ADSL2/2+ IP DSLAM

User's Manual

First Edition (February 2005)

Version 1.1

RECYCLABLE

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About This Manual

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	**Introduction** Provides an overview of ADSL2/2+ IP DSLAM System, including features, fucntions, and applications of the ADSL2/2+ IP DSLAM.
2	**Getting Started** Presents platform and system requirements as well as procedures and instructions for installing the ADSL2/2+ IP DSLAM.
3	**EMS Configuration** Describes how to build up the EMS environment.
4	**Manage the ADSL2/2+ IP DSLAM** Describes how to manage a specified ADSL2/2+ IP DSLAM via EMS.
5	**System Administration with CLI** Provides all the instructions and procedures necessary for you to Administer your ADSL2/2+ IP DSLAM with CLI interface.
6	**Frequently Used CLI Examples** 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.

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.

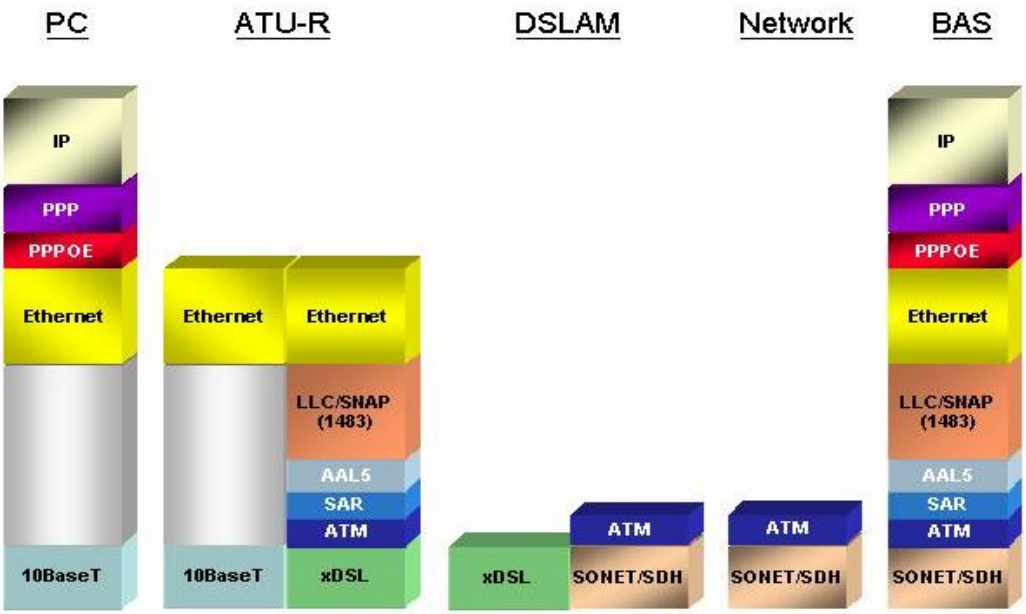


Figure 0-1 PPPoE application in Traditional ATM-based ADSL Network

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.

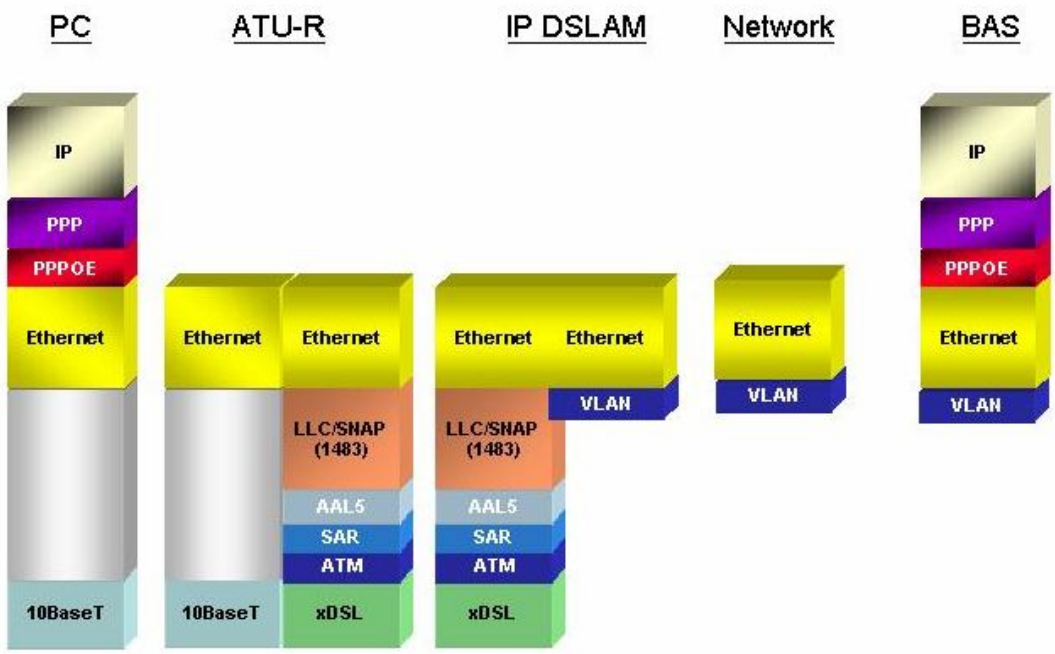


Figure 0-2 PPPoE application in ADSL2/2+ IP DSLAM with Ethernet-All-The-Way Network

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 Introduction

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.

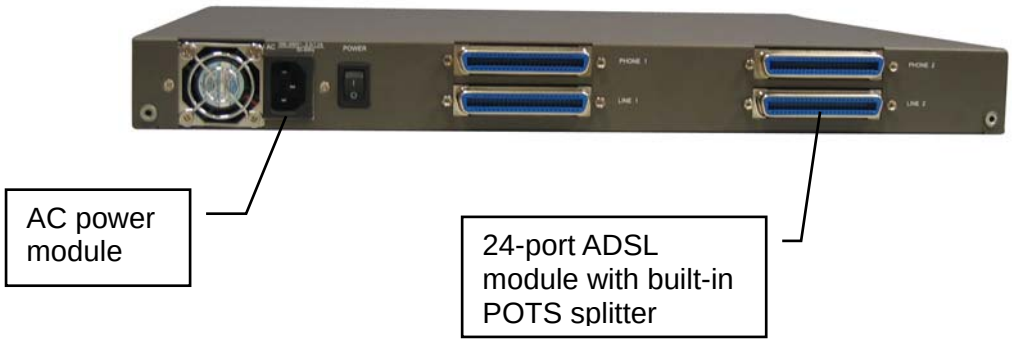


Figure 1-3 48-port model rear View

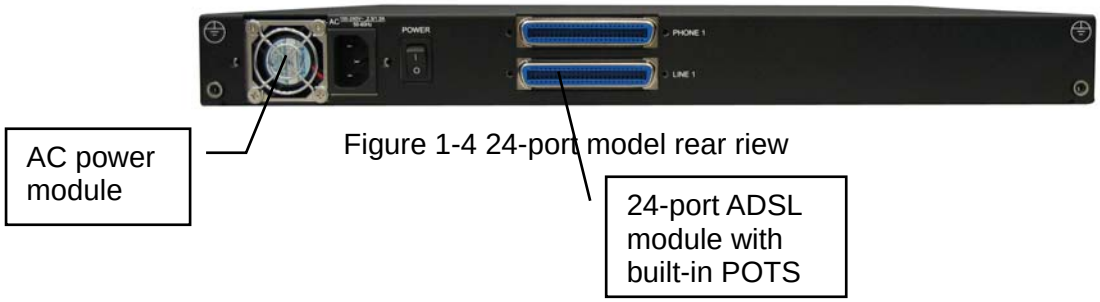


Figure 1-4 24-port model rear riew

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 maintance 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.

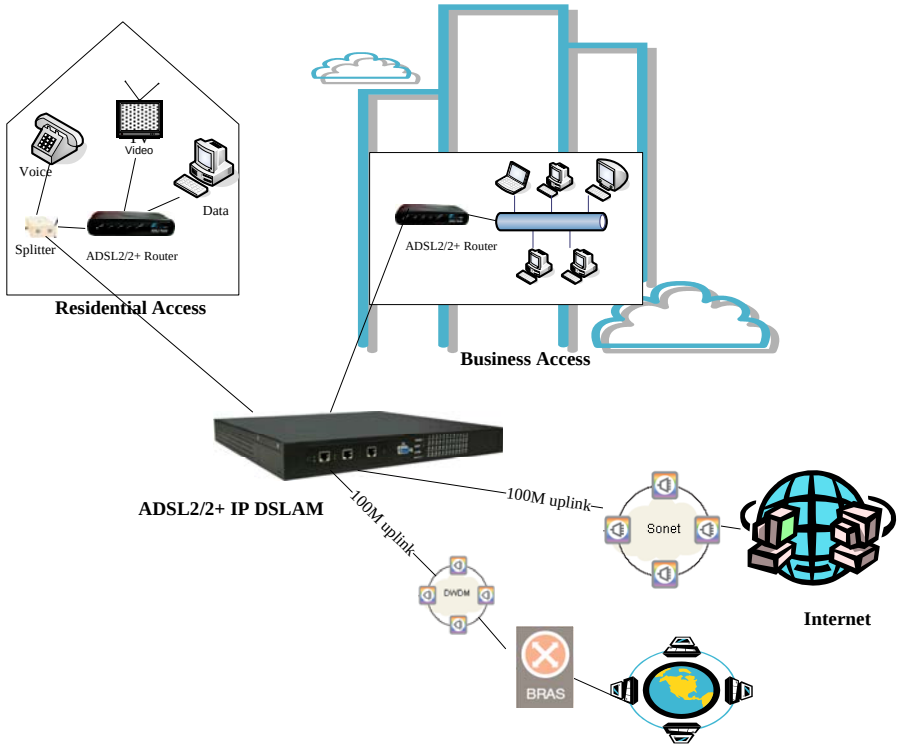
Note: Do not power off your ADSL2/2+ IP DSLAM when LEDs “MAINT”, “ALARM” and “FAULT” are blinking simultaneously.

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 priviledge 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

<table>
<tr><th>System Architecture</th><th>ADSL/ADSL2/ADSL2+ Interface</th></tr>
<tr><td>
- 48/24 ports ADSL/ADSL2/ADS2+/SHDSL subscriber interface with built-in POTS Splitter
- One 1000BaseT MGNT+ Two 1000BaseT or one Giga LX Uplink/Subtend Interface (module selectable)
- Subtending capability allows up to 8 units to be cascaded and managed as one unit
- Telco-50 pin Centronic connector for ADSL+POTS IN and POTS OUT
</td><td>
- 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
- 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+
- Extended power management capabilities to optimize power consumption for each application
- Maximum reach exceeding 20Kft(6.1Km)
</td></tr>
<tr><th>Protocol Handling Capability</th><th>Management</th></tr>
<tr><td>
- 8 VCs per xDSL ports
- 128 MAC address per xDSL ports
- 64*128 MAC address
- 2K Multicast MAC address
- 512 VLAN(any value in 4096) support
- Configurable packet size (64 to 1542)
</td><td>
- Microsoft NT/SNMP-based GUI EMS
- Local RS-232 CLI, and Ethernet SNMP/TELNET management
- Remote in-band SNMP/TELNET management
- Firmware upload/download via FTP or TFTP
- SNMP v1, v2c, v3
</td></tr>
<tr><th colspan="2">LAN Side (Uplink or Extension Side)</th></tr>
<tr><td> 
</td><td>1* 1000BaseT-MGNT + 2*1000BaseT</td></tr>
<tr><td> 
</td><td>1*1000BaseT-MGNT+1*1000BaseT+ 1*1000Fx(SX/LX/LH/ZX)</td></tr>
</table>

	1*10/100BaseT-MGNT+2*100FX(SM/MM)
	1* 10/100BaseT-MGNT + 2*10/100BaseT-UPLINK
ATM MIBs	**Private MIBs**
▶ RFC 1514, 2515 DEFINITIONS OF MANAGED OBJECTS FOR ATM MANAGEMENT	▶ ANY SPECIFIC PRIVATE TRAPS
Physical condition	**Protocol**
▶ Dimension: 400mm(D)x440mm(W)x44mm(H) ▶ Weight: 6.8kg	▶ STP; IGMP snooping; GMRP; GVRP; LACP; LACP marker; SNMP/UDP/IP/MAC/Ethernet
Power	**Operating Environment**
▶ AC Power: auto ranging 90~240 VAC, 50-60 Hz, IEC connector ▶ DC Power: -42~-56 VDC ▶ Power Consumption: 150 watts	▶ Operating Temperature: 0°~50 °C, 32°~122 °F ▶ Storage Temperature: -30c°~70 °C, -22°~158 °F ▶ Humidity: 5% to 90% RH non-condensing

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 manaul 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 50ºC. 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:

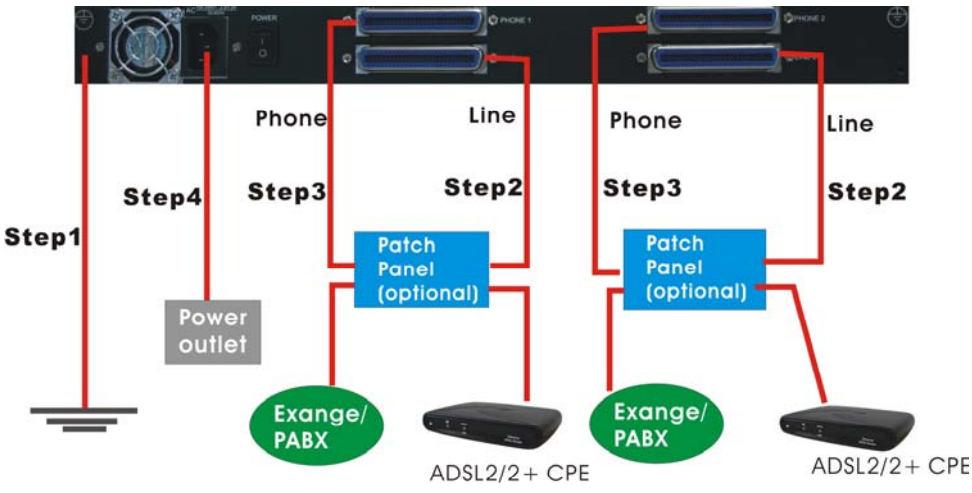


Figure 2-1 ADSL2/2+ IP DSLAM Rear Panel Connection

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.

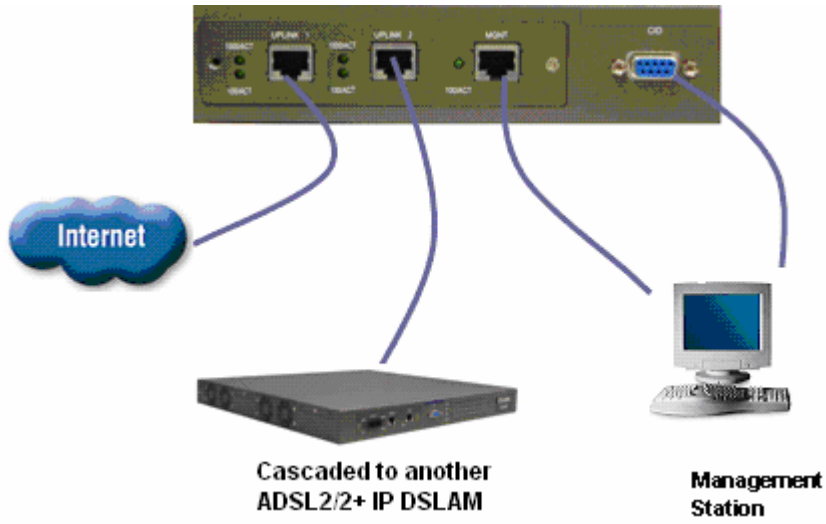


Figure 2-2 ADSL2/2+ IP DSLAM Front Panel Connections

Note: Please refer to Appendix A: 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:

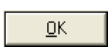
1. Click the EMS icon on the screen of autorun to install EMS into your PC.
2. Before you start to connect to EMS, it is necessary that your PC's IP and ADSL2/2+ IP DSLAM's IP are in the same group. **Note:** ADSL2/2+ IP DSLAM's default Uplink IP is 192.168.100.111
3. Create management IPs into the ADSL2/2+ 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

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.

Evionmental options: alow you to define SNMP, Desktop and Surveilance.

Territory Manager: Used to define the territory.

Agent Manager: Used to define agent IP addresses.

Telnet: alow 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 cadcade Windows.

Next Window: alow users to switch to next window.

Previous Window: alow users to switch to previous window.

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

Help: allow users to view the software version.

About: software version is displayed.

3.1.1 Installation

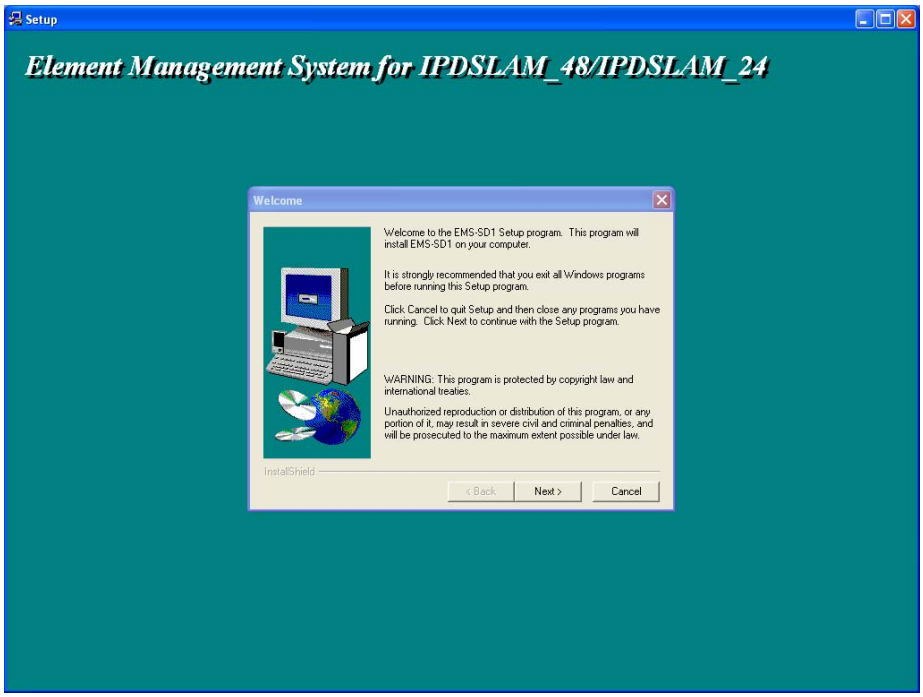
Hardware and Software Requirements

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

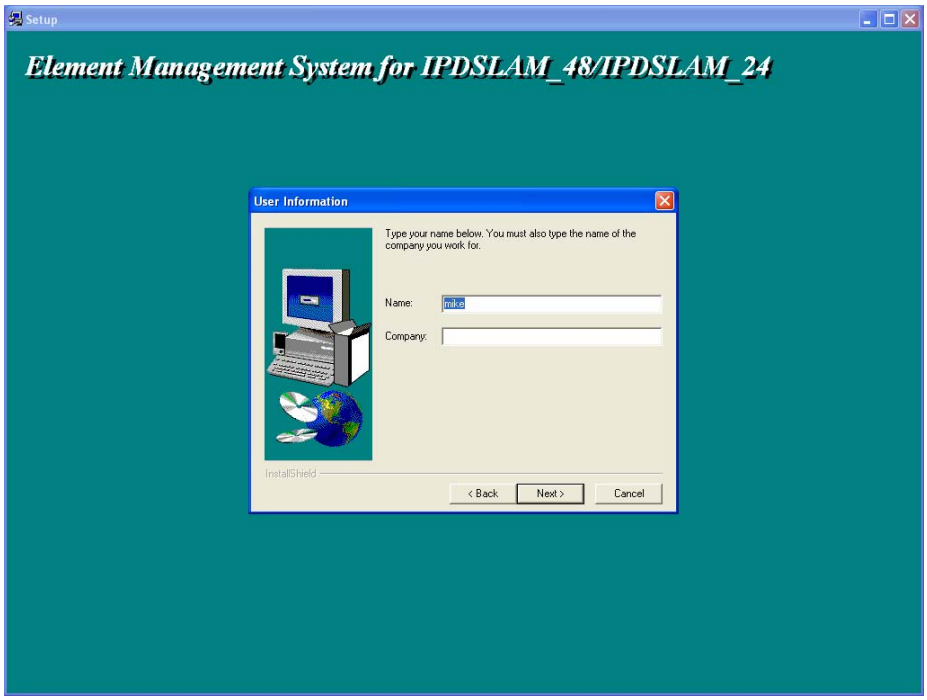
1. Windows NT/2000/XP
2. Manual CD
3. 2GB Hard disk with a minimum of 650 MB of free space
4. An ethernet card.
5. Super VGA (800 x 600 resolution) or higher with 256 colors
6. CD-ROM drive

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 Next > to continue.

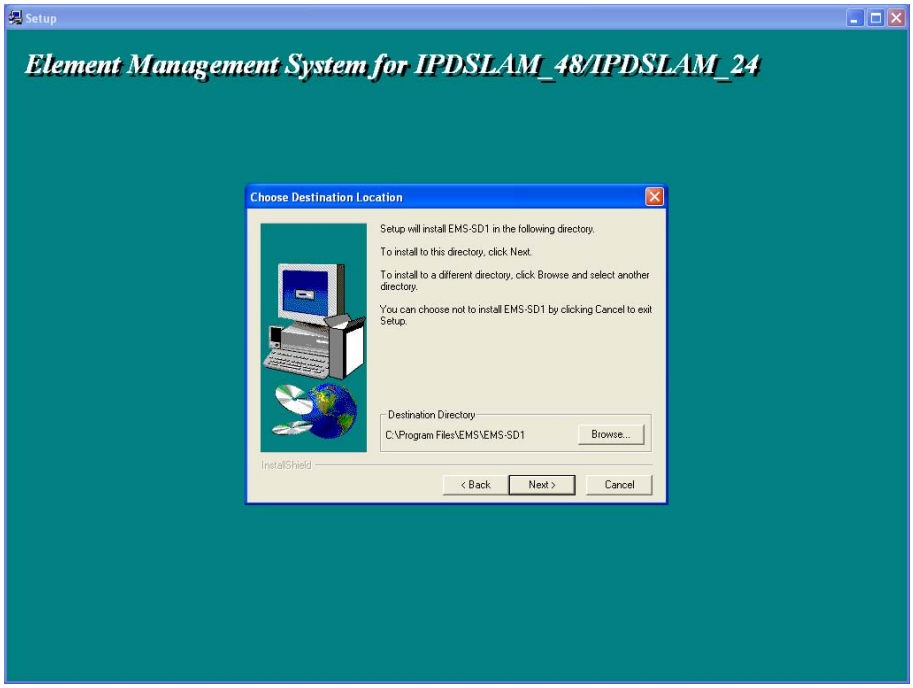


4. When the user information input window appears, enter your name and company name respectively, and then click on Next > to continue.

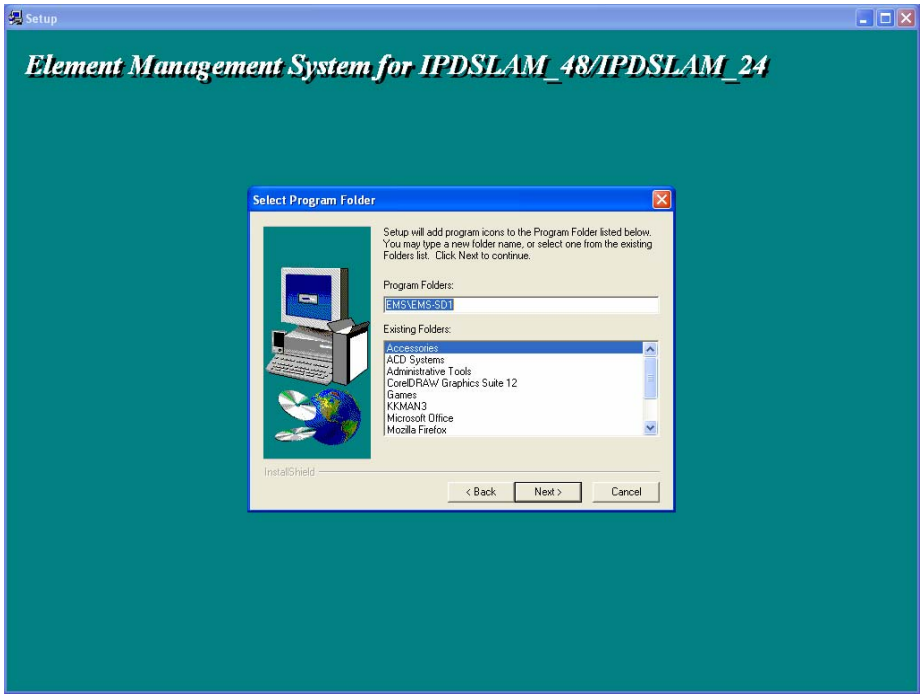


Note: please uninstall previous version of EMS if you want to install a new version.

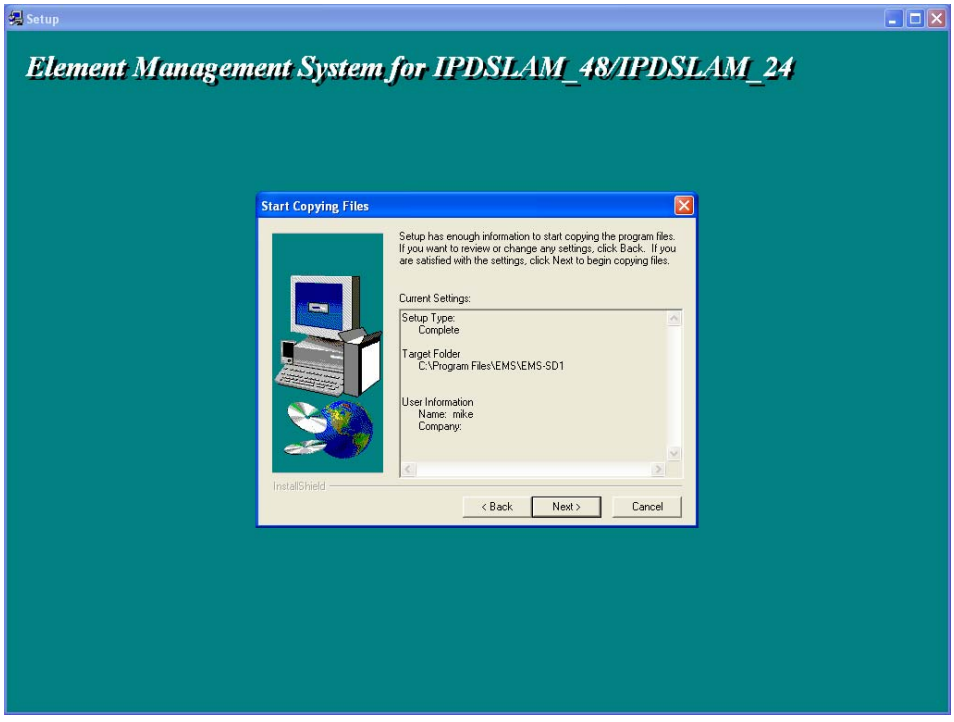
5. When the Destination Location window appears, click the Browse button to change the installation destination directory or simply use the default setting “C:\Program Files\EMS\EMS-SD1. Then, click on  to continue,



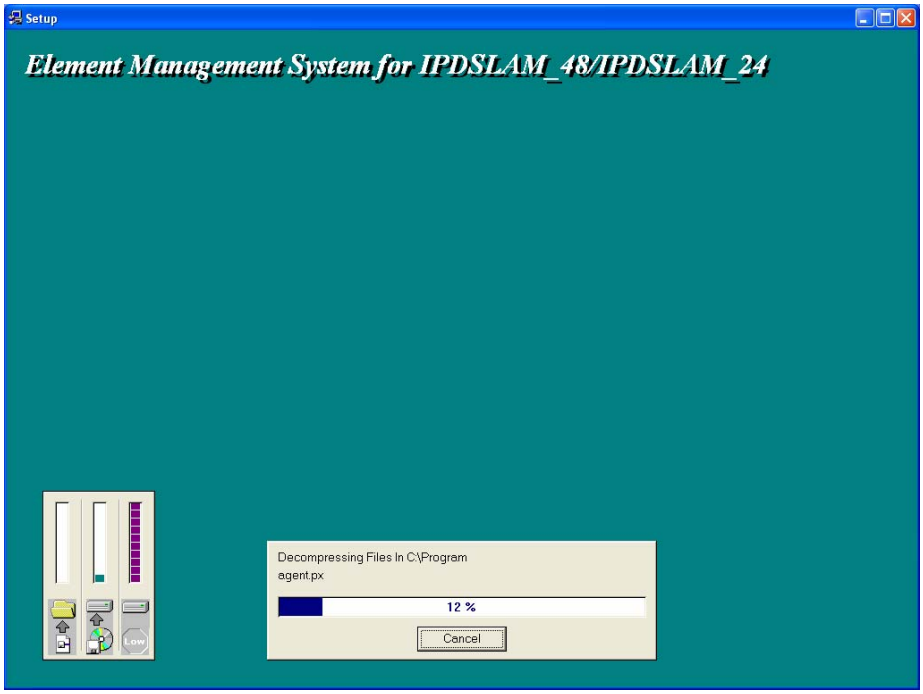
6. When the Select Program Folder window appears, you may either choose the default program folder, “EMS\EMS-SD1”, or enter the name you prefer. Then, click on Next > to continue,



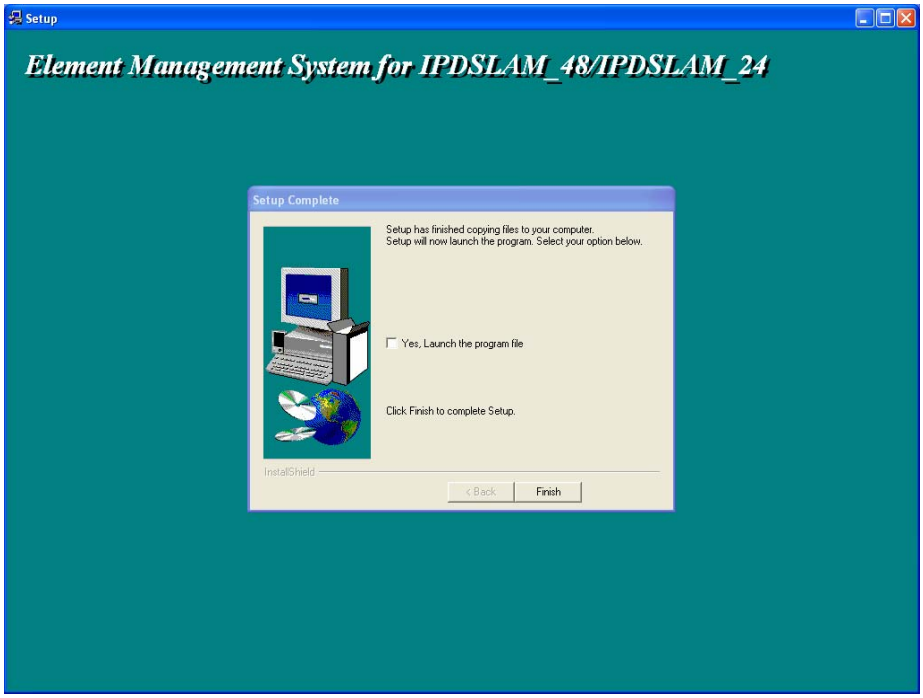
7. When the Start Copying Files window appears, you can confirm your current settings, if you are satisfied with the settings, click on Next > to start copying files.



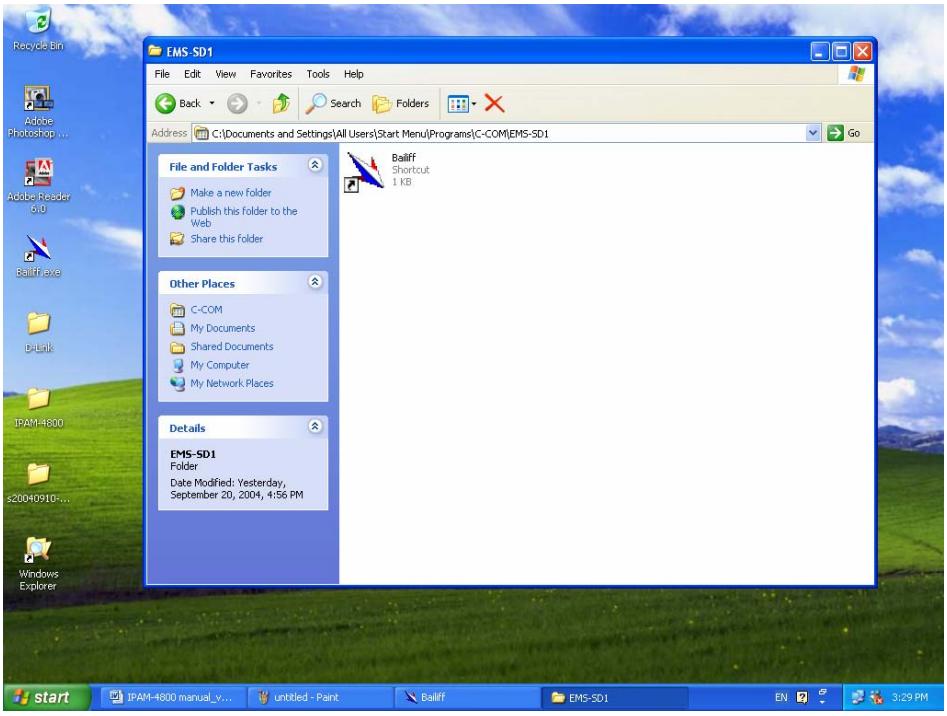
8. When Setup Process Status window appears, the installation process is now in progress. This window displays a bar indicating the percentage of completion for the current installation. In addition, the names of the files being installed appear above the bar until the installation is complete.



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

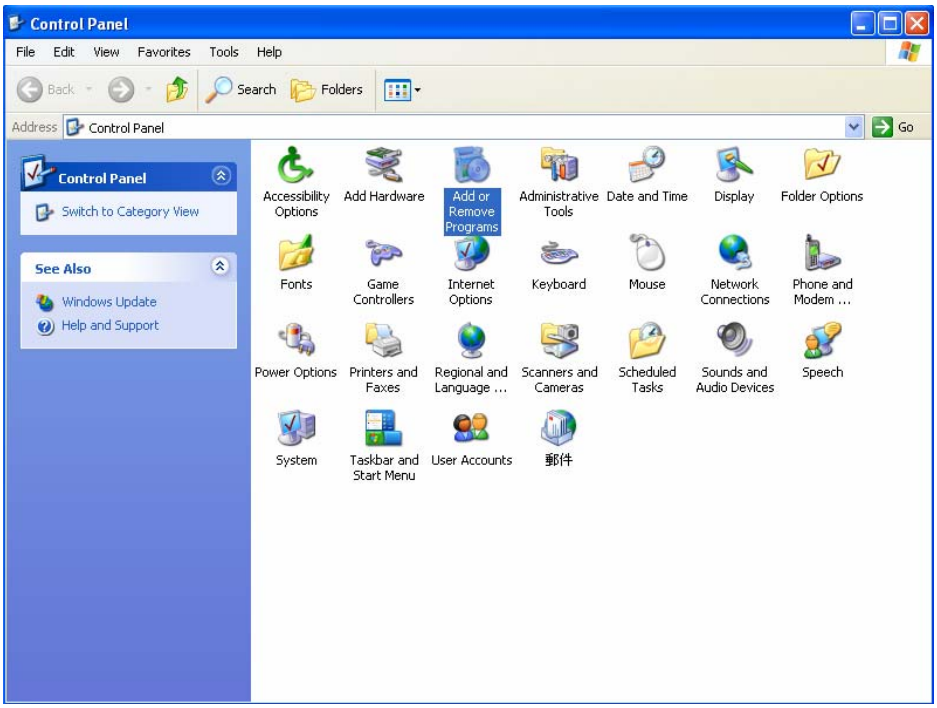


10. After finishing the installation process, a shortcut of EMS is displayed on the desktop. Click on  to activate EMS directly.

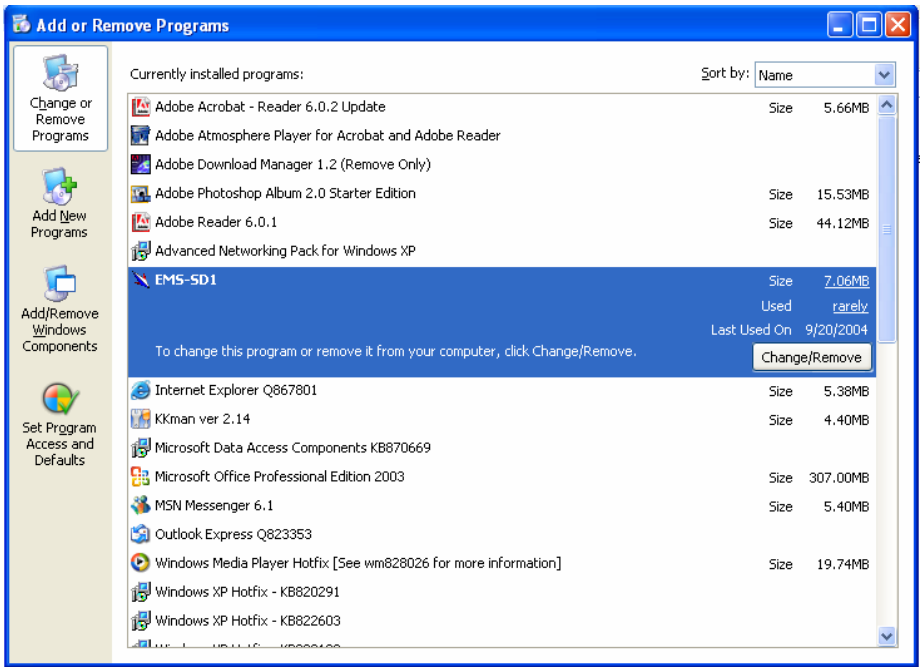


3.1.2 Un-installation of EMS

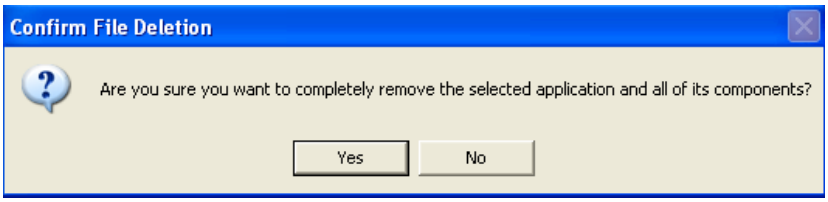
1. Double click the Add/Remove Programs icon in **Control Panel** to run the un-installation procedure.



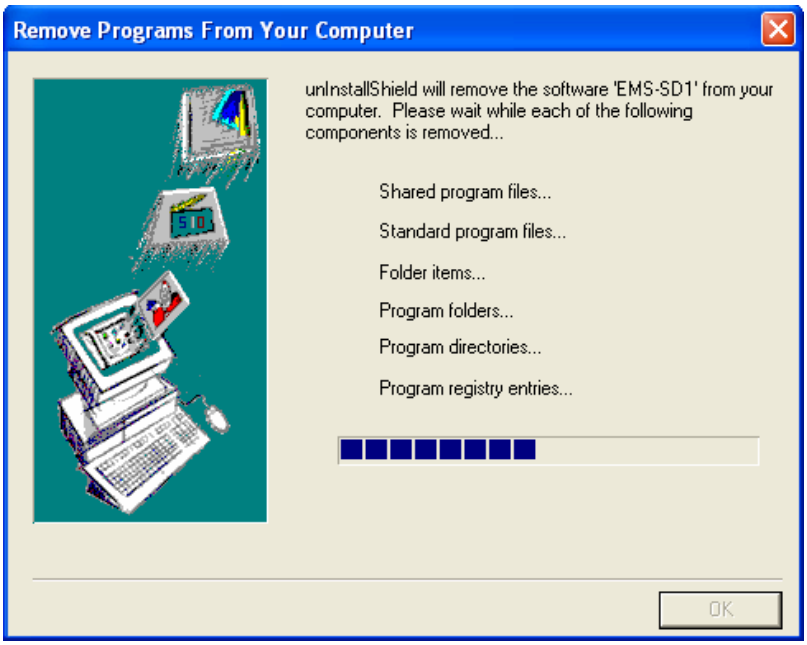
2. In Add/Remove Programs Properties dialogue box, selecting the "EMS-SD1" folder and then click on Change/Remove to remove EMS.



3. After your clicking on Change/Remove, the following dialogue box then prompts to you for confirmation. Click on Yes to continue the removal process.



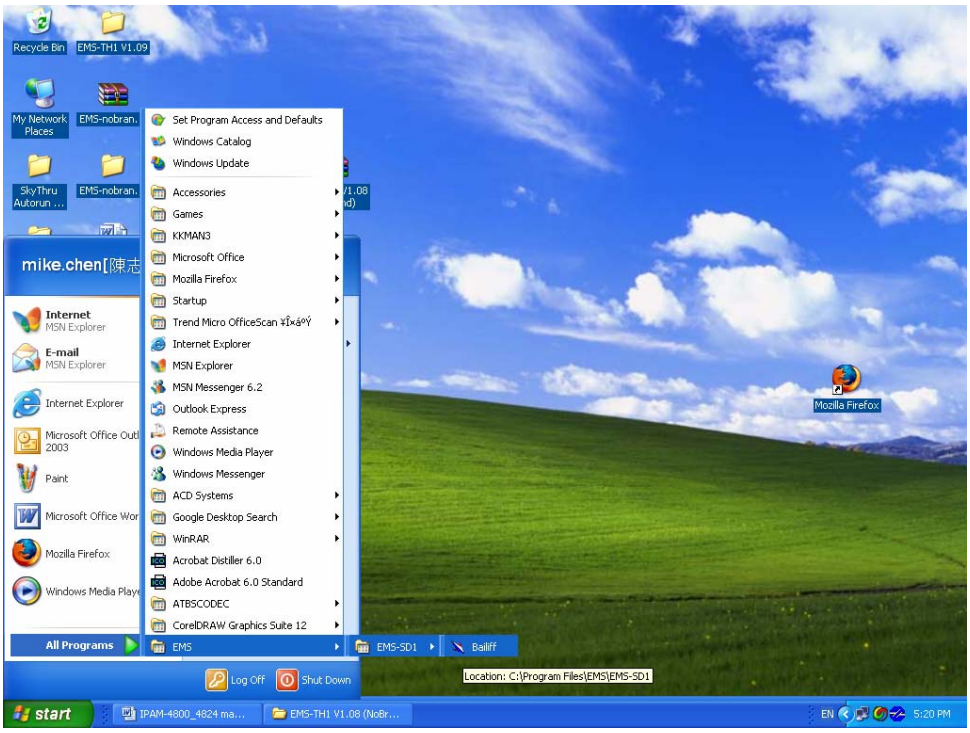
4. The following window, "un-installation completion status" appears. Click OK to complete the removal process when OK become enable, indicating that the process is completed.



3.1.3 Starting the System

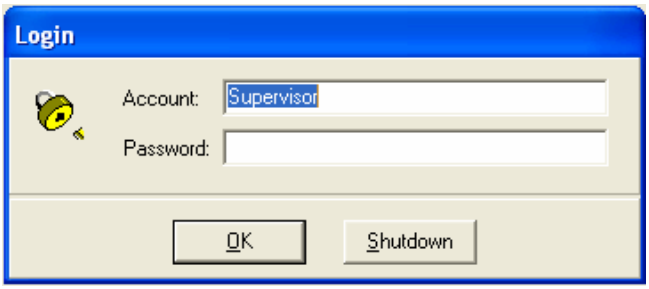
Users can activate the EMS either from Promgrame manger or clicking the shortcut icon on the desktop. From Program Manager, choose the “EMS” program group in the Program Manager window. Then, choose the “EMS-SD1” program item to launch the program.

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 172.



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.

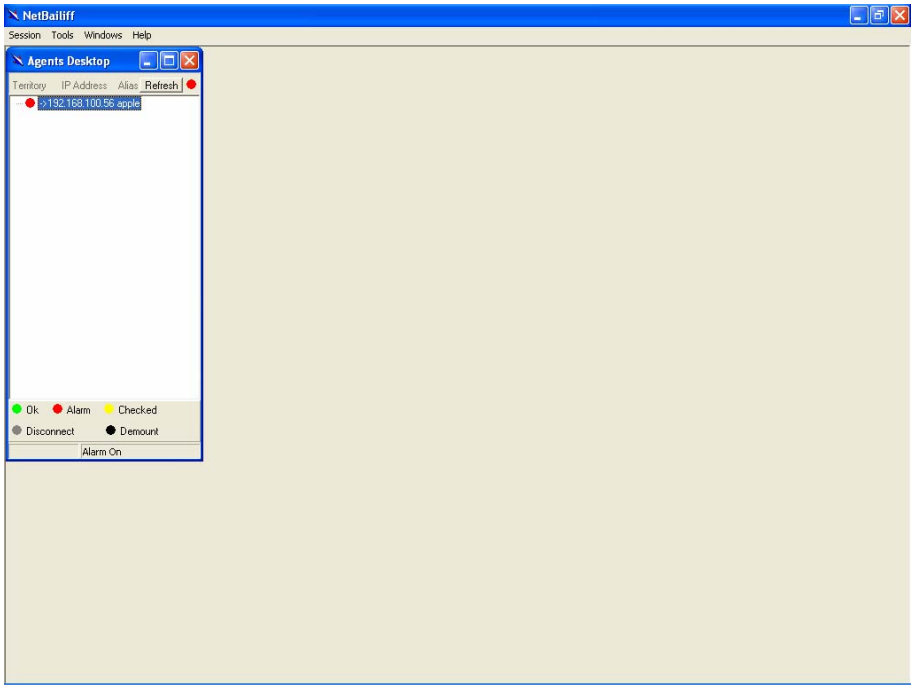
Default Account	Supervisor
Default Password	(blank)

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

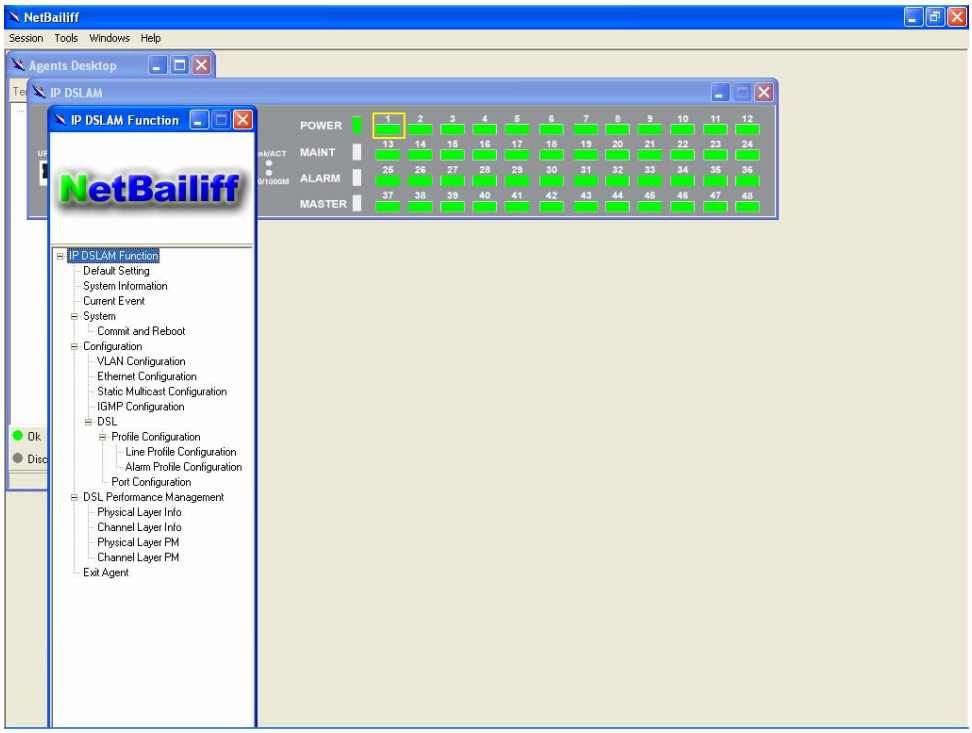
To terminate the current session, choose **Logout** command from Session Menu. The user account, then, is logged out and Login window prompts for a new login. Normally, this is used when a user wants to re-login in order to gain a higher level of authority for certain operations.

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 inroduced seperately.

3.2.1 Cascade

Choose **Cascade** from Windows manu 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 simpliy 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.

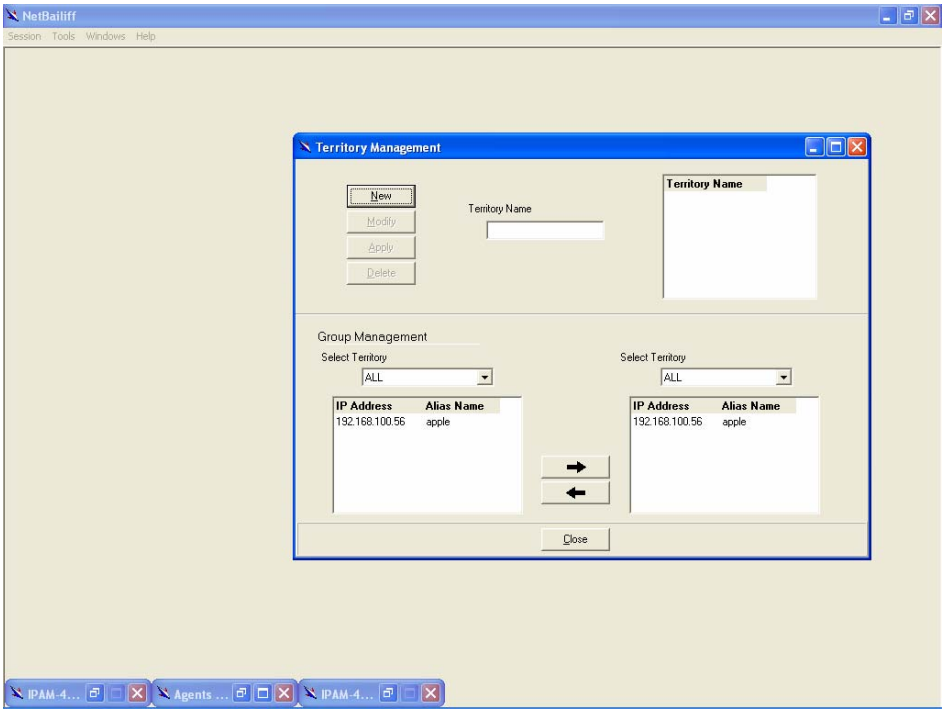
3.2.3 Previous Window

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

3.2.4 Arrange Icons

By slecting Arrange Icons of Windows Manu 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 OK 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 nanager and Telnet, which are detailed in the following sections.

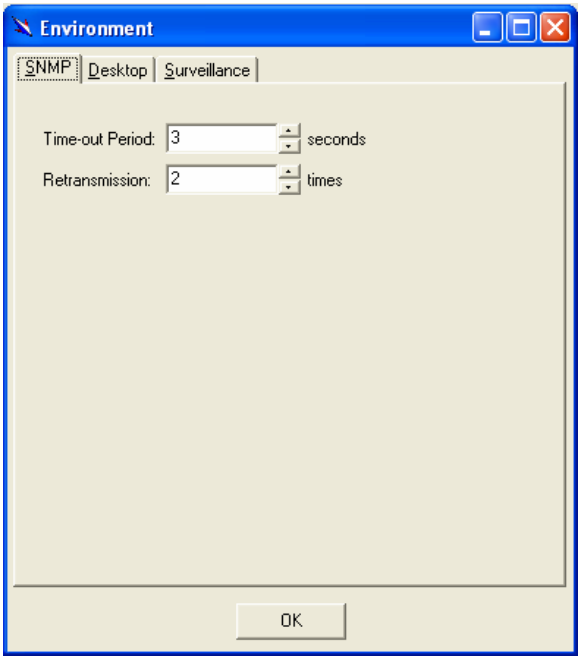
3.4.1 Environmental Options

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:

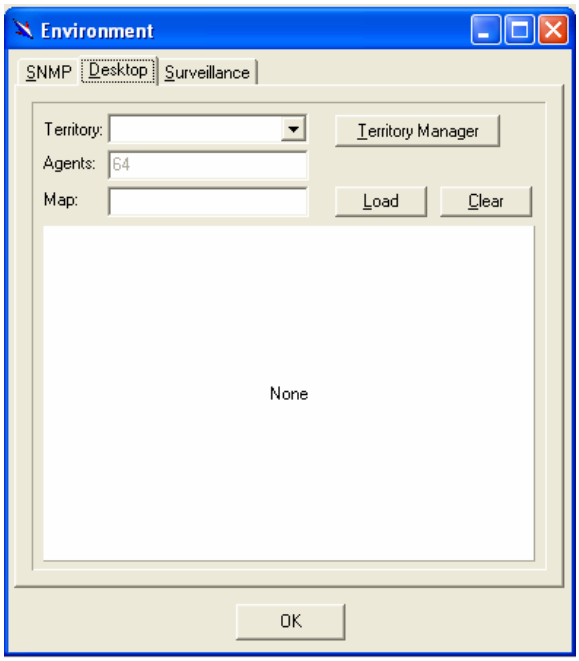
1. Click on the TabControl (SNMP/Desktop/Surveillance) of SNMP that will bring SNMP dialogue box to front.
2. Click on  or  to change the Time-out Period seconds and Retransmission times.
3. Click on  to submit your changes.



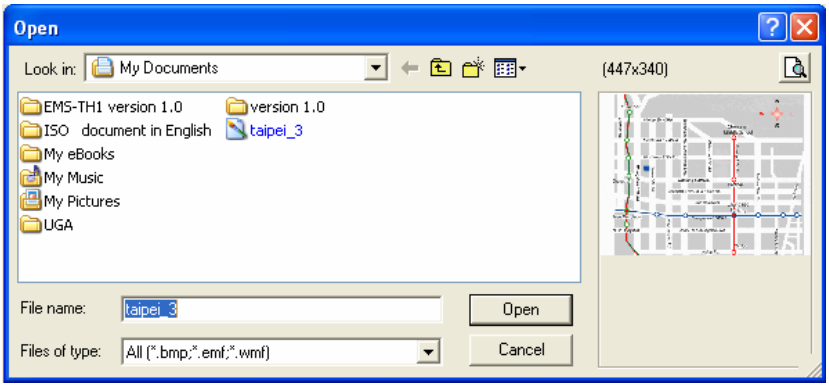
Desktop configuration

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.



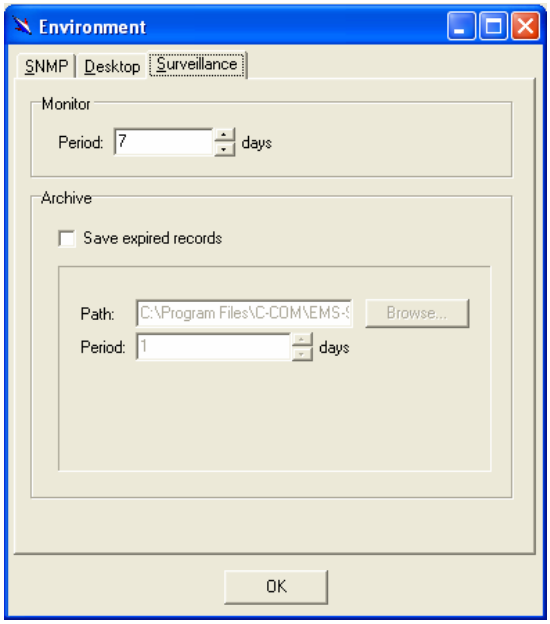
2. Click on Territory Manager to quick start territory manager in which users can define a dersired territory. Please refer to page 37 for more details.
3. Click on Load to load the map of a territory or click on Clear to clear a loaded map. Note: the format of map is limited to *.bmp, *.emf and *.wmf.



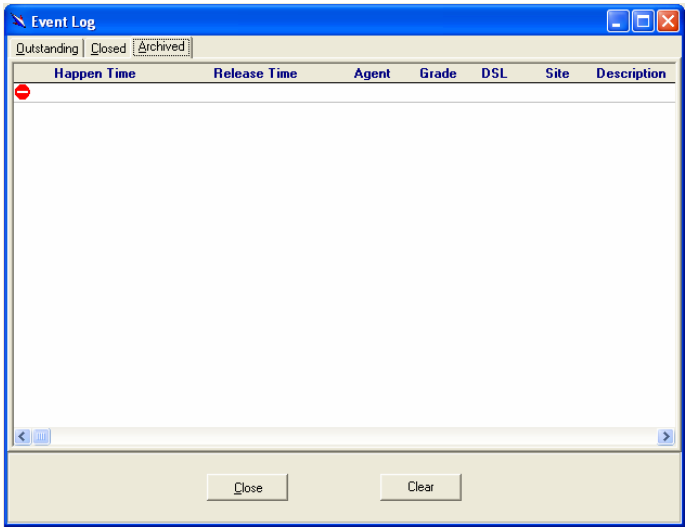
4. Click on OK to submit your setting, and then the map will apply to the Mounted Agent.

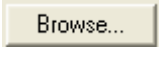
Surveillance configuration

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



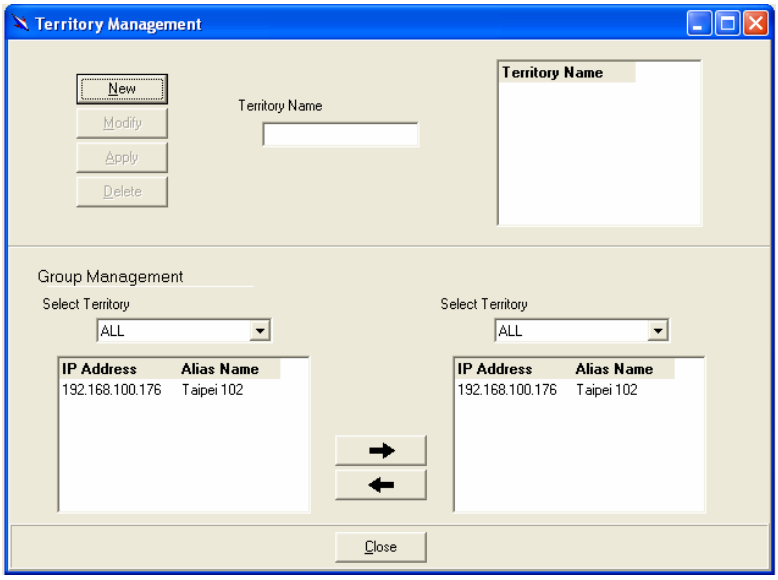
4. Clicking on  to choose the directory to record surveillance data and press  or  to define expired period.
5. Click on  to submit your settings.

3.4.2 Territory manager configuration

Territoy manager help users to build up mornitoring territories and agents could be categorized into different territories by users. That benefits users to mornitor the status of PAMSPAN-2000 systems by territory. Territory manager can be activated either from manu bar or from envoronmental 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.

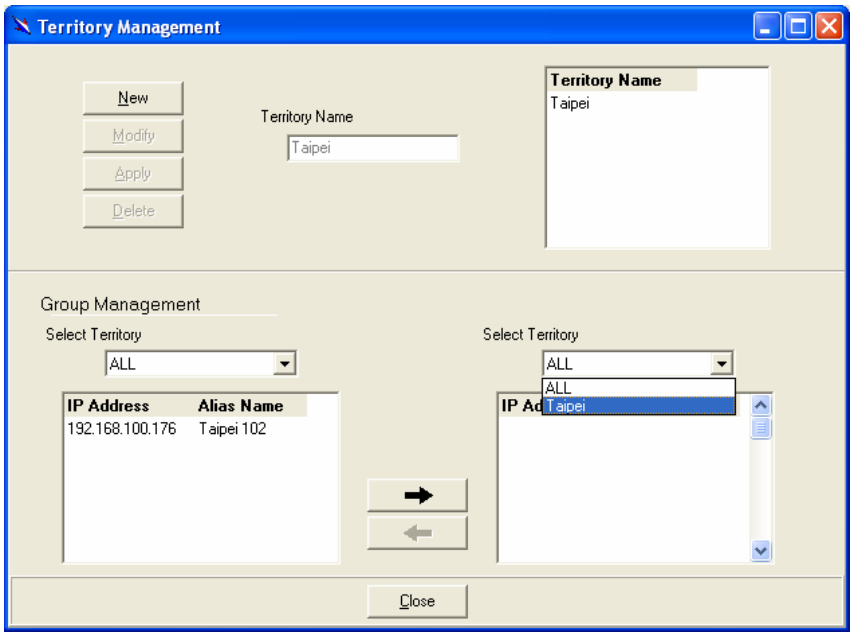
Enter Territory Name and 

then become enable.

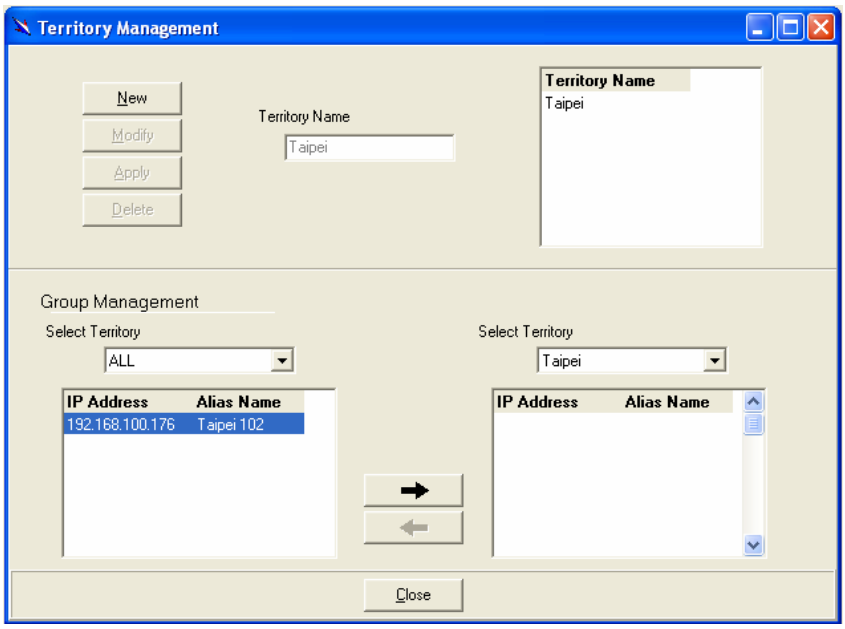
Click on 

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

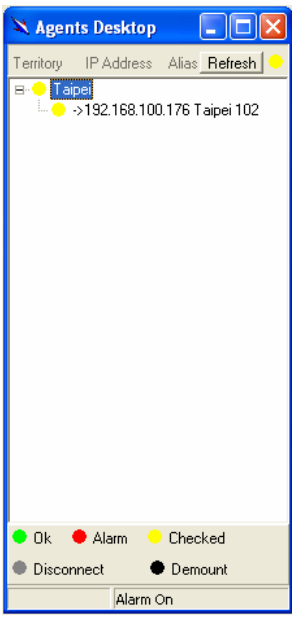
As the following figure shown, the agent, 192.168.100.176 is available in the territory named ALL on the left. Users can shift the mornitoring territory from ALL to Taipei simply by selecting Taipei in the Drop-down list on the right.



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 mornitored under the territory, Taipei.



Corresspondently, the Agent Desktop displays that Agent IP 192.168.100.176 has been moritored under the territroy, 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.

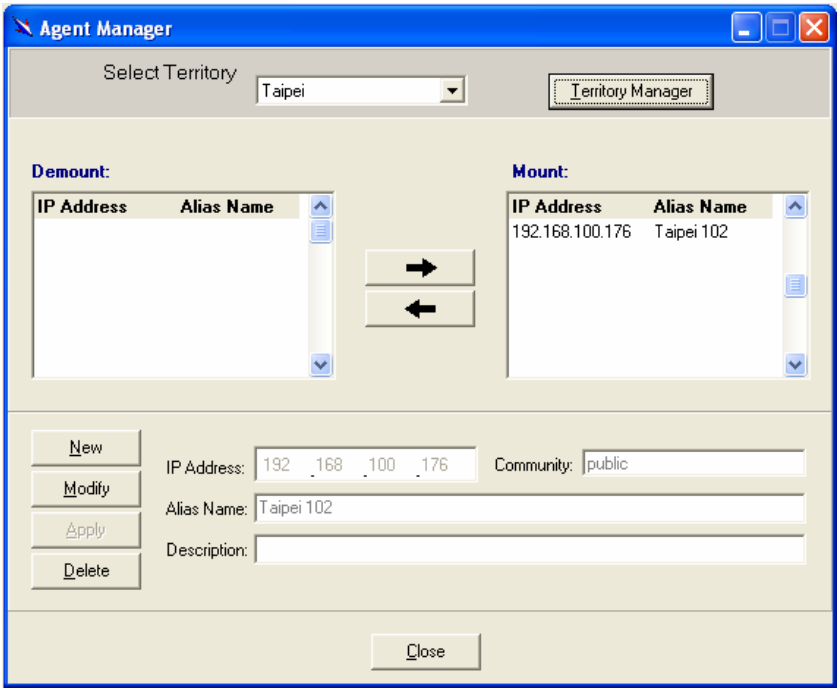
Click on  to exit the window or continue to perform other operations in the same window.

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 “registeration” 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 Territory Manager to activate territory manager.
2. Click on New, 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 Apply 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 Close 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 Delete. The agent will disappear.
2. Click on Close to exit the window or continue to perform other operations in the same window.

If to change the information of an agent,

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

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

4. Click on Close to exit the window.

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

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

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

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

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 Close to exit the window.

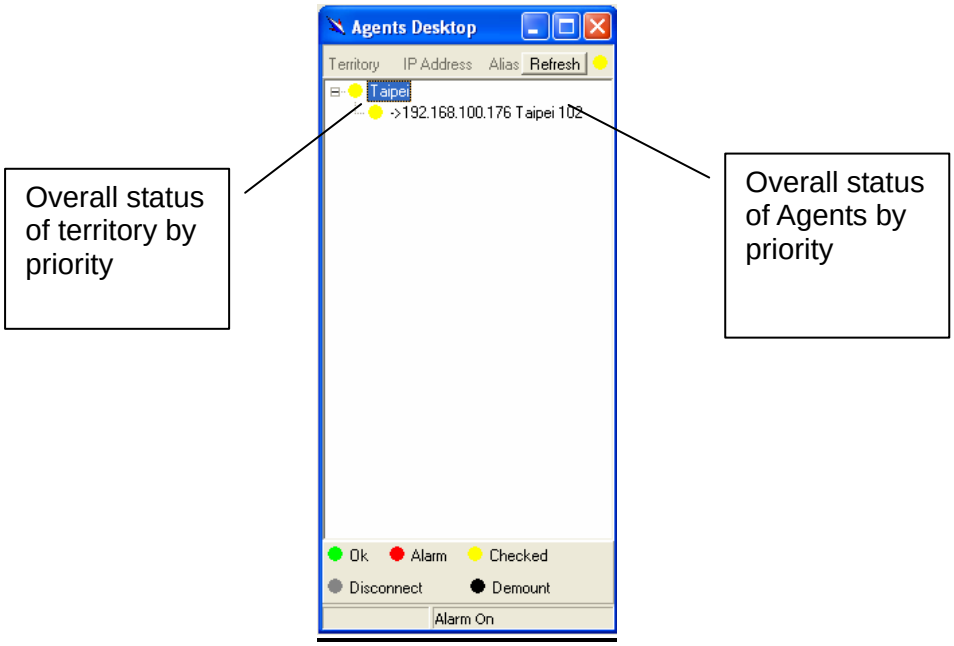
Table 3-1 Agent Management Field Definition

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:

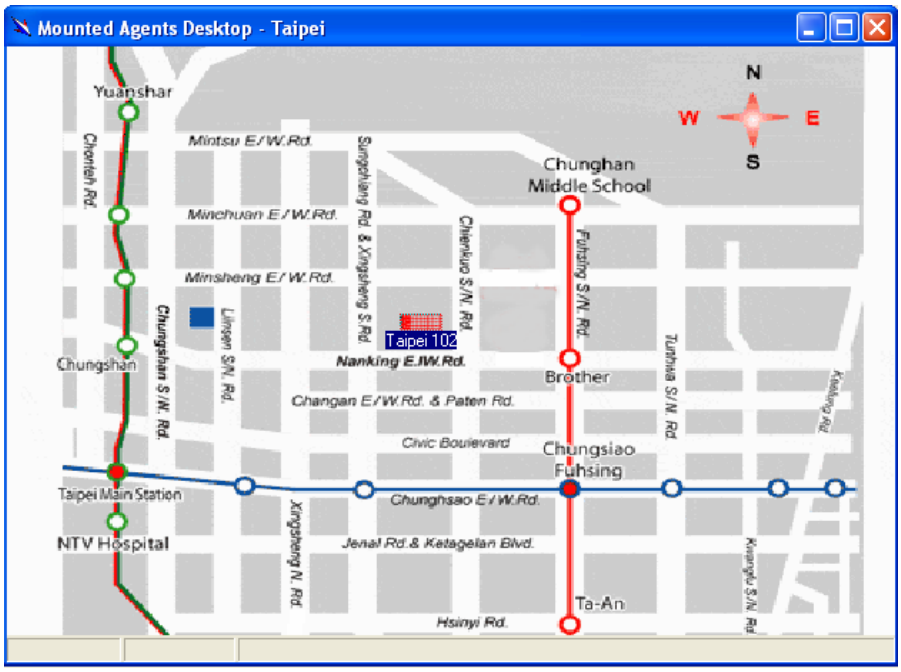
- Gray icon indicates that the agent is disconnected.
- Green icon indicates that the agent is in normal condition.
- Red icon indicates that “Major Alarm” is occurred to the agent and requires network administrator’s attention. Network administrator pays attention to alarms by looking into the alarms 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.

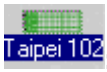
Note: the priority of colors: Gray>red>yellow>green>black

Mounted Agent Desktop

Mounted agent desktop provides users with flexibity 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 apprears 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:



: 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.

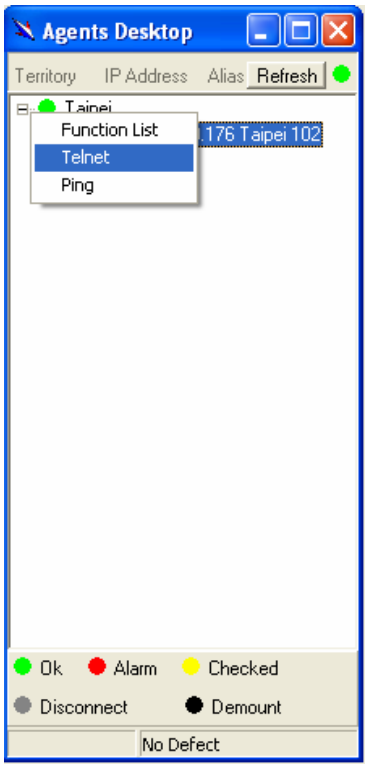
3.4.4 Telnet

Users can use the Telnet to connect to a specific ADSL2/2+ IP DSLAM,

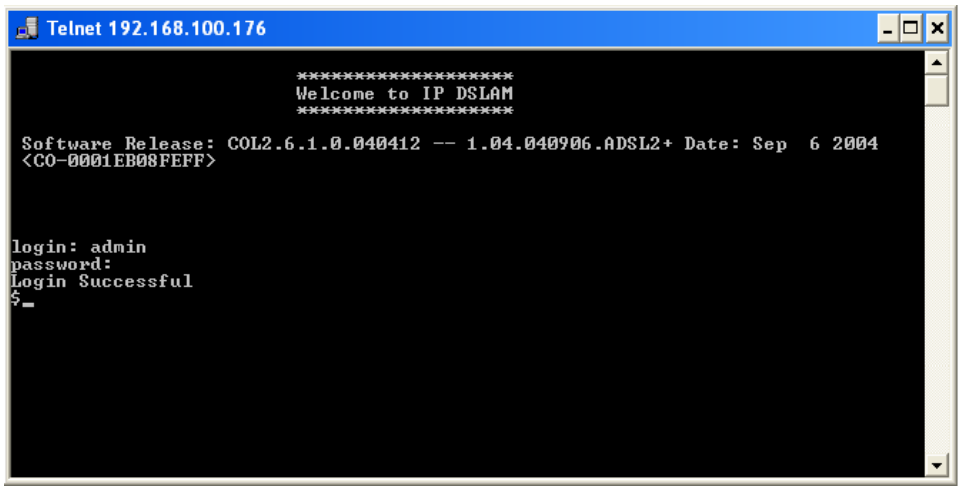
and then monitor and interact with the system.

How to activate Telnet from Agent Desktop?

1. Select an agent IP on the Agent desktop.



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



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

Note: The default login and password are admin.

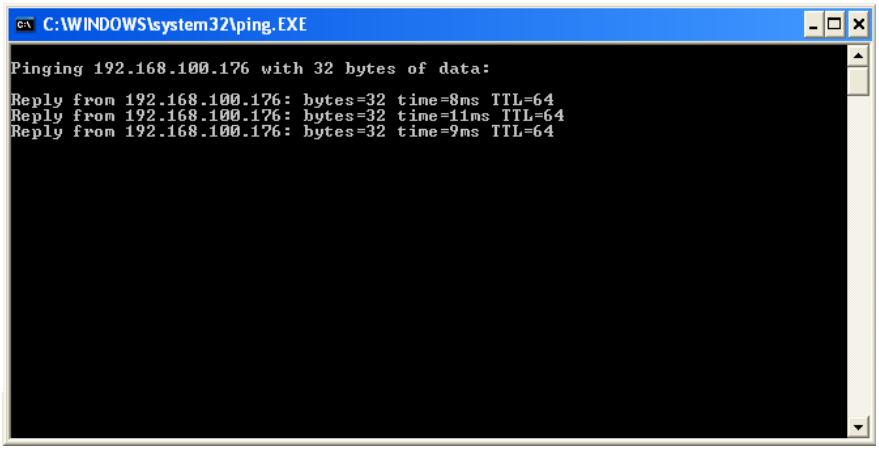
3.4.5 Ping

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



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 privilige 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.

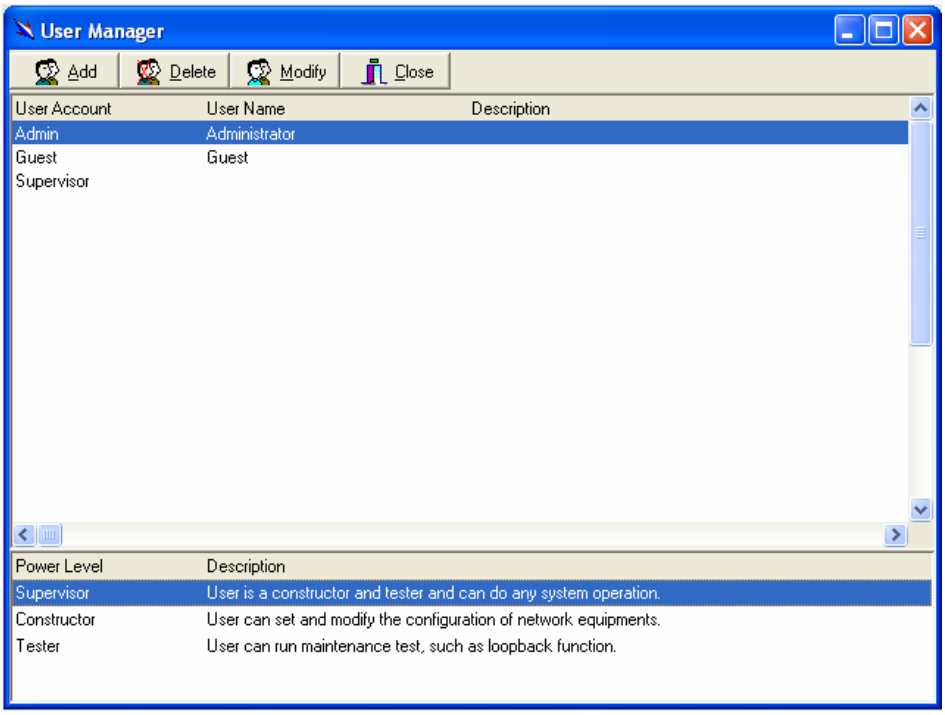


Table 3-2 User Manager Field Definition

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 

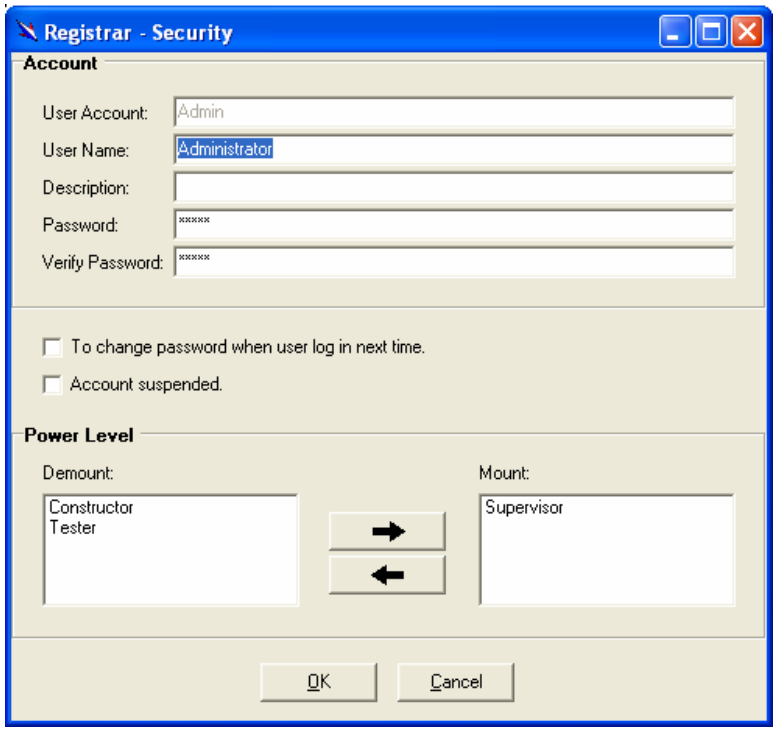
button, the Security window then prompts.

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 Add or Modify 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 OK to complete the operation or Cancel to abort the change. Either one is selected; the window is exited to User

Manager Window.

Table 3-3 Register-Security Field Definition

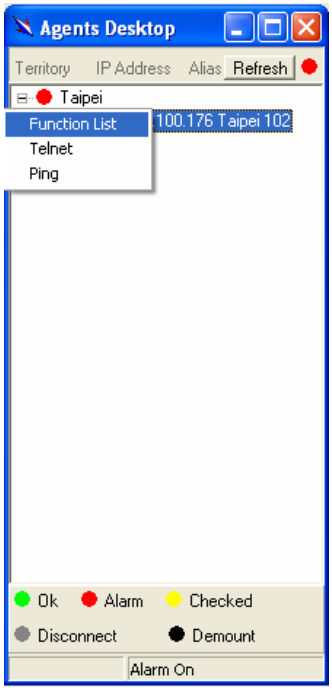
Field	Definition
User Account	An ID to be used for login
User Name	The full name of a user
Description	Remark for note purpose
Password	Any character string, including blank
Verify Password	Re-enter the password as a confirmation
To change password when next login	If this is checked, the associated user 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

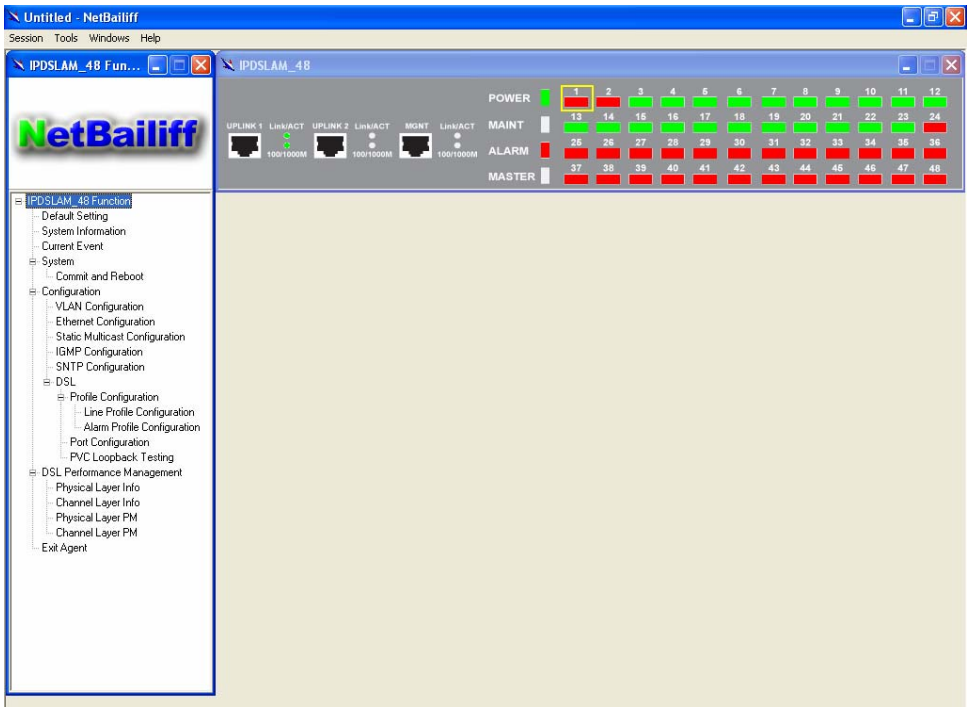
After successfully setting up the environment of EMS, you can manage different ADSL2/2+ IP DSLAM via your EMS remotely. This chapter will tell you how to interact with a specified ADSL2/2+ IP DSLAM.

4.1 Activate Function Management Windows

Via EMS, users can remotely morniter 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 agnet, 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.

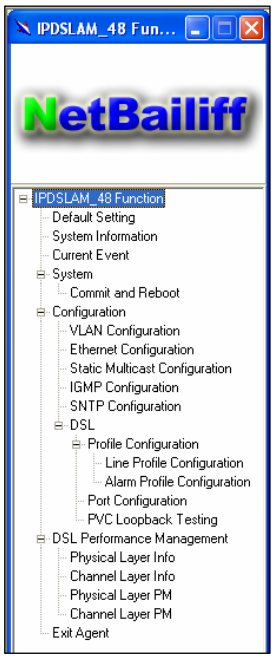


4.1.1 Function management Windows

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

Function Window:

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



Front Panel Status Window

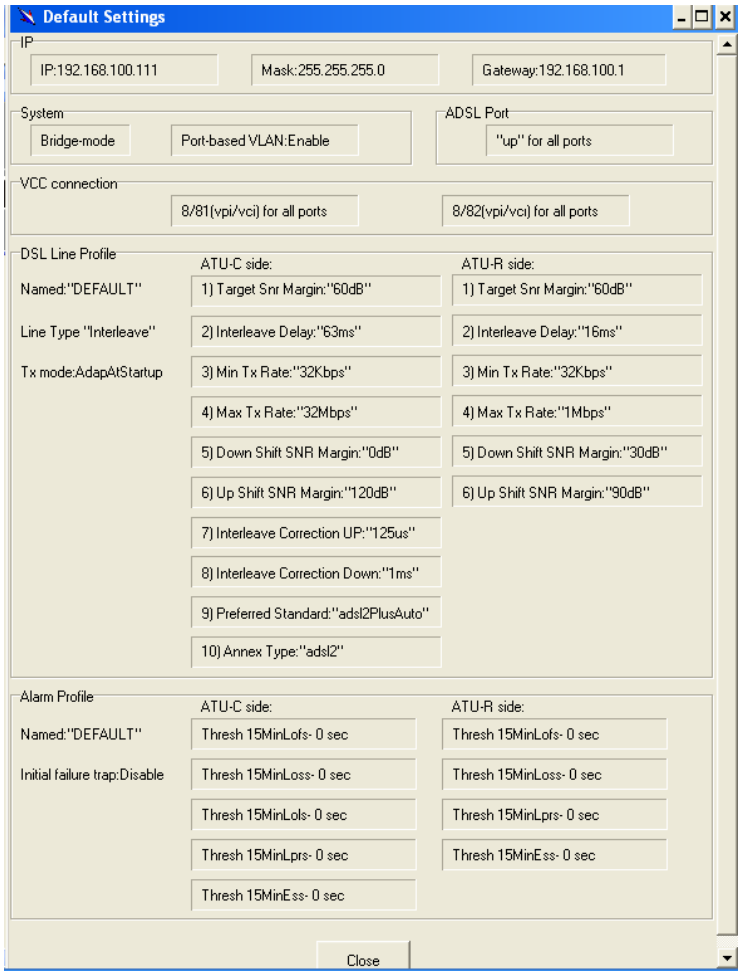
After choosing a speicified agent, the Freont Panel Status Window, together with the Function Winddow, will come out immediately to present the current status of front panel of the ADSL2/2+ IP DSLAM. As to the LED identification of front panel, refer to page 9 to get more information.

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:



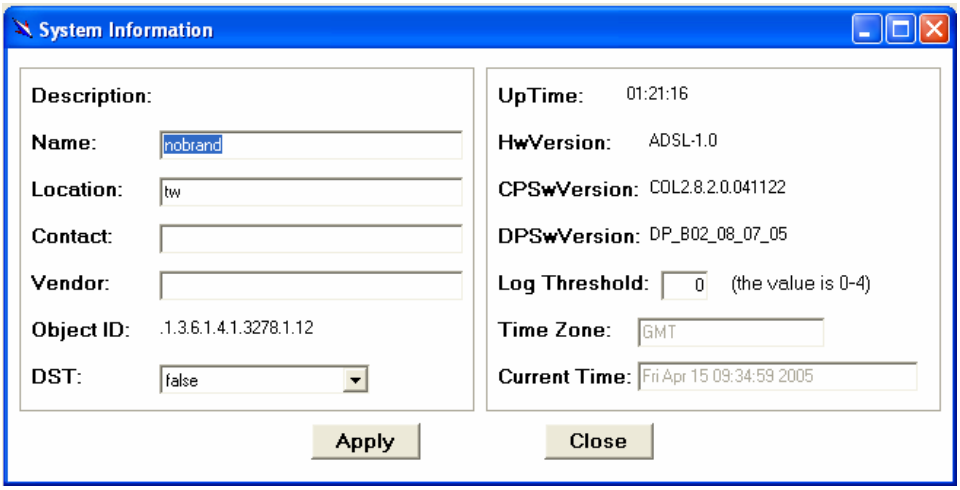
In the default setting window, the status of, IP, System, VCC connection, DSL line profile and Alarm profile are displayed clearly. How to modify them will be introduced in the following sections.

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. **True:**on **False**: 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 diable. 1 is the lowest and represents critical traps. **Valid values:** *0-4*
Time Zone	Time zone **Valid values:** Given below, are the valid values, followed by their descriptions. IDLW - International Date Line West

	NT - Nome HST - Hawaii Standard CAT - Central Alaska AHST- Alaska-Hawaii Standard YST - Yukon Standard PST- US Pacific Standard MST- US Mountain Standard CST- US Central Standard EST- US Eastern Standard AST- Atlantic Standard NFST- Newfoundland Standard NFT- Newfoundland BRST-Brazil Standard AT- Azores WAT - West Africa GMT - Greenwich Mean UTC - Universal (Coordinated) WET - Western European CET - Central European FWT - French Winter MET - Middle European MEWT - Middle European Winter SWT - Swedish Winter EET - Eastern Europe, Russia Zone 1 IST - Israeli Standard BT - Baghdad, Russia Zone 2 IT - Iran ZP4 - "Russia Zone 3" ZP5 - "Russia Zone 4" INST - "Indian Standard" ZP6 - "Russia Zone 5" NST - "North Sumatra" WAST - West Australian Standard SSMT - South Sumatra, Russia Zone 6 JT- Java CCT - China Coast, Russia Zone 7 ROK - Korean Standard KST - Korean Standard JST - Japan Standard, Russia Zone 8 CAST - Central Australian Standard EAST - Eastern Australian Standard GST - Guam Standard, Russia Zone 9 IDLE - International Date Line East NZST - New Zealand Standard NZT - New Zealand Example: IDLW , that stands for International Date Line West
Current Time	This inicates 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:

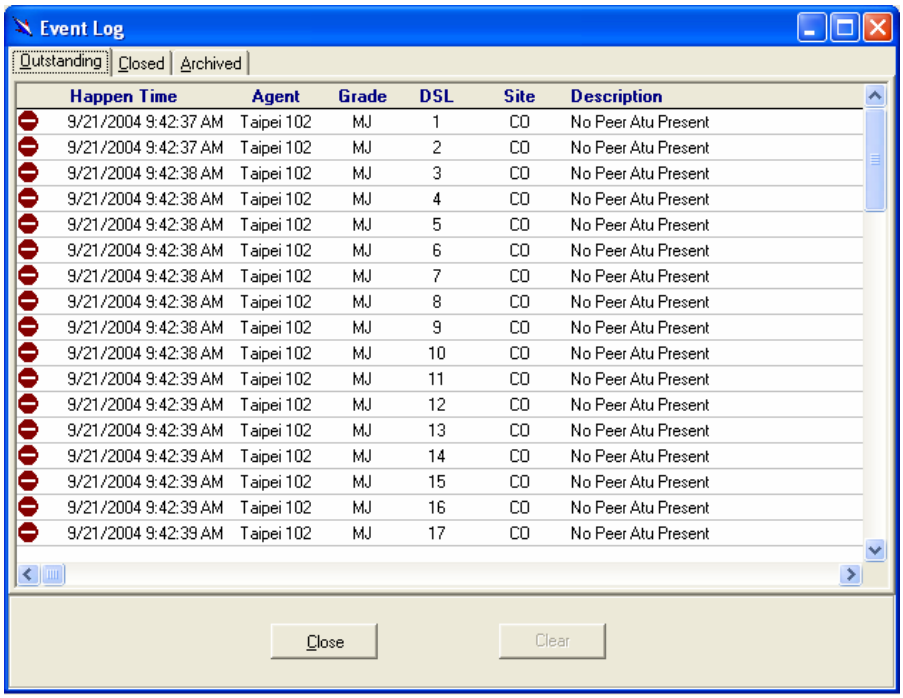


Table 4-2 Outstanding Event Window Field Definitions

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.

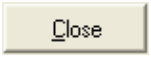
Closed Event

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.

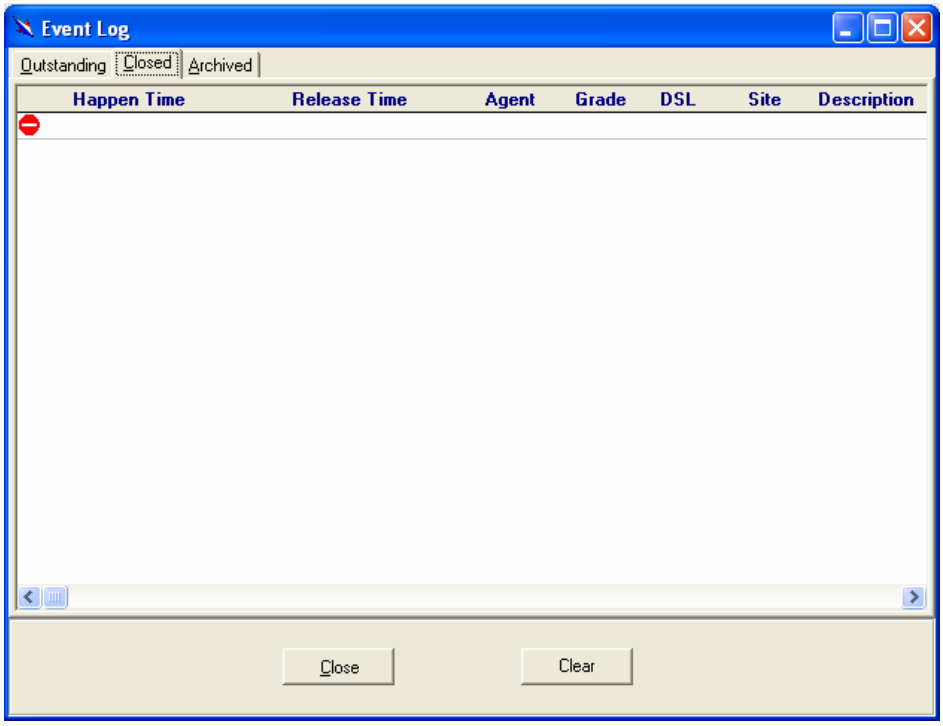


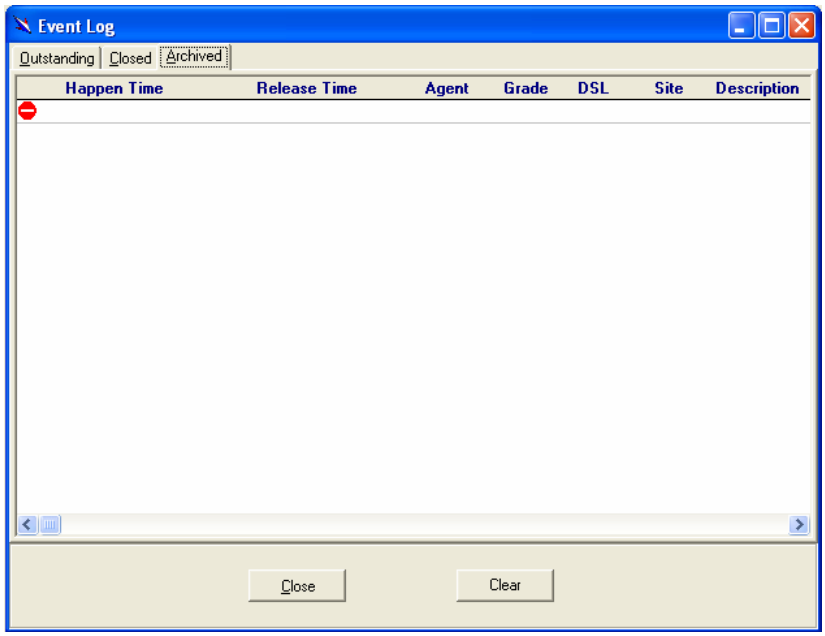
Table 4-3 Closed Event Window Field Definition

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 Evironment window.

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



2. Click on Clear to clear all records.

3. Click on Close to exit the window.

4.5 System

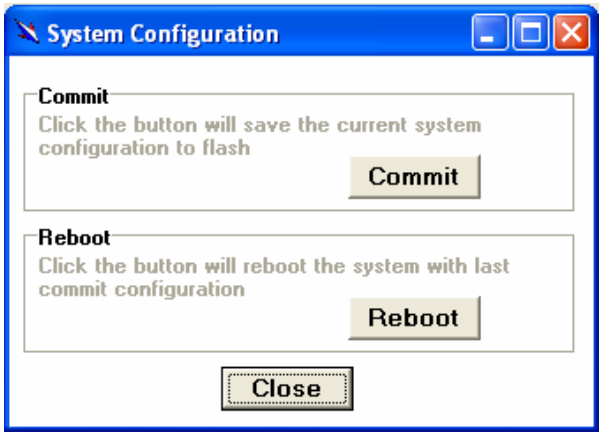
This section allows users to perform commit and reboot that will be introduced as follows:

4.5.1 Commit and Reboot

This section describes how to commit the current configuration to falsh 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

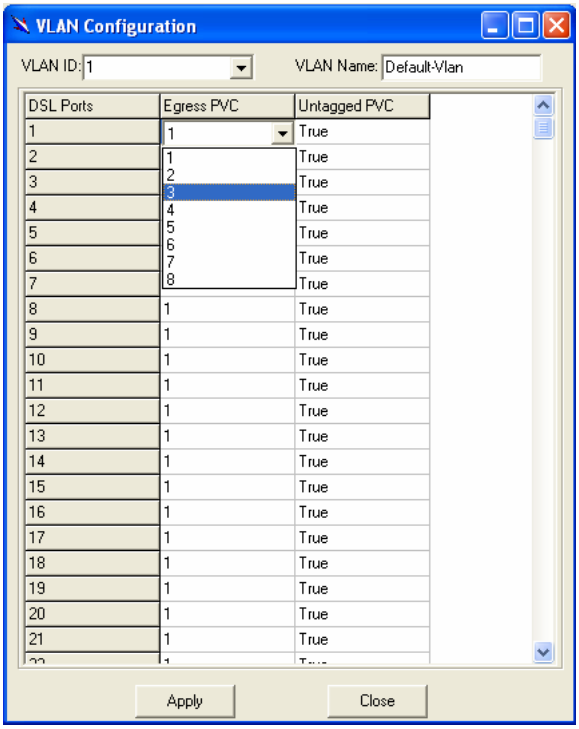
This section describes how to configure the ADSL2/2+ IP DSLAM by selecting **Configuration** from Function List window. This section will cover those functions:

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

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

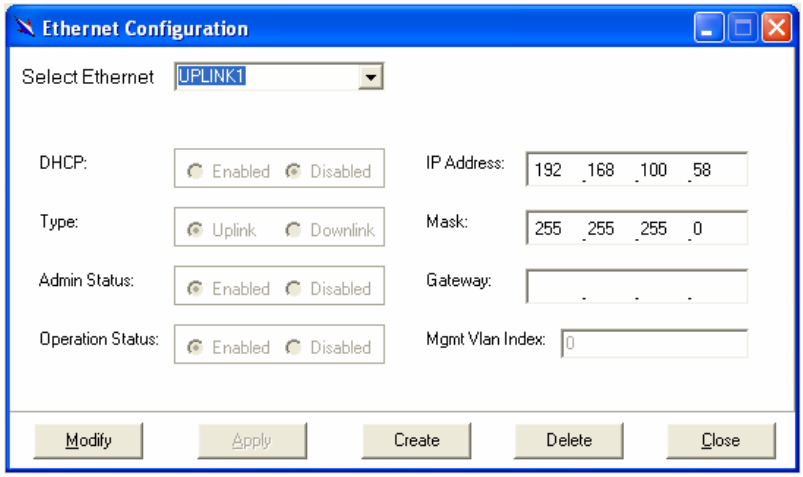
Table 4-4 VLAN Configuration Field Definitions

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

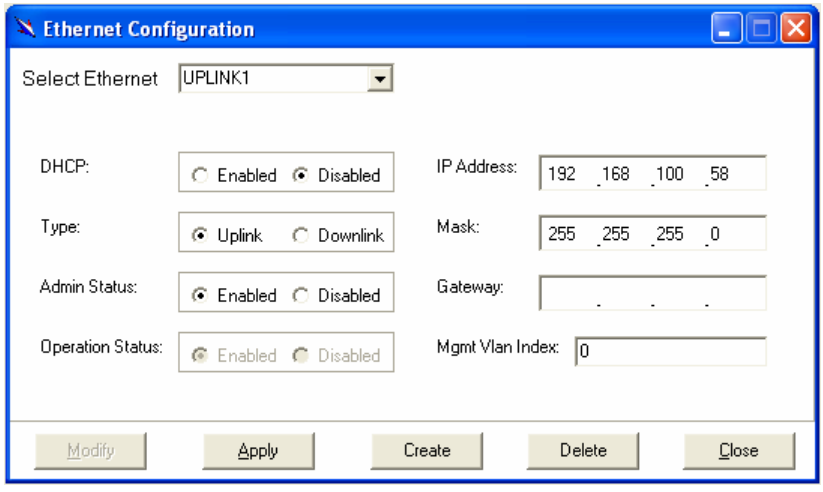
Allow user to view and modify Etherent configuration. To view or configure Ethernet, proceed as follows:

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

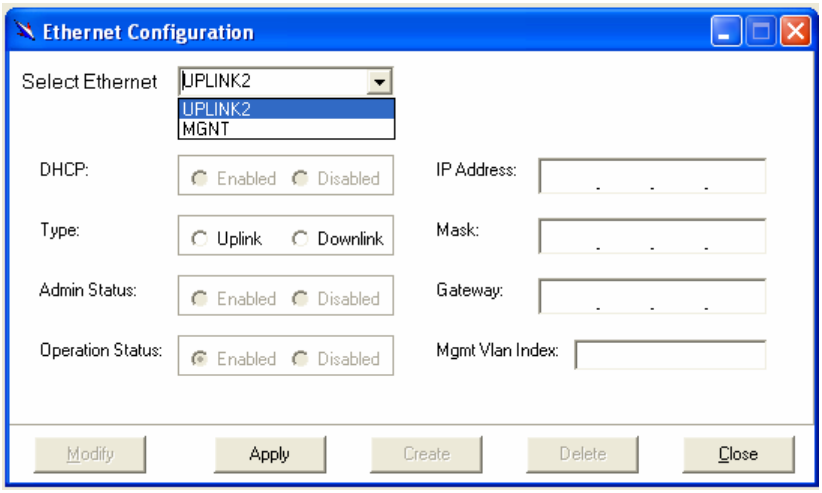


2. To view the Ethernet Configuration of UPLINK1, UPLINK2, or UPLINK3 by using the Slect Ethernet drop-down list.

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

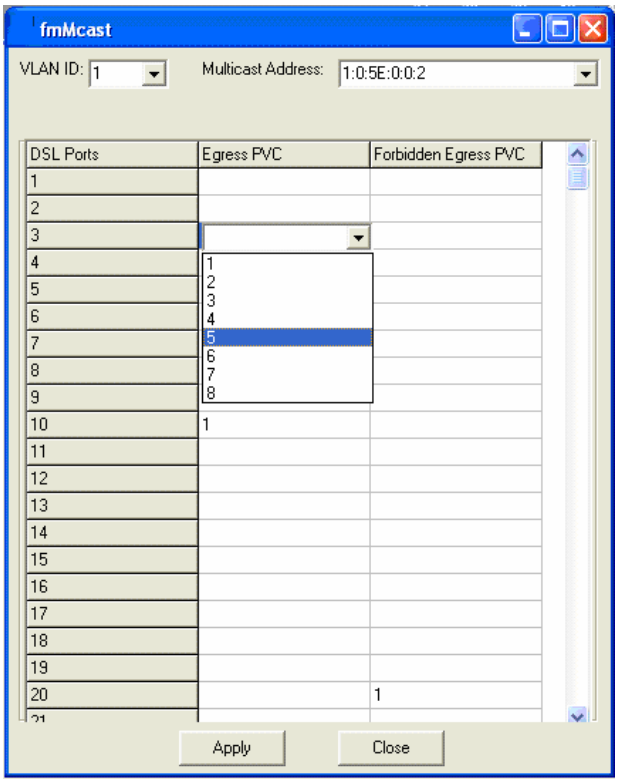
Table 4-5 Ethernet Configuration Field Definitions

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

Table 4-6 VLAN Configuration Field Definitions

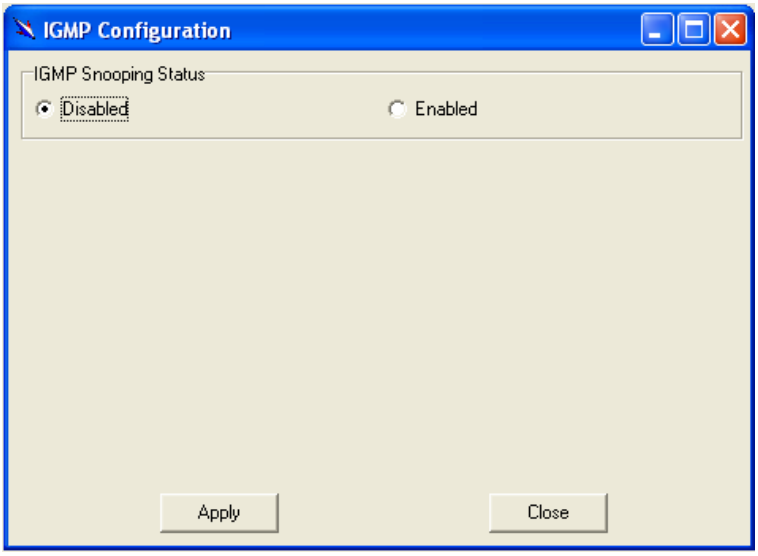
Field	Definition
VLAN ID	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast mac addr is shared across vlans hence vlan id is an optional parameter. In devices supporting "Independent Vlan for multicast" capability each vlan can have 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.

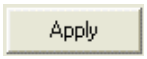
4.6.4 IGMP Snooping

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:



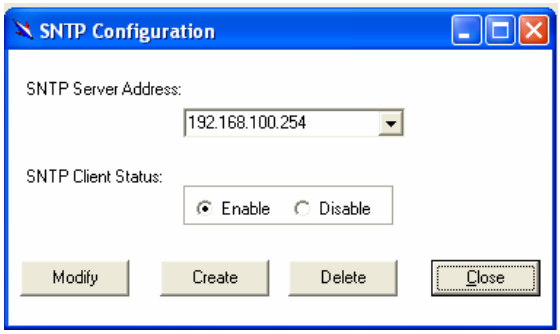
Select Disabled or Enabled, and then click  to submit your setting.

4.6.5 SNTP Configuration

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

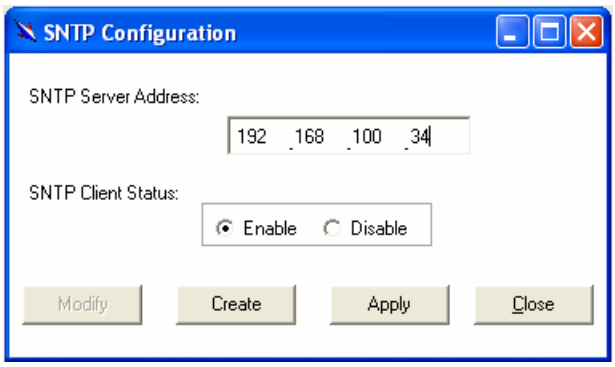
1. Choose a specified port to execute SNTP configuration function.

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 Modify.

4. If to create a new SNTP client, click on Create and then set SNTP Server address and SNTP client status. After that, click on Apply 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. Finnaly, click on Delete.

6. Click on Close 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:

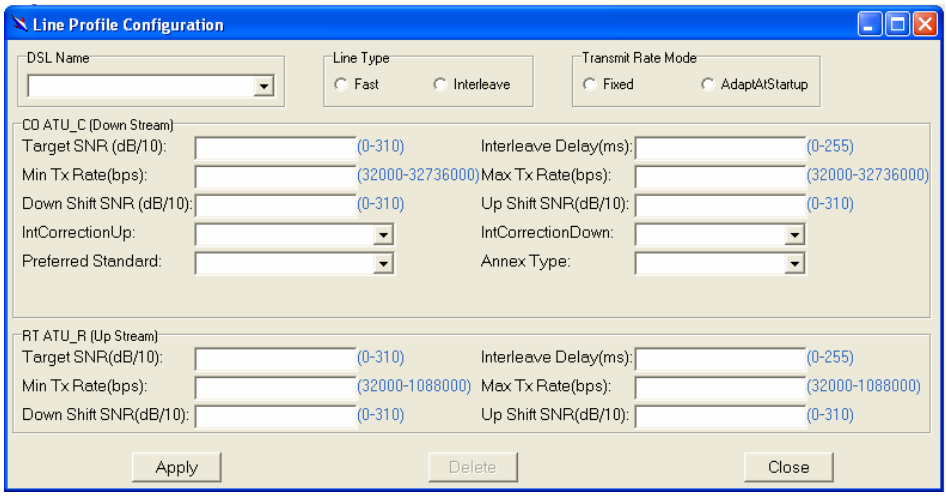
4.7.1 Profile Configuration

Allow users to configure Line Profile and alarm profile.

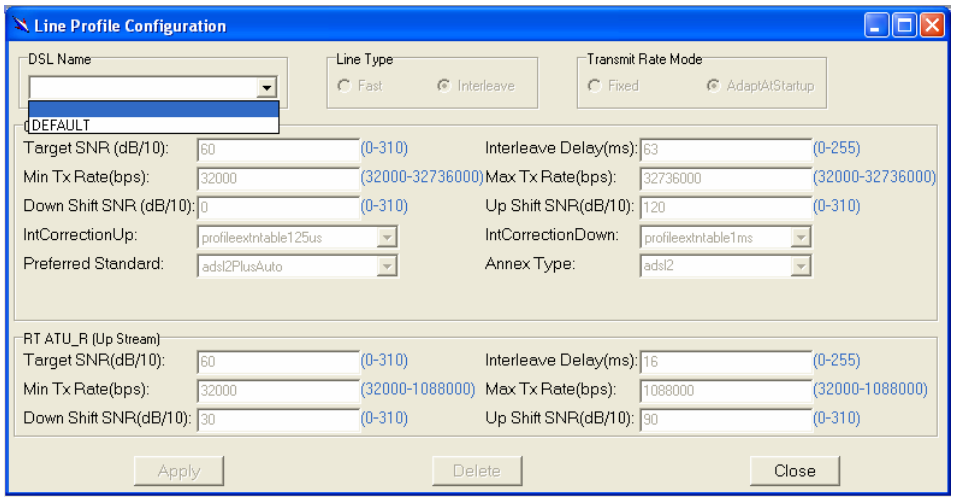
Line Profile Configuration

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 creat up 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 deliete a line profile.

Table 4-7 Line Profile Field Definitions

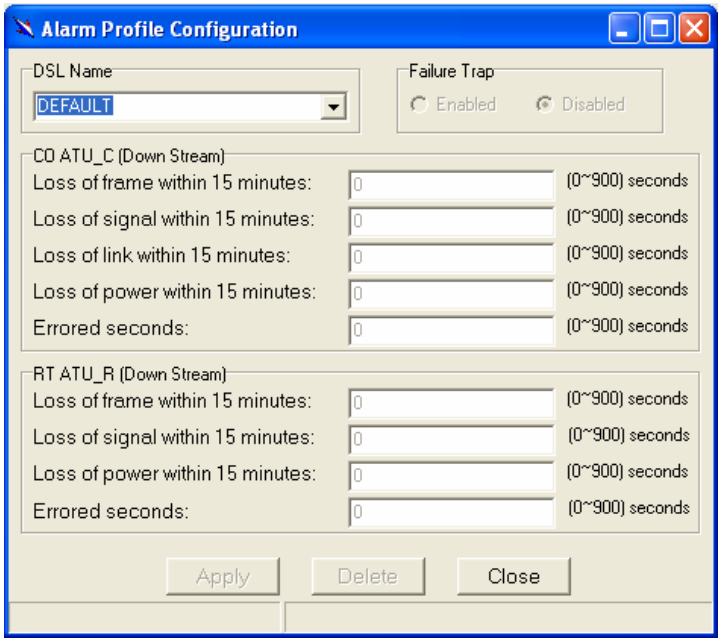
Field	Definition
Line Type	The ADSL line type, Fast or Interleaved
Transmit Rate Adaption	Defines what form of transmitting rate to be adaptated, fixed or adaptAtStartup

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. **Value:*125us* | *250us* | *500us* |*1ms* | *2ms* | *4ms* | *disable***
Preferred Standard	Preferred standard compliance. Outcome is dependent upon standard support of the remote unit.GlobespanVirata High Speed ADSL DMT (ADSL+) applications only **Value: *t1413* |*gLite* | *gDmt* | *alctl14* |*multimode* | *adi* | *alctl* |*t1413Auto*|*adslPlus*|*GspanPlus***
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 creat 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 Apply to submit your setting or click on Delete to deliete a alarm profile.

Table 4-8 Alarm Profile Field Definitions

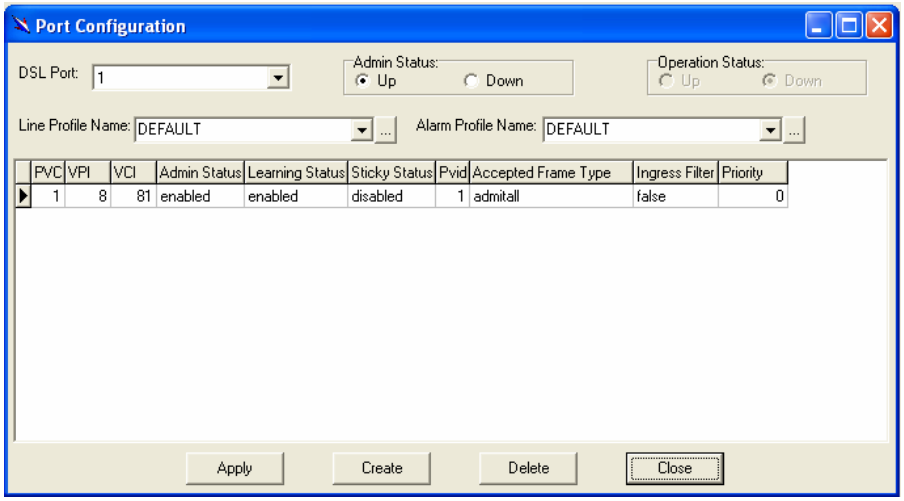
Field	Definition
Loss of frame within 15 minutes	The threshold of the number of “Loss of Frame Seconds” within 15 minutes performance data collection period.
Loss of signal within 15 minutes	The threshold of the number of “Loss of Signal Seconds” within 15 minutes performance data collection period.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



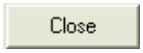
2. Choose the port to configure from the DSL Port drop-down list.

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 prioriy.

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.

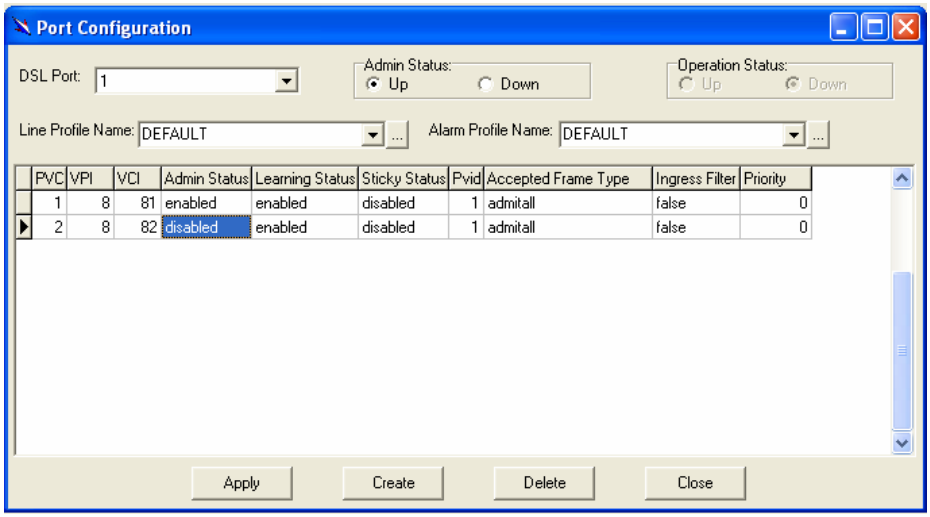


Table 4-9 Port Configuration Field Definitions

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

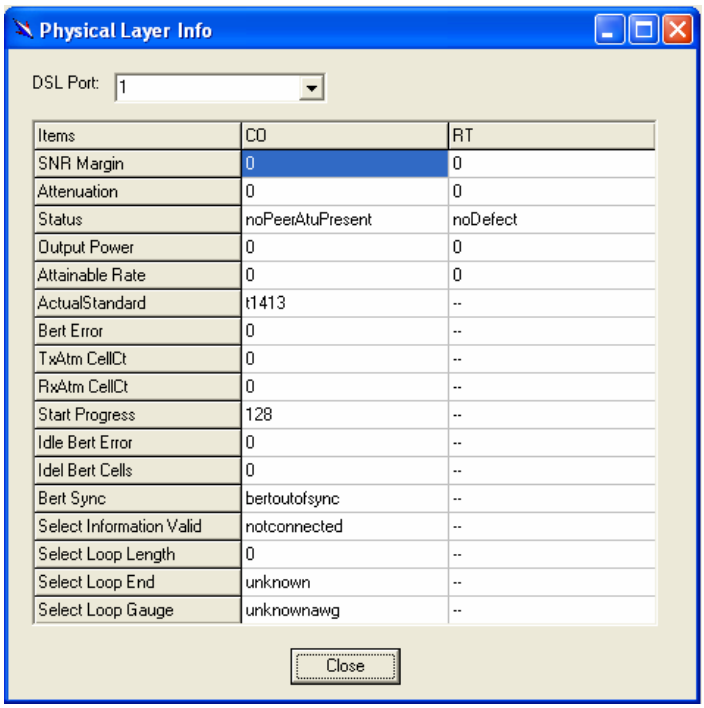
4.8 DSL Performance Management

This section describes how to ultilize 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 Close to close the window.

Table 4-10 Physical Layer Info Field Definitions

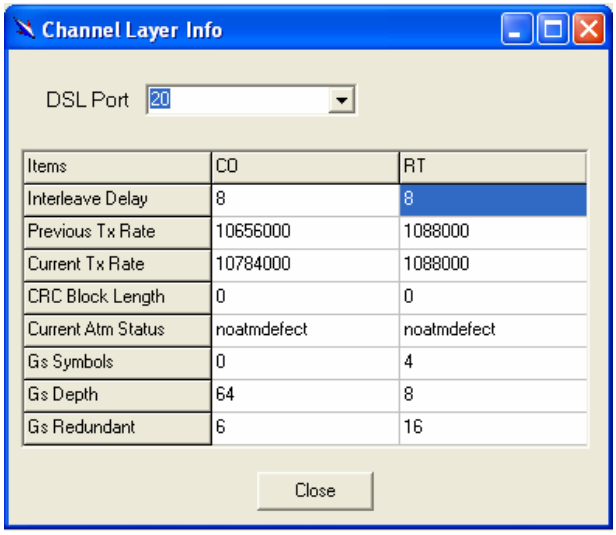
Field	Definition
SNR margin	Noise margin value. (dB)
Attenuation	Difference in the total power transmitted and the total power received by the peer atu. (db)
Status	Current status of the ATU line. The possible values displayed are as follows: No defect: there are no defect on the line los: atu-r failure 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 listo view a specified DSL's channel Layer Info.

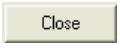
Click on  to close the window.

Table 4-11 Channel Layer Information Field Definitions

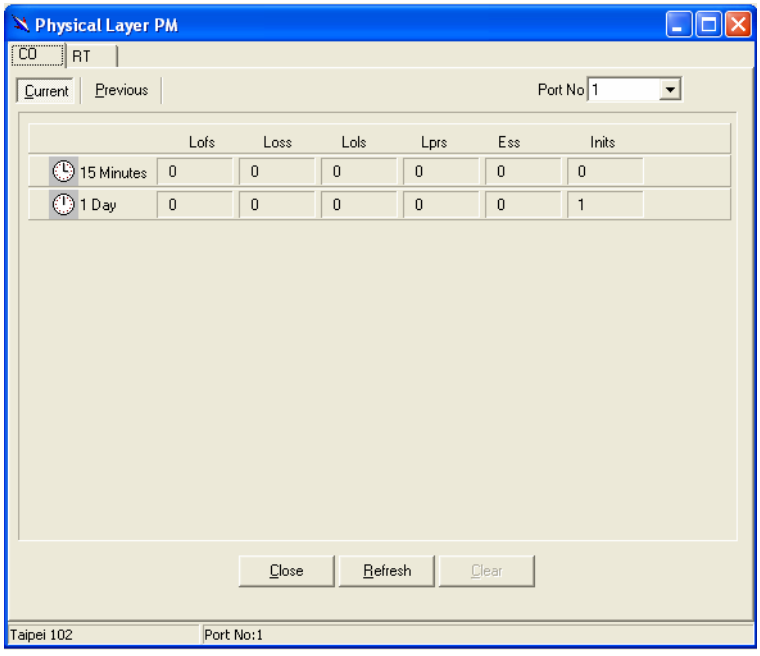
Field	Definition

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 Redundency	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 Pysical layer performance of a specified DSL port from the ADSL2/2+ IP DSLAM. The procedures are as follows:

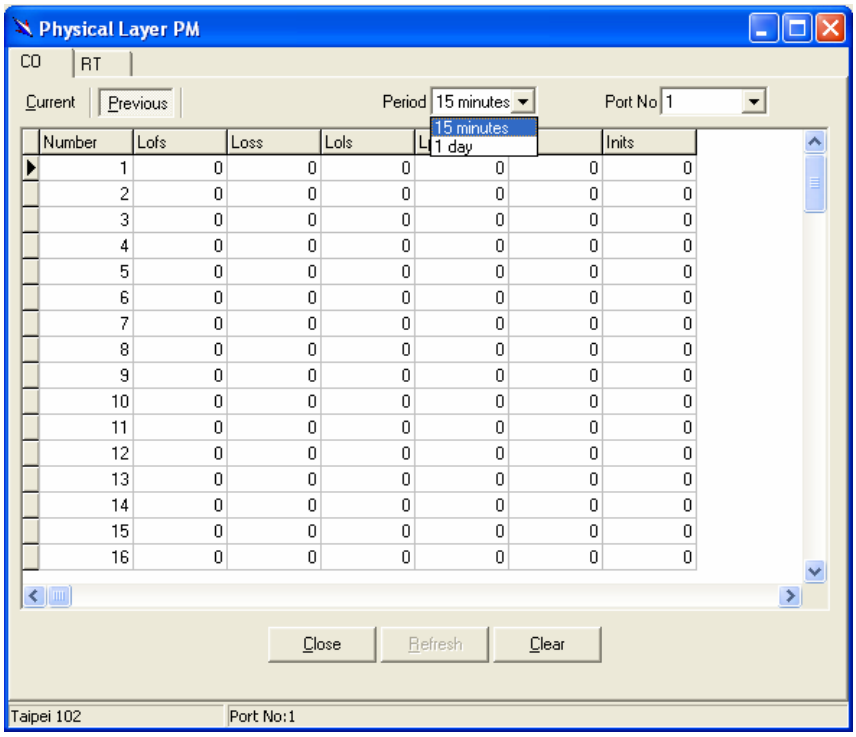
Double Click on "**Pysical Layer PM**" from the Function List Window. The Physical Layer PM window appears.

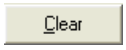


Press Co or RT tab to view the Pysical Layer Performance data at down stream or up stream.

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 Refresh.

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.

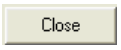
Click on  to close the window.

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

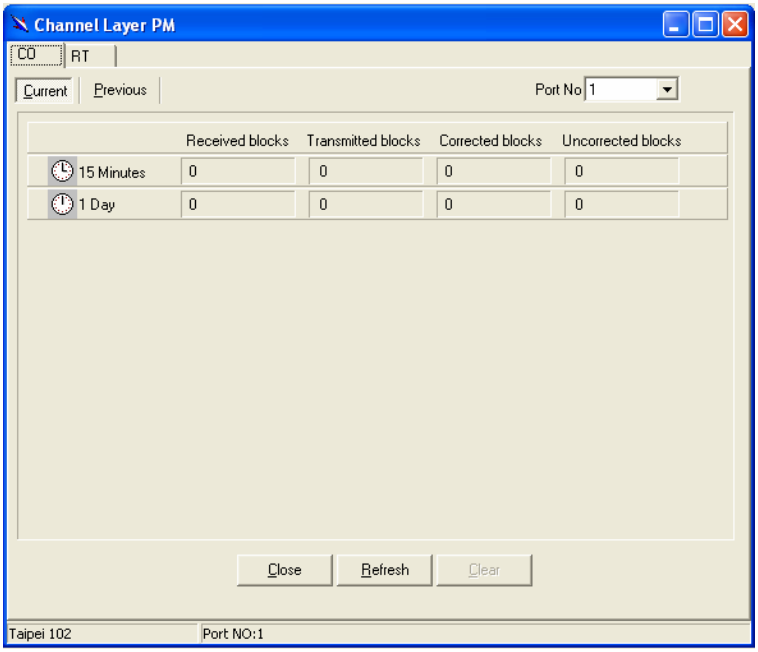
Field	Definition
CO	down stream
RT	up stream
Lofs	Number of lof failures since reset.
Loss	Number of los failures since reset.
Lols	Number of lol failures since reset.
Lprs	Number of lpr failures since reset.
Ess	Number of error seconds since reset.
Inits	Number of initialization attempts since reset. 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.

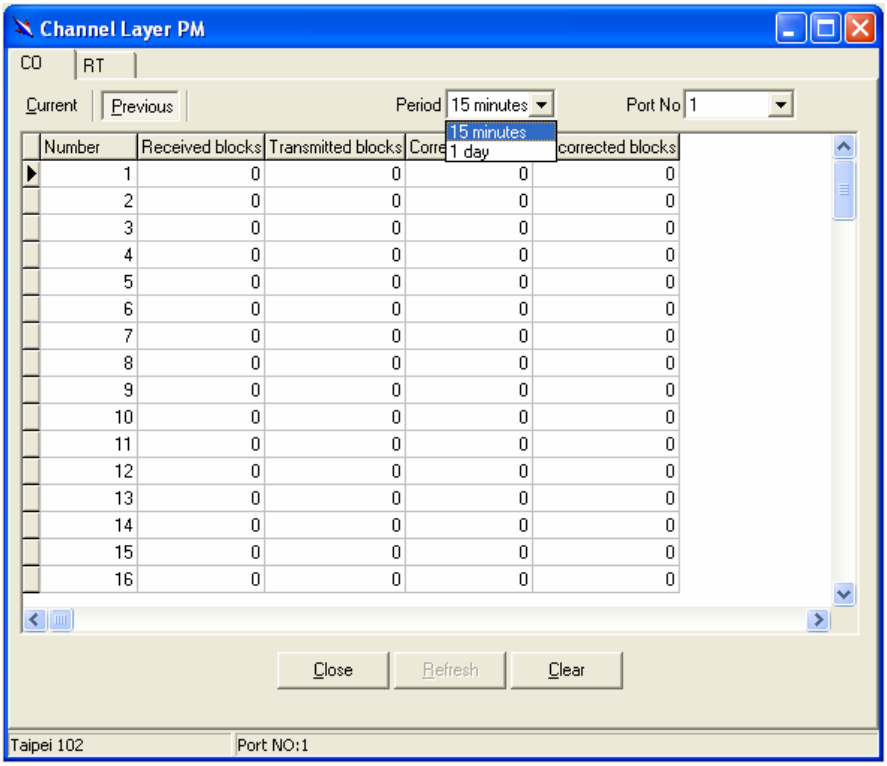


Press Co or RT tab to view the Channel Layer Performance data at down stream or up stream.

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 Refresh.

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 Clear to clear the channel layer data.

Click on Close 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.

5 System Administration with CLI

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 ADSL2/2+ IP DSLAM easily. This chapter contains the whole CLI cmmands. If to understand primary CLI commands, refer to chapter 6 in which frequently used CLI commands are summerized.

5.1 Notation Conventions

• Keywords in a command that you must enter exactly as shown are presented in bold italics.

User specified values in a command are presented in regular typeface, i.e., not bold or italic.

Parameter values enclosed in < > must be specified.

Parameters enclosed in [ ] are optional. All modify parameters are shown as optional in CLI commands even if there exists only a single parameter.

Parameter values are separated by a vertical bar ì|î only when one of the specified values can be used.

Parameter values are enclosed in { } when you must use one of the values specified.

Parameters are enclosed in [ ]+ when you can specify the parameter one or more times, in the command line.

5.2 Command Structure

There are three-level command structure used in the system. All commands have the following general format:

<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.
<Group>.	This is the second keyword of a CLI command. It indicates the group of a CLI command.
	"bridge" is an example of this keyword.
<Sub group>.	This is the third keyword of a CLI command. It indicates the sub group of a CLI command.
	"port" is an example of this keyword
<Sub sub group>.	This is the fourth keyword of a CLI command. It indicates the sub group of a CLI command.
	"intf" is an example of this keyword.
<tag1 value1> <tagN valueN>.	These are <tag value> pairs and can vary from 0 to N. They indicate the parameter values passed to a CLI command.
	"ifname aal5- 0", "portid 20", are examples of tag value pairs.

5.3 Glossary of Terms and 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
EOA	Ethernet over ATM
GARP	Generic Attribute Registration Protocol
GMRP	GARP Multicast Registration Protocol
GVRP	GARP VLAN Regenration Protocol
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

5.4 CLI Command Brief Description

Table 4-1 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 theremote 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.

<action>	Description
verbose	Using this command, a user can view the status of entries before and after the execution of a command (create, delete, modify, get).

5.4.1 Calling Commands

To recall commands from the history buffer, perform one of these tasks.

Command	Task
The up arrow key	Recall commands in the history buffer, beginning with the most recent command. Repeat the key sequence to recall successively older commands.
The down arrow key	Return to more recent commands in the history buffer after recalling commands with “the up arrow key”. Repeat the key sequence to recall successively more recent commands.

5.5 Commands Group Description

5.5.1 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
Ifname interface-name	Interface name, for which configuration is to be modified or viewed. **Type**: Get -Optional Modify - Mandatory **Valid values** : *eth-*,atm-*,aal5-*, eoa-*, dsl-*, dslf-*, dsli-*, aggr-*, ehdlc-**.
trap enable|disable	Indicates whether *linkUp/linkDown* traps should be generated for this interface. **Type**: Modify – Optional **Valid values** : enable Or disable

Example **$ get interface 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
LinkUpDnTrapEnable   : Enable         Promiscous Mode      : True
Connector Present    : True           CounterDiscontTime   : 100
HC In Octets         : 100
HC OutOctets         : 100
```

Output Fields

Field	Description
Interface	This uniquely identifies the interface, for which information is being displayed. It may be: *eth-0, eth-1, atm- *, aal5-*, eoa-*, dsl-*, dslf-*, dsli-*, aggr-*, ehdlc-**.
Description	This is general information about the interface
Type	The type of interface, distinguished according the physical/link/network protocol, immediately below the IP layer. It may be: *ATM, ETHERNET, AAL5, EOA, DSL, FAST, INTERLEAVED, AGGR. EHDLC*.
Mtu	The size (in bytes) of the largest packet, which can be sent/received on this interface in octets.
Bandwidth	The current bandwidth of the interface, in bps.
Phy Addr	Interface's address, at its protocol sublayer.
Admin Status	This is the desired state of the interface. It may be: *Up, Down*.

Operational Status	This is the current operational state of the interface. It may be: *Up, Down*.
Last Change	Value of System UpTime (in seconds) at the time the interface entered its current operational state.
Unknown Prot Pkts	The number of packets received via the interface, which were discarded because of an unknown or unsupported protocol.
In Octets	The total number of octets received on the interface, including the framing characters. For Ethernet interfaces, this will have the lower 32 bits of HC in octets. Valid for *atm-*, eoa-*, aal5-*, eth-0, eth-1, dsl-*, dslf*, dsli-*, aggr-**.
Out Octets	The total number of octets transmitted out of the interface, including framing characters. For Ethernet interfaces, this will have the lower 32 bits of HC Out octets. Valid for *atm-*, eoa-*, aal5-*, eth-0, eth-1, dsl-*, dslf*, dsli-*, aggr-**.
In Discards	The number of inbound packets, which were discarded, though no errors were detected.
Out Discards	The number of outbound packets chosen to be discarded even though there were no errors.
In Errors	The number of inbound packets, which were not delivered to upper layers because of errors.
Out Errors	The number of outbound packets chosen to be discarded because there were errors.
In Ucast Pkts	The number of unicast packets delivered to a higher layer protocol.
Out Ucast Pkts	The total number of packets requested to be sent to unicast addresses, by upper layer protocols.
HC In Octets	The total number of octets received on the interface, including framing characters. This object is a 64-bit version of **ifInOctets**. Valid for *eth-*.*
HC OutOctets	The total number of octets transmitted out of the interface, including framing characters. This object is a 64-bit version of **ifOutOctets**. Valid for *eth-*.*
In Mcast Pkts	The number of multicast packets delivered to a higher layer protocol.
Out Mcast Pkts	The total number of packets requested to be sent to multicast addresses, by upper layer protocols.
In Bcast Pkts	The number of broadcast packets delivered to a higher layer protocol.
Out Bcast Pkts	The total number of packets requested to be sent to broadcast addresses, by upper layer protocols.
LinkUpDnTrapEnable	Indicates whether *linkUp/ linkDown* traps should be generated for this interface.
Promiscous Mode	This object has a value of false if this interface only accepts packets/frames that are addressed to this station. This object has a value of true when the station accepts all packets/frames transmitted on the media. The value true is legal only for Ethernet interfaces. The value of PromiscuousMode does not affect the reception of broadcast and multicast pack-ets/frames by the interface.
Connector Present	This indicates whether the interface sublayer has a physical connector or not. This is true only for physical Ethernet interfaces.
CounterDiscontTime	The value of **sysUpTime** on the most recent occasion, at which any one or more of this interface's counters suffered a discontinuity.

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 ifname***

get interface config

Description: Use this command to view Interface Configuration.
Command Syntax: ***get interface config ifname ifname***

modify interface config

Description: Use this command to modify interface configuration.
Command Syntax: ***modify interface config ifname ifname [trap enable|disable]***

Parameters

Name	Description
Ifname interface-name	Interface name, for which configuration is to be modified or viewed. **Type**: Get -Optional Modify - Mandatory **Valid values** : *eth-*,atm-*,aal5-*, eoa-*, dsl-*, dslf-*, dsli-*, aggr-*, ehdlc-**.
trap enable|disable	Indicates whether *linkUp/linkDown* traps should be generated for this interface. **Type**: Modify – Optional **Valid values** : enable Or disable

Example **$ get interface config**

Output Verbose Mode On

```
IfName      LinkUp/DnTrap
------------------------------------------------------------
aal5-0      Enable
```

Output Fields

FIELD	Description
IfName	Interface name, for which configuration is to be viewed.
LinkUp/DnTrap	Indicates whether *linkUp/linkDown* traps shall be generated for this interface.

Caution None

References •

- ATM Interface commands
- Ethernet commands
- EoA commands

5.5.2 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-portinterface-name [enable | disable] [Maxvpibits maxvpibits][Maxvcibits maxvcibits] [Orl Orl]***

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] [Maxvpibits maxvpibits] [Maxvcibitsmaxvcibits][Orl Orl]***

Parametersame	Description
ifname interface-name	This specifies the name of the ATM port **Type:** Create - Mandatory Delete -Mandatory Get - Optional Modify -Mandatory **Valid values :** *atm-0 - **
maxvc max-num-vccs	This specifies the maximum number of VCCs (PVCCs), supported at this ATM interface. **Type :** Optional **Valid values :** 1 -GS_CFG_MAX_ATM_VC_PER_PORT **Default Value :** GS_CFG_DEF_ATM_VC_PER_PORT
Maxvpibits max-vpi-bits	Maximum number of VPI bits configured for use at this ATM interface. **Type :** Optional **Valid values :** 1 to 8. **Default Value :**
maxvcibits max-vci-bits	Maximum number of VCI bits configured for use at this ATM interface. **Type** : Optional **Valid values** : 1 to 16. **Default Value:** 16.
enable|disable	Administrative status of the ATM port **Type** : Optional **Valid values** : *enable* or *disable* **Default Value:** *enable*
lowif dsl-port-interface-name	This identifies the lower DSL interface, on which this ATM interface is configured. **Type** : Mandatory.

	Valid values *: dsl-**
Orl orl	This parameter specifies the output rate limiting val-ue in Kbps to be applied on this interface. **Type**: create – Optional **Valid values** : *GS_CFG_MIN_ORL_ATM_RATE_KBPS – GS_CFG_MAX_ORL_ATM_RATE_KBPS*

Example: ***$ create atm port ifname atm-0 lowif dsl-0 maxvc 4*** **utput**

Output Verbose Mode On

```
IfName : atm-0                                    LowIfName :
dsl-0
MaxVccs : 4                                     MaxConfVccs : 0
MaxVpiBits : 9                                  MaxVciBits : 10
OAMSrc : 0xffffffffffffffffffffffffffffffff
ORL (kbps) : 640                                Class0thrshld :
2
Class2thrshld : 2                                 RowStatus  :
Active
UnknownVPI : 2ProfileName : gold                Class1thrshld :
3
                                                  UnknownVCI : 3

Class3thrshld : 3

Oper Status : Up                                  Admin Status :
Up
```

Output Fields

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

Caution 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.

5.5.3 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 vci vci lowif atm-port-interface-name [enable | disable] [aal5] [a5txsize aal5-cpcs-tx-sdu-size] [a5rxsize aal5-cpcs-rx-sdu-size] [vcmux | llcmux] [pvc] [channel fast|interleaved] [mgmtmode data|mgmt|DataAndMgmt| raw]***

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] [vci vci] {enable | disable} [a5txsize aal5-cpcs-tx-sdu-size] [a5rxsize aal5-cpcs-rx-sdu-size] [mgmtmode data | mgmt| DataAndMgmt | raw]***

Parameters

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

vci vci	Virtual Circuit Identifier. In order to modify, the VCI value shall be the new VCI value and the admin status of VC interface shall be disabled. Also, the VPI and VCI valaue cannot be modified along with admin status in one command. **Type** : Create – Mandatory Modify **–** Optional **Valid values** : *1-2^16*
mgmtmode Data | Mgmt | DataAndMgmt | Raw	It denotes the Management Mode of the ATM VC. If it is Data, then only data transmission can take place. If it is Mgmt, then management of remote CPE device can happen on that ATM VC and packets on that ATM VC shall start coming to Control Plane. In DataAndMgmt mode, data transmission as well as remote CPE management can happen on the same ATM VC interface. In DataAndMgmt mode, the 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 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 ot 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). **Type :** Create Optional **Default value:** Data
enable|disable	This specifies the Admin Status of the VC. **Type** : Optional **Default Value**: *enable*
aal5	This specifies the AAL type in use for this VC. The only type of AAL supported in Columbia Packet is AAL5. **Type**: The only value to be supported is aal5. **Default value** : aal5
a5txsize ***aal5-cpcs-tx-sdu-size***	This specifies the maximum transmit CPCS SDU size to be used. **Type** : Optional **Valid values** : *1-GS_CFG_ATM_VC_MAX_RX_PDU_SIZE* **Default Value**: *GS_CFG_ATM_VC_DEF_TX_PDU_SIZE*
a5rxsize ***aal5-cpcs-rx-sdu-size***	This specifies the maximum receive CPCS SDU size to be used **Type** : Optional **Valid values** : *1-GS_CFG_ATM_VC_MAX_TX_PDU_SIZE* **Default Value**: *GS_CFG_ATM_VC_DEF_TX_PDU_SIZE*
vcmux|llcmux	This specifies the data multiplexing method to be used over the AAL5 SSCS layer. **Type** : Optional **Default Value**: *llcmux*
Pvc	This specifies the type of VC. The only value supported is PVC. **Type** : Optional

	Default Value: *pvc*
channel fast|interleaved	This extension specifies the type of channel, on which the ATM VC's cells have to be transmitted/re-ceived. 'fast' means fast channel and 'inter' means interleaved channel. **Type** : Optional **Default Value**: *Interleaved*

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***

Output Verbose Mode On

```
Entry Created                    Low IfName : atm-0
VC IfName : aal5-0               VCI : 10
VPI : 10                         Oper Status : Up
Admin Status : Up
Aal5 Tx Size : 1536              Aal5 Rx Size : 1536
AAL Type : AAL5                  AAL5 Encap : LLC Mux
channel : Interleaved            Last Change :
18/06/2002::09:10:23
MgmtMode : Data                  Row Status : active
VC Type : PVC                    VC Topology : Point to Point
```

Output Fields

FIELD	Description
VC IfName	VC Interface Name. It can be : *aal5-0* - *
Low IfName	Interface Index of the ATM port, on which this VC is getting configured.
VPI	It is the Virtual Path Identifier.
VCI	It is the Virtual Circuit Identifier.
Oper Status	The actual/current state of the interface. It can be either *Up* or *Down*
Admin Status	The desired state of the interface. It may be either *Up/Down.*
Aal5 Tx Size	This specifies the transmit CPCS SDU size to be used.
Aal5 Rx Size	This specifies the receive CPCS SDU size to be used.
Aal Type	This specifies the AAL type in use for this VC. The only type of AAL supported in Columbia Packet is AAL5.
Aal5 Encap	This specifies the data multiplexing method to be used on the VC.
channel	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.
Last Change	The value of sysUpTime at the time this VC entered its current operational state.
MgmtMode	It denotes the Management Mode of the ATM VC. If it is Data, then only data transmission can take place. If it is Mgmt, then management of remote CPE device can happen on that ATM VC and packets on that ATM VC shall start coming to Control Plane. In DataAndMgmt mode, data transmission as well as remote CPE management can happen on the same ATM VC interface. In DataAndMgmt mode, the only acceptable value for

	atmVCCAAL5EncapType is llc. In Mgmt mode, EoA interface cannot be created on the ATM VC and both Ethernet as well as non-ethernet packets on that ATM VC shall be received at the Control Plane. In DataAndMgmt mode, if EoA is created, then only non-ethernet packets on that ATM VC shall be received at the Control Plane. However, if EoA is not created then all the packets on that ATM VC shall be received at the Control Plane. However, to configure ATM VC in DataAndMgmt mode, a good practice is to to create ATM VC in disable mode till EoA is created on it, to prevent flooding at Control Plane. In order to run STP, the mode has to be DataAndMgmt. If the mode is RawATM(4), ATM cells are given to Control Plane. In this mode, EoA interface can ot 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).
RowStatus	This defines the row-status of the interface entry
VC Type	This field specifies whether VC type is PVC or SVC.
VC Topology	This field specifies the VC connection topology type.

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

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

5.5.4 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
ifname interface-name	This parameter specifies the interface for which information is desired **Type**: Get -Optional **Valid values** : *aal5-0* - *

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

Output

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

Output Fields

FIELD	Description
VC IfName	The name of the **aal5** (*aal5-0* etc) interface, for

	which statistics needs to be retrieved.
Low IfName	This specifies the ATM port name. It can be : *atm-0*
VPI	This is the Virtual Port Identifier.
VCI	This is the Virtual Circuit Identifier.
Tx Frames count	The number of AAL5 CPCS PDUs transmitted on this AAL5 VCC.
Rx Frames count	The number of AAL5 CPCS PDUs received on this AAL5 VCC.
Tx Bytes count	The number of octets contained in AAL5 CPCS PDUs received on this AAL5 VCC.
Rx Bytes count	The number of octets contained in AAL5 CPCS PDUs received on this AAL5 VCC.
CRC Errors count	This specifies the number of CRC errors encountered.
Oversized SDU	This specifies the number of oversized SDUs received.

Caution None.

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

5.5.5 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-name]***

Parameters

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

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

Output

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

Output Fields

FIELD	Description
LowIf	This specifies the ATM port name. It can be : *atm-0*
VPI	It is the Virtual Port Identifier.
VCI	It is the Virtual Circuit Identifier.
VC IfName	The name of the aal5 (*aal5-0* etc) interface, for which statistics needs to be retrieved.
Total Tx Cells count	The total number of valid ATM cells transmitted by

	this interface.
Total Rx Cells count	The total number of valid ATM cells received by this interface.
CLPI 0 Rx Cells	The number of valid ATM cells received by this interface with CLP=0.
Rx Pkts Rejected count	The total number of valid ATM cells discarded by the interface.

Caution None

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

5.5.6 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] [orldecvalue][duplex half| full|auto][mgmtvlanid mgmtvlanid] [priority priority]***

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] [mgmtvlanid mgmtvlanid] [priority priority]***

Parameters

Name	Description
ifname interface-name	This specifies the interface index used for the Ethernet type of interfaces. **Type** : Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory **Valid values** : *eth-0 - ****
ip ip-address	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 '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 **Type :** Create - Optional. Modify - Optional **Valid Values:** Any valid class A/B/C / Classless IP address. **Default Value:** None
Mask net-mask	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. **Type:** This field is not allowed when a physical interface is specified and IP is 0.0.0.0. In all other cases the field is mandatory. **Valid Values :** 255.0.0.0 - 255.255.255.255 **Default Value:** None
usedhcp true | false	This 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 **modify** 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 **Iftype** is slave then this field cannot be set to GS_TRUE. **Type :** Optional **Valid value :** true or false **Default value:** false
speed {auto |100 BT| 1000BT}+	This specifies the port speed for the net side interfaces. Auto specifies that the interface will deter-mine the line speed using auto-negotiation. **Type:** Optional. **Valid Values:** *auto, 100BT, 1000BT*. **Default Value**: *auto*.

type uplink|downink	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 **usedhcp** is false. **Type:** Optional. **Valid Values:** *uplink, downlink*. **Default Value:** *uplink*.
enable|disable	Administrative status of the Ethernet interface. **Type** : Modify - Mandatory **Valid values** : enable or disable **Default value**: enable
Duplex auto|half|full	This defines the duplex mode to be used. **Type** : optional **Valid values**: *auto, half, full* **Default value**: *auto*
Pkttype Mcast|Bcast|UnknownUcast | All|None	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. **Type:** Create - optional Modify - optional **Valid values :** Mcast, Ucast, UnknownUcast, All **Default Value:** All
Orl decvalue	This parameter specifies the output rate limiting val-ue to be applied on this Interface. The unit for the same is in Mbits/sec. **Type:** Create - Optional Modify – Optional **Valid Values:** GS_CFG_MIN_ORL_ETH_RATE_MBPS -GS_CFG_MAX_ORL_ETH_RATE_MBPS **Default Value:** GS_CFG_DEF_ORL_ETH_RATE_MBPS
mgmtvlanid mgmtvlanid	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. **Type :** Create - optional Modify - optional **Valid values:** 0 -GS_CFG_MAX_VLAN_ID
priority priority	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. **Type**: Create - optional Modify - optional **Valid values**: 0 -GS_CFG_MAX_MGMT_PRIO

Example1 basic configuration
create ethernet intf ifname eth-0 ip 192.168.1.1 mask255.255.255.0 enable

Example2 advanced configuration
create ethernet intf ifname eth-0 ip 192.168.1.1 mask255.255.255.0 speed 100bt class0thrshld 1 class1thrshld

2class2thrshld 1 class3thrshld 2 class4thrshld 1 class5thrshld2 class6thrshld 1 class7thrshld 2 profilename sprofilemgmtvlanid 2 priority 2

Output Verbose Mode On

```
Entry Created


Interface : eth-0
Type : Uplink UseDhcp : False
IP Address : 192.168.1.1 Mask : 255.255.0.0
Pkt Type : Mcast
Orl(mbps) : 100
Configured Duplex : Auto Duplex : None
Configured Speed : Auto
Class0thrshld : 1 Class1thrshld : 2
Class2thrshld : 1 Class3thrshld : 2
Class4thrshld : 1 Class5thrshld : 2
Class6thrshld : 1 Class7thrshld : 2
Profile Name : SPPROFILE
Mgmt VLAN Index : 2
Tagged Mgmt PDU Prio: 2
Speed : -
Operational Status : Down Admin Status : Up
```

Output Fields

FIELD	Description
If-Name	The name of the interface, which has been created.
Type	The type of Ethernet interface - *uplink* or *downlink.*
UseDhcp	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 etherIfIpAd dress 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 Iftype is slave then this field cannot be set to GS_TRUE.
Ip Address	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 '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
Mask	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.
pkttype	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.
Orl	This parameter specifies the output rate limiting value to be applied on this Interface.The units for the same is in Mbits/sec
Configured Duplex	The duplex mode to be used by the interface, as configured by the user.
Duplex	The duplex mode used by the interface.
Configured Speed	The configured speed of the interface.
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 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.
Tagged Mgmt PDU Prio	Priority to be set in Tagged Ethernet PDUs sent on Management VLAN over this interface. This field is valid only if either 'ip' field is non-zero or 'usedhcp' field is true.
Speed	The actual speed of the interface.
Operational Status	The operational status of the interface.
Admin Status	The administrative status of the interface.

5.5.7 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-interfacename[pkttype {multicast \|broadcast \|unknown-unicast}+ \| all][fcs false \| true][enable\|disable]***

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 EoAinterfaces.

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 |unknown-unicast}+ | all| none] [fcs false |true][enable|disable]***

Parameters

Name	Description
ifname interface-name	This parameter specifies the name assigned to this interface. **Type** : Create – Mandatory Delete – Mandatory Get – Optional Modify – Mandatory **Valid values:** *eoa-0,eoa-1….*
lowif low-interface-name	This parameter specifies the lower interface of an EoA interface. **Type** : Mandatory **Valid Values** : *aal5-0 - **
pkttype {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. **Type:** Optional. **Valid Values :** {multicast |broadcast |unknown-unicast}+| all **Default Value :** all.
fcs false | true	This specifies whether Ethernet FCS needs to be computed. Currently only **false** is supported. **Type :** Optional **Valid Values :** *false* or *true* **Default Value:** *false*.
Enable|disable	Administrative status of the interface **Type** : Optional **Valid values** : *enable* or *disable* **Default Values:** *enable*

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
Oper Status : Down Admin Status :
Up
```

Output Fields

Name	Description
IfName	The name of the interface that has been created.
LowIfName	Specifies the lower interface.
FCS	Whether FCS is true or false.
Pkt Type	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.
Admin Status	The desired state of the interface. It may be either *Up* or *Down*
Oper Status	The actual/current state of the interface. It can be either *up* or d*own*.

Caution None

References • Ethernet commands

• Ethernet Stats commands.

5.5.8 GVRP Port Info Commands

get gvrp port info

Description: Use this command to get.

Command Syntax: ***get gvrp port info [portid portid]***

modify gvrp port info

Description: Use this command to modify.

Command Syntax: ***modify gvrp port info portid portid [portvlanid portvlanid] [acceptframetypes all | tagged] [ingressfiltering true|false] [gvrpstatus enable | disable] [restrictedvlanreg true|false]***

Parameter

Name	Description
portid portid	The bridge port id. **Type :**Optional for all commands **Valid values:** *1 -GS_CFG_MAX_BRIDGE_PORTS*
portvlanid portvlanid	The VLAN Identifier. **Type :**Optional for all commands **Valid values:** 1 - GS_CFG_MAX_VLANID
acceptframetypes all | tagged	When this is **Tagged**, the device will discard un-tagged frames or Priority-Tagged frames received on this port. When this is **All**, untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port. **Type:**Optional for all commands
ingressfiltering true|false	When this is **true**, the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When **false**, the port will accept all incoming frames. **Type :** Optional for all commands **Valid values:** *true* or *false*
gvrpstatus enable | disable	The state of GVRP operation on this port. **Type:**Optional for all commands
restrictedvlanreg restrictedvlanregtrue|fa lse	The state of Restricted VLAN Registration on this port. If the value of this control **is true(1),** then creation of a new dynamic VLAN entry is permitted only if there is a Static VLAN Registration Entry for the VLAN concerned, in which, the Registrar Administrative Control value for this port is, Normal

	Registration. **Type :**Optional for all commands **Valid values:** *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
Port Id	The bridge port id.
Port VLAN Index	The VLAN Identifier.
Accept Frame Types	When this is **Tagged**, the device will discard un-tagged frames or Priority-Tagged frames received on this port. When **All**, untagged frames or Priority-Tagged frames received on this port will be accepted and assigned to the PVID for this port.
Ingress Filtering	When this is **true**, the device will discard incoming frames for VLANs, which do not include this Port in its Member set. When **false**, the port will accept all incoming frames.
Gvrp Status	The state of GVRP operation on this port.
Failed Registrations	The total number of failed GVRP registrations, for any reason, on this port.
Last Pdu Origin	The Source MAC Address of the last GVRP message received on this port.
Restricted Vlan Registration	The state of Restricted VLAN Registration on this port. If the value of this control is **true(1),** then creation of a new dynamic VLAN entry is permitted only if there is a Static VLAN Registration Entry for the VLAN concerned, in which, the Registrar Administrative Control value for this port is, Normal Registration.

Caution None
References • GVRP Commands

5.5.9 VLAN Static Commands

create vlan static

Description: Use this command to create.
Command Syntax: ***create vlan static vlanname vlanname vlanid vlanid [egressports egressports|none][forbidegressports forbidegressports|none] [untaggedports untaggedports|none][bridgingmode bridgingmode] [floodsupport enable|disable][bcastsupport enable|disable]***

modify vlan static

Description: Use this command to modify.
Command Syntax: ***modify vlan static (vlanname vlanname | vlanid vlanid)[egressports egressports|none] [forbidegressportsforbidegressports|none] [untaggedports untaggedports|none][bridgingmode bridgingmode] [floodsupport enable|disable][bcastsupport enable|disable]***

delete vlan static

Description: Use this command to delete.
Command Syntax: ***delete vlan static (vlanname vlanname | vlanid vlanid)get vlan static***

get vlan static

Description: Use this command to delete.
Command Syntax: ***get vlan static [vlanname vlanname | vlanid vlanid]***

5.5.10 Vlan curr info Commands

get vlan curr info

Description: Use this command to get.
Command Syntax: ***get vlan curr info [vlanid vlanid]***

Parameters

Name	Description
vlanid vlanid	The VLAN identifier **Type:** Get --Optional **Valid values:** 1 - GS_CFG_MAX_VLAN_ID

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 description

Field	Description
VLAN Index	The VLAN identifier
VLAN Status	This value indicates the status of the VLAN Port cor-responding 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.
Egress Ports	The set of ports, which are transmitting traffic for this VLAN, as either tagged or untagged frames.
Untagged Ports	The set of ports, which are transmitting traffic for this VLAN as untagged frames.
VLAN Index	The VLAN identifier
VLAN Status	This value indicates the status of the VLAN Port corresponding to this entry. other(1) - the entry is for the default VLAN created for the system. permanent(2) - this entry, corresponding to an entry in dot1qVlanStaticTable, is currently in use and will remain so after the next reset of the device. The port lists for this entry include ports from the equivalent dot1qVlanStaticTable entry and ports learnt dynamically. dynamic(3) - this entry is currently in use and will remain so until removed by GVRP. There is no static entry for this VLAN and it will be removed when the last port leaves the VLAN.
Egress Ports	The set of ports, which are transmitting traffic for this VLAN, as either tagged or untagged frames.
Untagged Ports	The set of ports, which are transmitting traffic for this VLAN as untagged frames.
Bridging Mode	This specifies the state of full bridging for the Vlan. There can be 3 values associated with this based on global fullBridgingStatus. These values can be restricted bridging, unrestricted full bridging and 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.
Flood support Status	This tells if the flooding shall be done for unknown unicast packets for this vlan or not. The unknown unicast packets shall be flooded to all ports for a vlan if global value (present in Dot1dTpInfo) is enabled or throttle and the value per vlan is also enabled else dropped.
Broadcast support Status	This tells if the broadcast shall be done for this vlan or not. The broadcast packets shall be broadcasted on all ports for a vlan if global value (present in Dot1dTpInfo) and the value per vlan are both en-abled else dropped.

Caution None.

References None.

5.5.11 VLAN Port Stats Commands

get vlan port stats

Description: Use this command to get.
Command Syntax: ***get vlan port stats [portid portid] [vlanid vlanid]***

reset vlan port stats

Description: Use this command to reset.
Command Syntax: ***reset vlan port stats portid portid vlanid vlanid***

Parameters

Name	Description
portid portid	Index of the Bridge Port **Type :** Get – Optional Reset - Mandatory **Valid values:** *1 -GS_CFG_MAX_BRIDGE_PORTS*
vlanid vlanid	The VLAN identifier. **Type :** Get – Optional Reset - Mandatory **Valid values:** *1 - GS_CFG_MAX_VLAN_ID*

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
PortId	Index of the Bridge Port.
VLAN Index	The VLAN identifier.
Vlan In Frames	Number of valid frames received by this port.
Vlan Out Frames	Number of valid frames transmitted by this port.
Vlan In Discards	Number of valid frames discarded by this port.
Vlan In Overflow	Count of Inframes counter overflow.
Vlan Out Overflow	Count of Outframes counter overflow.

Caution None

References
- VLAN Commands.

5.5.12 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]][dropiffdbfull dropiffdbfull] [resnetlearning resnetlearning]

get bridge tbg info

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

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

Parameters

Name	Description
Aging aging-timeout	The timeout period, in seconds, for aging out dynamically learned forwarding information from CPEs. The value 0 can be configured when aging is to be stopped. **Type:** Modify Optional **Valid values:** GS_CFG_MIN_AGING_TIME –GS_CFG_MAX_AGING _TIME
slaveaging aging – timeout	The timeout period, in seconds, for aging out dynamically learned forwarding information learned from the slave device. The recommended value for this is more than or equal to the value for dot1dTpAgingTimeOut. The value 0 can be configured when aging is to be stopped.
netaging aging – timeout	The timeout period, in seconds, for aging out dynamically learned forwarding information from NET side port. This is used only for full bridge configuration. The recommended value of net aging timeout should be greater than that of the ìAgingî parameter. The value 0 can be configured when aging is to be stopped.
floodsupport enable|disable|throttle	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.
bcastsupport enable|disable	This is used to specify whether the broadcasting is supported or not. The value for this is used along with per vlan configuration broadcast support, to determine if broadcasting has to be done for the broadcast packet.
mcastsupport enable|disable	Used to specify whether the multicast is supported or not. **Type :** Optional **Valid Values:** *enable*| *disable*
mcastdrop enable|disable	Used to specify whether the multicast packets are to be dropped, or to be forwarded, if multicast is not supported. This is only valid if **dot1dTpMcastSupport** is **false**. **Type :** Optional **Valid Values:** *enable*|*disable*
throttlingrate throttlingrate	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 ìfloodsupportî parameter in the system is set to value Throttle.

pollinterval pollinterval	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.
dropiffdbfull nable| edisable	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 whcih learning could not be done shall come the frame shall be flooded, as the entry for that unicast address, shall not be found in forwarding table. **Type :** Optional **Valid Values:** *enable or disable* **Default value:** GS_CFG_DEF_BRIDGE_IFFDBFULLDROP
resnetlearning enable | disable	This specifies if learning can be done over net side port for residential bridging. Learning shall be done on Net port in case of vlan with residential bridging if 'dot1dPortGsLearningStatus' and 'dot1dTpGsResidentialNetLearning'is enabled. In case of vlan with 'unrestricted' or 'restricted' bridging the learning is governed only by per port configuration i.e. 'dot1dBasePortTable'. Currently the modification of this parameter is not supported. **Type :** Optional **Valid Values:** *enable or disable* **Default value:** GS_CFG_DEF_NET_LEARNING_RSDNTL

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                Bridging Mode            : Unrestricted
Throttling Rate : 100                   Polling Interval (ms)    : 25
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         Bridging Mode           : Unrestricted
Throttling Rate         : 100             Polling Interval (ms)   : 25
Drop If FDB full status : Enable          ResidentialNetLearning  : Enable
```

Output Fields

Field	Description
MacAddress	The MAC address used by this bridge, when it must be referred to, in a unique fashion. It is the address of one of the Ethernet ports.
No. of Ports	The maximum number of ports that can be controlled by this bridge.
Base Type	Indicates what type of bridging this bridge can perform. It is always Transparent Bridging or STP.
Aging TimeOut	The timeout period, in seconds, for aging out dynamically learned for warding information from CPEs. The value 0

	can be configured when aging is to be stopped.
Slaveaging TimeOut	The timeout period, in seconds, for aging out dynamically learned forwarding information learned from the slave device. The recommended value for this is more than or equal to the value for dot1dTpAgingTimeOut. The value 0 can be configuredwhen aging is to be stopped.
Floodsupport	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.
Bcastsupport	This is used to specify whether the broadcasting is supported or not. The value for this is used along with per vlan configuration broadcast support, to determine if broadcasting has to be done for the broadcast packet.
Mcastsupport	Used to specify whether the multicast is supported or not.
Mcastdrop	Used to specify whether the multicast packets are to be dropped, or to be forwarded, if multicast is not supported. This is only valid if **dot1dTpMcastSupport** is **false**.
NetAgingTimeout	The timeout period, in seconds, for aging out dynamically learned 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.
Bridging Mode	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.
Throttling rate	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 ìflood supportî parameter in the system is set to value Throttle.
Polling Interval (milliseconds)	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 ìfloodsupportî parameter is set to value Throttle.
Drop If FDB full status	This specifies if the frame for which learning could not be done because of forwarding table limit being reached, is to be dropped. If this is enabled the frame for which learning could not be done because of limit exceeded shall be dropped, else forwarded based on bridge forwarding logic.This being enabled shall reduce flooding, as when a response to such a frame from whcih learning could not be done shall come the frame shall be flooded, as the entry for that unicast address, shall not be found in forwarding table.

ResidentialNetLearning	This specifies if learning can be done over net side port for residential bridging. Learning shall be done on Net port in case of vlan with residential bridging if 'dot1dPortGsLearningStatus' and 'dot1dTpGsResidentialNetLearning'is enabled. In case of vlan with 'unrestricted' or 'restricted' bridging the learning is governed only by per port configuration i.e. 'dot1dBasePortTable'. **Currently the modification of this parameter is not supported.**

Caution None

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

5.5.13 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: ***create ip route ip dest-ip-address gwyip gwy-ip-address mask net-mask***

5.5.14 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
ip ip-address	IP address corresponding to the media-dependent ìphysicalî address **Type:** Mandatory **Valid values:** Any valid class A/B/C IP address
macaddr mac-address	The media-dependent ìphysicalî address **Type:** Mandatory **Valid values:** *0:0:0:0:0:1 - ff:ff:ff:ff:ff:fe*

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
If Name	This specifies the physical interface for the media. It may be: *eth-0* - *. This entry contains bridge management information.
Type	This defines the type of mapping in use. The value *Invalid* has the effect that this entry is not used. It may be: *Static*, *Dynamic*, Other
Mac Address	The media-dependent ìphysicalî address
Ip Address	IP address corresponding to the media-dependent ìphysicalî address

Caution 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.

5.5.15 Bridge Mode Commands

get bridge mode

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

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

Parameters None

Example `$ get bridge mode`

Output
```
Bridging Mode is Enabled
```

Output Fields None

Caution None.

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

5.5.16 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
Ifname interface-namef	This specifies the interface name on which DHCP is running. If this is not specified, then information for clients on all such interfaces will be displayed. **Type :** Optional **Valid values :** eth-*, aggr-*

Mode Super-User, User

Example `$ get dhcp client info ifname eth-0`

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

Output Fields

FIELD	Description
If-Name	This is an interface on which DHCP is running: It can be : *eth-*, aggr-**
Server	This specifies the address of the DHCP server with whom the client has obtained the IP address and other configuratio.s
Status	This specifies the current state of the client. It may be: *Init, Selecting, Bound, Requesting, Renew or Bind.*
Lease Start Date	This signifies the date on which the DHCP server leased out the IP address to the client.

Lease Time	This specifies the time period, (in seconds), for which an IP address was leased out by the server. The client is expected to renew the lease before the expiry of this timer or release the IP Address.

Caution None.
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	
Ifname interface-name	This specifies the interface name on which DHCP is running. If this is not specified then information for clients on all such interfaces will be displayed. **Type**: Optional **Valid values** : *eth-0- ****

Mode Super-User, User

Example `$ get dhcp client stats ifname eth-0`

Output

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

Output Fields

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

Invalid Rcvd	This specifies number of invalid dhcp messages received on this interface.

Caution None
References • dhcp client info related commands

5.5.17 Multicast Forwarding Table Commands

get bridge mcast forwarding

Description: Use this command to get.
Command Syntax: ***get bridge mcast forwarding [vlanid vlanid] [macaddressmacaddress]***

Parameters

Name	Description
vlanid vlanid	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. **Type:** Optional **Valid values:** 0 - GS_CFG_MAX_VLAN_ID
macaddress macaddress	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. **Type:** Optional Valid values:

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
Vlan Index	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.
Mac Address	The destination Group MAC address in a frame, to which this entry's filtering information, applies.
Egress Ports	The complete set of bridge ports, in this VLAN, to which frames destined for this Group MAC address are currently being explicitly forwarded. This does not include ports for which this address is only implicitly forwarded, in the **dot1qForwardAllPorts** list.
Group Learnt	The subset of bridge ports in EgressPorts, which were learned by GMRP or some other dynamic mechanism, in this Filtering database.

Caution **None**
References **• bridge static multicast**

5.5.18 Bridge Static Unicast Commands

create bridge static ucast

Description: This command is used to create.
Command Syntax: ***create bridge static ucast [vlanid vlanid] ucastaddr ucastaddr [portid portid]***

delete bridge static ucast

Description: This command is used to delete.
Command Syntax: ***delete bridge static ucast [vlanid vlanid] ucastaddr ucastaddr***

get bridge static ucast

Description: This command is used to get.
Command Syntax: ***get bridge static ucast [vlanid vlanid] [ucastaddr ucastaddr]***

modify bridge static ucast

Description: This command is used to modify.
Command Syntax: ***modify bridge static ucast [vlanid vlanid] ucastaddrucastaddr [portid portid]***

Parameter

Name	Description
vlanid vlanid	The VLAN id for this VLAN. . For No Vlan case, vlan id is not required. **Type :** Optional **Valid values:** 1-GS_CFG_MAX_VLAN_ID
ucastaddr ucastaddr	The Destination unicast Mac Address, to which filtering info applies **Type:** Mandatory **Valid values:**
portid portid	**Type :** Optional **Valid values**: *1- GS_CFG_MAX_BRIDGE_PORT*

5.5.19 Bridge Static Multicast Commands

create bridge static mcast

Description: Use this command is used to create.
Command Syntax: ***create bridge static mcast [vlanid vlanid] mcastaddr mcastaddr [egressports egressports] [forbidegressports forbidegressports]***

delete bridge static mcast

Description: Use this command is used to delete.
Command Syntax: ***delete bridge static mcast [vlanid vlanid] mcastaddr mcastaddr***

get bridge static mcast

Description: Use this command is used to get.
Command Syntax: ***get bridge static mcast [vlanid vlanid] [mcastaddr mcastaddr]***

modify bridge static mcast

Description: Use this command is used to modify
Command Syntax: ***modify bridge static mcast [vlanid vlanid] mcastaddr mcastaddr [egressports egressports] [forbidegressports forbidegressports]***

Parameter

Name	Description
Vlanid vlanid	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. **Type :**Optional for all commands **Valid values:** 0 - GS_CFG_MAX_VLAN_ID **Default value:**
mcastaddr mcastaddr	The destination multicast MAC address in a frame, to which this entry's filtering information applies. Bit **0** of the first octet of the MAC address indicates a group (multicast) MAC address, if the bit is SET. For example, 01:00:00:00:00:00,03:FF:FF:FF:FF. Addresses in the range 01:80:C2:00:00:00 - 01:80:C2:00:00:0f and 01:80:C2:00:00:20 - 01:80:C2:00:00:2f have been blocked as value of this index, as these are reserved GARP addresses. **Type :** Create -- Mandatory Modify --Mandatory Delete -- Mandatory Get - Optional **Default value:**
egressports egressports|none	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must be forwarded. A port may not be added in this set, if it is already a member of the set of ports in **ForbidEgressPorts**. More than one val-ue can be given, separated by spaces. **Type :**Optional for all commands **Valid values:** *1 – GS_CFG_MAX_BRIDGE_PORTS* **Default value:** none

forbidegressports forbidegressports| 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 **EgressPorts**. **Type** :Optional for all commands **Valid values :** *1 – GS_CFG_MAX_BRIDGE_PORTS* **Default value:** 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
VLan Index	The VLAN id for this VLAN. In devices supporting "Shared Vlan for multicast" capability, the information for a multicast MAC address is shared across vlans. Hence vlan id is an optional parameter. In 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.
Mcast Address	The destination multicastcast MAC address in a frame, to which the filtering information of this entry applies.
Egress ports	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must be forwarded. A port may not be added in this set if it is already a member of the set of ports in ForbiddenEgressPorts.
Forbidden Egress ports	The set of ports, to which frames received from a specific port and destined for a specific Multicast MAC address must not be forwarded, regardless of any dynamic information. A port may not be added in this set if it is already a member of the set of ports in EgressPorts.

Caution None

5.5.20 Bridge mcast fwdunreg commands

get bridge mcast fwdunreg

Description: Use this command to get.
Command Syntax: ***get bridge mcast fwdunreg [vlanid vlanid]***

modify bridge mcast fwdunreg

Description: Use this command to create.
Command Syntax: ***modify bridge mcast fwdunreg vlanid vlanid [egressports egressports|none][forbidegressports forbidegressports |none]***

Parameters

Name	Description
vlanid vlanid	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. **Type :** Modify – Optional Get -- Optional **Valid values :** *0 - GS_CFG_MAX_VLAN_ID* **Default value :**
Egressports egressports|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 begiven, separated by spaces. **Type :** Modify -- Optional **Valid values:** 1-386
forbidegressports forbidegressports |none	The setofports configured bymanagementin this VLAN for which the Service Requirement attribute Forward Unregistered Multicast Groups may not be dynamically registered by GMRP. More than one value can be given separated by spaces. **Type :** Modify -- Optional **Valid values:** 1-386

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

Output Verbose Mode On

```
VLAN Index                  : 1
Forward All Ports           : 34
Forward All Static Ports    : 34
Forward All Forbidden Ports : 345

Set Done

VLAN Index                  : 1
Forward All Ports           : 34
Forward All Static Ports    : 34
Forward All Forbidden Ports : 345


Verbose Mode Off

Set Done
```

Output Fields

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

Caution None

5.5.21 ridge 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
bindingstatus enable |disable	This allows the user to enable or disable the generation of 'binding status changed' trap. **Type:** Modify ---Optional

Example ***$ get bridge tbg traps***

Output Binding Status Changed Trap : enable

Output Fields

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

Caution None

5.5.22 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 [maxucast max-ucast-addresses] [learning enable|disable][status enable|disable] [stickystatus enable | disable] [aclglbdenyapply Enable | Disable] [aclglbtrackapply 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***

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]***

modify bridge port intf

Description: Use this command to modify bridge port extension attributes

Command Syntax: ***modify bridge port intf portid portid [maxucast max-ucast-addresses] [learning enable|disable][status enable|disable] [stickystatus enable | disable][aclglbdenyapply Enable | Disable][aclglbtrackapply Enable | Disable]***

Parameters

Name	Description
portid portid	The bridge port id **Type:** Create --Optional Delete --Mandatory Modify --Mandatory Get -- Optional **Valid values:** 1 -GS_CFG_MAX_BRIDGE_PORTS
Ifname <name>	The interface name associated with the given port. **Type : ** Create --Mandatory **Valid values:** 1 -GS_CFG_MAX_BRIDGE_PORTS
maxucast 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_M AC_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_M AC_ENTRIES. **Type : ** Create -- Optional Modify -- Optional **Default value:** 256
learning enable|disable	The State of Learning on this bridge port. The value enable (1) indicates that unicast Mac address learning is enabled and the value disable indicates that unicast Mac address learning is disabled on this bridge port. The default value of learning status for CPE/Downlink side bridge ports shall be GS_CFG_DEF_PORT_LEARNING_STATUS and for NET side bridge port default value shall be GS_CFG_DEF_NET_PORT_LEARNING_STATUS **Type : ** Create --Optional Modify -- Optional **Valid Values:** enable or disable **Default value:** Enable
status enable|disable	The desired state of the bridge port. On creation, the bridge port shall be created in enabled AdminStatus by default. **Type : ** Create --Optional

	Modify -- Optional **Valid Values:** enable or disable **Default value:** disable
stickystatus 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. **Type :** Create --Optional Modify -- Optional **Valid Values:** enable or disable **Default value:** enable
aclglbdenyapply Enable | Disable	This specifies whether the global acl macentry deny list represented by MO AclGlobalMacList is to be applied to this port or not. The default value of this parameter shall depend on the port type. For Net side ports, the default value shall be 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_STATUS. **Type:** Modify --Optional
aclglbtrackapply Enable | Disable	This specifies whether the global acl macentry track list represented by MO AclGlobalMacList is to be applied to this port or not. The default value of this parameter shall depend on the port type. For Net side ports, the default value shall be 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. **Type:** Modify --Optional

Example ***$ create bridge port intf ifname eth-0 portid 10 maxucast 200 learning enable stickystatus enable enable aclglbdenyapply Disable aclglbtrackapply Disable***

Output Entry Created

Set Done
Port Id : 10 IfName : eth-0
Max Unicast Addresses : 200 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

Output Fields

FIELD	Description
Port Id	The bridge port identifier
If Name	The interface name associated with the given port.

Max Unicast 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. 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.
Learning status	The state of learning on this bridge port. The value **enable (1)** indicates that unicast Mac address learning is enabled and the value **disable** indicates that unicast Mac address learning is disabled on this bridge port. The default value of learning status for CPE/Downlink side bridge ports shall be GS_CFG_DEF_PORT_LEARNING_STATUS and for NET side bridge port default value shall be GS_CFG_DEF_NET_PORT_LEARNING_STATU S.
Port oper status	The current operational state of the bridge port. If AdminStatus of the bridge port is **disable (2)** then OperStatus of the port should be **disable (2)**. If Ad-minStatus of the bridge port is changed to **enable(1)** then OperStatus of port should change to **enable(1)** if the bridge port is ready to transmit and receive network traffic.
Port admin status	The desired state of the bridge port. On creation the bridge port shall be created in enabled AdminStatus by default.
Sticky Status	Indicates if the port has been set as sticky. The value **enable (1)** indicates that the entries learned on this port will not be aged out. It also indicates that the entries learned on this port shall not be learned on any other port. The entries learned on this port can only be removed by management action or by making the value as **disable (2),** so that the entries can be aged out.
Acl Global Deny Apply	This specifies whether the global acl macentry deny list represented by MO AclGlobalMacList is to be applied to this port or not. The default value of this parameter shall depend on the port type. For Net side ports, the default value shall be

	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.
Acl Global Track Apply	This specifies whether the global acl macentry track list represented by MO AclGlobalMacList is to be applied to this port or not. The default value of this parameter shall depend on the port type. For Net side ports, the default value shall be 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.

5.5.23 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]***

reset bridge port stats

Description: Use this command to reset bridge port statistics.
Command Syntax: ***reset bridge port stats portid portid***

Parameters

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

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.

5.5.24 Bridge Port Cap Commands

get bridge port cap

Description: Use this command is used to get.
Command Syntax: ***get bridge port cap [portid portid] Parameter***

Parameters

Name	Description
portid portid	The index of base port **Type :**Optional **Valid values:** *1 –GS_CFG_MAX_BRIDGE_PORTS* **Default value:** None

Mode Super-User, User
Example ***get bridge port cap***

Output portid : 45 Port Capabilites : Tagging Frame Types

Output Fields

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

Caution None
References None

5.5.25 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
ip-address | domain-name	This specifies the Destination address to be pinged. **Type** : Mandatory **Valid values** : Any Valid IP Address (*0.0.0.0 – 255.255.255.255*) or Domain Name - String of Max 63 characters ('a'-'z', 'A'-'Z', '0'-'9', '-', '_'and '.')
-t	This indicates continuous ping to host, until the user interrupts. **Type**: Optional
-n number	This specifies the number of pings to send to host. **Type** : Optional **Valid values** : *1-65535* **Default Value:** *4*
-w seconds	This specifies the time interval between successive ping requests **Type** : Optional **Valid values** : *0-65535* **Default Value :** *2*
-I time-to-live	This specifies the time-to-live, to be filled in the ping request **Type** : Optional **Valid values** : *0 – 255* **Default Value** : *64*
-s size	This specifies the size of payload for ping. **Type** : Optional **Valid values** : *4-1500* **Default Value :** 64

Example ***$ ping 192.168.1.13***

Output

```
$ ping 192.168.1.13
64 bytes of data from 192.168.1.13, seq=0 ttl=64 rtt=0.000 msec
64 bytes of data from 192.168.1.13, seq=1 ttl=64 rtt=0.000 msec
64 bytes of data from 192.168.1.13, seq=2 ttl=64 rtt=0.000 msec
64 bytes of data from 192.168.1.13, seq=3 ttl=64 rtt=0.000 msec

----------Ping Statistics ----------

4 packets transmitted, 4 packets received, 0 percent packet loss
```

Output Fields

FIELD	Description
64 bytes of...	This denotes the number of bytes in the ping packet and the source IP Address.
Seq	This denotes the ping attempt counter value.
Ttl	This is the Time to live for the packet.
Rtt	This denotes the Round trip Time for the packet. A value less than *10ms* is shown as *0.*

5.5.26 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 ifname [atucrateadaptation fixed | adaptAtStartup | adaptAtRuntime] [gsparamtestinputfile gsparamtestinputfile] [atuctargetsnr atuctargetsnr] [atucmaxsnrmargin atucmaxsnrmargin] [atucgsrsintcorrectionup 125us | 250us | 500us | 1ms | 2ms | 4ms | disable] [atucdnshiftsnrmargin atucdnshiftsnrmargin] [atucupshiftsnrmargin atucupshiftsnrmargin] [atucminupshifttime atucminupshifttime] [atucmindnshifttime atucmindnshifttime] [atucfastmintxrate atucfastmintxrate] [atucintlmintxrate atucintlmintxrate] [atucfastmaxtxrate atucfastmaxtxrate] [atucintlmaxtxrate atucintlmaxtxrate] [atucmaxintldelay atucmaxintldelay] [type noChannel | fastOnly | interleavedOnly | fastOrInterleaved | fastAndInterleaved] [atucgstxendbin atucgstxendbin] [atucgstxstartbin atucgstxstartbin] [atucgsmaxbitsperbin atucgsmaxbitsperbin] [atucgsrxstartbin atucgsrxstartbin] [atucgsrxendbin atucgsrxendbin] [atucgsrxbinadjust disable] [atucgsltriggermode disable | {locCrc | rmtCrc | snrInc | snrDec}+] [atucgsadi2x standard] [atucgsstandard t1413 | gLite | gDmt | alctl14 | multimode | adi | alctl | t1413Auto | adslPlus| GspanPlus] [atucgsinitiate waitPn | ctone | initiatePn] [atucgstxpoweratten0|.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][atucgsrsfastovrhddn 50 | 25 | 12 |6|3|1| Disable] [atucgsrsintcorrectiondn 125Us | 250Us | 500Us | 1Ms | 2Ms | 4Ms | Disable] [atucgsrsfastovrhdup 50 | 25 | 12 |6|3 | 1 | Disable] [atucgsdrstby Disable | Enable] [atucgsexpexch Expanded | Short] [atucgsescfastretrain Enable | Disable] [atucgsfastretrain Enable | Disable] [atucgsbitswap Disable | Enable] [atucgsntr LocalOcs | Refck8K]***

[atucgsannextype AnnexA | AnnexB | HighSpeed| GspanPlus | V1010] [atucgsalctlusver Unknown] [atucgsusecustombin Enable | Disable] [atucgsdnbinusage atucgsdnbinusage] [atucgsmaxdco 64 | 128 | 256] [atucgsfullretrain Enable | Disable] [atucgsadvcap disable | {annexa | annexb | adslplus| gspanplus}+] [atucgspsdmasktype Adsl | HsadslM1 | HsadslM2] [dmtconfmode ecMode | fdmMode] [atucgseraseprofs enable | disable] [atucgsextrsmemory present | notpresent] [paramhybridlossteststart paramhybridlossteststart] [paramhybridlosstestend paramhybridlosstestend] [dmttrellis on | off] [aturtargetsnrmargin aturtargetsnrmargin] [aturdnshiftsnrmargin aturdnshiftsnrmargin] [aturupshiftsnrmargin aturupshiftsnrmargin] [aturminupshifttime aturminupshifttime] [aturmindnshifttimeaturmindnshifttime] [aturfastmintxrate aturfastmintxrate][aturintlmintxrate aturintlmintxrate] [aturfastmaxtxrateaturfastmaxtxrate] [aturintlmaxtxrate aturintlmaxtxrate] [aturmaxintldelay aturmaxintldelay][databoost Enable|Disable][upstreampsd Extended|Standard]

Parameters

Name	Description
ifname ifname	The ADSL line interface name, whose profile is to be modified or viewed **Type :** Modify - Mandatory Get Optional **Valid values:** dsl-0 - dsl-*
atucrateadaptation fixed | adaptAtStartup | adaptAtRuntime	Defines what form of transmit rate adaptation is con figured, on this modem. Refer to ADSL Forum TR- 005 for more information. **Type :** Modify Optional
gsparamtestinputfile gsparamtestinputfile	Indicates Name of the Input file, which contains the Mask Array Size, lower and upper mask Array. Null string means no file is specified. **Type :** Modify -- Optional
atuctargetsnr atuctargetsnr	Configured Target Signal/Noise Margin. This is the Noise Margin the modem must achieve with a BER of 10 to the power 7, or better, to successfully complete initialization. **Type :** Modify -- Optional **Valid values:** 0 - 310
atucmaxsnrmargin atucmaxsnrmargin	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. **Type :** Modify -- Optional **Valid values:** 0 - 310
atucgsrsintcorrectionup 125us | 250us | 500us | 1ms | 2ms | 4ms | disable	Sets the correction time for the upstream interleaved buffer. RS can also be disabled. **Type :** Modify -- Optional

atucdnshiftsnrmargin ***atucdnshiftsnrmargin***	Configured Signal/Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0. **Type** : Modify -- Optional **Valid values:** 0 - 310
atucupshiftsnrmargin **atucupshiftsnrmargin**	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. **Type** : Modify -- Optional **Valid values:** 0 - 310
atucminupshifttime **atucminupshifttime**	Minimum time that the current margin is above UpshiftSnrMgn, before an upshift occurs. In the case that RADSL is not present, the value will be 0. **Type** : Modify -- Optional **Valid values:** 0 - 16383
atucmindnshifttime **atucmindnshifttime**	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. **Type** : Modify -- Optional Get -- Optional **Valid values: 0 - 16383**
atucfastmintxrate **atucfastmintxrate**	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. **Type** : Modify -- Optional **Valid values:** 0 - 0xffffffff
atucintlmintxrate **atucintlmintxrate**	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. **Type** : Modify --Optional **Valid values:** 0 - 0xffffffff
atucfastmaxtxrate **atucfastmaxtxrate**	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. **Type** : Modify -- Optional **Valid values:** 0 - 0xffffffff
atucintlmaxtxrate **atucintlmaxtxrate**	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates. **Type** : Modify -- Optional **Valid values:** 0 - 0xffffffff

atucmaxintldelay atucmaxintldelay	Configured maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing for improved impulse noise immunity at the expense of payload latency. **Type :** Modify -- Optional **Valid values:** 0 - 255
type noChannel | fastOnly | interleavedOnly | fastOrInterleaved | fastAndInterleaved	This object is used to configure the ADSL physical line mode **Type :** Modify --Optional
atucgstxendbin atucgstxendbin	The highest bin number allowed for Tx signal. **Type :** Modify -- Optional **Valid values:** 0x06 - GS_CFG_MAX_ATUC_TX_END_BIN
atucgstxstartbin atucgstxstartbin	The lowest bin number allowed for Tx signal. **Type :** Modify – Optional **Valid values:** 0x06 - GS_CFG_MAX_ATUC_TX_START_BIN
atucgsmaxbitsperbin atucgsmaxbitsperbin	The maximum Rx number of bits per bin. **Type :** Modify Optional **Valid values:** 0 - 15
atucgsrxstartbin atucgsrxstartbin	The lowest bin number allowed for Rx signal. **Type :** Modify -- Optional **Valid values:** 0x01 - GS_CFG_MAX_ATUC_RX_START_BIN
atucgsrxendbin atucgsrxendbin	The highest bin number allowed for Rx signal. **Type :** Modify - Optional **Valid values:** 0x06 - GS_CFG_MAX_ATUC_RX_END_BIN
atucgsrxbinadjust disable	This parameter employs Rx Start/End bin settings **Type :** Modify -- Optional
atucgsltriggermode disable | {locCrc | rmtCrc | snrInc | snrDec}+	The type of event that triggers a fast retrain **Type:** Modify --Optional
atucgsadi2x standard	For non-standard compliant ADI CPE **Type:** Modify --Optional
atucgsstandard t1413 | gLite | gDmt | alctl14 | multimode | adi | alctl | 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 **Type:** Modify --Optional
atucgsinitiate waitPn | ctone | initiatePn	Specifies which end initiates startup. It is also used to send a C-tone to the remote unit. **Type:** Modify --Optional
atucgstxpoweratten0|.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 **Type:** Modify --Optional
atucgscodinggain Auto | 0 |1 |2|3|4 |5|6|7	Sets the coding gain in dB increments **Type:** Modify --Optional

atucgsrsfastovrhddn 50 | 25|12|6| 3|1| Disable	This parameter sets the percentage overhead for the downstream fast buffer. RS can also be disabled. **Type:** Modify --Optional
atucgsrsintcorrectiondn 125Us | 250Us | 500Us | 1Ms | 2Ms | 4Ms | Disable	This parameter sets the correction time for the downstream interleaved buffer. RS can also be disabled. **Type:** Modify --Optional
atucgsrsfastovrhdup 50 | 25|12|6| 3|1| Disable	This parameter sets the percentage overhead for the upstream fast buffer. RS can also be disabled. **Type:** Modify --Optional
atucgsdrstby Disable | Enable	This parameter provides the ability to disable power to the line driver **Type:** Modify --Optional
atucgsexpexch Expanded | Short	T1.413 parameter that Enables/Disables EES **Type:** Modify --Optional
atucgsescfastretrain Enable | Disable	This parameter enables/disables escape to the fast retrain capability **Type:** Modify --Optional
atucgsfastretrain Enable | Disable	This parameter enables/disables the fast retrain capability. Currently supported only in G.lite mode. **Type:** Modify --Optional
atucgsbitswap Disable | Enable	This parameter enables/disables bit swapping **Type:** Modify --Optional
atucgsntr LocalOcs | Refck8K	This parameter enables/disables NTR on a per chip basis **Type:** Modify --Optional
atucgsannextype 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 **Type:** Modify --Optional
atucgsalctlusver Unknown	For T1.413 demo purposes only **Type:** Modify --Optional

tucgsusecustombin Enable | Disable	This parameter enables/disables user selection of any of the 511 bins that will be enabled for upstream and downstream transmission. **Type:** Modify --Optional
atucgsdnbinusage atucgsdnbinusage	'1' in bit position indicates usage of corresponding bin. '0' disables usage of corresponding bin. **Type:** Modify --Optional
atucgsmaxdco 64 | 128 |256	Maximum interleaving depth supported by the customer's hardware **Type:** Modify --Optional
atucgsfullretrain Enable | Disable	Indicates enable/disable of auto retrain capability **Type:** Modify --Optional
atucgsadvcap 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+. **Type:** Modify --Optional
atucgspsdmasktype Adsl | HsadslM1 | HsadslM2	This parameter selects the PSD mask option to be used **Type:** Modify --Optional
dmtconfmode ecMode | fdmMode	Indicates whether there is overlap or no overlap of bins **Type:** Modify --Optional
atucgseraseprofs enable | disable	This parameter enables/disables the ability to erase all fast retrain profiles at startup **Type:** Modify --Optional
atucgsextrsmemory present | notpresent	Indicates whether customer's Hardware uses external RS RAM **Type:** Modify --Optional
paramhybridlosstestst art paramhybridlosstestst art	Start bin for range of bins to be measured **Type :** Modify -- Optional **Valid values:** 0x0 - GS_CFG_MAX_ATUC_HYBRID_TEST_START_BIN
paramhybridlosstestend paramhybridlosstestend	End bin for range of bins to be measured **Type :** Modify -- Optional **Valid values:** 0x0 - GS_CFG_MAX_ATUC_HYBRID_TEST_END_BIN
dmttrellis on | off	This parameter enables/disables trellis coding. Trellis coding should always be enabled for its clear performance advantage. **Type :** Modify -- Optional
aturtargetsnrmargin aturtargetsnrmargin	Configured Target Signal/Noise Margin. This is the Noise Margin the modem must achieve with a BER of 10to the power 7 or better, to successfully complete initialization. **Type :** Modify -- Optional **Valid values:** 0 - 310

aturdnshiftsnrmargin ***aturdnshiftsnrmargin***	Configured Signal/Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0. **Type : Modify -- Optional** **Valid values:** 0 - 310
aturupshiftsnrmargin ***aturupshiftsnrmargin***	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. **Type : Modify -- Optional** **Valid values:** 0 - 310
aturminupshifttime ***aturminupshifttime***	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. **Type : Modify -- Optional** **Valid values:** 0 - 16383
aturmindnshifttime ***aturmindnshifttime***	Minimum time that the current margin is below DownshiftSnrMgn before a downshift occurs. In the case that RADSL mode is not present, the value will be 0. **Type : Modify -- Optional** **Valid values:** 0 - 16383
aturfastmintxrate ***aturfastmintxrate***	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. **Type : Modify -- Optional** **Valid values:** 0 - 0xffff
aturintlmintxrate ***aturintlmintxrate***	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. **Type : Modify -- Optional** **Valid values:** 0 - 0xffff
aturfastmaxtxrate ***aturfastmaxtxrate***	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. **Type : Modify -- Optional** **Valid values:** 0 - 0xffff
aturintlmaxtxrate ***aturintlmaxtxrate***	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRate-ChanRatio' for information regarding RADSL mode and ATU-C transmit rate for ATU-R receive rates. **Type : Modify -- Optional** **Valid values:** 0 - 0xffff

aturmaxintldelay aturmaxintldelay	Configured maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing for improved impulse noise immunity at the expense of payload latency. **Type : Modify -- Optional** **Valid values:** 0 - 255
databoost Enable|Disable	GlobespanVirata parameter that enables/disables DataBoost option **Type : Modify -- Optional** **Valid values:** Enable|Disable
upstreampsd Extended|Standard	GlobespanVirata parameter that sets the upstream PSD to be either extended or standard. Used for GSpan Plus only **Type : Modify -- Optional** **Valid values:** Extended|Standard

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

Output Verbose Mode On

```
IfName                    : dsl-0

ADSL ATUC Configuration :
-----------------------------------------

Rate Adaptation           : fixed          Max Snr Margin(dB/10)      : 40
Target Snr Margin(dB/10) : 20              Dnshift SnrMargin(dB/10)   : 35
GsRsIntCorrectionUp       : 1ms            Min Upshift Time(sec)      : 70
Upshift SnrMargin(dB/10)  : 50             Fast Min Tx Rate(bps)      : 0x20
Min Dnshift Time(sec)     : 10             Fast Max Tx Rate(bps)      : 0x50
Intl Min Tx Rate(bps)     : 0x40           Max Intl Delay(ms)         : 10
Intl Max Tx Rate(bps)     : 0x60           GsTxEndBin                 : 0x06
GsTxStartBin              : 0x20           GsRxEndBin                 : 0x1f
GsRxStartBin              : 0x06           GsMaxDCo                   : 64
GsMaxBitsPerBin           : 15             GsEraseProfiles            : enable
GsRxBinAdjust             : enable         GsStandard                 : t1413
GsAdi2x                   : standard       GsTxPowerAtten             : .6
GsInitiate                : waitPn         GsRsFastOvrhdDown          : 1
GsCodingGain              : Auto           GsRsFastOvrhdUp            : 50
GsRsIntCorrectionDown     : 125Us          GsExpandedExchange         : Short
GsDrStby                  : Disable        GsFastRetrain              : Enable
GsEscapeFastRetrain       : Enable         GsNtr                      :
LocalOcs
GsBitSwap                 : Enable         GsAlctlUsVer               :
Unknown
GsAnnexType               : AnnexA         GsFullRetrain              : Enable
GsUseCustomBin            : Enable         DmtConfMode                :
ecMode
GsPsdMaskType             : Adsl           GsParamHybridLossTestStart : 0x10
GsExtRsMemory             : ExtRsMemory    GsDmtTrellis               : on
GsParamHybridLossTestEnd : 0x23
GslTriggerMode            : 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
IfName	The ADSL line interface name, whose profile is to be modified or viewed.
Rate Adaptation	Defines what form of transmit rate adaptation is configured on this modem. Refer to ADSL Forum TR-005 for more information.
Target Snr Margin(dB/10)	Configured Target Signal/Noise Margin. This is the Noise Margin the modem must achieve with a BER of 10 to the power -7 or better to successfully complete initialization.
Max Snr Margin(dB/10)	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.
GsRsIntCorrectionUp	Sets the correction time for the upstream interleaved buffer. RS can also be disabled.
Dnshift SnrMargin(dB/10)	Configured Signal/Noise Margin for rate downshift. If the noise margin falls below this level, the modem should attempt to decrease its transmit rate. In the case that RADSL mode is not present, the value will be 0.
Upshift SnrMargin(dB/10)	Configured Signal/Noise Margin for rate upshift. If the noise margin rises above this level, the modem should attempt to increase its transmit rate. In the case that RADSL is not present, the value will be 0.
Min Upshift Time(sec)	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.
Min Dnshift Time(sec)	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.
Intl Min Tx Rate(bps)	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.
Fast Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Fast' chan nels, in bps. Also refer to 'adslAtucConfRateChan-Ratio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates.
Intl Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAtucConfRateChanRatio' for information regarding RADSL mode and ATU-R transmit rate for ATU-C receive rates.
Max Intl Delay(ms)	Configured maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream, allowing

	for improved impulse noise immunity at the expense of payload latency.
GsTxStartBin	The lowest bin number allowed for Tx signal.
GsTxEndBin	The highest bin number allowed for Tx signal.
GsRxStartBin	The lowest bin number allowed for Rx signal.
GsRxEndBin	The highest bin number allowed for Rx signal.
GsMaxBitsPerBin	The maximum Rx number of bits per bin.
GsMaxDCo	Maximum interleaving depth supported by the customer's hardware.
GsRxBinAdjust	This parameter employs Rx Start/End bin settings.
GsEraseProfiles	This parameter enables/disables the ability to erase all fast retrain profiles at startup.
GsAdi2x	For non-standard compliant ADI CPE.
GsStandard	Preferred standard compliance. Outcome is dependent upon standard support of the remote unit. GlobespanVirata High Speed ADSL DMT (ADSL+)applications only.
GsInitiate	Specifies which end initiates startup. It is also used to send a C-tone to the remote unit.
GsTxPowerAtten	The value in dB of Tx power attenuation.
GsCodingGain	Sets the coding gain in dB increments.
GsRsFastOvrhdDown	This parameters sets the percentage overhead for the downstream fast buffer. RS can also be disabled.
GsRsIntCorrectionDown	This parameter sets the correction time for the downstream interleaved buffer. RS can also be disabled.
GsRsFastOvrhdUp	This parameter sets the percentage overhead for the upstream fast buffer. RS can also be disabled.
GsDrStby	This parameter provides the ability to disable power to the line driver.
GsExpandedExchange	T1.413 parameter that Enables/Disables EES.
GsEscapeFastRetrain	This parameter enables/disables escape to the fast retrain capability.
GsFastRetrain	This parameter enables/disables the fast retrain capability. Currently supported only in G.lite mode.
GsBitSwap	This parameter enables/disables bit swapping.
GsNtr	This parameter enables/disables NTR on a per chip basis.
GsAnnexType	This parameter is set as per Annex compliance of the code release. GlobespanVirata High Speed ADSL DMT (ADSL+) applications only
GsAlctlUsVer	For T1.413 demo purposes only.
GsUseCustomBin	This parameter enables/disables user selection of some of those 511 bins that will be enabled for upstream and downstream transmission.
GsFullRetrain	Indicates enable/disable of auto retrain capability.
GsPsdMaskType	This parameter selects the PSD mask option to be used
DmtConfMode	Indicates whether there is overlap or no overlap of bins.
GsExtRsMemory	Indicates whether customer's Hardware uses external RS RAM.

GsParamHybridLossTest Sta rt	Start bin for range of bins to be measured.
GsParamHybridLossTest End	End bin for range of bins to be measured.
GsDmtTrellis	This parameter enables/disables trellis coding. Trellis coding should always be enabled for its clear performance advantage.
GsAdvertisedCapabilities	This parameter controls if the CO will attempt to startup using alternate standards if the CPE does not support ADSL+.
GslTriggerMode	The type of event that triggers a fast retrain.
Type	This object is used to configure the ADSL physical line mode.
GsDnBinUsage	'1' in bit position indicates usage of corresponding bin, whereas a '0' disables usage of corresponding bin.
ParametricTestInputFile	Indicates Name of the Input file that contains the Mask Array Size, lower and upper mask Array. Null string means no file is specified.
Target Snr Margin(dB/10)	Configured Target Signal/Noise Margin. This is the Noise Margin the modem must achieve with a BER of 10 to the power -7, or better, to successfully complete initialization.
Upshift SnrMargin(dB/10)	Configured Signal/ Noise Margin for rate upshift. If the noise margin rises above this level, the modem should attempt to increase its transmit rate. In the case that RADSL is not present, the value will be 0.
Min Upshift Time(sec)	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.
Min Dnshift Time(sec)	Minimum time that the current margin is below DownshiftSnrMgn, before a downshift occurs. In the case that RADSL mode is not present, the value will be 0.
Fast Min Tx Rate(bps)	Configured Minimum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and ATU-C transmit rate for ATU-R receive rates.
Intl Min Tx Rate(bps)	Configured Minimum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATUR receive rates.
Fast Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Fast' channels, in bps. Also refer to 'adslAturConfRateChan-Ratio' for information regarding RADSL mode and to ATU-C transmit rate for ATUR receive rates.
Intl Max Tx Rate(bps)	Configured Maximum Transmit rate for 'Interleave' channels, in bps. Also refer to 'adslAturConfRateChanRatio' for information regarding RADSL mode and to ATU-C transmit rate for ATU-R receive rates.
Max Intl Delay(ms)	Configured maximum Interleave Delay for this chan nel. 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 in-terleaver 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.
Data Boost	GlobespanVirata parameter that enables/disables

	DataBoost option
Upstream PSD	GlobespanVirata parameter that sets the upstream PSD to be either extended or standard. Used for GSpan Plus only

5.5.27 ADSL Line Intf Commands

get adsl line intf

Description: Use this command to view ADSL line configuration.
Command Syntax: ***get adsl line intf [ifname ifname]***

modify adsl line intf

Description: Use this command to modify ADSL line configuration.
Command Syntax: ***modify adsl line intf ifname ifname [lineconfgsaction startup| spectrumReverb | analogLb | digitalLb | atmLp |spectrumMedley | spectrumPilot | spectrumCMtpr |spectrumRMtpr | hybridLossTest | rcvLinearityTest |rcvFilterTest | rcvPowerPerBinTest | idleNoisePerBinTest |totalIdleNoiseTest|selt] [enable | disable]***

Parameters

Name	Description
ifname ifname	The Interface name of DSL port. **Type :** Modify – Mandatory Get - Optional **Valid values:** *dsl-**
***lineconfgsaction startup	spectrumReverb	analogLb	digitalLb	atmLp	spectrumMedley	spectrumPilot	spectrumCMtpr	spectrumRMtpr	hybridLossTest	rcvLinearityTest	rcvFilterTest	rcvPowerPerBinTest	idleNoisePerBinTest	totalIdleNoiseTest|selt***	Allows action on per-line basis. **Type :** Optional
Enable|disable	Administrative Status of the interface. **Type :** Optional **Valid values:** *enable* or *disable*

Example $ get adsl line intf ifname dsl-0

Output 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
GsDmtTrellis       : trellisOn
Trans Atur Cap     : ansit1413
```

Output Fields

Field	Description
IfName	The interface name of the DSL port.
Line Type	Line type used by the DSL port.
Coding Type	Line coding type used by the port.
GsUtopia L2TxAddr	UTOPIA Level 2 Tx address for a line.
GsUtopia L2RxAddr	UTOPIA Level 2 Rx address.
Gs Clock Type	Indicates use of crystal or oscillator.
Gs Action	Allows action on per-line basis.
Admin Status	Administrative Status of the interface.
Oper Status	Operational Status of the interface.
Trans Atuc Cap	Transmission modes that ATU-C is capable of.
Trans Atuc Actual	Transmission modes
GsDmtTrellis	Indicates whether trellis coding has been enabled or not.
Trans Atur Cap	The transmission modes that the ATU-R is capable of supporting. The modes available are limited by the design of the equipment (length = 4 bytes).

Caution None

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

5.5.28 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 [dsltype Adsl | Sdsl | Shdsl] [linecodingOther|Dmt|Cap|Qam] [txcfg {ansit1413 | etsi |q9921PotsNonOverlapped | q9921PotsOverlapped |q9921IsdnNonOverlapped | q9921IsdnOverlapped|q9921TcmIsdnNonOverlapped | q9921TcmIsdnOverlapped |q9922PotsNonOverlapped | q9922PotsOverlapped |q9922TcmIsdnNonOverlapped |q9922TcmIsdnOverlapped |q9921TcmIsdnSymmetric | adslPlusPotsNonOverlapped |q9921GspanPlusPotsNonOverlapped|q9921GspanPlusPotsOve***

rlapped | vdslNonOverlapped |vdslOverlapped }+]

Parameters

Name	Description
***dsltype Adsl	Sdsl	***	Identifies the firmware to be downloaded. **Type :**Optional for all commands **Default value:** *adsl*
***linecoding Other	Dmt	Cap	Qam***	ADSL line code type. **Type :**Optional for all commands **Default value:** *Dmt*
***txcfg {ansit1413	etsi	q9921PotsNonOverlapped	q9921PotsOverlapped	q9921IsdnNonOverlapped	q9921IsdnOverlapped	q9921TcmIsdnNonOverlapped| q9921TcmIsdnOverlapped	q9922PotsNonOverlapped	q9922PotsOverlapped	q9922TcmIsdnNonOverlappe d| q9922TcmIsdnOverlapped |q9921TcmIsdnSymmetric	q9921GspanPlusPotsNonOve rlapped	q9921GspanPlusPotsOverla pped	vdslNonOverlapped	vdslOverlapped }+ adslPlusPotsNonOverlappe d}+***	Transmission capabilities with which the DSL system is configured. **Type :** Optional for all commands **Default value:** 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
DSL Type	Identifies the firmware to be downloaded.
Line coding	ADSL line code type.
Tx Config	Transmission capabilities with which the DSL sys tem is configured.

Caution None.

5.5.29 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
Tx Capability	Transmission capabilities of the DSL system._

Caution None
References
- create dsl system
- get dsl system.

5.5.30 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 ifname]***

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 ifname [atucthresh15minlofs atucthresh15minlofs] [atucthresh15minloss atucthresh15minloss] [atucthresh15minlols atucthresh15minlols] [atucthresh15minlprs atucthresh15minlprs] [atucthresh15minessatucthresh15miness] [atucthreshfastrateup atucthreshfastrateup] [atucthreshintlrateupatucthreshintlrateup] [atucthreshfastratedn atucthreshfastratedn] [atucthreshintlratedn atucthreshintlratedn] [atucinitfailtrap atucinitfailtrap][atucoptrapenable atucoptrapenable] [aturthresh15minlofs aturthresh15minlofs][aturthresh15minloss aturthresh15minloss] [aturthresh15minlprsaturthresh15minlprs] [aturthresh15miness aturthresh15miness] [aturthreshfastrateup aturthreshfastrateup] [aturthreshintlrateupaturthreshintlrateup] [aturthreshfastratedn aturthreshfastratedn] [aturthreshintlratedn aturthreshintlratedn]***

Parameters

Name	Description
ifname ifname	The ADSL alarm interface name, whose profile is to be modified or viewed **Type :** Modify -- Mandatory Get Optional **Valid values:** dsl-0 - dsl-*

atucthresh15minlofs ***atucthresh15minlofs***	The number of Loss of Frame Seconds encountered by an ADSL interface within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLofsThreshTrap' **Type :** Modify -- Optional **Valid values:** 0 - 900
atucthresh15minloss ***atucthresh15minloss***	The number of Loss of Signal Seconds encountered by an ADSL interfac, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLossThreshTrap' **Type :** Modify -- Optional **Valid values:** 0 - 900
atucthresh15minlols ***atucthresh15minlols***	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'. **Type :** Modify - Optional **Valid values:** 0 - 900
atucthresh15minlprs ***atucthresh15minlprs***	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'. **Type :** Modify - Optional **Valid values:** 0 - 900
atucthresh15miness ***atucthresh15miness***	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'. **Type :** Modify - Optional **Valid values:** 0 - 900
atucthreshfastrateup ***atucthreshfastrateup***	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when, ChanCurrTxRate >= ChanPre-vTxRate plus the value of this object **Type :** Modify – Optional **Valid values:** 0 - 0xffff
atucthreshintlrateup ***atucthreshintlrateup***	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when, ChanCurrTxRate >= ChanPrevTxRate plus the value of this object. **Type :** Modify -- Optional **Valid values:** 0 - 0xffff
atucthreshfastratedn ***atucthreshfastratedn***	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when, ChanCurrTxRate <= ChanPrevTxRate minus the value of this object. **Type :** Modify -- Optional **Valid values:** 0 - 0xffff
atucthreshintlratedn ***atucthreshintlratedn***	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when, ChanCurrTxRate <= ChanPrevTxRate minus the value of this object. **Type :** Modify -- Optional **Valid values:** 0 - 0xffff

atucinitfailtrap ***atucinitfailtrap***	Enables and disables the InitFailureTrap. This object is defaulted disable. **Type :** Modify -- Optional **Valid values:** true, false
atucoptrapenable ***atucoptrapenable***	Enables/disables the OpStateChangeTrap. **Type :** Modify - Optional **Valid values:** true, false
aturthresh15minlofs ***aturthresh15minlofs***	The number of Loss of Frame Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLofsThreshTrap'. **Type :** Modify -- Optional **Valid values:** 0 - 900
aturthresh15minloss ***aturthresh15minloss***	The number of Loss of Signal Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLossThreshTrap'. **Type :** Modify -- Optional **Valid values:** 0 - 900
aturthresh15minlprs ***aturthresh15minlprs***	The number of Loss of Power Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfLprsThreshTrap'. **Type :** Modify -- Optional **Valid values:** 0 - 900
aturthresh15miness ***aturthresh15miness***	The number of Errored Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAturPerfESsThreshTrap'. **Type :** Modify -- Optional **Valid values:** 0 - 900
aturthreshfastrateup ***aturthreshfastrateup***	Applies to 'Fast' channels only. Configured change in rate causing an adslAturRateChangeTrap. A trap is produced when, ChanCurrTxRate > ChanPrevTxRate plus the value of this object. **Type :** Modify -- Optional **Valid values:** 0 - 900
aturthreshintlrateup ***aturthreshintlrateup***	Applies to 'Interleave' channels only. Configured change in rate causing an adslAturRateChangeTrap. A trap is produced when, ChanCurrTxRate > ChanPrevTxRate plus the value of this object. **Type :** Modify -- Optional **Valid values:** 0 - 900
aturthreshfastratedn ***aturthreshfastratedn***	Applies to 'Fast' channels only. Configured change in rate causing an adslAturRateChangeTrap. A trap is produced when, ChanCurrTxRate < ChanPrevTxRate minus the value of this object. **Type :** Modify -- Optional **Valid values:** 0 - 900
aturthreshintlratedn ***aturthreshintlratedn***	Applies to 'Interleave' channels only. Configured change in rate causing an adslAturRateChangeTrap. A trap is produced when, ChanCurrTxRate < ChanPrevTxRate minus the value of this object. **Type :** Modify -- Optional **Valid values:** 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
IfName	The ADSL alarm interface name, whose profile is to be modified or viewed.
Thresh 15Min Lofs(sec)	The number of Loss of Frame Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLofsThreshTrap'.
Thresh 15Min Loss(sec)	The number of Loss of Signal Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLossThreshTrap'.
Thresh 15Min Lols(sec)	The number of Loss of Link Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLol-sThreshTrap'.
Thresh 15Min Lprs(sec)	The number of Loss of Power Seconds encountered by an ADSL interface, within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfLprsThreshTrap'.
Thresh 15Min Ess(sec)	The number of Errored Seconds encountered by an ADSL interfac,e within any given 15 minutes performance data collection period, which causes the SNMP agent to send an 'adslAtucPerfESsThresh-Trap'.
Thresh Fast Rate Up(bps)	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when, ChanCurrTxRate >= ChanPrevTxRate plus the value of this object.
Thresh Intl Rate Up(bps)	Applies to 'Interleave' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when, ChanCurrTxRate >= ChanPrevTxRate plus the value of this object.
Thresh Fast Rate Down(bps)	Applies to 'Fast' channels only. Configured change in rate causing an adslAtucRateChangeTrap. A trap is produced when, ChanCurrTxRate <= ChanPre-vTxRate minus the value of this object.
Thresh Intl Rate Down(bps)	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.
Init Fail Trap	Enables and disables the InitFailureTrap. This

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

Caution None

References • ADSL commands.

5.5.31 ADSL ATUR Trapsext Commands

get adsl atur trapsext

Description: This command is used to get.
Command Syntax: ***get adsl atur trapsext [ifname ifname]***

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
Ifname	The ADSL Interface Name
SesL Thresh 15Min Trap	Severely Errored Seconds 15-minute interval threshold reached
UasL Thresh 15Min Trap	Unavailable Errored Seconds 15-minute interval threshold reached
Lofs Thresh 1Day Trap	Loss of Frames 1-day interval threshold reached
Loss Thresh 1Day Trap	Loss of Signal 1-day interval threshold reached
Lprs Thresh 1Day Trap	Loss of Power 1-day interval threshold reached
ESs Thresh 1Day Trap	Errored Seconds 1-day interval threshold reached
SesL Thresh 1Day Trap	Severely Errored Seconds 1-day interval threshold reached
UasL Thresh 1Day Trap	Unavailable Errored Seconds 1-day interval threshold reached

Caution • None
References • ADSL Commands

5.5.32 ADSL ATUC Trapsext Commands

get adsl atuc trapsext

Description: Use this command to get.
Command Syntax: ***get adsl atuc trapsext [ifname ifname]***

Example Output

$ get adsl atuc trapsext ifname `dsl-0`

```
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 Lols Thresh 1Day Trap : 1
Lprs Thresh 1Day Trap : 1 ESs Thresh 1Day Trap : 0
SesL Thresh 1Day Trap : 0 UasL Thresh 1Day Trap : 1
```

Output field description

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

Caution None.

5.5.33 ADSL Alarm Profilext Commands

get adsl alarm profilext

Description: This command is used to get.
Command Syntax: ***get adsl alarm profilext [ifname ifname]***

5.5.34 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
`ifname interface-name`	The ADSL ATUC physical interface name, for which configuration is to be viewed. Type : Get – Optional Valid values : *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              Curr Atn(dB/10)       : 80
CurrAttainable Rate(bps)        : 40               Curr Output Pwr(dB/10): 90
GsOpState                       : Data             GsActualStandard      : T1_413
GsTxAtmCellCounter              : 214              GsRxAtmCellCounter    : 215
GsStartProgress                 : 213
GsIdleBertError                 : 200              GsIdleBertCells       : 100
GsBertSync                      : BertOutOfSync
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   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
GsBertError	Provides the number of bit errors detected during BERT.
Bin Number	Bin index.
Number of bits/bin	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.
GsIdleBertError	Number of bit errors.
GsIdleBertCell	Number of idle cells.
GsBertSync	Indicates whether the Signal is in Sync or not.
GsParametricTestResult	Indicates the Result of the Parametric Test conducted on the Xcvr.
GsSeltInfoValid	Indicates the information validity for the SELT operation conducted on the Xcvr.
GsSeltLoopLen (in Feet)	Indicates the LOOP Length in Feet once when the SELT information is valid on the Xcvr.
GsSeltLoopEnd	Indicates whether the loop is short or open once when the SELT information is valid on the Xcvr.
GsSeltLoopGauge	Indicates the LOOP wire gauge information once, when the SELT information is valid on the Xcvr.
GsSeltUpShannonCap (in bps)	Indicates the upstream shannon capacity once, when the SELT information is valid on the Xcvr.
GsSeltDownShannonCap (in bps)	Indicates the downstream shannon capacity once, when the SELT information is valid on the Xcvr.
Data Boost Status	GlobespanVirata parameter that indicates whether DataBoost is utilized for the connection.
Parametric Info	GlobespanVirata parameter that indicates the Parametric Test Array.

Caution **None**

References **• ADSL commands.**

5.5.35 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
Ifname	The ADSL ATUC channel interface name.
Interleave Delay(ms)	Interleave delay for this channel.
Curr Tx Rate(bps)	Actual transmit rate on this channel.
Prev Tx Rate(bps)	The rate at the time of the last adslAtucRateChangeTrap event.
Crc Block Length(byte)	Indicates the length of the channel data-block, on which the CRC operates.
Gs Curr Atm Status	Indicates the current ATM Status.
GsSymbolsPerRsWord	Indicates the number of DMT symbols per Reed-Solomon code word (S), in the downstream direction.
GsRsDepth	Indicates interleaving depth (D), in the downstream direction.
GsRedundantBytesPerRsCode	Indicates the number of redundant bytes (R), per Reed-Solomon code in the downstream direction

Caution None

References • ADSL commands.

get adsl atuc chanperf

Description: This command is used to get.

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

Example ***$ get adsl atuc chanperf ifname dsli-0***

Output Verbose Mode On

```
Ifname : dsli-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
NCD Count 90 86 35 20
OCD Count 60 42 15 20
HEC Count 45 21 75 35
```

Output Fields

FIELD	Description
Ifname	The ADSL ATUC channel interface name.
Perf Valid Intervals	Number of previous 15-minute intervals, for which the data was collected.
Perf Invalid Intervals	Number of previous 15-min intervals for which no data is available
Time Elapsed/ Monitored(sec)	Total elapsed seconds in the intervals – Curr15Min, Curr1Day and Monitored seconds in Prev1Day.
Rx Blocks	Performance Data: Count of all encoded blocks received on this channel since agent was reset. Curr15Min/Curr1Day/Prev1Day: Count of all encoded blocks received on this channel in the current 15 minute/ current 1 day/ previous 1 day interval.

Tx Blocks	Performance Data : Count of all encoded blocks transmitted on this channel since agent reset. Curr15Min/Curr1Day/Prev1Day: Count of all encoded blocks transmitted on this channel in the current 15-minute/ current 1-day/ previous 1-day interval.
Corrected Blocks	Performance Data: Count of all encoded blocks received with corrected errors on this channel since agent reset. Curr15Min/Curr1Day/Prev1Day: Count of all encoded blocks received with corrected errors on this channel, in the current 15 minute/ current 1 day/ previous 1 day interval.
Uncorrected Blocks	Performance Data: Count of all encoded blocks received with uncorrected errors on this channel since agent wasreset. Curr15Min/Curr1Day/Prev1Day: Count of all encoded blocks received with uncorrected errors on this channel in the current 15 minute/ current 1 day/ previous 1 day interval.
NCD Count	Performance Data : Number of packets with NCD (No Cell Delineation) error. Curr15Min/Curr1Day/Prev1Day: Number of packets with NCD error received in the current 15-minute/ current 1-day/ previous 1-day interval.
OCD Count	Performance Data : Number of packets with OCD (Out of Cell Delineation) error. Curr15Min/Curr1Day/Prev1Day: Number of packets with OCD error received in the current 15-minute/ current 1-day/ previous 1-day interval.
HEC Count	Performance Data : Number of packets with HEC error. Curr15Min/Curr1Day/Prev1Day : Number of packets with HEC error received in the current 15 minute/ current 1 day/ previous 1 day interval.

Caution None

References • ADSL Commands.

5.5.36 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
ifname interface-name	The ADSL atuc channel interface name whose performance data collection interval is to be viewed **Type**: Get – Mandatory **Valid values** : *dsli-0 - *, dslf-0 - **
sintrvl start-interval-number	Start interval number **Type**: Get – Optional **Valid values** : 1- 96 **Default Value :** 1
nintrvl num-of-intervals	Number of intervals. **Type**: Get – Optional **Valid values** : 1- 96

	Default Value : 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
Ifname	The ADSL ATUC channel interface name.
IntervalNumber	Performance Data Interval number.
Rx Blocks	Count of all encoded blocks received on this channel during this interval.
Tx Blocks	Count of all encoded blocks transmitted on this channel during this interval.
Corrected Blocks	Count of all encoded blocks received with errors that were corrected on this channel during this interval.
Uncorrected Blocks	Count of all encoded blocks received with uncorrected errors on this channel during this interval.
Gs Time Elapsed(sec)	Total time elapsed (in seconds) in this interval.
Valid Data	Indicates if the data for this interval is valid.
GsNoCellDelineation	Count of no cell delineation on this channel for this interval.
GsHeaderErrorCheck	Header error check counter on this channel during this interval.
GsOutOfCellDelineation	Count of out cell delineation on this channel for this interval.

Caution None

References • ADSL Commands.

5.5.37 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

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

Caution None

References • ADSL commands.

5.5.38 ADSL ATUC Perf Commands

get adsl atuc perf

Description: This command is used to get.
Command Syntax: ***get adsl atur physical [ifname ifname]***

Parameters

Name	Description
ifname ifname	The ADSL Interface Name **Type :** Get -- Optional **Valid values:** dsl-0 - dsl-*

5.5.39 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
ifname interface-name	The ADSL ATUC channel interface name, for which performance data collection interval is to be viewed. **Type** : Get – Mandatory **Valid values** : *dsl-0, dsl-**
Sintrvl start-interval-number	Start interval number. **Type** : Get – Optional **Valid values** : 1- 96 **Default Value :** 1
Nintrvl num-of-intervals	Number of intervals. **Type** : Get – Optional **Valid values** : 1- 96 **Default Value :** 12

5.5.40 ADSL ATUR Physical Commands

get adsl atur physical

Description: This command is used to get.
Command Syntax: ***get adsl atur physical [ifname ifname]***

Parameters

Name	Description
ifname ifname	The ADSL Interface Name **Type :** Get -- Optional **Valid values:** dsl-0 - dsl-*

5.5.41 ADSL ATUR Channel Commands

get adsl atur channel

Description: This command is used to get.
Command Syntax: ***get adsl atur channel [ifname ifname]***

Parameters

Name	Description
ifname ifname	The ADSL Interface Name **Type :** Get -- Optional **Valid values:** *dsli-0 - dsli-* ,dslf-0 - dslf-**

5.5.42 ADSL ATUR Trap Commands

get adsl atur traps

Description: This command is used to get.
Command Syntax: ***get adsl atur traps [ifname ifname]***

Parameters

Name	Description
ifname ifname	The ADSL Interface Name **Type :**Get -- Optional **Valid values:** *dsl-0 - dsl-**

5.5.43 ADSL ATUR Perf Commands

get adsl atur perf

Description: This command is used to get.
Command Syntax: ***get adsl atur perf [ifname ifname]***

Parameters

Name	Description
ifname ifname	The ADSL Interface Name **Type :**Get -- Optional **Valid values:** *dsl-0 - dsl-**

5.5.44 ADSL ATUR Interval Commands

get adsl atur interval

Description: This command is used to get.

Command Syntax: ***get adsl atur interval ifname ifname [sintrvl sintrvl] [nintrvl nintrvl]***

Parameters

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

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

Output Verbose Mode On

```
Ifname : dsl-0
IntervalNumber : 1 IntervalValidData : true
IntervalLofs(sec) : 10 IntervalLoss(sec) : 10
IntervalLprs(sec) : 10 IntervalESs(sec) : 10
IntervalSesl(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 ***IntervalLofs(sec)***	This indicates if the data for this interval is valid. 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.

Caution None

References • ADSL commands

5.5.45 ADSL ATUR Chanperf Commands

get adsl atur chanperf

Description: This command is used to get.
Command Syntax: ***get adsl atur chanperf [ifname ifname]***

Example ***$ get adsl atur chanperf ifname dsli-0***

Output Verbose Mode On

```
Ifname : dsli-0
Perf Valid Intervals : 20
Perf Invalid Intervals : 30
PerfData Curr15Min Curr1Day Prev1Day
Time Elapsed/Monitored(sec) - 10 20 45
Rx Blocks 10 45 30 89
Tx Blocks 20 65 70 48
Corrected Blocks 25 35 35 25
Uncorrected Blocks 30 95 80 30
NCD Count 90 86 35 20
HEC Count 45 21 75 35
```

Output Fields

FIELD	Description
Ifname	The ADSL interface name.
Perf Valid Intervals	Number of previous 15-minute intervals, for which the data was collected.
Perf Invalid Intervals	Number of previous 15- minute intervals, for which no data is available.
Time Elapsed/ Monitored(sec)	Total elapsed seconds in the intervals – Curr15Min, Curr1Day and Monitored seconds in Prev1Day.
Rx Blocks	Performance Data: Count of all encoded blocks received on this channel, since agent was reset. Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received on this channel in the current 15 minute/ current 1 day/ previous 1 day interval.
Tx Blocks	Performance Data: Count of all encoded blocks transmitted on this Channel, since agent reset. Curr15Min/Curr1Day/Prev1Day: Count of all encoded blocks transmitted on this channel in the current 15-minute/ current 1-day/ previous 1-day interval.
Corrected Blocks	Performance Data: Count of all encoded blocks received with corrected errors on this channel, since agent reset. Curr15Min/Curr1Day/Prev1Day: Count of all encoded blocks received with corrected errors on this channel, in the current 15 minute/ current 1 day/ previous 1 day interval.
Uncorrected Blocks	Performance Data: Count of all encoded blocks received with uncorrected errors on this channel, since agent was reset.

	Curr15Min/Curr1Day/Prev1Day : Count of all encoded blocks received with uncorrected errors on this channel, in the current 15 minute/ current 1 day/ previous 1 day interval.
NCD Count	Performance Data: Number of packets with NCD (No Cell Delineation) errors. Curr15Min/Curr1Day/Prev1Day: Number of packets with NCD error, received in the current 15-minute/ current 1-day/ previous 1-day interval.
HEC Count	Performance Data: Number of packets with HEC error. Curr15Min/Curr1Day/Prev1Day: Number of packets with HEC error received in the current 15 minute/ current 1 day/ previous 1 day interval.

Caution None
References • ADSL commands

5.5.46 ADSL ATUR Chanintrvl Commands

get adsl atur chanintrvl

Description: This command is used to get.
Command Syntax: ***get adsl atur chanintrvl ifname ifname [sintrvl sintrvl] [nintrvl nintrvl]***

Parameters

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

5.5.47 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
control <nvram|network>	This specifies whether the control plane binaries are to be fetched from the network or the binaries already present in NVRAM are to be used. **Type :** Optional **Default value:** Binary present in NVRAM.
dataplane <nvram|network>	This specifies whether the data plane binaries are to be fetched from the network or the binaries already present in NVRAM are to be used. **Type:** Optional **Default value:** Binaries present in NVRAM.
config <network|default|last|backup|clean|minimum>	This specifies the boot configuration – the *<last|backup|clean|minimum>* source, from which to boot up. The boot configuration is set to *last* automatically, whenever a *commit* command is given. The boot configuration being an optional parameter, if it is not specified, it retains the previous value. So giving *reboot* after a *commit* will result in a reboot from the committed configuration. *Default*: Use Default factory configuration while booting up. *Backup*: Use the Backup configuration to boot the system. *Last:* Use last committed configuration to boot the system. *Minimum:* Use a configuration in which: • the size command is executed. • the user (login name and password as root) is created. • an Ethernet interface with IP address 192.168.1.1 mask 255.255.0.0 is created. *Clean:* The system comes up with nothing configured. *Network:* The system fetches the default configuration file from the remote host and system comes up with this default configuration. **Type :** Optional **Default value:** If a reboot is being given for the first time, then the default value is *default*. Otherwise, the default value is the same as what was given the last time.

5.5.48 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 isnot displayed.

Command Syntax: ***get user***

Parameters

Name	Description
Name user-name	This specifies the User Name to be created. **Type:** Mandatory **Valid values:** String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ";"
passwd password	This specifies the password required by this user to login to the unit. **Type :** Mandatory **Valid values:** String of up to 64 characters ('A'- 'Z', 'a'-'z', '0'-'9','-','_') and any combination of printable characters excluding ";".
Root|user	This indicates the privilege level of the user. **Type :** Optional **Default value:** *user*

Example ***$ create user name user1 passwd temp1 user***

Output Verbose Mode On

```
Entry Created
Privilege UserName
----------------------
user user1
```

Verbose Mode Off

```
Entry Created
```

Output Fields

FIELD	Description
UserName	This shows the new user login, which has been created.
Privilege	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

User-id	The id of the user whose password is to be changed. If not specified then the current user is assumed. **Type:** Mandatory, if user is logged in through serial port and user authentication is disabled through serial port. Otherwise, Optional. **Valid values:** String of up to 64 characters (All printable characters except ';')

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.
```

5.5.49 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:
contact sys-contact	This contains the textual identification of the contact person for this modem, together with information on how to contact this person **Type :** Optional **Valid values:** String of up to 63 ASCII Characters
name sys-name	This specifies the name of the modem **Type :** Optional **Valid values:** String of up to 63 ASCII Characters
Location sys-location	This specifies the physical location of this modem **Type :** Optional **Valid values:** String of up to 63 ASCII Characters
vendor sys-vendor-info	This contains the vendor-specific information **Type :** Optional **Valid values:** String of up to 63 ASCII Characters
logthresh sys-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. **Type:** Optional **Valid values:** *1-4*

Systime systime	This specifies the current system time. **Type:** Optional **Valid values:** System Time String in format. The to tal string length must be 20 characters. Single digits should be prepended with a `0', e.g. `1' should be given as `01' mon dd hh:mm:ss year e.g. "Feb 01 21:20:10 2001"
dst <on | off>	This specifies if the Daylight Savings Time has been enabled or not. **Type:** Optional **Valid values:** on|off

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 : 0x3b18 : 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 : 0xbabfbfe1 CCIBR Register : 0x3fd1ed7f
CCOBR Register : 0x44208200 CCOR Register : 0x9bb2eecc
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 possi-blecauses: - 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 registerat 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.
Y Reg LSW	This specifies the value of LSW of Y Register at the time of crash.
Trap Num	This specifies number of trap that caused the crash.
Trap Base Reg	This specifies the value of Trap Base register at the time of crash.
Fault Status Reg	This specifies the value of Fault Status Register at the time of crash.
Double Fault Reg	This specifies the value of Double Fault Register at the time of crash.
IER	This specifies the value of Implementation Exten sionRegister at the time of crash.
Alternate Window Capture	For crashes involving Alternate Windows, This Capture specifies of all local and input register capture for Alternate Windows # 0x1f to 0x18.
Current Standard Window Dump	This specifies all global, input, local and output registers of standard window at the time of capture.
CCP Register Dump	This specifies proprietary CCP register dump
Stack at the time of the Crash	This specifies the stack trace at the time of the crash. Display contains Return address and the caller function addreses, along with the Stack and the Frame pointer values.

Caution None

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]***

Parameter

Name	Description
Numentries numentries	This specifies last *numentries* idle time records to be displayed **Type**: Optional **Valid values** : *1 to GS_CFG_MAX_IDLE_TIME_RECORDS* **Default** : 10

. **Example** ***$ get rmon idletime numentries 1***

Output

```
$get rmon idletime numentries 1

Start Time       End Time                 Total Idle Util %
```

```
                                                                  Time  Time
-----------------------------------------------------------------------------
Thu Jan 1 12:34:51 1970 Thu Jan 1 12:35:00 1970 10s   7s    30
```

Output Fields

FIELD	Description
Start Time	This specifies the starting time of the period for which the idle time was recorded
End Time	This specifies the end time of the period for which the idle time was recorded
Total Time	This specifies the total time (in seconds) elapsed in this period.
Idle Time	This specifies the time (in seconds) for which the system was idle during this period.
Util %	This specifies the Utilization (in percentage) of the system during this period

Caution None.

References None

5.5.50 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
Dsl manuf Text Info
---------------------
Num of LBRams : 2 Num of Chips : 2
Num of Ports : 24 Interface Type : Host Bus
Chip Type : G24
Serial Number : <co-0123456>
Vendor Id : FFBSGSPN
Version Number : Z3219
Chip No Base Addr LBRam
-------------------------------
1 0x84a00000 0
2 0x84a00c00 1
Logical To Physical Port Mapping
-------------------------------
[ 0-7 ] 0 1 2 3 4 5 6 7
[ 8 -15 ] 8 9 10 11 12 13 14 15
[16 -23 ] 16 17 18 19 20 21 22 23
[24 -31 ] 24 25 26 27 28 29 30 31
[32 -39 ] 32 33 34 35 36 37 38 39
[40 -47 ] 40 41 42 43 44 45 46 47
UART manuf Text Info
---------------------
Num of UARTs : 1
```

```
HSSL Port Id : 1 Baud Rate : 9600
Data Bits : 8 Stop Bit : 2
Parity : Even U ART Mode : Polling
Application Type : Console
$
$
```

Output Fields

FIELD	Description
CpeUtopiaMode	Mode of operation of CPE side Utopia interface
NetUtopiaMode	Mode of operation of NET side Utopia interface
CpeUtopiaMaster	This specifies whether CPE side Utopia interface is master
NetUtopiaMaster	This specifies whether NET side Utopia interface is master
MaxEthMacPhy	This specifies the maximum number of MACs that can be configured
ColumbiaIdSel	Specifies the address bit in the PCI bus, which is connected to IDSEL pin of the Columbia
CpeUtopiaFreq	CPE Frequency for Utopia Interface
Eth Speed	This specifies the speed of operation. Supported speeds are – 10 Mbps, 100 Mbps, and 1000 Mbps. It is a bitmask.
SelfMacAddr	This specifies the self MAC address
EthPortIdSel	This specifies the address bit in the PCI bus, which is connected to IDSEL pin of the Ethernet device
EthType	This specifies the Defines the ethernet types – data , mgmt, or both. It is a bitmask.
Num of LBRams	This specifies the number of LBRams in the system.
Num of Chips	This specifies the number of Chips in the system.
Num of Ports	This specifies the number of Ports per Chip in the system.
Interface Type	This specifies the InterfaceType. Following are the values it can take – Host Bus, PCI, Utopia
Chip Type	This specifies the Type of Chip – G24, G16, and octane.
Serial Number	This specifies the vendor specific string that identifies the vendor equipment.
Vendor Id	This specifies the binary vendor identification field.
Version Number	This specifies the vendor specific version number sent by this ATU as part of the initialization message
Base Addr	This specifies the base address of the chip.
LBRam	This specifies the LBRam associated with the chip
Logical To Physical Port Mapping	This specifies the Logical To Physical Port Mapping.
No of UARTs	This specifies the number of UARTs configured.
HSSL Port Id	This specifies the HSSL port to be used for UART.
Baud Rate	This specifies the Baud Rate of the port
Data Bits	This specifies the number of data bits to be used
Stop Bit	This specifies the stop bits used on HSSL – 1, 2, 1.5
Parity	This specifies the parity used on HSSL – even, odd, none
UART Mode	This specifies the UART Mode – polling, interrupt based
Application Type	This specifies the application name using this UART.

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
Control Plane Binary	This tells about the version of the control plane binary with which the system has come up.
Data Plane Binary	This tells about the version of the data plane binary with which the system has come up.

5.5.51 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 CFG
```

Output Fields

FIELD	Description
Control Plane Version	The control Plane Version with which the system could not come up.
Data Plane Version	The data Plane Version with which the system could not come up.
Time of Reboot	Time at which the reboot failure occured.
Type of Reboot	This tells the type of reboot with which the system is trying to come up. The various possible values are : Last, Back Up, Default, Minimum, Clean.

Failure Cause	This tells the various causes of failure that system encountered while rebooting. It can be :- Sdram CP Decompress failed Nvram CP Decompress failed Sdram DP Decompress failed Nvram DP Decompress failed DP Init Failure Nvm CP Nvm DP CI Mismatch Nvm CP Sdram DP CI Mismatch Sdram CP Nvm DP CI Mismatch # Sdram CP Sdram DP CI Mismatch Sdram CP All DP CI Mismatch Nvm CP All DP CI Mismatch Applying Last cfg failed Applying BackUp cfg failed Applying Min cfg failed Applying Nvm FD failed Applying Sdram FD failed Nvm CP Last CFG CI Mismatch Nvm CP Backup CFG CI Mismatch Sdram CP Last CFG CI Mismatch Sdram CP Backup CFG CI Mismatch NVRAM CP had invalid sign SDRAM CP had invalid sign Control Plane wrongly linked CP mem req exceeds limit Applying Clean cfg Failed

5.5.52 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] [maxvcperport maxvcper-port] [maxvc max-vc] [maxatmoam max-atm-oamactivities][maxrmon max-rmon] [maxnumethprioQsmaxnumethprioQs] [maxmulticast max-multicast][maxmac maxmac] [maxhashbuck max-hash-bucket] [maxnumvlan max-numvlans][maxvlanidval maxvlanidval][maxnumacentrymaxnummacentry] [devcap devcap] [maxnumeoaprioQsmaxnumeoaprioQs] [bridgingmode bridgingmode][maxhpriotreenodes maxhpriotreenodes] [maxlpriotreenodesmaxlpriotreenodes] [maxClfrTrees maxClfrTrees][maxClfrProfiles maxClfrProfiles][maxinrules maxinrules] [maxoutrules maxoutrules][maxinhpriosubrules maxinhpriosubrules] [maxinlpriosubrulesmaxinlpriosubrules] [maxouthpriosubrulesmaxouthpriosubrules] [maxoutlpriosubrulesmaxoutlpriosubrules] [mcastcap ivmcapable | svmcapable |none]***

Parameters

Name	Description
maxatmport max-atm-port	Maximum number of ATM ports. **Type**: Modify – Optional **Valid values**: *1- GS_CFG_MAX_ATM_PORT.*
maxvcperport max-vc-per-port	Maximum number of VCs possible per ATM port. **Type**: Modify – Optional **Valid values**: *1-GS_CFG_MAX_ATM_VC_PER_PORT.*
maxvc max-vc	Maximum number of VCs possible in the system. **Type**: Modify – *Optional* **Valid values** *: 1 – (GS_CFG_MAX_ATM_PORT * GS_CFG_MAX_ATM_VC_PER_PORT)*
maxatmoam max-atm-oam-activities	Maximum number of OAM activities that can be active at a time. **Type**: Modify – Optional **Valid values** : *1 – GS_CFG_MAX_OAM_ACT*
maxrmon max-rmon	Maximum number RMON probes that can be applied simultaneously in the system. **Type**: Modify – Optional **Valid values** : *1 -GS_CFG_MAX_RMON_PROBES*
MaxnumethprioQs maxnumethprioQs	This specifies the max number of priority queues that can be configured on a bridge port created over an ethernet interface. **Type**: Modify – Optional **Valid values** : *1 – GS_CFG_MAX_ETH_PRIO*
maxmulticast max-multicast	Maximum number of multicast groups that can be configured in the system. **Type**: Modify – Optional **Valid values** : *1 – GS_CFG_MAX_MCAST_GROUPS*
maxmac max-mac	Maximum number of MAC addresses that can be learned by the system. This should be multiples of 32. **Type**: Modify – Optional **Valid values** : *1 – GS_CFG_MAX_MAC_ADDRS*
maxhashbuck max-hash-bucket	Maximum number of hash buckets for the Forwarding table. This value should be a power of 2. (1, 2, 4, 8 ,...) **Type**: Modify – Optional **Valid values** : *1 - GS_CFG_MAX_HASH_BKTS*
maxnumvlan max-num-vlans	This specifies the maximum number of Vlans Supported. **Type**: Modify – Optional **Valid values** : *1 - GS_CFG_MAX_VLAN*
maxvlanidval max-vlan-id-val	This specifies the maximum value of Vlan Id that a bridge can support. **Type**: Modify – Optional **Valid values** : *1 - GS_CFG_MAX_VLAN_ID*
maxnumacentry max-num-mac-entry	This specifies the maximum number of Static Ucast Entries Supported. **Type**: Modify – Optional **Valid values** : *1 – GS_CFG_MAX_STATIC_ENTRIES*
devcap devcap	This specifies the capabilities of the device. **Type**: Modify – Optional **Valid values** : IVL, SVL, none

maxnumeoaprioQs ***maxnumeoaprioQs***	This specifies the max number of priority queues that can be configured on a bridge port created on EOA interface **Typ**e: Modify – Optional **Valid values** : *1* – GS_CFG_MAX_EOA_PRIO_QUEUES
bridgingmode ***bridgingmode***	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. **Type:** Modify – Optional **Valid values :** residential, restricted, unrestricted
maxhpriotreenodes ***maxhpriotreenodes***	Maximum number of classifier tree nodes of high access priority that can be created. **Type :** Modify - Optional **Valid values :** 1-GS_CFG_MAX_CLFR_TREE_NODE_MPRIO
maxlpriotreenodes ***maxlpriotreenodes***	Maximum number of classifier tree nodes of low ac cess priority that can be created. **Type :** Modify - Optional **Valid values :** 1- GS_CFG_MAX_CLFR_TREE_NODE_LPRI
maxClfrTrees ***maxClfrTrees***	Maximum number of classifier trees that can be cre ated **Typ**e: Modify – Optional **Valid values** : *1* – GS_CFG_MAX_CLFR_TREE
maxClfrProfiles ***maxClfrProfiles***	Maximum number of classifier profiles that can be created **Typ**e: Modify – Optional **Valid values** : *1* – GS_CFG_MAX_CLFR_PROFILES
maxinrules maxinrules	Maximum number of generic filter ingress rules that can be created. **Type:** Modify - Optional **Valid values :** *1-GS_CFG_MAX_GFLTR_RULES_INGRESS*
maxoutrules ***maxoutrules***	Maximum number of generic filter egress rules that can be created. **Type:** Modify - Optional **Valid values :** *1-* *GS_CFG_MAX_GFLTR_RULES_EGRESS*
maxinhpriosubrules ***maxinhpriosubrules***	Maximum number of generic filter ingress subrules of high access priority that can be created. **Type:** Modify - Optional **Valid values :** 1-GS_CFG_MAX_GFLTR_SUBRULES_INGRESS_ MPRIO
maxinlpriosubrules ***maxinlpriosubrules***	Maximum number of generic filter ingress subrules of low access priority that can be created. **Type:** Modify - Optional **Valid values :** *1-* *GS_CFG_MAX_GFLTR_SUBRULES_INGRESS_* *LPRIO*
maxouthpriosubrules ***maxouthpriosubrules***	Maximum number of generic filter egress subrules of high access priority that can be created. **Type:** Modify - Optional **Valid values :** *1-GS_CFG_MAX_GFLTR_SUBRULES_EGRESS_* *MPRIO*

maxoutlpriosubrules maxoutlpriosubrules	Maximum number of generic filter egress subrules of low access priority that can be created. **Type:** Modify - Optional **Valid values :** 1-*GS_CFG_MAX_GFLTR_SUBRULES_EGRESS_LPRIO*
mcastcap ivmcapable | svmcapable | none	It denotes the Multicast Device Capability **Type**: Modify – Optional **Valid values** : ivmcapable, svmcapable

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
Max ATM Ports	Maximum number of ATM ports.
Max VC per Port	Maximum number of VCs possible per ATM port
Max VCs	Maximum number of VCs possible in the system.
Max OAM activities	Maximum number of OAM activities that are active at a time.
Max RMON probes	Maximum number RMON probes that can be applied simultaneously in the system.
Max Multicast groups	Maximum number of multicast groups that are configured in the system.
Max MAC addresses	Maximum number of MAC addresses that are learned by the system.
Max Hash buckets	Maximum number of hash buckets for the Forwarding table. This value should be a power of 2. (1, 2, 4, 8 ,...)
Max VLANs	Maximum number of Vlans Supported.
Max VlanId Value	Maximum value of VLANID that the bridge can support.
Max Num Static Mac Entries	Maximum number of static Unicast entries.
Dev Capabilities	Device Capabilities of the bridge.
Max Num Eth Prio Qs	This specifies the max number of priority queues that can be configured on a bridge port created over an ethernet interface.
Max Num EOA Prio Qs	This specifies the max number of priority queues that can be configured on a bridge port created on EOA interface
Bridging Mode	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.
Max Tree Nodes	Maximum number of classifier tree nodes that can be created

Max Tree Branches	Maximum number of classifier tree branches that can be created
Max Clfr Trees	Maximum number of classifier trees that can be created
Mcast Capabilities	It denotes the Multicast Device Capability

Caution None

References
- get/modify system info
- get system stats.

5.5.53 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 Addrs Count : 110
Ucast Lookup Fail Count : 50 Mcast Lookup Fail Count : 120
Tx Ctl Pkts Count : 60 Rx Ctl Pkts Count : 130
Ctl Pkts Discards Count : 70
```

Output Fields

FIELD	Description
CPE Ucast Addr Count	Number of unicast addresses, which were learned from the CPE ports.
DnLink Ucast Addr Count	Number of unicast addresse,s which were learned from the Downlink port.
Learn Entry Discards	Number of addresses which, were not learned from the CPE ports, due to lack of space in the forwarding table.
DnLink Learn Entry Discards	Number of addresses which, were not learned from the Downlink port, due to lack of space in the forwarding table.
Dyn Addr Conflicts Static	Number of times a learned address conflicted with a static address.
Moved Dyn Addrs Count	Number of times a learned address moved from one port to another.
Ucast Lookup Fail Count	Number of times Unicast address lookup failed.
Mcast Lookup Fail Count	Number of times Multicast address lookup failed.
Tx Ctl Pkts Count	Number of packets sent to the Control

	module.
Rx Ctl Pkts Count	Number of packets received from Control module.
Ctl Pkts Discards Count	Number Control module packets discarded.
NumNetUcastAddrCount	Number of unicast addresses which were learned from the Net ports.
NumNetLearnEntryDiscards	Number of addresses, which were not learned from the Net ports, due to lack of space in the forwarding table.

Caution None

References • get/modify system info

• get/modify nbsize

5.5.54 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

Caution None.
References • get traps command.

5.5.55 ACL Global Macentry Commands

get acl global macentry

Description: Use this command to get.
Command Syntax: ***get acl global macentry [macaddr macaddr]***

create acl global macentry

Description: Use this command to create.
Command Syntax: ***create acl global macentry macaddr macaddr [deny disable |enable] [track disable | enable]***

modify acl global macentry

Description: Use this command to modify.
Command Syntax: ***modify acl global macentry macaddr macaddr [deny disable | enable] [track disable | enable]***

Parameters

Name	Description
***macaddr* macaddr**	Unicast Source MAC Address, which needs to be tracked/denied access **Type:** Create --Mandatory Delete --Mandatory Modify Mandatory Get Optional
***deny* disable | enable**	This flag specifies if the MAC address is to be denied access. **Type:** Create --Optional Modify Optional **Default value:** enable
***track* disable | enable**	This flag specifies if the MAC address is to be tracked accross different ports. A trap is raised when packet from the address comes over a port for the first time and when it changes the port. **Type:** Create --Optional Modify Optional **Default value:** disable

Example ***$ create acl global macentry macaddr 00:01:34: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 description

Field	Description
Mac Address	Unicast Source MAC Address, which needs to be tracked/denied access
Deny	This flag specifies if the MAC address is to be denied access.
Track	This flag specifies if the MAC address is to be tracked accross different ports. A trap is raised in case packet from the address comes over a port for the first time and when it changes the port.
Number of times Port changed	This specifies the number of times port has been changed by the MAC address.

Caution None

References None

5.5.56 ACL Port Macentry Commands

get acl port macentry

Description: Use this command to get.
Command Syntax: ***get acl port macentry [portid portid] [macaddr macaddr]***

create acl port macentry

Description: Use this command to create.
Command Syntax: ***create acl port macentry portid portid macaddr macaddr***

delete acl port macentry

Description: Use this command to delete.
Command Syntax: ***delete acl port macentry portid portid macaddr macaddr***

Parameter

Name	Description
portid portid	Bridge Port Id, for which the port MAC Address entry is created **Type:** Create --Mandatory Delete --Mandatory Get Optional **Valid values:** 1 -GS_CFG_MAX_BRIDGE_PORTS
macaddr macaddr	Unicast Source MAC Address, which is to be allowed access over the particular port. **Type:** Create --Mandatory Delete --Mandatory Get Optional

Example $ create acl port macentry portId 2 macaddr 00:01:34: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
PortId	Bridge Port Id, for which the port MAC Address entry is created
Mac Address	Unicast Source MAC Address, which is to be allowed access over the particular port.

Caution None

References None

5.5.57 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. **Type:** Modify -- Optional **Valid values:** 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 disab

Caution None.
References None.

5.5.58 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 [MM/DD/ YYYY::HH:MM:SS]	This specifies time at which the local clock was last set or corrected. The display format shall be mm/dd/ yyyy:hr:min:sec.

Caution None.

References None.

5.5.59 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.

Caution None.

References None.

5.5.60 SNMP Comm Commands

get snmp comm

Description: Use this command to get.
Command Syntax: ***get snmp comm [community community]***

create snmp comm

Description: Use this command to create.
Command Syntax: ***create snmp comm community community [access ro | rw]***

delete snmp comm

Description: Use this command to delete.
Command Syntax: ***delete snmp comm community community***

Parameter

Name	Description
community community	This specifies the Community name. **Type:** Create --Mandatory Delete --Mandatory Get Optional
access ro | rw	This specifies the access permissions given to managers with this community name. ro implies Read Only permissions and rw implies Read-Write permissions. **Type:** Create --Optional **Default value:** ro

Example **to create a snmp cummunity**

$ create snmp comm community public

Output Verbose Mode On

```
Entry Created

Access community

ro public
```

Verbose Mode Off:

```
Entry Created
```

Example2 **to create a read-rewritable community**

$ create snmp comm community public rw

Output field description

Field	Description
community	This specifies the Community name.

Access	This specifies the access permissions given to managers with this community name.ro implies Read Only permissions and rw implies Read-Write permissions.

Caution None.
References • SNMP commands

5.5.61 SNMP Host Commands

get snmp host

Description: Use this command to get.
Command Syntax: ***get snmp host [ip ip] [community community]***

create snmp host

Description: Use this command to create.
Command Syntax: ***create snmp host ip ip community community***

delete snmp host

Description: Use this command to delete.
Command Syntax: ***delete snmp host ip ip community community***

Parameter

Name	Description
ip ip	This specifies the IP address of the manager that has access permissions. **Type:** Create --Mandatory Delete --Mandatory Get Optional
community community	This specifies the Community name. This must be a valid community in the snmp community table. **Type:** Create --Mandatory Delete –Mandatory Get Optional

Example ***$ create snmp host ip 172.25.34.34 community public***

Output Verbose Mode On

```
Entry Created

Ip Address       Community
--------------------------------------------------------------------------------
172.25.34.34     public
```

Verbose Mode Off:

```
Entry Created
```

Output field description

Field	Description
Ip Address	This specifies the IP address of the manager that has access permissions.

Community	This specifies the Community name. This must be a valid community in the snmp community table.

Caution None.

References
- SNMP commands

5.5.62 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 [authentraps enable | disable]***

Parameter

Name	Description
authentraps enable |disable	Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information; as such, it provides a means whereby all authentication-failure traps may be disabled. **Type:** Modify -- Optional **Default value:** disable

Example ***$ get snmp stats***
Output

```
InPkts : 100 OutPkts : 100
InBadVersions : 0 InBadCommunityNames : 0
InBadCommunityUses : 0 InASNParseErrs : 0
InTooBigs : 0 InNoSuchNames : 0
InBadValues : 0 InReadOnlys : 0
InGenErrs : 0 InTotalReqVars : 200
InTotalSetVars : 0 InGetRequests : 100
InGetNexts : 0 InSetRequests : 0
InGetResponses : 0 InTraps : 0
OutTooBigs : 0 OutNoSuchNames : 0
OutBadValues : 0 OutGenErrs : 0
OutGetRequests : 0 OutGetNexts : 0
OutSetRequests : 0 OutGetResponses : 100
OutTraps : 0 AuthenTraps : disable
SilentDrops : 0 ProxyDrops : 0
```

Output field description

Field	Description
InPkts	The total number of Messages delivered to the SNMP entity from the transport service.
OutPkts	The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.
InBadVersions	The total number of SNMP Messages which were delivered to the SNMP protocol entity and were for an unsupported SNMP version.
InBadCommunityNames	The total number of SNMP Messages delivered to the SNMP protocol entity which used a SNMP community name not known to say entity.
InBadCommunityUses	The total number of SNMP Messages delivered to the SNMP protocol entity which represented an SNMP operation which was not allowed by the SNMP community named in the Message.
InASNParseErrs	The total number of ASN.1 or BER errors encountered by the SNMP protocol entity when decoding received SNMP Messages.

InTooBigs	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'tooBig'.
InNoSuchNames	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'noSuchName'.
InBadValues	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'badValue'.
InReadOnlys	The total number valid SNMP PDUs which were 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.
InGenErrs	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'genErr'.
InTotalReqVars	The total number of MIB objects which have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.
InTotalSetVars	The total number of MIB objects which have been altered successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.
InGetRequests	The total number of SNMP Get-Request PDUs which have been accepted and processed by the SNMP protocol entity.
InGetNexts	The total number of SNMP Get-Next PDUs which have been accepted and processed by the SNMP protocol entity.
InSetRequests	The total number of SNMP Set-Request PDUs which have been accepted and processed by the SNMP protocol entity.
InGetResponses	The total number of SNMP Get-Response PDUs which have been accepted and processed by the SNMP protocol entity.
InTraps	The total number of SNMP Trap PDUs which have been accepted and processed by the SNMP protocol entity.
OutTooBigs	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is 'tooBig'.
OutNoSuchNames	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status is 'noSuchName'.
OutBadValues	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is 'badValue'.
OutGenErrs	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is 'genErr'.
OutGetRequests	The total number of SNMP Get-Request PDUs which have been generated by the SNMP protocol entity.

OutGetNexts	The total number of SNMP Get-Next PDUs which have been generated by the SNMP protocol entity.
OutSetRequests	The total number of SNMP Set-Request PDUs which have been generated by the SNMP protocol entity.
OutGetResponses	The total number of SNMP Get-Response PDUs which have been generated by the SNMP protocol entity.
OutTraps	The total number of SNMP Trap PDUs which have been generated by the SNMP protocol entity.
AuthenTraps	Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information; as such, it provides a means whereby all authentication-failure traps may be disabled.
SilentDrops	The total number of GetRequest-PDUs, GetNextRequest-PDUs, GetBulkRequest-PDUs, SetRe-quest-PDUs, and InformRequest-PDUs delivered to the SNMP entity which were silently dropped be-cause the size of a reply containing an alternate Re-sponse-PDU with an empty variable-bindings field, was greater than, either a local constraint, or the maximum message size associated with the originator of the request.
ProxyDrops	The total number of GetRequest-PDUs, GetNex-tRequest-PDUs, GetBulkRequest-PDUs, SetRequest-PDUs, and InformRequest-PDUs delivered to the SNMP entity, which were silently dropped, 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.

Caution **None.**
References **• SNMP commands.**

5.5.63 SNMP Traphost Commands

get snmp traphost

Description: Use this command to get.
Command Syntax: ***get snmp traphost [ip ip] [port port]***

create snmp traphost

Description: Use this command to create.
Command Syntax: ***create snmp traphost ip ip community community [port port][version v1 | v2c]***

delete snmp traphost

Description: Use this command to delete.

Command Syntax: ***delete snmp traphost ip ip [port port]***

modify snmp traphost

Description: Use this command to modify
Command Syntax: ***modify snmp traphost ip ip [port port] [version v1 | v2c]***

Parameter

Name	Description
port port	This specifies the Port at which the trap is to be sent. **Type:** Create --Optional Get Optional Modify – Optional Delete -- Optional **Default value:** 162
version v1 | v2c	This specifies the Trap version to be sent to the Manager. **Type:** Create --Optional Get Optional Modify -- Optional **Default value:** v2c

Example ***$ create snmp traphost ip 172.25.34.34 community public***
Output Verbose Mode On

```
Entry Created
Ip Address : 172.25.34.34
Community : public
Port : 162 Version : v2c
```

Verbose Mode Off:

```
Entry Created
```

Output field description

Field	Description
Ip Address	This specifies the IP address of the manager where trap is to be sent.
Community	This specifies the Community name used in the trap.
Port	This specifies the Port at which the trap is to be sent.
Version	This specifies the Trap version to be sent to the Manager.

Caution None.
References • SNMP commands

5.5.64 File Commands

apply

Description: Use this command to apply a configuration file stored on the system
Command Syntax: ***Apply fname file-name [version version] [besteffortrue\|false]***

Parameters

Name	Description

fname file-name	This specifies the name of the configuration file (the extension of the file shall be .cfg) to be applied. The file shall contain valid CLI commands. The user shall specify the filename for files present in the system as directories. The directories are /nvram/cfg/ factorydef/, /nvram/user/, /sdram/cfg, /sdram/user. **Type:** mandatory **Valid values:** string of up to 128 characters: ('A'-'Z', 'a'-'z', '0'-'9', '-','_')
version version	This specifies the version of the file that needs to be applied. **Type:** Optional **Default Value:** Incase of multiple version files the active copy gets applied. Not valid for single version file.
besteffort true|false	If the besteffort flag is false, command execution (as specified in "file-name"file) stops immediately after a command returns an error. If the besteffort flag is true, command execution (as specified in "file-name"file) continues even if a command returns an error. **Type :** Optional **Default value :** *false*

Mode Super-User

Example `$ apply fname /nvram/user/commands.cfg version 2`

Output The output of the command is dependent on the list of CLI commands in commands.cfg file.

Example 1: The file commands.*cfg* has the following commands:

```
Verbose on

create atm port ifname atm-0 lowif dsl-0
```

```
Entry Created

If-Name        : atm-0       LowIfName      : dsl-0
MaxVccs        : 2                 MaxConfVccs    : 4
MaxVpiBits     : 3           MaxVciBits     : 10
OAMSrc         : 0xffffffffffffffffffffffffffffffff
Oper Status    : Up          Admin Status   : Up
```

Example 2: The file commands.*cfg* has the following commands:

```
create atm port ifname atm-0 lowif dsl-0
```

The output would be:

```
Entry Created
```

Output Fields None

Caution None

References

- upgrade command
- remove command
- list command
- download command

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
src src-filename	This specifies the name of the binary, configuration or user specific file to be downloaded from a remote host. The filename contains the complete path on the host. The filename extension can be *.cfg* or *.bi*n or any other user specified extension. *A cfg* file can contain only valid CLI commands. A *.bin* file must bea valid image file. **Type:** Mandatory **Valid values:** String of up to 128 characters (all characters except ';', ' ', '?')
dest dest-filename	This specifies the name of the binary, configuration or user specific file on the system. The user shall specify the filename for files present in the system, as directories. The directories are **/nvram/bin/control/** - This directory contains control plane zipped image. There can be multiple versions of images. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/bin/dataplane/ -** This directory contains data plane zipped image. There can be multiple versions of images. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/bin/decompressor/** - This directory contains decompressor image. There can be multiple versions of images. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/bin/dslphy/** - This directory contains DSL physical layer image. Only one version of image is possible. The name of the image file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/cfg/factorydef/** - This directory contains factory default configuration files. There can be multiple versions of files. The name of the file shall be as specified in the configuration file of createfi tool. The files are stored in NVRAM. **/nvram/user/ -** This directory contains user specific files. There can be multiple versions of files. The files are stored in NVRAM. **/sdram/cfg/ -** This directory contains user specific Configuration files with .cfg extension. The files are stored in SDRAM **/sdram/user/ -** This directory contains user specific files. The files are stored in SDRAM. **Type:** Mandatory **Valid values:** String of up to 128 characters (all Characters except ';', ' ', '?')
ip ip-address	This specifies the IP address of the remote host from which the file is to be downloaded. **Type:** Mandatory

	Valid values: Any valid IP address.
mode tftp | ftp	This specifies the protocol to be used for downloading the file. Currently only TFTP is supported. **Type:** Optional **Default Value :** TFTP

list

Description: This command is used to list the Configuration or binary files stored on the unit

Command Syntax: ***list fname [/nvram \| /sdram]***

Parameters

Name	Description
fname [/nvram | /sdram]	This specifies whether the files of NVRAM or SDRAM are to be listed. **/nvram** – This lists all directories and files stored in NVRAM. **/sdram** - This lists all directories and files stored in SDRAM. **Type:** Optional. **Default Value :** All the files present in the NVRAM or SDRAM will be displayed.

Mode Super-User.

Example `$ list fname /nvram`

Output Verbose Mode On

```
name                version      Time                  size    Access  state

/nvram/bin/control

gsv-control.bin.gz    2        Thu Jan 01 00:00:10 1970  68803   RO      Active

/nvram/bin/bootptftp

gsv-boot.bin.gz       3        Fri Feb 12  12:20:10 2000 102     RW      Active

/nvram/bin/dataplane

gsv-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/

gsv-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

gsv-control.bin.gz    2        Thu Jan 01 00:00:10 1970  68803   RO      Active
```

```
/nvram/bin/bootptftp
gsv-boot.bin.gz       3       Fri Feb 12  12:20:10 2000 102     RW      Active

/nvram/bin/dataplane
gsv-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/
gsv-user.tmp           3      Fri Feb 12  12:20:10 2000 102    RW      Active
```

Output Fields

FIELD	Description
Name	The name of the file present in the directory. Name starting with ì/î indicates directory name.
Version	This specifies the version of the file.
Time	Time at which the file got created. This is displayed in Day Mon DD HH:MM:SS YEAR format.
Size	The size of the file in bytes.
Access	The access of the file. It can be read only, read write or write only.
State	The state of the file. It can be active, inactive, tried, latest.

Caution None

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
fname file-name	This specifies the file name, which needs to be removed. The user shall specify the filename for files present in the system, as directories. The directories are /nvram/bin/control/, /nvram/bin/control/, /nvram/bin/dataplane/, /nvram/bin/dslphy, /nvram/cfg/factorydef/, /nvram/user/,/sdram/cfg, /sdram/user. **Type :** Mandatory **Valid values:** string of upto 128 characters

	('A'-'Z', 'a'-'z', '0'-'9', '-', '_')
version version	This specifies the version of the file that need to be removed. **Type:** Optional for single version file. Mandatory for multiple version file. Default Value:

upgrade

Description: Use this command to upgrade a configuration or binary file stored on the system.

Command Syntax: ***upgrade fname file-name version version***

Parameters

Name	Description
fname file-name	This specifies the file name, which needs to be up-graded. The specified file becomes Active and the present active file is made inactive.The user shall specify the filename for files present in Columbia, as directories. The directories are /nvram/bin/control/, /nvram/bin/dataplane/, /nvram/bin/decompressor, /nvram/bin/dslphy, /nvram/cfg/factorydef/, /nvram/ user/, **Type :** Mandatory **Valid values:** string of upto 128 characters ('A'-'Z', 'a'-'z', '0'-'9', '-', '_')
version version	This specifies the version of the file that needs to be upgraded **Type :** Mandatory **Valid values:** Decimal number

5.5.65 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
alias-string	The string, which you will use to refer to the aliased command, henceforth. It should not match any CLI keyword. **Type:** Optional **Valid values:** string of up to 14 characters ('A'-'Z', 'a'-'z', '0'-'9', '-', '_')
aliased-command	This is the total CLI command length (512 characters). **Type:** Mandatory **Valid values:** Any string (all printable characters except ';') as long as the total CLI Command length is not exceeded.

Mode Super-User, User

Output With Parameters

```
$alias abc = modify nbsize
Set Done
$abc maxatmport 48
Set Done
```

Without Parameters

```
$alias
Alias              Command
-------------------------
abc                modify nbsize
```

Output Fields

FIELD	Description
Alias	This is the new abbreviated command, which you may use in place of the string specified in Command.
Command	The command string which has been aliased.

unalias

Description: Use this command to delete an alias. Either a particular alias or all aliases can be removed using this command.

Command Syntax: ***unalias [all | <name>]***

Parameters

Name	Description
all	Using this option all the aliases defined in the system will be removed. **Type:** Optional **Valid values:** String ìALL.î
Name	Name of the alias defined for a command. **Type:** Optional. **Valid values:** Any valid alias defined in the system.

help

Description: Use this command for a listing of all the user inputs permissible at the point. In case Help is asked for, as a parameter of any incomplete command, then it displays a list of all the pending/Extra parameters input by the user. In all other cases, the next set of permissible keywords required in order to shortlist a command, is displayed. The Incomplete Command keyed in by the user is made available again, after help is dispalyed.

Command Syntax: ***help | ?***

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
prompt new-prompt	The new prompt string. **Type**: Mandatory **Valid values:** 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-address | dname domain-name} {ping | udp} [-m num-of-hops] [-w wait-time] [-p udp-port-number] [-q numof-probes]***

Parameters

Name	Description
***ip-address	dname domain-name***	This specifies the Destination address to be pinged. **Type**: Mandatory **Valid values** : Any Valid IP Address (*0.0.0.0 – 255.255.255.255*) or Domain Name (String of Max 63 characters ('a'-'z', 'A'- 'Z', '0'-'9', '-', '_'and '.')
***Ping	udp***	Traceroute probe message type **Type**: Mandatory
-m num-of-hops	Maximum number of hops to search for ip-address **Type**: Optional **Valid Values:** *0-255* **Default Value :** *30*
-w wait-time	This specifies the timeout in seconds **Type**: Optional **Valid values** : *0-65535* **Default Value :** *5*
-p udp-port-number	Destination UDP port to be used, only when Probe is Udp **Type**: Optional. **Valid Values:** *0-65535* **Default Value :** *32768*
-q num-of-probes	Number of probes to be sent for each TTL value **Type**: Optional **Valid Values:** *0-255* **Default Value :** *3*

Example Output ***$ traceroute 192.168.1.13 ping***

```
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.

Caution None.

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. **Type:** Optional **Valid values:** On.
Off	Used for switching off the verbose mode. **Type:** Optional. **Valid values:** Off

6 Examples of Frequently Used CLI

Previouse chapter detailed whole CLI commands that users can use. For the 1st time CLI users, this chapter lists most frequently used CLI examples to reduce the barrier to learning,

6.1 ADSL2/2+ IP DSLAM Default Settings

At the very first time of your login ADSL2/2+ IP DSLAM, the default settings 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

6.2 Modify the system IP

Unless you aggregate both Eth0 & Eth1 for uplink, each Ethernet interface has an independent IP. According to the default setting, only Eth0 was enabled, and 192.168.100.111 is assigned as default IP.

Following steps describe how to modify Eth0's system IP.

Step 1: Get current Ethernet interface setting

```
$get ethernet intf ifname eth-0

Interface          : eth-0
Type               : Uplink          UseDhcp          : False
```

```
IP Address              : 192.168.100.111   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         : -
Tagged Mgmt PDU Prio : 0
Speed                   : 100BT
Operational Status      : Up                Admin Status : Up
```

Step 2: Disable the Ethernet interface; you have to disable the Ethernet interface before you want to change the IP address

```
$modify ethernet intf ifname eth-0 disable
Interface               : eth-0
Type                    : Uplink            UseDhcp         : False
IP Address              : 192.168.100.111 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         : -
Tagged Mgmt PDU Prio: 0
Speed                   : 100BT
Operational Status : Up                     Admin Status : Up

Set Done


Thu Jan 01 00:03:13 1970 : MAJOR ALARM : ETHER Interface Down : Interface
- eth-
0

Interface               : eth-0
Type                    : Uplink            UseDhcp         : False
IP Address              : 192.168.100.111 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         : -
Tagged Mgmt PDU Prio: 0
Speed                   : -
Operational Status : Down                   Admin Status : Down
```

Step 3: Modify the IP address

```
$modify ethernet intf ifname eth-0 ip 192.15768.100.112 mask 12255.255.255.0
enable

Interface              : eth-0
Type                   : Uplink          UseDhcp          : False
IP Address             : 192.168.100.111 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        : -
Tagged Mgmt PDU Prio: 0
Speed                  : -
Operational Status : Down                Admin Status : Down

Set Done

Thu Jan 01 00:03:42 1970 : STATUS ALARM : ETHER Interface Up : Interface -
eth-0


Interface              : eth-0
Type                   : Uplink          UseDhcp          : False
IP Address             : 192.168.100.112 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        : -
Tagged Mgmt PDU Prio: 0
Speed                  : 100BT
Operational Status : Up                  Admin Status : Up
```

6.3 Set System Time

ADSL2/2+ IP DSLAM supports SNTP and RTC (Real-Time Clock) is not built in. Users need to set the SNTP server related information so that ADSL2/2+ IP DSLAM will get the system time via SNTPserver. Alternatively, use CLI command to set the system time directly, but the system time will lost when the system is powered off.

How to set system time desribes as follows:

Set the SNTP server

Step 1: Create a SNTP server

Step 2: Enable SNTP

```
$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

$modify sntp cfg enable

Status : Disable

Set Done

Status : Enable
$
$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
//get time from sntp server
```

Option 2: Set system time directly

```
$get system info

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

$modify system info ?          // format for setting
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 :
IDLWINTIHSTICATIAHSTIYSTIPSTIMSTICSTIESTIASTINFSTI

NFTIBRSTIATIWATIGMTIUTCIWETICETIFWTIMETIMEWTISWTI

EETIISTIBTIITIZP4IZP5IINSTIZP6INSTIWASTISSMTIJTI

CCTIROKIKSTIJSTICASTIEASTIGSTIIDLEINZSTINZT

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

Description :
Name :
Location :
Contact :
Vendor :
LogThreshold : 0
Object-id : 1.3.6.1.4.1.3278.1.12
Up Time(HH:MM:SS) : 0:12:55
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 00:12:55 1970
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) : 0:12:55

```
HwVersion              : ADSL-1.0
CPLDVersion            : 1.4
CPSwVersion            : COL2.6.1.0.040412
CPSwVersion(Build): 1.00.040407-ADSL
DPSwVersion            : DP_B02_06_22_05
System Time            : Mon May 10 10:17:00 2004
Time Zone              : GMT
DST                      : off
Services               : physical datalink internet end-to-end end-to-end end-to-end
applications
$$modify system info systime " May 10 10:17:00 2004" timea
Mon May 10 10:17:14 2004 : MAJOR ALARM : ADSL ATUC Down : Interface -
dsl-12
$modify system info systime " May 10 10:17:00 2004" timezone "CCT"

Description          :
Name                    :
Location               :
Contact                :
Vendor                  :
LogThreshold         : 0
Object-id              : 1.3.6.1.4.1.3278.1.12
Up Time(HH:MM:SS) : 0:13:18
HwVersion              : ADSL-1.0
CPLDVersion            : 1.4
CPSwVersion            : COL2.6.1.0.040412
CPSwVersion(Build): 1.00.040407-ADSL
DPSwVersion            : DP_B02_06_22_05
System Time            : Mon May 10 10:17:23 2004
Time Zone              : GMT
DST                      : off
Services               : physical datalink internet end-to-end end-to-end end-to-end
applications

Set Done


Description          :
Name                    :
Location               :
Contact                :
Vendor                  :
LogThreshold         : 0
Object-id              : 1.3.6.1.4.1.3278.1.12
Up Time(HH:MM:SS) : 0:13:18
HwVersion              : ADSL-1.0
CPLDVersion            : 1.4
CPSwVersion            : COL2.6.1.0.040412
CPSwVersion(Build)    : 1.00.040407-ADSL
DPSwVersion            : DP_B02_06_22_05
System Time            : Mon May 10 10:17:00 2004
Time Zone              : CCT
DST                      : off
```

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

6.4 VLAN

ADSL2/2+ IP DSLAM supports port-based VLAN, and Group VLAN. This section shows how to create two VLAN groups (VLAN ID = 2, and 3), PVC 8/81 of both ADSL port 1 & 2 will join in VLAN group 2, and create a 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.

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

```
$create vlan static vlanname vlan2 vlanid 2 egressports 1 385
upuntaggedports 1
// create a static vlan 1 then assign port 1 (portid-1) and port 385 (eth-0) as membership

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
// set the PVID 2 to portid 1

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

Set Done
```

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

$
$
$get vlan curr onfinfo          // Show current VLAN status

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

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

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

Step 3 : Create a new PVC(8/82) in ADSL port 1

```
// Create the second PVC on the DSL port
// Step 1 : Create atm vc and aal5 interface
// Step 2 : Create eoa interface
```

```
// Step 3 : Create bridge interface

$create atm vc intf ifname aal5-48 lowif atm-0 vpi 8 vci 82     // Step 1

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 intf ifname eoa-48 lowif aal5-48            // Step 2

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   // Step 3

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)

```
// Set the second PVC to mapping to a vlan

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

```
Entry Created

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

Step 6 : Set Bridge port 49(ADSL port 1 PVC 8/82) as PVID 3

```
//Set the PVID 3 to portid 49
$modify gvrp port info portid 49 portvlanid 3 acceptframetypes all
ingressfilter ing 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 vlanname vlan2 egressports 1 2 385 untaggedports 1
2
 //Add port2 to vlan2 use vlanname index

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



$modify vlan static vlanid 2 egressports 1 2 3 385 untaggedports 1 2 3
  //Add port3 to vlan2 use vlanid index
VLAN Name                       : vlan2
VLAN Index                      : 2
Egress ports                    : 1        2        385
Forbidden Egress Ports          : None
Untagged Ports                  : 1        2
Bridging Mode                   : Residential
Flood support Status            : enable
Broadcast support Status        : enable

Set Done


VLAN Name                       : vlan2
VLAN Index                      : 2
Egress ports                    : 1        2        3        385
Forbidden Egress Ports          : None
Untagged Ports                  : 1        2        3
Bridging Mode                   : Residential
Flood support Status            : enable
Broadcast support Status        : enable
```

Step 8 : Modify the VLAN from 8/81 to 0/35

```
The AAL5 start number is 0
$modify atm vc intf ifname aal5-1 disable


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

Set Done


VC IfName      : aal5-1              Low IfName          : atm-1
VPI            : 8                   VCI                 : 81
Admin Status   : Down                Oper Status         : Down
```

Aal5 Tx Size	: 1536	Aal5 Rx Size	: 1536
AAL Type	: AAL5	AAL5 Encap	: LLC Mux
Channel	: Interleaved	Last Change (sec)	: 0
MgmtMode	: Data	Row Status	: active
VC Type	: PVC	VC Topology	: Point to Point

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

(Set VPI / VCI is 0 / 35)

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

Set Done

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

$modify atm vc intf ifname aal5-1 enable

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

Set Done

VC IfName	: aal5-1	Low IfName	: atm-1
VPI	: 0	VCI	: 35
Admin Status	: Up	Oper Status	: Down
Aal5 Tx Size	: 1536	Aal5 Rx Size	: 1536

```
AAL Type       : AAL5              AAL5 Encap          : LLC Mux
Channel        : Interleaved       Last Change (sec)   : 0
MgmtMode       : Data              Row Status          : active
VC Type        : PVC               VC Topology         : Point to Point
```

6.5 Enable the Stacking

This procedure needs two units of ADSL2/2+ IP DSLAM,

- Enables the downlink port(Eth-1) of the first unit, and then create the bridge port 386 for the Eth-1

- The second unit is the default configuration, and set the IP & system IP as previous description.

- Connect the downlink of the first unit to the uplink of the second unit.

Note: the stacking can support data channel only. The management capability for stacking is till not available,

```
// Create the second ethernet interface for stacking
// Step 1 : Create eth-1 to downlink
// Step 2 : Create bridge port to eth-1

$create ethernet intf ifname eth-1 type downlink enable      // Step 1

Entry Created


Interface              : eth-1
Type                   : Downlink          UseDhcp         : False
IP Address             : 0.0.0.0           Mask            : 0.0.0.0
Pkt Type               : ALL
Orl(mbps)              : 100
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
$
$


$create bridge port intf portid 386 ifname eth-1 learning enable status
enable      // Step 2
```

```
Entry Created


Port Id                    : 386          IfName              : eth-1
Max Unicast Addresses : 256          Learning Status     : Enable
Port Oper Status         : Disable    Port Admin Status   : Enable
Sticky Status            : Disable    FDB Modify          : Enable
Acl Global Deny Apply : Enable
Acl Global Track Apply: Enable
$
$
```

6.6 Modify the Downstram/ Upstream Rate

```
The DSL port number is 0 to 47

$modify adsl line intf disable ifname dsl-11
(Set ADSL port 12 disable)

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

Set Done



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

IfName                   : dsl-11
Line Type                : interleavedOnly      Coding Type          : dmt
GsUtopia   L2TxAddr : 26                    GsUtopia L2RxAddr : 26
Gs Clock Type        : oscillator           Gs Action            : startup
Admin Status         : Down                     Oper Status          : Down
Trans Atuc Cap       : ansit1413                              q9921PotsNonOverlapped
 q9921PotsOverlapped              q9921IsdnNonOverlapped
```

q9921isdnOverlapped
q9922potsOverlapped
q9922Adsl2PlusPotsNonOverlappedq9922Ads
l2PlusPotsOverlapped q9922Adsl2PotsNonOverlapped
Trans Atuc Actual : -
GsDmtTrellis : trellisOn
Trans Atur Cap : -
PM Conf PMSF : idleop
Line DELT Conf LDSF : inhibit

$modify adsl line profile atucintlmaxtxrate 0x7d000 ifname dsl-11
(Set ADSL port 12 interleave mode Downstream 512K)
(The value is hex so you must conversion to decimal)
IfName : dsl-11

ADSL ATUC Configuration :

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

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

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

Set Done


IfName                     : dsl-11

ADSL ATUC Configuration :
---------------------------
Rate Adaptation            : adaptAtStartup
Target Snr Margin(dB/10): 60                     Max Snr Margin(dB/10)     : 310
GsRsIntCorrectionUp        : 125us               Dnshift SnrMargin(dB/10) : 0
Upshift SnrMargin(dB/10): 120                    Min Upshift Time(sec)     : 0
Min Dnshift Time(sec)     : 0                    Fast Min Tx Rate(bps)     : 0x7d00
Intl Min Tx Rate(bps)     : 0x7d00               Fast Max Tx Rate(bps)     :
0x1f38300
Intl Max Tx Rate(bps)     : 0x7d000              Max Intl Delay(ms)        : 0
GsTxStartBin               : 0x20                GsTxEndBin                :
0x1ff
GsRxStartBin               : 0x6                 GsRxEndBin                :
0x1f
GsMaxBitsPerBin            : 15                  GsMaxDCo                  :
256
GsRxBinAdjust              : Disable             GsEraseProfiles           : Disable
GsAdi2x                    : standard            GsStandard                :
adsl2Plus
GsInitiate                 : -                   GsTxPowerAtten            : -
GsCodingGain               : Auto                GsRsFastOvrhdDown         : 1
```

```
GsRsIntCorrectionDown      : 1Ms                GsRsFastOvrhdUp           : 1
GsDrStby                   : Disable            GsExpandedExchange        :
Expanded
GsEscapeFastRetrain        : Disable            GsFastRetrain             :
Disable
GsBitSwap                  : Enable             GsNtr                     :
LocalOcs
GsAnnexType                : adsl2              GsAlctlUsVer              :
Unknown
GsUseCustomBin             : Disable            GsFullRetrain             : Enable
GsPsdMaskType              : -                  DmtConfMode               :
fdmMode
GsExtRsMemory              : notpresent         ParamHybridLossTestStart  : 0x2
GsParamHybridLossTestEnd   : 0x40               GsDmtTrellis              : on
GsAdvertisedCapabilities   : AnnexA
GslTriggerMode             : Disable
Type                       : interleavedOnly
GsDnBinUsage               :
0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFF
ParametricTestInputFile : -
Data Boost                 : Enable             Upstream PSD              :
Standard
Conf PM Mode               : pmstatel3enable   pmstatel2enable
Conf PML0 Time(sec)        : 180
Conf PML2 Time(sec)        : 180                Conf PML2 ATPR (dB/10)    : 30
Conf PML2 Rate(bps)        : 0x10000
Conf GsREADSL2 Enable      : disable

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

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

(Set ADSL port 12 interleave mode upstream 512K)
(The value is hex so you must conversion to decimal)

```
IfName                     : dsl-11

ADSL ATUC Configuration :
---------------------------
Rate Adaptation            : adaptAtStartup
Target Snr Margin(dB/10)   : 60             Max Snr Margin(dB/10)    : 310
GsRsIntCorrectionUp        : 125us          Dnshift SnrMargin(dB/10) : 0
```

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

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

```
Intl Min Tx Rate(bps)     : 0x7d00              Fast Max Tx Rate(bps)     : 0x109a00
Intl Max Tx Rate(bps)     : 0x109a00            Max Intl Delay(ms)        : 16
_____________________________________________________________________________

Set Done


IfName                          : dsl-11

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

$modify adsl line intf enable ifname dsl-11

(Set ADSL port 12 enable)

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

Set Done


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

6.7 Enable SNMP function

```
//SNMP function
// Step 1 : Create SNMP community
// Setp 2 : Create SNMP host
// Setp 3 : Create SNMP traphost


$create snmp comm community public rw

Entry Created

Community                Access
-------------------------
public                   RW
    :
$
$create snmp host ip 192.168.100.55 community public

Entry Created

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

$create snmp traphost ip 192.168.100.55 community public

Entry Created


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

6.8 LACP aggr

```
// Step 1：Create Ethernet and Bridge port
// Step 2：Create Aggregator interface
// Step 3：Create LACP Aggregator

$ 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


$ 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        : -
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

$ 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
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

$ modify lacp aggrport info ifname eth-1 aggrstatus enable

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

Set Done


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
```

6.9 Multicast

```
// 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
$
```

6.10 ACL

```
// Step 1 : create ACL global
// Step 2 : create ACL port

"Global ACL filter"
// deny the access

$CREATE ACL GLOBAL MACENTRY 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
$

"Port ACL filter"
//allow the access

$CREATE ACL PORT MACENTRY PORTID 1 MACADDR 00:01:23:23:23:34


ENTRY CREATED


PORTID       : 1
MAC ADDRESS : 00:01:23:23:23:34
$

$CREATE ACL PORT MACENTRY PORTID 2 MACADDR 00:01:32:23:35:43

ENTRY CREATED


PORTID       : 2
MAC ADDRESS : 00:01:32:23:35:43
```

6.11 IP Filter

```
// Step 1 : create the filer rule for IP filter
//Step 2 : create the subrule
//Step 3 : enable the rule
//Step 4 : create the port to map this filter
//Step 5 : create the IP you want to 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
$
```

```
$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    : 0XFFFFFFFF        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
$

$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
$

$CREATE FILTER RULE MAP IFNAME EOA-1 STAGEID 1 RULEID 2


ENTRY CREATED


INTERFACE : EOA-1       STAGE ID : 1
RULE ID   : 2           ORDER ID : 2

$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
$
```

6.12 DHCP filter

```
//Step 1 : create the filter rule for DHCP filter
//Step 2 : create the subrule
//Step 3 : enable the rule
//Step 4 : create the port to map this 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
$
$
$create filter subrule udp ruleid 3 subruleid 1 dstportfrom 67 dstportto 69
srcportcmp any d
stportcmp 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

$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
$
$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

Entry Created


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

6.13 FTP filter

```
//Step 1 : create the filter rule for FTP filter
//Step 2 : create the subrule
//Step 3 : enable the rule
//Step 4 : create the port to map this 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
$

$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
$

$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
$

$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-0 STAGEID 1 RULEID 4

ENTRY CREATED
INTERFACE : EOA-1       STAGE ID : 1
RULE ID   : 4           ORDER ID : 4
```

6.14 HTTP filter

```
//Step 1 : create the filter rule for HTTP filter
//Step 2 : create the subrule
//Step 3 : enable the rule
//Step 4 : create the port to map this 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
$

$CREATE FILTER SUBRULE TCP RULEID 5 SUBRULEID 1 DSTPORTFROM 80
SRCPORTCMP ANY DS TPORTCMP 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
$

$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
$


$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
```

Appendix-A: Pin Assignment

CID Pin Assignment

The CID port is configured as DCE. The connection for such link is given below:

Table A-1 ADSL2/2+ IP DSLAM CID port pin assignment

Pin no.	Usage
1	----------
2	TD
3	RD
4	----------
5	----------
6	----------
7	----------
8	CTS
9	----------

Note: Connector type is DB9 male

Table A-2 RS-232 DB9 pin assignment (for PC to CID port connection)

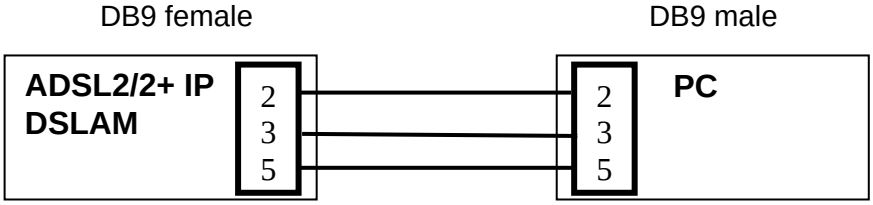


Table A-3 ADSL2/2+ IP DSLAM management port pin assignment

Pin no.	Usage
1	RX+
2	RX-
3	TX+
4	---------
5	---------
6	TX-
7	---------
8	----------

Note: Connector type is RJ-45

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