >	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode. Refer to ATU-R transmit rate for ATU-C receive rates. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 0xffffffff
<b>atucintlmaxtxrate</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 0xffffffff
<b>atucmaxintldelay</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 255
<b>type</b> noChannel   fastOnly   interleavedOnly   fastOrInterleaved   fastAndInterleaved	This object is used to configure the ADSL physical line mode <b>Type</b> : Modify --Optional
<b>atucgstxendbin</b> <atucgstxendbin-val >	The highest bin number allowed for Tx signal. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0x06 -0x1ff
<b>atucgstxstartbin</b> <atucgstxstartbin-val >	The lowest bin number allowed for Tx signal. <b>Type</b> : Modify – Optional <b>Valid values:</b> 0x1ff
<b>atucgsmaxbitsperbin</b> <atucgsmaxbitsperbin-val >	The maximum Rx number of bits per bin. <b>Type</b> : Modify Optional <b>Valid values:</b> 0 - 15
<b>atucgsrxstartbin</b> <atucgsrxstartbin-val >	The lowest bin number allowed for Rx signal. <b>Type</b> : Modify – Optional <b>Valid values:</b> 0x1ff
<b>atucgsrxendbin</b> <atucgsrxendbin-val >	The highest bin number allowed for Rx signal. <b>Type</b> : Modify - Optional <b>Valid values:</b> 0x1ff
<b>atucgsrxbinadjust</b> disable	This parameter employs Rx Start/End bin settings <b>Type</b> : Modify -- Optional
<b>atucgstriggermode</b> disable   {locCrc   rmtCrc   snrInc   snrDec}+	The type of event that triggers a fast retrain <b>Type:</b> Modify --Optional
<b>atucgsadi2x</b> standard	For non-standard compliant ADI CPE <b>Type:</b> Modify --Optional
<b>atucgsstandard</b> t1413   gLite   gDmt   alct14   multimode   adi   alct1   t1413Auto adslPlus  GspanPlus	Preferred standard compliance. Outcome is dependent upon standard support of the remote unit.GlobespanVirata High Speed ADSL DMT (AD-SL+)applications only <b>Type:</b> Modify --Optional
<b>atucgsinitiate</b> waitPn   ctone   initiatePn	Specifies which end initiates startup. It is also used to send a C-tone to the remote unit. <b>Type:</b> Modify --Optional

<b>atucgstxpoweratten</b> 0 .1 .2 .3 .4 .5 .6 .7 .8 .9 .1 .2 .3 .4 .5 .6 .7 .8 .9 .10 .11 .12	The value in dB of Tx power attenuation <b>Type:</b> Modify --Optional
<b>atucgscodinggain</b> Auto   0   1   2 3 4  5 6 7	Sets the coding gain in dB increments <b>Type:</b> Modify --Optional
<b>atucgsrcfastovrhddn</b> 50   25 12 6  3 1  Disable	This parameter sets the percentage overhead for the downstream fast buffer. RS can also be disabled. <b>Type:</b> Modify --Optional
<b>atucgsrcintcorrectiondn</b> 125Us   250Us   500Us   1Ms   2Ms   4Ms   Disable	This parameter sets the correction time for the downstream interleaved buffer. RS can also be disabled. <b>Type:</b> Modify --Optional
<b>atucgsrcfastovrhdup</b> 50   25 12 6  3 1  Disable	This parameter sets the percentage overhead for the upstream fast buffer. RS can also be disabled. <b>Type:</b> Modify --Optional
<b>atucgsdrstby</b> Disable   Enable	This parameter provides the ability to disable power to the line driver <b>Type:</b> Modify --Optional
<b>atucgsexpexch</b> Expanded   Short	T1.413 parameter that Enables/Disables EES <b>Type:</b> Modify --Optional
<b>atucgsescfastretrain</b> Enable   Disable	This parameter enables/disables escape to the fast retrain capability <b>Type:</b> Modify --Optional
<b>atucgsfastretrain</b> Enable   Disable	This parameter enables/disables the fast retrain capability. Currently supported only in G.lite mode. <b>Type:</b> Modify --Optional
<b>atucgsbitswap</b> Disable   Enable	This parameter enables/disables bit swapping <b>Type:</b> Modify --Optional
<b>atucgsntr</b> LocalOcs   Refck8K	This parameter enables/disables NTR on a per chip basis <b>Type:</b> Modify --Optional
<b>atucgsannextype</b> AnnexA   AnnexB   HighSpeed   GspanPlus   V1010	This parameter is set as per annex compliance of the code release. GlobespanVirata High Speed ADSL DMT (ADSL+) applications only <b>Type:</b> Modify --Optional
<b>atucgsalctlusver</b> Unknown	For T1.413 demo purposes only <b>Type:</b> Modify --Optional
<b>tucgsusecustombin</b> Enable   Disable	This parameter enables/disables user selection of any of the 511 bins that will be enabled for upstream and downstream transmission. <b>Type:</b> Modify --Optional
<b>atucgsdnbinusage</b> <atucgsdnbinusage-val >	'1' in bit position indicates usage of corresponding bin. '0' disables usage of corresponding bin. <b>Type:</b> Modify --Optional
<b>atucgsmaxdco</b> 64   128  256	Maximum interleaving depth supported by the customer's hardware <b>Type:</b> Modify --Optional
<b>atucgsfullretrain</b> Enable   Disable	Indicates enable/disable of auto retrain capability <b>Type:</b> Modify --Optional
<b>atucgsadvcap</b> disable   {annexa   annexb   adslplus   gspanplus}+	This parameter controls if the CO will attempt to startup using alternate standards if the CPE does not support ADSL+. <b>Type:</b> Modify --Optional
<b>atucgspsdmasktype</b> Adsl   HsadsIM1   HsadsIM2	This parameter selects the PSD mask option to be used <b>Type:</b> Modify --Optional
<b>dmtconfmode</b> ecMode   fdmMode	Indicates whether there is overlap or no overlap of bins <b>Type:</b> Modify --Optional
<b>atucgseraseprofs</b> enable   disable	This parameter enables/disables the ability to erase all fast retrain profiles at startup

	<b>Type:</b> Modify --Optional
<b>atucgsextrsmemory</b> present   notpresent	Indicates whether customer's Hardware uses external RS RAM <b>Type:</b> Modify --Optional
<b>Paramhybridlossteststart</b> <paramhybridlosstestst-art	Start bin for range of bins to be measured <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0x1ff
<b>paramhybridlosstestend</b> <paramhybridlosstestend-val >	End bin for range of bins to be measured <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0x1ff
<b>dmttrellis</b> on   off	This parameter enables/disables trellis coding. Trellis coding should always be enabled for its clear performance advantage. <b>Type</b> : Modify -- Optional
<b>tucgsusecustombin</b> Enable   Disable	This parameter enables/disables user selection of any of the 511 bins that will be enabled for upstream and downstream transmission. <b>Type:</b> Modify --Optional
<b>aturtargetsnrmargin</b> <aturtargetsnrmargin-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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 310
<b>aturdnshiftsnrmargin</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 310
<b>aturupshiftsnrmargin</b> <aturupshiftsnrmargin-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 the case that RADSL is not present, the value will be 0. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 310
<b>aturminupshifttime</b> <aturminupshifttime-val >	Minimum time that the current margin is above Up shiftSnrMgn before an upshift occurs. In the case that RADSL is not present, the value will be 0. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 16383
<b>aturmindnshifttime</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 16383
<b>aturfastmintxrate</b> <aturfastmintxrate-val >	Configured Minimum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChan-Ratio' for information regarding RADSL mode and ATU-C transmit rate for ATU-R receive rates. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 0xffff
<b>aturintlmintxrate</b> <aturintlmintxrate-val >	Configured Minimum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRate-ChanRatio' for information regarding RADSL mode and refer to ATU-C transmit rate for ATUR receive rates. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 0xffff

<b>Aturfastmaxtxrate</b> <aturfastmaxtxrate-val >	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChan-Ratio' for information regarding RADSL mode and refer to ATU-C transmit rate for ATUR receive rates. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 0xffff
<b>aturintlmaxtxrate</b> <aturintlmaxtxrate-val >	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and ATU-C transmit rate for ATU-R receive rates. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 0xffff
<b>aturmaxintldelay</b> <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. <b>Type</b> : Modify -- Optional <b>Valid values:</b> 0 - 255
<b>databoost</b> Enable Disable	GlobespanVirata parameter that enables/disables DataBoost option <b>Type</b> : Modify -- Optional <b>Valid values:</b> Enable Disable
<b>upstreampsd</b> Extended Standard	GlobespanVirata parameter that sets the upstream PSD to be either extended or standard. Used for GSpan Plus only <b>Type</b> : Modify -- Optional <b>Valid values:</b> Extended Standard

**Example** \$ get adsl line profile ifname dsl-0

**Output** Verbose Mode On

```

ADSL ATUC Configuration :
-----
Rate Adaptation           : fixed
Target Snr Margin(dB/10) : 20           Max Snr Margin(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        GsEraseProfiles         : enable
GsAdi2x                  : standard    GsStandard               : tl413
GsInitiate               : waitPn     GsTxPowerAtten          : .6
GsCodingGain             : Auto       GsRsFastOvrhdDown       : 1
GsRsIntCorrectionDown    : 125Us     GsRsFastOvrhdUp         : 50
GsDrStby                 : Disable    GsExpandedExchange      : Short
GsEscapeFastRetrain     : Enable    GsFastRetrain           : Enable
GsBitSwap                : Enable    GsNtr                   : LocalOcs
GsAnnexType              : AnnexA     GsAlctlUsVer            : Unknown
GsUseCustomBin           : Enable    GsFullRetrain           : Enable
GsPsdMaskType            : Adsl      DmtConfMode             : ecMode
GsExtRsMemory            : ExtRsMemory GsParamHybridLossTestStart : 0x10
GsParamHybridLossTestEnd : 0x23     GsDmtTrellis            : cn
GsAdvertisedCapabilities : disable
Gs1TriggerMode           : rmtCrc
Type                     : noChannel
GsDnBinUsage             : 0xff
ParametricTestInputFile  : TestFile
Data Boost                : Enable    Upstream PSD             : Standard

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

```

## Output Fields

Field	Description
<b>IfName</b>	The ADSL line interface name, whose profile is to be modified or viewed
<b>Rate Adaptation</b>	Defines what form of transmit rate adaptation is configured on this modem. Refer to ADSL Forum TR-005 for more information.
<b>Target Snr Margin(dB/10)</b>	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.
<b>Max Snr Margin(dB/10)</b>	Configured Maximum acceptable Signal/Noise Margin. If the Noise Margin is above this, the modem should attempt to reduce its power output to optimize its operation.
<b>GsRslntCorrecti onUp</b>	Sets the correction time for the upstream interleaved buffer. RS can also be disabled.
<b>Dnshift SnrMargin(dB/10)</b>	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.
<b>Upshift SnrMargin(dB/10)</b>	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.
<b>Min Upshift Time(sec)</b>	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.
<b>Min Dnshift Time(sec)</b>	Minimum time that the current margin is below DownshiftSnrMgn before a downshift occurs. In the case that RADSL is not present, the value will be 0.
<b>Intl Min Tx Rate(bps)</b>	Configured Minimum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAtucConfRate-ChanRatio' for information regarding RADSL mode and refer to ATU-R transmit rate for ATU-C receive rates.
<b>Fast Max Tx Rate(bps)</b>	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAtucConfRateChan-Ratio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates.
<b>Intl Max Tx Rate(bps)</b>	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.
<b>Max Intl Delay(ms)</b>	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.
<b>GsTxStartBin</b>	The lowest bin number allowed for Tx signal.
<b>GsTxEndBin</b>	The highest bin number allowed for Tx signal.
<b>GsRxStartBin</b>	The lowest bin number allowed for Rx signal.
<b>GsRxEndBin</b>	The highest bin number allowed for Rx signal.
<b>GsMaxBitsPerBin</b>	The maximum Rx number of bits per bin.
<b>GsMaxDCo</b>	Maximum interleaving depth supported by the customer's hardware.
<b>GsRxBinAdjust</b>	This parameter employs Rx Start/End bin settings.
<b>GsEraseProfiles</b>	This parameter enables/disables the ability to erase all fast retrain profiles at startup.
<b>GsAdi2x</b>	For non-standard compliant ADI CPE.

<b>GsStandard</b>	Preferred standard compliance. Outcome is dependent upon standard support of the remote unit. GlobespanVirata High Speed ADSL DMT (ADSL+) applications only.
<b>GsInitiate</b>	Specifies which end initiates startup. It is also used to send a C-tone to the remote unit.
<b>GsTxPowerAttenuation</b>	The value in dB of Tx power attenuation.
<b>GsCodingGain</b>	Sets the coding gain in dB increments.
<b>GsRsFastOvrhdDown</b>	This parameters sets the percentage overhead for the downstream fast buffer. RS can also be disabled.
<b>GsRsIntCorrectionDown</b>	This parameter sets the correction time for the downstream interleaved buffer. RS can also be disabled.
<b>GsRsFastOvrhdUp</b>	This parameter sets the percentage overhead for the upstream fast buffer. RS can also be disabled.
<b>GsDrStby</b>	This parameter provides the ability to disable power to the line driver.
<b>GsExpandedExchange</b>	T1.413 parameter that Enables/Disables EES.
<b>GsEscapeFastRetrain</b>	This parameter enables/disables escape to the fast retrain capability.
<b>GsFastRetrain</b>	This parameter enables/disables the fast retrain capability. Currently supported only in G.lite mode.
<b>GsBitSwap</b>	This parameter enables/disables bit swapping.
<b>GsNtr</b>	This parameter enables/disables NTR on a per chip basis.
<b>GsAnnexType</b>	This parameter is set as per Annex compliance of the code release. GlobespanVirata High Speed ADSL DMT (ADSL+) applications only
<b>GsAlctUsVer</b>	For T1.413 demo purposes only.
<b>GsUseCustomBin</b>	This parameter enables/disables user selection of some of those 511 bins that will be enabled for upstream and downstream transmission.
<b>GsFullRetrain</b>	Indicates enable/disable of auto retrain capability.
<b>GsPsdMaskType</b>	This parameter selects the PSD mask option to be used
<b>DmtConfMode</b>	Indicates whether there is overlap or no overlap of bins.
<b>GsExtRsMemory</b>	Indicates whether customer's Hardware uses external RS RAM.
<b>GsParamHybridLossTestStart</b>	Start bin for range of bins to be measured.
<b>GsParamHybridLossTestEnd</b>	End bin for range of bins to be measured.
<b>GsDmtTrellis</b>	This parameter enables/disables trellis coding. Trellis coding should always be enabled for its clear performance advantage.
<b>GsAdvertisedCapabilities</b>	This parameter controls if the CO will attempt to startup using alternate standards if the CPE does not support ADSL+.
<b>GsITriggerMode</b>	The type of event that triggers a fast retrain.
<b>Type</b>	This object is used to configure the ADSL physical line mode.
<b>GsDnBinUsage</b>	'1' in bit position indicates usage of corresponding bin, whereas a '0' disables usage of corresponding bin.
<b>ParametricTestInputFile</b>	Indicates Name of the Input file that contains the Mask Array Size, lower and upper mask Array. Null string means no file is specified.
<b>Target Snr Margin(dB/10)</b>	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.

<b>Upshift SnrMargin(dB/10)</b>	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.
<b>Min Upshift Time(sec)</b>	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.
<b>Min Dnshift Time(sec)</b>	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.
<b>Fast Min Tx Rate(bps)</b>	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.
<b>Intl Min Tx Rate(bps)</b>	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.
<b>Fast Max Tx Rate(bps)</b>	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChan-Ratio' for information regarding RADSL mode and to ATU-C transmit rate for ATUR receive rates.
<b>Intl Max Tx Rate(bps)</b>	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.
<b>Max Intl Delay(ms)</b>	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.
<b>Data Boost</b>	GlobespanVirata parameter that enables/disables DataBoost option
<b>Upstream PSD</b>	GlobespanVirata parameter that sets the upstream PSD to be either extended or standard. Used for GSpan Plus only

## 6.8.2 ADSL Line Intf Commands

### ► Get adsl line intf

**Description:** Use this command to view ADSL line configuration.

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

### ► Modify adsl line intf

**Description:** Use this command to modify ADSL line configuration.

**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][ linepmconfpmsf idleop|dataop|l2op ] [ linedeltconfl dsf inhibit|force ] [enable | disable] [ LineTransAtucConfig { ansit1413| etsi | q9921PotsNonOverlapped | q9921PotsOverlapped |q9921IsdnNonOverlapped | q9921IsdnOverlapped |q9921tcmlsdnNonOverlapped | q9921tcmlsdnOverlapped |q9922potsNonOverlapped | q9922potsOverlapped |q9922tcmlsdnNonOverlapped | q9922tcmlsdnOverlapped |q9921tcmlsdnSymmetric | adslPlusPotsNonOverlapped |q9921GspanPlusPotsNonOverlapped |`

q9921GspanPlusPotsOverlapped |q9923Adsl2PotsOverlapped |  
q9923Adsl2PotsNonOverlapped |q9925Adsl2PlusPotsOverlapped |  
q9925Adsl2PlusPotsNonOverlapped |q9923Readsl2PotsOverlapped |  
q9923Readsl2PotsNonOverlapped |adslPlusPotsOverlapped}+ ]

### Parameters

Name	Description
<b>ifname</b> < interface-name>	The Interface name of DSL port. <b>Type</b> : Modify – Mandatory Get - Optional <b>Valid values</b> : dsl-*
<b>lineconfgsaction</b> startup  spectrumReverb  analogLb   digitalLb  atmLp   spectrumMedley  spectrumPilot  spectrumCMtpr  spectrumRMtpr  hybridLossTest  rcvLinearityTest  rcvFilterTest  rcvPowerPerBinTest  idleNoisePerBinTest  totalIdleNoiseTest selt  shutdown   wakeup	Allows action on per-line basis. <b>Type</b> : Optional
Enable disable	Administrative Status of the interface. <b>Type</b> : Optional <b>Valid values</b> : enable or disable
<b>Linepmconfpmsf</b> idleop dataop l2op	PM-related parameter used by ATU-C to force a change in the line state. (Not available for ADSL/ADSL2Plus) <b>Type</b> : Modify -- Optional
<b>Linedeltconfldsf</b> 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) <b>Type</b> : Modify -- Optional
<b>LineTransAtucConfig</b> {ansit1413 etsi q9921Pot sNonOverlapped q9921Pots Overlapped q9921IsdnNonO verlapped q9921isdnOverl apped q9921tcmlsdnNonOve rlapped q9921tcmlsdnOver lapped q9922potsNonOverl apped q9922potsOverlapp ed q9922tcmlsdnNonOverlap ped q9922tcmlsdnOverlapp ed q9921tcmlsdnSymmetric  adslPlusPotsNonOverlapp ed q9921GspanPlusPotsNon Overlapped q9921GspanPlu sPotsOverlapped q9923Ad sl2PotsOverlapped q9923Ad sl2PotsNonOverlapped q99 25Adsl2PlusPotsOverlapp ed q9925Adsl2PlusPotsNonO verlapped q9923Readsl2Pots O verlapped q9923Readsl2Pots NonOverl apped adslPlusPotsOv erlapped}+	The transmission modes that the ATU-C is capable of supporting. The modes available are limited by the design of the equipment. <b>REFERENCE</b> "Section 7.3.2 ITU G.997.1" (length = 4 bytes).

**Example** \$ get adsl line intf ifname dsl-0

**Output** Verbose Mode On



## Verbose Mode On

```

IfName           : dsl-0
Line Type        : Interleaved           Coding Type      : dmt
GsUtopia L2TxAddr : 23                  GsUtopia L2RxAddr : 10
Gs Clock Type    : oscillator            Gs Action       : StartUp
Admin Status     : Enable                Oper Status      : Enable
Trans Atuc Cap   : q9921PotsNonOverlapped
Trans Atuc Actual : q9921PotsNonOverlapped
Trans Atuc Config : ansit1413
GsDmtTrellis    : trellisOn
Trans Atur Cap   : ansit1413
PM Conf PMSF    : idleop
Line DELT Conf LDSF : inhibit
  
```

## Output Fields

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

## References

- modify adsl line profile
- modify adsl alarm profile
- get adsl line profile
- get adsl alarm profile.

## 6.8.3 DSL System Commands

### ► Get dsl system

**Description:** Use this command to view DSL system sizing information

**Command Syntax:** `get dsl system`

### ► Create dsl system

**Description:** Use this command to create.

**Command Syntax:** `create dsl system [ dsldtype Adsl | Sdsl | Shdsl ] [ linecoding Other|Dmt|Cap|Qam ] [ adsltxcfg {ansit1413 | etsi |q9921PotsNonOverlapped | q9921PotsOverlapped |q9921IsdnNonOverlapped | q9921IsdnOverlapped|q9921TcmIsdnNonOverlapped | q9921TcmIsdnOverlapped |q9922PotsNonOverlapped | q9922PotsOverlapped |q9922TcmIsdnNonOverlapped`

```
|q9922TcmIsdnOverlapped |q9921TcmIsdnSymmetric |
adslPlusPotsNonOverlapped
|q9921GspanPlusPotsNonOverlapped|q9921GspanPlusPotsOverlapped |
vdsINonOverlapped |vdsIOverlapped }+ ]
```

### Parameters

Name	Description
<b>dsItype</b> Adsl   Sdsl	Identifies the firmware to be downloaded. <b>Type</b> :Optional for all commands <b>Default value:</b> adsl
<b>linecoding</b> Other   Dmt   Cap   Qam	ADSL line code type. <b>Type</b> :Optional for all commands <b>Default value:</b> Dmt
<b>adsltxcfg</b> {ansit1413   etsi   q9921PotsNonOverlapped   q9921PotsOverlapped   q9921IsdnNonOverlapped   q9921IsdnOverlapped   q9921TcmIsdnNonOverlapped  q9921TcmIsdnOverlapped   q9922PotsNonOverlapped   q9922PotsOverlapped   q9922TcmIsdnNonOverlapped   q9922TcmIsdnOverlapped  q9921TcmIsdnSymmetric   q9921GspanPlusPotsNonOverlapped   q9921GspanPlusPotsOverlapped   vdsINonOverlapped   vdsIOverlapped }+ adslPlusPotsNonOverlapped}+	Transmission capabilities with which the DSL system is configured. <b>Type</b> : Optional for all commands <b>Default value:</b> q9921PotsNonOverlapped   q9921PotsOverlapped

**Example** \$ create dsl system txcfg q9921potsNonOverlapped

**Output** Verbose Mode On

```
DSL Type : Adsl Line coding : Dmt
Tx Config : q9921potsNonOverlapped
```

### Output Fields

Field	Description
<b>DSL Type</b>	Identifies the firmware to be downloaded.
<b>Line coding</b>	ADSL line code type.
<b>Tx Config</b>	Transmission capabilities with which the DSL system is configured.

## 6.8.4 ADSL Cap Commands

### ► Get adsl cap

**Description:** Use this command to view DSL transmission capability.

**Command Syntax:** get adsl cap

**Parameters** None

**Example** \$ get adsl cap

**Output** Verbose Mode On

```
Tx Capability : q9921potsOverlapped q9921potsNonOverlapped
```

### Output Fields

Field	Description
-------	-------------

<b>Tx Capability</b>	Transmission capabilities of the DSL system.
----------------------	--

References

- create dsl system
- get dsl system.

## 6.8.5 ADSL Alarm Profile Commands

### ► Get adsl alarm profile

**Description:** Use this command to view ADSL alarm profile, corresponding to an ADSL interface.

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

### ► Modify adsl alarm profile

**Description:** Use this command to modify ADSL alarm profile, corresponding to an ADSL interface.

**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 > ] [ atucthreshintrateup <atucthreshintrateup-val > ] [ atucthreshfastratedn <atucthreshfastratedn-val > ] [atucthreshinltratedn <atucthreshinltratedn-val > ] [ atucinitfailtrap <atucinitfailtrap-val > ] [atucoptrapenable <atucoptrapenable-val > ] [ aturthresh15minlofs <aturthresh15minlofs-val > ] [ aturthresh15minloss <aturthresh15minloss-val > ] [ aturthresh15minlprs <aturthresh15minlprs-val > ] [ aturthresh15miness <aturthresh15miness-val > ] [aturthreshfastrateup <aturthreshfastrateup-val > ] [ aturthreshintrateup <aturthreshintrateup-val > ] [ aturthreshfastratedn <aturthreshfastratedn-val > ] [aturthreshinltratedn <aturthreshinltratedn-val > ]`

### Parameters

Name	Description
<b>ifname</b> <interface-name>	The ADSL alarm interface name, whose profile is to be modified or viewed <b>Type :</b> Modify -- Mandatory Get -- Optional <b>Valid values:</b> dsl-0 - dsl-*
<b>atucthresh15minlofs</b> <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' <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>atucthresh15minloss</b> <atucthresh15minloss-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 'adslAtucPerfLossThreshTrap' <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>atucthresh15minlols</b> <atucthresh15minlols-val >	The number of Loss of Link Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLolsThreshTrap'. <b>Type :</b> Modify - Optional

	<b>Valid values:</b> 0 - 900
<b>atucthresh15minlprs</b> <atucthresh15minlprs-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 'adslAtucPerfLprsThreshTrap'. <b>Type :</b> Modify - Optional <b>Valid values:</b> 0 - 900
<b>atucthresh15miness</b> <atucthresh15miness-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 'adslAtucPerfESsThreshTrap'. <b>Type :</b> Modify - Optional <b>Valid values:</b> 0 - 900
<b>atucthreshfastrateup</b> <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 <b>Type :</b> Modify – Optional <b>Valid values:</b> 0 - 0xffff
<b>atucthreshintrateup</b> <atucthreshintrateup-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. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 0xffff
<b>atucthreshfastratedn</b> <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. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 0xffff
<b>atucthreshinratedn</b> <atucthreshinratedn-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. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 0xffff
<b>atucinitfailtrap</b> <atucinitfailtrap-val >	Enables and disables the InitFailureTrap. This object is defaulted disable. <b>Type :</b> Modify -- Optional <b>Valid values:</b> true, false
<b>atucoptrapenable</b> <atucoptrapenable-val >	Enables/disables the OpStateChangeTrap. <b>Type :</b> Modify - Optional <b>Valid values:</b> true, false
<b>aturthresh15minlofs</b> <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'. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>aturthresh15minloss</b> <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'. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>aturthresh15minlprs</b> <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'.

	<b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>aturthresh15miness</b> <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'. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>aturthreshfastrateup</b> <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. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>aturthreshinlrateup</b> <aturthreshinlrateup>	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. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>aturthreshfastratedn</b> <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. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900
<b>aturthreshinlratedn</b> <aturthreshinlratedn-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. <b>Type :</b> Modify -- Optional <b>Valid values:</b> 0 - 900

**Example** \$ get adsl alarm profile ifname dsl-0

**Output** Verbose Mode On

```

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
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
<b>IfName</b>	The ADSL alarm interface name, whose profile is to be modified or viewed
<b>Thresh 15Min Lofs(sec)</b>	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'.
<b>Thresh 15Min Loss(sec)</b>	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 'adslAtucPerfLossThreshTrap'.
<b>Thresh 15Min Lols(sec)</b>	The number of Loss of Link Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLol-sThreshTrap'.
<b>Thresh 15Min Lprs(sec)</b>	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 'adslAtucPerfLprsThreshTrap'.
<b>Thresh 15Min Ess(sec)</b>	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 'adslAtucPerfESsThresh-Trap'.
<b>Thresh Fast Rate Up(bps)</b>	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.
<b>Thresh Intl Rate Up(bps)</b>	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.
<b>Thresh Fast Rate Down(bps)</b>	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.
<b>Thresh Intl Rate Down(bps)</b>	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChange-Trap. A trap is produced when, ChanCurrTxRate <= ChanPrevTxRate minus the value of this object.
<b>Init Fail Trap</b>	Enables and disables the InitFailureTrap. This object is, by default <b>disable</b> .
<b>OpStateTrapEnable</b>	Enables/disables the OpStateChangeTrap.
<b>Thresh 15Min Lofs(sec)</b>	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'.
<b>Thresh 15Min Loss(sec)</b>	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'.
<b>Thresh 15Min Lprs(sec)</b>	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'.
<b>Thresh 15Min Ess(sec)</b>	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'.
<b>Thresh Fast Rate Up(bps)</b>	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.
<b>Thresh Intl Rate Up(bps)</b>	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.
<b>Thresh Fast Rate Down(bps)</b>	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.
<b>Thresh Intl Rate Down(bps)</b>	Applies to 'Interleave' channels only. Configured change in rate causing an adslAturRateChange-Trap A trap is produced when, ChanCurrTxRate < ChanPrevTxRate minus the value of this object.

#### References

- ADSL commands.

## 6.8.6 ADSL ATUR Trapsext Commands

### ► Get adsl atur trapsext

**Description:** This command is used to get.

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

**Example** \$ get adsl atur trapsext ifname dsl-0

#### Output

```

ifname                : dsl-0
SesL Thresh 15Min Trap : 1          UasL 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

```

#### Output field description

Field	Description
<b>ifname</b>	The ADSL Interface Name
<b>SesL Thresh 15Min Trap</b>	Severely Errored Seconds 15-minute interval threshold reached
<b>UasL Thresh 15Min Trap</b>	Unavailable Errored Seconds 15-minute interval threshold reached
<b>Lofs Thresh 1Day Trap</b>	Loss of Frames 1-day interval threshold reached
<b>Loss Thresh 1Day Trap</b>	Loss of Signal 1-day interval threshold reached
<b>Lprs Thresh 1Day Trap</b>	Loss of Power 1-day interval threshold reached
<b>ESs Thresh 1Day Trap</b>	Errored Seconds 1-day interval threshold reached
<b>SesL Thresh 1Day Trap</b>	Severely Errored Seconds 1-day interval threshold reached
<b>UasL Thresh 1Day Trap</b>	Unavailable Errored Seconds 1-day interval threshold reached

#### References

- ADSL Commands

## 6.8.7 ADSL ATUC Trapsext Commands

### ► Get adsl atuc trapsext

**Description:** Use this command to get.

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

**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          Lofs Thresh 1Day Trap  : 0
Loss Thresh 1Day Trap   : 1          Lofs Thresh 1Day Trap  : 1
Lprs Thresh 1Day Trap   : 1          ESs Thresh 1Day Trap   : 0
SesL Thresh 1Day Trap   : 0          UasL Thresh 1Day Trap : 1

```

#### Output field description

Field	Description
-------	-------------

<b>Ifname</b>	The IfIndex of DSL port.
<b>Failed FastR Thresh 15Min Trap</b>	Failed retrains 15-minute interval threshold reached
<b>SesL Thresh 15Min Trap</b>	Severely Errored Seconds 15-minute interval threshold reached
<b>UasL Thresh 15Min Trap</b>	Unavailable Errored Seconds 15-minute interval threshold reached
<b>Lofs Thresh 1Day Trap</b>	Loss of Frames 1-day interval threshold reached
<b>Loss Thresh 1Day Trap</b>	Loss of Signal 1-day interval threshold reached
<b>Lols Thresh 1Day Trap</b>	Loss of Link 1-day interval threshold reached
<b>Lprs Thresh 1Day Trap</b>	Loss of Power 1-day interval threshold reached
<b>ESs Thresh 1Day Trap</b>	Errored Seconds 1-day interval threshold reached
<b>SesL Thresh 1Day Trap</b>	Severely Errored Seconds 1-day interval threshold reached
<b>UasL Thresh 1Day Trap</b>	Unavailable Errored Seconds 1-day interval threshold reached

## 6.8.8 ADSL Alarm Profilext Commands

### ► Get adsl alarm profilext

**Description:** This command is used to get.

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

## 6.8.9 ADSL ATUC Physical Commands

### ► Get adsl atuc physical

**Description:** Use this command to get ATUC physical interfaces.

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

#### Parameters

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

**Example** \$ get adsl atuc physical ifname dsl-0

**Output** Verbose Mode On



```

Ifname                : dsl-0
Serial Number         : Globespan 1.0
Vendor ID             : 0039
Version Number        : 1.0
Curr Status           : noDefect
Curr Snr Margin(dB/10) : 20
CurrAttainable Rate (bps) : 40
GsOpState             : Data
GsTxAtmCellCounter   : 214
GsStartProgress       : 213
GsIdleBertError      : 200
GsBertSync           : BertOutOfSync
GsParametricTestResult : Ok
GsBertError          : NoSync 0x0
GsSeltInfoValid      : NotConnected
GsSeltLoopLen (in Feet) : 20
GsSeltLoopEnd        : open
GsSeltLoopGauge      : greater_26awg
DataBoost Status      : Enable
GsSeltUpShannonCap (in bps) : 10
GsSeltDownShannonCap (in bps) : 20
Bin Number Number of bits/bin
[0 ] 82 117 110 0 4 0 0 0 1 0 0 0 0 0 0 0
[16] 4 0 0 0 211 0 0 0 0 0 0 0 4 0 0 0
[32] 0 255 0 0 15 0 0 0 7 0 0 0 15 0 0 0
[48] 0 0 0 0 0 128 0 0 0 0 0 0 128 0 0

Parametric Info
-----
[0 ] 0 0 0 0
[4 ] 0 0 0 0
[8 ] 0 0 0 0
[12] 0 0 0 0
[16] 0 0 0 0
[20] 0 0 0 0
[24] 0 0 0 0
[28] 0 0 0 0

```

### 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. 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

<b>GsBertError</b>	Provides the number of bit errors detected during BERT.
<b>Bin Number</b>	Bin index.
<b>Number of bits/bin</b>	Number of bits/ bin for the bin indexed by this element of the string. The 0th element contains the number of bits per bin for 0, through the 31st element, which contains the number bits for bin 31.
<b>GsIdleBertError</b>	Number of bit errors.
<b>GsIdleBertCell</b>	Number of idle cells.
<b>GsBertSync</b>	Indicates whether the Signal is in Sync or not.
<b>GsParametricTestResult</b>	Indicates the Result of the Parametric Test conducted on the Xcvr.
<b>GsSeltInfoValid</b>	Indicates the information validity for the SELT operation conducted on the Xcvr.
<b>GsSeltLoopLen (in Feet)</b>	Indicates the LOOP Length in Feet once when the SELT information is valid on the Xcvr.
<b>GsSeltLoopEnd</b>	Indicates whether the loop is short or open once when the SELT information is valid on the Xcvr.
<b>GsSeltLoopGauge</b>	Indicates the LOOP wire gauge information once, when the SELT information is valid on the Xcvr.
<b>GsSeltUpShannonCap (in bps)</b>	Indicates the upstream shannon capacity once, when the SELT information is valid on the Xcvr.
<b>GsSeltDownShannonCap (in bps)</b>	Indicates the downstream shannon capacity once, when the SELT information is valid on the Xcvr.
<b>Data Boost Status</b>	GlobespanVirata parameter that indicates whether DataBoost is utilized for the connection.
<b>Parametric Info</b>	GlobespanVirata parameter that indicates the Parametric Test Array.

#### References

- ADSL commands.

## 6.8.10

### ADSL ATUC Channel Commands

#### ► Get adsl atuc channel

**Description:** Use this command to get ADSL ATUC channels.

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

**Example** `$ get adsl atuc channel ifname dsli-0`

**Output** Verbose Mode On

```

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 : OK      GsSymbolsPerRsWord    : 10
GsRsDepth         : 20      GsRedundantBytesPerRsCode : 100

```

#### Output Fields

FIELD	Description
<b>ifname</b>	The ADSL ATUC channel interface name.
<b>Interleave Delay(ms)</b>	Interleave delay for this channel.
<b>Curr Tx Rate(bps)</b>	Actual transmit rate on this channel.
<b>Prev Tx Rate(bps)</b>	The rate at the time of the last adslAtucRateChangeTrap event.
<b>Crc Block Length(byte)</b>	Indicates the length of the channel data-block, on which the CRC operates.
<b>Gs Curr Atm Status</b>	Indicates the current ATM Status.
<b>GsSymbolsPerRsWord</b>	Indicates the number of DMT symbols per Reed-Solomon code word (S), in the

	downstream direction.
<b>GsRsDepth</b>	Indicates interleaving depth (D), in the downstream direction.
<b>GsRedundantBytesPerRsCode</b>	Indicates the number of redundant bytes (R), per Reed-Solomon code in the downstream direction

#### References

- ADSL commands.

#### ► Get adsl atuc chanperf

**Description:** This command is used to get.

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

#### Parameters

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

**Example** \$ get adsl atuc chanperf ifname dsl-0

#### Output Verbose Mode On

```

Ifname           : dsl-0
Perf Valid Intervals : 20
Perf Invalid Intervals : 30

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
MCD Count           90      86       35       20
OCD Count           60      42       15       20
HBC Count           45      21       75       35

```

#### Output Fields

FIELD	Description
<b>Ifname</b>	The ADSL ATUC channel interface name.
<b>Perf Valid Intervals</b>	Number of previous 15-minute intervals, for which the data was collected.
<b>Perf Invalid Intervals</b>	Number of previous 15-min intervals for which no data is available
<b>Time Elapsed/ Monitored(sec)</b>	Total elapsed seconds in the intervals – Curr15Min, Curr1Day and Monitored seconds in Prev1Day.
<b>Rx Blocks</b>	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.
<b>Tx Blocks</b>	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.
<b>Corrected Blocks</b>	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.

<b>Uncorrected Blocks</b>	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.
<b>NCD Count</b>	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.
<b>OCD Count</b>	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.
<b>HEC Count</b>	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.

#### References

- ADSL Commands

## 6.8.11 ADSL ATUC Channel Interval Commands

### ► Get adsl atuc chanintrvl

**Description:** This command is used to get.

**Command Syntax:** `get adsl atuc chanintrvl ifname <interface-name> [sintrvl <start-interval-number>] [nintrvl <num-of-intervals>]`

#### Parameters

Name	Description
<b>ifname</b> <interface-name>	The ADSL atuc channel interface name whose performance data collection interval is to be viewed <b>Type:</b> Get – Mandatory <b>Valid values :</b> dsli-0 - *, dsli-0 - *
<b>sintrvl</b> <start-interval-number>	Start interval number <b>Type:</b> Get – Optional <b>Valid values :</b> 1- 96 <b>Default Value :</b> 1
<b>nintrvl</b> <num-of-intervals >	Number of intervals. <b>Type:</b> Get – Optional <b>Valid values :</b> 1- 96 <b>Default Value :</b> 12

**Example** \$ `get adsl atuc chanintrvl ifname dsli-0 sintrvl 1 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 : 10
GsOutOfCellDelineation : 50

```

#### Output Fields

FIELD	Description
<b>Ifname</b>	The ADSL ATUC channel interface name.
<b>IntervalNumber</b>	Performance Data Interval number.
<b>Rx Blocks</b>	Count of all encoded blocks received on this channel during this interval.
<b>Tx Blocks</b>	Count of all encoded blocks transmitted on this channel during this interval.
<b>Corrected Blocks</b>	Count of all encoded blocks received with

	errors that were corrected on this channel during this interval.
<b>Uncorrected Blocks</b>	Count of all encoded blocks received with uncorrected errors on this channel during this interval.
<b>Gs Time Elapsed(sec)</b>	Total time elapsed (in seconds) in this interval.
<b>Valid Data</b>	Indicates if the data for this interval is valid.
<b>GsNoCellDelineation</b>	Count of no cell delineation on this channel for this interval.
<b>GsHeaderErrorCheck</b>	Header error check counter on this channel during this interval.
<b>GsOutOfCellDelineation</b>	Count of out cell delineation on this channel for this interval.

#### References

- ADSL Commands.

## 6.8.12 ADSL ATUC Trap Commands

### ► 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** Verbose Mode On

```

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

```

#### Output Fields

FIELD	Description
<b>ifname</b>	The ADSL interface name.
<b>Lofs Thresh Trap</b>	Loss of Framing 15 minute threshold reached.
<b>Loss Thresh Trap</b>	Loss of Signal 15 minute threshold reached.
<b>Lols Thresh Trap</b>	Loss of Link 15 minute threshold reached.
<b>Lprs Thresh Trap</b>	Loss of Power 15 minute threshold reached.
<b>ESs Thresh Trap</b>	Errored Second 15 minute threshold reached.
<b>Init Failure Trap</b>	ATUC initialization failed.
<b>Rate Change Trap</b>	ATUC transmit rate has changed.
<b>Gs OpState Trap</b>	Op State change of Line.

#### References

- ADSL commands.

## 6.8.13 ADSL ATUC Perf Commands

### ► Get adsl atuc perf

**Description:** This command is used to get.

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

#### Parameters

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

## 6.8.14 ADSL ATUC Interval Commands

### ► Get adsl atuc interval

**Description:** This command is used to get.

**Command Syntax:** `get adsl atuc interval ifname <interface-name> [sintrvl <start-interval-number>] [nintrvl <num-of-intervals>]`

**Parameters**

Name	Description
<b>ifname</b> <interface-name>	The ADSL ATUC channel interface name, for which performance data collection interval is to be viewed. <b>Type</b> : Get – Mandatory <b>Valid values</b> : dsl-0, dsl-*
<b>Sintrvl</b> <start-interval-number>	Start interval number. <b>Type</b> : Get – Optional <b>Valid values</b> : 1- 96 <b>Default Value</b> : 1
<b>Nintrvl</b> <num-of-intervals>	Number of intervals. <b>Type</b> : Get – Optional <b>Valid values</b> : 1- 96 <b>Default Value</b> : 12

## 6.8.15 ADSL ATUR Physical Commands

► **Get adsl atur physical**

**Description:** This command is used to get.

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

**Parameters**

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

## 6.8.16 ADSL ATUR Channel Commands

► **Get adsl atur channel**

**Description:** This command is used to get.

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

**Parameters**

Name	Description
<b>ifname</b> <interface-name>	The ADSL Interface Name <b>Type</b> : Get -- Optional <b>Valid values:</b> dsli-0 - dsli-*, dslf-0 - dslf-*

## 6.8.17 ADSL ATUR Trap Commands

► **Get adsl atur traps**

**Description:** This command is used to get.

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

**Parameters**

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

## 6.8.18 ADSL ATUR Perf Commands

► **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 <b>Type</b> :Get -- Optional <b>Valid values</b> : dsl-0 - dsl-*

## 6.8.19

## ADSL ATUR Interval Commands

### ► Get adsl atur interval

**Description:** This command is used to get.

**Command Syntax:** `get adsl atur interval ifname < interface-name > [sintrvl <sintrvl-val>] [nintrvl <nintrvl-val>]`

### Parameters

Name	Description
ifname < interface-name >	The ADSL interface name. <b>Type</b> : Get – Mandatory <b>Valid values</b> : dsl-0 – dsl-*
sintrvl <sintrvl-val>	Start interval number. Performance Data Interval number 1 is the most recent previous interval; interval 96 is 24 hours ago. <b>Type</b> : Get – Optional <b>Valid values</b> : 1- 96 <b>Default Value</b> : 1
nintrvl <nintrvl-val>	Number of 15 minutes intervals. <b>Type</b> : Get -- Optional <b>Valid values</b> : 1 - 96 <b>Default value</b> : 12

**Example** \$ get adsl atur interval ifname dsl-0 sintrvl 1 nintrvl 1

**Output** Verbose Mode On

```

ifname          : dsl-0
IntervalNumber  : 1           IntervalValidData : true
IntervalLoss(sec) : 10       IntervalLoss(sec) : 10
IntervalLofs(sec) : 10       IntervalESs(sec)  : 10
IntervalLprs(sec) : 10       IntervalSesl(sec) : 10
IntervalUasL(sec) : 10       IntervalUasL(sec) : 10

```

### Output Fields

FIELD	Description
ifname	The ADSL interface name.
IntervalNumber	Count from 1 through 96, of 15 minute intervals.
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.
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.
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.

### References

- ADSL commands

► **Get adsl atur chanperf**

**Description:** This command is used to get.

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

**Parameters**

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

**Example** \$ get adsl atur chanperf ifname dsl-0

**Output** Verbose Mode On

```

ifname                : dsl-0
Perf Valid Intervals  : 20
Perf Invalid Intervals : 30

Time Elapsed/Monitored(sec)      PerfData  Curr15Min  Curr1Day  Prev1Day
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
HEC Count                         45         21         75         35

```

**Output Fields**

FIELD	Description
<b>Ifname</b>	The ADSL interface name.
<b>Perf Valid Intervals</b>	Number of previous 15-minute intervals, for which the data was collected.
<b>Perf Invalid Intervals</b>	Number of previous 15- minute intervals, for which no data is available.
<b>Time Elapsed/ Monitored(sec)</b>	Total elapsed seconds in the intervals – Curr15Min, Curr1Day and Monitored seconds in Prev1Day.
<b>Rx Blocks</b>	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.
<b>Tx Blocks</b>	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.
<b>Corrected Blocks</b>	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.
<b>Uncorrected Blocks</b>	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.
<b>NCD Count</b>	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.
<b>HEC Count</b>	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.
---

**References**

- ADSL commands

**6.8.21**

**ADSL ATUR Chanintrvl Commands**

▶ **Get adsl atur chanintrvl**

**Description:** This command is used to get.

**Command Syntax:** `get adsl atur chanintrvl ifname < interface-name > [sintrvl <sintrvl-val>] [nintrvl <nintrvl-val>]`

**Parameters**

Name	Description
<code>ifname&lt;interface-name &gt;</code>	The ADSL interface name. <b>Type :</b> Get – Mandatory <b>Valid values:</b> dsli-0 – dsli-*, dslj-0 – dslj- *.
<code>sintrvl &lt;sintrvl-val&gt;</code>	Start interval number. Performance Data Interval number 1 is the most recent previous interval; interval 96 is 24 hours ago. <b>Type :</b> Get – Optional <b>Valid values :</b> 1- 96 <b>Default Value :</b> 1
<code>nintrvl &lt;nintrvl-val&gt;</code>	Number of 15 minutes intervals. <b>Type :</b> Get -- Optional <b>Valid values:</b> 1 - 96 <b>Default value:</b> 12

## 6.9 Ethernet Commands

### 6.9.1 Ethernet Commands

#### ► 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][class0thrshld <class0thrshld-val >] [class1thrshld <class1thrshld-val >] [class2thrshld <class2thrshld-val >] [class3thrshld <class3thrshld-val >] [class4thrshld <class4thrshld-val >] [class5thrshld <class5thrshld-val >] [class6thrshld <class6thrshld-val >] [class7thrshld <class7thrshld-val >] [profilename <profilename-val >] [mgmtvlanid <mgmtvlanid-val >] [priority <priority-val >] [trfclassprofileid <trfclassprofileid-val >] [CtIpktinstid <ctIpktinstid-val >]`

#### ► Delete ethernet intf

**Description:** Use this command to delete a physical Ethernet interface.

**Command Syntax:** `delete ethernet intf ifname <interface-name>`

#### ► 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>]`

#### ► Modify ethernet intf

**Description:** Use this command to modify physical Ethernet interface configuration.

**Command Syntax:** `modify ethernet intf ifname <interface-name> [enable | disable] [pkttype Mcast|Bcast|UnknownUcast|All|None] [ip <ip-address>] [mask <net-mask>][usedhcp true|false] [speed{auto|100BT|1000BT}] [orl decvalue] [duplex half|full|auto] [class0thrshld <class0thrshld-val >] [class1thrshld <class1thrshld-val >] [class2thrshld <class2thrshld-val >] [class3thrshld <class3thrshld-val >] [class4thrshld <class4thrshld-val >] [class5thrshld <class5thrshld-val >] [class6thrshld <class6thrshld-val >] [class7thrshld <class7thrshld-val >] [profilename <profilename-val >] [mgmtvlanid <mgmtvlanid-val >] [priority <priority-val >] [trfclassprofileid <trfclassprofileid-val >]`

#### Parameters

Name	Description
<code>ifname &lt;interface-name&gt;</code>	This specifies the interface index used for the Ethernet type of interfaces. <b>Type :</b> Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory <b>Valid values :</b> eth-0 - *
<code>ip &lt;ip-address&gt;</code>	This specifies the IP 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 'UseDhcp' was configured to "GS_TRUE"

	<p>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</p> <p><b>Type:</b> Create - Optional. Modify - Optional</p> <p><b>Valid Values:</b> Any valid class A/B/C / Classless IP address.</p> <p><b>Default Value:</b> None</p>
<b>Mask</b> <net-mask>	<p>This 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 specified. This shall be removed whenever IP Address is removed. Modifying 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.</p> <p><b>Type:</b> 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.</p> <p><b>Valid Values :</b> 255.0.0.0 - 255.255.255.255</p> <p><b>Default Value:</b> None</p>
<b>usedhcp</b> true   false	<p>This 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 IP address is not configured, then management IP traffic will not flow through the interface. If an IP address is configured and <b>modify</b> is done for this field, then IP address and net mask fields shall be set to Zero (0.0.0.0). Both Usedhcp and IP address shall not be specified together. If <b>lftype</b> is slave then this field cannot be set to GS_TRUE.</p> <p><b>Type :</b> Optional</p> <p><b>Valid value :</b> true or false</p> <p><b>Default value:</b> false</p>
<b>speed</b> {auto  100 BT  1000BT}+	<p>This specifies the port speed for the net side interfaces. Auto specifies that the interface will determine the line speed using auto-negotiation.</p> <p><b>Type:</b> Optional.</p> <p><b>Valid Values:</b> auto, 100BT, 1000BT.</p> <p><b>Default Value:</b> auto.</p>
<b>type</b> uplink downink	<p>This specifies the type of the Ethernet interfaces. The uplink is towards the NET side (2 at most) and downlink is towards the physical interface connected to the slave device. For uplink type, ip address not be null, if <b>usedhcp</b> is false.</p> <p><b>Type:</b> Optional.</p> <p><b>Valid Values:</b> uplink, downink.</p> <p><b>Default Value:</b> uplink.</p>
enable disable	<p>Administrative status of the Ethernet interface.</p> <p><b>Type :</b> Modify - Mandatory</p> <p><b>Valid values :</b> enable or disable</p> <p><b>Default value:</b> enable</p>
<b>Duplex</b> auto half full	<p>This defines the duplex mode to be used.</p> <p><b>Type :</b> optional</p> <p><b>Valid values:</b> auto, half, full</p> <p><b>Default value:</b> auto</p>
<b>Pktype</b> Mcast Bcast UnknownUcast   All None	<p>This 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 configured.</p> <p><b>Type:</b> Create - optional</p>

	<p>Modify - optional  <b>Valid values :</b> Mcast, Ucast, UnknownUcast, All  <b>Default Value:</b> All</p>
<b>Orl decvalue</b>	<p>This parameter specifies the output rate limiting val-ue to be applied on this Interface. The unit for the same is in Mbits/sec.  <b>Type:</b> Create - Optional  Modify – Optional  <b>Valid values:</b> 1-300  <b>Default Value:</b> 300</p>
<b>mgmtvlanid</b> <mgmtvlanid-val >	<p>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 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) 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.  <b>Type :</b> Create - optional  Modify - optional  <b>Valid values:</b> 0-4095</p>
<b>priority</b> <priority-val>	<p>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.  <b>Type:</b> Create - optional  Modify - optional  <b>Valid values:</b> 0-7  <b>Default Value:</b> 0</p>
<b>Trfclassprofileid</b> <trfclassprofileid-val >	<p>This specifies the traffic class profile associated with the ATM interface.  <b>Type:</b> Optional  <b>Valid values:</b> 1 to 10  <b>Default Value:</b> 1</p>
<b>Ctlpktinstid</b> <Ctlpktinstid-val >	<p>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  GS_CFG_CTRL_PKTS_DEF_ETHER_PROF_ID 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  GS_CFG_CTRL_PKTS_DEF_INSTANCE_ID.  <b>TYPE:</b> Create -- Optional  <b>Valid Values:</b>1 - 50  <b>Default Value:</b> 0</p>

**Example** create ethernet intf ifname eth-0 ip 192.168.1.1 mask 255.255.255.0 speed 100bt class0thrshld 1 class1thrshld 2 class2thrshld 1 class3thrshld 2 class4thrshld 1 class5thrshld 2 class6thrshld 1 class7thrshld 2 profilename sprofile mgmtvlanid 2 priority 2 trfclassprofileid 1 Ctlpktinstid 1

**Output** Verbose Mode On

```

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
Tagged Mgmt PDU Prio: 2
trfclassprofileid : 1
Cpl Pkts Instance Id:1
Speed         : -
Operational Status : Down           Admin Status   : Up

```

### Output Fields

FIELD	Description
<b>If-Name</b>	The name of the interface, which has been created.
<b>Type</b>	The type of Ethernet interface - <i>uplink</i> or <i>downlink</i> .
<b>UseDhcp</b>	This 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 etherIfIp Address 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 field shall be set to Zero (0.0.0.0). Both Usedhcp and tEtherIf Ip Address shall not be specified together. If lftype is slave then this field cannot be set to GS_TRUE.
<b>Ip Address</b>	This specifies the IP 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 'UseDhcp' 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
<b>Mask</b>	This 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.
<b>pkttyp</b>	This 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 configured.
<b>Orl</b>	This parameter specifies the output rate limiting value to be applied on this Interface. The units for the same is in Mbits/sec
<b>Configured Duplex</b>	The duplex mode to be used by the interface, as configured by the user.
<b>Duplex</b>	The duplex mode used by the interface.
<b>Configured Speed</b>	The configured speed of the interface.

<b>Mgmt VLAN Index</b>	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 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) 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.
<b>Tagged Mgmt PDU Prio</b>	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.
<b>Speed</b>	The actual speed of the interface.
<b>Operational Status</b>	The operational status of the interface.
<b>Admin Status</b>	The administrative status of the interface.

## 6.10 EOA Commands

### 6.10.1 EOA Commands

#### ► 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] [fcs false | true][enable|disable] [inactivitymrintrvl <inactivitymrintrvl>][configstatus normal | config]`

#### ► Delete eoa intf

**Description:** Use this command to delete an EoA interface.

**Command Syntax:** `delete eoa intf ifname <interface-name>`

#### ► 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>]`

#### ► 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 |unknownunicast} + | all] none] [fcs false | true] [enable|disable] [inactivitymrintrvl <inactivitymrintrvl-val >]`

#### Parameters

Name	Description
<b>ifname</b> <interface-name>	This parameter specifies the name assigned to this interface. <b>Type :</b> Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory <b>Valid values:</b> eoa-0, eoa-1....
<b>lowif</b> <low-interface-name>	This parameter specifies the lower interface of an EoA interface. <b>Type :</b> Mandatory <b>Valid Values :</b> aal5-0 - *
<b>pkttype</b> {multicast broadcast  unknownunicast}+  all none	This 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 configured. <b>Type:</b> Optional. <b>Valid Values :</b> {multicast  broadcast  unknown-unicast}+  all <b>Default Value:</b> all.
<b>fcs</b> false   true	This specifies whether Ethernet FCS needs to be computed. Currently only <b>false</b> is supported. <b>Type :</b> Optional <b>Valid Values :</b> false or true <b>Default Value:</b> false.
Enable disable	Administrative status of the interface <b>Type :</b> Optional <b>Valid values :</b> enable or disable

	<b>Default Values:</b> enable
<b>inactivitytmrintrvl</b> <inactivitytmrintrvl-val >	This field specifies the time (in seconds) after which a trap shall be generated, if there is no data activity on this interface. This is used only when the bit corresponding to 'ConfigEntry' is set for the gsvEoaConfigStatus field. A value of zero means the timer is not running. <b>Type:</b> Optional <b>Valid values :</b> 0-0xffffffff <b>Default Values:</b> 0
<b>configstatus</b> 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. <b>Type:</b> Optional

**Example** \$create eoa intf ifname eoa-0 lowif aal5-0 enable fcs false

**Output** Verbose Mode On

```

Entry Created

IfName           : eoa-0           LowIfName      : aal5-0
FCS              : False
Pkt Type        : ALL
InActivity Tmr Interval : 3
Config Status   : Normal

```

#### Output Fields

Name	Description
<b>IfName</b>	The name of the interface that has been created.
<b>LowIfName</b>	Specifies the lower interface.
<b>FCS</b>	Whether FCS is true or false.
<b>Pkt Type</b>	This 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 that configured.
<b>Admin Status</b>	The desired state of the interface. It may be either Up or Down
<b>Oper Status</b>	The actual/current state of the interface. It can be either up or down.
<b>InActivity Tmr Interval</b>	This field specifies the time (in seconds) after which a trap shall be generated, if there is no data activity on this interface. This is used only when the bit corresponding to 'ConfigEntry' is set for the gsvEoaConfigStatus field. A value of zero means the timer is not running.
<b>Config Status</b>	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.

#### References

- Ethernet commands
- Ethernet Stats commands



## 6.11 Filtering Commands

### 6.11.1 ACL Global Macentry Commands

#### ► Get acl global macentry

**Description:** Use this command to get.

**Command Syntax:** `get acl global macentry [macaddr <macaddr-val >]`

#### ► 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]`

#### ► 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
<b>macaddr</b> <macaddr-val >	Unicast Source MAC Address, which needs to be tracked/denied access <b>Type:</b> Create --Mandatory Delete --Mandatory Modify -- Mandatory Get Optional
<b>deny</b> disable   enable	This flag specifies if the MAC address is to be denied access. <b>Type:</b> Create --Optional Modify -- Optional <b>Default value:</b> enable
<b>track</b> disable   enable	This flag specifies if the MAC address is to be tracked across 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. <b>Type:</b> Create --Optional Modify -- Optional <b>Default value:</b> disable

**Example** \$ create acl global macentry macaddr 00:01:34:a0:d1:34 deny enable track enable

#### Output Verbose Mode On

```
Entry Created

Mac Address           : 00:01:34:a0:d1:34
Deny                  : enable           Track : enable
Number of times Port changed : 2
```

#### Verbose Mode Off

```
Entry Created
```

#### Output field

Field	Description
<b>Mac Address</b>	Unicast Source MAC Address, which needs to be tracked/denied access
<b>Deny</b>	This flag specifies if the MAC address is to be denied access.
<b>Track</b>	This flag specifies if the MAC address is to be tracked across 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.
<b>Number of times Port changed</b>	This specifies the number of times port has been changed by the MAC address.

References None

## 6.11.2 ACL Port Macentry Commands

### ► Get acl port macentry

**Description:** Use this command to get.

**Command Syntax:** get acl port macentry [**portid** <portid-val >] [**macaddr** <macaddr-val >]

### ► Create acl port macentry

**Description:** Use this command to create.

**Command Syntax:** create acl port macentry **portid** <portid-val > **macaddr** <macaddr-val >

### ► 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
<b>portid</b> <portid-val>	Bridge Port Id, for which the port MAC Address entry is created <b>Type:</b> Create --Mandatory Delete --Mandatory Get -- Optional <b>Valid values:</b> 1-386
<b>macaddr</b> <macaddr-val>	Unicast Source MAC Address, which is to be allowed access over the particular port. <b>Type:</b> Create --Mandatory Delete --Mandatory Get -- Optional

**Example** \$ create acl port macentry portId 2 macaddr 00:01:34:a0:d1:34

#### Output Verbose Mode On

```
Entry Created

PortId      : 2
Mac Address : 00:01:34:a0:d1:34
```

#### Verbose Mode Off

```
Entry Created
```

#### Output field description

Field	Description
<b>PortId</b>	Bridge Port Id, for which the port MAC Address entry is created
<b>Mac Address</b>	Unicast Source MAC Address, which is to be allowed access over the particular port.

## 6.11.3 Filter rule entry Commands

### ► Get filter rule entry

**Description:** Use this command to get.

## 6.11.4 Filter rule entry Commands

### ► Get filter rule entry

**Description:** Use this command to get.

**Command Syntax:** `get filter rule entry [ruleid <ruleid-val>]`

### ► Create filter rule entry

**Description:** Use this command to create.

**Command Syntax:** `create filter rule entry ruleid <ruleid-val > [ action drop | allow | setprio | sendtocontrol | retagprio | copytocontrol | clfrdef | gotonextrule | forwardexit ] [ 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 ]`

### ► Delete filter rule entry

**Description:** Use this command to delete.

**Command Syntax:** `delete filter rule entry ruleid <ruleid-val >`

### ► 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 ] [ 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 ]`

#### Parameters

Name	Description
<code>ruleid &lt;ruleid-val &gt;</code>	Unique identifier of a filter rule. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Default value:</b> 1-65535
<code>action drop   allow   setprio   sendtocontrol   retagprio   copytocontrol   clfrdef   gotonextrule   forwardexit</code>	Action to be applied for the packets matching this filter rule. This field can be modified only if 'status' has the value 'disable'.If 'ruleDir' value is 'out', only 'drop', 'allow', gotonextrule' and 'forwardexit' action types are valid. If the action is 'clfrdef', then the rule can have at most one subrule, that too of type 'clfrtree'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> drop
<code>description &lt;description-val&gt;</code>	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' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> "\0"
<code>priority &lt;priority-val &gt;</code>	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 priority 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'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Valid values:</b> 0 - 7 <b>Default value:</b> 0
<b>status</b> enable   disable	Admin status of the rule <b>Type:</b> Create --Optional Modify -- Optional <b>Default value:</b> disable
<b>statsstatus</b> enable  disable	Admin status of rule statistics. Statistics 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'. <b>NOTE</b> - Statistics may not reflect the correct number of egress mcast, bcast and unknown unicast packets hitting the rule. <b>Type:</b> Create Optional Modify Optional <b>Default value:</b> disable
<b>ruleprio</b> 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' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> high
<b>ruledir</b> in   out	Specifies whether the rule will be applied on incoming interfaces (ingress) or outgoing interfaces (egress). <b>Type:</b> Create Optional <b>Default value:</b> in
<b>applywhenreq</b> 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'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> disable
<b>pkctype</b> 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'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> Ucast
<b>snooplevel</b> interface   bridge	Snoop level indicates whether the packet will be snooped directly from the interface or the bridge after the bridging functionality is applied. 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'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> interface

**Example** \$ create filter rule entry ruleid 1 action setprio description lacp priority 7 status enable statsstatus disable ruleprio high ruledir in applywhenreq disable

### 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 : laccp
Snoop Level      : Interface
```

## Verbose Mode Off:

Entry Created

## Output field

Field	Description
<b>Rule Id</b>	Unique identifier of a filter rule.
<b>Rule Action</b>	Action to be applied for the packets matching this filter rule. This field can be modified only if 'status' has the value 'disable'. If 'ruleDir' value is 'out', only 'drop', 'allow', 'gotonextrule' and 'forwardexit' action types are valid. If the action is 'clfrdef', then the rule can have at most one subrule, that too of type 'clfrtree'.
<b>Set Priority</b>	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 priority 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'.
<b>Admin status</b>	Admin status of the rule
<b>Stats admin status</b>	Admin status of rule statistics. Statistics 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'. <b>NOTE</b> - Statistics may not reflect the correct number of egress mcast, bcast and unknown unicast packets hitting the rule.
<b>Rule Priority</b>	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'
<b>Rule Direction</b>	Specifies whether the rule will be applied on incoming interfaces (ingress) or outgoing interfaces (egress).
<b>ApplyWhenReq</b>	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'.
<b>Pkt Type</b>	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'.
<b>Application Description</b>	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'
<b>Snoop Level</b>	Snoop level indicates whether the packet will be snooped directly from the interface or the bridge after the bridging functionality is applied. 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'.

## 6.11.5 Filter rule map Commands

### ► Get filter rule map

**Description:** Use this command to get.

**Command Syntax:** `get filter rule map [ifname < interface-name >] [stageid <stageid-val>] [ruleid <ruleid-val >]`

### ► Create filter rule map

**Description:** Use this command to create.

**Command Syntax:** `create filter rule map ifname <interface-name> stageid <stageid-val > ruleid <ruleid-val > [orderid <ordered-val >]`

### ► Delete filter rule map

**Description:** Use this command to delete.

**Command Syntax:** `delete filter rule map ifname < interface-name > stageid <stageid-val > ruleid <ruleid-val >`

### ► Modify filter rule map

**Description:** Use this command to modify.

**Command Syntax:** `modify filter rule map ifname < interface-name > stageid <stageid-val > ruleid <ruleid-val > [orderid <ordered-val >]`

#### Parameters

Name	Description
<b>ifname</b> < interface-name >	Name of the interface whose mapping is being created. Only EOA, PPPoE, 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 and 'AllCpe' indicates all eoa and pppoe interfaces. If a bridge port on the aggregated interface is created, then this field cannot have ifIndex of any specific ethernet interface. <b>Type:</b> Create - Mandatory Delete -- Mandatory Get – Optional <b>Valid values:</b> eth-*, eoa-*, pppoe-*
<b>stageid</b> <stageid-val >	This field specifies the stage on the interface to which the rule in the mapping belongs <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1-2 <b>Default Value:</b> 1
<b>ruleid</b> <ruleid-val >	Rule Id of the rule in the mapping <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify --Mandatory Get --Optional
<b>orderid</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Valid Values:</b> 1-65535

**Example** \$ create filter rule map ifname eoa-0 stageid 1 ruleid 1 orderId 1

---

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, 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 and 'AllCpe' indicates all eoa and pppoe interfaces. If a bridge port on the aggregated interface is created, then this field cannot 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.

### References

- Generic Filter Commands

## 6.11.6 Filter subrule generic Commands

### ► Get filter subrule generic

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule generic [ruleid <ruleid-val >] [subruleid <subruleid-val >]`

### ► Create filter subrule generic

**Description:** Use this command to create.

**Command Syntax:** `create filter subrule generic ruleid <ruleid-val > subruleid <subruleid-val > [ offsethdr ethernet | 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 ]`

### ► Delete filter subrule generic

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule generic ruleid <ruleid-val > subruleid <subruleid-val >`

### ► Modify filter subrule generic

**Description:** Use this command to modify.

**Command Syntax:** `modify filter subrule generic ruleid <ruleid-val > subruleid <subruleid-val > [ offsethdr ethernet | 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 ]`

## Parameters

Name	Description
<b>ruleid</b> <ruleid-val >	Unique identifier of a filter rule for which this sub rule is being created. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 - 65535
<b>subruleid</b> <subruleid-val >	Unique identifier of a filter subrule. <b>Type:</b> Create --Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 - 4294967295
<b>offsethdr</b> ethernet   ip  tcp   udp   icmp   igmp  I3hdr   ppp   pppoe	Type of the offset header the 'offset' is to be measured from. The value 'ethernet' is invalid if the rule for which this subrule is being created is of direction 'out'. <b>Type:</b> Create -- Optional Modify - Optional <b>Default value:</b> ethernet
<b>offset</b> <offset-val >	Offset value to be added to 'offsethdr' to get the field value <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>mask</b> <mask-val >	Mask to be applied to the contents of a packet at 'offset' <b>Type:</b> Create --Optional Modify --Optional <b>Default value:</b> 0
<b>valuefrom</b> <valuefrom-val >	The starting generic value of the range of generic values. This field is invalid if 'gencmp' is 'any', 'ingenlist' or 'notingenlist', or 'innamedlist' or 'notinnamedlist'. This field and the next field specify a range of generic values, if 'gencmp' is either 'inrange' or 'exrange'. <b>Type:</b> Create -- Optional Modify - Optional <b>Default value:</b> 0
<b>valueto</b> <valueto-val >	End generic value of the range of generic values. This field and the previous field specify a range of generic values, if 'gencmp' is either 'inrange' or 'exrange'.Otherwise this field is invalid <b>Type:</b> Create Optional Modify - Optional <b>Default value:</b> 0
<b>gencmp</b> eq   neq   lt   leq   gt   geq   any   inrange  exrange  ingenlist notingenlist   innamedlist  notinnamedlist ]	Generic value comparison type. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> Any
<b>subruleprio</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> asinrule
<b>namedlistid</b> <namedlistid-val >	This specifies the list identifier value of the named list that will be used to do the lookup. In case 'gencmp' is 'innamedlist' or 'notinnamedlist', this field is mandatory. Else, it is extra. <b>Default value:</b> 1
<b>transporthdr</b> ethernet   pppoe	This specifies the type of transport header in the packet in which the corresponding IP is being transported. If the value of this field is 'ethernet', then



	<p>the IP is being carried in the ethernet header. If it is 'pppoe', then the corresponding IP is being carried in the PPP header. This field is valid only when the value of 'offsethdr' is any one of ip, tcp, udp, icmp, or igmp. Otherwise, this field is extra.</p> <p><b>Type:</b> Create -- Optional  Modify -- Optional</p> <p><b>Default value:</b> ethernet</p>
--	---

**Example** \$ create filter subrule generic ruleid 1 subruleid 2 offsethdr tcp offset 20 mask 0xFF valuefrom 0x20 valueto 0x40 gencmp inrange subruleprio high

### Output

Verbose Mode On

```

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     : -

```

### Output field

Field	Description
<b>Rule Id</b>	Unique identifier of a filter rule for which this sub rule is being created.
<b>Subrule Id</b>	Unique identifier of a filter subrule.
<b>Offset header</b>	Type of offset header from where 'offset' to be measured. Value 'ethernet'(1) can not be specified if the direction of the rule of which this subrule is being created is, 'out'.
<b>Offset</b>	Offset value to be added to 'offsethdr' to get the field value
<b>Start value</b>	The starting generic value of the range of generic values. This field is invalid if 'gencmp' is 'any', 'ingenlist' or 'notingenlist', or 'innamedlist' or 'notinnamedlist'. This field and the next field specify a range of generic values, if 'gencmp' is either 'inrange' or 'exrange'.
<b>End value</b>	End generic value of the range of generic values. This field and the previous field specify a range of generic values, if 'gencmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
<b>Generic header comparison</b>	Generic value comparison type.
<b>Mask</b>	Mask to be applied to the contents of a packet at 'offset'
<b>Subrule Priority</b>	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.
<b>Namedlist Id</b>	This specifies the list identifier value of the named list that will be used to do the lookup. In case 'gencmp' is 'innamedlist' or 'notinnamedlist', this field is mandatory. Else, it is extra.
<b>Transport Header</b>	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. This field is valid only when the value of 'offsethdr' is any one of ip, tcp, udp, icmp, or igmp. Otherwise, this field is extra.

### References

- Generic filter commands

## 6.11.7 Filter subrule ICMP Commands

### ► Get filter subrule icmp

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule icmp [ruleid <ruleid-val >] [subruleid <subruleid-val >]`

### ► 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 > ] [ icmptpecmp eq | neq | any ] [ icmpcodecmp eq | neq | any ] [ subruleprio low | high | asinrule ] [ transporthdr ethernet | pppoe ]`

### ► Delete filter subrule icmp

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule icmp ruleid <ruleid-val > subruleid <subruleid-val >`

### ► 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 > ] [ icmptpecmp eq | neq | any ] [ icmpcodecmp eq | neq | any ] [ subruleprio low | high | asinrule ] [ transporthdr ethernet | pppoe ]`

#### Parameters

Name	Description
<b>ruleid</b> <ruleid-val >	Unique identifier of a filter rule of which this sub rule is being created <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify --Mandatory Get -- Optional <b>Valid values:</b> 1 -65535
<b>subruleid</b> <subruleid-val >	Unique identifier of a filter subrule <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional <b>Valid values:</b> 1 - 4294967295
<b>icmptype</b> <icmptype-val >	ICMP type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>icmpcode</b> <icmpcode-val >	ICMP code <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>icmptpecmp</b> eq   neq   any	ICMP type comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>icmpcodecmp</b> eq   neq   any	ICMP code comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>subruleprio</b> 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',

	<p>subrule priority will be same as specified in the rule.  <b>Type:</b> Create -- Optional  Modify -- Optional  <b>Default value:</b> asinrule</p>
<b>transporthdr</b> ethernet   pppoe	<p>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.  <b>Type:</b> Create -- Optional  Modify -- Optional  <b>Default value:</b> ethernet</p>

**Example** \$ create filter subrule icmp ruleid 1 subruleid 2 icmp type 0 icmp code 0 icmp type comparison neq icmp code comparison neq subrule priority 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
<b>Rule Id</b>	Unique identifier of a filter rule of which this sub rule is being created
<b>Subrule Id</b>	Unique identifier of a filter subrule
<b>Icmp type</b>	ICMP type
<b>Icmp code</b>	ICMP code
<b>ICMP type comparison</b>	ICMP type comparison type
<b>ICMP code comparison</b>	ICMP code comparison type
<b>Subrule Priority</b>	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.
<b>Transport Header</b>	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

## 6.11.8 Filter subrule IGMP Commands

### ► Get filter subrule igmp

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule igmp [ruleid <ruleid-val >] [subruleid <subruleid-val >]`

### ► Create filter subrule igmp

**Description:** Use this command to create.

**Command Syntax:** `create filter subrule igmp ruleid <ruleid-val> subruleid <subruleid-val> [ igmptype <igmp-type-val > ] [ igmpcode <igmpcode-val > ] [ groupaddrfrom <groupaddrfrom-val > ] [ groupaddrto <groupaddrto-val > ] [ igmp-type-cmp eq | neq | any ] [ igmpcode-cmp eq | neq | any ] [ igmp-group-addr-cmp eq | neq | lt | leq | gt | geq | any | inrange | exrange ] [ subruleprio low | high | asinrule ] [ transporthdr ethernet | pppoe ]`

► **Delete filter subrule igmp**

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule igmp ruleid <ruleid-val > subruleid <subruleid-val >`

► **Modify filter subrule igmp**

**Description:** Use this command to modify.

**Command Syntax:** `modify filter subrule igmp ruleid <ruleid-val> subruleid <subruleid-val> [ igmptype <igmp-type-val> ] [ igmpcode <igmpcode-val> ] [ groupaddrfrom <groupaddrfrom-val> ] [ groupaddrto <groupaddrto-val> ] [ igmp-type-cmp eq | neq | any ] [ igmpcode-cmp eq | neq | any ] [ igmp-group-addr-cmp eq | neq | lt | leq | gt | geq | any | inrange | exrange ] [ subruleprio low | high | asinrule ] [ transporthdr ethernet | pppoe ]`

**Parameters**

Name	Description
<b>Ruleid</b> <ruleid-val >	Unique identifier of a filter rule of which this sub rule is being created <b>Type:</b> Create--Mandatory Delete-- Mandatory Modify-- Mandatory Get --Optional <b>Valid values:</b> 1 -65535
<b>subruleid</b> <subruleid-val >	Unique identifier of a filter subrule <b>Type:</b> Create-- Mandatory Delete --Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 - 4294967295
<b>igmptype</b> <igmp-type-val >	IGMP type <b>Type:</b> Create --Optional Modify --Optional <b>Default value:</b> 0
<b>igmpcode</b> <igmpcode-val >	This fields specifies the Max Response Code (time) fields of IGMP packet. This field is invalid if igmpCodeCmpType is any. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>groupaddrfrom</b> <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' <b>Type:</b> Create -- Optional Modify --Optional <b>Default value:</b> 0
<b>groupaddrto</b> <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' <b>Type:</b> Create --Optional Modify --Optional <b>Default value:</b> 4294967295
<b>igmp-type-cmp</b> eq   neq   any	IGMP type comparison type <b>Type:</b> Create --Optional

	Modify --Optional <b>Default value:</b> any
<b>igmpcodecmp</b> eq   neq   any	IGMP code comparison type <b>Type:</b> Create --Optional Modify --Optional <b>Default value:</b> any
<b>igmpgroupaddrcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	IGMP group address comparison type <b>Type:</b> Create --Optional Modify --Optional <b>Default value:</b> any
<b>subruleprio</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> asinrule
<b>transporthdr</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> ethernet

**Example** \$ create filter subrule igmp ruleid 1 subruleid 2 igmp type 0 igmp code 0 groupaddr from 224.0.2.3 groupaddrto 224.10.20.30 igmp type cmp eq igmp code cmp eq igmp group addr cmp 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
<b>Rule Id</b>	Unique identifier of a filter rule of which this sub rule is being created
<b>Subrule Id</b>	Unique identifier of a filter subrule
<b>Igmp type</b>	IGMP type
<b>IGMP type comparison</b>	IGMP type comparison type
<b>Igmp code</b>	This field specifies the Max Response Code (time) fields of IGMP packet. This field is invalid if igmpCodeCmpType is any.
<b>IGMP code comparison</b>	IGMP code comparison type
<b>Start group address</b>	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'
<b>End group address</b>	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'

<b>IGMP group address comparison</b>	IGMP group address comparison type
<b>Subrule Priority</b>	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.
<b>Transport Header</b>	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

## 6.11.9 Filter subrule IP Commands

### ► Get filter subrule ip

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule ip [ruleid <ruleid-val>] [subruleid <subruleid-val >]`

### ► 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 ] [ dstaddrcmp 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 ]`

### ► Delete filter subrule ip

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule ip ruleid <ruleid-val > subruleid <subruleid-val >`

### ► 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 ] [ dstaddrcmp 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 ]`

#### Parameters

Name	Description
------	-------------

<b>ruleid</b> <ruleid-val >	Unique identifier of a filter rule of which this sub rule is being created. <b>Type:</b> Create --Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 -65535
<b>subruleid</b> <subruleid-val >	Unique identifier of a filter subrule. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 - 4294967295
<b>Srcipaddrfrom</b> <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'. <b>Type:</b> Create -- Optional Modify --Optional <b>Default value:</b> 0
<b>Srcipaddrto</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 4294967295
<b>dstipaddrfrom</b> <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'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>dstipaddrto</b> <dstipaddrto-val >	End destination IP address of the range of destination IP addresses. This field and 'dstipaddrfrom' specify a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 4294967295
<b>prototypefrom</b> <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'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>prototypeto</b> <prototypeto-val >	End IP protocol type of the range of IP protocol types. This field and 'prototypefrom' specify a range of IP protocol types, if 'prototypecmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 27
<b>srcaddrcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange   ingenlist   notingenlist	Source IP address comparison type. 'ingenlist(10)' means check if source ip address present in interface classifier generic list. 'notingenlist(11)' means check if source ip address not present in interface classifier generic list. 'ingenlist(10)' and 'notingenlist(11)' are invalid if the direction of the rule for which this subrule is being created is 'out'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>dstaddrcmp</b> eq	Destination IP address comparison type.

neq   lt   leq   gt   geq   any   inrange   exrange   ingenlist   notingenlist	'ingenlist(10)' means check if destination ip address present in interface classifier generic list. 'notingenlist(11)' means check if destination ip address not present in interface classifier generic list. 'ingenlist(10)' and 'notingenlist(11)' are invalid if the direction of the rule for which this subrule is being created is 'out'. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>prototypecmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	IP Protocol type comparison type. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>ipsrcaddrmask</b> <ipsrcaddrmask-val >	The mask value for source ip address. The mask is applied over the source ip address before checking against the values in the generic list. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0xffffffff
<b>ipdstaddrmask</b> <ipdstaddrmask-val >	The mask value for destination ip address. The mask is applied over the destination ip address before checking against the values in the generic list. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0xffffffff
<b>subruleprio</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> asinrule
<b>transporthdr</b> ethernet   pppoe	This specifies the type of the transport header in the packet in which the IP is being transported. If the value of this field is Ethernet (1), then the IP is being carried in the Ethernet header. If it is PPPoE(2), then the IP is being carried in the PPP header. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> Ethernet

**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 subruleprio high

### 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
IP Src Addr Mask  : 0xffffffff        IP Dest Addr Mask: 0xffffffff
Src Ip addr comp  : inrange           Dest Ip addr comp: inrange
Subrule Priority  : inrange           IP Prot type comp: high
Transport Header  : Ethernet

```

Verbose Mode Off:

Entry Created

### Output field

Field	Description
<b>Rule Id</b>	Unique identifier of a filter rule of which this sub rule is being created.
<b>Subrule Id</b>	Unique identifier of a filter subrule.



<b>Start src Ip addr</b>	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'.
<b>End src Ip addr</b>	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.
<b>Start dest Ip addr</b>	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'.
<b>End dest Ip addr</b>	End destination IP address of the range of destination IP addresses. This field and 'dstipaddrfrom' specify a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid.
<b>Start Ip Prot type</b>	Start IP protocol type of the range of IP protocol types. This field is invalid if 'prototpecmp' is 'any'. This field and 'prototypeto' specify a range of IP protocol types, if 'prototpecmp' is either 'inrange' or 'exrange'.
<b>End IP prot type</b>	End IP protocol type of the range of IP protocol types. This field and 'prototypefrom' specify a range of IP protocol types, if 'prototpecmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid.
<b>Src Ip addr comp</b>	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'.
<b>Dest Ip addr comp</b>	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'.
<b>IP Prot type comp</b>	IP Protocol type comparison type.
<b>IP Dest Addr Mask</b>	The mask value for destination ip address. The mask is applied over the destination ip address before checking against a value.
<b>Subrule Priority</b>	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.
<b>Transport Header</b>	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.

#### References

- Generic Filter Commands

6.11.10

## Filter subrule clftree Commands

### ► Get filter subrule clftree

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule clftree [ruleid <ruleid-val>] [subruleid <subruleid-val >]`

### ► Create filter subrule clftree

**Description:** Use this command to create.

**Command Syntax:** `create filter subrule clfrtree ruleid <ruleid-val > subruleid <subruleid-val > tname <tname-val > entrypid <entrypid-val >`

► **Delete filter subrule clfrtree**

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule clfrtree ruleid <ruleid-val > subruleid <subruleid-val >`

► **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
<b>ruleid</b> <ruleid>	Unique identifier of a filter rule of which this sub rule is being created. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify --Mandatory Get -- Optional <b>Valid values:</b> 65535
<b>Subruleid</b> <subruleid>	Unique identifier of a filter subrule. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 - 4294967295
<b>tname</b> <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 GS_CLFR_MAX_TREE_NAME_LEN. <b>Type:</b> Create -- Mandatory Modify -- Optional
<b>entrypid</b> <entrypid>	Profile Id of the tree, which shall be treated as an entry point for it. <b>Type:</b> Create -- Mandatory Modify -- Optional <b>Valid values:</b> 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
<b>Rule Id</b>	Unique identifier of a filter rule of which this sub rule is being created.
<b>Subrule Id</b>	Unique identifier of a filter subrule.
<b>Tree Name</b>	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 <code>GS_CLFR_MAX_TREE_NAME_LEN</code> .
<b>Entry Profile Id</b>	Profile Id of the tree, which shall be treated as an entry point for it.

#### References

- see generic filter related commands

## 6.11.11 Filter rule stats Commands

### ► Get filter rule stats

**Description:** Use this command to get.

**Command Syntax:** `get filter rule stats [ruleid <ruleid-val>]`

#### Parameter

Name	Description
<code>ruleid &lt;ruleid&gt;</code>	Unique identifier of a filter rule <b>Type:</b> Get -- Optional <b>Valid values:</b> 65535

**Example** \$ `get filter rule stats ruleid 1`

#### Output

```
Rule Id : 1          Num Hits : 4354
```

#### Output field

Field	Description
<b>Rule Id</b>	Unique identifier of a filter rule
<b>Num Hits</b>	Number of packets that hit this rule

#### References

- Generic Filter Commands

## 6.11.12 Filter subrule TCP Commands

### ► Get filter subrule tcp

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule tcp [ruleid <ruleid-val>]  
[subruleid <subruleid-val>]`

### ► Create filter subrule tcp

**Description:** Use this command to create.

**Command Syntax:** `create filter subrule tcp ruleid <ruleid-val>  
subruleid <subruleid-val> [ srcportfrom srcportfrom ] [ 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 ]`

### ► Delete filter subrule tcp

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule tcp ruleid <ruleid-val >  
subruleid <subruleid-val >`

### ► 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
<b>ruleid</b> <ruleid-val >	Unique identifier of a filter rule of which this sub rule is being created <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1-65535
<b>subruleid</b> <subruleid-val >	Unique identifier of a filter subrule <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 - 4294967295
<b>srcportfrom</b> <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' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>srcportto</b> <srcportto-val >	End port number of the range of source port numbers. This field and 'srcportfrom' specify a range of TCP source port numbers if 'srcportcmp' is either 'inrange' or 'exrange' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 65535
<b>dstportfrom</b> <dstportfrom-val >	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is 'any'. This field and 'dstportto' specify a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange' <b>Type:</b> Create --Optional Modify --Optional <b>Default value:</b> 0
<b>dstportto</b> <dstportto-val >	End port number of the range of destination port numbers. This field and 'dstportfrom' specify a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 65535
<b>srcportcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	Source port comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>dstportcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	Destination port comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>subruleprio</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> asinrule

<b>transporthdr</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 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
<b>Rule Id</b>	Unique identifier of a filter rule of which this sub rule is being created.
<b>Subrule Id</b>	Unique identifier of a filter subrule
<b>Start source port</b>	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'
<b>End source port</b>	End port number of the range of source port numbers. This field and 'srcportfrom' specify a range of tcp source port numbers if 'srcportcmp' is either 'inrange' or 'exrange'
<b>Start destination port</b>	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is 'any'. This field and 'dstportto' specify a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'
<b>End destination port</b>	End port number of the range of destination port numbers. This field and 'dstportfrom' specify a range of tcp destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'.Otherwise this field is invalid
<b>Source port comparison</b>	Source port comparison type
<b>Destination port comparison</b>	Destination port comparison type
<b>Subrule Priority</b>	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.
<b>Transport Header</b>	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

## 6.11.13 Filter subrule UDP Commands

### ► Get filter subrule udp

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule udp [ruleid <ruleid-val>] [subruleid <subruleid-val>]`

### ► 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]`

### ► Delete filter subrule udp

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule udp ruleid <ruleid-val > subruleid <subruleid-val >`

### ► 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]`

#### Parameters

Name	Description
<code>ruleid &lt;ruleid-val &gt;</code>	Unique identifier of a filter rule of which this sub rule is being created <b>Type:</b> Create --Mandatory Delete --Mandatory Modify Mandatory Get --Optional
<code>subruleid &lt;subruleid-val &gt;</code>	Unique identifier of a filter subrule <b>Type:</b> Create --Mandatory Delete -- Mandatory Modify-- Mandatory Get --Optional <b>Valid values:</b> 1 - 4294967295
<code>srcportfrom &lt;srcportfrom-val &gt;</code>	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 udp source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<code>srcportto &lt;srcportto-val &gt;</code>	End port number of the range of source port numbers. This field and 'srcportfrom' specify a range of udp source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 65535
<code>dstportfrom &lt;dstportfrom-val &gt;</code>	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is

	'any'. This field and 'dstportto' specify a range of udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0
<b>dstportto</b> <dstportto-val >	End port number of the range of destination port numbers. This field and 'dstportfrom' specify a range of udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 65535
<b>srcportcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	Source port comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>dstportcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	Destination port comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>subruleprio</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> asinrule
<b>transporthdr</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 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
<b>Rule Id</b>	Unique identifier of a filter rule of which this sub rule is being created
<b>Subrule Id</b>	Unique identifier of a filter subrule
<b>Start source port</b>	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 udp source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange'
<b>End source port</b>	End port number of the range of source port numbers. This field and 'srcportfrom' specify a range of udp

	source port numbers, if 'srcportcmp' is either 'inrange' or 'exrange'
<b>Start destination port</b>	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp' is 'any'. This field and 'dstportto' specify a range of udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange'
<b>End destination port</b>	End port number of the range of destination port numbers. This field and 'dstportfrom' specify a range of udp destination port numbers, if 'dstportcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
<b>Source port comparison</b>	Source port comparison type
<b>Destination port comparison</b>	Destination port comparison type
<b>Subrule Priority</b>	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.
<b>Transport Header</b>	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

## 6.11.14 Filter seq info Commands

### ► Get filter seq info

**Description:** Use this command to get.

**Command Syntax:** `get filter seq info [seqid <seqid-val >]`

### ► Create filter seq info

**Description:** Use this command to create.

**Command Syntax:** `create filter seq info seqid <seqid-val >`

### ► Delete filter seq info

**Description:** Use this command to delete.

**Command Syntax:** `delete filter seq info seqid <seqid-val>`

### ► Modify filter seq info

**Description:** Use this command to modify.

**Command Syntax:** `modify filter seq info seqid <seqid-val > [ifname <interface-name>] [stageid <stageid-val >] [seqdir in | out]`

#### Parameters

Name	Description
<b>seqid</b> <seqid-val>	Sequence Id of the sequence <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid Values:</b> 1-65535
<b>ifname</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional
<b>stageid</b> <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 <b>Type:</b> Create -- Optional Modify -- Optional <b>Valid values:</b> 1-2 <b>Default Value:</b> 1
<b>seqdir</b> 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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> In

**Example** \$ create filter seq info seqid 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

## 6.11.15 Filter seq entry Commands

### ► Get filter seq entry

**Description:** Use this command to get.

**Command Syntax:** `get filter seq entry [seqid <seqid-val >] [ruleid <ruleid-val >]`

### ► 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 >]`

### ► Delete filter seq entry

**Description:** Use this command to delete.

**Command Syntax:** `delete filter seq entry seqid <seqid-val > ruleid <ruleid-val >`

### ► 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
<b>seqid</b> <seqid-val >	Sequence Id of the sequence <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional <b>Valid Values:</b> 1-65535
<b>ruleid</b> <ruleid-val >	Rule Id of the rule <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get -- Optional <b>Valid Values:</b> 1-65535
<b>orderid</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Valid Values:</b> 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
<b>Sequence Id</b>	Sequence Id of the sequence
<b>Rule Id</b>	Rule Id of the rule
<b>Order Id</b>	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

## 6.11.16 Filter subrule ether Commands

► **Get filter subrule ether**

**Description:** Use this command to get.

**Command Syntax:** `get filter subrule ether [ruleid <ruleid-val >] [subruleid <subruleid-val >]`

► **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 ]
```

► **Delete filter subrule ether**

**Description:** Use this command to delete.

**Command Syntax:** `delete filter subrule ether ruleid <ruleid-val > subruleid <subruleid-val >`

► **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 ]`

**Parameters**

Name	Description
<b>ruleid</b> <ruleid-val >	Unique identifier of a filter rule of which this sub rule is being created <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1-65535
<b>subruleid</b> <subruleid-val >	Unique identifier of a filter subrule <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> 1 - 4294967295
<b>srcmacaddrfrom</b> <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' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> "\0"
<b>srcmacaddrto</b> <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

	<p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Default value:</b> "\xff\xff\xff\xff\xff\xff"</p>
<p><b>dstmacaddrfrom</b> &lt;dstmacaddrfrom-val &gt;</p>	<p>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'</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Default value:</b> "\0"</p>
<p><b>dstmacaddrto</b> &lt;dstmacaddrto-val &gt;</p>	<p>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</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Default value:</b> "\xff\xff\xff\xff\xff\xff"</p>
<p><b>ethertypefrom</b> &lt;ethertypefrom-val &gt;</p>	<p>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'</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Default value:</b> 0</p>
<p><b>ethertypeto</b> &lt;ethertypeto-val &gt;</p>	<p>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</p> <p><b>Type:</b> Create --Optional Modify --Optional</p> <p><b>Default value:</b> 0xFFFF</p>
<p><b>vlanidfrom</b> &lt;vlanidfrom-val &gt;</p>	<p>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'. This field and the next field specify a range of VLAN Ids, if 'vlanidcmp' is either 'inrange' or 'exrange'</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Valid values:</b> 0 - 4095</p> <p><b>Default value:</b> 1</p>
<p><b>vlanidto</b> &lt;vlanidto-val &gt;</p>	<p>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 previous field specify a range of VLAN Ids, if 'vlanidcmp' is either 'inrange' or 'exrange'. Otherwise, this field is invalid</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Valid values:</b> 0 - 4095</p> <p><b>Default value:</b> 4094</p>
<p><b>priotagfrom</b> &lt;priotagfrom-val &gt;</p>	<p>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'. This field and the next field specify a range of priority tags, if 'priotagcmp' is either 'inrange' or 'exrange'</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Valid values:</b> 0 - 7</p> <p><b>Default value:</b> 0</p>
<p><b>priotagto</b> &lt;priotagto-val &gt;</p>	<p>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 previous field specify a range of priority tags, if 'priotagcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Valid values:</b> 0 - 7</p> <p><b>Default value:</b> 7</p>

<b>dsapfrom</b> <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' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0x00
<b>dsapto</b> <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 <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0xff
<b>ssapfrom</b> <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' <b>Type:</b> Create Optional Modify Optional <b>Default value:</b> 0x00
<b>ssapto</b> <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 <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0xff
<b>srcmacaddrcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	Source mac address comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>dstmacaddrcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	Destination mac address comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>ethertypecmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	Ether type comparison type <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>vlanidcmp</b> 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' <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>priotagcmp</b> 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' <b>Type:</b> Create -- Optional Modify --Optional <b>Default value:</b> any
<b>dsapcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	DSAP comparison type. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> any
<b>ssapcmp</b> eq   neq   lt   leq   gt   geq   any   inrange   exrange	SSAP comparison type. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 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

#### 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              : 0xf0
Start SSAP             : 0xf0     End SSAP              : 0xf0
Source MAC addresses comparison : inrange  Destination 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
  
```

## Verbose Mode Off:

Entry Created

### Output field

Field	Description
<b>Rule Id</b>	Unique identifier of a filter rule of which this sub rule is being created
<b>Subrule Id</b>	Unique identifier of a filter subrule
<b>Start source mac address</b>	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'
<b>End source mac address</b>	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
<b>Start destination MAC address</b>	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'
<b>End destination MAC address</b>	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
<b>Start ethernet type</b>	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'
<b>End ethernet type</b>	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
<b>Start VLAN Id</b>	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'. This field and the next field specify a range of VLAN IDs, if 'vlanidcmp' is either 'inrange' or 'exrange'
<b>End VLAN Id</b>	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 previous field specify a range of VLAN IDs, if 'vlanidcmp' is either 'inrange' or 'exrange'. Otherwise, this field is invalid
<b>Start priority tag</b>	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'. This field and the next field specify a range of

	priority tags, if 'priotagcmp' is either 'inrange' or 'exrange'
<b>End priority tag</b>	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 previous field specify a range of priority tags, if 'priotagcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid
<b>Start DSAP</b>	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'
<b>End DSAP</b>	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
<b>Start SSAP</b>	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'
<b>End SSAP</b>	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
<b>Source MAC address comparison</b>	Source mac address comparison type
<b>Destination MAC address comparison</b>	Destination mac address comparison type
<b>Ether type comparison</b>	Ether type comparison type
<b>Vlan Id comparison</b>	VLAN Id comparison type. This field must be 'any', if 'priotagcmp' is not equal to 'any'
<b>Priority tag comparison</b>	Priority tag comparison type. This field must be 'any', if 'vlanidcmp' is not equal to 'any'
<b>DSAP comparison</b>	DSAP comparison type.
<b>SSAP comparison</b>	SSAP comparison type.
<b>Subrule Priority</b>	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

- Generic filter related commands

## 6.11.17 Filter rule actionmap Commands

### ► Get filter rule actionmap

**Description:** Use this command to get.

**Command Syntax:** `get filter rule actionmap [ruleid <ruleid-val >] [orderindex <orderindex-val >]`

### ► 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 [priority <priority-val>]`

### ► Delete filter rule actionmap

**Description:** Use this command to delete.

**Command Syntax:** `delete filter rule actionmap ruleid <ruleid-val> orderindex <orderindex-val>`

## ► 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] [priority <priority-val >]`

### Parameters

Name	Description
<b>ruleid</b> <ruleid-val >	Unique identifier of a filter rule entry for which this mapping is being created <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid Values:</b> 1-65535
<b>orderindex</b> <orderindex>	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 <b>Type:</b> Create -- Mandatory Delete --Mandatory Modify -- Mandatory Get --Optional <b>Valid Values:</b> 1-255
<b>action</b> SetPrio   RetagPrio   CopyToControl	This field specifies the action of the rule <b>Type:</b> Create -- Mandatory Modify -- Optional
<b>priority</b> <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' <b>Type:</b> Create -- Optional Modify -- Optional <b>Valid Values:</b> 0-7 <b>Default value:</b> 0

**Example:** `$ create filter rule actionmap ruleid 1 orderindex 1 action SetPrio priority 3`

### Output

Verbose Mode On

Entry Created

```
Rule Id : 1           Order Index : 1
Action  : SetPrio    Priority    : 3
```

Verbose Mode Off:

Entry Created

### Output field

Field	Description
<b>Rule Id</b>	Unique identifier of a filter rule entry for which this mapping is being created
<b>Order Index</b>	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
<b>Action</b>	This field specifies the action of the rule
<b>Priority</b>	This field specifies the priority to be set for the matching packets. It is valid only if 'action' is either 'setprio' or 'retagprio'

### References

- Generic filter related commands



## 6.12 IGMP Commands

### 6.12.1 Igmppsnoop cfg info Commands

► **Get igmpsnoop cfg info**

**Description:** Use this command to get.

**Command Syntax:** `get igmpsnoop cfg info`

► **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 ]`

**Parameters**

Name	Description
<b>queryinterval</b> <queryinterval-val >	Query Interval timer (in seconds) used to calculate entry age out timer, when no Reports or Queries are received on that entry. This value, multiplied by 10, should be greater than the Query Interval configured at the Router. The time for which an entry created at Igmppsnoop module exists, if no messages are received for it is approximately $((\text{QueryInterval} * 10) * \text{Robustness}) + \text{Query Response Time received in Last Query}$ <b>Type:</b> Modify --Optional <b>Valid values:</b> 1 - 25
<b>anxioustimer</b> <anxioustimer-val >	This is the maximum time (in seconds), before which the Igmppsnoop 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. <b>Type:</b> Modify --Optional <b>Valid values:</b> 1 - 65535
<b>v1hosttimer</b> <v1hosttimer-val >	This is the maximum time (in seconds), for which the Igmppsnooping module can assume that there are Version 1 group members present, for the group for which this timer is running. The unit is seconds. <b>Type:</b> Modify --Optional <b>Valid values:</b> 1 - 65535
<b>lastmembqryinterval</b> <lastmembqryinterval-val >	The Last Member Query Interval 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. This value 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 timer is one-tenth of second. <b>Type:</b> Modify --Optional <b>Valid values:</b> 1 - 255
<b>robustness</b> <robustness-val >	This allows tuning for the expected packet loss on a subnet. The Igmppsnooping module is robust to [RobustnessVar] packet losses. <b>Type:</b> Modify --Optional <b>Valid values:</b> 2 - 255
<b>status</b> enable   disable	Specified whether or not Igmppsnooping is to be enabled in the system. <b>Type:</b> Modify --Optional

<b>reportsup</b> enable   disable	Report Suppression is enabled or not. <b>Type:</b> Modify --Optional
-----------------------------------	---

**Example** \$ get igmpsnoop cfg info

**Output**

```

Query Interval           : 12           Anxious Timer           : 125
V1 Host Timer           : 130          Last Member Query Interval : 125
Robustness Variable     : 2             Igmp Snoop Status      : Enable
Report Suppression Status : Enable

```

**Output field**

Field	Description
<b>Query Interval</b>	Query Interval timer (in seconds) used to calculate entry age out timer, when no Reports or Queries are received on that entry. This value, multiplied by 10, 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)
<b>Anxious Timer</b>	This is 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.
<b>V1 Host Timer</b>	This is 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 is seconds.
<b>Last Member Query Interval</b>	The Last Member Query Interval 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. This value 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 timer is one-tenth of second.
<b>Robustness Variable</b>	This allows tuning for the expected packet loss on a subnet. The IgmpSnooping module is robust to [RobustnessVar] packet losses.
<b>Igmp Snoop Status</b>	Specified whether or not Igmp Snooping is to be enabled in the system.
<b>Report Suppression Status</b>	Report Suppression is enabled or not.

## 6.12.2 Igmpsnoop port info Commands

► **Get igmpsnoop port info**

**Description:** Use this command to get.

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

► **Modify igmpsnoop port info**

**Description:** Use this command to modify.

**Command Syntax:** **modify igmpsnoop port info portid** <portid-val > [status Enable | Disable] [leavemode Normal|Fast|FastNormal]

**Parameters**

Name	Description
------	-------------

<b>portid</b> <portid>	A Bridge Port, for which IGMP Snooping needs to be enabled or disabled. <b>Type:</b> Modify -- Mandatory Get -- Optional <b>Valid values:</b> 1 - 386
<b>status</b> Enable   Disable	Specifies whether or not IGMP Snooping is to be enabled on the port. <b>Type:</b> Modify --Optional Get --Optional
<b>leavemode</b> Normal Fast FastNormal	Igmp Snooping Leave message processing mode for the port. If the mode is set to 'Normal', the Leave message is forwarded to the Querier and 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 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. '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. <b>Type:</b> Modify --Optional <b>Default Value:</b> Normal

**Example:** \$ get igmpsnoop port info portid 6

#### Output

```
Port Index          : 10
Port Igmp Snoop Status : Disable Leave Mode : Normal
```

#### Output field

Field	Description
<b>Port Index</b>	A Bridge Port, for which IGMP Snooping needs to be enabled or disabled.
<b>Port Igmp Snoop Status</b>	Specifies whether or not IGMP Snooping is to be enabled on the port.
<b>Leave Mode</b>	Igmp Snooping Leave message processing mode for the port. If the mode is set to 'Normal', the Leave message is forwarded to the Querier and 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 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. '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.

**Caution:** An entry in this table shall not be applicable for a bridge port created over the PPPoE interface.

## 6.12.3 Igmpsnop querier info Commands

### ► Get igmpsnop querier nfo

**Description:** Use this command to get.

**Command Syntax:** `get igmpsnop querier info [vlanid <vlanid-val >] [portid <portid-val>]`

### ► Create igmpsnop querier info

**Description:** Use this command to create.

**Command Syntax:** `create igmpsnop querier info vlanid <vlanid-val > portid <portid-val >`

### ► Delete igmpsnop querier info

**Description:** Use this command to delete.

**Command Syntax:** `delete igmpsnop querier info vlanid <vlanid-val > portid <portid>`

#### Parameters

Name	Description
<b>vlanid</b> <vlanid-val>	VlanId to uniquely identify the vlanid of the entry for which the IgmpSnooping Querier is configured/learned. In devices supporting "Shared Vlan formulticast" 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, vlanid is not required. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Get -- Optional <b>Valid values:</b> 1 – 4095
<b>portid</b> <portid-val>	A Bridge Port, belonging to the Vlan (dot1qVlanIndex), on which the Querier exists. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Get --Optional <b>Valid values:</b> 1 - 386

**Example** \$ create igmpsnop querier info vlanid 6 portid 6

#### Output

```
Entry Created

VLAN Index      : 6          Port Index : 6
Querier Port Status : Mgmt
```

#### Output field

Field	Description
<b>VLAN Index</b>	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 GS_UNREGISTERED_VLANID.

<b>Port Index</b>	A Bridge Port, belonging to the Vlan (dot1qVlanIndex), on which the Querier exists.
<b>Querier Port Status</b>	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.

## 6.12.4 Igmssnoop port stats Commands

### ► Get igmssnoop port stats

**Description:** Use this command to get.

**Command Syntax:** `get igmssnoop port stats [vlanid <vlanid-val >] [mcastaddr <mcastaddr-val>] [portid <portid-val >]`

### ► Reset igmssnoop port stats

**Description:** Use this command to reset.

**Command Syntax:** `reset igmssnoop port stats vlanid <vlanid-val > mcastaddr <mcastaddr-val > portid <portid-val >`

#### Parameters

Name	Description
<b>vlanid</b> <vlanid-val >	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. 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. <b>Type:</b> Reset -- Optional Get – Optional <b>Valid values:</b> 1 - 4095
<b>Mcastaddr</b> <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 01:00:5E:00:00:00 to 01:00:5E:7F:FF:FF <b>Type:</b> Reset --Optional Get --Optional
<b>portid</b> <portid>	A Bridge Port belonging to the Vlan (igmpVlanIndex) and Group (igmssnoopMcastAddress), for which the IgmpSnooping statistics are desired. <b>Type:</b> Reset --Optional Get –Optional <b>Valid values:</b> 1 - 386

**Example** \$ `get igmssnoop port stats vlanid 6 mcastaddr 01:00:5E:0a:00:01 portid 6`

#### Output

```
VLAN Index      : 6
Mcast Group Address : 01:00:5E:0a:00:01
Port Index      : 6
Query Received   : 100      Report Received : 200
```

#### Output field

Field	Description
<b>VLAN Index</b>	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. 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.
<b>Mcast Group Address</b>	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 01:00:5E:00:00:00 to 01:00:5E:7F:FF:FF
<b>Port Index</b>	A Bridge Port belonging to the Vlan (igmpVlanIndex) and Group (igmpsnoopMcastAddress), for which the IgmpSnooping statistics are desired.
<b>Query Received</b>	The number of Igmp Queries received on the port belonging to a particular multicast group and Vlan.
<b>Report Received</b>	The number of Membership Reports received on the port belonging to a particular multicast group and Vlan.

**Caution:** An entry in this table shall not be applicable for a bridge port created over the PPPoE interface.

## 6.13 Interface Commands

### 6.13.1 Interface Commands

#### ► 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
<b>ifname</b> <interface-name> >	Interface name, for which configuration is to be modified or viewed. <b>Type:</b> Get -Optional Modify -Mandatory <b>Valid values:</b> eth-*, atm-*, aal5-*, eoa-*, dsl-*, dsif-*, dsli-*, aggr-*, ehdlc-*
<b>trap</b> enable disable	Indicates whether linkUp/linkDown traps should be generated for this interface. <b>Type:</b> Modify – Optional <b>Valid values :</b> enable Or disable

**Example** \$ get interface stats ifname eth-0

**Output** Verbose Mode On

```

Entry Created

Interface      : eth-0          Description      : eth0
Type           : Ethernet         Mtu             : 1500
Bandwidth     : 10000        Phy Addr       : 00:10:4B:22:84:AF
Last Change(sec) : 0          Unknown Prot Pkts : 0
Admin Status   : Up          Operational Status : Down
In Octets     : 0          Out Octets      : 42
In Discards   : 0          Out Discards    : 0
In Errors     : 0          Out Errors      : 0
In Ucast Pkts : 0          Out Ucast Pkts  : 1
HC In Octets  : 100         HC OutOctets    : 100
In Mcast Pkts : 200         Out Mcast Pkts  : 100
In Bcast Pkts : 100         Out Bcast Pkts  : 100
LinkUpOnTrapEnable : Enable    Promiscuous Mode : True
Connector Present : True      CounterDiscontTime : 100
HC In Octets  : 100
HC OutOctets  : 100
  
```

#### Output Fields

Field	Description
<b>Interface</b>	This uniquely identifies the interface, for which information is being displayed. It may be: eth-0, eth-1, atm-*, aal5-*, eoa-*, dsl-*, dsif-*, dsli-*, aggr-*, ehdlc-*
<b>Description</b>	This is general information about the interface
<b>Type</b>	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.
<b>Mtu</b>	The size (in bytes) of the largest packet, which can be sent/received on this interface in octets.
<b>Bandwidth</b>	The current bandwidth of the interface, in bps.
<b>Phy Addr</b>	Interface's address, at its protocol sublayer.
<b>Admin Status</b>	This is the desired state of the interface. It may be: Up, Down.
<b>Operational Status</b>	This is the current operational state of the interface. It may be: Up, Down.
<b>Last Change</b>	Value of System UpTime (in seconds) at the time the interface entered its current operational state.
<b>Unknown Prot Pkts</b>	The number of packets received via the interface, which were discarded because of an unknown or

	unsupported protocol.
<b>In Octets</b>	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-*.
<b>Out Octets</b>	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-*.
<b>In Discards</b>	The number of inbound packets, which were discarded, though no errors were detected.
<b>Out Discards</b>	The number of outbound packets chosen to be discarded even though there were no errors.
<b>In Errors</b>	The number of inbound packets, which were not delivered to upper layers because of errors.
<b>Out Errors</b>	The number of outbound packets chosen to be discarded because there were errors.
<b>In Ucast Pkts</b>	The number of unicast packets delivered to a higher layer protocol.
<b>Out Ucast Pkts</b>	The total number of packets requested to be sent to unicast addresses, by upper layer protocols.
<b>HC In Octets</b>	The total number of octets received on the interface, including framing characters. This object is a 64-bit version of <b>ifInOctets</b> . Valid for eth-*.
<b>HC OutOctets</b>	The total number of octets transmitted out of the interface, including framing characters. This object is a 64-bit version of <b>ifOutOctets</b> . Valid for eth-*.
<b>In Mcast Pkts</b>	The number of multicast packets delivered to a higher layer protocol.
<b>Out Mcast Pkts</b>	The total number of packets requested to be sent to multicast addresses, by upper layer protocols.
<b>In Bcast Pkts</b>	The number of broadcast packets delivered to a higher layer protocol.
<b>Out Bcast Pkts</b>	The total number of packets requested to be sent to broadcast addresses, by upper layer protocols.
<b>LinkUpDnTrapEnable</b>	Indicates whether linkUp/ linkDown traps should be generated for this interface.
<b>Promiscuous Mode</b>	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.
<b>Connector Present</b>	This indicates whether the interface sublayer has a physical connector or not. This is true only for physical Ethernet interfaces.
<b>CounterDiscontTime</b>	The value of <b>sysUpTime</b> on the most recent occasion, at which any one or more of this interface's counters suffered a discontinuity.

► **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>`

► **Get interface config**

**Description:** Use this command to view Interface Configuration.



---

**Command Syntax:** `get interface config ifname <interface-name>`

► **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
<code>ifname &lt;interface-name&gt;</code>	Interface name, for which configuration is to be modified or viewed. <b>Type:</b> Get -Optional Modify -Mandatory <b>Valid values:</b> eth-*, atm-*, aal5-*, eoa-*, dsl-*, dsif-*, dsli-*, aggr-*, ehdlc-*
<code>trap enable disable</code>	Indicates whether linkUp/linkDown traps should be generated for this interface. <b>Type:</b> Modify – Optional <b>Valid values :</b> 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** None

**References**

- ATM Interface commands
- Ethernet commands
- EoA commands

---

## 6.14 IP Commnads

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### 6.14.1 IP Route Table Commands

▶ **Create ip route**

**Description:** Use this command to create a routing table entry.

**Command Syntax:** `create ip route ip <dest-ip-address> gwyip <gwy-ip-address> mask <net-mask>`

▶ **Delete ip route**

**Description:** Use this command to create a routing table entry.

**Command Syntax:** `create ip route ip <dest-ip-address> gwyip <gwy-ip-address> mask <net-mask>`

▶ **Get ip route**

**Description:** Use this command to create a routing table entry.

**Command Syntax:** `get ip route ip <dest-ip-address> gwyip <gwy-ip-address> mask <net-mask>`

**Parameters**

Name	Description
<code>ip &lt;dest-ip-address&gt;</code>	Destination IP address of this route. <b>Type:</b> Mandatory <b>Valid Values :</b> Any valid class A/B/C IP
<code>Gwyip &lt;gwy-ip-address&gt;</code>	The IP address of the next hop for this route. <b>Type:</b> Mandatory <b>Valid Values :</b> Any valid class A/B/C IP
<code>mask &lt;net-mask&gt;</code>	The Mask of the destination IP Address. <b>Type:</b> Mandatory <b>Valid Values :</b> 0.0.0.1 – 255.255.255.254

**Example** \$ `create ip route ip 192.168.2.40 gwyip 192.168.1.1 mask 255.255.255.0`

**Output**

Verbose Mode On

Entry Created

Destination	Net Mask	Gateway	If-name	Route Type	Route Orig	Age(sec)
192.168.2.40	255.255.255.0	192.168.1.1	eth-0	IND	LCL	0

Verbose Mode Off

Entry Created

**Output Fields**

FIELD	Description
<b>Destination</b>	Destination IP address of this route.
<b>Mask</b>	The Mask of the destination IP Address.
<b>Gateway</b>	The IP address of the next hop for this route.
<b>If-Name</b>	The local interface, through which the next hop of this route will be reached.
<b>Route Type</b>	The type of route. It may be : dir (for Direct) or ind (for Indirect).
<b>Route Orig</b>	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).

<b>Age</b>	The number of seconds since this route was last updated or otherwise determined to be correct.
------------	--

**References**

- get ip route command
- delete ip route command
- arp related commands.

## 6.14.2 IP Net to Media Table Commands

▶ **Create arp**

**Description:** Use this command to create a static entry in the ARP Table.

**Command Syntax:** `create arp ip <ip-address> macaddr <mac-address>`

▶ **Delete arp**

**Description:** Use this command to delete an entry from the ARP table.

**Command Syntax:** `delete arp ip <ip-address>`

▶ **Get arp**

**Description:** Use this command to display either the full ARP table or a single entry.

**Command Syntax:** `get arp [ip <ip-address>]`

**Parameters**

Name	Description
<code>ip &lt;ip-address&gt;</code>	IP address corresponding to the media-dependent <i>physical</i> address <b>Type:</b> Mandatory <b>Valid Values :</b> Any valid class A/B/C IP
<code>Macaddr&lt;mac-address&gt;</code>	The media-dependent <i>physical</i> address <b>Type:</b> Mandatory

**Example** \$ `create arp ip 192.168.1.1 macaddr 11:11:11:11:11:11`

**Output** Verbose Mode On

```

Entry Created

If Name      Type      Mac Address      Ip Address
-----
eth-0       Static    11:11:11:11:11:11  192.168.1.1

```

Verbose Mode Off

```
Entry Created
```

**Output Fields**

FIELD	Description
<b>If Name</b>	This specifies the physical interface for the media. It may be: <i>eth-0 - *</i> . This entry contains bridge management information.
<b>Type</b>	This defines the type of mapping in use. The value <i>Invalid</i> has the effect that this entry is not used. It may be: <i>Static, Dynamic, Other</i>
<b>Mac Address</b>	The media-dependent <i>physical</i> address
<b>Ip Address</b>	IP address corresponding to the media-dependent <i>physical</i> address



The specified interface should pre-exist. Please refer to the create ethernet intf command.

**References**

- 
- delete arp command
  - get arp command
  - create ethernet intf command
  - ip route related commands

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## 6.15 QoS Commands

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### 6.15.1 IRL Map Commands

► **Get irl map**

**Description:** Use this command to get.

**Command Syntax:** `get irl map [ifname <interface-name>]`

► **Create irl map**

**Description:** Use this command to create.

**Command Syntax:** `create irl map ifname < interface-name > profilename <profile-name>`

► **Delete irl map**

**Description:** Use this command to delete.

**Command Syntax:** `delete irl map ifname < interface-name >`

**Parameters**

Name	Description
<b>ifname</b> < interface-name >	Interface Name whose IRL mapping information is to be configured. <b>Valid Values:</b> aal5-0 - aal5-* <b>Type :</b> Create Mandatory Delete Mandatory Get --Optional <b>Valid values:</b> ND - ND
<b>profilename</b> <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 ',' <b>Type:</b> 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
<b>Interface</b>	Interface Name whose IRL mapping information is to be configured. <b>Valid Values:</b> aal5-0 - aal5-*
<b>Profile Name</b>	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 ','

### 6.15.2 IRL Profile Commands

► **Get irl profile**

**Description:** Use this command to get.

**Command Syntax:** `get irl profile [profilename <profile-name>]`

► **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 ] [ exceedaction drop | coloryellow ] [ violateaction drop | coloryellow ]`

► **Delete irl profile**

**Description:** Use this command to delete.

**Command Syntax:** `delete irl profile profilename <profile-name>`

► **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 ] [ exceedaction drop | coloryellow ] [ violateaction drop | coloryellow ]`

**Parameters**

Name	Description
<b>profilename</b> <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 ';'. <b>Type:</b> Create -- Mandatory Delete -- Mandatory Modify -- Mandatory Get --Optional <b>Valid values:</b> ND - ND
<b>irltype</b> 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). <b>Type:</b> Create Optional Modify Optional trtcm
<b>cir</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 0-16000
<b>cbs</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 96-10000 <b>Default value:</b> 7500
<b>pir</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 96-16000 <b>Default value:</b> 1000
<b>pbs</b> <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. <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> 96-15000 <b>Default value:</b> 10000
<b>conformaction colorgreen</b>	Color type to be applied for conforming packets. This field is valid in both sr2cm and trtcm type of profiles

	<b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> colorgreen
<b>exceedaction</b> drop   coloryellow	Color for exceeding packets. This field is valid only for trtcm type of profiles <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> coloryellow
<b>violateaction</b> drop   coloryellow	Color type to be applied for violating packets. This field is valid in both sr2cm and trtcm type of profiles <b>Type:</b> Create -- Optional Modify -- Optional <b>Default value:</b> drop

**Example** \$ create irl profile profilename gold irltype trtcm cir 1000 cbs 400 pir 2000 pbs 12000 conformaction colorgreen exceedaction coloryellow violateaction drop

### Output

Verbose Mode On

Entry Created

```

Profile name   : gold
Profile Type   : trtcm      CIR(kbps)      : 1000
CBS(bytes)     : 12000     PIR(kbps)     : 2000
PBS(bytes)     : 12000     Conform action : colorgreen
Exceed action  : coloryellow Violate action : drop

```

Verbose Mode Off:

Entry Created

### Output field

Field	Description
<b>Profile name</b>	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 ';'.
<b>Profile Type</b>	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).
<b>CIR(kbps)</b>	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.
<b>CBS(bytes)</b>	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.
<b>PIR(kbps)</b>	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.
<b>PBS(bytes)</b>	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.
<b>Conform action</b>	Color type to be applied for conforming packets. This field is valid in both sr2cm and trtcm type of profiles.
<b>Exceed action</b>	Color for exceeding packets. This field is valid only for trtcm type of profiles.
<b>Violate action</b>	Color type to be applied for violating packets. This field is valid in both sr2cm and trtcm type of profiles

### References

- IRL Commands

## 6.15.3

### IRL Stats Commands

#### ► Get irl stats

**Description:** Use this command to get.

**Command Syntax:** `get irl stats [ifname <interface-name>]`

---

## Parameters

Name	Description
<b>ifname</b> <interface-name>	Interface Name whose IRL statistics are requested. <b>Valid Values:</b> aal5-0 - aal5-*. <b>Type :</b> Get -- Optional <b>Valid values :</b> ND - ND

**Example** \$ get irl stats ifname aal5-0

## Output field

Field	Description
<b>Interface</b>	Interface Name whose IRL statistics are requested.
<b>Num packets violated</b>	Number of packets that violated PIR in case of trTcm. In case of crTcm it is the number of packets violating CIR.
<b>Num packets exceeded</b>	Number of packets that exceeded CIR. This field is valid only for trtcm type of profiles.
<b>Num packets conformed</b>	Number of packets that conformed to CIR.

## References

- IRL Commands



---

## 6.16 SNMP Commands

---

### 6.16.1 SNMP Comm Commands

▶ **Get snmp comm**

**Description:** Use this command to get.

**Command Syntax:** `get snmp comm [community <community-val >]`

▶ **Create snmp comm**

**Description:** Use this command to create.

**Command Syntax:** `create snmp comm community <community-val > [access ro | rw]`

▶ **Delete snmp comm**

**Description:** Use this command to delete.

**Command Syntax:** `delete snmp comm community <community-val >`

**Parameter**

Name	Description
<b>community</b> <community-val >	This specifies the Community name. <b>Type:</b> Create --Mandatory Delete --Mandatory Get -- Optional
<b>access ro   rw</b>	This specifies the access permissions given to managers with this community name. ro implies Read Only permissions and rw implies Read-Write permissions. <b>Type:</b> Create --Optional <b>Default value:</b> ro

**Example** \$ create snmp comm community public

**Output** Verbose Mode On

```
Entry Created
Access community
-----
ro    public
```

Verbose Mode Off:

```
Entry Created
```

**Output field description**

Field	Description
<b>community</b>	This specifies the Community name.
<b>Access</b>	This specifies the access permissions given to managers with this community name.ro implies Read Only permissions and rw implies Read-Write permissions.

**References**

- SNMP commands

### 6.16.2 SNMP Host Commands

▶ **Get snmp host**

**Description:** Use this command to get.

**Command Syntax:** `get snmp host [ip <ip-address>] [community <community-val >]`

---

▶ **Create snmp host**

**Description:** Use this command to create.

**Command Syntax:** `create snmp host ip <ip-address > community <community-val >`

▶ **Delete snmp host**

**Description:** Use this command to delete.

**Command Syntax:** `delete snmp host ip <ip-address > community <community-val >`

**Parameter**

Name	Description
<code>ip &lt;ip-address &gt;</code>	This specifies the IP address of the manager that has access permissions. <b>Type:</b> Create --Mandatory Delete --Mandatory Get -- Optional
<code>community &lt;community-val &gt;</code>	This specifies the Community name. This must be a valid community in the snmp community table. <b>Type:</b> Create --Mandatory Delete --Mandatory Get -- Optional

**Example** \$ create snmp host ip 172.25.34.34 community public

**Output** Verbose Mode On

```
Entry Created
Ip Address      Community
-----
172.25.34.34   public
```

Verbose Mode Off:

```
Entry Created
```

**Output field description**

Field	Description
<b>Ip Address</b>	This specifies the IP address of the manager that has access permissions.
<b>Community</b>	This specifies the Community name. This must be a valid community in the snmp community table.

**References**

- SNMP commands

## 6.16.3 SNMP Stats Commands

▶ **Snmp stats**

**Description:** Use this command to get.

**Command Syntax:** `get snmp stats`

▶ **Modify snmp stats**

**Description:** Use this command to modify.

**Command Syntax:** `modify snmp stats [authentrap enable | disable]`

**Parameter**

Name	Description
------	-------------

<b>authentraps</b> 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. <b>Type:</b> Modify -- Optional <b>Default value:</b> disable
---------------------------------------	--

**Example** \$ get snmp stats

**Output**

```

InPkts           : 100      OutPkts           : 100
InBadVersions    : 0        InBadCommunityNames : 0
InBadCommunityUses : 0      InASNParseErrs    : 0
InTooBig         : 0        InNoSuchNames     : 0
InBadValues      : 0        InReadOnly        : 0
InGenErrs        : 0        InTotalReqVars    : 200
InTotalSetVars   : 0        InGetRequests     : 100
InGetNexts       : 0        InSetRequests     : 0
InGetResponses   : 0        InTraps           : 0
OutTooBig        : 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 description**

Field	Description
<b>InPkts</b>	The total number of Messages delivered to the SNMP entity from the transport service.
<b>OutPkts</b>	The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.
<b>InBadVersions</b>	The total number of SNMP Messages which were delivered to the SNMP protocol entity and were for an unsupported SNMP version.
<b>InBadCommunityNames</b>	The total number of SNMP Messages delivered to the SNMP protocol entity which used a SNMP community name not known to say entity.
<b>InBadCommunityUses</b>	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.
<b>InASNParseErrs</b>	The total number of ASN.1 or BER errors encountered by the SNMP protocol entity when decoding received SNMP Messages.
<b>InTooBig</b>	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'.
<b>InNoSuchNames</b>	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'.
<b>InBadValues</b>	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'.
<b>InReadOnly</b>	The total number valid SNMP PDUs which were delivered 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.
<b>InGenErrs</b>	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'.
<b>InTotalReqVars</b>	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.
<b>InTotalSetVars</b>	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.
<b>InGetRequests</b>	The total number of SNMP Get-Request PDUs which have been accepted and processed by the SNMP protocol entity.
<b>InGetNexts</b>	The total number of SNMP Get-Next PDUs which have been accepted and processed by the SNMP protocol entity.
<b>InSetRequests</b>	The total number of SNMP Set-Request PDUs which have been accepted and processed by the SNMP protocol entity.
<b>InGetResponses</b>	The total number of SNMP Get-Response PDUs which have been accepted and processed by the SNMP protocol entity.
<b>InTraps</b>	The total number of SNMP Trap PDUs which have been accepted and processed by the SNMP protocol entity.
<b>OutTooBig</b>	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'.
<b>OutNoSuchNames</b>	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'.
<b>OutBadValues</b>	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'.
<b>OutGenErrs</b>	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'.
<b>OutGetRequests</b>	The total number of SNMP Get-Request PDUs which have been generated by the SNMP protocol entity.
<b>OutGetNexts</b>	The total number of SNMP Get-Next PDUs which have been generated by the SNMP protocol entity.
<b>OutSetRequests</b>	The total number of SNMP Set-Request PDUs which have been generated by the SNMP protocol entity.
<b>OutGetResponses</b>	The total number of SNMP Get-Response PDUs which have been generated by the SNMP protocol entity.
<b>OutTraps</b>	The total number of SNMP Trap PDUs which have been generated by the SNMP protocol entity.
<b>AuthenTraps</b>	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.

<b>SilentDrops</b>	The total number of GetRequest-PDUs, GetNextRequest-PDUs, GetBulkRequest-PDUs, SetRequest-PDUs, and InformRequest-PDUs delivered to the SNMP entity which were silently dropped because the size of a reply containing an alternate Response-PDU with an empty variable-bindings field, was greater than, either a local constraint, or the maximum message size associated with the originator of the request.
<b>ProxyDrops</b>	The total number of GetRequest-PDUs, GetNextRequest-PDUs, GetBulkRequest-PDUs, SetRequest-PDUs, and InformRequest-PDUs delivered to the SNMP entity, which were silently dropped, because 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.

## 6.16.4 SNMP Traphost Commands

### ► Get snmp traphost

**Description:** Use this command to get.

**Command Syntax:** `get snmp traphost [ip <ip-address>] [port <port-val >]`

### ► 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]`

### ► Delete snmp traphost

**Description:** Use this command to delete.

**Command Syntax:** `delete snmp traphost ip <ip> [port <port-val >]`

### ► Modify snmp traphost

**Description:** Use this command to modify

**Command Syntax:** `modify snmp traphost ip <ip> [port <port>] [version v1 | v2c]`

**Parameter**

Name	Description
<code>port &lt;port-val &gt;</code>	This specifies the Port at which the trap is to be sent. <b>Type:</b> Create --Optional Get -- Optional Modify -- Optional Delete -- Optional <b>Default value:</b> 162
<code>version v1   v2c</code>	This specifies the Trap version to be sent to the Manager. <b>Type:</b> Create --Optional Get -- Optional Modify -- Optional <b>Default value:</b> v2c

**Example**     \$ create snmp traphost ip 172.25.34.34 community public

**Output**        Verbose Mode On

---

**Output field**

<b>Field</b>	<b>Description</b>
<b>Ip Address</b>	This specifies the IP address of the manager where trap is to be sent.
<b>Community</b>	This specifies the Community name used in the trap.
<b>Port</b>	This specifies the Port at which the trap is to be sent.
<b>Version</b>	This specifies the Trap version to be sent to the Manager.

**References**

- SNMP commands

---

## 6.17 SNTP Commands

---

### 6.17.1 SNTP Cfg Commands

► **Get sntp cfg**

**Description:** Use this command to get.

**Command Syntax:** `get sntp cfg`

► **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. <b>Type:</b> Modify -- Optional <b>Valid values:</b> enable, disable

**Example**    \$ modify sntp cfg enable

**Output**        Verbose Mode On/Off

```
status : Enable
```

**Output field description**

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 disabled.

### 6.17.2 SNTP Stats Commands

► **Get sntp stats**

**Description:** Use this command to get.

**Command Syntax:** `get sntp stats`

► **Reset sntp stats**

**Description:** Use this command to reset.

**Command Syntax:** `reset sntp stats`

**Example**    \$ get sntp stats

**Output**        Verbose Mode On/Off

```
status : Enable
```

**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	This specifies time at which the local clock was last

[MM/DD/  
YYYY::HH:MM:SS]

set or corrected. The display format shall be mm/dd/  
yyyy:hr:min:sec.

### 6.17.3 SNTP servaddr Commands

▶ **Get sntp servaddr**

**Description:** Use this command to get.

**Command Syntax:** `get sntp servaddr`

▶ **Create sntp servaddr**

**Description:** Use this command to create.

**Command Syntax:** `create sntp servaddr`

**Example**           \$ create sntp servaddr 172.23.3.45

**Output**            Verbose Mode On

Entry Created

Server Addr : 172.23.3.45        Status : Standby

Verbose Mode Off

Entry Created

**Output field description**

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.



## 6.18 System Commands

### 6.18.1 System Configuration Save and Restore Commands

#### ► Commit

**Description:** Use this command to commit the active configuration to the flash.

**Command Syntax:** `commit`

**Parameters**

None

#### ► 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 >]`

**Parameters**

Name	Description
<b>control</b> <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. <b>Type :</b> Optional <b>Default value:</b> Binary present in NVRAM.
<b>dataplane</b> <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. <b>Type:</b> Optional <b>Default value:</b> Binaries present in NVRAM.
<b>config</b> <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: <ul style="list-style-type: none"> <li>the size command is executed.</li> <li>the user (login name and password as root) is created.</li> <li>an Ethernet interface with IP address 192.168.1.1 mask 255.255.0.0 is created.</li> </ul> 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. <b>Type :</b> Optional <b>Default value:</b> 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.

## 6.18.2 System Control Table Commands

### ► 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]`

### ► Delete user

**Description:** Use this command to delete a user login.

**Command Syntax:** `delete user name <user-name>`

### ► Get user

**Description:** Use this command to display information of all the users. Password information is not displayed.

**Command Syntax:** `get user`

#### Parameters

Name	Description
<b>Name</b> <user-name>	This specifies the User Name to be created. <b>Type:</b> Mandatory <b>Valid values:</b> String of up to 64 characters ( 'A'- 'Z', 'a'-'z', '0'-'9', '-', '_' ) and any combination of printable characters excluding ";"
<b>passwd</b> <password>	This specifies the password required by this user to login to the unit. <b>Type :</b> Mandatory <b>Valid values:</b> String of up to 64 characters ( 'A'- 'Z', 'a'-'z', '0'-'9', '-', '_' ) and any combination of printable characters excluding ";"
<b>Root user</b>	This indicates the privilege level of the user. <b>Type :</b> Optional <b>Default value:</b> user

**Example**      \$ create user name user1 passwd temp1 user

**Output**            Verbose Mode On

```
Entry Created

Privilege  UserName
-----
user      user1
```

#### Output Fields

FIELD	Description
<b>UserName</b>	This shows the new user login, which has been created.
<b>Privilege</b>	This represents the privilege level associated with the user name shown. It may be: user, root

### ► 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 [user-id]`

#### Parameters

Name	Description
------	-------------

<b>User-id</b>	The id of the user whose password is to be changed. If not specified then the current user is assumed. <b>Type:</b> Mandatory, if user is logged in through serial port and user authentication is disabled through serial port. Otherwise, Optional. <b>Valid values:</b> String of up to 64 characters (All printable 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
New Password:
Confirm New Password:
Set Done.
```

## 6.18.3 System Info Commands

### ► Get system info

**Description:** This command to get system parameters.

**Command Syntax:** `get system info`

### ► 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:
<b>contact</b> <sys-contact>	This contains the textual identification of the contact person for this modem, together with information on how to contact this person <b>Type :</b> Optional <b>Valid values:</b> String of up to 63 ASCII Characters
<b>name</b> <sys-name>	This specifies the name of the modem <b>Type :</b> Optional <b>Valid values:</b> String of up to 63 ASCII Characters
<b>Location</b> <sys-location>	This specifies the physical location of this modem <b>Type :</b> Optional <b>Valid values:</b> String of up to 63 ASCII Characters
<b>vendor</b> <sys-vendor-info>	This contains the vendor-specific information <b>Type :</b> Optional <b>Valid values:</b> String of up to 63 ASCII Characters
<b>logthresh</b> <sys-log-threshold >	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. <b>Type:</b> Optional <b>Valid values:</b> 1-4
<b>Systime</b> <systime>	This specifies the current system time. <b>Type:</b> Optional <b>Valid values:</b> 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"
<b>dst</b> <on   off>	This specifies if the Daylight Savings Time has been enabled or not. <b>Type:</b> Optional

Valid values: on/off

**Example** \$ get system info

**Output** Verbose Mode On

```

Crash Id      : 1          Crash IU      : 0
Time of Crash : Thu Jan 01 00:00:25 1970
Crash Cause   : CP crashed after DP Init

PSR Reg      : 0x940060de  Wim Reg      : 0x0
PC           : 0x474204c   NPC          : 0x4742050
Y Reg MSW    : 0x0        Y Reg LSW    : 0x491f699
Trap Num     : 0x92       Trap Base Reg : 0x4602920
Fault Status Reg : 0x14   Double Fault Reg : 0x9e0
IER          : 0x2000

Alternate Window # 0x1f
Reg#:Local   : In       | Reg#:Local   : In       |
0 : 0x1      : 0x0      | 1 : 0x2      : 0x0      |
2 : 0x3      : 0x0      | 3 : 0x4      : 0x0      |
4 : 0x5      : 0x0      | 5 : 0x6      : 0x0      |
6 : 0x7      : 0x0      | 7 : 0x7      : 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
Registers : Global      : Out      : Local      : In
0         : 0x0          : 0x5848940 : 0x5844e34 : 0x5848940
1         : 0x940060e9      : 0x4d13d7a : 0x3b1a    : 0x4d13d78
2         : 0x7              : 0x4741fd4 : 0x3800    : 0x2000000
3         : 0x18             : 0x8        : 0x3b19    : 0x4d13d78
4         : 0x0               : 0x4d13d80 : 0x5844e34 : 0x4d13d80
5         : 0x2050044c        : 0x3b17    : 0x5854d0d : 0x3b14
6         : 0x58f3c00         : 0x4d13c18 : 0x1        : 0x4d13c90
7         : 0x0               : 0x471073c : 0x3b1c    : 0x4700f28

CCP Register Dump
CCSR Register      : 0x1a2a4021  CCCRC Register    : 0x1ffffbbd
CCPR Register      : 0xa2aabdfc
CCIR Register      : 0xbabfbfel  CCIBR Register    : 0x3fd1ed7f
CCOBR Register     : 0x44208200  CCOR Register     : 0x9bb2eacc

Stack at the time of the Crash
StackDepth : CallAddress : Return Address: Frame Ptr : StackPtr
8          : 0x48ea65c   : 0x471073c    : 0x4d13c18 : 0x4951e60
7          : 0x471073c   : 0x4700f28    : 0x4d13c90 : 0x4d13c18
6          : 0x4700f28   : 0x46eab20    : 0x4d13d10 : 0x4d13c90
5          : 0x46eab20   : 0x46ea25c    : 0x4d14360 : 0x4d13d10
4          : 0x46ea25c   : 0x46e9d20    : 0x4d143e8 : 0x4d14360
3          : 0x46e9d20   : 0x48e356c    : 0x4d144f0 : 0x4d143e8

```

**Output Fields**

Field	Description
Crash Id	Crash Number
Crash IU	Internal processor Number
Time of Crash	This specifies the time at which the crash occurred.
Crash Cause	This specifies 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
PSR Reg	This specifies the value of Processor state register at the time of crash.
Wim Reg	Window Invalid Mask register
PC	This specifies the value of Program counter at the time of crash.
NPC	This specifies the value of next Program counter at the time of crash.
Y Reg MSW	This specifies the value of MSW of Y Register at the

	time of crash.
<b>Y Reg LSW</b>	This specifies the value of LSW of Y Register at the time of crash.
<b>Trap Num</b>	This specifies number of trap that caused the crash.
<b>Trap Base Reg</b>	This specifies the value of Trap Base register at the time of crash.
<b>Fault Status Reg</b>	This specifies the value of Fault Status Register at the time of crash.
<b>Double Fault Reg</b>	This specifies the value of Double Fault Register at the time of crash.
<b>IER</b>	This specifies the value of Implementation Extension Register at the time of crash.
<b>Alternate Window Capture</b>	For crashes involving Alternate Windows, This Capture specifies of all local and input register capture for Alternate Windows # 0x1f to 0x18.
<b>Current Standard Window Dump</b>	This specifies all global, input, local and output registers of standard window at the time of capture.
<b>CCP Register Dump</b>	This specifies proprietary CCP register dump
<b>Stack at the time of the Crash</b>	This specifies the stack trace at the time of the crash. Display contains Return address and the caller function addresses, along with the Stack and the Frame pointer values.

#### References

- Get/modify nbsize

#### ► Get rmon idletime

**Description:** Use this command to display a list of idle time records.

**Command Syntax:** `get rmon idletime [numentries <numentries-val>]`

#### Parameter

Name	Description
<b>Numentries &lt; numentries-val&gt;</b>	This specifies last <i>numentries</i> idle time records to be displayed <b>Type:</b> Optional <b>Default :</b> 10

**Example**     \$ get rmon idletime numentries 1

#### Output

```

$get rmon idletime numentries 1

Start Time                End Time                Total  Idle  Util %
                        Time                Time                Time  Time
-----
Thu Jan 1 12:34:51 1970  Thu Jan 1 12:35:00 1970  10s   7s   30

```

#### Output Fields

FIELD	Description
<b>Start Time</b>	This specifies the starting time of the period for which the idle time was recorded
<b>End Time</b>	This specifies the end time of the period for which the idle time was recorded
<b>Total Time</b>	This specifies the total time (in seconds) elapsed in this period.
<b>Idle Time</b>	This specifies the time (in seconds) for which the system was idle during this period.
<b>Util %</b>	This specifies the Utilization (in percentage) of the system during this period

## 6.18.4 System manuf info Commands

### ► 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

```
$get system manuf info

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

Del manuf Text Info
-----
Num of LBRams      : 2        Num of Chips       : 2
Num of Ports       : 24       Interface Type     : Host Bus
Chip Type          : G24
Serial Number      : <cc-0123456>
Vendor Id          : PFBGGSPN
Version Number     : Z3219

Chip No   Base Addr   LBRam
-----|-----|-----
1        0x94a00000  0
2        0x94a00c00  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
<b>CpeUtopiaMode</b>	Mode of operation of CPE side Utopia interface
<b>NetUtopiaMode</b>	Mode of operation of NET side Utopia interface
<b>CpeUtopiaMaster</b>	This specifies whether CPE side Utopia interface is master
<b>NetUtopiaMaster</b>	This specifies whether NET side Utopia interface is master
<b>MaxEthMacPhy</b>	This specifies the maximum number of MACs that can be configured
<b>ColumbiaIdSel</b>	Specifies the address bit in the PCI bus, which is connected to IDSEL pin of the Columbia
<b>CpeUtopiaFreq</b>	CPE Frequency for Utopia Interface
<b>Eth Speed</b>	This specifies the speed of operation. Supported speeds are – 10 Mbps, 100 Mbps, and 1000 Mbps. It is a bitmask.
<b>SelfMacAddr</b>	This specifies the self MAC address

<b>EthPortIdSel</b>	This specifies the address bit in the PCI bus, which is connected to IDSEL pin of the Ethernet device
<b>EthType</b>	This specifies the Defines the ethernet types – data , mgmt, or both. It is a bitmask.
<b>Num of LBRams</b>	This specifies the number of LBRams in the system.
<b>Num of Chips</b>	This specifies the number of Chips in the system.
<b>Num of Ports</b>	This specifies the number of Ports per Chip in the system.
<b>Interface Type</b>	This specifies the InterfaceType. Following are the values it can take – Host Bus, PCI, Utopia
<b>Chip Type</b>	This specifies the Type of Chip – G24, G16, and octane.
<b>Serial Number</b>	This specifies the vendor specific string that identifies the vendor equipment.
<b>Vendor Id</b>	This specifies the binary vendor identification field.
<b>Version Number</b>	This specifies the vendor specific version number sent by this ATU as part of the initialization message
<b>Base Addr</b>	This specifies the base address of the chip.
<b>LBRam</b>	This specifies the LBRam associated with the chip
<b>Logical To Physical Port Mapping</b>	This specifies the Logical To Physical Port Mapping.
<b>No of UARTs</b>	This specifies the number of UARTs configured.
<b>HSSL Port Id</b>	This specifies the HSSL port to be used for UART.
<b>Baud Rate</b>	This specifies the Baud Rate of the port
<b>Data Bits</b>	This specifies the number of data bits to be used
<b>Stop Bit</b>	This specifies the stop bits used on HSSL – 1, 2, 1.5
<b>Parity</b>	This specifies the parity used on HSSL – even, odd, none
<b>UART Mode</b>	This specifies the UART Mode – polling, interrupt based
<b>Application Type</b>	This specifies the application name using this UART.

► **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`

**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
<b>Control Plane Binary</b>	This tells about the version of the control plane binary with which the system has come up.
<b>Data Plane Binary</b>	This tells about the version of the data plane binary with which the system has come up.

## 6.18.5 System reboot info command

► **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]`

**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 CPG

```

### Output Fields

FIELD	Description
<b>Control Plane Version</b>	The control Plane Version with which the system could not come up.
<b>Data Plane Version</b>	The data Plane Version with which the system could not come up.
<b>Time of Reboot</b>	Time at which the reboot failure occurred.
<b>Type of Reboot</b>	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.
<b>Failure Cause</b>	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

## 6.18.6 System Size Commands

### ► Get nbsize

**Description:** Use this command to view System Sizing parameters available on next boot.

**Command Syntax:** `get nbsize`

### ► Modify nbsize

**Description:** Use this command to modify System Sizing parameters available on next boot.

**Command Syntax:** `modify nbsize [maxatmport <max-atm-port-val >] [maxvcperport <maxvcper-port-val >] [maxvc <max-vc-val >] [maxatmoam <max-atm-oamactivities-val >][maxrmon <max-rmon-val >] [maxnumethprioQs <maxnumethprioQs-val >] [maxmulticast <max-multicast-val >][maxmac <maxmac-val >] [maxhashbuck <max-hash-bucket-val >] [ maxnumvlan <max-numvlans-val >][maxvlanidval <maxvlanidval-val>][maxnumacentry <maxnumacentry-val>] [devcap <devcap-val >] [maxnumeoaprioQs <maxnumeoaprioQs-val >] [bridgingmode <bridgingmode-val >] [maxhpriotreenodes <maxhpriotreenodes-val >] [maxlpriotreenodes <maxlpriotreenodes-val >] [ maxCIfrTrees`



<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] **[maxnumac** <maxnumac-val > ]  
**[maxnumsrcmac** <maxnumsrcmac-val > ]

### Parameters

Name	Description
<b>maxatmport</b> <max-atm-port-val >	Maximum number of ATM ports. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-48
<b>maxvcperport</b> <max-vc-per-port -val >	Maximum number of VCs possible per ATM port. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-8
<b>maxvc</b> <max-vc-val >	Maximum number of VCs possible in the system. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-(48*8)
<b>maxatmoam</b> <max-atm-oam-activities-val >	Maximum number of OAM activities that can be active at a time. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-10
<b>maxrmon</b> <max-rmon-val >	Maximum number RMON probes that can be applied simultaneously in the system. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-20
<b>MaxnumethprioQs</b> <maxnumethprioQs-val >	This specifies the max number of priority queues that can be configured on a bridge port created over an ethernet interface. <b>Type:</b> Modify – Optional
<b>maxmulticast</b> <max-multicast-val >	Maximum number of multicast groups that can be configured in the system. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-256
<b>maxmac</b> <max-mac-val >	Maximum number of MAC addresses that can be learned by the system. This should be multiples of 32. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-4000
<b>maxhashbuck</b> <max-hash-bucket-val >	Maximum number of hash buckets for the Forwarding table. This value should be a power of 2. (1, 2, 4, 8...) <b>Type:</b> Modify – Optional <b>Valid values</b> :1-8192
<b>maxnumvlan</b> <max-num-vlans-val >	This specifies the maximum number of Vlans Supported. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-512
<b>maxvlanidval</b> <max-vlan-id-val>	This specifies the maximum value of Vlan Id that a bridge can support. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-4095
<b>maxnumacentry</b> <max-num-mac-entry-val >	This specifies the maximum number of Static Ucast Entries Supported. <b>Type:</b> Modify – Optional <b>Valid values</b> :1-512
<b>devcap</b> <devcap-val >	This specifies the capabilities of the device. <b>Type:</b> Modify – Optional <b>Valid values</b> : IVL, SVL, none
<b>maxnumeoaprioQs</b> <maxnumeoaprioQs-val >	This specifies the max number of priority queues that can be configured on a bridge port created on EOA interface <b>Type:</b> Modify – Optional <b>Valid values</b> :1-4

<b>bridgingmode</b> <bridgingmode-val >	This specifies the state of full bridging on the bridge. Value residential specifies 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. <b>Type:</b> Modify – Optional <b>Valid values :</b> residential, restricted, unrestricted
<b>maxhpriotreenodes</b> <maxhpriotreenodes-val >	Maximum number of classifier tree nodes of high access priority that can be created. <b>Type :</b> Modify - Optional <b>Valid values :</b> 1-128
<b>maxlpriotreenodes</b> <maxlpriotreenodes-val >	Maximum number of classifier tree nodes of low access priority that can be created. <b>Type :</b> Modify - Optional <b>Valid values :</b> 1-512
<b>maxClfrTrees</b> <maxClfrTrees-val >	Maximum number of classifier trees that can be created <b>Type:</b> Modify – Optional <b>Valid values :</b> 1-63
<b>maxClfrProfiles</b> <maxClfrProfiles-val >	Maximum number of classifier profiles that can be created <b>Type:</b> Modify – Optional <b>Valid values :</b> 1-127
<b>maxinrules</b> <maxinrules-val >	Maximum number of generic filter ingress rules that can be created. <b>Type:</b> Modify - Optional <b>Valid values :</b> 1-275
<b>maxoutrules</b> <maxoutrules-val >	Maximum number of generic filter egress rules that can be created. <b>Type:</b> Modify - Optional <b>Valid values :</b> 1-25
<b>maxinhpriosubrulers</b> <maxinhpriosubrulers-val >	Maximum number of generic filter ingress subrules of high access priority that can be created. <b>Type:</b> Modify - Optional <b>Valid values :</b> 1-75
<b>maxinlpriosubrulers</b> <maxinlpriosubrulers-val >	Maximum number of generic filter ingress subrules of low access priority that can be created. <b>Type:</b> Modify - Optional <b>Valid values :</b> 1-25
<b>maxouthpriosubrulers</b> <maxouthpriosubrulers-val >	Maximum number of generic filter egress subrules of high access priority that can be created. <b>Type:</b> Modify - Optional <b>Valid values :</b>
<b>maxoutlpriosubrulers</b> <maxoutlpriosubrulers-val >	Maximum number of generic filter egress subrules of low access priority that can be created. <b>Type:</b> Modify - Optional <b>Valid values :</b> 1-175
<b>mcastcap</b>   ivmcapable   svmcapable   none	It denotes the Multicast Device Capability <b>Type:</b> Modify – Optional <b>Valid values :</b> ivmcapable, svmcapable
<b>Maxnumac</b> <maxnumac-val >	It denotes the maximum number of Access Concentrators supported. <b>Type:</b> Modify -- Optional <b>Valid values:</b> 1-8
<b>Maxnumsrcmac</b> <Maxnumsrcmac-val >	It denotes the maximum number of Source MAC addresses that can be used across the different PPPoE interfaces. <b>Type:</b> Modify -- Optional <b>Valid values:</b> 1-8

**Example** \$ get nbsize

---

**Output**      **Verbose Mode On**

```
Max ATM Ports      : 80           Max VC per Port    : 2
Max VCs            : 200          Max OAM activities : 5
Max RMON probes   : 30           Bridging Mode      : Residential
Max Multicast groups : 50        Max MAC addresses  : 256
Max Hash buckets  : 40           Max VLANs          : 10
Max VlanId Value  : 10           Max Num Static Mac Entries : 5
Dev Capabilities  : IVL
Max Num EOA Prio Qs : 1         Max Num Eth Prio Qs : 2
Max Tree Nodes    : 2            Max Tree Branches  : 3
Max Clfr Trees    : 2            Max Tree Trees     : 3
Mcast Capabilities : Svmcapable
```

**Output Fields**

FIELD	Description
<b>Max ATM Ports</b>	Maximum number of ATM ports.
<b>Max VC per Port</b>	Maximum number of VCs possible per ATM port
<b>Max VCs</b>	Maximum number of VCs possible in the system.
<b>Max OAM activities</b>	Maximum number of OAM activities that are active at a time.
<b>Max RMON probes</b>	Maximum number RMON probes that can be applied simultaneously in the system.
<b>Max Multicast groups</b>	Maximum number of multicast groups that are configured in the system.
<b>Max MAC addresses</b>	Maximum number of MAC addresses that are learned by the system.
<b>Max Hash buckets</b>	Maximum number of hash buckets for the Forwarding table. This value should be a power of 2. (1, 2, 4, 8 ,...)
<b>Max VLANs</b>	Maximum number of VlanS Supported.
<b>Max VlanId Value</b>	Maximum value of VLANID that the bridge can support.
<b>Max Num Static Mac Entries</b>	Maximum number of static Unicast entries.
<b>Dev Capabilities</b>	Device Capabilities of the bridge.
<b>Max Num Eth Prio Qs</b>	This specifies the max number of priority queues that can be configured on a bridge port created over an ethernet interface.
<b>Max Num EOA Prio Qs</b>	This specifies the max number of priority queues that can be configured on a bridge port created on EOA interface
<b>Bridging Mode</b>	This specifies the state of full bridging on the bridge. Value residential specifies 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.
<b>Max Tree Nodes</b>	Maximum number of classifier tree nodes that can be created
<b>Max Tree Branches</b>	Maximum number of classifier tree branches that can be created
<b>Max Clfr Trees</b>	Maximum number of classifier trees that can be created
<b>Mcast Capabilities</b>	It denotes the Multicast Device Capability

**References**

- get/modify system info
- get system stats.

## 6.18.7 System Stats Commands

► **Get system stats**

**Description:** Use this command to view System Statistics.

**Command Syntax:** `get system stats`

► **Reset system stats**

**Description:** Use this command to reset System Statistics.

**Command Syntax:** `reset system stats`

---

**Example**    \$ get system stats

**Output**        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 Adrrs 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
```

**Output Fields**

FIELD	Description
<b>CPE Ucast Addr Count</b>	Number of unicast addresses, which were learned from the CPE ports.
<b>DnLink Ucast Addr Count</b>	Number of unicast addresses, which were learned from the Downlink port.
<b>Learn Entry Discards</b>	Number of addresses which, were not learned from the CPE ports, due to lack of space in the forwarding table.
<b>DnLink Learn Entry Discards</b>	Number of addresses which, were not learned from the Downlink port, due to lack of space in the forwarding table.
<b>Dyn Addr Conflicts Static</b>	Number of times a learned address conflicted with a static address.
<b>Moved Dyn Adrrs Count</b>	Number of times a learned address moved from one port to another.
<b>Ucast Lookup Fail Count</b>	Number of times Unicast address lookup failed.
<b>Mcast Lookup Fail Count</b>	Number of times Multicast address lookup failed.
<b>Tx Ctl Pkts Count</b>	Number of packets sent to the Control module.
<b>Rx Ctl Pkts Count</b>	Number of packets received from Control module.
<b>Ctl Pkts Discards Count</b>	Number Control module packets discarded.
<b>NumNetUcastAddrCount</b>	Number of unicast addresses which were learned from the Net ports.
<b>NumNetLearnEntryDiscards</b>	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

## 6.18.8 System Traps Commands

▶ **Reset traps**

**Description:** Use this command to delete all trap logs.

**Command Syntax:** reset traps

**Example**        \$ reset traps

**Output**

```
Set Done
```

**Output Fields**

None

**References**

- get traps command.

---

## 6.19 VLAN Commands

---

### 6.19.1 GVRP Port Info Commands

► **Get gvrp port info**

**Description:** Use this command to get.

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

► **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 ]`

**Parameter**

Name	Description
<code>portid &lt;portid-val &gt;</code>	The bridge port id. <b>Type :</b> Optional for all commands <b>Valid values:</b> 1-386
<code>portvlanid &lt;portvlanid-val &gt;</code>	The VLAN Identifier. <b>Type :</b> Optional for all commands <b>Valid values:</b> 1-4095
<code>acceptframetypes all   tagged</code>	When this is <b>Tagged</b> , the device will discard un-tagged frames or Priority-Tagged frames received on this port. When this is <b>All</b> , untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port. <b>Type:</b> Optional for all commands
<code>ingressfiltering true false</code>	When this is <b>true</b> , the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When <b>false</b> , the port will accept all incoming frames. <b>Type :</b> Optional for all commands <b>Valid values:</b> true or false
<code>gvrpstatus enable   disable</code>	The state of GVRP operation on this port. <b>Type:</b> Optional for all commands
<code>restrictedvlanreg true false</code>	The state of Restricted VLAN Registration on this port. If the value of this control is <b>true(1)</b> , 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. <b>Type :</b> Optional for all commands <b>Valid values:</b> true or false

**Example** \$ get gvrp port info

**Output** Verbose Mode On

```
Port Id           : 10
Port VLAN Index   : 1      Accept Frame Types : all
Ingress Filtering : true   Gvrp Status        : enabled
Failed Registrations : 1000 Last Pdu Origin    : 23:45:67:89:00:01
Restricted Vlan Registration : false
```

**Output Fields**

Field	Description
<b>Port Id</b>	The bridge port id.
<b>Port VLAN Index</b>	The VLAN Identifier.

<b>Accept Frame Types</b>	When this is <b>Tagged</b> , the device will discard un-tagged frames or Priority-Tagged frames received on this port. When <b>All</b> , untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port.
<b>Ingress Filtering</b>	When this is <b>true</b> , the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When <b>false</b> , the port will accept all incoming frames.
<b>Gvrp Status</b>	The state of GVRP operation on this port.
<b>Failed Registrations</b>	The total number of failed GVRP registrations, for any reason, on this port.
<b>Last Pdu Origin</b>	The Source MAC Address of the last GVRP message received on this port.
<b>Restricted Vlan Registration</b>	The state of Restricted VLAN Registration on this port. If the value of this control is <b>true(1)</b> , 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.

#### References

- GVRP Commands

## 6.19.2 GVRP Info Commands

### ► Get gvrp info

**Description:** Use this command to get GVRP information.

**Command Syntax:** `get gvrp info`

### ► Modify gvrp info

**Description:** Use this command to modify GVRP information.

**Command Syntax:** `modify gvrp info gvrpstatus enable | disable`

#### Parameter

Name	Description
<code>gvrpstatus enable   disable</code>	The administrative status requested by management for GVRP <b>Type:</b> 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
<b>VLAN Version Number</b>	Version Number of IEEE802.1Q, that device supports.
<b>Current VLANs</b>	The current number of IEEE 802.1Q VLANs that are configured on this device.
<b>GVRP Status</b>	The administrative status requested by management for GVRP.

#### References

- gvrp port info commands
- gvrp port stats commands

## 6.19.3 GVRP Port Info Commands

### ► Get gvrp port info

**Description:** Use this command to get.

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

### ► 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 ]`

#### Parameter

Name	Description
<code>portid &lt;portid-val &gt;</code>	The bridge port id. <b>Type</b> :Optional for all commands <b>Valid values:</b> 1-386
<code>portvlanid &lt;portvlanid-val &gt;</code>	The VLAN Identifier. <b>Type</b> :Optional for all commands
<code>acceptframetypes all   tagged</code>	When this is <b>Tagged</b> , the device will discard untagged frames or Priority-Tagged frames received on this port. When this is <b>All</b> , untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port. <b>Type:</b> Optional for all commands
<code>ingressfiltering true false</code>	When this is <b>true</b> , the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When <b>false</b> , the port will accept all incoming frames. <b>Type</b> : Optional for all commands <b>Valid values:</b> true or false
<code>gvrpstatus enable   disable</code>	The state of the GVRP operation on this port. The value 'enable' indicates that GVRP is enabled on this port, as long as 'gvrpstatus' in the 'GVRP INFO' command is enabled for this device. When this is 'disable', even if 'gvrpstatus' in the 'GVRP INFO' command is 'enable' for the device, GVRP will be 'disable' on this port. In such a case, any GVRP packet 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 interface. <b>Type:</b> Optional for all commands
<code>restrictedvlanreg true false</code>	The state of Restricted VLAN Registration on this port. If the value of this control is <b>true(1)</b> , 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. <b>Type</b> :Optional for all commands <b>Valid values:</b> true or false

**Example** \$ get gvrp port info

**Output**

```

Port Id          : 10
Port VLAN Index : 1
Ingress Filtering : true
Failed Registrations : 1000
Restricted Vlan Registration : false
Accept Frame Types : all
Gvrp Status      : enabled
Last Pdu Origin  : 23:45:67:89:00:01

```

### Output Fields

Field	Description
<b>Port Id</b>	The bridge port id.
<b>Port VLAN Index</b>	The VLAN Identifier.
<b>Accept Frame Types</b>	When this is <b>Tagged</b> , the device will discard untagged frames or Priority-Tagged frames received on this port. When <b>All</b> , untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port.
<b>Ingress Filtering</b>	When this is <b>true</b> , the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When <b>false</b> , the port will accept all incoming frames.
<b>Gvrp Status</b>	The state of the GVRP operation on this port. The value 'enable' indicates that GVRP is enabled on this port, as long as 'gvrpstatus' in the 'GVRP INFO' command is enabled for this device. When this is 'disable', even if 'gvrpstatus' in the 'GVRP INFO' command is 'enable' for the device, GVRP will be 'disable' on this port. In such a case, any GVRP packet 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 interface.
<b>Failed Registrations</b>	The total number of failed GVRP registrations, for any reason, on this port.
<b>Last Pdu Origin</b>	The Source MAC Address of the last GVRP message received on this port.
<b>Restricted Vlan Registration</b>	The state of Restricted VLAN Registration on this port. If the value of this control is <b>true(1)</b> , 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.

### References

- GVRP Commands

## 6.19.4 GVRP Port Stats Commands

### ► Get gvrp port stats

**Description:** Use this command to get GVRP port statistics.

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

### ► 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
<b>portid</b> <portid-val >	The bridge port id. <b>Type</b> :Optional for all commands <b>Valid values:</b> 1-386

**Example** \$ get gvrp port stats

### Output



```

PortId      : 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

## 6.19.5 VLAN Static Commands

### ► Create vlan static

**Description:** Use this command to create.

**Command Syntax:** `create vlan static vlnname <vlnname-val > vlanid <vlanid-val > [egressports <egressports-val >|none] [forbidegressports <forbidegressports-val >|none] [untaggedports <untaggedports-val >|none] [bridgingmode <bridgingmode-val >] [floodsupport enable|disable] [bcastsupport enable|disable]`

### ► Modify vlan static

**Description:** Use this command to modify.

**Command Syntax:** `modify vlan static vlnname <vlnname-val > | vlanid <vlanid-val > [egressports <egressports-val >|none] [forbidegressports <forbidegressports-val >|none] [untaggedports <untaggedports-val >|none] [bridgingmode <bridgingmode-val >] [floodsupport enable|disable] [b castsupport enable|disable]`

### ► Delete vlan static

**Description:** Use this command to delete.

**Command Syntax:** `delete vlan static vlnname <vlnname-val > | vlanid <vlanid-val >`

### ► Get vlan static

**Description:** Use this command to delete.

**Command Syntax:** `get vlan static [vlanname <vlanname-val > |  
vlanid <vlanid-val >]`

**Parameters**

Name	Description
<b>vlanname</b> <vlanname-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-GS_CFG_MAX_VLAN_ID. <b>Type:</b> Create - Mandatory Delete - Optional Get - Optional Modify - Optional For delete, get, modify - specify either vlanname or vlanid. <b>Valid values:</b> 1 - 4095
<b>vlanid</b> <vlanid-val >	The VLAN Identifier. <b>Type:</b> Create – Mandatory Delete – Optional Get – Optional Modify – Optional For <b>delete, get, modify</b> - specify either <b>vlanname</b> or <b>vlanid</b> . <b>Valid values:</b> 1 – 4095
<b>egressports</b> <egressports-val>   none	The set of ports, which are permanently assigned to the egress list for this VLAN, by management. More than one value can be given, separated by spaces. <b>Type :</b> Optional <b>Valid values:</b> 1 – 386 <b>Default value:</b> none
<b>forbidegressports</b> <forbidegressports-val>   none	The set of ports, which are prohibited by management from being included in the egress list for this VLAN. This should include untagged ports. More than one value can be given, separated by spaces. <b>Type :</b> Optional <b>Valid values:</b> 1 – 386 <b>Default value:</b> none
<b>untaggedports</b> <untaggedports-val>   none	The set of ports, which should transmit egress packets for this VLAN, as, <b>untagged</b> . More than one value can be given, separated by spaces. <b>Type :</b> Optional <b>Valid values:</b> 1 – 386 <b>Default value:</b> none
<b>bridgingmode</b> <bridgingmode-val >	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 GS_CFG_RSTRCD_BRIDGING, GS_CFG_UNRSTRCD_BRIDGING and GS_CFG_RSDNTL_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

	<p>to the defaultVLAN 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.</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Valid values:</b> Restricted, Unrestricted, Residential</p> <p><b>Default value:</b> residential</p>
<b>floodsupport</b> enable disable	<p>This specifies if flooding has to be done for unknown unicast packets for this vlan or not. The default value for this shall be taken from GS_CFG_DEF_VLAN_FLOOD when vlan is created. The unknown unicast packets shall be flooded on all ports for a vlan if global value (present in Dot1dTpInfo) is <b>enable</b> or <b>throttle</b>, and the value per vlan is also <b>enable</b> or <b>drop</b>.</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Valid values:</b> ENABLE, DISABLE</p>
<b>bcastsupport</b> enable disable	<p>This specifies if the broadcast has to be done for this vlan or not. The default value for this shall be taken from GS_CFG_DEF_VLAN_BCAST 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 enable else dropped.</p> <p><b>Type:</b> Create -- Optional Modify -- Optional</p> <p><b>Valid values:</b> ENABLE, DISABLE</p>

**Example** \$ create vlan static vlnname gsvlan vlanid 1 egressports 1 2 20 forbid\_egressports 34 5 untaggedports 2 bridgingmode Residential bcastsupport enable floodsupport enable

### Output

#### Verbose Mode On

```
VLAN Name           : gsvlan
VLAN Index          : 1
Egress ports        : 1 2 20
Forbidden Egress Ports : 34 5
Untagged Ports      : 2
BridgingMode        : Residential
Flood Support Status : enable
Broadcast Support Status : enable
```

#### Verbose Mode Off:

```
Entry Created
```

### Output field

Field	Description
<b>VLAN Name</b>	An administratively assigned string, which may be used to identify the VLAN. This is mandatory in the case of create cmd. In case of get/modify/delete - either vlan name or vlan id can be given.
<b>VLAN Index</b>	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-GS_CFG_MAX_VLAN_ID.

<b>Egress ports</b>	The set of ports, which are permanently assigned to the egress list for this VLAN by management
<b>Forbidden Egress Ports</b>	The set of ports which are prohibited by management from being included in the egress list for this VLAN.
<b>Untagged Ports</b>	The set of ports, which should transmit egress packets for this VLAN, as untagged.
<b>Bridging Mode</b>	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 GS_CFG_RSTRCD_BRIDGING, GS_CFG_UNRSTRCD_BRIDGING and GS_CFG_RSDNTL_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.
<b>Flood Support Status</b>	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 GS_CFG_DEF_VLAN_FLOOD when vlan is created. The unknown unicast packets shall be flooded on all ports for a vlan if global value (present in Dot1dTplInfo) is enabled or throttle, and the value per vlan is also enabled else dropped.
<b>Broadcast Support Status</b>	This specifies if the broadcast has to be done for this vlan or not. The default value for this shall be taken from GS_CFG_DEF_VLAN_BCAST when vlan is created. The broadcast packets shall be flooded on all ports for a vlan if global value (present in Dot1dTplInfo) and the value per vlan are both enabled else dropped.

#### References

- VLAN commands

## 6.19.6 Vlan curr info Commands

### ► 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 <b>Valid Values:</b> 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

```

### Output field

Field	Description
<b>VLAN Index</b>	The VLAN identifier
<b>VLAN Status</b>	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 re-main so after the next reset of the device. The port lists for this entry include ports from the equivalent dot1qVlanStaticTable entry and ports learnt dynam-ically. 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.
<b>Egress Ports</b>	The set of ports, which are transmitting traffic for this VLAN, as either tagged or untagged frames.
<b>Untagged Ports</b>	The set of ports, which are transmitting traffic for this VLAN as untagged frames.
<b>VLAN Index</b>	The VLAN identifier
<b>VLAN Status</b>	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.
<b>Egress Ports</b>	The set of ports, which are transmitting traffic for this VLAN, as either tagged or untagged frames.
<b>Untagged Ports</b>	The set of ports, which are transmitting traffic for this VLAN as untagged frames.
<b>Bridging Mode</b>	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 resi-dential bridging. The user can specify the bridging mode for the vlan at the time of VLAN creation or modification as one of these values; otherwise the vlan inherits the globally set bridging mode. The bridging modes are defined as GS_CFG_RSTRCD_BRIDGING, GS_CFG_UNRSTRCD_BRIDGING and GS_CFG_RSDNTL_BRIDGING.
<b>Flood support Status</b>	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.
<b>Broadcast support Status</b>	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.

## 6.19.7 VLAN Port Stats Commands

### ► Get vlan port stats

**Description:** Use this command to get.

**Command Syntax:** `get vlan port stats [portid <portid-val >] [vlanid <vlanid-val >]`

### ► Reset vlan port stats

**Description:** Use this command to reset.

**Command Syntax:** `reset vlan port stats portid <portid-val > vlanid <vlanid-val >`

#### Parameters

Name	Description
<code>portid &lt;portid-val &gt;</code>	Index of the Bridge Port <b>Valid Values:</b> 1-4095
<code>vlanid &lt;vlanid-val &gt;</code>	The VLAN identifier. <b>Valid Values:</b> 1-4095

**Example** \$ `get vlan port stats`

#### Output

```
Port Id      : 1      Vlan Index      : 2
Vlan In Frames : 200    Vlan Out Frames : 100
Vlan In Discards : 50    Vlan In Overflow : 69
Vlan Out Overflow : 60
```

#### Output Fields

Field	Description
<b>PortId</b>	Index of the Bridge Port.
<b>VLAN Index</b>	The VLAN identifier.
<b>Vlan In Frames</b>	Number of valid frames received by this port.
<b>Vlan Out Frames</b>	Number of valid frames transmitted by this port.
<b>Vlan In Discards</b>	Number of valid frames discarded by this port.
<b>Vlan In Overflow</b>	Count of Inframes counter overflow.
<b>Vlan Out Overflow</b>	Count of Outframes counter overflow.

#### References

- VLAN Commands.

---

## 6.20 Miscellaneous Commands

---

### 6.20.1 File Commands

► **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
<b>fname</b> <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. <b>Type:</b> mandatory <b>Valid values:</b> string of up to 128 characters: ('A'-'Z', 'a'-'z', '0'-'9', '-', '_')
<b>version</b> <version>	This specifies the version of the file that needs to be applied. <b>Type:</b> Optional <b>Default Value:</b> Incase of multiple version files the active copy gets applied. Not valid for single version file.
<b>besteffort</b> 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. <b>Type :</b> Optional <b>Default value :</b> 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
QAMSrc       : 0xffffffffffffffffffffffffffff
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
```

► **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]

## Parameters

Name	Description
<b>src</b> <src-filename>	<p>This specifies the name of the binary, configuration or user specific file to be downloaded from a remote host.</p> <p>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 be a valid image file.</p> <p><b>Type:</b> Mandatory  <b>Valid values:</b> String of up to 128 characters (all characters except ';', ' ', '?')</p>
<b>dest</b> <dest-filename>	<p>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.</p> <p>The directories are <b>/nvram/bin/control/</b> - 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.</p> <p>The files are stored in NVRAM.</p> <p><b>/nvram/bin/dataplane/</b> - 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.</p> <p><b>/nvram/bin/decompressor/</b> - 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.</p> <p><b>/nvram/bin/dslphy/</b> - 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.</p> <p><b>/nvram/cfg/factorydef/</b> - 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.</p> <p><b>/nvram/user/</b> - This directory contains user specific files. There can be multiple versions of files. The files are stored in NVRAM.</p> <p><b>/sdram/cfg/</b> - This directory contains user specific Configuration files with .cfg extension. The files are stored in SDRAM</p> <p><b>/sdram/user/</b> - This directory contains user specific files. The files are stored in SDRAM.</p> <p><b>Type:</b> Mandatory  <b>Valid values:</b> String of up to 128 characters (all Characters except ';', ' ', '?')</p>
<b>ip</b> <ip-address>	<p>This specifies the IP address of the remote host from which the file is to be downloaded.</p> <p><b>Type:</b> Mandatory  <b>Valid values:</b> Any valid IP address.</p>
<b>mode</b> tftp   ftp	<p>This specifies the protocol to be used for downloading the file. Currently only TFTP is supported.</p> <p><b>Type:</b> Optional  <b>Default Value :</b> TFTP</p>

### ► 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
<b>fname</b> [/nvram   /sdram]	This specifies whether the files of NVRAM or SDRAM are to be listed. <b>/nvram</b> – This lists all directories and files stored in NVRAM. <b>/sdram</b> - This lists all directories and files stored in SDRAM. <b>Type:</b> Optional. <b>Default Value :</b> All the files present in the NVRAM or SDRAM will be displayed.

**Mode** Super-User.

**Example** \$ list fname /nvram

**Output** Verbose Mode On

```
name                version      Time                size  Access  state
/nvram/bin/control
gv-control.bin.gz   2           Thu Jan 01 00:00:10 1970  68803  RO      Active
/nvram/bin/bootptftp
gv-boot.bin.gz      3           Fri Feb 12 12:20:10 2000  102    RW      Active
/nvram/bin/dataplane
gv-data.bin.gz      3           Fri Feb 12 21:20:10 2002  102    RW      Active
/nvram/bin/decompressor
decomp.bin.gz       3           Fri Feb 12 22:20:10 2000  102    RW      Active
/nvram/cfg/factorydef
commands.cfg        3           Fri Feb 12 23:20:10 2000  102    RW      Active
/nvram/user/
gv-user.tmp         3           Fri Feb 12 12:20:10 2000  102    RW      Active
```

Verbose Mode Off

```
name                version      Time                size  Access  state
/nvram/bin/control
gv-control.bin.gz   2           Thu Jan 01 00:00:10 1970  68803  RO      Active
/nvram/bin/bootptftp
gv-boot.bin.gz      3           Fri Feb 12 12:20:10 2000  102    RW      Active
/nvram/bin/dataplane
gv-data.bin.gz      3           Fri Feb 12 21:20:10 2002  102    RW      Active
/nvram/bin/decompressor
decomp.bin.gz       3           Fri Feb 12 22:20:10 2000  102    RW      Active
/nvram/cfg/factorydef
commands.cfg        3           Fri Feb 12 23:20:10 2000  102    RW      Active
/nvram/user/
gv-user.tmp         3           Fri Feb 12 12:20:10 2000  102    RW      Active
```

**Output Fields**

FIELD	Description
<b>Name</b>	The name of the file present in the directory. Name starting with i/f indicates directory name.
<b>Version</b>	This specifies the version of the file.
<b>Time</b>	Time at which the file got created. This is displayed in Day Mon DD HH:MM:SS YEAR format.
<b>Size</b>	The size of the file in bytes.
<b>Access</b>	The access of the file. It can be read only, read write or write only.
<b>State</b>	The state of the file. It can be active, inactive, tried, latest.

#### References

- upgrade command
- remove command
- apply command
- download command.

#### ► 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
<b>fname</b> <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. <b>Type</b> : Mandatory <b>Valid values:</b> string of upto 128 characters ('A'-Z', 'a'-z', '0'-9', '-', '_')
<b>version</b> <version>	This specifies the version of the file that need to be removed. <b>Type:</b> Optional for single version file. Mandatory for multiple version file. Default Value:

#### ► 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
<b>fname</b> <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/, <b>Type</b> : Mandatory <b>Valid values:</b> string of upto 128 characters ('A'-Z', 'a'-z', '0'-9', '-', '_')
<b>version</b> <version>	This specifies the version of the file that needs to be upgraded <b>Type</b> : Mandatory <b>Valid values:</b> Decimal number

## 6.20.2 Other Commands

### ► Alias

**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
<b>alias-string</b>	The string, which you will use to refer to the aliased command, henceforth. It should not match any CLI keyword. <b>Type:</b> Optional <b>Valid values:</b> string of up to 14 characters ('A'-'Z', 'a'-'z', '0'-'9', '-', '_',)
<b>aliased-command</b>	This is the total CLI command length (512 characters). <b>Type:</b> Mandatory <b>Valid values:</b> 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 maxatnport 48
Set Done
```

#### Without Parameters

```
$alias
Alias          Command
-----
abc            modify nbsize
```

#### Output Fields

FIELD	Description
<b>Alias</b>	This is the new abbreviated command, which you may use in place of the string specified in Command.
<b>Command</b>	The command string which has been aliased.

### ► 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
<b>all</b>	Using this option all the aliases defined in the system will be removed. <b>Type:</b> Optional <b>Valid values:</b> String iALL.i
<b>Name</b>	Name of the alias defined for a command. <b>Type:</b> Optional. <b>Valid values:</b> Any valid alias defined in the system.

### ► 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 displayed.

Command Syntax: help |?

or

<Any Incomplete Command> ?

### ▶ Logout

**Description:** Use this command to exit from the CLI shell.

**Command Syntax:** logout | quit | exit

### ▶ Prompt

**Description:** Use this command to set the new CLI prompt.

**Command Syntax:** prompt <new-prompt>

#### Parameters

Name	Description
<b>prompt</b> <new-prompt>	The new prompt string. <b>Type:</b> Mandatory <b>Valid values:</b> String of up to 19 characters ( All characters except ';', ' ', '?')

### ▶ 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
<b>ip-address   dname</b> <domain-name>	This specifies the Destination address to be pinged. <b>Type:</b> Mandatory <b>Valid values :</b> 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 '.'))
<b>Ping   udp</b>	Traceroute probe message type <b>Type:</b> Mandatory
<b>-m num-of-hops</b>	Maximum number of hops to search for ip-address <b>Type:</b> Optional <b>Valid Values:</b> 0-255 <b>Default Value :</b> 30
<b>-w wait-time</b>	This specifies the timeout in seconds <b>Type:</b> Optional <b>Valid values :</b> 0-65535 <b>Default Value :</b> 5
<b>-p udp-port-number</b>	Destination UDP port to be used, only when Probe is Udp <b>Type:</b> Optional. <b>Valid Values:</b> 0-65535 <b>Default Value :</b> 32768
<b>-q num-of-probes</b>	Number of probes to be sent for each TTL value <b>Type:</b> Optional <b>Valid Values:</b> 0-255 <b>Default Value :</b> 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.

### ► 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. <b>Type:</b> Optional <b>Valid values:</b> On.
Off	Used for switching off the verbose mode. <b>Type:</b> Optional. <b>Valid values:</b> Off

## 6.20.3

### Ping Commands

### ► Ping

**Description:** This command is used 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
<b>ip-address   domain-name</b>	This specifies the Destination address to be pinged. <b>Type</b> : Mandatory <b>Valid values</b> : 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 '.')
<b>-t</b>	This indicates continuous ping to host, until the user interrupts. <b>Type:</b> Optional
<b>-n number</b>	This specifies the number of pings to send to host. <b>Type</b> : Optional <b>Valid values</b> : 1-65535 <b>Default Value:</b> 4
<b>-w seconds</b>	This specifies the time interval between successive ping requests <b>Type</b> : Optional <b>Valid values</b> : 0-65535 <b>Default Value</b> : 2
<b>-l time-to-live</b>	This specifies the time-to-live, to be filled in the ping request

	<b>Type</b> : Optional <b>Valid values</b> : 0 – 255 <b>Default Value</b> : 64
<b>-s size</b>	This specifies the size of payload for ping. <b>Type</b> : Optional <b>Valid values</b> : 4-1500 <b>Default Value</b> : 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
<b>64 bytes of...</b>	This denotes the number of bytes in the ping packet and the source IP Address.
<b>Seq</b>	This denotes the ping attempt counter value.
<b>Ttl</b>	This is the Time to live for the packet.
<b>Rtt</b>	This denotes the Round trip Time for the packet. A value less than 10ms is shown as 0.

---

## Appendix A: FD.cfg in detail

---

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
```



Table A-4 Uplink and downlink port (Xn) pin assignment

Pin no.	Usage
1	RX+
2	RX-
3	TX+
4	-----
5	-----
6	TX-
7	-----
8	-----

- Note:** (1) Ports are straight.  
(2) Connector type is RJ 45.

### Transceiver connector pin assignment

Table A-524 ports ADSL LINE Connector pin assignment

PIN #	usage	PIN#	usage
1	ADSL loop#24-T	26	ADSL loop#24-R
2	ADSL loop#23-T	27	ADSL loop#23-R
3	ADSL loop#22-T	28	ADSL loop#22-R
4	ADSL loop#21-T	29	ADSL loop#21-R
5	ADSL loop#20-T	30	ADSL loop#20-R
6	ADSL loop#19-T	31	ADSL loop#19-R
7	ADSL loop#18-T	32	ADSL loop#18-R
8	ADSL loop#17-T	33	ADSL loop#17-R
9	ADSL loop#16-T	34	ADSL loop#16-R
10	ADSL loop#15-T	35	ADSL loop#15-R
11	ADSL loop#14-T	36	ADSL loop#14-R
12	ADSL loop#13-T	37	ADSL loop#13-R
13	ADSL loop#12-T	38	ADSL loop#12-R
14	ADSL loop#11-T	39	ADSL loop#11-R
15	ADSL loop#10-T	40	ADSL loop#10-R
16	ADSL loop#9-T	41	ADSL loop#9-R
17	ADSL loop#8-T	42	ADSL loop#8-R
18	ADSL loop#7-T	43	ADSL loop#7-R
19	ADSL loop#6-T	44	ADSL loop#6-R
20	ADSL loop#5-T	45	ADSL loop#5-R
21	ADSL loop#4-T	46	ADSL loop#4-R
22	ADSL loop#3-T	47	ADSL loop#3-R
23	ADSL loop#2-T	48	ADSL loop#2-R
24	ADSL loop#1-T	49	ADSL loop#1-R
25	NOT USED	50	NOT USED

**Note:** Connector type is 50 pin teleco-champ female

Table A-6 24 ports POTS splitter PHONE Connector pin assignment

PIN #	usage	PIN#	usage
1	PHONE#24-T	26	PHONE#24-R
2	PHONE#23-T	27	PHONE#23-R
3	PHONE#22-T	28	PHONE#22-R
4	PHONE#21-T	29	PHONE#21-R
5	PHONE#20-T	30	PHONE#20-R
6	PHONE#19-T	31	PHONE#19-R
7	PHONE#18-T	32	PHONE#18-R
8	PHONE#17-T	33	PHONE#17-R
9	PHONE#16-T	34	PHONE#16-R
10	PHONE#15-T	35	PHONE#15-R
11	PHONE#14-T	36	PHONE#14-R
12	PHONE#13-T	37	PHONE#13-R
13	PHONE#12-T	38	PHONE#12-R
14	PHONE#11-T	39	PHONE#11-R
15	PHONE#10-T	40	PHONE#10-R
16	PHONE#9-T	41	PHONE#9-R
17	PHONE#8-T	42	PHONE#8-R
18	PHONE#7-T	43	PHONE#7-R
19	PHONE#6-T	44	PHONE#6-R
20	PHONE#5-T	45	PHONE#5-R
21	PHONE#4-T	46	PHONE#4-R
22	PHONE#3-T	47	PHONE#3-R
23	PHONE#2-T	48	PHONE#2-R
24	PHONE#1-T	49	PHONE#1-R
25	NOT USED	50	NOT USED

**Note:** Connector type is 50 pin teleco-champ female