DAS3series IP-DSLAM

System Configuration Guide

DAS3series IP-DSLAM
System Configuration Guide
Text Part Number: 1105-0210

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Chapter 1　Preface

This preface discusses the following topic:

- Purpose
- Organization
- Conventions

Purpose

The purpose of this guide is to provide detailed information and description of DAS3series IP-DSLAM, which includes software configuration and other specific features.

Organization

This guide contains the following information:

- Preface
- DAS3series User Interface
- Initialing the DAS3series
- Managing the GE Network Uplink Interface
- Managing the ADSL Subscriber Line Interface
- Managing the Bridge Interface
- Managing the VLAN Services
- Managing the Multicast Services
- Managing the System Filter
- Diagnosis and Performance Monitoring
- Appendix

Conventions

This section describes the conventions used in this guide.

This sign indicate the **NOTICE**. A note contains helpful suggestions or reference relay on the topical subjects.

This sign indicate the **TIP**. Performing the information described in the paragraph will help you solve a problem. The tip information might not be troubleshooting or even an action, but could be useful information.

This sign indicate the **CAUTION**. In this situation, you might do something that could result in equipment damage or loss of data.

This sign indicate the DANGER. You are in situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

NE/NEs mention in this document means DAS3series IP-DSLAM

CLI Ex – Command line management with a local console or Telnet through in-band or out-band IP interface for CIT (Craft Interface Terminal) connection.

Chapter 2   DAS3series User Interface

This chapter describes the DAS3series user interface, the instructions describes how to using the command-line interface, and also describes the command editing and command history features that enable you to recall previous command entries and edit previously entered commands.

- User Interface Mode
- Access via the Console Port
- Access using the Telnet Session
- Command Syntax and Operating Regulation

User Interface Mode

The DAS3series provide the user access mode to allow user to access, it requires a password with remote Telnet access, the user interface mode is called **CLI Ex** mode.

Access via the Console Port

Access to **CLI Ex** mode via the Console Port can be done using a VT100-compatile terminal directly connected.

To access the **CLI Ex** mode via a direct VT100-compatible terminal connection to the Console Port, use the following procedure:

No password required for Console access.

Step 1   Set the communication parameters of a VT100-compatible terminal as follows:

Table 2-1   **DAS3series Console Management Setting**

Parameter	Setting
Baud rate	9600
Data bits	8
Parity	None
Start bits	1
Stop bits	1
Flow control	None

Step 2   Connect the VT100-compatible terminal to the Console Port of the DAS3series front panel.

Step 3   Press **<Enter>** a number of times until the "**#**" is display on the screen.

Access using the Telnet Session

Access the CLI Ex mode by establishing a Telnet session onto the assigned IP address of the Network uplink interface.

If the IP address is changed during configuration and the change are saved, your Telnet session onto the system will be broken. You can then Telnet to the new IP address assigned during the configuration.

The IP address assigned on Network uplink interface must not be in use with another device on the same network segment or a conflict may occur.

If the assign IP has been changed and forgotten, locally access the system via Console port with below command syntax to retrieve the IP address assign to the system.

Example 1

```
#get ip address
Ip Address        Mask              If Name    BCast Addr       MaxReasm
────────────────────────────────────────────────────────────────────────
10.5.3.31         255.255.248.0     eth-0      1                65535
127.0.0.1         255.0.0.0         lo-0       1                65535
```

The Telnet session required a username and password to access, the default username and password is list in below (case sensitive):

```
User Name: dnld
Password: dnld
```

Managing Telnet Session Login Account

The CLI Ex mode provides two levels of user privileges, "**root**" and "**user**".

You can create and delete the user account by the following command.

Table 2-2   User Account Management

Use this command to create the account user. A maximum two accounts can exist.	
#**create user name** *<name>* **passwd** *<name>* [*root* / *user*]	
Use this command to delete a user login	
#**delete user name** *<name>*	
Use this command to display information of all the users. Password information is not included.	
#**get user**	
Parameters	**Task**
<name>	This specifies the user name and password 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 ";".
[*root* / *user*]	This indicates the privilege level of the user. **Type:** Optional **Default values:** user

Command Syntax and Operating Regulation

This section describes how to configure and display context-sensitive, command history features, and command syntax help.

Syntax Notation Conventions

CLI Ex command syntax using different form to display syntax notation, Table below lists the notation information.

Table 2-3   Syntax Notation of CLI Ex

Notation	Descriptions
Bold	Keywords in a command that you must enter exactly as shown.
Normal	User specified values in a command are presented in regular typeface, i.e., not bold or italic.
<Parameter>	Parameter values must be specified.
[*Parameter*]	Parameter values are optional, all **modify** parameters are shown as optional in **CLI Ex** commands even if there exists only a single parameter.
*Parameter 1	Parameter 2*	Parameter values are separated by a vertical bar "	" only when one of the specified values can be used.
{*Parameter*}	Parameter values are enclosed in { } when you must use one of the values specified.
[*Parameter*]+	Parameter values are enclosed in [ ]+ when you can specify the parameter one or more times, in the command line.

Structure of a CLI Command

The CLI Ex commands conform to the following structure except for some basic service command such as "**ping**", "**traceroute**", etc.

```
<Action> <Group> <Sub group> <Sub sub group> <tag1 value1> ~ <tagN valueN>
```

Table 2-4   **Structure of CLI Ex Mode**

Keyword	Descriptions
Action	This is the first keyword of a CLI Ex 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 Ex command. It indicates the group of a CLI Ex command. "**bridge**" is an example of this keyword.
Sub group	This is the third keyword of a CLI Ex command. It indicates the sub group of a CLI Ex command. "**port**" is an example of this keyword
Sub sub group	This is the fourth keyword of a CLI Ex command. It indicates the sub group of a CLI Ex 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 values pairs.

Command Syntax and Context Sensitive Help

Fully utilize the " **?** " command to assist your task; this command can be use to browsed command and to be assistants on the command keywords or arguments.

To get help specific to a command, a keyword, or argument, perform one of these tasks:

Table 2-5   **CLI Ex Syntax Help**

Command	Task
Help / ?	List all command available of CLI Ex
Command ?	List the associated keywords and arguments for a command.

To list the command keywords, enter a question mark " **?** " to complete the command keywords and arguments. Include a space before the **?**. This form of help is called command syntax help.

The CLI Ex mode provides an error announce that appears in which you have entered an incorrect or incomplete command, syntax, keyword, or argument.

If you have enter the correct command but invalid syntax or a wrong keyword parameters, the CLI Ex will automatic prompt the error messages.

Command History and Editing Features

By default, the system records ten command lines in its history buffer. To recall commands from the history buffer, perform one of these tasks:

Table 2-6   Command History and Editing

Command	Task
Press the Up arrow key	Recall commands in the history buffer. Beginning with the most recent commands. Repeat the key sequence to recall the older commands.
Press the Down arrow key	Return to more recent commands in the history buffer. Repeat the key sequence to recall the more recent commands.
Press **Backspace**	Erase the character to the left of the cursor.
Press the left arrow key	Move the cursor back one character.
Press the right arrow key	Move the cursor forward one character.

This CLI Ex mode includes an editing feature. You can move cursor around on the command line to insert or delete the character.

NOTE   The arrow keys function only on ANSI-compatible terminals such as VT100s.

Ending a Session

If you access using the Telnet session, you can type "**logout**" command to terminate the Telnet session instantly.

Console port will stay in life until you close the terminal session.

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Chapter 3   Initialing and System Administrating

The chapter provides the detail descriptions of system initialing and system administrating for operator to be well handle the DAS3series system. This chapter contains the following sections:

- Principle of System Interface Definitions
- Verifying Current Software and Firmware Versions
- Configuring the System Information
- Storing the System Configuration
- System Administrating
- Restoring the Factory Setting
- Configuring the SNMP Status

Principle of System Interface Definitions

There are 5 interface stratums defined in the DAS3series, each interface layer contains it own configuration setting and specific relational to other stratum.

Figure 3-1 shows the relationship in each stratum of services layer.

Figure 3-1   Interface and Service Structure Diagram
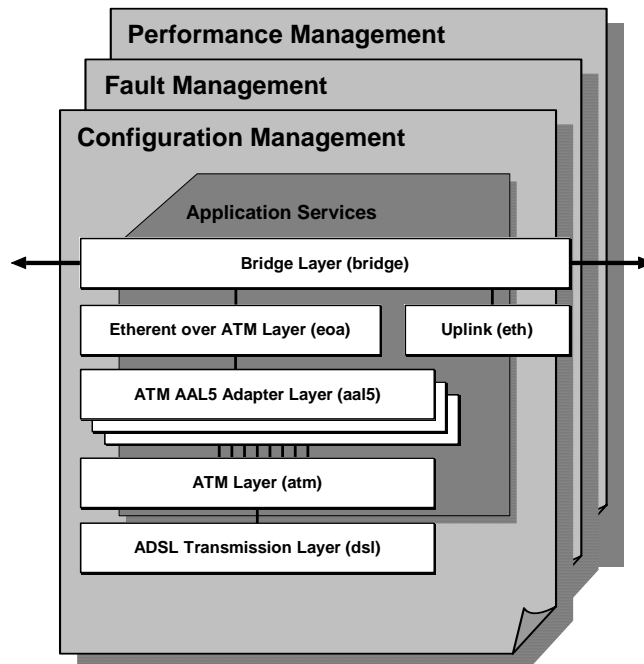
Table 3-1 lists the interface stratum and interface name defined in CLI Ex mode.

Table 3-1   DAS3series System Interface Stratum

Interface Stratum	Description	Interface Name	Max. Corresponding Up Layer Interface
ADSL Interface (dsl)	The ADSL physical interface is the basic layer, which contains two sub-channels, interleave and fast.	dsl-1 ~ dsl-48 **Interleave channel:** dsli-1 ~ dsli-48 **Fast channel:** dslf-1 ~ dslf-48	1 (atm)
ATM Layer (atm)	The ATM layer linked one ADSL interface and up to eight of AAL5 adapter layer (vpi/vci).	atm-1 ~ atm-48	8 (aal5)
AAL5 Layer (aal5)	The AAL5 adapter layer with ATM VPI/VCI virtual circuits identity.	aal5-1 ~ aal5-384	1 (eoa)
EoA Layer (eoa)	The EoA interface use to encapsulate the ATM cells to packets.	eoa-1 ~ eoa-384	1 (portid)
Uplink Interface (eth)	The GE Network uplink interface.	eth-1, eth-2	1 (portid)
Bridge Layer (portid)	The layer 2 bridge interface, port ID 1 ~ 48 identify as Subscriber ADSL connection from EoA interface, while port ID 50 and 51 identify the Network uplink Ethernet interface.	portid 1 ~ portid 384 Subscriber port ID: portid 1 ~ 48 (default mapping to port 1 ~ 48) Uplink port ID: portid 50 and 51 (default mapping to port 1 and port 2)	None

NOTE   The ADSL interface port counter '**dsl-1 ~ dsl-48**' are one-to-one mapping to the AAM1011 ADSL physical port 1 ~ 48.

NOTE   The GE Uplink Ethernet interface port count '**eth-1, eth-2**' are one-to-one mapping to the AAM1011 GE physical port GigaE 1 and GigaE 2.

Verifying Current Software and Firmware Versions

To display the system version info, using the following command to requesting.

Table 3-2   Displaying System Information

#get system info
Use this command to get system info parameters.

Example 2   `#get system info`

```
Description      : DAS3series Mini IPDSLAM
Name             :
Location         :
Contact          :
Vendor           :
LogThreshold     : 0
Object-id        : 1.3.6.1.4.1.200
Up Time(HH:MM:SS) : 24:14:8
HwVersion        : c023b6d3
CPSwVersion      : R1.21
DPSwVersion      : DP_B02_06_22_05
System Time      : Fri Jan 02 00:14:08 1970
Time Zone        : GMT
DST              : off
Services         : physical datalink internet end-to-end end-to-end end-to-end applications
```

Configuring the System Information

You can use the **modify** command to change system information parameters.

Table 3-3   Modifying the System Information

Use this command to modify the system parameters.

#modify system info
[contact *sys-contact***]**
[name *sys-name***]**
[location *sys-location***]**
[vendor *sys-vendor-info***]**
[systime *systime***]**

Parameters	Task
[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
[systime *systime***]**	This specifies the current system time. **Type:** Optional **Valid values:** System Time String in format. The total string length must be 20 characters. Single digits should be pretended 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"

Storing the System Configuration

Configurations without committing (storing) will be lost due to hardware reboot.

Save your active configuration to system flash, DAS3series will load the new setting due to next booting.

Table 3-4   Commit the Active Configuration

Use this command to commit the active configuration to the system flash.

#commit

Example 3
```
#commit
CdbNvm:- Uncompress Stats :- UnZipLen : 3045224, ZipLen : 5472
CdbNvm:- Compress Stats :- UnZipLen : 3045224, ZipLen : 5817

Block 2 erase in progress
........Flash block 2 erase successful...

 FLASH program starts at ADDR 40000
###############
Block 3 erase in progress
........Flash block 3 erase successful...

 FLASH program starts at ADDR 60000
###############
Block 2 erase in progress
........Flash block 2 erase successful...

 FLASH program starts at ADDR 40000
###############
Block 3 erase in progress
........Flash block 3 erase successful...

 FLASH program starts at ADDR 60000
###############
Block 4 erase in progress
........Flash block 4 erase successful...

 FLASH program starts at ADDR 80000
###############
Block 5 erase in progress
........Flash block 5 erase successful...

 FLASH program starts at ADDR a0000
###############
Set Done
```

System Administrating

The system administrating provides command for you to logout the Telnet session or reboots the system device. The system prompt can also be change to user identify.

System Reboot

The reboot command activates the software restart of system device. The configuration change will be lost if you did not committed it.

Table 3-5   System Reboot Command

Use this command to commit the active configuration to the system flash.
#**reboot**

Telnet Session Logout

Use this command to terminate the Telnet session from CLI Ex mode, logout, quit, and exit will bring you the same effects.

Table 3-6   Telnet Session Logout Command

Use this command to exit from the CLI Ex if accessed via Telnet.
#**logout	quit	exit**

Configuring the System Prompt

CLI Ex prompt can be change up on user identify, use the command below to modify.

Table 3-7   System Prompt Command

Use this command to set the new CLI Ex prompt.	
#**prompt** *<new-prompt>*	
Parameters	**Task**
prompt *<new-prompt>*	The new prompt string **Type:** Mandatory **Valid values:** String of up to 19 characters (All characters except ';', '?', and empty space)

Restoring the Factory Default Setting

This section describes how to restore factory configuration settings to the DAS3series IP-DSLAM. Restoring these settings will reset the IP address information.

Table 3-8   Telnet Session Logout Command

Use this command to restoring the factory default setting.
#reboot config default

The factory default settings are list in Table 3-9.

Table 3-9   Factory Default Settings

Field	Parameters
DSL Layer	
VPCI	0 / 35
ENCAP	LLCMUX
ANNEX	ADSL2PlusAuto mode
Bridge Layer and Trunk	
Bridge mode	Residential bridge mode
Ethernet eth-1	10.1.1.1/255.255.255.0, uplink
Ethernet eth-2	Un-configured
Management	
SNMP Community	Public with read-write privilege
SNMP Host IP	10.1.1.2
Telnet Username / Password	dnld / dnld

Configuring the SNMP Status

The DAS3series supports SNMP v1 and v2c protocol, the SNMP status control the management data transmitted between the device and the hosts to keep management communications private. Both the device and the host must use the same SNMP Community.

Configuring the SNMP Community

The SNMP Community setting allows you to assign the community privilege levels. Two privilege levels are support, read-only and read-write.

Table 3-10   SNMP Community Setting

Use this command to create the SNMP community information
#**create snmp comm community** *<community>* [**access** *ro* / *rw*]
Use this command to monitor the SNMP community information
#**get snmp comm. [community** *community*]
Use this command to delete the SNMP community information
#**delete snmp comm community** *<community>*

Parameters	Task
community *<community>*	This specifies the community name **Type:** Mandatory **Valid values:** String of up to 19 characters (All characters except ';', '?', and empty space)
[**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:** Optional **Default values:** ro

Configuring the Host IP Address

The Host IP address of SNMP gives the permit IP and it correspond SNMP community. The management host IP must in list of specific device.

Table 3-11   SNMP Host Setting

Uses this command to create the SNMP host IP address with it relate community.
#**create snmp host ip** *<ipadd>* **community** *<community>*
Uses this command to monitor the SNMP host IP address with it relate community.
#**get snmp host [ip** *ipadd*] [**community** *community*]
Uses this command to delete the SNMP host IP address with it relate community.
#**delete snmp host ip** *<ipadd>* **community** *<community>*

Parameters	Task
[**ip** *ipadd*]	This specifies the IP address of the manager that has access permissions **Type:** Mandatory
[**community** *community*]	This specifies the community name. This must be a valid community in the snmp community table of system. **Type:** Mandatory

Configuring the SNMP Trap

The SNMP Trap defines destination host IP address for the device sending their SNMP Trap.

Table 3-12 SNMP Trap Setting

Use this command to create the SNMP Trap parameters.	
#**create snmp traphost ip** *<ipadd>* **community** *<community>* [**port** *port*] [**version** *v1* / *v2c*]	
Use this command to modify the SNMP Trap parameters.	
#**modify snmp traphost ip** *<ipadd>* [**port** *port*] [**version** *v1* / *v2c*]	
Use this command to monitor the SNMP Trap parameter setting.	
#**get snmp traphost** [**ip** *ipadd*] [**port** *port*]	
Use this command to delete the SNMP Trap setting.	
#**delete snmp traphost ip** *<ipadd>* [**port** *port*]	

Parameters	Task
ip *ipadd*	This specifies the IP address of the trap destination **Type:** Mandatory
community *<community>*	This specifies the community name used in the trap. **Type:** Mandatory
[**port** *port*]	This specifies the port at which the trap is to be sent. **Type:** Optional **Default value:** 162
[**version** *v1* / *v2c*]	This specifies the Trap version to be sent to the manager **Type:** Optional **Default value:** v2c

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Chapter 4   Quick Start Operation

This chapter describes the command "wizard" which provides key feature to build up the data connection of the system, the "wizard" command gives convenient to operator to avoid the complicate of configuration setting.

- Deploying the Subscriber Data Connection
- Deploying the GE Network Management Connection
- Modify and Remove the Connection Status
- Diagnosis the Data Connection
- Monitoring the Subscriber Data Connection Status

Deploying the Subscriber Data Connection

The '**wizard deploy**' command guide you to deploying the ATM data connection where you specify and the encapsulation mode.

Table 4-1   **Configuring General Subscriber Interface Data Connection**

Use this command to create Network Ethernet parameters.	
#**wizard deploy** <*user* <*u*> / *all*> **vpi** <*vpi*> **vci** <*vci*>[**encap** *vcmux* / *llcmux*]	
Parameters	**Task**
<*user* <*u*> / *all*>	Identify the specific user or entire device. **Type:** Mandatory **Valid values:** 1 ~ 48 and all
vpi <*vpi*>	Virtual Path Identifier. In order to set, the VPI value shall be the new VPI value. Also, the VPI and VCI value cannot be modified along in one command. **Type:** Mandatory **Valid values:** 0 ~ 255
vci <*vci*>	Virtual Circuit Identifier. In order to set, the VCI value shall be the new VCI value. Also, the VPI and VCI value cannot be modified along in one command. **Type:** Mandatory **Valid values:** 1 ~ 65535
[**encap** *vcmux* / *llcmux*]	This specifies the data multiplexing method to be used over the AAL5 SSCS layer. **Type:** Optional **Default Value:** llcmux

The wizard deploy command automatically creates the ADSL line profile, ATM port connection, ATM VC connection, EoA interface, and Bridge interface in order to have your user interface satisfy in optimal value.

Example 4   `#wizard deploy user 1 vpi 0 vci 33 encap llcmux`

```
$modify adsl line intf ifname dsl-1 disable
Warning: Status already set to specified value
enable|disable
$$modify adsl line profile ifname dsl-1 atucfastmaxtxrate 0x1ab3f00 atucintlmaxtxrate 0x1ab3f00
atucmaxintldelay 16 aturmaxintldelay 16

Set Done

$create atm port ifname atm-1 lowif dsl-1
```

```
Entry Created

$create atm vc intf ifname aa15-1 lowif atm-1 vpi 0 vci 33 llcmux

Entry Created

$create eoa intf ifname eoa-1 lowif aa15-1

Entry Created

$create bridge port intf ifname eoa-1  portid 1 learning enable status enable

Entry Created

$$modify adsl line intf ifname dsl-1 enable

Set Done
```

Deploying the GE Network Management Connection

The '**wizard ethernet**' command allows you to define the management IP address of GE Uplink Network interface.

The GE Network interface will be auto configuring as downlink mode if the IP address parameter does not specify.

Table 4-2   Configuring General Network Interface Management Connection

Use this command to create Gigabit Ethernet Network parameters.	
#**wizard ethernet** <*1	2*> [**ip** *dd.dd.dd.dd*] [**mask** *dd.dd.dd.dd*]	
Parameters	**Task**
<*1	2*>	Identify the Uplink Network interface port ID. **Type:** Mandatory
[**ip** *dd.dd.dd.dd*]	This specifies the network IP address of given Uplink Ethernet interface, this IP address use only for system management. **Type:** Optional **Valid values:** Any valid class A/B/C address
[**mask** *dd.dd.dd.dd*]	This specifies the network mask configured for the interface. **Valid values:** 255.0.0.0 ~ 255.255.255.255

Example 5   `#wizard ethernet 1 ip 192.168.1.1 mask 255.255.255.0`

```
$create ethernet intf ifname eth-1 ip 192.168.1.1 mask 255.255.255.0

Entry Created

$create bridge port intf portid 385 ifname eth-1 status enable

Entry Created
```

Modify and Remove the Connection Status

The '**wizard modify**' and '**wizard delete**' command allows you to modify the user connection administrate status, ATM VC connection identify, ADSL connection profile, and able to remove the Subscriber and Network interface to disable the connection service.

Table 4-3   Modify and Remove the System Interface Data Connection

Use this command to modify the Subscriber interface administrate status.
#**wizard modify status** <*user* <*u*>	*all*> <*on*	*off*>
Use this command to modify the Subscriber ATM VC identify VPI/VCI values.
#**wizard modify vpci** <*user* <*u*>	*all*> **vpi** <*vpi*> **vci** <*vci*>
Use this command to modify the ADSL connection profile.
#**wizard modify profile** <*user* <*u*>	*all*> [**down** *rrr*] [**up** *rrr*] [**downmin** *rrr*] [**upmin** *rrr*] [*fix*	*ra*	*rra*] [*fast*	*interleaved*] [*adsl2*	*adsl2plus*	*adsl2auto*	*adsl2plusauto*]
Use this command to remove the Subscriber connection in all stratums of service layer.
#**wizard delete user** <*user* <*u*>	*all*>
Use this command to remove the Network connection in all stratums of service layer.
#**wizard delete ethernet** <*1*	*2*>

Parameters	Task
<*user* <*u*>	*all*>	Identify the specific user or entire device. **Type:** Mandatory **Valid values:** 1 ~ 48 and all
<*on*	*off*>	This parameter controls the ADSL interface to be enabled or disabled. **Type:** Mandatory **Valid values:** on, off
vpi <*vpi*>	Virtual Path Identifier. In order to set, the VPI value shall be the new VPI value. Also, the VPI and VCI value cannot be modified along in one command. **Type:** Mandatory **Valid values:** 0 ~ 255
vci <*vci*>	Virtual Circuit Identifier. In order to set, the VCI value shall be the new VCI value. Also, the VPI and VCI value cannot be modified along in one command. **Type:** Mandatory **Valid values:** 1 ~ 65535
[**down** *rrr*]	Configured downstream Maximum Transmit rate in kbps. **Type:** Optional
[**up** *rrr*]	Configured upstream Maximum Transmit rate in kbps. **Type:** Optional
[**downmin** *rrr*]	Configured downstream Minimum Transmit rate in kbps. **Type:** Optional
[**upmin** *rrr*]	Configured upstream Minimum Transmit rate in kbps. **Type:** Optional
[*fix*	*ra*	*rra*]	Defines what form of transmit rate adaptation is configured on this CO ADSL port in fixed, adapt at startup, or adapt at runtime. **Type:** Mandatory **Default values:** ra
[*fast*	*interleaved*]	This object is used to configure the ADSL physical line mode. **Type:** Mandatory **Default values:** interleaved

Table 4-3   Modify and Remove the Subscriber Interface Data Connection (Continuous)

Parameters	Task
[*adsl2* / *adsl2plus* / *adsl2auto* / *adsl2plusauto*]	Preferred standard compliance. Outcome is dependent upon standard support of the remote CPE. **Type:** Mandatory **Default values:** adsl2plus
<1 / 2>	Identify the Uplink Network interface port ID. **Type:** Mandatory

Diagnosis the Subscriber Data Connection

The '**wizard oam**' command provides the ATM OAM diagnosis to the ADSL Subscriber interface and to verify connectivity at the AAL5 layer.

Table 4-4   Diagnosis the Subscriber Interface Data Connection

Use this command to generate the OAM cells and forwards them to the CPE element, which is responsible for returning them to the generating system.
#**wizard oam** *<user <u> / all>*

Parameters	Task
<user <u> / all>	Identify the specific user or entire device. **Type:** Mandatory **Valid values:** 1 ~ 48 and all

Example 6   `#wizard oam user 1`

```
Send OAM to user  1..................[ok]
```

Monitoring the Subscriber Data Connection Status

The 'wizard show' command provides monitoring activity of Subscriber interface and running status.

Table 4-5   Monitoring the Subscriber Interface Data Connection

Use this command to monitoring the Subscriber ATM VC deploying parameters.
#**wizard show deploy** *<user <u> / all>*
Use this command to monitoring the Subscriber ADSL profile parameters.
#**wizard show profile** *<user <u> / all>*
Use this command to monitoring the Subscriber interface runtime data in ADSL transmission layer.
#**wizard show status** *<user <u> / all>*
Use this command to monitoring the Subscriber interface runtime data in Bridged transmission layer.
#**wizard show stats** *<user <u> / all>*

Parameters	Task
<user <u> / all>	Identify the specific user or entire device. **Type:** Mandatory **Valid values:** 1 ~ 48 and all

Chapter 5   Managing the GE Network Uplink Interface

This chapter describes GE Network uplink interface configuration.

This chapter contains the following sections:

- Configuring the GE Network Uplink Interface
- Monitoring the GE Network Uplink Interface Status

Configuring the GE Network Uplink Interface

The '**ethernet**' sub group contains parameter according to your GE Network uplink interface. Table 5-1 lists the general command syntax for configuring.

Table 5-1   Configuring General Uplink Ethernet Parameters

Use this command to create Network Ethernet parameters.
#**create ethernet intf ifname** *interface-name* [**ip** *ip-address*] [**mask** *net-mask*] [**type** *uplink* / *downlink*] [*enable* / *disable*]
Use this command to modify Network Ethernet parameters.
#**modify ethernet intf ifname** *interface-name* [**ip** *ip-address*] [**mask** *net-mask*] [**type** *uplink* / *downlink*] [*enable* / *disable*]
Use this command to get Network Ethernet parameter setting.
#**get ethernet intf** [**ifname** *interface-name*]
Use this command to delete Network Ethernet parameter setting.
#**delete ethernet intf ifname** *interface-name*

Parameters	Task
[**ifname** *interface-name*]	This specifies the interface index used for the Network Ethernet. **Type:** Mandatory (Create, Modify, Delete), Optional (Get) **Valid values:** eth-1, eth-2
[**ip** *ip-address*]	This specifies the network IP address of given Uplink Ethernet interface, this IP address use only for system management. **Type:** Mandatory (Create), Optional (Modify) **Valid values:** Any valid class A/B/C address **Default values:** None
[**mask** *net-mask*]	This specifies the network mask configured for the interface. **Valid values:** 255.0.0.0 ~ 255.255.255.255
[**type** *uplink* / *downlink*]	This specifies the type of the Network Ethernet interfaces. The uplink is toward the Network side and downlink is towards the physical interface connected to the stack device. **Type:** Optional **Valid values:** uplink, downlink **Default values:** uplink
[*enable* / *disable*]	Administrative status of the Network Ethernet interface. **Type:** Mandatory (Modify) **Valid values:** enable, disable **Default values:** enable

Monitoring the GE Network Uplink Interface Status

Use '**get interface stats**' command to monitoring the GE Network uplink interface running status.

Table 5-2   **Monitoring the Status of GE Network Uplink Interface**

Use this command to get Network Ethernet Interface Status.	
#**get interface stats [ifname** *interface-name***]**	
Parameters	**Task**
[ifname *interface-name***]**	This specifies the interface index used for the Network Ethernet. **Type:** Mandatory (Create, Modify, Delete), Optional (Get) **Valid values:** eth-1, eth-2

Example 7   `#get interface stats ifname eth-0`

```
Interface          : eth-1      Description       : eth-1
Type               : ETHERNET   Mtu               : 1500
Bandwidth          : 0          Phy Adddr         : 00:BB:CC:DD:EE:FF
Last Change(sec)   : 0          Unknown Prot Pkts : 0
Admin Status       : Up         Operational Status : Down
In Octets          : 0          Out Octets        : 0
In Discards        : 0          Out Discards      : 0
In Errors          : 0          Out Errors        : 0
In Ucast Pkts      : 0          Out Ucast Pkts    : 0
In Mcast Pkts      : 0          Out Mcast Pkts    : 0
In Bcast Pkts      : 0          Out Bcast Pkts    : 0
LinkUpDnTrapEnable : Enable     Promiscous Mode   : True
Connector Present  : True       CounterDiscontTime : 0
HC In Octets       : 0
HC OutOctets       : 0
```

Chapter 6   Managing the ADSL Subscriber Line Interface

This chapter describes ADSL Subscriber interface stratum in CLI Ex mode from lower to higher.

This chapter contains the following sections:

- Configuring the ADSL Port Interface

- Monitoring the ADSL Connection Status

- Configuring the ATM Lower Interface

- Monitoring the ATM Lower Interface Status

- Configuring the AAL5 VC Interface

- Monitoring the AAL5 VC Interface Status

- Configuring the EoA Interface

- Monitoring the EoA Interface Status

- ADSL Service Administrating

The DAS3series ADSL Subscriber services are structured layer by layer from the physical DSL interface to the EoA (Ethernet over ATM) interface, each layer owned the correspond characteristic, when you create a new ADSL services, identify the specifics parameter from lower to higher interface in orderly, reverse the layer order when you wish to remove the particular interface. Figure 6-1 shows the ADSL Subscriber interface relationship in terms of services order.

Figure 6-1   ADSL Subscriber Interface Stratums Diagram
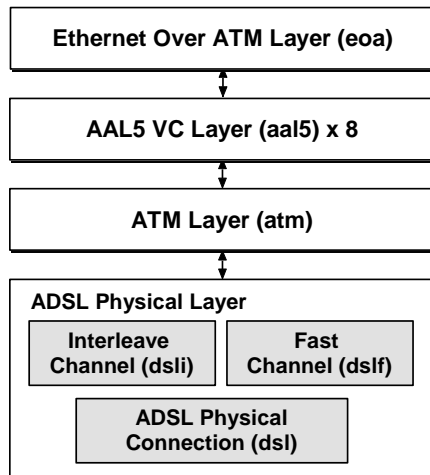
The ATM Layer has ability to create upon 8 of AAL5 upper interface (PVC) in maximum. The sections cover in this chapter will describes the detail function of each interface layer.

The ADSL interface port counter '**dsl-1 ~ dsl-48**' are one-to-one mapping to the AAM1011 ADSL physical port 1 ~ 48.

Configuring the ADSL Port Interface

Using '**modify adsl line profile**' command to change the ADSL port interface parameters, the parameter covers transmission rate, SNR target margin, interleave delay, etc.

The ADSL port profile is independent and irrelative with other ADSL port interface. Configuration takes effect on specific port only.

Table 6-1   Configuring ADSL Port Interface Parameters

Use this command to modify ADSL port profile parameters.

#**modify adsl line profile ifname** *ifname* [**atucreateadaptation** *fixed | adaptAtStartup | adaptAtRuntime*] [**atuctargetsnr** *atuctargetsnr*] [**atucmaxsnrmargin** *atucmaxsnrmargin*] [**atucfastmintxrate** *atucfastmintxrate*] [**atucintlmintxrate** *atucfastmintxrate*] [**atucfastmaxtxrate** *atucfastmintxrate*] [**atucintlmaxtxrate** *atucfastmintxrate*] [**atucmaxintldelay** *atucmaxintldelay*] [**type** *fastOnly | interleavedOnly*] [**atucgsstandard** *multimode | t1413Auto | gLite | gDmt | adsl2Auto | readsl2 | adsl2PlusAuto*] [**dmttrellis** *on | off*] [**aturtargetsnrmargin** *aturtargetsnrmargin*] [**aturfastmintxrate** *aturfastmintxrate*] [**autrintlmintxrate** *autrintlmintxrate*] [**aturfastmaxtxrate** *aturfastmaxtxrate*] [**autrintlmaxtxrate** *autrintlmaxtxrate*] [**aturmaxintldelay** *aturmaxintldelay*]

Use this command to get ADSL line profile parameter information.

#**get ethernet intf** [**ifname** *interface-name*]

Parameters	Task
[**ifname** *interface-name*]	The ADSL line interface name, whose profile is to be modified or viewed **Type:** Mandatory (Modify), Optional (Get) **Valid values:** dsl-1 ~ dsl-48
[**atucreateadaptation** *fixed	adaptAtStartup	adaptAtRuntime*]	Defines what form of transmit rate adaptation is configured on this CO ADSL port. **Type:** Optional (Modify) **Default values:** adaptAtStartup
[**atuctargetsnr** *atuctargetsnr*]	Configured Target SNR margin. This is the SNR margin the CO ADSL must achieve with a BER of 10 to the power 7, or better to successfully complete initialization. **Type:** Optional (Modify) **Valid values:** 0 ~ 310 **Default values:** 60 (dB/10)
[**atucmaxsnrmargin** *atucmaxsnrmargin*]	Configured maximum acceptable SNR margin. If the SNR margin is above this value, the CO ADSL should attempt to reduce its power output to optimize its operation. **Type:** Optional (Modify) **Valid values:** 0 ~ 310 **Default values:** 310
[**atucfastmintxrate** *atucfastmintxrate*]	Configured downstream Minimum Transmit rate for 'Fast' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 32000 (bps)
[**atucintlmintxrate** *atucfastmintxrate*]	Configured downstream Minimum Transmit rate for 'Interleave' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 32000 (bps)
[**atucfastmaxtxrate** *atucfastmintxrate*]	Configured downstream Maximum Transmit rate for 'Fast' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 32736000 (bps)

Table 6-1   Configuring ADSL Port Interface Parameters (Continue)

Parameters	Task
[atucintlmaxtxrate *atucfastmintxrate*]	Configured downstream Maximum Transmit rate for 'Interleave' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 32736000 (bps)
[atucmaxintldelay *atucmaxintldelay*]	Configured downstream maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping between subsequent input bytes at the inter-leaver input and their placement in the bit stream at the interleave 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:** Optional (Modify) **Valid values:** 0 ~ 255 **Default values:** 16 (msec)
[type *fastOnly* | *interleavedOnly*]	This object is used to configure the ADSL physical line mode. **Type:** Optional (Modify) **Default values:** interleavedOnly
[atucgsstandard *multimode* | *t1413Auto* | *gLite* | *gDmt* | *adsl2Auto* | *readsl2* | *adsl2Plus* | *adsl2PlusAuto*]	Preferred standard compliance. Outcome is dependent upon standard support of the remote CPE. **Type:** Optional (Modify) **Default values:** adsl2Plus
[dmttrellis *on* | *off*]	This parameter enables / disables Trellis coding. Trellis coding should always be enabled for its clear performance advantage. **Type:** Optional (Modify) **Default values:** on
[aturtargetsnrmargin *aturtargetsnrmargin*]	Configured Target SNR Margin. This is the SNR for ADSL CPE must achieve with a BER of 10 to the power 7 or better, to successfully complete initialization. **Type:** Optional (Modify) **Valid values:** 0 ~ 310 **Default values:** 60 (dB/10)
[aturfastmintxrate *aturfastmintxrate*]	Configured upstream Minimum Transmit rate for 'Fast' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 32000 (bps)
[autrintlmintxrate *autrintlmintxrate*]	Configured upstream Minimum Transmit rate for 'Interleave' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 32000 (bps)
[aturfastmaxtxrate *aturfastmaxtxrate*]	Configured upstream Maximum Transmit rate for 'Fast' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 1088000 (bps)
[autrintlmaxtxrate *autrintlmaxtxrate*]	Configured upstream Maximum Transmit rate for 'Interleave' channels, in bps. **Type:** Optional (Modify) **Valid values:** 0 ~ 0xffffffff (hexadecimal) **Default values:** 1088000 (bps)
[aturmaxintldelay *aturmaxintldelay*]	Configured upstream maximum Interleave Delay for this channel. Interleave delay applies only to the interleave channel and defines the mapping between subsequent input bytes at the inter-leaver input and their placement in the bit stream at the interleave 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:** Optional (Modify) **Valid values:** 0 ~ 255 **Default values:** 16 (msec)

Monitoring the ADSL Connection Status

Use the command lists in Table 6-2 to retrieve the ADSL channel status once the specific ADSL port is connected.

The ADSL connection monitoring is contains two channels, interleave and fast, respectively, identify the channel interface as well as CO and CPE of the specify ADSL port interface. The '**atuc**' define as downstream direction, while '**atur**' define as upstream direction.

Table 6-2   Monitoring the ADSL Interface Connection Status

Use this command to monitoring the Downstream of ADSL channels connection status.
#**get adsl atuc channel [ifname** <*name*>**]**
Use this command to monitoring the Upstream of ADSL channels connection status.
#**get adsl atur channel [ifname** <*name*>**]**

Parameters	Task
[ifname <*name*>**]**	Identify the ADSL ATU-C or ATU-R channel interface name for which configuration is to be viewed. **Type:** Optional (Get) **Valid values:** dsli-1 ~ dsli-48 (Interleaved Channel), dslf-0 ~ dslf-47 (Fast Channel)

Example 8   `#get adsl atuc channel ifname dsli-1`

```
Ifname              : dsli-1
Interleave Delay(ms): 1        Curr Tx Rate(bps)        : 7584000
Prev Tx Rate(bps)   : 0        Crc Block Length(byte)   : 16116
Gs Curr Atm Status  : OK       GsSymbolsPerRsWord       : 1
GsRsDepth           : 4        GsRedundantBytesPerRsCode : 16
```

Example 9   `#get adsl atur channel ifname dsli-1`

```
Ifname              : dsli-1
Interleave Delay(ms) : 8         Curr Tx Rate(bps)       : 1088000
Prev Tx Rate(bps)    : 0         Crc Block Length(byte)  : 2312
Gs Curr Atm Status   : OK        GsSymbolsPerRsWord      : 4
GsRsDepth            : 8         GsRedundantBytesPerRsCode : 4
```

Configuring the ATM Port Interface

Use '**create atm port**' command to create a new ATM port interface and defined the corresponding lower interface (ADSL Line Interface). The parameters in this layer control the maximum of AAL5 VC upper layer interface and the output data rate limiting.

Table 6-3 lists the relative command for configuring the ATM port interface.

Table 6-3   Configuring the ATM Port Interface

Use this command to create the ATM port interface parameters.
#**create atm port ifname** <*atm ifname*> **lowif** <*dsl ifname*> [**maxvc** *max-num-vccs*] [*enable	disable*] [**orl** *orl*]
Use this command to modify the ATM port interface parameters
#**modify atm port ifname** <*atm ifname*> [**maxvc** *max-num-vccs*] [*enable	disable*] [**orl** *orl*]
Use this command to get the ATM port interface parameter setting.
#**get atm port** [**ifname** *atm ifname*]
Use this command to remove the ATM port interface.
#**delete atm port ifname** <*atm ifname*>

Parameters	Task
ifname <*atm ifname*>	This specifies the name of the ATM port **Type:** Mandatory (Create, Delete, Modify), Optional (Get) **Valid values:** atm-1 ~ atm-48
lowif <*dsl ifname*>	This identifies the lower DSL interface, on which this ATM port interface is configured. **Type:** Mandatory (Create) **Valid values:** dsl-1 ~ dsl-48
[**maxvc** *max-num-vccs*]	This specifies the maximum number of VCCs (PVCCs), supported at this ATM port interface. **Type:** Optional **Valid values:** 1 ~ 8 **Default values:** 8
[*enable	disable*]	Administrative status of the ATM port interface **Type:** Optional **Default values:** enable
[**orl** *orl*]	This parameter specifies the output rate limiting value in Kbps to be applied on this interface. **Type:** Optional **Valid values:** 64 ~ 28000 **Default values:** 28000

Monitoring the ATM Port Interface Status

Use '**get interface stats**' command to monitoring the ATM port interface running status.

Table 6-4   Monitoring the Status of ATM Port Interface

Use this command to monitoring ATM Port Interface Status.	
#**get interface stats [ifname** *interface-name*]	
Parameters	**Task**
[ifname *interface-name*]	This specifies the interface index used for the ATM port interface. **Type:** Optional **Valid values:** atm-1 ~ atm-48

Example 10   `#get interface stats ifname atm-0`

```
Interface          : atm-0      Description       : atm-0
Type               : ATM        Mtu               : 48
Bandwidth          : 0          Phy Adddr         : 00:00:00:00:00:00
Last Change(sec)   : 1731       Unknown Prot Pkts : 0
Admin Status       : Up         Operational Status : Up
In Octets          : 5724       Out Octets        : 0
In Discards        : 4          Out Discards      : 0
In Errors          : 0          Out Errors        : 0
In Ucast Pkts      : 104        Out Ucast Pkts    : 0
In Mcast Pkts      : 0          Out Mcast Pkts    : 0
In Bcast Pkts      : 0          Out Bcast Pkts    : 0
LinkUpDnTrapEnable : Disable    Promiscous Mode   : False
Connector Present  : False      CounterDiscontTime : 0
HC In Octets       : 0
HC OutOctets       : 0
```

Configuring the AAL5 VC Interface

Use '**create atm vc**' command to create a new AAL5 VC interface and defined the corresponding lower interface (ATM port Interface) The parameters in this layer control the ATM PVC (Permanent Virtual Channel) identifier and the encapsulation mode.

Table 6-5 lists the relative command for configuring the AAL5 VC interface.

Table 6-5   Configuring the ATM Port Interface

Use this command to create the AAL5 VC interface parameters.

#**create atm vc ifname** *<aal5 ifname>* **lowif** *<atm ifname>* **[vpi** *vpi*] **[vci** *vci*] [*vcmux* / *llcmux*] **[channel** *fast* / *interleaved*] [*enable* / *disable*]

Use this command to modify the AAL5 VC interface parameters

modify atm vc ifname *<aal5 ifname>* **[vpi** *vpi*] **[vci** *vci*] [*vcmux* / *llcmux*] **[channel** *fast* / *interleaved*] [*enable* / *disable*]

Use this command to get the AAL5 VC interface parameter setting.

#**get ethernet intf [ifname** *interface-name*]

Use this command to remove the AAL5 VC interface.

#**delete ethernet intf ifname** *<interface-name>*

Parameters	Task
ifname *<aal5 ifname>*	This specifies the name of the VC interface **Type:** Mandatory (Create, Delete, Modify), Optional (Get) **Valid values:** aal5-0 ~ aal5-384
lowif *<atm ifname>*	This identifies the lower ATM port interface, on which this VC interface is getting configured. **Type:** Mandatory (Create) **Valid values:** atm-1 ~ atm-48
[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 value cannot be modified along in one command. **Type:** Mandatory (Create), Optional (Modify) **Valid values:** 0 ~ 255
[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 value cannot be modified along in one command. **Type:** Mandatory (Create), Optional (Modify) **Valid values:** 1 ~ 65535
[*vcmux* / *llcmux*]	This specifies the data multiplexing method to be used over the AAL5 SSCS layer. **Type:** Optional **Default Value:** llcmux
[channel *fast* / *interleaved*]	This extension specifies the type of channel, on which the ATM VC's cells have to be transmitted/received, 'fast' means fast channel and 'inter' means interleaved channel. **Type:** Optional **Default Value:** interleaved
[*enable* / *disable*]	This specifies the Admin status of the AAL5 VC interface **Type:** Optional **Default Value:** enable

Monitoring the AAL5 VC Interface Status

Table 6-6 lists the command to monitoring the AAL5 VC interface running status.

Table 6-6   Monitoring the Status of AAL5 VC Interface

Use this command to monitoring AAL5 Layer status in Frames
#**get atm aal5 stats [ifname** *aal5 ifname*]

Use this command to monitoring VC Layer status in cells
#**get atm vc stats [ifname** *aal5 ifname*]

Parameters	Task
[ifname *aal5 ifname*]	This specifies the interface index used for the AAL5 VC interface. **Type:** Optional **Valid values:** aal5-1 ~ aal5-384

Example 11   `#get atm aal5 stats ifname aal5-1`

```
Low IfName       : atm-1        VC IfName       : aal5-1
VPI              : 0            VCI             : 35
Tx Frames count  : 0            Rx Frames count : 26
Tx Bytes count   : 0            Rx Bytes count  : 2496
CRC Errors count : 0            Oversized SDU   : 0
```

Example 12   `#get atm vc stats ifname aal5-1`

```
Low IfName            : atm-1        VC IfName             : aal5-1
VPI                   : 0            VCI                   : 35
Total Tx Cells count  : 0            Total Rx Cells count  : 52
CLPI 0 Rx Cells count : 0            Rx Pkts Rejected count : 0
```

Configuring the EoA Interface

Use '**create eoa intf**' command to create a new EoA interface and defined the corresponding lower interface (AAL5 VC Interface). The parameters in this layer control the Ethernet packet types.

Table 6-7 lists the relative command for configuring the EoA interface.

Table 6-7   Configuring the EoA Interface

Use this command to create the EoA interface parameters.
#**create eoa intf ifname** *<eoa ifname>* **lowif** *<aal5 ifname>* [**pkttype** *{multicast | broadcast | unknown-unicast}+ | all*] [*enable | disable*]
Use this command to modify the EoA interface parameters
modify eoa intf ifname *<eoa ifname>* [**pkttype** *{multicast | broadcast | unknown-unicast}+ | all*] [*enable | disable*]
Use this command to get the EoA interface parameter setting.
#**get eoa intf** [**ifname** *interface-name*]
Use this command to remove the EoA interface.
#**delete eoa intf ifname** *<interface-name>*

Parameters	Task
ifname *<eoa ifname>*	This specifies the name of the EoA interface **Type:** Mandatory (Create, Delete, Modify), Optional (Get) **Valid values:** eoa-1 ~ eoa-384
lowif *<aal5 ifname>*	This identifies the lower AAL5 VC interface, on which this EoA interface is getting configured. **Type:** Mandatory (Create) **Valid values:** aal5-1 ~ aal5-384
[**pkttype** *{multicast | broadcast | unknown-unicast}+ | all*]	This defines the packet type supported by the interface. The type supported 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. Other parameter means that only particular packets will be transmitted where defined. **Type:** Optional **Default Values:** all
[*enable | disable*]	This specifies the Admin status of the AAL5 VC interface **Type:** Optional **Default Value:** enable

Monitoring the EoA Interface Status

Use '**get interface stats**' command to monitoring the EoA interface running status.

Table 6-8 **Monitoring the Status of ATM Port Interface**

Use this command to monitoring the EoA Interface Status.	

#**get interface stats [ifname** *interface-name***]**

Parameters	Task
[ifname *interface-name***]**	This specifies the interface index used for the ATM port interface. **Type:** Optional **Valid values:** eoa-1 ~ eoa-384

Example 13 `#get interface stats ifname atm-0`

```
Interface          : eoa-1      Description        : eoa-1
Type               : EOA        Mtu                : 1500
Bandwidth          : 0          Phy Adddr          : 00:00:00:00:00:00
Last Change(sec)   : 102        Unknown Prot Pkts  : 0
Admin Status       : Up         Operational Status : Up
In Octets          : 1664       Out Octets         : 0
In Discards        : 0          Out Discards       : 0
In Errors          : 0          Out Errors         : 0
In Ucast Pkts      : 0          Out Ucast Pkts     : 0
In Mcast Pkts      : 0          Out Mcast Pkts     : 0
In Bcast Pkts      : 26         Out Bcast Pkts     : 0
LinkUpDnTrapEnable : Disable    Promiscous Mode    : True
Connector Present  : False      CounterDiscontTime : 0
HC In Octets       : 0
HC OutOctets       : 0
```

ADSL Service Administrating

Use '**modify adsl line intf**' command to enable or disable the particular ADSL Subscriber services.

Table 6-9   ADSL Line Interface Service Administrative

Use this command to modify the ADSL service administration.	
#modify adsl line intf ifname *<ifname>* [*enable* / *disable*]	
Parameters	**Task**
ifname *<ifname>*	This interface name of ADSL port **Type:** Mandatory **Valid values:** dsl-1 ~ dsl-48
[*enable* / *disable*]	Administrative status of the ADSL interface **Type:** optional **Default values:** disable

Administrative status are exist in other service layers as well, control the administrative at the physical layer (ADSL Line interface) given the most benefit outcome, e.g. save power and CPU resource.

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Chapter 7   Managing the Bridge Interface

This chapter describes the top layer Bridge interface in CLI Ex mode.

This chapter contains the following sections:

- Configuring the Bridge Port Interface
- Monitoring the Bridge Port Interface Status
- Configuring the GARP Port Info
- Bridge Services Administrating

Configuring the Bridge Port Interface

Use '**create bridge port intf**' command to create a new Bridge port interface and defined the corresponding lower interface (EoA or Ethernet). The parameters in this layer control the bridging and switching capability.

Table 7-1 lists the relative command for configuring the Bridge port interface.

Table 7-1   Configuring the Bridge Port Interface

Use this command to create the bridge port interface parameters.
#create bridge port intf ifname *<ifname>* **portid** *<portid>* [**maxucast** *decvalue*] [**learning** *enable* / *disable*]
Use this command to modify the bridge port interface parameters
modify bridge port intf portid *<portid>* [**maxucast** *decvalue*] [**learning** *enable* / *disable*]
Use this command to get the bridge port parameter setting.
#get bridge port intf [**portid** *portid*]
Use this command to remove the bridge port interface.
#delete bridge port intf portid *<portid>*

Parameters	Task
ifname *<ifname>*	This specifies the name of the EoA or Ethernet uplink interface **Type:** Mandatory (Create, Delete, Modify), Optional (Get) **Valid values:** eoa-1 ~ eoa-384, eth-1, eth-2
portid *<portid>*	This specifies the bridge port id, start from 1 to 384. **Type:** Mandatory (Create) **Valid values:** 1 ~ 386
[**maxucast** *decvalue*]	This specifies the maximum number of unicast addresses which can be learned from this port. **Type:** Optional **Default Values:** 256
[**learning** *enable* / *disable*]	The state of learning on this bridge port. The value enable indicates that unicast MAC address learning is enable and the value disable indicates that unicast MAC address learning is disabled on this bridge port. **Type:** Optional **Default Value:** enable

Monitoring the Bridge Status

Use '**get bridge port stats**' command to monitoring the bridge port interface running status.

Table 7-2   **Monitoring the Status of Bridge Port Interface**

Use this command to monitoring the Bridge port interface status.	
#**get bridge port stats [portid** *portid*]	
Parameters	**Task**
[**portid** *portid*]	This specifies the bridge port id, start from 1 to 384. **Type:** Mandatory (Create) **Valid values:** 1 ~ 386

Example 14   #`get bridge port stats portid 1`

```
Port Id      : 1          Max Info Size  : 1518
Out Frames   : 0          In Frames      : 0
In Discards  : 0          HC In Frames   : 0
HC Out Frames : 0         HC In Discards : 0
```

Configuring the GARP Port Info

Use '**modify grap port info**' command to identify the GARP parameters of specific Bridge port interface.

Table 7-3   Configuring the GARP Port Info

Use this command to modify the GARP port parameters.	
#**modify garp port info portid** *\<portid>* **[jointimer** *jointimer*] **[leavetimer** *leavetimer*] **[leavealltime** *leavealltime*]	
Use this command to get the GARP port parameters.	
#**get garp port info [portid** portid]	
Parameters	**Task**
portid *\<portid>*	Index of the Bridge port **Valid values:** 1 ~ 386
[jointimer *jointimer*]	The GARP join time. In centi-seconds. Join time value should be less than half the leave time value **Type:** Optional **Default values:** 10 ~ 255
[leavetimer *leavetimer*]	The GARP leave time, in centi-seconds. Leave time value shall be greater than 2 times join time value. **Type:** Optional **Default values:** 10 ~ 255
[leavealltime *leavealltime*]	The GARP leave all time, in centi-seconds. Leave all time value should be large (more than 15 times) relative to leave time value. **Type:** Optional **Default values:** normal

Bridge Service Administrating

Use '**modify bridge mode**' command to enable or disable the system bridging services.

Table 7-4   Bridge Port Interface Service Administrative

Use this command to modify the bridge service administration.
#**modify bridge mode** *enable	disable*
Use this command to get the current bridging mode.
#**get bridge mode**

Parameters	Task
*enable	disable*	Administrative status of the bridge port interface **Type:** Mandatory **Default values:** enable

Chapter 8　　Managing the VLAN Services

This chapter describes the VLAN services in CLI Ex mode.

This chapter contains the following sections:

- Configuring the VLAN Static
- Configuring the GVRP Functions

Configuring the VLAN Static

Use '**create vlan static**' command to identify the VLAN ID of specific Bridge port interface and relate parameters.

Table 8-1 lists the relative command for configuring the Bridge port interface.

Table 8-1　　Configuring the VLAN Static Info

Use this command to create the VLAN static parameters.
#**create vlan static vlanname** *<vlanname>* **vlanid** *<vlanid>* **[egressports** *{portid}+ / none***] [forbidegressports** *{portid}+ / none***] [untaggedports** *{portid}+ / none***] [bridgingmode** *Restricted / Unrestricted / Residential***] [floodSupport** *enable / disable***] [bcastSupport** *enable / disable***]**
Use this command to modify the VLAN static parameters.
#**modify vlan static vlanname** *<vlanname>* **vlanid** *<vlanid>* **[egressports** *{portid}+ / none***] [forbidegressports** *{portid}+ / none***] [untaggedports** *{portid}+ / none***] [bridgingmode** *Restricted / Unrestricted / Residential***] [floodSupport** *enable / disable***] [bcastSupport** *enable / disable***]**
Use this command to monitoring the VLAN static parameter settings.
#**get vlan static [vlanname** *<vlanname>***] [vlanid** *<vlanid>***]**
Use this command to remove the VLAN static settings.
#**delete vlan static vlanname** *<vlanname>* **vlanid** *<vlanid>*

Parameters	Task
vlanname *<vlanname>*	An administratively assigned string, which may be used to identify the VLAN. **Type:** Mandatory (Create), Optional (Delete, Modify, Get) **Valid values:** Any string having characters.
vlanid *<vlanid>*	The VLAN ID identifier **Type:** Mandatory (Create), Optional (Delete, Modify, Get) **Valid values:** 1 ~ 4094
[egressports *{portid}+ / none***]**	The set of ports, which are permanently assigned to the egress list for this VLAN, by management. More than one value can be given, separated by spaces. **Type:** Optional **Valid values:** 1 ~ 386 (portid) **Default values:** none
[forbidegressports *{portid}+ / none***]**	The set of ports, which are prohibited by management from being included in the egress list for this VLAN. This should include untagged ports. More than one value can be given, separated by spaces. **Type:** Optional **Valid values:** 1 ~ 386 (portid) **Default values:** none

Table 8-1   Configuring the VLAN Static Info (Continue)

Parameters	Task
[untaggedports *{portid}+* / *none***]**	The set of ports, which should transmit egress packets for this VLAN, as, untagged. More than one value can be given, separated by spaces. **Type:** Optional **Valid values:** 1 ~ 386 (portid) **Default values:** none
[bridgingmode *Restricted* / *Unrestricted* / *Residential***]**	This specifies the state of full bridging for the VLAN. **Type:** Optional **Default values:** residential
[floodSupport *enable* / *disable***]**	This specifies if flooding has to be done for unknown unicast packets for this VLAN or not. **Type:** Optional **Default values:** enable
[bcastSupport *enable* / *disable***]**	This specifies if the broadcast has to be done for this VLAN or not. **Type:** Optional **Default values:** enable

Configuring the GVRP Functions

The GVRP is an application that provides a VLAN registration service that allows GVRP-aware devices to dynamically establish and update their knowledge of the set of VLANs that currently have active members and through which switch ports those member can be reached.

Follow the configuration below to setup your GVRP attributes.

Configuring the GVRP System Info

Enable or disable the GVRP mechanism in the system.

Use this command to modify the GVRP system info.	
#**modify gvrp info gvrpstatus** <*enable	disable*>	
Parameters	**Task**
gvrpstatus *enable	disable*	The administrative status requested by management for GVRP **Default values:** disable.

Configuring the GVRP Port Info

This field configures the GVRP attributes per bridge port interface.

Table 8-2   Configuring the GVRP Port Info

Use this command to modify the GVRP port info parameters.
#**modify gvrp port info portid** <*portid*> [**portvlanid** *portvlanid*] [**acceptframetypes** *all* / *tagged*] [**ingressfiltering** *true* / *false*] [**gvrpstatus** *enable* / *disable*] [**restrictedvlanreg** *true* / *false*]
Use this command to monitoring the GVRP port info settings.
#**get gvrp port info** [**portid** *portid*]

Parameters	Task
portid <*portid*>	The bridge port id. **Valid values:** 1 ~ 386
[**portvlanid** *portvlanid*]	The VLAN Identifier **Type:** Optional **Valid values:** 1 ~ 386 (portid) **Default values:** none
[**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 **Default values:** all
[**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 **Default values:** true
[**gvrpstatus** *enable* / *disable*]	The state of GVRP operation on this port. **Type:** Optional **Default values:** enable
[**restrictedvlanreg** *true* / *false*]	The state of restricted VLAN registration on this port. If the value of this control is 'true', then creation of a new dynamic VLAN registration entry for the VLAN concerned, in which the registrar administrative control value for this port is normal registration. **Type:** Optional **Default values:** false

Monitoring the GVRP Port Stats

Use '**get gvrp port stats**' command to monitoring the GVRP port stats information.

Table 8-3 **Monitoring the GVRP Port Stats**

Use this command to monitoring the GVRP port statistics
#**get gvrp port stats [portid** *portid*]

Parameters	Task
portid *<portid>*	The bridge port id. **Valid values:** 1 ~ 386

Example 15   `#get gvrp port stats portid 1`

```
PortId          : 1
Recv Join Empty : 0        Send Join Empty : 0
Recv Join In    : 0        Send Join In    : 0
Recv Empty      : 0        Send Empty      : 0
Recv Leave      : 0        Send Leave      : 0
Recv Leave All  : 0        Send Leave All  : 0
Leave Empty Rx  : 0        Leave Empty Tx  : 0
```

Reset GVRP Port Stats

Use '**reset gvrp port stats**' command to reset the GVRP stats counter.

Table 8-4 **Reset GVRP Port Stats**

Use this command to reset the GVRP port statistics
#**reset gvrp port stats portid** *<portid>*

Parameters	Task
portid *<portid>*	The bridge port id. **Valid values:** 1 ~ 386

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Chapter 9　　Managing the Multicast Services

This chapter describes the multicast services of the network.

This chapter contains the following sections:

● Configuring the IGMP Snooping

Configuring the IGMP Snooping

IGMP provides a mechanism for hosts to convey their desire to participate in an IP multicast group to their adjacent router, the IGMP snooping scheme is to enable the automatically setup multicast filters so that the multicast traffic is directed only to the segments that have participating hosts. With IGMP snooping, the system floods IGMP queries on all ports and forwards IGMP reports on ports in the direction of a uplink router.

Configuring the IGMP Snooping System Info

Use '**modify igmpsnoop cfg info**' command to controls the function of IGMP Snooping administration of DAS3series system.

Table 9-1　　Configuring the IGMP Snooping System Info

Use this command to modify the IGMP Snooping info parameters.	
#modify igmpsnoop cfg info [status *enable* | *disable*] [**reportsup** *enable* | *disable*]	
Use this command to monitoring the IGMP Snooping info settings.	
#get igmpsnoop cfg info	
Parameters	**Task**
[status *enable* | *disable*]	Specified where or not IGMP Snooping is to be enabled in the system. **Type:** Optional **Default values:** disable
[reportsup *enable* | *disable*]	Report suppression is enabled or not. **Type:** Optional **Default values:** disable

Configuring the IGMP Snooping Port Info

Use '**modify igmpsnoop port info**' command to control the IGMP snooping parameters per bridge port interface.

Table 9-2   Configuring the IGMP Snooping Port Info

Use this command to modify the IGMP Snooping port info.	
#**modify igmpsnoop port info portid** <*portid*> [**status** *enable* | *disable*] [**leavemode** *normal* | *fast* | *fastnormal*]	
Use this command to monitoring the IGMP Snooping port setting.	
#**get igmpsnoop port info** [**portid** *portid*]	
Parameters	**Task**
portid <*portid*>	The bridge port ID for which IGMP snooping needs to be enabled or disabled. **Valid values:** 1 ~ 386
[**status** *enable* | *disable*]	Specifies whether or not IGMP snooping is to be enabled on the port **Type:** Optional **Default values:** disable
[**leavemode** *normal* | *fast* | *fastnormal*]	IGMP snooping leave message processing mode for the port. If the mode is set to 'normal', the leave message is forwarded to the Querier and then based on the query received from Querier the leave processing is triggered. If the mode is set to 'fast', the port is immediately deleted from that multicast group on leave message reception and then the leave message is forwarded. The mode should be set to 'fast' for a port only if there is one host behind the port. This is because if there are multiple hosts behind the port then it will lead to traffic disruption for other hosts who might still be listening to that multicast group. If mode is set to 'fastnormal', the leave message is forwarded and the leave processing is triggered immediately without waiting for any trigger from the Querier. 'fastnormal' mode thus saves the delay in leave processing (equal to the time taken for leave message to reach router and Querier processing time for it and the time taken for Query to reach IGMP snoop module). **Type:** Optional **Default values:** normal

Configuring the IGMP Snooping Querier Info

The IGMP Snooping Querier identifies the VLAN ID which shared IGMP Snooping information across the specific bridge port.

Table 9-3   Configuring the IGMP Snooping Querier Info

Use this command to create the IGMP Snooping querier info.
#**create igmpsnoop querier info vlanid** <*vlanid*> **portid** <*portid*>
Use this command to monitoring the IGMP Snooping querier info setting.
#**get igmpsnoop querier info [vlanid** *vlanid*] [**portid** *portid*]
Use this command to remove the IGMP Snooping querier info from the particular Bridge port interface.
#**delete igmpsnoop querier info vlanid** <*vlanid*> **portid** <*portid*>

Parameters	Task
vlanid <*vlanid*>	VLAN ID to uniquely identify the VLAN ID of the entry for which the IGMP snooping Querier is configured and learnt. In devices supporting "shared VLAN for multicast" capability, the information for a Querier port is shared across VLANs. Hence VLAN ID is an optional parameter. In devices supporting "Independent VLAN for multicast" capability, each VLAN can have its own information for a Querier port. Hence VLAN ID is a mandatory parameter in all the commands. **Valid values:** 1 ~ 4094
portid <*portid*>	A bridge port, belonging to the VLAN on which the Querier exists. **Valid values:** 1 ~ 386

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Chapter 10　Managing the System Filter

This chapter describes the filtering rule in different network layer.

This chapter contains the following sections:

- Configuring the MAC Filtering Rule
- Configuring the IP Filtering Rule
- Configuring the TCP Filtering Rule
- Configuring the UDP Filtering Rule

Configuring the MAC Filtering Rule

The MAC Filter allows you to configure the DAS3series to give exclusive access or exclude access up to 100 rules. Every Ethernet device has a unique MAC (Media Access Control) address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, you need to know the MAC address of the devices to configure this filtering rule.

Table 10-1　Configuring the MAC Filtering Rule

Use this command to create the MAC Filtering rule.
#**create filter subrule ether ruleid** <*ruleid*> **subruleid** <*subruleid*> **[srcmacaddrfrom** *macadd*] **[srcmacaddrto** *macadd*] **[dstmacaddrfrom** *macadd*] **[dstmacaddrto** *macadd*] **[vlanidfrom** *vlanid*] **[vlanidto** *vlanid*] **[priotagfrom** *tagid*] **[priotagto** *tagid*] **[srcmacaddrcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[dstmacaddrcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[vlanidcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[priotagcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[subruleprio** *low* | *high* | *asinrule*]
Use this command to modify the MAC Filtering rule.
#**modify filter subrule ether ruleid** <*ruleid*> **subruleid** <*subruleid*> **[srcmacaddrfrom** *macadd*] **[srcmacaddrto** *macadd*] **[dstmacaddrfrom** *macadd*] **[dstmacaddrto** *macadd*] **[vlanidfrom** *vlanid*] **[vlanidto** *vlanid*] **[priotagfrom** *tagid*] **[priotagto** *tagid*] **[srcmacaddrcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[dstmacaddrcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[vlanidcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[priotagcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* |*inrange* | *exrange*] **[subruleprio** *low* | *high* | *asinrule*]
Use this command to monitoring the MAC Filtering rule.
#**get filter subrule ether [ruleid** *ruleid*] **[subruleid** *subruleid*]
Use this command to remove the MAC Filtering rule.
#**delete filter subrule ether ruleid** <*ruleid*> **subruleid** <*subruleid*>

Parameters	Task
ruleid <*ruleid*>	Unique identifier of a filter rule of which this sub rule is being created. **Recommend values:** 1 ~ 100
subruleid <*subruleid*>	Unique identify of a filter subrule. **Recommend values:** 1 ~ 100
[srcmacaddrfrom *macadd*]	Start source MAC address of the range of source MAC addresses. This field is invalid if 'srcmacaddrcmp' is 'any'. This field and 'srcmacaddrto' specify a range of source MAC addresses if 'srcmacaddrcmp' is either 'inrange' or 'exrange'. **Default values:** 00:00:00:00:00:00
[srcmacaddrto *macadd*]	End source MAC address of the range of source MAC addresses. This field and 'srcmacaddrfrom' specify a range of source MAC addresses, if 'srcmacaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Default values:** ff:ff:ff:ff:ff:ff

Table 10-1   Configuring the MAC Filtering Rule (Continue)

Parameters	Task
[dstmacaddrfrom *macadd***]**	Start destination MAC address of the range of destination MAC addresses. This field is invalid if 'dstmacaddrcmp' is 'any'. This field and the next field specify a range of destination MAC addresses if 'dstmacaddrcmp' is either 'inrange' or 'exrange'. **Default values:** 00:00:00:00:00:00
[dstmacaddrto *macadd***]**	End destination MAC address of the range of destination MAC addresses. This field and the previous field specify a range of destination MAC addresses if 'dstmacaddrcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Default values:** ff:ff:ff:ff:ff:ff
[vlanidfrom *vlanid***]**	Start VLAN ID of the range of VLAN IDs. Invalid if the direction of the rule for which this subrule is being created in 'out'. This field is invalid if 'vlanidcmp' is 'any'. This field and the next field specify a range of VLAN IDs, if 'vlanidcmp' is either 'inrange' or 'exrange'. **Valid values:** 1 ~ 4094 **Default values:** 1
[vlanidto *vlanid***]**	End VLAN ID of the range of VLAN IDs. Invalid, if the direction of the rule for which this subrule is being created is 'out', This field and the previous field specify a range of VLAN IDs, if 'vlanidcmp' is either 'inrange' or 'exrange'. Otherwise, this field is invalid. **Valid values:** 1 ~ 4094 **Default values:** 4094
[priotagfrom *tagid***]**	Start priority tag of the range of priority tags. Invalid if the direction of the rule for which this subrule is being created is 'out'. This field is invalid if 'priotagcmp' is 'any'. This field and the next field specify a range of priority tags, if 'priotagcmp' is either 'inrange' or 'exrange'. **Valid values:** 0 ~ 7 **Default values:** 0
[priotagto *tagid***]**	End priority tag of the range of priority tags. Invalid if the direction of the rule for which this subrule is being created is 'out'. This field and the previous field specify a range of priority tags, if 'priotagcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Valid values:** 0 ~ 7 **Default values:** 7
[srcmacaddrcmp *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange***]**	Source MAC address comparison type. **Default values:** any
[dstmacaddrcmp *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange***]**	Destinations MAC address comparison type. **Default values:** any
[vlanidcmp *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange***]**	VLAN ID comparison type. This field must be 'any', if 'priotagcmp' is not equal to 'any' **Default values:** any
[priotagcmp *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange***]**	Priority tag comparison type. This field must be 'any', if 'vlanidcmp' is not equal to 'any'. **Default values:** any
[subruleprio *low* | *high* | *asinrule***]**	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Default values:** asinrule

Configuring the IP Filtering Rule

The IP Filter allows you to configure the DAS3series to give exclusive access or exclude access up to 100 rules, you need to know the IP address of the devices to configure this filtering rule.

Table 10-2   Configuring the IP Filtering Rule

Use this command to create the IP Filtering rule.
#**create filter subrule ip ruleid** *<ruleid>* **subruleid** *<subruleid>* **[srcipaddrfrom** *ipadd*] **[srcipaddrto** *ipadd*] **[dstipaddrfrom** *ipadd*] **[dstipaddrto** *ipadd*] **[srcaddrcmp** *eq	neq	lt	leq	gt	geq	any	inrange	exrange	ingenlist	notingenlist*] **[dstaddrcmp** *eq	neq	lt	leq	gt	geq	any	inrange	exrange	ingenlist	notingenlist*] **[ipsrcaddrmask** *netmask*] **[ipdstaddrmask** *netmask*] **[subruleprio** *low	high	asinrule*]
Use this command to modify the IP Filtering rule.
#**modify filter subrule ip ruleid** *<ruleid>* **subruleid** *<subruleid>* **[srcipaddrfrom** *ipadd*] **[srcipaddrto** *ipadd*] **[dstipaddrfrom** *ipadd*] **[dstipaddrto** *ipadd*] **[srcaddrcmp** *eq	neq	lt	leq	gt	geq	any	inrange	exrange	ingenlist	notingenlist*] **[dstaddrcmp** *eq	neq	lt	leq	gt	geq	any	inrange	exrange	ingenlist	notingenlist*] **[ipsrcaddrmask** *netmask*] **[ipdstaddrmask** *netmask*] **[subruleprio** *low	high	asinrule*]
Use this command to monitoring the IP Filtering rule.
#**get filter subrule ip [ruleid** *<ruleid>*] **[subruleid** *<subruleid>*]
Use this command to remove the IP Filtering rule.
#**delete filter subrule ip ruleid** *<ruleid>* **subruleid** *<subruleid>*

Parameters	Task
ruleid *<ruleid>*	Unique identifier of a filter rule of which this subrule is being created. **Recommend values:** 1 ~ 100
subruleid *<subruleid>*	Unique identifier of a filter subrule. **Valid values:** 1 ~ 100
[srcipaddrfrom *ipadd*]	Start source IP address of the range of source IP addresses. This field is invalid if 'srcaddrcmp' is 'any', 'ingenlist' or 'notingenlist'. This field and 'srcipaddrto' specify a range of source IP addresses if 'srcaddrcmp' is either 'inrange' or 'exrange'. **Default values:** 0.0.0.0
[srcipaddrto *ipadd*]	End source IP address of the range of source IP addresses. This field and 'srcipaddrfrom' specify a range of source IP addresses, if 'srcaddrcmp' is either 'inrange' or'exrange'. Ohterwise this field is invalid. **Default values:** 255.255.255.255
[dstipaddrfrom *ipadd*]	Start destination IP address of the range of destination IP addresses. This field is invalid if 'dstaddrcmp' is 'any', 'ingenlist' or 'notingenlist'. This field and 'dstipaddrto' specify a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange'. **Default values:** 0.0.0.0
[dstipaddrto *ipadd*]	End destination IP address of the range of destination IP addresses. This field and 'dstipaddrfrom' specify a range of destination IP addresses, if 'dstaddrcmp' is either 'inrange' or 'exrange. Otherwise this field is invalid. **Default values:** 255.255.255.255
[srcaddrcmp *eq	neq	lt	leq	gt	geq	any	inrange	exrange	ingenlist	notingenlist*]	Source IP address comparison type. 'ingenlist' means check if source IP address present in interface classifier generic list. 'notingenlist' means check if source IP address not present in interface classifier generic list. 'ingenlist' and 'notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'. **Default values:** any
[dstaddrcmp *eq	neq	lt	leq	gt	geq	any	inrange	exrange	ingenlist	notingenlist*]	Destination IP addresses comparison type. 'ingenlist' menas check if destination IP address present in interface classifier generic list. 'notingenlist' means check if destination IP address not present in interface classifier generic list. 'ingenlist' and 'notingenlist' are invalid if the direction of the rule for which this subrule is being created is 'out'. **Default values:** any

Table 10-2   Configuring the IP Filtering Rule (Continue)

Parameters	Task
[ipsrcaddrmask *netmask***]**	The mask value for source IP address. The mask is applied over the source IP address before checking against the values in the generic list. **Default values:** 0xffffffff (hexadecimal)
[ipdstaddrmask *netmask***]**	The mask value for destination IP address. The mask is applied over the destination IP address before checking against the values in the generic list. **Default values:** 0xffffffff (hexadecimal)
[subruleprio *low* / *high* / *asinrule***]**	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Default values:** asinrule

Configuring the TCP Filtering Rule

The TCP Filter allows you to configure the DAS3series to give exclusive access or exclude access up to 100 rules; you need to know the TCP Port number of the connection to configure this filtering rule.

Table 10-3   Configuring the TCP Port Filtering Rule

Use this command to create the TCP Filtering rule.
#**create filter subrule tcp ruleid** *<ruleid>* **subruleid** *<subruleid>* [**srcportfrom** *portadd*] [**srcportto** *portadd*] [**dstportfrom** *portadd*] [**dstportto** *portadd*] [**srcportcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange*] [**dstportcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange*] [**subruleprio** *low* | *high* | *asinrule*]
Use this command to modify the TCP Filtering rule.
#**modify filter subrule tcp ruleid** *<ruleid>* **subruleid** *<subruleid>* [**srcportfrom** *portadd*] [**srcportto** *portadd*] [**dstportfrom** *portadd*] [**dstportto** *portadd*] [**srcportcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange*] [**dstportcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange*] [**subruleprio** *low* | *high* | *asinrule*]
Use this command to monitoring the TCP Filtering rule.
#**get filter subrule tcp** [**ruleid** *ruleid*] [**subruleid** *subruleid*]
Use this command to remove the TCP Filtering rule.
#**delete filter subrule tcp ruleid** *<ruleid>* **subruleid** *<subruleid>*

Parameters	Task
ruleid *<ruleid>*	Unique identifier of a filter rule of which this subrule is being created. **Recommend values:** 1 ~ 100
subruleid *<subruleid>*	Unique identifier of a filter subrule. **Valid values:** 1 ~ 100
[**srcportfrom** *portadd*]	Start port number of the range of source port numbers. This field is invalid if 'srcportcmp' is 'any'. This field and 'srcportto' specify a range of TCP source port numbers if 'srcportcmp' is either inrange or 'exrange'. **Default values:** 0
[**srcportto** *portadd*]	End port number of the range of source port numbers. This field and 'srcportform' specify a range of TCP source port numbers if 'srcportcmp' is either 'inrange' or 'exrange'. **Default values:** 65535
[**dstportfrom** *portadd*]	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp is 'any' This field and 'dstportto' specify a range of TCP destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'. **Default values:** 0
[**dstportto** *portadd*]	End port number of the range of destination port numbers. This field and 'dstportform' specify a range of TCP destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Default values:** 65535
[**srcportcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange*]	Source port comparison type. **Default values:** any
[**dstportcmp** *eq* | *neq* | *lt* | *leq* | *gt* | *geq* | *any* | *inrange* | *exrange*]	Destination port comparison type. **Default values:** any
[**subruleprio** *low* | *high* | *asinrule*]	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Default values:** asinrule

Configuring the UDP Filtering Rule

The UDP Filter allows you to configure the DAS3series to give exclusive access or exclude access up to 100 rules; you need to know the UDP Port number of the connection to configure this filtering rule.

Table 10-4   Configuring the UDP Port Filtering Rule

Use this command to create the UDP Filtering rule.

#**create filter subrule udp ruleid** *<ruleid>* **subruleid** *<subruleid>* **[srcportfrom** *portadd*] **[srcportto** *portadd*] **[dstportfrom** *portadd*] **[dstportto** *portadd*] **[srcportcmp** *eq* / *neq* / *lt* / *leq* / *gt* / *geq* / *any* / *inrange* / *exrange*] **[dstportcmp** *eq* / *neq* / *lt* / *leq* / *gt* / *geq* / *any* / *inrange* / *exrange*] **[subruleprio** *low* / *high* / *asinrule*]

Use this command to modify the UDP Filtering rule.

#**modify filter subrule udp ruleid** *<ruleid>* **subruleid** *<subruleid>* **[srcportfrom** *portadd*] **[srcportto** *portadd*] **[dstportfrom** *portadd*] **[dstportto** *portadd*] **[srcportcmp** *eq* / *neq* / *lt* / *leq* / *gt* / *geq* / *any* / *inrange* / *exrange*] **[dstportcmp** *eq* / *neq* / *lt* / *leq* / *gt* / *geq* / *any* / *inrange* / *exrange*] **[subruleprio** *low* / *high* / *asinrule*]

Use this command to monitoring the UDP Filtering rule.

#**get filter subrule udp [ruleid** *ruleid*] **[subruleid** *subruleid*]

Use this command to remove the UDP Filtering rule.

#**delete filter subrule udp ruleid** *<ruleid>* **subruleid** *<subruleid>*

Parameters	Task
ruleid *<ruleid>*	Unique identifier of a filter rule of which this subrule is being created. **Recommend values:** 1 ~ 100
subruleid *<subruleid>*	Unique identifier of a filter subrule. **Valid values:** 1 ~ 100
[srcportfrom *portadd*]	Start port number of the range of source port numbers. This field is invalid if 'srcportcmp' is 'any'. This field and 'srcportto' specify a range of UDP source port numbers if 'srcportcmp' is either inrange or 'exrange'. **Default values:** 0
[srcportto *portadd*]	End port number of the range of source port numbers. This field and 'srcportform' specify a range of UDP source port numbers if 'srcportcmp' is either 'inrange' or 'exrange'. **Default values:** 65535
[dstportfrom *portadd*]	Start port number of the range of destination port numbers. This field is invalid if 'dstportcmp is 'any' This field and 'dstportto' specify a range of UDP destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'. **Default values:** 0
[dstportto *portadd*]	End port number of the range of destination port numbers. This field and 'dstportform' specify a range of UDP destination port numbers if 'dstportcmp' is either 'inrange' or 'exrange'. Otherwise this field is invalid. **Default values:** 65535
[srcportcmp *eq* / *neq* / *lt* / *leq* / *gt* / *geq* / *any* / *inrange* / *exrange*]	Source port comparison type. **Default values:** any
[dstportcmp *eq* / *neq* / *lt* / *leq* / *gt* / *geq* / *any* / *inrange* / *exrange*]	Destination port comparison type. **Default values:** any
[subruleprio *low* / *high* / *asinrule*]	This specifies the priority of the subrule. Based on this priority value, the subrule is created in fast or slow memory. In case priority is specified as 'asinrule', subrule priority will be same as specified in the rule. **Default values:** asinrule

Chapter 11 Diagnosis and Performance Monitoring

This chapter describes the Diagnosis and Performance Monitoring of network environment.

This chapter contains the following sections:

- ATM OAM Diagnosis
- IP Ping Testing

ATM OAM Diagnosis

OAM performs diagnosis of connectivity verification at the AAL5 layer; you can configure the F5 flows as either end-to-end or segment-loopback.

Use '**get oam lpbk vc**' command to generates the OAM cells and forwards them to the CPE element, which is responsible for returning them to the generating system.

Table 11-1   ATM OAM Loopback Diagnosis

Use this command to start or stop OAM loopback
#**modify oam lpbk vc ifname** *<ifname>* [*e2e* / *seg*]
Use this command to display result of previous (modify) OAM loopback command
#**get oam lpbk vc ifname** *<ifname>* [*e2e* / *seg*]

Parameters	Task
ifname *<ifname>*	This parameter specifies the interface, for which information is desired. **Type:** Mandatory **Valid values:** aal5-1 ~ aal5-384
[*e2e* / *seg*]	This specifies the loopback type ot be used, end-to-end or segment-to-segment. **Default values:** e2e

IP Ping Testing

Use '**ping**' command to diagnosis basic network connectivity on IP address or domain name.

Table 11-2   IP Ping Testing

#**ping** *{ip-address	domain-name}* [*-t	-n number*] [**-i** *time-to-live*] [**-w** *seconds*] [**-s** *size*]	
Parameters	**Task**
*{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)
[*-t	-n number*]	This indicates continuous ping to host or specifies the number of pings to send to host. **Type:** Optional **Valid values:** 0 ~ 255 (-n) **Default Value:** 4
[**-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
[**-w** *seconds*]	This specifies the time interval between successive ping requests. **Type:** Optional **Valid values:** 0 ~ 255 **Default Value:** 2
[**-s** *size*]	This specifies the size of payload for ping. **Type:** Optional **Valid values:** 4 ~ 1500 **Default Value:** 64

Appendix   Abbreviations and Acronyms

The abbreviations and acronyms used in this document.

Table 0-1   Abbreviations and Acronyms Table

Abbreviations	**Full Name**
AAL	ATM Adaptation Layer
ADSL	Asymmetric Digital Subscriber line
AIS	Alarm Indication Signal
ATM	Asynchronous Transfer Mode
ATU-C	ADSL Transceiver Unit at the central office end
ATU-R	ADSL Transceiver Unit at the remote end
CBR	Constant Bit Rate
CV	Coding Violation
DSLAM	Digital Subscriber line Access Multiplexer
ES	Error Seconds
EOA	Ethernet over ATM

Abbreviations	Full Name
GE	Gigabit Ethernet
IP	Internet Protocol
LAN	Local Area Network
LOF	Loss of Frame
LOS	Loss of Signal
LPR	Loss of Power
OAM	Operation, Administration, and Maintenance
PCR	Peak Cell Rate
PSD	Power Spectral Density
PVC	Permanent Virtual Channel
rtVBR	Real time Variable Bit Rate
SCR	Sustainable Cell Rate
SNR	Signal-to Noise Ratio
SNMP	Simple Network Management Protocol
UAS	Unavailable Seconds
UBR	Unspecified Bit Rate
VC	Virtual Channel
VCI	Virtual Channel Identify
VCL	Virtual Channel Link
VDSL	Very high-speed Digital Subscriber line
VLAN	Virtual Local Area Network
VP	Virtual Path
VPI	Virtual Path Identifier
VTU-O	VDSL Transmission Unit at the Optical network interface
VTU-R	VDSL Transmission Unit at the remote end
WAN	Wide Area Network
xDSL	ADSL/VDSL

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