D-Link®
Building Networks for People

CLI Manual

Product Model: DPN-3012-E GE-PON
OLT
Command Line Interface Reference Manual
Release 1

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Chapter 1

Overview

1 Introduction

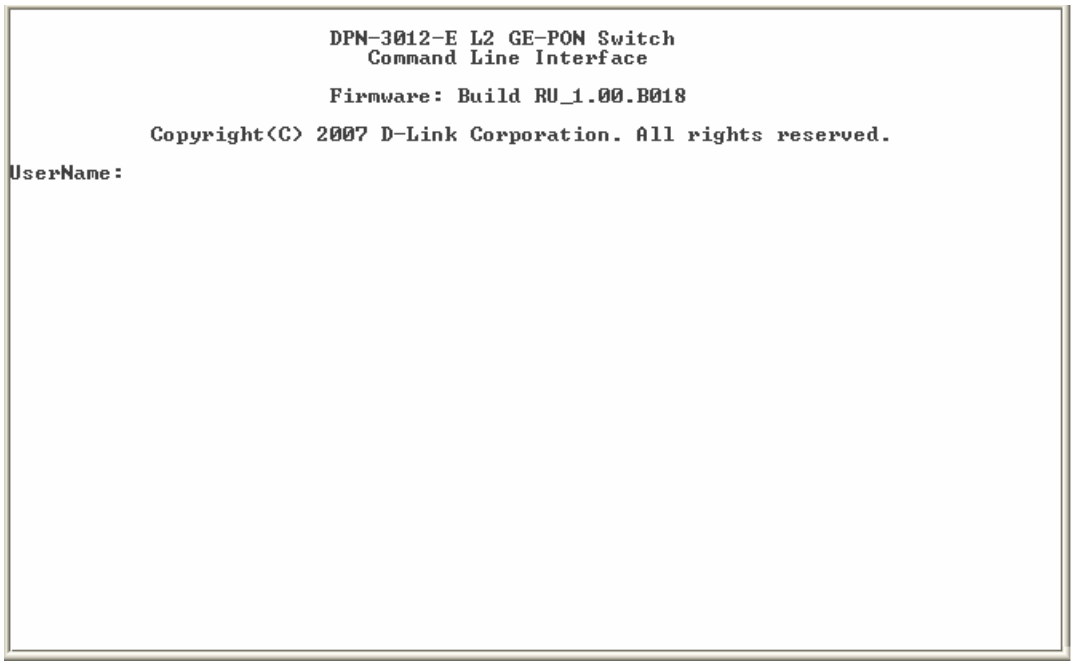
The Switch can be managed through the switch's serial port, or Telnet. The Command Line Interface (CLI) can be used to configure and manage the switch via the serial port or Telnet interfaces.
This manual provides a reference for all of the commands contained in the CLI.

Accessing the Switch via the Serial Port

The switch's serial port's default settings are as follows:

- **115200 baud**
- **no parity**
- **8 data bits**
- **1 stop bit**
- **no flow control**

A computer running a terminal emulation program capable of emulating a VT-100 terminal and a serial port configured as above is then connected to the switch's serial port via an RS-232 DB-9 cable.
With the serial port properly connected to a management computer, the following screen should be visible. If this screen does not appear, try pressing Ctrl+r to refresh the console screen.



There is no initial username or password. Just press the **Enter** key twice to display the CLI input cursor – **DPN-3012-E:a#**. This is the command line where all commands are input.

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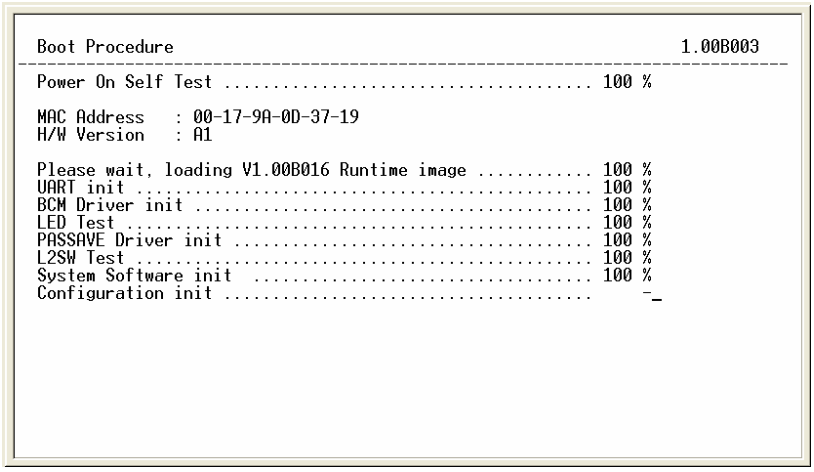
Setting the Switch's IP Address

Each Switch must be assigned its own IP Address, which is used for communication with an SNMP network manager or other TCP/IP application (for example BOOTP, TFTP). You can change the default Switch IP address to meet the specification of your networking address scheme.

The switch is also assigned a unique MAC address by the factory. This MAC address cannot be changed, and can be found on the initial boot console screen – shown below.

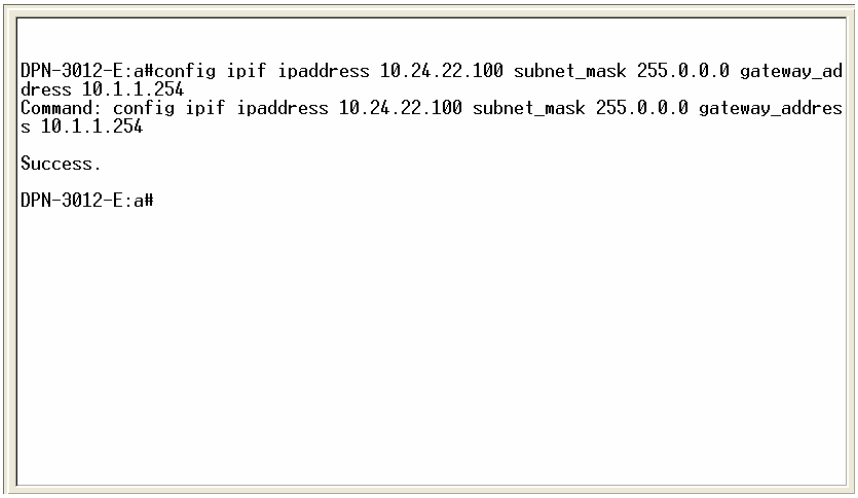


The switch's MAC address can also be found in the Web management program on the Switch Information (Basic Settings) window on the Configuration menu.

The IP address for the switch must be set before it can be managed with the Web-based manager. The switch IP address can be automatically set using BOOTP or DHCP protocols, in which case the actual address assigned to the switch must be known.

The IP address may be set using the Command Line Interface (CLI) over the console serial port as follows:

Starting at the command line prompt, enter the commands **config ipif ipaddress xxx.xxx.xxx.xxx subnet_mask yyy.yyy.yyy.yyy gateway_address zzz.zzz.zzz.zzz**. .



In the above example, the switch was assigned an IP address of 10.24.22.100, with a subnet mask of 255.0.0.0 and a Gateway Address of 10.1.1.254. The system message **Success** indicates that the command was executed successfully. The switch can now be configured and managed via Telnet and the CLI using the above IP address to connect to the switch.

1-1 Command Syntax Symbols

angle brackets <>	Enclose a variable or value. You must specify the variable or value. For example, configuring the a user name for an administrator account uses the syntax: **config account <username>** you must supply a user name <username> when entering the command. **Note: Do not type the angle brackets.**
Square brackets [ ]	Enclose a required value or list of required arguments. One or more values or arguments must be specified. For example, creating an administrator account uses the syntax: **create account [admin | user | operator]** you must specify either the admin-level or user-level account when entering the command. **Note: Do not type the square brackets.**
Vertical bar |	Separates mutually exclusive items in a list, one of which must be entered. For example, configure auto logout for the serial port uses the syntax: **config serial_port {auto_logout [2_minutes | 5_minutes | 10_minutes | 15_minutes | 30_minutes]}** you must specify either the community or trapreceiver or detail in the command. **Note: Do not type the vertical bar.**
Braces { }	Enclose an optional value or a list of optional arguments. One or more values or arguments can be specified. For example, the save configuration command uses the syntax: **save {cfg0 | cfg1 | log | all}** **Note: Do not type the braces.**
Ipif <ipif_name 12> metric <value 1-31>	12 means the maxmum length of IP interface name. 1-31 means the legal range of metric value.

1-2 Line-Editing Keys

Keys	Description
Delete	Delete character under cursor and shift remainder of line to left.
Backspace	Delete character to left of cursor and shift remainder of line to left.
Insert	Toggle on and off. When toggled on, inserts text and shifts previous text to right.
Left Arrow	Move cursor to left.
Right Arrow	Move cursor to right
Tab	Help user to select appropriate token.
P	Display the previous page.
N or Space	Display the next page.
CTRL+C	Escape from displayed pages.
ESC	Escape from displayed pages.
Q	Escape from displayed pages.
R	refresh the displayed pages
a	Display the remaining pages. (The screen display will not pause again.)
Enter	Display the next line.

The screen display pauses when the show command output reaches the end of the page.

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Chapter 2

Basic Switch Commands

2 BASIC SWITCH COMMANDS LIST

create account [admin | user | operator] <username>
config account <username>
show account
delete account <username>
show session {refresh_time <sec 2-256>}
show switch
show serial_port
config serial_port {auto_logout [2_minutes | 5_minutes | 10_minutes | 15_minutes | 30_minutes]}
enable clipaging
disable clipaging
enable telnet <tcp_port_number 1-65535>
disable telnet
enable web <tcp_port_number 1-65535>
disable web
save{cfg0 | cfg1 | log | all}
reboot [olt port [all | <olt_portlist>] | onu [all | <onu_list>] | system]
reset{[config | system]}
config boot_up_cfg [cfg0 | cfg1]
show boot_up_cfg_id
load config [cfg0 | cfg1]
show config [current_config | cfg0_in_NVRAM | cfg1_in_NVRAM]
Login
logout

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2-1 create account

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Purpose

Used to create user accounts.

Format

create account [admin | user | operator] <username>

Description

The create account command is used to create user accounts that consist of a username of 1 to 32 characters and a password of 0 to 32 characters. Up to 8 user accounts can be created.

Parameter

Parameters	Description
admin <username>	Usernames can be between 1 and 32 characters.
user <username>	Passwords can be between 0 and 32 characters.
operator <username>	

Restrictions

Only Administrator-level users can issue this command.

Example

To create an administrator-level user account with the username “dlink”:

```
DPN-3012-E:a#create account admin dlink
Command: create account admin dlink

Enter a case-sensitive new password:****
Enter the new password again for confirmation:****

Success.

DPN-3012-E:a#
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2-2 config account

Purpose

Used to configure user accounts.

Format

config account <username>

Description

The config account command configures a user account that has been created using the create account command.

Parameter

Parameters	Description
<username>	Usernames can be between 1 and 32 characters. Passwords can be between 0 and 32 characters.

Restrictions

Only Administrator-level users can issue this command.

Example

To configure the user password of “dlink” account:

```
DPN-3012-E:a#config account dlink
Command: config account dlink

Enter a old password:****
Enter a case-sensitive new password:****
Enter the new password again for confirmation:****
Success.

DPN-3012-E:a#
```

2-3 show account

Purpose

Used to display user accounts.

Format

show account

Description

Displays all user accounts created on the switch. Up to 20 user accounts can exist on the switch at one time.

Parameter

None.

Restrictions

Only Administrator-level users can issue this command

Example

To display the accounts that have been created:

```
DPN-3012-E:a#show account
Command: show account

 Current Accounts:
 Username                      Access Level
 ------------------------      ------------
 dlink                         Admin

DPN-3012-E:a#
```

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2-4 delete account

Purpose

Used to delete an existing user account.

Format

delete account <username>

Description

The delete account command deletes a user account that has been created using the create account command.

Parameter

Parameters	Description
<username>	The name of the previously created account being removed.

Restrictions

Only Administrator-level users can issue this command.

Example

To delete the user account “System”:

```
DPN-3012-E:a#delete account System
Command: delete account System


 Success.


DPN-3012-E:a#
```

2-5 show switch

Purpose

Used to display information about the switch.

Format

show switch

Description

This command displays information about the switch.

Parameter

None.

Restrictions

None.

Example

To display the switch information:

```
DPN-3012-E:a#show switch
Command: show switch
Device Type             : DPN-3012-E
MAC Address             : 00-01-02-03-04-00
IP Address              : 10.90.90.90
VLAN Name               : default
Subnet Mask             : 255.0.0.0
Default Gateway         :10.254.254.251
Boot PROM Version       : Build 1.00.B003
Firmware Version        : Build 1.00.B018
Hardware Version        : A1
System Name             :
System Location         :
System Contact          :
TELNET                  : Enabled (TCP 23)
WEB                     : Enabled (TCP 80)
Clipaging               : Enabled
Dual Image              : Supported
Last Reboot Status      : ColdStart
DPN-3012-E:a#
```

2-6 show session

Purpose

Used to display information about the current session.

Format

show session

Description

This command displays information about the management session in progress.

Parameter

None.

Restrictions

None.

Example

To display the session information:

```
DPN-3012-E:a#show session
Command: show session

ID   Live Time    From             Level    Name
--   ---------    -------------    -----    -------------------------
4    0:0:3.280    Serial Port      Admin    Anonymous

DPN-3012-E:a#
```

2-7 show serial_port

Purpose

Used to display the current serial port settings.

Format

show serial_port

Description

This command displays the current serial port settings.

Parameter

None.

Restrictions

None.

Example

To display the serial port settings:

```
DPN-3012-E:a#show serial_port
Command: show serial_port

 Baud Rate       : 115200
 Data Bits       : 8
 Parity Bits     : None
 Stop Bits       : 1
 Auto-Logout     : 30 mins

DPN-3012-E:a#
```

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2-8 config serial_port

Purpose

Used to configure the serial port.

Format

config serial_port {auto_logout [2_minutes | 5_minutes | 10_minutes | 15_minutes | 30_minutes]}

Description

This command is used to configure the serial port's baud rate and auto logout settings.

Parameter

Parameters	Description
auto logout	This parameter will set the time that the switch will wait before logging out automatically, if left idle.
The choices that accompany this parameter are:	
2_minutes	The console will log out the current user if there is no user input for 2 minutes.
5_minutes	The console will log out the current user if there is no user input for 5 minutes.
10_minutes	The console will log out the current user if there is no user input for 10 minutes.
15_minutes	The console will log out the current user if there is no user input for 15 minutes.
30_minutes	The console will log out the current user if there is no user input for 30 minutes.

Restrictions

2-level administrator
3-level operator

Example

To configure the serial port settings:

```
DPN-3012-E:a#config serial_port auto_logout 30_minutes
Command: config serial_port auto_logout 30_minutes


Success
DPN-3012-E:a#
```

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2-9 enable clipaging

Purpose

Used to pause the scrolling of the console screen when the show command displays more than one page.

Format

enable clipaging

Description

This command is used when issuing the show command which causes the console screen to rapidly scroll through several pages. This command will cause the console to pause at the end of each page. The default setting is enabled.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To enable pausing of the screen display when the show command output reaches the end of the page:

```
DPN-3012-E:a#enable clipaging
Command: enable clipaging


Success.


DPN-3012-E:a#
```

2-10 disable clipaging

Purpose

Used to disable the pausing of the console screen scrolling at the end of each page when the show command displays more than one screen of information.

Format

disable clipaging

Description

This command is used to disable the pausing of the console screen at the end of each page when the show command would display more than one screen of information.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To disable pausing of the screen display when show command output reaches the end of the page:

```
DPN-3012-E:a#disable clipaging
Command: disable clipaging


Success.


DPN-3012-E:a#
```

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2-11 enable telnet

Purpose

Used to enable communication with and management of the switch using the Telnet protocol.

Format

enable telnet <tcp_port_number 1-65535>

Description

This command is used to enable the Telnet protocol on the switch. The user can specify the TCP or UDP port number the switch will use to listen for Telnet requests.

Parameter

Parameters	Description
<tcp_port_number 1-65535>	The TCP port number. TCP ports are numbered between 1 and 65535. The “well-known” TCP port for the Telnet protocol is 23.

Restrictions

2-level administrator
3-level operator

Example

To enable Telnet and configure port number:

```
DPN-3012-E:a#enable telnet 23
Command: enable telnet 23

Success.

DPN-3012-E:a#
```

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2-12 disable telnet

Purpose

Used to disable the Telnet protocol on the switch.

Format

disable telnet

Description

This command is used to disable the Telnet protocol on the switch.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To disable the Telnet protocol on the switch:

```
DPN-3012-E:a#disable telnet
Command: disable telnet


Success.


DPN-3012-E:a#
```

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2-13 enable web

Purpose

Used to enable the HTTP-based management software on the switch.

Format

enable web <tcp_port_number 1-65535>

Description

This command is used to enable the HTTP-based management software on the switch.

Parameter

Parameters	Description
<tcp_port_number 1-65535>	The TCP port number. TCP ports are numbered between 1 and 65535. The “well-known” TCP port for the HTTP protocol is 80.

Restrictions

2-level administrator
3-level operator

Example

To enable web and configure the port number:

```
DPN-3012-E:a#enable web 80
Command: enable web 80


Success.


DPN-3012-E:a
```

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2-14 disable web

Purpose

Used to disable the HTTP-based management software on the switch.

Format

disable web

Description

This command is used to enable the HTTP-based management software on the switch.

Parameter

None

Restrictions

2-level administrator
3-level operator

Example

To disable the HTTP-based protocol on the switch:

```
DPN-3012-E:a#disable web
Command: disable web

Success.

DPN-3012-E:a#
```

Формат: Список

2-15 save

Purpose

Used to save changes in the switch's configuration to non-volatile RAM.

Format

save {cfg0 | cfg1 | log | all}

Description

This command is used to enter the current switch configuration into non-volatile RAM. The saved switch configuration will be loaded into the switch's memory each time the switch is restarted.

Parameter

Parameters	Description
Entering just the save command will save the switch configuration to the current boot NV-RAM.	
cfg0	Saves the current configuration to the cfg0 NV-RAM.
cfg1	Saves the current configuration to the cfg1 NV-RAM.
log	Saves the current log files to NV-RAM.
all	Saves all current configurations and logs to NV-RAM.

Restrictions

2-level administrator
3-level operator

Example

To save changes:

```
DPN-3012-E:a#save

Command: save

Configuration would be saved to the bootup cfg0!

Saving configurations and logs to NV-RAM… Done


DPN-3012-E:a#
```

Формат: Список

2-16 reboot

Purpose

Used to restart the switch, OLT port or ONU.

Format

reboot [olt port [all | <olt_portlist>] | onu [all | <onu_list>] | system]

Description

This command is used to restart the switch, switch port or ONU.

Parameter

Parameters	Description
olt port [all | <olt_portlist>]	Instructs the switch to reboot on an OLT port basis as defined by the olt_portlist. olt_port - A range of ports to reboot on the OLT switch. The port list is specified by listing the lowest OLT port number separated by a dash from the highest OLT port number. For example, port 1-3 will specify OLT ports 1 through 3. As an alternative, you can specify a port list by entering each port number separated by a comma. For example, port 1,2,3 would also specify ports 1 through 3. all – reboot all OLT ports.
onu [all | <onu_list>]	Instructs the switch to reboot on an ONU port basis as defined by the onu_list. onu_list - A range of ports to configure for rebooting the ONU. The port list is specified by listing the OLT port number separated by a colon from the lowest ONU port number and then a dash followed by OLT port number separated by a colon form the highest ONU port number of the range. For example, 1:1-1:3 will specify OLT port 1 ONU ports 1 through 3. As an alternative, you can specify a port list by entering each ONU port number separated by a comma. For example, 1:1,1:2,1:3 would also specify OLT port 1, ONU ports 1 through 3. all – reboot all ONU connected to OLT ports specified by olt port parameter.
system	Instructs the OLT switch to reboot. The OLT switch will reboot, but none of the connected ONUs will be rebooted.

Restrictions

2-level administrator
3-level operator

Example

To restart the switch:

```
DPN-3012-E:a#
DPN-3012-E:a#reboot system
Command: reboot system


Are you sure you want to proceed with the system reboot?(y/n) y
Please wait, the switch is rebooting...
```

Формат: Список

2-17 reset

Purpose

Used to reset the switch to the factory default settings.

Format

reset {config | system}

Description

This command is used to restore the switch's configuration to the default settings assigned from the factory.

Parameter

Parameters	Description
system	If the keyword 'system' is specified all of the factory default settings are restored on the switch. The switch will save and reboot after the settings are changed to default. Rebooting will clear all entries in the Forwarding Data Base.
config	Instructs the switch to reset all configurable parameters to their factor default settings. If the config parameter is not specified, the switch's current IP address, user accounts, and the switch history log are not changed. all other parameters are restored to the factory default settings. The switch will not save or reboot.

Restrictions

2-level administrator
3-level operator

Example

To restore all of the switch's parameters to their default values:

```
DPN-3012-E:a#reset
Command: reset

Are you sure you want to proceed with system reset,
except IP address, log, user account?(y/n) y
Success.

DPN-3012-E:a#
```

Формат: Список

2-18 config boot_up_cfg

Purpose

Used to create user accounts.

Format

config boot_up_cfg [cfg0 | cfg1]

Description

The config boot_up_cfg command is used to instruct the switch which of the two configurations stored in the switch's NV-RAM you want the switch to use to boot up.

Parameter

Parameters	Description
cfg0	Instructs the switch to boot up using configuration 0.
cfg1	Instructs the switch to boot up using configuration 1.

Restrictions

2-level administrator
3-level operator

Example

To instruct the switch to boot using configuration 0:

```
DPN-3012-E:a# config boot_up_cfg cfg0
Command: config boot_up_cfg cfg0


Success.
```

2-19 show boot_up_cfg_id

Формат: Список

Purpose

Used to create user accounts

Format

show boot_up_cfg_id

Description

The show boot_up_cfg command is used to display which of the two configurations stored in the switch's NV-RAM will be used by the switch to boot up.

Parameter

None.

Restrictions

None.

Example

To display the boot up configuration identifier:

```
DPN-3012-E:a#show boot_up_cfg_id
Command: show boot_up_cfg_id

Bootup configuration id is cfg0

DPN-3012-E:a#
```

Формат: Список

2-20 load config

Purpose

Used to load configuration file to load for boot up.

Format

load config [cfg0 | cfg1]

Description

The load config command is used load one of the two configurations stored in the switch's NV-RAM, and then begin operating the switch using this configuration.

Parameter

Parameters	Description
cfg1	Instructs the switch to boot up using configuration 1.
cfg0	Instructs the switch to boot up using configuration 0.

Restrictions

2-level administrator
3-level operator

Example

To load the boot up configuration file "cfg0":

```
DPN-3012-E:a#load config cfg0
Command: load config cfg0

Loading the configuration from NVRAM now ..... Done!
Success.

DPN-3012-E:a#
```

2-21 show config

Формат: Список

Purpose

Used to display the current configuration of the switch.

Format

show config [current_config | cfg0_in_NVRAM | cfg1_in_NVRAM]

Description

The show config command is used to display the contents of the configuration files stored in the switch.

Parameter

Parameters	Description
current_config	Instructs the switch to display the contents of the current configuration.
cfg0_in_NVRAM	Instructs the switch to display the contents of configuration 0, stored in NV-RAM.
cfg1_in_NVRAM	Instructs the switch to display the contents of configuration 1, stored in NV-RAM.

Restrictions

None.

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Example

To display the current configuration:

```
DPN-3012-E:a#show config current_config
Command: show config current_config

#------------------------------------------------------------------------
#                   DPN-3012-E L2 GE-PON Switch
#                          Configuration
#
#                  Firmware: Build RU_1.00.B018
#     Copyright (C) 2008 D-Link Corporation. All rights reserved.
#------------------------------------------------------------------------
#  DOUBLE VLAN
 disable double_vlan

 #  BASIC
 config serial_port auto_logout 10_minutes
 enable telnet 23
 enable clipaging

 # STORM

 config traffic control 1-16 broadcast disable threshold 1488100
 CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a All
```

Формат: Список

2-22 login

Purpose

Used to log in a user to the switch's console.Format
login

Description

This command is used to initiate the login procedure. The user will be prompted for his Username and Password.

Parameter

None.

Restrictions

None.

Example

To initiate the login procedure:

```
DPN-3012-E:a#login
Command: login


UserName:
```

2-23 logout

Формат: Список

Purpose

Purpose-Used to log out a user from the switch's console.

Format

logout

Description

This command terminates the current user's session on the switch's console..

Parameter

None.

Restrictions

None.

Example

To terminate the current user's console session:

```
DPN-3012-E:a#logout
```

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Chapter 3

Switch Port Commands

3 SWITCH PORT COMMAND LIST

config ports [<portlist> | all] {medium_type [fiber | copper]} {speed [auto | 10_half | 10_full | 100_half | 100_full | 1000_full {[master | slave]}] | flow_control [enable | disable] | learning [enable | disable] | state [enable | disable] }
show ports { <portlist> }
config control_port {speed [auto | 10_half | 10_full | 100_half | 100_full | 1000_full [master | slave] | flow_control [enable | disable] | state [enable | disable] }
show control port

3-1 config ports

Purpose

Used to configure the switch port settings.

Format

config ports [<portlist> | all] {medium_type [fiber | copper]} {speed [auto | 10_half | 10_full | 100_half | 100_full | 1000_full [master | slave]] | flow_control [enable | disable] | learning [enable | disable] | state [enable | disable]}

Description

This command allows for the configuration of the switch's Ethernet ports. Only the ports listed in the *<portlist>* will be affected.

Parameter

Parameters	Description
all	Configure all ports on the Switch.
<portlist>	Specifies a port or range of ports to be configured. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then the highest switch number, and the highest port number of the range (also separated by a colon) are specified. The beginning and end of the port list range are separated by a dash. For example, 1:3 specifies switch number 1, port 3. 2:4 specifies switch number 2, port 4. 1:3-2:4 specifies all of the ports between switch 1, port 3 and switch 2, port 4 – in numerical order. Non-contiguous portlist entries are separated by a comma. (ex: 1:1-1:3,1:7-1:9)
medium_type [fiber | copper]	This applies only to the Combo ports. If configuring the Combo ports this defines the type of transport medium used.
speed **Note: OLT ports do not support configuration of physical speed. To configure bandwidth for OLT ports, see Bandwidth Control Commands.**	Allows the user to adjust the speed for a port or range of ports. The user has a choice of the following: auto - Enables auto-negotiation of speed a duplex for the specified range of ports. Alternatively the speed and duplex can be fixed by specifying speed in Mbps and duplex for the specified range of ports. Port speed/duplex options are as follows: • 10_half (10M/half duplex) • 10_full (10M/full duplex) • 100_half (100M/half duplex) • 100_full (100M/full duplex) • 1000_half (1000M/half duplex) • 1000_full (1000M/full duplex) **Note: Gigabit ports are statically set to 1000 and cannot be set to slower speeds.**
master | slave	For the port speed option 1000_full, both ends of the connection must have the master/slave function configured. If one end is designated master, the other end must be designated slave. This is done for the purpose of accurate synchronization.
flow_control [enable | disable]	Enable or disable flow control for the specified ports. **Note: Not applicable to OLT ports.**
learning [enable | disable]	Enables or disables the MAC address learning on the specified range of ports. **Note: Not applicable to OLT ports.**
state [enable | disable]	Enables or disables the specified range of ports. **Note: OLT ports support state configuration.**

Restrictions

2-level administrator
3-level operator

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Example

To enable ports 1 to 3:

```
DPN-3012-E:a#config ports 1-3 state enabled
Command: config ports 1-3 state enabled

 Success.

DPN-3012-E:a#
```

3-2 show ports

Purpose

Used to display the current configuration of a range of ports.

Format

show ports {<portlist>}

Description

This command is used to display the current configuration of a range of ports.

Parameter

Parameters	Description
<portlist>	Specifies a port or range of ports to be displayed.

Restrictions

None.

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Example

To display the configuration of all ports on the OLT switch:

```
DPN-3012-E:a#show ports

Command: show ports

Port    Port            Settings              Connection             Address
        State     Speed/Duplex/FlowCtrl    Speed/Duplex/FlowCtrl      Learning
----    -----     ---------------------    ---------------------      --------
  1       Enabled   1000M/Full/Enabled         1000/Full/Enabled        Enabled
  2       Enabled   1000M/Full/Enabled         Link Down                Enabled
  3       Enabled   1000M/Full/Enabled         Link Down                Enabled
  4       Enabled   1000M/Full/Enabled         Link Down                Enabled
  5       Enabled   1000M/Full/Enabled         Link Down                Enabled
  6       Enabled   1000M/Full/Enabled         Link Down                Enabled
  7       Enabled   1000M/Full/Enabled         1000/Full/Enabled        Enabled
  8       Enabled   1000M/Full/Enabled         Link Down                Enabled
  9       Enabled   1000M/Full/Enabled         Link Down                Enabled
  10      Enabled   1000M/Full/Enabled         Link Down                Enabled
  11      Enabled   1000M/Full/Enabled         Link Down                Enabled
  12      Enabled   1000M/Full/Enabled         Link Down                Enabled
  13 (C)  Enabled   Auto/Disabled              Link Down                Enabled
  13 (F)  Enabled   Auto/Disabled              Link Down                Enabled
  14 (C)  Enabled   Auto/Disabled              Link Down                Enabled
  14 (F)  Enabled   Auto/Disabled              Link Down                Enabled
  15 (C)  Enabled   Auto/Disabled              Link Down                Enabled
  15 (F)  Enabled   Auto/Disabled              Link Down                Enabled
  16 (C)  Enabled   Auto/Disabled              Link Down                Enabled
  16 (F)  Enabled   Auto/Disabled              Link Down                Enabled



CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

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3-3 config control_port

Purpose

Used to configure speed, duplex, flow control and state..

Format

config control_port {speed [auto | 10_half | 10_full | 100_half | 100_full | 1000_full{[master | slave]}] | flow_control [enable | disable] | state [enable | disable] }

Description

This command is used to configure the control port.

Parameter

Parameters	Description
speed	Allows the user to adjust the speed for a port or range of ports. The user has a choice of the following: auto - Enables auto-negotiation of speed a duplex for the specified range of ports. Alternatively the speed and duplex can be fixed by specifying speed in Mbps and duplex for the specified range of ports. Port speed/duplex options are as follows: • 10_half (10M/half duplex) • 10_full (10M/full duplex) • 100_half (100M/half duplex) • 100_full (100M/full duplex) • 1000_half (1000M/half duplex) • 1000_full (1000M/full duplex)
master | slave	For the port speed option 1000_full, both ends of the connection must have the master/slave function configured. If one end is designated master, the other end must be designated slave. This is done for the purpose of accurate synchronization.
flow_control [enable | disable]	Enable or disable flow control for the specified ports.
state [enable | disable]	Enables or disables the specified range of ports.

Restrictions

2-level administrator
3-level operator

Example

To enable the control port:

```
DPN-3012-E:a#config control_port state enable
Command: config control_port state enable

Success.

DPN-3012-E:a#
```

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3-4 show control_port

Purpose

Used to display the configuration settings of the control port.

Format

show control_port

Description

This command is used to display the current configuration settings of the control port.

Parameter

None.

Restrictions

None.

Example

To display control port settings:

```
DPN-3012-E:a#show control_port
Command: show control_port

 Port     Port         Settings                Connection
          State       Speed/Duplex/FlowCtrl     Speed/Duplex/FlowCtrl
 -------  --------    ----------------------    ----------------------
 control   Enabled    Auto/Disabled             1000M/Full/None

DPN-3012-E:a#
```

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Chapter 4

Network Management Commands

4 NETWORK MANAGEMENT COMMAND LIST

create snmp community <community_string> [readonly | readwrite]
delete snmp community <community_string>
config snmp community <community_string> [readonly | readwrite]
show snmp community
create snmp host <ipaddr> community_name <community_string> [V1 | V2] {port_number udp_port_number 1-65535> }
config snmp host <ipaddr> <community_string> [V1 | V2] {port_number <udp_port_number 1-65535>}
delete snmp host <ipaddr>
show snmp host
config snmp manager <int 1-5> state [enable <ipaddr> {readonly_community <community_string> | readwrite_community <community_string>} | disable]
show snmp managers
config snmp system_contact {<sw_contact>}
config snmp system_location {<sw_location>}
config snmp system_name {<sw_name>}
config snmp traps resending_times <int 1-5>
show snmp traps
enable snmp traps {severity_level [CRIT | INFO | WARN | all]}
disable snmp traps {severity_level [CRIT | INFO | WARN | all]}

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4-1 create snmp community

Purpose

Used to create an SNMP community string to define the relationship between the SNMP manager and an agent. The community string acts like a password to permit access to the agent on the switch. One or more of the following characteristics can be associated with the community string:
An Access List of IP addresses of SNMP managers that are permitted to use the community string to gain access to the switch's SNMP agent.
An MIB view that defines the subset of all MIB objects that will be accessible to the SNMP community.
Read write or read-only level permission for the MIB objects accessible to the SNMP community.

Format

create snmp community <community_string> [readonly | readwrite]

Description

The create snmp community command is used to create an SNMP community string and to assign access-limiting characteristics to this community string.

Parameter

Parameters	Description
<community_string>	An alphanumeric string of up to 32 characters that is used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the switch's SNMP agent.
readonly	Specifies that SNMP community members using the community string created with this command can only read the contents of the MIBs on the switch.
readwrite	Specifies that SNMP community members using the community string created with this command can read from and write to the contents of the MIBs on the switch.

Restrictions

2-level administrator
3-level operator

Example

To create the SNMP community string "dlink:"

```
DPN-3012-E:a#create snmp community dlink readwrite
Command: create snmp community dlink readwrite

Success.

DPN-3012-E:a#
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4-2 config snmp community

Purpose

Used to config the SNMP community string to define the relationship between the SNMP manager and an agent. The community string acts like a password to permit access to the agent on the switch. One or more of the following characteristics can be associated with the community string:
An Access List of IP addresses of SNMP managers that are permitted to use the community string to gain access to the switch's SNMP agent.
An MIB view that defines the subset of all MIB objects that will be accessible to the SNMP community.
Read write or read-only level permission for the MIB objects accessible to the SNMP community.

Format

config snmp community <community_string> [readonly | readwrite]

Description

The config snmp community command is used to config the SNMP community string and to assign access-limiting characteristics to this community string.

Parameter

Parameters	Description
<community_string>	An alphanumeric string of up to 32 characters that is used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the switch's SNMP agent.
readonly	Specifies that SNMP community members using the community string created with this command can only read the contents of the MIBs on the switch.
readwrite	Specifies that SNMP community members using the community string created with this command can read from and write to the contents of the MIBs on the switch.

Restrictions

2-level administrator
3-level operator

Example

To config the SNMP community "dlink:" to "readwrite"

```
DPN-3012-E:a#config snmp community dlink readwrite
Command: config snmp community dlink readwrite

Success.

DPN-3012-E:a#
```

4-3 delete snmp community

Purpose

Used to remove a specific SNMP community string from the switch.

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Format

delete snmp community <community_string>

Description

The delete snmp community command is used to remove a previously defined SNMP community string from the switch.

Parameter

Parameters	Description
<community_string>	An alphanumeric string of up to 32 characters that is used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the switch's SNMP agent.

Restrictions

2-level administrator
3-level operator

Example

To delete the SNMP community string "dlink:"

```
DPN-3012-E:a# delete snmp community dlink
Command: delete snmp community dlink

Success.
DPN-3012-E:a#
```

4-4 show snmp community

Purpose

Used to display SNMP community strings configured on the switch.

Format

show snmp community

Description

The show snmp community command is used to display SNMP community strings that are configured on the switch.

Parameter

None.

Restrictions

None.

Example

To display the currently entered SNMP community strings:

```
DPN-3012-E:a#show snmp community
Command: show snmp community

 Community String                      Rights
 ------------------------------------   ------------
 private                               Read/Write
 public                                Read/Only
 Total Entries: 2

DPN-3012-E:a#
```

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4-5 create snmp host

Purpose

Used to create a recipient of SNMP traps generated by the switch's SNMP agent.

Format

create snmp host <ipaddr> community_name <community_string> [V1 | V2] {port_number <udp_port_number 1-65535>}

Description

The create snmp host command creates a recipient of SNMP traps generated by the switch's SNMP agent.

Parameter

Parameters	Description
<ipaddr>	The IP address of the remote management station that will serve as the SNMP host for the switch.
community_name <community_string>	Specifies the SNMP community.
V1	Specifies that SNMP version 1 will be used. The Simple Network Management Protocol (SNMP), version 1, is a network management protocol that provides a means to monitor and control network devices.
V2	Specifies that SNMP version 2c will be used. The SNMP v2c supports both centralized and distributed network management strategies. It includes improvements in the Structure of Management Information (SMI) and adds some security features.
port_number <udp_port_number 1-65535>	Specifies the UDP port used for SNMP by created SNMP host.

Restrictions

2-level administrator
3-level operator

Example

To create an SNMP host to receive SNMP messages:

```
DPN-3012-E:a#create snmp host 10.48.74.100 community_name public V2
Command: create snmp host 10.48.74.100 community_name public V2

Success.

DPN-3012-E:a#
```

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4-6 config snmp host

Purpose

Used to config a recipient of SNMP traps generated by the switch's SNMP agent.

Format

config snmp host <ipaddr> <community_string> [V1 | V2] {port_number <udp_port_number 1-65535>}

Description

The config snmp host command config a recipient of SNMP traps generated by the switch's SNMP agent.

Parameter

Parameters	Description
<ipaddr>	The IP address of the remote management station that will serve as the SNMP host for the switch.
<community_string>	Specifies the SNMP community.
V1	Specifies that SNMP version 1 will be used. The Simple Network Management Protocol (SNMP), version 1, is a network management protocol that provides a means to monitor and control network devices.
V2	Specifies that SNMP version 2c will be used. The SNMP v2c supports both centralized and distributed network management strategies. It includes improvements in the Structure of Management Information (SMI) and adds some security features.
port_number <udp_port_number 1-65535>	Specifies the UDP port used for SNMP by created SNMP host.

Restrictions

2-level administrator
3-level operator

Example

To config the SNMP host to receive SNMP messages:

```
DPN-3012-E:a#config snmp host 10.48.74.100 public V2
Command: config snmp host 10.48.74.100 public V2


Success.


DPN-3012-E:a#
```

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4-7 delete snmp host

Used to remove a recipient of SNMP traps generated by the switch's SNMP agent.

Format

delete snmp host <ipaddr>

Description

The delete snmp host command deletes a recipient of SNMP traps generated by the switch's SNMP agent.

Parameter

Parameters	Description
<ipaddr>	The IP address of a remote SNMP manager that will receive SNMP traps generated by the switch's SNMP agent.

Restrictions

2-level administrator
3-level operator

Example

To remove an SNMP host:

```
DPN-3012-E:a#delete snmp host 10.48.74.100
Command: delete snmp host 10.48.74.100

Success.

DPN-3012-E:a#
```

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4-8 show snmp host

Used to display the recipient of SNMP traps generated by the switch's SNMP agent.

Format

show snmp host {<ipaddr>}

Description

The show snmp host command is used to display the IP addresses and configuration information of remote SNMP managers that are designated as recipients of SNMP traps that are generated by the switch's SNMP agent.

Parameter

Parameters	Description
<ipaddr>	The IP address of a remote SNMP manager that will receive SNMP traps generated by the switch's SNMP agent.

Restrictions

None..

Example

To display the currently configured SNMP hosts on the switch:

```
DPN-3012-E:a#show snmp host
Command: show snmp host

snmp host
IP Address       Version   UDP Port    Community String
---------------  --------  ----------  ------------------------------
1.1.1.1          V1        162         private

Total Entries: 1

DPN-3012-E:a#
```

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4-9 config snmp manager

Purpose

Used to configure SNMP manager IP address and read/write privilege.

Format

config snmp manager <int 1-5> state [enable <ipaddr> {readonly_community <community_string> | readwrite_community <community_string>} | disable]

Description

This command is used to set up SNMP remote management station IP addresses and apply read/write privileges for each.

Parameter

Parameters	Description
<int1-5>	The IP address of a remote SNMP manager.
<ipaddr>	The IP address of the remote SNMP management station.
readwrite_community	Specifies the SNMP manager using the community string created with this command can read from and write to the contents of the MIBs on the switch
state [enable | disable]	
readonly_community	Specifies the SNMP manager using the community string created with this command can only read the contents of the MIBs on the switch.
<community_string>	An alphanumeric string of up to 32 characters used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the switch's SNMP agent.

Restrictions

2-level administrator
3-level operator

Example

To configure an SNMP manager for IP address 10.41.44.11:

```
DPN-3012-E:a#config snmp manager 1 state enable 10.41.44.11
readwrite_community dlink

Success

DPN-3012-E:a#
```

4-10 show snmp managers

Purpose

Used to configure SNMP manager IP address and read/write privilege.

Format

show snmp managers

Description

This command is used to display existing SNMP management IP addresses and the read/write privileges for each.

Parameter

None.

Restrictions

None.

Example

To display a list of SNMP managers:

```
DPN-3012-E:a#show snmp managers
Command: show snmp managers
Manager Id          : 1
IP Address          : 10.41.44.254
ReadOnly community  : dlink
ReadWrite community :
Status              : Enabled
Manager Id          : 2
IP Address          :
ReadOnly community  :
ReadWrite community :
Status              : Disabled
Manager Id          : 3
IP Address          :
ReadOnly community  :
ReadWrite community  :
Status              : Disabled
Manager Id          : 4
IP Address          :
ReadOnly community   :
ReadWrite community  :
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a All
```

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4-11 config snmp system_location

Purpose

Used to enter a description of the location of the switch.

Format

config snmp system_location {<sw_location> }

Description

The config snmp system_location command is used to enter a description of the location of the switch. A maximum of 255 characters can be used.

Parameter

Parameters	Description
<sw_location>	A maximum of 255 characters is allowed. A NULL string is accepted if there is no location desired.

Restrictions

2-level administrator
3-level operator

Example

To configure the switch location for " HQ 5F":

```
DPN-3012-E:a#config snmp system_location HQ 5F
Command: config snmp system_location HQ 5F


Success.


DPN-3012-E:a#
```

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4-12 config snmp system_name

Purpose

Used to configure the name for the switch.

Format

config snmp system_name {<sw_name> }

Description

The config snmp system_name command configures the name of the switch.

Parameter

Parameters	Description
<sw_name>	A maximum of 255 characters is allowed. A NULL string is accepted if there is no location desired.

Restrictions

2-level administrator
3-level operator

Example

To configure the switch name for “DPN-3012 Switch”:

```
DPN-3012-E:a#config snmp system_name DPN-3012 Switch
Command: config snmp system_name DPN-3012 Switch


Success.


DPN-3012-E:a#
```

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4-13 config snmp system_contact

Purpose

Used to configure the name of the contact for the switch.

Format

config snmp system {<sw_contact> }

Description

The config snmp system_contact command configures the name of the contact person assigned to the switch.

Parameter

Parameters	Description
<sw_contact>	A maximum of 255 characters is allowed. A NULL string is accepted if there is no location desired.

Restrictions

2-level administrator
3-level operator

Example

To configure the switch contact “smilinJay”:

```
DPN-3012-E:a#config snmp system_contact smilinJay
Command: config snmp system_contact smilinJay

Success.

DPN-3012-E:a#
```

4-14 config snmp traps resending_times

Purpose

Used to configure the SNMP trap resend time for the switch.

Format

config snmp traps resending_times <int 1-5>

Description

The config snmp traps resending_times command configures the time of the SNMP to the switch.

Parameter

Parameters	Description
resending_times	The SNMP resending times. From 1-5.

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Restrictions

2-level administrator
3-level operator

Example

To configure the SNMP trap time:

```
DPN-3012-E:a#config snmp traps resending_times 2
Command: config snmp traps resending_times 2


Success.


DPN-3012-E:a#
```

4-15 show snmp traps

Purpose

Used to display the SNMP trap.

Format

show snmp traps

Description

The show snmp traps command display the SNMP trap to the switch.

Parameter

None.

Restrictions

None.

Example

To display the SNMP trap:

```
DPN-3012-E:a#show snmp traps
Command: show snmp traps


 Traps Global State: Disabled
      * CRIT State: Disabled
      * WARN State: Disabled
      * INFO State: Disabled
 * Resending Times : 1


DPN-3012-E:a#
```

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4-16 enable snmp traps

Purpose

Used to enable SNMP trap support.

Format

enable snmp traps {severity_level [CRIT | INFO | WARN | all]}

Description

The enable snmp traps commands is used to enable SNMP trap support on the switch.

Parameter

Parameters	Description
severity_level	Specify the type of trap entry to be sent. If not specified, all entries are sent. trap entry types are: CRIT | INFO | WARN | all.

Restrictions

2-level administrator
3-level operator

Example

To enable SNMP trap support:

```
DPN-3012-E:a#enable snmp traps
Command: enable snmp traps


Success.


DPN-3012-E:a#
```

4-17 disable snmp traps

Purpose

Used to disable SNMP trap support on the switch.

Format

disable snmp traps {severity_level [CRIT | INFO | WARN | all]}

Description

The disable snmp traps command is used to disable SNMP trap support on the switch.

Parameter

Parameters	Description
severity_level	Specify the type of trap entry to be sent. If not specified, all entries are sent. trap entry types are: CRIT | INFO | WARN | all.

Restrictions

2-level administrator
3-level operator

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Example

To disable SNMP trap:

```
DPN-3012-E:a#disable snmp traps
Command: disable snmp traps


Success.


DPN-3012-E:a#
```

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Chapter 5

Utility Commands

5 UTILITY COMMAND LIST

download [firmware_fromTFTP <ipaddr> <path_filename 64> {image_id <int 1-2>} | cfg_fromTFTP <ipaddr> <path_filename 64> {[config_id <int 0-1> | increment]}]
upload [cfg_toTFTP <ipaddr> <path_filename 64> {config_id <int 0-1>} | log_toTFTP <ipaddr> <path_filename 64>]
ping <ipaddr> {times <value 1-255>} {timeout <sec 1-99>} {size <int 56-1472>}
config firmware image_id <int 1-2> [delete | boot_up]
show firmware information
show thermal status
show fan status

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5-1 download

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Purpose

Used to download and install new firmware or a switch configuration file from a TFTP server.

Format

download [firmware_fromTFTP <ipaddr> <path_filename 64> {image_id <int 1-2>} |
cfg_fromTFTP <ipaddr> <path_filename 64> {[config_id <int 0-1> | increment]}]

Description

This command is used to download a new firmware or a switch configuration file from a TFTP server.

Parameter

Parameters	Description
firmware_fromTFTP	Download a new switch firmware file from a TFTP server.
cfg_fromTFTP	Download a switch configuration file from a TFTP server.
<ipaddr>	The IP address of the TFTP server.
<path_filename 64>	The DOS path and filename of the firmware or switch configuration file on a TFTP server. For example, C:\3012.had.
image_id <int 1-2>	Specifies which firmware image. If not specified, it refers to the boot_up image.
conifg_id <int 0-1>	Specifies which configuration. If not specified, it refers to the current configuration.
increment	This argument is only required for system which does not have file system and only support one cfg file since the download of a cfg will automatically apply the setting to the system. If increment is specified, then the existing configuration will not be cleared before applying of the new configuration. If it is not specified, then the existing configuration will be cleared before applying of the new configuration.

Restrictions

The TFTP server must be on the same IP subnet as the switch.
2-level administrator, 3-level operator

Example

To download a configuration file:

```
DPN-3012-E:a#download cfg_fromTFTP 10.48.74.121 c:\cfg\setting.txt
Command: download cfg_fromTFTP 10.48.74.121 c:\cfg\setting.txt


Connecting to server.................. Done.
Download configuration.............. Done.


DPN-3012-E:a#
```

5-2 upload

Purpose

Used to upload the current switch settings or the switch history log to a TFTP server.

Format

upload [cfg_toTFTP <ipaddr> <path_filename 64> {config_id <int 0-1>} | log_toTFTP <ipaddr> <path_filename 64>]

Description

This command is used to upload either the switch's current settings or the switch's history log to a TFTP server.

Parameter

Parameters	Description
cfg_toTFTP	Specifies that the switch's current settings will be uploaded to the TFTP server.
log_toTFTP	Specifies that the switch's current log will be uploaded to the TFTP server.
<ipaddr>	The IP address of the TFTP server. The TFTP server must be on the same IP subnet as the switch.
<path_filename 64>	Specifies the location of the switch configuration file on the TFTP server. This file will be replaced by the uploaded file from the switch.
config_id <int 0-1>	Specifies which cfg file ID. If not specified, it refers to the boot_up CFG file.

Restrictions

The TFTP server must be on the same IP subnet as the switch.
2-level administrator, 3-level operator

Example

To upload a configuration file:

```
DPN-3012-E:a#upload cfg_toTFTP 10.48.74.121 c:\cfg\log.txt
Command: upload cfg_toTFTP 10.48.74.121 c:\cfg\log.txt

Connecting to server.................. Done.
Upload configuration..................Done.

DPN-3012-E:a#
```

5-3 ping

Purpose

Used to test the connectivity between network devices.

Format

ping <ipaddr> {times <value 1-255>} {timeout <sec 1-99>} {size <int 56-1472>}

Description

The ping command sends Internet Control Message Protocol (ICMP) echo messages to a remote IP address. The remote IP address will then "echo" or return the message. This is used to confirm connectivity between the switch and the remote device.

Parameter

Parameters	Description
<ipaddr>	Specifies the IP address of the host.
times <value 1-255>	The number of individual ICMP echo messages to be sent. The maximum value is 255. The default is 0.
timeout <sec 1-99>	Defines the time-out period while waiting for a response from the remote device. A value of 1 to 99 seconds can be specified. The default is 1 second. Pinging an IP address without the times parameter will ping the target device an infinite amount of times.

Restrictions

None.

Example

To ping the IP address 10.48.74.121 four times:

```
DPN-3012-E:a#ping 10.48.74.121 times 4
Command: ping 10.48.74.121 times 4

Reply from 10.48.74.121, time<10ms
Reply from 10.48.74.121, time<10ms
Reply from 10.48.74.121, time<10ms
Reply from 10.48.74.121, time<10ms

Ping statistics for 10.48.74.121
Packets: Sent =4, Received =4, Lost =0

DPN-3012-E:a#
```

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5-4 Config firmware image_id

Purpose

Used to decide which image will take effect.

Format

config firmware image_id <int 1-2> [delete | boot_up]

Description

The config firmware image_id command used to decide which image will be used

Parameter

Parameters	Description
image_id <int 1-2>	To decide which image will be selected
delete	To delete the image
boot_up	To let this image be used when switch start up

Restrictions

2-level administrator
3-level operator

Example

To make image id 2 be used when switch start up.

```
DPN-3012-E:a#config firmware image_id 2 boot_up
Command: config firmware image_id 2 boot_up

Success.

DPN-3012-E:a#
```

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5-5 show firmware information

Purpose

Used to display the firmware information of switch

Format

show firmware information

Description

The show firmware information command displays the firmware information of switch.

Parameter

None

Restrictions

None.

Example

To displays the firmware information of switch.

```
DPN-3012-E:a#show firmware information
Command: show firmware information

 ID Version   Size(B)  Update Time        From
 -- --------- -------- -------------------
--------------------------------
  1 1.00B011  1805703  2000/07/04 10:12:12  192.168.1.100(R)
                  Upgraded by Username: (Anonymous)
 *2 1.00B002  1852770  2000/09/21 17:47:08  192.168.1.100(R)
                  Upgraded by Username: (Anonymous)

'*' means boot up firmware
(R) means firmware update thru Serial Port(RS232)
(T) means firmware update thru TELNET
(S) means firmware update thru SNMP
(W) means firmware update thru WEB

DPN-3012-E:a#
```

5-6 show thermal status

Purpose

Used to display the thermal stauts.

Format

show thermal status

Description

The show thermal status command displays thermal status of switch.

Parameter

None.

Restrictions

None.

Examples

To display thermal status of switch.

```
DPN-3012-E:a#show thermal status
Command: show thermal status

[Thermal Status]

      Area    Centigrade       Status
------------  ----------   ----------
         CPU         33        Normal
 Switch Chip         49        Normal
   PHY Chips         47        Normal



DPN-3012-E:a#
```

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5-7 show fan status

Purpose

Used to display the fan status of switch.

Format

show fan status

Description

The show arpentry command displays the fan status of switch.

Parameter

None.

Restrictions

None.

Examples

To display the fan status of switch.

```
DPN-3012-E:a#show fan status
Command: show fan status

[Fan Status]

  Fan ID     RPM     Status
--------  -------  ----------
   FAN 1       0   Abnormal
   FAN 2       0   Abnormal
   FAN 3    7031     Normal
   FAN 4    6026     Normal
   FAN 5    7180     Normal
   FAN 6    6958     Normal


DPN-3012-E:a#
```

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Chapter 6

Network Monitoring Commands

6 NETWORK MONITORING COMMAND LIST

show packet ports [all | <portlist>]
show error ports [all | <portlist>]
show utilization [cpu | ports | olt_ports]
clear counters {ports [all | <portlist>] }
clear log
show log index < value_list >
enable syslog {severity_level [CRIT | WARN | INFO | all]}
disable syslog {severity_level [CRIT | WARN | INFO | all]}
config syslog host <index 1-5> {severity [critical | informational | warning | all] | facility [local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7] | udp_port <udp_port_number 1-65535> | ipaddress <ipaddr> | state [enable | disable]}
show syslog host
show syslog

6-1 show packet

Purpose

Used to display statistics about the packets sent and received by the switch.

Format

show packet ports [all | <portlist>]

Description

This command is used to display statistics about packets sent and received by ports specified in the port list.

Parameter

Parameters	Description
all	Specifies that all port packets statistics be displayed.
<portlist>	Specifies a port or range of ports to be displayed.

Restrictions

None.

Example

To display the packets analysis for port 2:

```
DPN-3012-E:a#show packet ports 2
Command: show packet ports 2
Port number : 2
================================================================
Frame Size/Type    Frame Counts     Frames/sec
--------------     ------------     ----------
 64                23               0
 65-127            0                0
 128-255           0                0
 256-511           0                0
 512-1023          0                0
 1024-1518         0                0
 Unicast RX        0                0
 Multicast RX      0                0
 Broadcast RX      0                0
```

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```
Frame Type          Total            Total/sec
--------------      ------------     ----------
RX Bytes            0                0
RX Frames           0                0
TX Bytes            0                0
TX Frames           0                0


CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

6-2 show error ports

Purpose

Used to display the error statistics for a range of ports.

Format

show error ports [all | <portlist>]

Description

This command will display all of the packet error statistics collected and logged by the switch for a given port list.

Parameter

Parameters	Description
all	Specifies that all port packets statistics be displayed.
<portlist>	Specifies a port or range of ports to be displayed.

Restrictions

None.

Example

To display the errors of the port 3:

```
DPN-3012-E:a#show error ports 3


Port number 3
             RX Frames                              TX Frames
             ---------                              ---------
CRC Error     19            Excessive Deferral     0
Undersize     0             CRC Error              0
Oversize      0          Late Collision         0
Fragment      0          Excessive Collision    0
Jabber        11            Single Collision       0
Drop Pkts     20837         Collision              0
Symbol Error   0
```

6-3 show utilization

Purpose

Used to display real-time port and CPU utilization statistics.

Format

show utilization [cpu | ports | olt_ports]

Description

This command will display the real-time port and cpu utilization statistics for the switch.

Parameter

Parameters	Description
cpu	Entering this parameter will display the current cpu utilization of the switch, as a percentage.

Restrictions

None.

Example

To display the current CPU utilization:

```
DPN-3012-E:a#show utilization cpu
Command: show utilization cpu


CPU Average Utilization
-----------------------------------
Five seconds  - 15%
One minute    -  25%
Five minutes  - 14%


CPU Alarm Status
-----------------------------------
Normal


CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

6-4 clear counters

Purpose

Used to clear the switch's statistics counters.

Format

clear counters {ports [all | <portlist>] }

Description

This command will clear the counters used by the switch to compile statistics.

Parameter

Parameters	Description
ports	Specifies that only the counters for the ports specified below will be cleared.
all	Specifies that all port packets statistics be displayed.
<portlist>	Specifies a port or range of ports to be displayed.

Restrictions

2-level administrator
3-level operator

Example

To clear the counters for ports 7 to 9:

```
DPN-3012-E:a#clear counters ports 7-9
Command: clear counters ports 7-9


Success.


DPN-3012-E:a#
```

6-5 clear log

Purpose

Used to clear the switch's history log.

Format

clear log

Description

This command will clear the switch's history log.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To clear the log information:

```
DPN-3012-E:a#clear log
Command: clear log


Success.


DPN-3012-E:a#
```

6-6 show log

Purpose

Used to display the switch's history log.

Format

show log {index <value_list>}

Description

This command will display the switch's history log.

Parameter

Parameters	Description
index <value_list>	Enter a value that corresponds to an entry made in the log. Multiple entries may be made in the form of x-x where x is the number of an entry in the log. The smallest number (and therefore the earlier entry) will be first.

Restrictions

None.

Example

To display the switch history log:

```
DPN-3012-E:a#show log index 1-4
Command: show log index 1-4

Index  Date         Time      Log Text
-----  ----------- ------    ------------------------------
4      2006-08-09  01:54:53   PON Port 7 link down
3      2006-08-09  01:54:53   PON Port 7 link up
2      2006-08-09  01:54:53   OLT 7 MAC 00-14-79-68-01-03 authentication fail
1      2006-08-09  06:06:09   Side Fan (Fan id 1) recovered
DPN-3012-E:a#
```

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6-7 enable syslog

Purpose

Used to enable system log transfer to a remote server.

Format

enable syslog {severity_level [CRIT | WARN | INFO | all]}

Description

The enable syslog command enables the system log to be sent to a remote Syslog server.

Parameter

Parameters	Description
severity_level	Specify the type of log entry to be sent. If not specified, all entries are sent. Log entry types are: CRIT | WARN | INFO | all.

Restrictions

2-level administrator
3-level operator

Example

To enable syslog on the switch:

```
DPN-3012-E:a#enable syslog
Command: enable syslog


Success


DPN-3012-E:a#
```

6-8 disable syslog

Purpose

Used to disable system log transfer to a remote server.

Format

disable syslog {severity_level [CRIT | WARN | INFO | all]}

Description

The disable syslog command disables the system log to be sent to a remote Syslog server.

Parameter

Parameters	Description
severity_level	Specify the type of log entry to be sent. If not specified, all entries are sent. Log entry types are: CRIT | WARN | INFO | all.

Restrictions

2-level administrator
3-level operator

Example

To disable syslog on the switch:

```
DPN-3012-E:a#disable syslog
Command: disable syslog

Success.

DPN-3012-E:a#
```

6-9 config syslog

Purpose

Used to configure system log transfer to a remote server.

Format

config syslog <index 1-5> {severity [critical | informational | warning | all] | facility [local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7] | udp_port <udp_port_number 1-65535> | ipaddress <ipaddr> | state [enable | disable]}

Description

This command configures settings for transfer of the switch's history log to a remote Syslog server.

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Parameter

Parameters	Description
<index 1-5>	Specifies that the command will be applied to an index of hosts. There are five available indexes, numbered 1 through 5.
severity	Severity level indicator. These are described in the following: Bold font indicates that the corresponding severity level is currently supported on the Switch. Numerical Code — Severity 0 — Emergency: system is unusable 1 — Alert: action must be taken immediately 2 — Critical: critical conditions 3 — Error: error conditions 4 — Warning: warning conditions 5 — Notice: normal but significant condition 6 — Informational: informational messages 7 — Debug: debug-level messages
critical	Specifies that critical messages will be sent to the remote host. This corresponds to number 2 from the list above.
informational	Specifies that informational messages will be sent to the remote host. This corresponds to number 6 from the list above.
warning	Specifies that warning messages will be sent to the remote host. This corresponds to number 4 from the list above.
all	Specifies that all of the currently supported syslog messages that are generated by the Switch will be sent to the remote host.
facility	Some of the operating system daemons and processes have been assigned Facility values. Processes and daemons that have not been explicitly assigned a Facility may use any of the "local use" facilities or they may use the "user-level" Facility. Those Facilities that have been designated are shown in the following: Bold font indicates the facility values the Switch currently supports. Numerical Code — Facility 0 kernel messages 1 user-level messages 2 mail system 3 system daemons 4 security/authorization messages 5 messages generated internally by syslog 6 line printer subsystem 7 network news subsystem 8 UUCP subsystem 9 clock daemon 10 security/authorization messages 11 FTP daemon 12 NTP subsystem 13 log audit 14 log alert 15 clock daemon 16 local use 0 (local0) 17 local use 1 (local1) 18 local use 2 (local2) 19 local use 3 (local3) 20 local use 4 (local4) 21 local use 5 (local5)

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22 local use 6 (local6) 23 local use 7 (local7) local0 – Specifies that local use 0 messages will be sent to the remote host. This corresponds to number 16 from the list above. local1 – Specifies that local use 1 messages will be sent to the remote host. This corresponds to number 17 from the list above. local2 – Specifies that local use 2 messages will be sent to the remote host. This corresponds to number 18 from the list above. local3 – Specifies that local use 3 messages will be sent to the remote host. This corresponds to number 19 from the list above. local4 – Specifies that local use 4 messages will be sent to the remote host. This corresponds to number 20 from the list above. local5 – Specifies that local use 5 messages will be sent to the remote host. This corresponds to number 21 from the list above. local6 – Specifies that local use 6 messages will be sent to the remote host. This corresponds to number 22 from the list above. local7 – Specifies that local use 7 messages will be sent to the remote host. This corresponds to number 23 from the list above.	
udp_port <udp_port_number>	Specifies the UDP port number that the syslog protocol will use to send messages to the remote host.
ipaddress <ipaddr>	Specifies the IP address of the remote host where syslog messages will be sent. Only IPv4 addresses are supported for this feature.
state [enable | disable]	allows the sending of syslog messages to the remote host, specified above, to be enabled and disabled.

Restrictions

2-level administrator
3-level operator

Example

To direct the switch to send all syslog entries supported by the switch to host 1:

```
DPN-3012-E:a#config syslog host 1 severity all

Command: config syslog host 1 severity all


Success.


DPN-3012-E:a#
```

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6-10 show syslog host

Purpose

Used to display hosts configured to receive the Syslog history log.

Format

show syslog host

Description

This command will display hosts configured to receive the Syslog history log.

Parameter

Parameters	Description
index <value>	Enter a value that corresponds to an entry made in the log. Multiple entries may be made in the form of x-x where x is the number of an entry in the log. The smallest number (and therefore the earlier entry) will be first.

Restrictions

None.

Example

To display the syslog hosts:

```
DPN-3012-E:a#show log index 1-4
Command: show log index 1-4

Host Id   Host IP Address   Severity    Facility   UDP port  Status
-------  ---------------  -----------  --------  --------  ---------
1        10.10.10.104      All          Local0      514      Enabled
2        0.0.0.0           All          Local0      514     Disabled
3        0.0.0.0           All          Local0      514     Disabled
4        0.0.0.0           All          Local0      514     Disabled
5        0.0.0.0           All          Local0      514     Disabled

Total Entries : 5
DPN-3012-E:a#
```

6-11 show syslog

Purpose

Used to display Syslog message status.

Format

show syslog

Description

This command will display Syslog message status.

Parameter

None.

Restrictions

None.

Example

To display the status of syslog on the switch:

```
DPN-3012-E:a#show syslog
Command: show syslog

SYSLOG Global State: Disabled
       * CRIT State: Disabled
       * WARN State: Disabled
      * INFO State: Disabled

DPN-3012-E:a#
```

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Chapter 7

Spanning Tree Protocol Commands

7 STP COMMAND LIST

config stp {maxage <value 6-40> | hellotime <value 1-10> | forwarddelay <value 4-30> | priority <value 0-61440> | version [rstp | stp]}
config stp ports <uplink_portlist> { cost [auto | <value 1-65535>] | priority <value 0-240> | state [enable | disable]}
enable stp
disable stp
show stp
show stp ports <uplink_portlist>

7-1 config stp

Purpose

Used to configure STP version and other STP parameters.

Format

config stp {maxage <value 6-40> | hellotime <value 1-10> | forwarddelay <value 4-30> | priority <value 0-61440> | version [rstp | stp]}

Description

This command is used to setup the Spanning Tree Protocol (STP) for the entire switch.

Parameter

Parameters	Description
maxage <value 6-40>	The maximum amount of time (in seconds) that the switch will wait to receive a BPDU packet before reconfiguring STP. The user may choose a time between 6 and 40 seconds. The default is 20 seconds.
hellotime <value 1-10>	The time interval between transmission of configuration messages by the root device. The user may choose a time between 1 and 10 seconds. The default is 2 seconds.
forwarddelay <value 4-30>	The maximum amount of time (in seconds) that the root device will wait before changing states. The user may choose a time between 4 and 30 seconds. The default is 15 seconds.
priority <value 0-61440>	A numerical value between 0 and 61440 that is used in determining the root device, root port, and designated port. The device with the highest priority becomes the root device. The lower the numerical value, the higher the priority. The default is 32,768.
version	Selecting the version of STP on the Switch.
rstp	Selecting this parameter will set the Rapid Spanning Tree Protocol (RSTP) globally on the Switch.
stp	Selecting this parameter will set the Spanning Tree Protocol (STP) globally on the Switch.

Restrictions

2-level administrator
3-level operator

Example

To configure STP with maxage 18 and hellotime 4:

```
DPN-3012-E:a#config stp maxage 18 hellotime 4
Command: config stp maxage 18 hellotime 4

 Success.

DPN-3012-E:a#
```

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7-2 config stp ports

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Purpose

Used to setup STP on the port level.

Format

config stp ports <uplink_portlist> { cost [auto | <value 1-65535>] | priority <value 0-240> | state [enable | disable]}

Description

This command is used to create and configure STP for a group of ports.

Parameter

Parameters	Description
cost	This defines a metric that indicates the relative cost of forwarding packets to the specified port list. Port cost can be set in the following two ways: auto – Setting this parameter for the cost will automatically set the speed for forwarding packets to the specified port(s) in the list for optimal efficiency. Default port cost: 100Mbps port = 200000. Gigabit port = 20000. <value 1-65535> - Define a value between 1 and 65535 to determine the external cost. The lower the number, the greater the probability the port will be chosen to forward packets.
priority <value 0-240>	Port Priority can be from 0 to 240. The lower the number, the greater the probability the port will be chosen as the Root Port. Default = 128.
<uplink_portlist>	Specifies an uplink port or range of uplink ports to be configured.
state [enable | disable]	allows STP to be enabled or disabled for the ports specified in the port list. The default is disabled.

Restrictions

2-level administrator
3-level operator

Example

To configure STP with path cost set at auto, priority 16, and state enabled for ports 1-5 of module 1:

```
DPN-3012-E:a# config stp ports 1-4 cost auto state enabled
Command: config stp ports 1-4 cost auto state enabled

 Success.

DPN-3012-E:a#
```

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7-3 enable stp

Purpose

Used to globally enable STP on the switch.

Format

enable stp

Description

This command allows the Spanning Tree Protocol to be globally enabled on the switch..

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To enable STP, globally, on the switch:

```
DPN-3012-E:a#enable stp
Command: enable stp
Success.

DPN-3012-E:a#
```

7-4 disable stp

Purpose

Used to globally disable STP on the switch.

Format

disable stp

Description

This command allows the Spanning Tree Protocol to be globally disabled on the switch.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To disable STP on the switch:

```
DPN-3012-E:a#disable stp
Command: disable stp
Success.
DPN-3012-E:a#
```

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7-5 show stp

Purpose

Used to display the switch's current STP configuration.

Format

show stp

Description

This command displays the switch's current STP configuration.

Parameter

None.

Restrictions

None.

Example

To display the status of STP on the switch:

```
DPN-3012-E:a#show stp
Command: show stp

STP Status           : Disabled
STP Version          : RSTP
Max Age              : 20
Hello Time           : 2
Forward Delay        : 15
Priority             : 32768

DPN-3012-E:a#
```

7-6 show stp ports

Purpose

Used to display the switch's current per-port group STP configuration.

Format

show stp ports <uplink_portlist>

Description

This command displays the switch's current per-port group STP configuration.

Parameter

Parameters	Description
<uplink_portlist>	Specifies an uplink port or range of uplink ports to be configured

Restrictions

None.

Example

To display the current per-port STP configuration:

```
DPN-3012-E:a# show stp ports
Command: show stp ports
Port   State     Cost     Priority    Status      Role
-----  --------  -----     --------    ------      ---------
13    Enabled    65535    128          Disabled    Disabled
14    Enabled    65535    128          Disabled    Disabled
15    Enabled    65535    128          Disabled    Disabled
16    Enabled    65535    128          Disabled    Disabled

DPN-3012-E:a#
```

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Chapter 8

Storm Control Commands

8 Broadcast Storm Control Commands List

config traffic control [[all | <portlist>] broadcast | multicast | dlf [threshold <value 0-2097151>]] {enable | disable}
show traffic_control <portlist>

8-1 config traffic control

Purpose

Used to configure broadcast/multicast/dlf traffic control.

Format

config traffic control [[all | <portlist>] broadcast | multicast | dlf [threshold <value 0-2097151>]] {enable | disable}

Description

This command displays the switch's current per-port group STP configuration.

Parameter

Parameters	Description
all	Specifies all broadcast storm control groups on the switch.
broadcast [enable | disable]	Enables or disables broadcast storm control.
multicast [enable | disable]	Enables or disables multicast storm control.
dlf [enable | disable]	Enables or disables dlf traffic control.
threshold <value 0-2097151>	The upper threshold at which the specified traffic control is switched on. The <value> is the number of broadcast / multicast / dlf packets, in Kbps, received by the switch that will trigger the storm traffic control measures.

Restrictions

2-level administrator
3-level operator

Example

To configure traffic control and enable broadcast storm control system wide:

```
DPN-3012-E:a#config traffic control all broadcast enable
Command: config traffic control all broadcast enable
Success.
DPN-3012-E:a#
```

8-2 show traffic_control

Purpose

Used to display current traffic control settings.

Format

show traffic_control <portlist>

Description

This command displays the current storm traffic control configuration on the switch.

Parameter

Parameters	Description
<portlist>	Specifies a port or range of ports the command will apply to

Restrictions

None.

Example

To display traffic control setting:

```
DPN-3012-E:a#show traffic_control
Command: show traffic_control
[Traffic Control]
            BCAST                MCAST              DLF
port    Limit     State      Limit     State       Limit   State
----    --------  -----    ---------  ------      -----    -----
1       1488100   DIS      1488100    DIS         1488100   DIS
2       1488100   DIS      1488100    DIS         1488100   DIS
3       1488100   DIS      1488100    DIS         1488100   DIS
4       1488100   DIS      1488100    DIS         1488100   DIS
5       1488100   DIS      1488100    DIS         1488100   DIS
6       1488100   DIS      1488100    DIS         1488100   DIS
7       1488100   DIS      1488100    DIS         1488100   DIS
8       1488100   DIS      1488100    DIS         1488100   DIS
9       1488100   DIS      1488100    DIS         1488100   DIS
10      1488100   DIS      1488100    DIS         1488100   DIS
11      1488100   DIS      1488100    DIS         1488100   DIS
12      1488100   DIS      1488100    DIS         1488100   DIS
13      1488100   DIS      1488100    DIS         1488100   DIS
14      1488100   DIS      1488100    DIS         1488100   DIS
15      1488100   DIS      1488100    DIS         1488100   DIS
```

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```
16      1488100   DIS      1488100    DIS        1488100   DIS
================================================
BCAST   -- Broadcast Rate Control.
MCAST  -- Multicast Rate Control.
DLF      -- Destination Lookup Failure Rate Control.
EN/DIS   -- Enabled/Disabled.

DPN-3012-E:a#
```

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Chapter 9

Mirror Configuration Commands

9 MIRROR CONFIGURATION COMMAND LIST

config mirror port [<uplink_port> [add | delete] source ports <portlist> [rx | tx | both]]
enable mirror
disable mirror
show mirror

9-1 config mirror port

Purpose

Used to configure a mirror port – a source port pair on the switch. Traffic from any source port to a target port can be mirrored for real-time analysis. A logic analyzer or an RMON probe can then be attached to study the traffic crossing the source port in a completely unobtrusive manner.

Format

config mirror port < uplink_port> [add |delete] source ports <portlist> [rx|tx|both]

Description

The config mirror command allows a range of ports to have all of their traffic also sent to a designated port – where a network sniffer or other device can monitor the network traffic. In addition, you can specify that only traffic received by or sent by or both is mirrored to the target port.

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Parameter

Parameters	Description
port <uplink_port>	This specifies the Target port (the port where mirrored packets will be sent).
[add |delete] source ports	The port or ports being mirrored. This cannot include the Target port.
<portlist>	This specifies a range of ports that will be mirrored. That is, the range of ports in which all traffic will be copied and sent to the Target port.
rx	Allows the mirroring of only packets received by (flowing into) the port or ports in the port list.
tx	Allows the mirroring of only packets sent to (flowing out of) the port or ports in the port list.
both	Mirrors all the packets received or sent by the port or ports in the port list.

Restrictions

2-level administrator
3-level operator

Examples

To add the mirroring ports:

```
DPN-3012:a# config mirror port 9 add source ports 8 both
Command: config mirror port 9 add source ports 8 both


Success.


DPN-3012:a#
```

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9-2 enable mirror

Purpose

Used to enable a previously entered port mirroring configuration.

Format

enable mirror

Description

This command, combined with the disable mirror command below, allows you to enter a port mirroring configuration into the switch, and then turn the port mirroring on and off without having to modify the port mirroring configuration.

Note: If the target port hasn't been set, enable mirror will not be allowed.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Examples

To enable mirroring configurations:

```
DPN-3012-E:a#enable mirror
Command: enable mirror


Success.


DPN-3012-E:a#
```

9-3 disable mirror

Purpose

Used to disable a previously entered port mirroring configuration.

Format

disable mirror

Description

This command, combined with the enable mirror command above, allows you to enter a port mirroring configuration into the switch, and then turn the port mirroring on and off without having to modify the port mirroring configuration.

Parameter

None.

Restrictions

2-level administrator
3-level operator

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Examples

To disable mirroring configurations:

```
DPN-3012-E:a#disable mirror
Command: disable mirror

Success.

DPN-3012-E:a#
```

9-4 show mirror

Purpose

Used to show the current port mirroring configuration on the switch.

Format

show mirror

Description

The show mirror command displays the current port mirroring configuration on the switch.

Parameter

None.

Restrictions

None.

Examples

To display mirroring configuration:

```
DPN-3012-E:a#show mirror
Command: show mirror

Current Settings
Mirror Status : Disabled
Target Port   : 7
Mirrored Port
          RX:
          TX: 1-5

DPN-3012-E:a#
```

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Chapter 10

Basic IP Commands

10 BASIC IP COMMAND LIST

config ipif {ipaddress <ipaddr> subnet_mask <subnet_mask> gateway_address <gateway_addr> | vlan <vlan_name>}
show ipif
show arpentry

10-1 config ipif

Purpose

Used to configure the system IP interface.

Format

config ipif {ipaddress <ipaddr> subnet_mask <subnet_mask> gateway_address <gateway_addr> | vlan <vlan_name>}

Description

The config ipif System command configures System IP interface.

Parameter

Parameters	Description
ipaddress <ipaddr>	IP address of the IP interface to be configured.
subnet_mask <subnet_mask>	The subnet mask for the IP address above.
gateway_address <gateway_addr>	The default gateway address for the IP address above.
vlan <vlan_name>	The VLAN name for the IP interface to be configured.

Restrictions

2-level administrator
3-level operator.

Examples

To configure the IP of the OLT switch:

```
DPN-3012-E:a#config ipif ipaddress 10.48.74.122 subnet_mask 255.0.0.0
gateway_address 10.1.1.1
Command: config ipif 10.48.74.122 subnet_mask 255.0.0.0 gateway_address 10.1.1.1


Success.


DPN-3012-E:a#
```

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10-2 show ipif

Purpose

Used to display the configuration of an IP interface on the switch.

Format

show ipif

Description

The show ipif command displays IP interface settings.

Parameter

None.

Restrictions

None.

Examples

To display IP interface settings.

```
DPN-3012-E:a#show ipif
Command: show ipif

 IP Interface Settings

 Interface Name     : System
 IP Address         : 10.48.74.122    (MANUAL)
 Subnet Mask        : 255.0.0.0
 Gateway            : 0.0.0.0
 VLAN Name          : default
 Admin. State       : Enabled
 Link Status        : Link UP

DPN-3012-E:a#
```

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10-3 show arpentry

Purpose

Used to display the entry of the ARP cache on the switch.

Format

show arpentry

Description

The show arpentry command displays the ARP entries.

Parameter

None.

Restrictions

None.

Examples

To display ARP entries.

```
DPN-3012-E:a#show arpentry
Command: show arpentry

Interface      IP Address       MAC Address         Type
-------------  ---------------  -----------------   ---------------
System         192.168.0.0      FF-FF-FF-FF-FF-FF    Local/Broadcast
System         192.168.0.1      00-17-9A-0D-37-19    Local
System         192.168.0.99     00-1A-92-24-80-F7    Dynamic
System         192.168.0.255    FF-FF-FF-FF-FF-FF    Local/Broadcast

Total Entries: 4



DPN-3012-E:a#
```

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Chapter 11

Link Aggregation Commands

11 LINK AGGREGATION COMMAND LIST

create link_aggregation group_id <value 1-2> {type [lacp | static] }
delete link_aggregation group_id <value 1-2>
config link_aggregation group_id <value 1-2> { master_port <uplink_port> | ports <uplink_portlist> | state [enable | disable] | algorithm [mac_source | mac_destination | mac_source_dest | ip_source | ip_destination | ip_source_dest] }
show link_aggregation {group_id <value 1-2>}

11-1 create link_aggregation group_id

Purpose

Used to create a link aggregation group on the switch.

Format

create link_aggregation group_id <value 1-2> {type [lacp | static] }

Description

The create link_aggregation group_id command will create a link aggregation group.

Parameter

Parameters	Description
group_id	Specifies the group ID. The group number identifies each of the groups. The switch allows up to five link aggregation groups to be configured.
type	Specifies the group type is belong to static or LACP. If type is not specified, the default is the static type.

Restrictions

2-level administrator
3-level operator

Example

To create a link aggregation group:

```
DPN-3012-E:a#create link_aggregation group_id 1 type lacp

Command: create link_aggregation group_id 1 type lacp


Success


DES-3028P:4#
```

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11-2 delete link_aggregation group_id

Purpose

Used to delete a previously configured link aggregation group.

Format

delete link_aggregation group_id <value 1-2>

Description

The delete link_aggregation group_id command is used to delete a previously configured link aggregation group.

Parameter

Parameters	Description
group_id	The specifies the group ID. The group number identifies each of the groups. The switch allows up to five link aggregation groups to be configured.

Restrictions

2-level administrator
3-level operator

Example

To delete link aggregation group:

```
DPN-3012-E:a#delete link_aggregation group_id 3

Command: delete link_aggregation group_id 3


Success.


DPN-3012-E:a#
```

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11-3 config link_aggregation

Purpose

Used to configure a previously created link aggregation group.

Format

config link_aggregation group_id <value 1-2> { master_port <uplink_port> | ports <uplink_portlist> | state [enable | disable] | algorithm [mac_source | mac_destination | mac_source_dest | ip_source | ip_destination | ip_source_dest] }

Description

The config link_aggregation command allows you to configure a link aggregation group that was created with the create link_aggregation command above.

Parameter

Parameters	Description
group_id	Specifies the group ID. The group number identifies each of the groups. The switch allows up to five link aggregation groups to be configured.
master_port	The master port ID. Specifies which port (by port number) of the link aggregation group will be the master port. All of the ports in a link aggregation group will share the port configuration with the master port.
ports	Specifies a range of ports that will belong to the link aggregation group.
state	Allows you to enable or disable the specified link aggregation group. If configuring an LACP group, the ports' state machine will start.
algorithm	The algorithm in use by that group.
mac_source	Indicates that the switch should examine the MAC source address.
mac_destination	Indicates that the switch should examine the MAC destination address.
mac_source_dest	Indicates that the switch should examine the MAC source and destination address.
ip_source	Indicates that the switch should examine the IP source address.
ip_destination	Indicates that the switch should examine the IP destination address.
ip_source_dest	Indicates that the switch should examine the IP source and destination address.

Restrictions

2-level administrator
3-level operator

Example

To define a load-sharing group of ports, group-id 1,master port 7:

```
DPN-3012-E:a#config link_aggregation group_id 1 master_port 7 ports 5-7
Command: config link_aggregation group_id 1 master_port 7 ports 5-7


Success.


DPN-3012-E:a#
```

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11-4 show link_aggregation

Purpose

Used to display the current link aggregation configuration on the switch.

Format

show link_aggregation { group_id <value 1-2> }

Description

The show link aggregation command will display the current link aggregation configuration of the switch.

Parameter

Parameters	Description
group_id	Specifies the group ID. The group number identifies each of the groups. The switch allows up to five link aggregation groups to be configured.
	If no parameter is specified, the system will display all the link aggregation information.

Restrictions

None.

Example

Link aggregation group enabled:

```
DPN-3012-E:d#
DPN-3012-E:d#show link_aggregation
Command: show link_aggregation


Group ID     : 1
Algorithm    : MAC-source
Type         : TRUNK
Master Port   : 13
Member Port   : 13-15
Active Port   :
Status       : Enabled
Flooding Port : X
```

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Link aggregation group disabled:

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```
DPN-3012-E:a#show link
Command: show link_aggregation

Link Aggregation Algorithm = MAC-source-dest
Group ID     : 1
Type         : LACP
Master Port   : 1
Member Port   : 1-8
Active Port   :
Status       : Disabled
Flooding Port :

DPN-3012-E:a#
```

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Chapter 12

LACP Configuration Commands

12 LACP CONFIGURATION COMMAND LIST

config lacp_port [<uplink_portlist> mode [active | passive]]
show lacp_port {<uplink_portlist>}

12-1 config lacp_ports

Purpose

Used to configure settings for LACP compliant ports.

Format

config lacp_port [<uplink_portlist> mode [active | passive]]

Description

This command is used to configure ports that have been previously designated as LACP ports (see create link_aggregation).

Parameter

Parameters	Description
<portlist>	Specifies a range of ports to be configured. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then the highest switch number, and the highest port number of the range (also separated by a colon) are specified. The beginning and end of the port list range are separated by a dash. For example, 1:3 specifies switch number 1, port 3. 2:4 specifies switch number 2, port 4. 1:3-2:4 specifies all of the ports between switch 1, port 3 and switch 2, port 4 – in numerical order. mode – Select the mode to determine if LACP ports will process LACP control frames.
active	Active LACP ports are capable of processing and sending LACP control frames. This allows LACP compliant devices to negotiate the aggregated link so the group may be changed dynamically as needs require. In order to utilize the ability to change an aggregated port group, that is, to add or subtract ports from the group, at least one of the participating devices must designate LACP ports as active. Both devices must support LACP. passive – LACP ports that are designated as passive cannot process LACP control frames. In order to allow the linked port group to negotiate adjustments and make changes dynamically, at one end of the connection must have “active” LACP ports (see above).

Restrictions

2-level administrator
3-level operator

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Example

To configure LACP port mode settings:

```
DPN-3012-E:a#config lacp_port 1:1-1:12 mode active
Command: config lacp_port 1:1-1:12 mode active

Success.

DPN-3012-E:a#
```

12-2 show lacp_ports

Purpose

Used to display current LACP port mode settings.

Format

show lacp_port <portlist>

Description

The display per-port LACP mode.

Parameter

Parameters	Description
<portlist>	Specifies a range of ports that will be viewed. If no parameter is specified, the system will display current LACP and all port status.

Restrictions

None.

Example

To display LACP port mode settings:

```
DPN-3012-E:a#show lacp_port
Command: show lacp_port

Port     Activity
------   --------
13       Passive
14       Passive
15       Passive
16       Passive

DPN-3012-E:a#
```

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Chapter 13

VLAN Commands

13 VLAN COMMAND LIST

create vlan <vlan_name 32> { tag <vlanid 2-4094>}
config vlan <vlan_name 32>{[add | tagged | untagged | delete] [<portlist>]}
delete vlan <vlan_name 32>
show vlan {<vlan_name 32>}
config vlan_port [<portlist> | all] {ingress_checking [enable| disable] | acceptable_frame [tagged_only | untagged_only | admit_all] | pvid <vlanid 1-4094>}
show vlan port { <portlist> }
create igmp_snooping multicast_vlan <vlan_name 32> <vlanid 2-4094>
delete igmp_snooping multicast_vlan <vlan_name 32>
config igmp_snooping multicast_vlan <vlan_name 32> {member_port <portlist> | tag_member_port <portlist> | source_port <portlist> | state [enable | disable]}
config igmp_snooping multicast_vlan_group <vlan_name 32> [[add | delete] <mcast_address_list> | delete_all]
show igmp_snooping multicast_vlan
enable double_vlan
disable double_vlan
create double_vlan <vlan_name 32> spvid <vlanid 1-4094> {tpid <hex 0x0-0xffff>}
delete double_vlan <vlan_name>
conifg double_vlan <vlan_name> {[[add [access | uplink] | delete] <portlist> | tpid <hex 0x0-0xffff>]}
show double_vlan {<vlan_name>}

create vlan

Purpose

Used to create a VLAN on the OLT switch.

Format

create vlan <vlan_name 32> { tag <vlanid 2-4094>}

Description

This command is used to create a VLAN on the OLT switch.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be created.
<vlanid 2-4094>	The VLAN ID of the VLAN to be created. Allowed values = 2 through 4094

Restrictions

2-level administrator
3-level operator

Example

To create a VLAN named 4 with a VID of 4094:

```
DPN-3012:a#create vlan 4 tag 4094
Command: create vlan 4 tag 4094

Success.

DPN-3012:a#
```

Отформатировано: Отступ: Слева: 0,76 см, Выступ: 0,99 см

Формат: Список

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config vlan

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Purpose

Used to create a VLAN on the switch.

Format

config vlan <vlan_name 32> {[add | tagged | untagged | delete] [<portlist>]}

Description

This command is used to configure VLANs created using the create vlan command.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be configured.
add	Specifies that ports will be added to the VLAN.
tagged	Specifies the ports added as tagged ports.
untagged	Specifies ports added as untagged..
delete	Specifies ports will be deleted from the VLAN.
<portlist>	A range of ports to add to the VLAN. The port list is specified by listing the lowest OLT port number separated by a dash from the highest OLT port number. For example, port 1-3 will specify OLT ports 1 through 3. As an alternative, you can specify a port list by entering each port number separated by a comma. For example, port 1,2,3 would also specify ports 1 through 3.

Restrictions

2-level administrator
3-level operator

Example

To configure the VLAN 4 for ports 2 and 3 to accept tagged frames:

```
DPN-3012:a#config vlan 4 add untagged 2,3
Command: config vlan 4 add untagged 2-3

Success.

DPN-3012:a#
```

Формат: Список

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delete vlan

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Purpose

Used to delete a previously created VLAN on the switch.

Format

delete vlan [<vlan_name 32>]

Description

This command is used to delete VLANs created using the create vlan command.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be deleted.

Restrictions

2-level administrator
3-level operator

Example

To remove delete VLAN “4”:

```
DPN-3012:a#delete vlan 4
Command: delete vlan 4


Success.


DPN-3012:a#
```

Формат: Список

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show vlan

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Purpose

Used to display information about a previously created and configured VLAN on the switch.

Format

show vlan [<vlan_name 32>]

Description

This command is used to display settings of VLANs created using the create vlan command.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be deleted.

Restrictions

None.

Example

To display VLAN “4”:

```
DPN-3012:a#show vlan 4
Command: show vlan 4


VID             :  4094          VLAN Name     :4
Member Ports    :  2
Static Ports    :  2
Untagged Ports  :
Total Entries   :  1

DPN-3012:a#
```

Формат: Список

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show vlan port

Purpose

Used to display ingress checking configuration.

Format

show vlan_port {<portlist>}

Description

This command is used to display settings of ingress checking.

Parameter

Parameters	Description
<portlist>	Specifies a range of ports that will be viewed. If no parameter is specified, the system will display all port status.

Restrictions

None.

Examples

To display ingress checking:

```
DPN-3012-E:a#show vlan_port
Command: show vlan_port
Port    PVID  Ingress Checking     Acceptable Frame Type
------  ----  ----------------     -------------------------
 1      1     Enabled              All Frames
 2      1     Enabled              All Frames
 3      1     Enabled              All Frames
 4      1     Enabled              All Frames
 5      1     Enabled              All Frames
 6      1     Enabled              All Frames
 7      1     Enabled              All Frames
 8      1     Enabled              All Frames
 9      1     Enabled              All Frames
 10     1     Enabled              All Frames
 11     1     Enabled              All Frames
 12     1     Enabled              All Frames
 13     1     Enabled              All Frames
 14     1     Enabled              All Frames
 15     1     Enabled              All Frames
 16     1     Enabled              All Frames
```

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```
Total Entries : 16


DPN-3012-E:a#
```

Формат: Список

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config vlan port

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Purpose

Used to sets the ingress checking status.

Format

config vlan_port [<portlist> | all] {ingress_checking [enable| disable] | acceptable_frame [tagged_only | untagged_only | admit_all]|pvid <vlanid 1-4094>}

Description

This command is used to set the ingress checking status.

Parameter

Parameters	Description	
portlist	A range of ports for which you want ingress checking. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then highest switch number, and the highest port number of the range (also separeted by a colon) are specified. The beginning and end of the port list range are seperated by a dash. For example, 1:3 would specify switch number 1, port 3. 2:4 specifies switch number 2, port 4. 1:3-2:4 specifies all of the ports between switch 1, port 3 and switch 2, port 4 – in numerical order.	
all	Specifies all ports that will be configured.	
ingress_checking	Enables or disables ingress checking for the specified portlist.	
acceptable_frame	The type of frame will be accepted by the port.	
	tagged_only	Only tagged frame will be received.
	untagged_only	Only untagged frame will be received.
	admit_all	Both tagged and untagged will be accepted.
pvid	Specified the default VLAN will associated with the port.	

Restrictions

2-level administrator
3-level operator.

Examples

To config VLAN port 1-4:

```
DPN-3012-E:a#config vlan_port 1-4 ingress_checking enable

Command: config vlan_port 1-4 ingress_checking enable


Success.


DPN-3012-E:a#
```

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create igmp_snooping multicast_vlan

Формат: Список

Purpose

Used to create a multicast VLAN.

Format

create igmp_snooping multicast_vlan <vlan_name 32> <vlanid 2-4094>

Description

The create igmp_snooping multicast_vlan command will create a multicast VLAN.

Parameter

Parameters	Description
<vlan_name 32>	The name of the multicast VLAN to be created. Each multicast VLAN is given a name that can be up to 32 characters.
<vlanid 2-4094>]	Specifies the VLAN ID of the multicast VLAN to be created. The range is 2-4094

Restrictions

2-level administrator
3-level operator.

Example

To create a IGMP snooping multicast VLAN “mv1”:

```
DPN-3012:a# create igmp_snoop multicast_vlan mv1 2
Command: create igmp_snoop multicast_vlan mv1 2

Success.

DPN-3012:a#
```


Формат: Список

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config igmp_snooping multicast_vlan

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Purpose

Used to configure the parameter of the specific multicast VLAN.

Format

config igmp_snooping multicast_vlan <vlan_name 32> {member_port <portlist> | tag_member_port <portlist> | source_port <portlist> | state [enable | disable]}

Description

The config igmp_snooping multicast_vlan command allows you to add member port, tag_member port and add source port to port list. The member port will automatically become the untagged member of the multicast VLAN, the tag_member_port and the source port will automatically become the tagged member of the multicast VLAN. To change the port-list, the new port-list will replace the previous port-list if the add or delete is not specified.
The member port list and source port list could not overlap. However, the member port of one multicast VLAN can overlap with another multicast VLAN.
The multicast vlan must be created first before configuration.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be deleted.
{member_port <portlist> |	A range of member ports to add to the multicast VLAN. They will become the untagged member port of the ISM VLAN.
tag_member_port <portlist>	Specifies the tagged member port of the ISM VLAN.
source_port <portlist>	A range of source ports to add to the multicast VLAN.
state [enable | disable]}	Enable or disable multicast VLAN for the chosen VLAN.

Restrictions

2-level administrator
3-level operator

Example

To configure multicast VLAN “mv1” with member ports 1 and 3 and source port 2:

```
DPN-3012:a# config igmp_snooping multicast_vlan mv1 member_port 1,3 source_port 2
state enable
Command: config igmp_snooping multicast_vlan mv1 member_port 1,3 source_port 2
state enable


DPN-3012:a#
```

delete igmp_snooping multicast_vlan

Формат: Список

Purpose

Used to display information about a previously created and configured VLAN on the switch.

Format

delete igmp_snooping multicast_vlan <vlan_name 32>

Description

This command is used to remove a previously created IGMP multicast VLAN.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be deleted.

Restrictions

2-level administrator
3-level operator

Example

To delete IGMP multicast VLAN “mv1”:

```
DPN-3012:a# delete igmp_snooping multicat_vlan mv1
Command: delete igmp_snooping multicat_vlan mv1

Success.

DPN-3012:a#
```

Формат: Список

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show igmp_snooping multicast_vlan

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Purpose

Used to display information about a previously created and configured VLAN on the switch.

Format

show igmp_snooping multicast_vlan

Description

This command is used to display settings of IGMP multicst VLANs created using the create igmp_snooping multicast vlan command.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be displayed.

Restrictions

2-level administrator
3-level operator

Examples

To display the IGMP snooping multicast VLAN “mv1”:

```
DPN-3012:a# show igmp_snooping multicast_vlan mv1
Command: show igmp_snooping multicast_vlan mv1


VID                 : 2               VLAN Name    :   mv1
State              : Disabled
Member Ports        : 1,3
Tagged Member Ports  : 2
Source Ports        : 4
Multicast Groups:
```

config igmp_snooping multicast_vlan_group

Формат: Список

Purpose

Used to configure the multicast group which will be learned with the specific multicast VLAN.

Format

config igmp_snooping multicast_vlan_group <vlan_name 32> [[add | delete] <mcast_address_list> | delete_all]

Description

Used to configure the multicast group which will be learned with the specific multicast VLAN. There are two cases need to be considered. For case I, supposed that multicast_group is not configured and multicast VLANs did not have overlapped member port, then the join packet received by the member port will be learned with the only multicast VLAN that this port belongs. If not, which is case II, the join packet will be learned with the multicast VLAN that contain the destination multicast group. If the destination multicast group of the join packet can not be classified into any multicast VLAN that this port belong, then the join packet will be learned with the natural VLAN of the packet.

Note that, the same multicast group can not be overlapped in different multicast VLANs. Multiple multicast groups can be added to a multicast VLAN.

Parameter

Parameters	Description
vlan_name	The name of the multicast VLAN to be configured, each multicast VLAN is given a name that can be up to 32 characters.
<mcast_address_list>	The list of multicast groups that will be learned with the specified multicast VLAN.
delete_all	All multicast groups will be deleted from the specified multicast VLAN.

Restrictions

None.

Examples

To add a goup to a multicast VLAN:

```
DPN-3016:a#config igmp_snooping multicast_vlan_group v12 add 224.0.0.1
Command: config igmp_snooping multicast_vlan_group v12 add 224.0.0.1

Success.

DPN-3016:a#
```

enable double_vlan

Формат: Список

Purpose

Used to enable the Double Tag VLAN mode.

Format

enable double_vlan

Description

The enable double vlan command enables the Double Tag VLAN. When enable double vlan, all the system config will return to the default setting, then enter to double vlan mode. In the deouble vlan mode, normal vlan and gvrp are disable. The double vlan default setting is disabled.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Examples

To enable the double vlan.

```
DPN-3012-E:a#enable double_vlan
Command: enable double_vlan
Current Double VLAN Mode : Disabled
System configuration will reset to enable double VLAN(Except ONU relative settings).Are
you sure to continue?(y/n) y
Success.


DPN-3012-E:a#
```

Формат: Список

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disable double_vlan

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Purpose

Used to disable the Double Tag VLAN mode.

Format

disable double_vlan

Description

The disable double vlan command disables the Double Tag VLAN. When disables double vlan, all the system config will return to the default setting, then enter to normal vlan mode. In the normal vlan mode, double vlan is disable. The double vlan default setting is disabled.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Examples

To disable double VLAN:

```
DPN-3012-E:a#disable double_vlan
Command: disable double_vlan
Current Double VLAN mode : Enabled
Disable Double VLAN need to reset system config(Except ONU relative settings), Are you
sure?(y/n) y
Success.

DPN-3012-E:a#
```

create double_vlan

Формат: Список

Purpose

Used to create a double VLAN.

Format

create double_vlan <vlan_name 32> spvid <vlanid 1-4094> {tpid <hex 0x0-0xffff>}

Description

The command creates a Double Tag VLAN (service provider vlan) on the switch.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be create.
spvid	The Service Provider VLAN ID of the VLAN to be created. The range is 1-4094.
tpid	Specifies the tpid of Double VLAN. The default setting is 0x8100.

Restrictions

2-level administrator
3-level operator

Examples

To create the double vlan;

```
DPN-3012-E:a#create double_vlan v2 spvid 2 tpid 0x8103
Command: create double_vlan v2 spvid 2 tpid 0x8103


Success.


DPN-3012-E:a#
```

Формат: Список

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delete double_vlan

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Purpose

Used to delete a Double Tag VLAN on the switch.

Format

delete double_vlan <vlan_name>

Description

The command deletes a previously created Double Tag VLAN on the switch.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN to be deleted.

Restrictions

2-level administrator
3-level operator.

Examples

To delete the double vlan v2:

```
DPN-3012-E:a#delete double_vlan v2
Command: delete double_vlan v2


Success.


DPN-3012-E:a#
```

Формат: Список

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config double_vlan

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Purpose

Used to add uplink or access ports to a previously created Double VLAN.

Format

conifg double_vlan <vlan_name> {[[add [access | uplink] | delete] <portlist> | tpid <hex 0x0-0xffff>]}

Description

The config double vlan add command allows you to add ports to the port list of a previously created Double VLAN. You can specify the uplink or access ports. The default is to assign the ports as access. The config double vlan delete command deletes one or more ports from a previously configured Double VLAN. The config double vlan tpid command configed the tpid to a previously configured Double VLAN.

Parameter

Parameters	Description
vlan_name	The name of the double VLAN on which you want to configure.
access	Specifies the ports are access port.
uplink	Specifies the ports are uplink port.
portlist	Specifies a range of ports to be configured.
tpid	Specifies a tpid to be configured.

Restrictions

2-level administrator
3-level operator

Examples

To config the double vlan v2:

```
DPN-3012-E:a#config double_vlan v2 tpid 0x8102

Command: config double_vlan v2 tpid 0x8102


Success.


DPN-3012-E:a#
```

Формат: Список

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show double_vlan

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Purpose

Use to display the current Double VLAN configuration on the switch.

Format

show double_vlan {<vlan_name>}

Description

The show double vlan command displays summary information about each Double VLAN, which includes:

- Global double_vlan status
- SPVID
- TPID
- Doulbe VLAN Name
- Uplink/ Access / Unknow/- status for each port.

While double vlan is enabled, the unknown port list will be empty in show screen.
While double vlan is disabled, the uplink and access port list will be empty in show screen

Parameter

Parameters	Description
vlan_name	The double VLAN name that will be displayed If no parameter specified, all double VLAN in system will be displayed.
	If no parameter specified , system will display all Double VLAN settings.

Restrictions

2-level administrator
3-level operator

Examples

To display double VLAN v2:

```
DPN-3012-E:a#show double_vlan v2
Command: show double_vlan v2


Global Double VLAN : Enabled
================================================
SPVID       : 2
VLAN Name    : v2
TPID        : 0x8102
Uplink ports :
Access ports :
Unknow ports :
------------------------------------------------
```

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```
Total Entries : 1



DPN-3012-E:a#
```

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Chapter 14

ONU Firmware Upgrade Commands

14 ONU FIRMWARE UPGRADE COMMANDS LIST

download olt onu_firmware_fromTFTP <ipaddr> <path_filename 64>
update olt onu_firmware [<onu_list>| all]
enable olt onu_firmware auto_update
disable olt onu_firmware auto_update
show olt onu_firmware auto_update

14-1 download olt onu_firmware_fromTFTP

Purpose

Used to download a new ONU firmware from a TFTP server.

Format

download olt onu_firmware_fromTFTP <ipaddr> <path_filename 64>

Description

This command is used to download a new ONU firmware from a TFTP server.
The downloaded ONU firmware will be stored in the switch device. The firmware can be further transferred to ONU by the auto update mechanism or by manually update.
Now this command can support HAD file and BIN file.Only HAD file can support auto update firmware function.If you download a BIN file to OLT, you will get msg1.
In order not to disturb auto update onu firmware funtion, the download onu firmware funtion can only work when auto update is disabled, or you will get msg2

Message

Msg1 : Warning! Automatic update task can't work with bin file , and thus onu need to be updated manually.
Msg2: Warning! Can not download ONU firmware when auto ONU upgrade is enabled. Turn off ONU auto update first.

Parameter

Parameters	Description
ipaddr	The IP address of the TFTP server
path_filename 64	The DOS path and filename of the firmware or switch configuration file on the TFTP server.

Restrictions

2-level administrator
3-level operator

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Example

To download ONU firmware from a TFTP server:

```
DPN-3012-E:a#download olt onu_firmware_fromTFTP 10.1.1.17 PAS6201_1.00-B09.had
Command: download olt onu_firmware_fromTFTP 10.1.1.17 PAS6201_1.00-B09.had

 Connecting to server.................. Done.
 Download ONU firmware................. Done.  Do not power off!
 Please wait, programming flash......... Done.

DPN-3012-E:a#
```

14-2 update olt onu_firmware

Purpose

Used to update the ONU firmware which is stored in the OLT to the specified ONU.

Format

update olt onu_firmware [<onu_list >| all]

Description

This command is used to update the firmware on the ONU. The ONU firmware which is stored on the switch will be transferred to the ONU unit.
If Bin file is stored in OLT , you will get msg1:

Message

Msg1 : Warning! Bin file is in flash and system can't identify its type,are you sure to continue?(Y/N)

Parameter

Parameters	Description
all	Specified a list of onus to be updated. (OLT number: ONU number).
onu_list	For set all ONU ports in the system, you may use “all” parameter.

Restrictions

2-level administrator
3-level operator

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Example

To upgrade port 2 of OLT 1's firmware:

```
DPN-3012-E:a#update olt onu_firmware  2:1
Command: update olt onu_firmware 2:1


 Processing ..............................
 2:1 --> Download success,please wait for the onu to reboot automatically
 Done.


DPN-3012-E:a#
```

14-3 enable olt onu_firmware auto_update

Purpose

Used to enable ONU auto firmware update mechanism.

Format

enable olt onu _firmware auto_update

Description

If this command execute, existing ONU ports will automatic ally update firmware when the ONU firmware stored in the OLT is updated.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To enable onu auto firmware update:

```
DPN-3012-E:a#enable olt onu_firmware auto_update
Command: enable olt onu_firmware auto_update


Success.


DPN-3012-E:a#
```

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14-4 disable olt onu _firmware auto_update

Purpose

Used to disable ONU auto firmware update mechanism.

Format

disable olt onu _firmware auto_update

Description

When the stae is disabled, existing ONU ports will not automatically update firmware when the ONU firmware stored in the OLT is updated.
Then the ONU firmware can only be manually updated by using the update command.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To disable onu auto firmware update:

```
DPN-3012-E:a#disable olt onu_firmware auto_update
Command: disable olt onu_firmware auto_update

Success.

DPN-3012-E:a#
```

14-5 show olt onu_firmware auto_update

Purpose

Used to show ONU auto firmware update state.

Format

show olt onu_firmware auto _update

Description

This command is used to show ONU auto firmware update state and the current ONU firmware version stored in the OLT.

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Parameter

None.

Restrictions

None.

Example

To display onu auto firmware update state:

```
DPN-3012-E:a#show olt onu_firmware auto_update
Command: show olt onu_firmware auto_update

ONU Auto Update State : Disabled
File Type             : HAD File
ONU Firmware Version  : 1.00-B09

DPN-3012-E:a#
```

```
DPN-3012-E:a#show onu auto_firmware_upgrade
Command: show onu auto_firmware_upgrade

ONU Auto Update State : Disabled
File Type             : BIN File
File Name             : PAS6301.bin

DPN-3012-E:a#
```

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Chapter 15

OLT/ONU VLAN

15 OLT/ONU VLAN COMMANDS LIST

config olt vlan user_ tpid [<olt_portlist> | all] [none | <hex 0x1-0xffff>]
show olt vlan user_tpid [<olt_portlist> | all]
config olt onu vlan upstream [<onu_list> | all] [vlan_authentication { untagged_frame_vid [vid_0x0 |vid_0xFFF] | authenticated_vid [any | specific_vid <int 0-4095>] | discard_untagged [disable | enable] | discard_tagged [disable | enable] | discard_null_tagged [disable | enable] | discard_nested [disable | enable] }(1) | vlan_mode [discard | transparent | [tag |translation] vid <int 0-4094> tpid [0x8100 |0x9100 |0x88a8 |user_defined] priority [original_priority | specific_priority <int 0-7>]]]
show olt onu vlan upstream authentication [<onu_list> | all]
show olt onu vlan upstream vlan_mode [<onu_list> | all]
config olt vlan downstream [<olt_portlist> | all] [[add vid <int 0-4095> | default] { discard_nested [disable | enable] | destination [discard | address_table | specific_onu [<int 1-32> | boradcast] | address_and_onu <int 1-32>] | vlan_mode [transparent | tag | translation vid <int 0-4094> priority [original_priority | new_priority <priority>]] }(1) | delete vid <int 0-4095>]
show olt vlan downstream [<olt_portlist> | all] [vid <int 0-4095> | default]
create olt tagged_broadcast_forwarding [<olt_portlist> | all] vid <int 1-4094> specific_onu <int 1-32>
delete olt tagged_broadcast_forwarding vlanid [<olt_portlist> | all] vid <int 1-4094>
show olt tagged_broadcast_forwarding [all | < olt_portlist >]

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15-1 config olt vlan user_tpid

Purpose

Used to set the extended VLAN type that will be recognized by the OLT.

Format

config olt vlan user_ tpid [<olt_portlist> | all] [none | <hex 0x1-0xffff>]

Description

This command sets the extended VLAN type that will be recognized by the OLT.
This user define TPID, together with 0x8100, 0x9100, 0x88a8, are used by OLT to identify a valid tag. Error message will be displayed if the user specify the pre-defined TPIDs, 0x8100, 0x9100, 0x88a8.

Parameter

Parameters	Description
all	Specify a range of olt ports to be configured. For set all OLT ports in the system, you may use “all” parameter.
olt_portlist	
none	Remove the user defined TPID.
<hex 0x1-0xffff>	Entended VLAN type

Restrictions

2-level administrator
3-level operator

Example

To configure olt port 2-12 vlan recognizing type to 0x88a8

```
DPN-3012-E:a#config olt vlan user_tpid 2-12 0x8848
Command: config olt vlan user_tpid 2-12 0x8848


 Success.


DPN-3012-E:a#
```

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15-2 show olt vlan user_tpid

Purpose

Used to show theuser defined TPID that can be recognized by OLT.

Format

show olt vlan user_tpid [<olt_portlist> | all]

Description

This command shows the user defined TPID.

Parameter

Parameters	Description
all	Specified a range of olt ports to be configured.
olt_portlist	For set all OLT ports in the system, you may use “all” parameter.

Restrictions

None.

Example

To show the all extended VLAN type that will be recognized by the OLT

```
DPN-3012-E:a# show olt vlan user_tpid all
Command: show olt vlan user_tpid all

OLT Port   User TPID
 ---------- ----------------------
 1      0x8400
 2       -
 3       -
 4       -
 5       -
 6       -
 7      0x8400
 8       -
 9       -
 10      -
 11      -
 12      -

DPN-3012-E:a#
```

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15-3 config olt onu vlan upstream

Purpose

Used to configurate the upstream VLAN authentication and VLAN mode to specific ONU.

Format

config olt onu vlan upstream [<onu_list> | all] [vlan_authentication { untagged_frame_vid [vid_0x0 |vid_0xFFF] | authenticated_vid [any | specific_vid <int 0-4095>] | discard_untagged [disable | enable] | discard_tagged [disable | enable] | discard_null_tagged [disable | enable] | discard_nested [disable | enable] }(1) | vlan_mode [discard | transparent | [tag |translation] vid <int 0-4094> tpid [0x8100 |0x9100 |0x88a8 |user_defined] priority [original_priority | specific_priority <int 0-7>]]]

Description

There are two things that this command is primarily used to specify. The first is regarding the packet authentication. The second is regarding the operation on the VLAN tag.
Regarding the authentication of packets, basically it is used to determine to forward or to discard the packet. First of all, it is based on the VLAN ID in the packet (for tagged packet), or the VLAN ID assigned to it (for the untagged packet). If the VLAN ID meets the definition of authenticated_vid, then the packet will be checked against the setting of discard_nested. If it passes the criteria, the packet is accepted.
If the packet does not meet the definition of authenticated_vid, the packet will be checked against the setting of all of the discard flags, including discard_untagged, discard_tagged, discard_null_tagged,. If it passes all the criteria, the packet is accepted.The packets always are checked against the setting of the discard_nested.
Regarding the operation on VLAN tag, the operation can be discard, transparent, translation, and add. If the mode is set to discard, all the packets from the specified onu will be discarded. If it is set to transparent, then no change is done on the vlan tag. If the mode is set to translation, the original VLAN tag in the packet will be replaced by the specified VLAN, specified TPID, and the specified priority. Note that, the user can specify to use the original priority or a specific priority. If the mode is set to add, then a outer VLAN tag (comprised by the specified VLAN, specified TPID, and the specified priority) will be added.

The default values are:untagged_frame_vid:0, authenticated_vid:any, discard_untagged:disable,discard_tagged:disable,discard_null_tagged:disable,discard_nested:disable,vlan_mode:transparent.

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Parameter

Parameters	Description
all onu_list	Specify a range of ONU to be configured. For set all ONU ports in the system, you may use “all” parameter.
vlan_authentication	untagged_frame_vid : If a frame does not have VLAN tag, this VID is assigned to it to do the authentication. This setting is only used for authentication. authenticated_vid: specifies a VID to authenticate.To let all VID be forward ed, you may use “any” parameter discard_untagged : disable - DO NOT drop the frames without VLAN tag enable - drop the frames without VLAN tag discard_ tagged : disable - DO NOT drop the frames with VLAN tag. enable - drop the frames with VLAN tag. discard_null_tagged: disable - DO NOT drop the frames with null VLAN tag (vid is 0 in tag). enable - drop the frames with null VLAN tag. discard_nested : disable - DO NOT drop the frames with nested VLAN tag (double VLAN tag) enable - drop the frames with nested VLAN tag
vlan_mode	discard : discard all frame from this specific ONU transparent: never remove or add tag to the specific ONU tag : add a additional VLAN tag to a frame from specific ONU translation : change the original VLAN tag to a new tag.if no VLAN tag, no translation.

Restrictions

2-level administrator
3-level operator

Example

To set all ONU untagged frame vid to 0x0, authenticate any frame ,discard null and nest tagged frame

```
DPN-3012-E:a# config olt_vlan upstream all vlan_authentication
untagged_frame_vid vid_0x0 authenticated_vid any discard_untagged disable
discard_tagged disable discard_null_tagged enable discard_nested enable
Command: config olt_vlan upstream all vlan_authentication untagged_frame_vid
vid_0x0 authenticated_vid any discard_untagged disable discard_tagged disable
discard_null_tagged enable discard_nested enable

 Success.

DPN-3012-E:a#
```

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To set all ONU to translation mode,new vid is 1, new vlan type is 0x9100, the priority is original priority:

```
DPN-3012-E:a# config olt_vlan upstream all vlan_mode translation new_vid 1 vlan_type
0x9100 vlan_priority original_priority
Command: config olt_vlan upstream all vlan_mode translation new_vid 1 vlan_type
0x9100 vlan_priority original_priority

 Success.

DPN-3012-E:a#
```

15-4 show olt onu vlan upstream authentication

Purpose

Used to show upstream vlan authenticaion .

Format

show olt onu vlan upstream authentication [<onu_list> | all]

Description

This command show the upstream authentication configuration.

Parameter

Parameters	Description
all	Specified a range of ONUs to be configured.
onu_list	For set all ONUs in the system, you may use “all” parameter.

Restrictions

None.

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Example

To show the upstream authentication configuration of all ONUs

```
DPN-3012-E:a# show olt onu vlan upstream authentication all
Command: show olt onu vlan upstream authentication all

ONU Index Untagged Frame  Authenticated  Discard   Discard   Discard      Discard
              VID              VID      Untagged   Tagged    Null-tagged  Nested
--------  -------------  -------------  --------   -------  -----------  --------
 1:1          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:2          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:3          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:4          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:5          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:6          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:7          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:8          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:9          0          Any Tagged    Disabled   Disabled  Enabled      Enabled
 1:10         0          Any Tagged    Disabled   Disabled  Enabled      Enabled
CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

15-5 show olt onu vlan upstream vlan_mode

Purpose

Used to show upstream vlan mode .

Format

show olt onu vlan upstream vlan_mode [<onu_list> | all]

Description

This command show the upstream vlan mode configuration.

Parameter

Parameters	Description
all	Specified a range of ONUs to be configured.
onu_list	For set all ONUs in the system, you may use “all” parameter.

Restrictions

None.

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Example

To show the upstream vlan_mode of all ONUs:

```
DPN-3012-E:a# show olt onu vlan upstream vlan_mode all
Command: show olt onu vlan upstream vlan_mode all

 ONU Index    VLAN Mode        New VID   VLAN Type      VLAN Priority
 ----------    -----------      -------   ---------      -----------------
 1:1          Transparent
 1:2          Transparent
 1:3          Transparent
 1:4          Transparent
 1:5          Transparent
 1:6          Transparent
 1:7          Transparent
 1:8          Transparent
 1:9          Transparent
 1:10         Transparent
 1:11         Transparent
 1:12         Transparent
CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

15-6 config olt vlan downstream

Purpose

Used to set vlan handling for downstream.

Format

config olt vlan downstream [<olt_portlist> | all] [[add vid <int 0-4095> | default] { discard_nested [disable | enable] | destination [discard | address_table | specific_onu [<int 1-32> | broadcast] | address_and_onu <int 1-32>] | vlan_mode [transparent | tag | translation vid <int 0-4094> priority [original_priority | new_priority <priority>]] }(1) | delete vid <int 0-4095>]

Description

The primary purpose of this command is to specify whether to discard double tagged packet, the method to determine the forwarding onu when the packet arrives at olt in downstream direction, and the operation on the VLAN tag.
Regarding the forwarding onu, it can be determined by the address table kept in the OLT or explicitly assigned. When the method is set to address_table, the forwarding onu will be resolved by table lookup at the FDB table. When the method is set to specific_onu, then the forwarding onu is statically assigned. When the method is set to address_and onu, the packet will only be forwarded to the onu resolved by the address table when the resolved onu is consistent with the onu specified with the option

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Regarding the operation on the VLAN tag, the operation can be transparent, tag, or translation. If the mode is set to tag, then the outer tag of the packet will be removed by the OLT before forwarding it to onu. If the mode is set to translation, then the VID in the VLAN tag will be replaced by the specified VID and the priority will be replaced by the specified priority. Note that the priority can be specified to use the original priority or use a new priority.

For the packet that is associated with a VLAN ID that is not defined for the OLT, the packet follow the default rule: The default setting for the default rule are, discard_nested is disabled, destionation is address_table,vlan_mode is transparent. The default setting for default rule can also be changed.
The untag packet also follows the default rule.

Parameter

Parameters	Description
all olt_portlist	Specifies a range of olt ports to be configured. For set all OLT ports in the system, you may use “all” parameter.
add	add or update a vlan rule for a vid
delete	delete the rule of a vid.
vid	Specifies vid to be configurated.The range is 0 to 4095.The max entries for a OLT port is 255.
discard_nested	disable: DO NOT drop frames with nested tag enable: drop frames with nested tag
default	To configure the rule for frames with the undefined VID.
destination	discard : drop the frames with specific vid tag address_table : forward the frames according MAC address table specific_onu : forward the frame to the specific onu.You may use “broadcast” to set the frames to be forward to all ONUs. address_and_onu : forward the frame accroding MAC address table and the onu parameter.
vlan_mode	transparent: never remove tag or add tag tag: remove tag in downstream translation : excahange the original vid in frames with new vid and priority.

Restrictions

2-level administrator
3-level operator

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Example

To configure olt port 2-3, vid 2 discard nest tagged, destination according address table, vlan mode translation_and_priority:

```
DPN-3012-E:a# config olt vlan downstream 2-3 vid 2 discard_nested disable
destination address_table vlan mode translation vid 3 priority new_priority 4

Command: config olt vlan downstream 2-3 vid 2 discard_nested disable destination
address_table vlan mode translation vid 3 priority new_priority 4

 Success.

DPN-3012-E:a#
```

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15-7 show olt vlan downstream

Purpose

Used to show OLT vlan configuration for downstream.

Format

show olt vlan downstream [<olt_portlist> | all] [vid <int 0-4095> | default]

Description

This command show OLT vlan configuration for downstream.

Parameter

Parameters	Description
all	Specifies a range of olt ports to be configured.
olt_portlist	For set all OLT ports in the system, you may use “all” parameter.
vid	Specifies the vid to shown

Restrictions

None.

Example

To show OLT 2, 3 downstream VLAN configuration and vid 2:

```
DPN-3012-E:a# show olt vlan downstream 2-3 vid 2
Command: show olt vlan downstream 2-3 vid 2

OLT Port  VID   Discard    Destination          VLAN Mode    VID   Priority
              Nested
--------  ---   --------   -------------------  -----------  ---   ---------
 2        2     Disabled   Address_Table        Translation  3     Original
 3        2     Disabled   Address_and_ONU(20)  Translation  3     4

DPN-3012-E:a#
```

```
DPN-3012-E:a# show olt vlan downstream 1 default
Command: show olt vlan downstream 1 default

 OLT Port  VID    Discard    Destination          VLAN Mode    VID   Priority
               Nested
 --------  ---    --------   -------------------  -----------  ---   ---------
 1         None   Disabled   Address_table        Transparent

DPN-3012-E:a#
```

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15-8 create olt tagged_broadcast_forwarding

Purpose

Used to config the specific onu the tagged broadcast frames are forwarded to.

Format

create olt tagged_broadcast_forwarding [<olt_portlist> | all] vid <int 1-4094> specific_onu <int 1-32>

Description

This command is used to configure the specific onu the tagged broadcast frames are forwarded to.

This command will create a static FDB entry for the broadcast address in the OLT PON FDB table. This command is only effective when the vid destination specified by the config OLT VLAN downstream command address table. If the default rule for olt vlan downstream also defines the destination to address table, this command is effective for frames with unspecific vid in olt vlan downstream command.

Note: this is for tag packet, in order to make this rule take effect, you must make sure that corresponding OLT pon port should be a tagged member of the vlan.

Parameter

Parameters	Description
olt_portlist	Specifies the olt port to configurate.If you want configurate all olt port,you can use “all” parameter
vid	Specifies the vid the broadcast frmae carries.
specific_onu	Speicifies the onu the broadcast frame with the vid is forwarded to

Restrictions

2-level administrator
3-level operator

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Example

To create a entry for tagged broadcast frame with vid 2 , and forward it to onu 1:1

```
DPN-3012-E:a#create olt tagged_broadcast_forwarding 1 vid 2 specific_onu 1
Command: create olt tagged_broadcast_forwarding 1 vid 2 specific_onu 1

Success.

DPN-3012-E:a#show tagged_broadcast_forwarding all
Command: show tagged_broadcast_forwarding all

 VLAN ID   Port
 -------   ------
 2         1:1

 Total Entries: 1

DPN-3012-E:a#
```

15-9 delete olt tagged_broadcast_forwarding

Purpose

Used to delete the tagged broadcast forwarding entry in pon fdb.

Format

Delete olt tagged_broadcast_forwarding [<olt_portlist> | all] vid <int 1-4094>

Description

This command is used to delete the tagged broadcast forwarding entry in pon fdb.

Parameter

Parameters	Description
vid	Specifies the vid the broadcast frame carries.

Restrictions

2-level administrator
3-level operator

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Example

To delète a entry for tagged broadcast frame with vid 2

```
DPN-3012-E:a# delete tagged_broadcast_forwarding 1 vid 2
Command: delete tagged_broadcast_forwarding 1 vid 2

Success.

DPN-3012-E:a#show tagged_broadcast_forwarding all
Command: show tagged_broadcast_forwarding all

 VLAN ID Port
 ------- ------

 Total Entries: 0

DPN-3012-E:a#
```

15-10 show olt tagged_broadcast_forwarding

Purpose

Used to show the tagged broadcast forwarding entry in pon fdb.

Format

show tagged_broadcast_forwarding [all | < olt_portlist >]

Description

This command is used to show the tagged broadcast forwarding entry in pon fdb.

Parameter

Parameters	Description
olt_portlist/onu_list	Specifies the OLTs or ONUs to be shown.If you want to show all tagged broadcast forwarding entry, you may use “all” parameter.

Restrictions

None.

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Example

To show all entrys for tagged broadcast

```
DPN-3012-E:a# show tagged_broadcast_forwarding all
Command: show tagged_broadcast_forwarding all

 VLAN ID  Port
 -------  ------
 2        1:1

 Total Entries: 1

DPN-3012-E:a#
```

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Chapter 16

FDB

16 FDB COMMANDS LIST

show fdb [all | <port_list>]
config onu uni_port fdb address_limitation max_entries [< onu_list >|all] uni_port [< uni_portlist >|all] <0-255>
show onu uni_port fdb address_limitation max_entries [<onu_list>|all] uni_port [< uni_portlist>|all]
show olt fdb [all | <olt_portlist> | < onu_list >]
config olt fdb aging_time <sec 10-86400>
show olt fdb aging_time
create olt fdb <vlan_name 32> <macaddr> port [<port>| < onu_index >]
delete olt fdb <vlan_name 32> <macaddr>
clear olt fdb [all | <portlist> | < onu_list >]
config olt onu fdb address_limitation max_entries [all|< onu_list >] <int 0 – 8191>
show olt onu fdb address_limitation max_entries [all|< onu_list >]
config olt fdb address_limitation state [all|<olt_ portlist] [enable|disable]
show olt fdb address_limitation state [all|<olt_portlist>]
create multicast_fdb <vlan_name 32> <macaddr>
config multicast_fdb <vlan_name 32> <macaddr> [add | delete] <portlist>
delete multicast_fdb <vlan_name 32> <macaddr>
show multicast_fdb {vlan <vlan_name 32> | mac_address <macaddr>}

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16-1 show fdb

Purpose

Used to display the current unicast MAC address forwarding database.

Format

show fdb [all | <portlist>]

Description

This command will display the current contents of the switch's forwarding database.

Parameter

Parameters	Description
all	Displays all entries to the switch's forwarding database for all ports on the OLT switch.
<portlist>	Specifies an OLT port or range of OLT ports that the command will apply to.

Restrictions

None

Example

To display the FDB entry settings for OLT port 4:

```
DPN-3012:a#show fdb 4
Command: show fdb 4

VID    VLAN Name            MAC Address    Port    Type
---    -----------------    --------------  ------   -------

DPN-3012:a#
```

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16-2 config onu uni_port fdb address_limitation max_entries

Purpose

Used to configure maximum MAC address entries of ethernet ports of a ONUs.

Format

config onu uni_port fdb address_limitation max_entries [< onu_list >|all] uni_port [< uni_portlist >|all] <0-255>

Description

This command is to configure maximum MAC address entries of ethernet ports of a ONUs
The ONU itself is a switch device.
The switch port on the ONU is referred as uni port.
This command will be applied to the ONU unit.
This command restricts the number of address that the ONU can learn with a UNI port.
If onu uni port address limitation is set to 0, it means there is no address limitation.

Parameter

Parameters	Description
onu list	The specific a range of ONUs to be configured. For set all onus in the system , you may use “all” parameter
all	
uni_portlist	Specified a range of ports that attached to the onu to be configured.
all	For set all uni ports , you may use “all” parameter.
limit	Maximum mac address entries.

Restrictions

2-level administrator
3-level operator

Example

To configurate maximumu MAC entry of the ONU 1:1-1:2 ,Ethernet ports 1 to 32

```
DPN-3012-E:a#config onu uni_port fdb address_limitation max_entries 1:1-1:2 uni_port 1 32
Command: config onu uni_port fdb address_limitation max_entries 1:1-1:2 uni_port 1 32


Sucess.


DPN-3012-E:a#
```

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16-3 show onu uni_port fdb address_limitation max_entries

Purpose

Used to show the maximum mac entry of ethernet ports of a ONUs

Format

show onu uni_port fdb address_limitation max_entries [<onu_list>|all] uni_port [< uni_portlist>|all]

Description

This command is to show the maximum mac entry of ethernet ports of a ONUs.

Parameter

Parameters	Description
onu list	The specific a range of ONUs to be shown. For show all onus in the system , you may use “all” parameter
all	
uni_portlist	Specified a range of ports that attached to the onu to be shown. For show all uni ports , you may use “all” parameter.
all	

Restrictions

user level

Example

To show the maximumu MAC entry of the ONU 1:1-1:2 ,Ethernet ports 1:

```
DPN-3012-E:a#show onu uni_port fdb address_limitation max_entries 1:1-1:2 uni_port 1
Command: show onu uni_port fdb address_limitation max_entries 1:1-1:2 uni_port 1


ONU Index     UNI   Port Mac Limit
------------ ----   --------
1:1            1    32
1:2            1    32

DPN-3012-E:a#
```

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16-4 show olt fdb

Purpose

Used to show fdb entries in OLT pon chips.

Format

show olt fdb [all | <olt_portlist>|< onu_list >]

Description

This command is to show fdb entries in OLT pon chips.
Display the information in the OLT's FDB. Each entry is associated with an onu number.

Parameter

Parameters	Description
olt_portlist	The specific a range of OLTs to be shown. For show all OLTs in the system , you may use "all" parameter
all	
onu_list	Specified a range of ONUs to be shown.

Restrictions

user level

Example

To show fdb entries of ONU 5:1 :

```
DPN-3012-E:a# show olt fdb 5
Command: show olt fdb 5

 MAC Address        ONU Index   Type
 -----------------  ---------   --------
 00-02-00-00-00-11  5:1         Dynamic

 Total Entries: 1

DPN-3012-E:a#
```

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16-5 config olt fdb aging_time

Purpose

Used to configure aging time of swtich FDB and OLT PON FDB.

Format

config olt fdb aging_time <sec 10-86400>

Description

This will be applied to switch's FDB, and olt's FDB.

Parameter

Parameters	Description
<sec 10-86400>	swtich FDB and OLT PON FDB aging time, measureed in second.

Restrictions

2-level administrator
3-level operator

Example

To configurate fdb aging time 300 seconds:

```
DPN-3012-E:a# onfig olt fdb aging_time 300
Command: config olt fdb aging_time 300


Success.


DPN-3012-E:a#
```

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16-6 show olt fdb aging_time

Purpose

Used to show fdb aging time of switch FDB and OLT PON FDB.

Format

show olt fdb aging_time

Description

This command is to show fdb aging time of switch FDB and OLT PON FDB.

Parameter

None.

Restrictions

user level

Example

To show fdb aging time :

```
DPN-3012-E:a# show olt fdb aging_time
Command: show olt fdb aging_time

OLT FDB Aging Time : 300 secs

DPN-3012-E:a#
```

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16-7 create olt fdb

Purpose

Used to create a FDB entry in switch FDB or OLT PON FDB.

Format

create olt fdb <vlan_name 32> <macaddr> port [<port>| < onu_index >]

Description

This command is to create a FDB entry in switch FDB or OLT PON FDB.
If a MAC address is created at switch port, only one entry is added in switch FDB.
If a MAC address is created at onu, one entry with the same olt port is added in switch FDB , and another entry is added the specific OLT PON FDB.

Parameter

Parameters	Description
<vlan_name 32>	Specifies VLAN the new mac address belong to.This parameter is only useful for switch FDB
<macaddr>	Specifies the new mac to be added in FDB.
port /onu_index	Speicfies the switch port. The new mac address belong to, or the ONU the mac address belong to.

Restrictions

2-level administrator
3-level operator

Example

To add a mac 00-01-00-00-00-01 into OLT PON FDB 5:1 and switch port 5:

```
DPN-3012-E:a#create olt fdb default 00-01-00-00-00-01 port 5:1
Command: create olt fdb default 00-01-00-00-00-01 port 5:1


Success.


DPN-3012-E:a#
```

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16-8 delete olt fdb

Purpose

Used to delete the static entry in switch FDB , or in OLT PON FDB.

Format

delete olt fdb <vlan_name 32> <macaddr>

Description

This command is used to delete the static entry in switch FDB , and the static entry in the OLT PON FDB, if the entry exists in the OLT PON FDB.

Parameter

Parameters	Description
<vlan_name 32>	Specifies VLAN the mac address belong to.This parameter is only useful for entries in switch FDB
<macaddr>	Specifies the mac to be deleted in FDB.

Restrictions

2-level administrator
3-level operator

Example

To delete a mac 00-01-00-00-00-01 in OLT PON FDB 5:1 and switch port 5:

```
DPN-3012-E:a#delete olt fdb default 00-01-00-00-00-01
Command: delete olt fdb default 00-01-00-00-00-01


Success.


DPN-3012-E:a#
```

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16-9 clear olt fdb

Purpose

Used to clear siwtch FDB , or OLT PON FDB

Format

clear olt fdb [all | <portlist> | < onu_list >]

Description

This command is used to clear dynamic entries in FDB.

Parameter

Parameters	Description
all	Clear switch FDB and OLT PON FDB
portlist	Clear the entries associated with the specific port in switch FDB
onu_list	Clear the entries associated with the specific onu in OLT PON FDB.

Restrictions

2-level administrator
3-level operator

Example

To clear all entries in switch FDB and OLT PON FDB:

```
DPN-3012-E:a#clear olt fdb all
Command: clear olt fdb all

Success.

DPN-3012-E:a#
```

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16-10 config olt onu fdb address_limitation max_entries

Purpose

Used to configure the maximum entries that OLT can learn for a ONU.

Format

config olt onu fdb address_limitation max_entries [all|< onu_list >] <int 0 – 8191>

Description

This command is to configure the maximum entries that OLT can learn for a ONU.
This command is applied to the olt.The default max-entries is 16.If you want to specify no limit, you can use the followed command:config olt fdb address_limitation state olt_portlist disable.

Parameter

Parameters	Description
onu list	The specific a range of ONUs to be configrated. For set all onus in the system , you may use “all” parameter
all	
<int 0-8191>	Specifies the maximum fdb entries that OLT can learn for a ONU.

Restrictions

2-level administrator
3-level operator

Example

To set the maximum fdb entries to 16 for ONU 5:1

```
DPN-3012-E:a# config olt onu fdb address_limitation max_entries 5:1 16
Command: config olt onu fdb address_limitation max_entries 5:1 16

 Success.

DPN-3012-E:a#
```

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16-11 show olt onu fdb address_limitation max_entries

Purpose

Used to show the maximum entries that OLT can learn for a ONU.

Format

show olt onu fdb address_limitation max_entries [all|< onu_list >]

Description

This command is to show the maximum entries that OLT can learn for a ONU.

Parameter

Parameters	Description
onu list	The specific a range of ONUs to be shown. For show all onus in the system , you may use “all” parameter
all	

Restrictions

user level

Example

To set the maximum fdb entries to 16 for ONU 5:1

```
DPN-3012-E:a# show olt onu fdb address_limitation max_entries 5:1-5:5
Command: show olt onu fdb address_limitation max_entries 5:1-5:5

ONU Index    Maximum Entries
---------    ---------------
5:1           16
5:2           16
5:3           16
5:4           16
5:5           16

DPN-3012-E:a#
```

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.
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16-12 config olt fdb address_limitation state

Purpose

Used to enable or disable mac address limitation for ONUs that is connected to the specified OLT port.

Format

config olt fdb address_limitation state [all|<olt_ portlist] [enable|disable]

Description

This command is to enable or disable mac address limitation for ONUs that is connected to the specified OLT port. If the state is changed, it will take effect after the OLT port reboot or system reboot.
By default, the limitation function is disabled.

Parameter

Parameters	Description
olt_portlist	The specific a range of OLTs to be configured. For set all OLTs in the system , you may use “all” parameter
all	
state	Enable or disable the limitation.

Restrictions

2-level administrator
3-level operator

Example

To enable mac address limitation for all OLTs

```
DPN-3012-E:a# config olt fdb address_limitation state all enable
Command: config olt fdb address_limitation state all enable


 Success.


DPN-3012-E:a#
```

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16-13 show olt fdb address_limitation state

Purpose

Used to show the state for the mac address limitation function..

Format

show olt fdb address_limitation state [all|<olt_portlist>]

Description

This command is to show the state of the mac address limitation function.

Parameter

Parameters	Description
olt_portlist	The specific a range of OLTs to be shown. For show all OLTs in the system , you may use “all” parameter
all	

Restrictions

user level

Example

To enable mac address limitation for all OLTs

```
DPN-3012-E:a# show olt fdb address_limitation state all
Command: show olt fdb address_limitation state all


 OLT Port    Current State  Configured State
 --------    -------------  ------------------
 1           Disabled       Enabled
 2           Disabled       Enabled
 3           Disabled       Enabled
 4           Disabled       Enabled
 5           Disabled       Enabled
 6           Disabled       Enabled
 7           Disabled       Enabled
 8           Disabled       Enabled
 9           Disabled       Enabled
 10          Disabled       Enabled
 11          Disabled       Enabled
CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

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16-14 create multicast_fdb

Purpose

Used to create a static entry to the multicast MAC address forwarding table (database).

Format

create multicast_fdb [<vlan_name 32> <macaddr>]

Description

This command will make an entry into the switch's multicast MAC address forwarding database.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN on which the MAC address resides.
<macaddr>	The MAC address that will be added to the forwarding table.

Restrictions

2-level administrator
3-level operator

Example

To create multicast MAC forwarding entry**:**

```
DPN-3012:a#create multicast_fdb default 01-00-00-00-00-01
Command: create multicast_fdb default 01-00-00-00-00-01

Success.

DPN-3012:a#
```

16-15 config multicast_fdb

Purpose

Used to configure the switch's multicast MAC address forwarding database.

Format

config multicast_fdb [<vlan_name 32> <macaddr> [add | delete] <portlist>]

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Description

This command configures the multicast MAC address forwarding table.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN on which the MAC address resides.
<macaddr>	The MAC address that will be added to the multicast forwarding table.
[add | delete]	Add will add ports to the forwarding table. Delete will remove ports from the multicast forwarding table.
<portlist>	Specifies a port or range of ports to be configured.

Restrictions

2-level administrator
3-level operator

Example

To add multicast MAC forwarding:

```
DPN-3012:a#config multicast_fdb default 01-00-00-00-00-01 add 1-5
Command: config multicast_fdb default 01-00-00-00-00-01 add 1-5

Success.

DPN-3012:a#
```

16-16 delete multicast fdb

Purpose

Used to delete a static entry to the multicast MAC address forwarding table (database).

Format

delete multicast_fdb [<vlan_name 32> <macaddr>]

Description

This command will delete an entry into the switch's multicast MAC address forwarding database.

Parameter

Parameters	Description
<vlan_name 32>	The name of the VLAN on which the MAC address resides.
<macaddr>	The MAC address that will be deleted.

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Restrictions

2-level administrator
3-level operator

Example

To delete multicast MAC forwarding entry**:**

```
DPN-3012:a#delete multicast_fdb default 01-00-00-00-00-01
Command: delete multicast_fdb default 01-00-00-00-00-01


Success.


DPN-3012:a#
```

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16-17 show multicast_fdb

Purpose

Used to display the contents of the switch's multicast forwarding database.

Format

show mulitcast_fdb [vlan <vlan_name 32> | mac_address <macaddr>]

Description

This command is used to display the current contents of the switch's multicast MAC address forwarding database..

Parameter

Parameters	Description
vlan <vlan_name 32>	The name of the VLAN on which the MAC address resides.
mac_address <macaddr>	The MAC address that is present in the forwarding database table.

Restrictions

None

Example

To display multicast MAC address table:

```
DPN-3012:a#show multicast_fdb
Command: show multicast_fdb


Total Entries     : 0


DPN-3012:a#
```

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Chapter 17

IGMP Snooping

17 IGMP SNOOPING COMMANDS LIST

enable igmp_snooping
disable igmp_snooping
show igmp_snooping
show igmp_snooping group {vlan <vlan_name 32>}
show onu igmp_snooping groups [all | <onu_list>]
config onu igmp_snooping [<onu_list> | all] [enable | disable]
show onu igmp_snooping group [<onu_list> |all]

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17-1 enable igmp_snooping

Purpose

Used to enable igmp snooping for switch.

Format

enable igmp_snooping

Description

This command is to enable igmp snooping for switch.
There are no per vlan igmp snooping configuration.
When this command is set to enable, IGMP snooping is enabled for all VLANs.
When this command is set to disable, IGMP snooping is disabled for all VLANs.

Parameter

None

Restrictions

2-level administrator
3-level operator

Example

To enable igmp snooping

```
DPN-3012-E:a#enable igmp_snooping
Command: enable igmp_snooping


Sucess.


DPN-3012-E:a#
```

17-2 disable igmp_snooping

Purpose

Used to disable igmp snooping for switch.

Format

disable igmp_snooping

Description

This command is to disable igmp snooping for switch.

Parameter

None

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.
.
.
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Restrictions

2-level administrator
3-level operator

Example

To enable igmp snooping

```
DPN-3012-E:a#disable igmp_snooping
Command: disable igmp_snooping


Sucess.


DPN-3012-E:a#
```

17-3 show igmp_snooping

Purpose

Used to show igmp snooping state.

Format

show igmp_snooping state

Description

This command is to show igmp_snooping state.

Parameter

None.

Restrictions

user level

Example

To enable igmp snooping

```
DPN-3012-E:a# show igmp_snooping
Command: show igmp_snooping


 IGMP Snooping Global State : Disabled



DPN-3012-E:a#
```

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17-4 show igmp_snooping group

Purpose

Used to show igmp_snooping group that has members.

Format

show igmp_snooping group {vlan <vlan_name 32>}

Description

This command is to show igmp_snooping group that has members.

Parameter

Parameters	Description
vlan	Specifies the vlan that igmp_snooping group belongs to.

Restrictions

user level

Example

To show all of igmp_snooping group

```
DPN-3012-E:a#show igmp_snooping group
Command: show igmp_snooping group

 VLAN Name       : default
 Multicast group : 225.0.0.1
 MAC address     : 01-00-5E-00-00-01
 Reports         : 2
 Port Member      : 9

 Total Entries : 1

DPN-3012-E:a#
```

17-5 show onu igmp_snooping groups

Purpose

Used to show igmp_snooping groups in ONU's table.

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Parameter

Parameters	Description
onu_list	Specifies ONUs to be shown its igmp group table.
all	If want all ONU's table to be shown ,you may use "all" parameters

Restrictions

user level

Example

To show igmp_group table of ONU 5:1

```
DPN-3012-E:a#show onu igmp_snooping groups 5:1
Command: show onu igmp_snooping groups 5:1


 Port : 5:1
 Index          Groups
 ----------------------------
 1            01-00-5E-00-00-01
 2            01-00-5E-00-00-02



DPN-3012-E:a#
```

Формат: Список

17-6 config onu igmp_snooping

Purpose

Used to enable or disable igmp snooping on ONU.

Format

config onu igmp_snooping [<onu_list> |all] [enable | disable]

Description

This command is to enable or disable igmp snooping on ONU.This feature only work when ONU igmp control mode is snooping mode.

Parameter

Parameters	Description
onu_list	Specifies ONUs to be configurated.
all	If want to set all ONUs, you may use "all" parameters
enable/disable	Enable or disable igmp snooping on ONU

Restrictions

2-level administrator
3-level operator

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Example

To enable igmp snooping for ONU 5:1

```
DPN-3012-E:a#config onu igmp_snooping 5:1 enable
Command: config onu igmp_snooping 5:1 enable


Success.


DPN-3012-E:a#
```

Формат: Список

17-7 show onu igmp_snooping

Purpose

Used to show current igmp snooping status on ONU.

Format

show onu igmp_snooping [<onu_list> |all]

Description

This command is to show current igmp snooping status on ONU.

Parameter

Parameters	Description
onu_list	Specifies ONUs to be displayed.
all	If want to show all ONUs ,you may use “all” parameters

Restrictions

user level

Example

To show igmp snooping status for ONU 5:1 and 5:2

```
DPN-3012-E:a# show onu igmp_snooping 5:1-5:2
Command: show onu igmp_snooping 5:1-5:2


 Port      State
 --------  --------
 5:1       Enable
 5:2       Disable


DPN-3012-E:a#
```

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Chapter 18

ONU

18 ONU COMMANDS LIST

show onu information [all | <onu_list>]
reboot onu [< onu_list >| all]

18-1 show onu information

Purpose

Used to show ONU information.

Format

show onu information [all | <onu_list>]

Description

This command is to show ONU information .

Parameter

Parameters	Description
onu_list	Specifies range of ONUs to be shown.
all	If want to show all ONUs ,you may use “all” parameters

Restrictions

user level

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Example

To show all onu information
Display the temperature, cable length in meter and description

The distance is measured in kilometer.

```
DPN-3012-E:a# show onu information all
Command: show onu information all

Index ONU TYPE         S/W Ver.  H/W Ver.   Temp.  Dist.    Description
 ----- -------- --------- -------- ------ ----- --------------------------------
 9:1   DPN             100B002           38.0    0.0
 9:2   unregistered ......
 9:3   unregistered ......
 9:4   unregistered ......
 9:5   unregistered ......
 9:6   unregistered ......
 9:7   unregistered ......
 9:8   unregistered ......
 9:9   unregistered ......
 9:10  unregistered ......
 9:11  unregistered ......
 9:12  unregistered ......
 9:13  unregistered ......
 9:14  unregistered ......
 9:15  unregistered ......
 9:16  unregistered ......
 9:17  unregistered ......
 9:18  unregistered ......
 9:19  unregistered ......
 9:20  unregistered ......

DPN-3012-E:a#
```

Формат: Список

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18-2 reboot onu

Purpose

Used to reboot specific ONUs.

Format

reboot onu [< onu_list >| all]

Description

This command is to reboot specific ONUs .The ONUs will register again after rebooting.

Parameter

Parameters	Description
onu_list	Specifies range of ONUs to be reboot.

Restrictions

2-level administrator
3-level operator

Example

To reboot ONU 5:1

```
DPN-3012-E:a# reboot onu 5:1
Command: reboot onu 5:1

 Success.

DPN-3012-E:a#
```

Формат: Список

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Chapter 19

OLT

19 OLT COMMANDS LIST

show olt port information [all | <olt_portlist>]
reboot olt port [all | <olt_portlist>]
config olt description [<onu_list > | < olt_portlist >] {<description>}

19-1 show olt port information

Purpose

Used to show olt information including olt state, active onus,automatic authentican,encryption and description.

Format

show olt port information [all | <olt_portlist>]

Description

This command is to show olt information including olt state, activite onus,automatic authentican,encryption and description.
On OLT, authentication can be setup between OLT and ONU. The authentication can be enabled per onu.When link between onu and olt is up, onu will constantly send the register packet. Olt will base on the mac address to do the authentication. f pass, the onu will be in registered state. When an ONU is in unregistered state: all the switch ports on this ONU will be in link down state. That is, this ONU will be in inactive state.

Parameter

Parameters	Description
olt_portlist	Specifies OLTs to be shown.
all	If want to show all OLTs ,you may use “all” parameters

Restrictions

user level

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Example

To show all olt information

```
DPN-3012-E:a#show olt port information all
Command: show olt port information all

 OLT   Active      MAC       Encryption    Description
       ONUs   Authentication     Type
 ---- ------- -------------- --------------- --------------------------------
 1    0      Disabled      TRIPLE CHURNING
 2    0      Disabled      TRIPLE CHURNING
 3    0      Disabled      TRIPLE CHURNING
 4    0      Disabled      TRIPLE CHURNING
 5    0      Disabled      TRIPLE CHURNING
 6    0      Disabled      TRIPLE CHURNING
 7    0      Disabled      TRIPLE CHURNING
 8    2      Disabled      TRIPLE CHURNING
 9       Not Available......
 10      Not Available......
 11      Not Available......
 12      Not Available......

DPN-3012-E:a#
```

19-2 reboot olt port

Purpose

Used to reboot specific olt ports.

Format

reboot olt port [all | <olt_portlist>]

Description

This command is to reboot specific olt ports and system keeps on working.

Parameter

Parameters	Description
olt_portlist	Specifies OLTs to be reboot.

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Restrictions

2-level administrator
3-level operator

Example

To reboot olt port 6

```
DPN-3012-E:a# reboot olt port 6
Command: reboot olt port 6


 Rebooting ...
 OLT 6 - Success.


DPN-3012-E:a#
```

19-3 config olt description

Purpose

Used to config olt or onu description.

Format

config olt description [<onu_list > | < olt_portlist >] {<description>}

Description

This command is used to config olt or onu description.

Parameter

Parameters	Description
onu_list	Specifies ONUs to be configureed
olt_portlist	Specifies OLTs to be configured.

Restrictions

2-level administrator
3-level operator

Example

To configure olt port 1 decription

```
DPN-3012-E:a# config olt description 1 test
Command: config olt description 1 test


 Success.


DPN-3012-E:a#
```

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Chapter 20

MAC Authentication

20 MAC AUTHENTICATION COMMANDS LIST

config olt mac_authentication [all|< olt_portlist >] state [disable | enable]
config olt mac_authentication onu_mac [add <onu_index> macaddr>|delete <onu_index>]
show olt mac_authentication onu_mac [all|<onu_list>]
show olt mac_authentication fail_table [all|<olt_portlist>]

20-1 config olt mac_authentication state

Purpose

Used to enable or disable olt automatic authentication.

Format

config olt mac_authentication [all|<OLT_PORTLIST>] state [disable | enable]

Description

This command is used to enable or disable olt automatic authentication.
Note: if you using olt automatic authentication, you configuration for an onu may didn't corresponding to what you want. For example, your configuration is for the specific onu at 9:1, which is dpn304, when olt using automatic authentication, the onu 9:1 may be dpn301 or other type of onu. Because at this time, we can't guarantee the sequence of onu.

Parameter

Parameters	Description
all / OLT_PORTLIST	All olt ports / specify the olt ports to be configurated
disabe/enable	enable or disable olt automatic authentication.

Restrictions

2-level administrator
3-level operator

Example

To enable or disable olt automatic authentication:

```
DPN-3012-E:a#config olt mac_authentication 9 state enable
Command: config olt mac_authentication 9 state enable


 Success.


DPN-3012-E:a#
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20-2 config olt mac_authentication onu_mac

Purpose

Used to add or delete MAC address in authentication table.

Format

config olt mac_authentication onu_mac [add <onu_index> macaddr>|delete <onu_index>]

Description

This command is used to add or delete MAC address in authentication table.Only the ONU with the mac that is in authentication table can register successfully.
A onu can have only one MAC address, and a MAC address can be assinged to only one ONU.
If the mac authentication is enabled, the onu which has no address defined can't pass authentication and can't register.

Parameter

Parameters	Description
add	onu_port – specifies which onu port will be associated with a mac address macaddr – specifies the mac that can register successfully
Delete	delete the specific mapping between onu port and mac address.

Restrictions

2-level administrator
3-level operator

Example

To add mac 00-01-00-00-00-01 to onu port 5:1.It means that the onu with the mac address 00-01-00-00-00-01 can register on port 5:1 and can't registed on other ports , while other onus can't register on port 5:1.

```
DPN-3012-E:a#config olt mac_authentication add 5:1 00-01-00-00-00-01
Command: config olt mac_authentication add 5:1 00-01-00-00-00-01


 Success.


DPN-3012-E:a#
```

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20-3 show olt mac_authentication onu_mac

Purpose

Used to display olt mac authentication entries.

Format

show olt mac_authentication onu_mac [all|< onu_list >]

Description

This command is used to display mac authentication entries.

Parameter

Parameters	Description
all /onu_list	Specifies the ONU ID to show the mac address accociated to it. If want to show all ONUs , you can use “all” parameter.

Restrictions

user level

Example

To show the mac addresses accociated to ONU 5:1-5:5.

```
DPN-3012-E:a# show olt mac_authentication 5:1-5:5
Command: show olt mac_authentication 5:1-5:5


 ONU Index    MAC Address
 -------- ----------------------
 5:1         00-00-01-00-00-01
 5:2         Not Assigned
 5:3         Not Assigned
 5:4         Not Assigned
 5:5         Not Assigned


DPN-3012-E:a#
```

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20-4 show olt mac_authentication fail_table

Purpose

Used to show the MAC entries that failed to authenticate.

Format

show olt mac_authentication fail_table [all|<olt_portlist>]

Description

This command is used to show the MAC entries that failed to authenticate.
If a onu has sent a register request, but olt has no mac addresss assigned to this onu or this mac address has been assigned to the another onu port.The onu will fail to pass authentication and its mac address is recorded in mac_authentication fail table.

If the table is full, and a new entry arrives, the eldest entry will be removed to accommodate the new entry.

Parameter

Parameters	Description
olt_portlist/all	Specifies the OLTs to show ,which the ONUs connected to failed to authenticate. If want to show OLTs, you may use “all” parameter.

Restrictions

user level

Example

To show authentication fail entries under OLT 5

```
DPN-3012-E:a# show olt mac_authentication_fail_table 5

Command: show olt mac_authentication_fail_table 5

OLT 5 MAC Authentication Fail Table

Index       MAC Address

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

1          00-00-01-00-00-02

2

3

4

DPN-3012-E:a#
```

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Chapter 21

Bandwidth Control

21 BANDWIDTH CONTROL COMMANDS LIST

config olt onu traffic_control downstream [all | < onu_list >] [enable max_bw <int 15-999994> max_burst_sz <int 1-16777215>|disable]
config olt onu traffic_control upstream [all | < onu_list >] priority <int 0-7> min_guaranteed_bw <int 0-1000> {guaranteed_fine <int 0-15>} max_bw <int 0-1000> {best_effort_fine <int 0-15>}
show olt onu traffic_control [all | < onu_list >]
config onu dba_report_thresholds [all|<onu_list>] queue_set_number <int 2-4> queue <value_list> state [enable threshold <int 0-65535> | disable]
show onu dba_report_thresholds [all|<onu_list>]

21-1 config olt onu traffic_control downstream

Purpose

Used to configure the onu's downstream traffic control rule.

Format

config olt onu traffic_control downstream [all | < onu_list >] [enable max_bw <int 15-999994> max_burst_sz <int 1-16777215>|disable]

Description

The command is used to configure the onu's downstream traffic control rule per ONU.
This setting does not apply to the intra-OLT traffics between ONUs. It only apply to the inter-OLT traffics.
This setting will be applied to OLT.

Parameter

Parameters	Description
all onu_list	Specified a range of ports to be configured. (OLT ID: ONU ID). For set all ONU ports in the system, you may use "all" parameter.
enable	Enable downstream traffic control. max_bw <int 15-999994> - Maximum bandwidth allowed for the ONU, Kbits/ Sec. max_burst_sz <int 1-16777215> - Maximal number of bytes in a burst, measured in Bytes.
Disable	Disable downstream traffic control.

Restrictions

2-level administrator
3-level operator

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Example

To configure the traffic control of the ONU port 1-3 of OLT 2 enable:

```
DPN-3012-E:a#config olt onu traffic control downstream 2:1-2:3 enable max_bw 100
max_burst_sz 1000000
Command: config olt onu traffic control downstream 2:1-2:3 enable max_bw 100 max_burst_sz
1000000

 Success.

DPN-3012-E:a#
```

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21-2 config olt onu traffic_control upstream

Purpose

Used to configure the onu's upstream traffic control rule.

Format

config olt onu traffic_control upstream [all | < onu_list >] priority <int 0-7> min_guaranteed_bw <int 0-1000> {guaranteed_fine <int 0-15>} max_bw <int 0-1000> {best_effort_fine <int 0-15>}

Description

The command is used to configure the onu's upstream traffic control rule per ONU.
This setting apply to the intra-OLT traffics between ONUs and the inter-OLT traffics.

Parameter

Parameters	Description
all onu_list	Specified a range of ports to be configured. (OLT ID: ONU ID). For set all ONU ports in the system, you may use "all" parameter.
priority	The best effort bandwidth is allocated first to high priority ONUs,followed by lower priority ONUs down to the lowest priority ONUs. If there are multiple ONUs with the same priority, the ratio between the usage history and the guaranteed bandwidth parameter are used to determine the precedence of the ONUs
min_guaranteed_bw	Each ONU is allocated a guaranteed bandwidth. Guaranteed bandwidth is granted to the ONU, if requested in a REPORT message. The total guaranteed bandwidth over an EPON link must not exceed the capacity of the EPON link.
guaranteed_fine	Fine Guaranteed bandwidth. Added to min_guaranteed_bw (64 Kbps units)
max_bw	The remaining upstream bandwidth that has not been allocated to guaranteed ONU is distributed between ONU that have been configured for best effort bandwidth.
best_effort_fine	Fine Best Effort bandwidth. Added to max_bw (64 Kbps units)

Restrictions

2-level administrator
3-level operator

Example

To configure the traffic control of the ONU port 1-3 of OLT 2 priority 2, guaranteed bandwidth 10M64K bps, best effort bandwidth 1000M bps:

```
DPN-3012-E:a#config olt onu traffic control upstream 2:1-2:3 priority 2 min_guaranteed_bw
10 guaranteed_fine 1 max_bw 1000 best_effort_fine 0
Command: config olt onu traffic control upstream 2:1-2:3 priority 2 min_guaranteed_bw
```

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```
10 guaranteed_fine 1 max_bw 1000 best_effort_fine 0


 Success.


DPN-3012-E:a#
```

21-3 show olt onu traffic_control

Purpose

Used to display ONU's downstream traffic control configuration.

Format

show olt onu traffic_control [all | < onu_list >]

Description

The command is used to display ONU's downstream traffic control configuration.

Parameter

Parameters	Description
all	Specified a range of ports to be configured. (OLT ID: ONU ID).
onu_list	For set all ONU ports in the system, you may use "all" parameter.

Restrictions

user level

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Example

To display the ONU downstream traffic control information of the ONU port 1-3 of OLT 2:

```
DPN-3012-E:a#show olt onu traffic control 2:1-2:3
Command: show olt onu traffic control 2:1-2:3

Onu     DS State   DS Max BW  DS Burst   US Pri. Guarantee  GR_Fine   US Max   BE_Fine
-----   --------   --------   --------   ------  ---------- -------   ------   -------
2:1     Disabled   500000      8388480        3         10       0     1000         0
2:2     Disabled   500000      8388480        3         10       0     1000         0
2:3     Disabled   500000      8388480        3         10       0     1000         0

DPN-3012-E:a#
```

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Chapter 22

P2P

22 PEER TO PEER COMMANDS LIST

config olt onu p2p traffic_control downstream [all | < onu_list >] [enable max_bw <int 0-999994> max_burst_sz <int 1-16777215> | disable]
show olt onu p2p traffic_control [all | < onu_list >]
config olt onu p2p access_control < onu_index > forward_list [all|<p2p_onu_ list> | none]
show olt onu p2p access_control [all | < onu_list >]

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22-1 config olt onu p2p traffic_control downstream

Purpose

Used to configure the onu's downstream traffic control rule per ONU.

Format

config olt onu p2p traffic_control downstream [all | < onu_list >] [enable max_bw <int 0-999994> max_burst_sz <int 1-16777215> | disable]

Description

The command is used to configure the onu's downstream traffic control rule per ONU
The setting only applied to traffic between two onus that are located at the same olt

The traffic between two onus located at the same olt can be directly forwarded by olt.

Parameter

Parameters	Description
all onu_list	Specified a range of ports to be configured. (OLT ID: ONU ID). For set all ONU ports in the system, you may use "all" parameter.
Enable	Enable downstream traffic control. max_bw <int 15-999999> - Maximum bandwidth allowed for the ONU, Kbits/ Sec. max_burst_sz <int 1-16777215> - Maximal number of bytes in a burst, measured in Bytes.
Disable	Disable downstream traffic control.

Restrictions

2-level administrator
3-level operator

Example

To configure the P2P traffic control of the ONU port 1-3 of OLT 2 enable:

```
DPN-3012-E:a#config olt onu p2p traffic control downstream 2:1-2:3 enable max_bw 100
max_burst_sz 1000000
Command: config olt onu p2p traffic control downstream 2:1-2:3 enable max_bw 100
max_burst_sz 1000000


 Success.


DPN-3012-E:a#
```

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22-2 show olt onu p2p traffic_control

Purpose

Used to display ONU's P2P downstream traffic control configuration.

Format

show olt onu p2p traffic_control [all | < onu_list >]

Description

The command is used to display ONU's P2P downstream traffic control configuration.

Parameter

Parameters	Description
all	Specified a range of ports to be configured. (OLT ID: ONU ID).
onu_list	For set all ONU ports in the system, you may use "all" parameter.

Restrictions

user level

Example

To display the ONU P2P downstream traffic control information of the ONU port 1-3 of OLT 2:

```
DPN-3012-E:a# show olt onu p2p traffic control 2:1-2:3
Command: show olt onu p2p traffic control 2:1-2:3


P2P Downstream Bandwidth Control:


 ONU Index   State      Max BW( Kbits/ Sec)     Max burst size
-------------------------------------------------------------------
 2:1        Enabled     100                   1000000
 2:2        Enabled     100                   1000000
 2:3        Enabled     100                   1000000



DPN-3012-E:a#
```

22-3 config olt onu p2p access_control

Purpose

Used to configure sets P2P access policy for the traffic from a specific ONU to other ONUs which

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registers in the same OLT.

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Format

config olt onu p2p access_control < onu_index > forward_list [all|<p2p_onu_ list> | none]

Description

The command is used to configure access rule among P2P ONUs.
By default, an ONU can forward packets to all other ONU under the same OLT.

Parameter

Parameters	Description
onu_index	Specified an ONU to be configured. (OLT ID: ONU ID).
p2p_port_list	The access ONU list which register in the same OLT.

Restrictions

2-level administrator
3-level operator

Example

To configure ONU 1 of OLT 2 cannot access ONU 4-6 of OLT 2:

```
DPN-3012-E: config olt onu p2p access_control 2:1 with 4-6 state disable
Command: config olt onu p2p access_control 2:1 with 4-6 state disable


 Success.
DPN-3012-E:a#
```

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22-4 show olt onu p2p access_control

Purpose

Used to display P2P access policy.

Format

show olt onu p2p access_control [all | < onu_list >]

Description

The command is used to display P2P access policy.

Parameter

Parameters	Description
all	Specified a range of ports to be configured. (OLT ID: ONU ID).
onu_list	For set all ONU ports in the system, you may use “all” parameter.

Restrictions

user level

Example

To display the display P2P access policy of the ONU port 1-3 of OLT 2:

```
DPN-3012-E:a# show olt onu p2p access_control 2:1-2:3
Command: show olt onu p2p access_control 2:1-2:3


  Port        : 2:1
  Forwarding ONUs  : 2:2-2:3,2:7-2:32


  Port        : 2:2
  Forwarding ONUs : 2:1,2:3-2:32


  Port        : 2:3
  Forwarding ONUs : 2:1-2:2,2:4-2:32


DPN-3012-E:a#
```

Chapter 23

Encryption

23 ENCRYPTION COMMANDS LIST

config olt onu encryption state [all | <onu_list>] [enable |disable]
show olt onu encryption state [all | <onu_list>]

Формат: Список

23-1 config olt onu encryption state

Purpose

Used to enable or disable encryption for ONUs.

Format

config olt onu encryption state [all | <onu_list>] [enable |disable]

Description

The command is used to enable or disable encryption for ONUs.
This setting will be applied to olt and onu .
When encryption is enabled, data transmit between onu and olt will be encrypted.

Parameter

Parameters	Description
all onu_list	Specified a range of ONUs to be configured. (OLT ID: ONU ID). For set all ONU ports in the system, you may use “all” parameter.
enable /disable	enable or disable encryption. **Note: Once a ONU connection has been encrypted,non-encrypted mode can only t ake effect at its registeration next time.**

Restrictions

Note: If an ONU connection has registered with encrypted mode, at this time, if user want to config this onu working at ,non-encrypted mode , this configuration won’t take effect until this onu deregister and register again
2-level administrator
3-level operator

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Example

To configurate ONU 2:1 starting encryption:

```
DPN-3012-E:a#config olt onu encryption 2:1 enable
Command: config olt onu encryption 2:1 enable

 Warning: Once a ONU connection has been encrypted,non-encrypted mode can only
t
ake effect at its registeration next time !!
 Success.

DPN-3012-E:a#
```

Формат: Список

23-2 show olt onu encryption state

Purpose

Used to display encryption configuration for ONUs.

Format

show olt onu encryption state [all | <onu_list>]

Description

The command is used to display encryption configuration for ONUs.

Parameter

Parameters	Description
all	Specified a range of ONUs to be Displayed. (OLT ID: ONU ID). For set all ONU ports in the system, you may use “all” parameter.
onu_list	

Restrictions

user level

Example

To display ONU 2:1-2:5 encryption configuration:

```
DPN-3012-E:a# show olt onu encryption state 2:1-2:5
Command: show olt onu encryption state 2:1-2:5

 ONU Index   Encryption State
 ------      ----------------
 2:1         Enabled
 2:2         Enabled
 2:3         Enabled
 2:4         Enabled
 2:5         Enabled

DPN-3012-E:a#
```

In CTC mode , the OLT only supports TRIPLE CHURNING encryption type.If AES is enabled, the ONU will deregister.So the command :”config olt encryption type” and “show olt encryption type” are not necessary.

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Chapter 24

Diagnostics

24 DIAGNOSTICS COMMANDS LIST

oam ping onu <onu_index> {times <value 1-50>} {size <int 0-100>}
remote loopback_test onu <onu_index> {times <value 1-50>} {size <int 64-1522>}

24-1 oam ping onu

Purpose

Used to ping a register ONU.

Format

oam ping onu <onu_index> {times <value 1-50>} {size <int 0-100>}

Description

This command is used to ping a register ONU. If the ONU don't register, this command cannot be executed. This command is used to test the connectivity between OLT and ONU.

Parameter

Parameters	Description
onu_index	Specified an ONU to be configured. (OLT ID: ONU ID).
times <value 1-50>	The number of packets want to send. Default value is 3.
size <int 0-100>	The ping packet size. Default value is 60. When the input is set to zero, the system is set to 60 automatically

Restrictions

2-level administrator
3-level operator

Example

To configure the ping ONU 1 of OLT 2 :

```
DPN-3012-E:a#oam ping onu 2:1 times 5 size 100
Command: oam ping onu 2:1 times 5 size 100


Pinging 2:1 with 100 bytes of data:
Reply from ONU 2:1, time 0ms
```

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```
Reply from ONU 2:1, time 0ms
Reply from ONU 2:1, time 0ms
Reply from ONU 2:1, time 0ms
Reply from ONU 2:1, time 0ms

OAM Ping statistics for ONU 2:1:
      Packets: Sent = 5, Received = 5, Lost = 0,

DPN-3012-E:a#
```

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24-2 remote loopback_test onu

Purpose

Used to display ONU's P2P downstream traffic control configuration.

Format

remote loopback_test onu <onu_index> {times <value 1-50>} {size <int 64-1522>}

Description

This command is used to test the remote loopback between OLT and ONU. The OLT will send packets to the ONU and ONU loop these packets back. This command is used to test the packet can transmit correctly between ONU and OLT.
When ONU is in loopback mode, the downstream traffic will be echoed back to OLT.After remote loopback test is completed, ONU will automatically return to normal mode.

Parameter

Parameters	Description
onu_index	Specified an ONU to be configured. (OLT ID: ONU ID).
times <value 1-50>	The numbers of packets want to send. Default value is 3.
size <int 64-1522>	The ping packet size. Default value is 64.

Restrictions

2-level administrator
3-level operator

Example

To test the ONU 1 of OLT 2:

```
DPN-3012-E:a#remote loopback 2:1 times 50 size 1522
Command: remote loopback 2:1 times 50 size 1522


Under testing ......


Remote loopback test statistics for ONU 2:1:Success


DPN-3012-E:a#
```

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Chapter 25

Statistics

25 STATISTICS COMMANDS LIST

clear counters [olt_port [all | <olt_portlist>] | onu [all |<onu_list>] uni_port [all |<uni_portlist>]
show olt pon_port packet [all | <olt_portlist>]
show olt pon_port error [all | olt_portlist]
show onu uni_port packet [<onu_list> | all] [<uni_portlist> | all]
show onu uni_port error [<onu_list> | all] [<uni_portlist> | all]

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25-1 clear counters

Purpose

Used to clear counters.

Format

clear counters {olt_port [all | <olt_portlist>] | onu [all |<onu_list>] uni_port [all |<uni_portlist>]}

Description

The command is used to clear counters for OLT pon ports and ONU uni ports.If no parameters followed , it means to clear all counters.

Parameter

Parameters		Description
olt_ports	all	Specifies a range of OLT pon port to be cleared. For clear all OLT pon port in the system, you may use “all” parameter.
	olt_portlist	
onu_ports	all	Specifies a range of ONUs to be cleared. For clear all ONUs in the system, you may use “all” parameter.
	onu_list	
uni_port	all	Specifies a range of uni ports to be cleared. For clear all uni ports in the system, you may use “all” parameter.
	uni_portlist	

Restrictions

2-level administrator
3-level operator

Example

To clear the counters of the pon port of OLT port 5 :

```
DPN-3012-E:a#clear counters olt_port 5

Command: clear counters olt_port 5


 Success.


DPN-3012-E:a#
```

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25-2 show olt pon_port packet

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Purpose

Used to show normal packet counters of pon port of olt.

Format

show olt pon_port packet [all | <olt_portlist>]

Description

The command is show packet counters of OLT pon port. An OLT has two sides: switch side and PON side, It refers to the PON side OLT port.

Parameter

Parameters	Description
all	Specifies a range of OLT pon port to be shown. For show all OLT pon port in the system, you may use "all" parameter.
olt_portlist	

Restrictions

user level

Note: because the reason of PMC chip issue, some counter will show "Not support"

Example

To show the counters of the pon port of OLT port 5 :

```
DPN-3012-E:a# show olt pon_port packet 5
Command: show olt pon_port packet 5


 Port number : 5
 Frame Type       Total             Total/sec
 ---------------- ------------------- ------------
 RX Bytes         0                 0
 RX Frames        0                 0

 TX Bytes         0                 0
 TX Frames        Not support          Not support

DPN-3012-E:a#
```

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25-3 show olt pon_port error

Purpose

Used to show counters of error frames of OLT pon port

Format

show olt pon_port error [all | olt_portlist]

Description

show counters of error counter of OLT pon port.

Parameter

Parameters	Description
all	Specifies a range of OLT pon port to be shown. For show all OLT pon port in the system, you may use "all" parameter.
olt_portlist	

Restrictions

user level

Note: because the reason of PMC chip issue, some counter will show "Not support"

Example

To show the error counters of the pon port of OLT port 5 :

```
DPN-3012-E:a#show olt pon_port error 5
Command: show olt pon_port error 5


 Port number : 5
 Frame Type          Total
 ------------------  --------------------
 RX Error Bytes       Not support
 RX Error Frames      Not support


DPN-3012-E:a#
```

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25-4 show onu uni_port packet

Purpose

Used to show counters of normal frames of ONU UNI ports

Format

show onu uni_port packet [<onu_list> | all] [<uni_portlist> | all]

Description

show counters of normal frames of ONU UNI ports.

Parameter

Parameters	Description
all	Specifies a range of ONUs to be shown. For show all ONUs in the system, you may use “all” parameter.
onu_list	
all	Specifies the range of uni ports to be shown. To show all uni ports counters ,you may use “all” parameters.
uni_portlist	

Restrictions

user level

Note: because the reason of PMC chip issue, some counter will show “Not support”, such as DPN301C counter.

Example

To show counters of the ONU 10:1, 10:2:

```
DPN-3012-E:a#show onu uni_port packet 10:1 1
Command: show onu uni_port packet 10:1 1


 Port number : 10:1
 Frame Type          UNI port    Total                Total/sec
 ------------------  --------    -----------------    ------------
 RX Bytes            1           0                    0
 RX Frames           1           0                    0
 TX Bytes            1           0                    0
 TX Frames           1           0                    0
```

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```
DPN-3012-E:a#show onu uni_port packet 10:2 1
Command: show onu uni_port packet 10:2 1


 Port number : 10:2
 Frame Type          UNI port    Total               Total/sec
 ------------------  --------    ------------------   ------------
 RX Bytes           1           0                   0
 RX Frames          1           0                   0
 TX Bytes           1           Not support         Not support
 TX Frames          1           0                   0

DPN-3012-E:a#
```

25-5 show onu uni_port error

Purpose

Used to show counters of error frames of ONU UNI ports

Format

show onu uni_port error [<onu_list> | all] [<uni_portlist> | all]

Description

show counters of error frames of ONU UNI ports.

Parameter

Parameters	Description
all	Specifies a range of ONUs to be shown. For show all ONUs in the system, you may use “all” parameter.
onu_list	
all	Specifies the range of uni ports to be shown. To show all uni ports counters ,you may use “all” parameters.
uni_portlist	

Restrictions

user level

Example

To show error counters of the ONU 10:1, 10:2

```
DPN-3012-E:a#show onu uni_port error 10:1 all
Command: show onu uni_port error 10:1 all


 Port number : 10:1
 Frame Type          UNI port    Total               Total/sec
 ------------------  --------    ------------------   ------------
 RX Error Bytes      1           0                    0
 RX Error Bytes      2           0                    0
 RX Error Bytes      3           0                    0
 RX Error Bytes      4           0                    0

DPN-3012-E:a#
DPN-3012-E:a#show onu uni_port error 10:2 1
Command: show onu uni_port error 10:2 1


 Port number : 10:1
Frame Type           UNI port    Total               Total/sec
 ------------------  --------    ------------------   ------------
 RX Error Frames     1           0                   0


DPN-3012-E:a#
```

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Chapter 26

FEC

26 FEC COMMANDS LIST

config olt onu fec [all | < onu_list >] state [enable |disable]
show olt onu fec [all | < onu_list >]

26-1 config olt onu fec

Purpose

Used to configure the OLT FEC mode per ONU.

Format

config olt onu fec [all | < onu_list >] state [enable |disable]

Description

The command is used to configure the OLT FEC mode per ONU. This command sets the downstream FEC mode, specifies whether to enable or disable the FEC when transmitting to the designated ONU.

Parameter

Parameters	Description
all	For set all ONU ports in the system, you may use “all” parameter.
onu_list	Specified a range of ports to be configured. (OLT ID: ONU ID).
enable	Enable downstream FEC mode when transmitting frame to designated ONU
disable	Disable downstream FEC mode when transmitting frame to designated ONU

Restrictions

2-level administrator
3-level operator

Example

To configure the speed of the ONU port 1-3 of OLT 2 to be FEC mode enable:

```
DPN-3012-E:a#config olt onu fec 2:1-2:3 state enable
Command: config olt onu fec 2:1-2:3 state enable


Success.


DPN-3012-E:a#
```

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26-2 show olt onu fec

Purpose

Used to display OLT FEC configuration.

Format

show olt onu fec [all | < onu_list >]

Description

The command is used to display OLT FEC configuration.

Parameter

Parameters	Description
all	For set all ONU ports in the system, you may use “all” parameter.
onu_list	Specified a range of ports to be configured. (OLT ID: ONU ID).

Restrictions

user level

Example

To display the FEC information of the ONU port 1-3 of OLT 2:

```
DPN-3012-E:a#show olt onu fec 2:1-2:3

Command: show olt onu fec 2:1-2:3


 ONU Index       State
 -----------     -------
 2:1             Enabled
 2:2             Enabled
 2:3             Enabled
CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

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Chapter 27

ONU UNI Ports

27 ONU UNI PORTS COMMANDS LIST

show onu uni_port [<onu list> | all] [<uni_portlist> | all]
config onu uni_port [<onu list> | all] [<uni_portlist> | all] {speed [auto |10M_Half | 10M_Full | 100M_Half | 100M_Full] | flow_control [enable | disable] | state [enable|disable]}

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27-1 show onu uni_port

Purpose

Used to show the specific Ethernet ports information of the specific ONU

Format

show onu uni_port [<onu list> | all] [<uni_portlist > | all]

Description

This command is to show the specific ONU Ethernet port information about Ethernet port link state, port flow-control state and so on.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter
uni_portlist	Specified a range of ports that attached to the onu to be configured.
all	Config all the ports of specific onu.

Restrictions

user level

Example

To show the 1:1-1:2 ONU Ethernet ports information:

```
DPN-3012-E:a#show onu uni_port 1:1-1:2 4-6
Command: show onu uni_port 1:1-1:2 4-6

 ONU Index  UNI Port   State       Flowcontrol    Speed Auto        Status
 ---------- ---------  ----------  -------------  ---------------  --------
 1:1        4          Disabled    Disabled       Disabled         Link down
 1:1        5          Disabled    Disabled       Disabled         Link down
 1:1        6          Disabled    Disabled       Disabled         Link down
 1:2        4          Disabled    Disabled       Disabled         Link down
 1:2        5          Disabled    Disabled       Disabled         Link down
 1:2        6          Disabled    Disabled       Disabled         Link down


DPN-3012-E:a#
```

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27-2 config onu uni_port

Purpose

Used to set the specific Ethernet ports information of the specific ONU,

Format

config onu uni_port [<onu list> | all] [<uni_portlist> | all] {speed [auto |10M_Half | 10M_Full | 100M_Half | 100M_Full] | flow_control [enable | disable] | state [enable|disable]}

Description

This command is to set the state , speed ,flow control of the specific ONU Ethernet port ,

Parameter

Parameters	Description
onu list	The specific onu index to be config
all	Config all the onu in the system
uni_portlist	Specified a range of ports to be configured.
all	For set all ports in the system , you may use “all” parameter.
flow control	flow control state information
auto |10M_Half	10M_Full	100M_Half	100M_Full	Select the port speed
State	Enable	Disable
Policing	CIR : This parameter indicates the committed Information Rate of the port. The parameter presents the rate in Kbps. Values: 0x000000 to 0xFFFFFF. CBS : This parameter identifies the depth of this token bucket to tolerant the certain burst. The unit of CBS is byte□ EBS : This parameter identifies the extra token to permet the forwarding engine to finish the packet being sent when the CBS is exhausted. Here the Unit of EBS token is byte□ State : the policing operator is enable or disable.

Restrictions

2-level administrator
3-level operator

Example

To configure the 1:1-1:2 ONU Ethernet ports configuration:

```
DPN-3012-E:a#config onu uni_port 1:1-1:2 1-3 speed auto flow_control enable state enable
Command: config onu uni_port 1:1-1:2 1-3 speed auto flow_control enable state enable
Success.


DPN-3012-E:a#
```

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Chapter 28

ONU 1Q VLAN Mode

28 ONU 1Q VLAN MODE COMMANDS LIST

show onu 1qvlan [all|<onu_list>] {vid <1-4094>}
create onu 1qvlan [all|<onu_list>] vid <1-4094>
delete onu 1qvlan [all|<onu_list>] vid <1-4094>
config onu 1qvlan [all|<onu_list>] vid <1-4094> [add [tag|untag] |delete] [all|< uni_portlist >]
config onu uni_port 1qvlan pvid [all|<onu_list>] [all|< uni_portlist >] vid <1-4094>
show onu uni_port 1qvlan pvid [all|<onu_list>] [all|< uni_portlist >]

There are two types of ONU supported, one type of ONU has a single UNI port (named DPN301), the other type of ONU has four UNI ports, (named DPN304); DPN304 supports 802.1Q VLAN function. The commands listed here are used for ONU DPN304, used for remote VLAN management.

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28-1 show onu 1qvlan

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Purpose

Used to display 1qvlan information of the specific ONU.

Format

show onu 1qvlan [all|<onu_list>] {vid <1-4094>}

Description

This command is to display 1qvlan information for specific ONU.

Parameter

Parameters	Description
Onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter
Vid	The VLAN ID.

Restrictions

user level

Example

To display the 1:1 ONU 1qvlan:

```
DPN-3012-E:a#show onu 1qvlan 1:1
Command: show onu 1qvlan 1:1

ONU Index    : 1:1
VID         : 1
Member Ports  : 1,3,5,7,9,11,13,24-34,50,56,60-64
Untagged ports: 1,3,5,7,9,11,13,24-34,50,56,60-64
Tagged ports  :

DPN-3012-E:a#:
```

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28-2 create onu 1qvlan

Purpose

Used to create 1qvlan of the specific ONU

Format

create onu 1qvlan [all|<onu_list>] vid <1-4094>

Description

This command is to create 1qvlan for specific ONU.
This command is applied to ONU.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter
vid	The VLAN ID.

Restrictions

2-level administrator
3-level operator

Example

To create a VLAN for the 1:1 ONU, and the vid is 12:

```
DPN-3012-E:a#create onu 1qvlan 1:1 vid 12

Command: create onu 1qvlan 1:1 vid 12


 Success.


DPN-3012-E:a#
```

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28-3 delete onu 1qvlan

Purpose

Used to delete the 1qvlan of the specific ONU

Format

delete onu 1qvlan [all|<onu_list>] vid <1-4094>

Description

This command is to delete 1qvlan for specific ONU.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter
vid	The VLAN ID.

Restrictions

2-level administrator
3-level operator

Example

To delete a 1qvlan for 1:1 ONU, and the vid is 12:

```
DPN-3012-E:a#delete onu 1qvlan 1:1 vid 12
Command: delete onu 1qvlan 1:1 vid 12


Success.


DPN-3012-E:a#
```

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28-4 config onu 1qvlan

Purpose

Used to config 1qvlan of the specific ONU

Format

config onu 1qvlan [all|<onu_list>] vid <1-4094> [add [tag|untag] |delete] [all|< uni_portlist >]

Description

This command is to config 1qvlan for specific ONU.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter
vid	The VLAN ID of the VLAN you want to configured.
Add	To add ports.
Tag	Specific the additional ports as tagged.
untag	Specific the additional ports as untagged.
delete	To delete ports.
portlist	The specific a range of UNI ports to be configured.
all	For set all UNI port in the ONU, you may use “all” parameter.

Restrictions

Note: Because ONU work at transparent VLAN mode,and CTC VLAN mode has confict with ONU 1Qvlan, therefore, In order to make 1QVLAN take effect, you must config 1Qvlan PVID,which make ONU work at 1Qvlan mode.

2-level administrator

3-level operator

Example

To add port 1 as tagged to the VLAN 1, in the 1:1 ONU:

```
DPN-3012-E:a#config onu 1qvlan 1:1 vid 1 add tag 1

Command: config onu 1qvlan 1:1 vid 1 add tag 1


Success.


DPN-3012-E:a#
```

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28-5 config onu uni_port 1qvlan pvid

Purpose

Used to config the PVID of the specific ONU

Format

config onu uni_port 1qvlan pvid [all|<onu_list>] [all | < uni_portlist >] vid <1-4094>

Description

This command is to config the PVID for specific ONU.

Parameter

Parameters	Description
Onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter
Uni_port	The UNI port of the ONU.
Portlist	The specific a range of UNI ports to be configured.
all	For set all UNI port in the ONU, you may use “all” pararmeter.
Vid	The PVID.

Restrictions

2-level administrator
3-level operator

Example

To config PVID is 2 of UNI port 1 in the 1:1 ONU:

```
DPN-3012-E:a#config onu uni_port 1qvlan pvid 1:1 1 vid 2
Command: config onu uni_port 1qvlan pvid 1:1 1 vid 2


Success.


DPN-3012-E:a#
```

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28-6 show onu uni_port 1qvlan pvid

Purpose

Used to display PVID of the specific ONU

Format

show onu uni_port 1qvlan pvid [all | <onu_list>] [all | < uni_portlist >]

Description

This command is to display PVID information for specific ONU.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter
uni_port	The UNI port of ONU.
portlist	The specific a range of UNI ports to be configured.
all	For set all UNI port in the ONU, you may use “all” pararmeter.

Restrictions

user level

Example

To display the UNI port 1 of 1:1 ONU:

```
DPN-3012-E:a#show onu uni_port 1qvlan pvid 1:1 1
Command: show onu uni_port 1qvlan pvid 1:1 1

 ONU Index    UNI Port      PVID
 -----------  ----------  --------
 1:1          1           2

DPN-3012-E:
```

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Chapter 29

ONU RSTP

29 ONU RSTP COMMANDS LIST

enable onu rstp [all|<onu_list>]
disable onu rstp [all|<onu_list>]
show onu rstp [all|<onu_list>]

There are two types of ONU supported, one type of ONU has a single UNI port (named DPN301), the other type of ONU has four UNI ports, (named DPN304); DPN304 supports RSTP function. The commands listed here are used for ONU DPN304, used for remote RSTP management.

29-1 enable onu rstp

Purpose

Used to enable RSTP of the specific ONU

Format

enable onu rstp [all | <onu_list>]

Description

This command is to enable RSTP for specific ONU.
This command is applied to ONU.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter

Restrictions

2-level administrator
3-level operator

Example

To enable the 1:1-1:2 ONU RSTP:

```
DPN-3012-E:a#enable onu rstp 1:1-1:2
Command: enable onu rstp 1:1-1:2


Sucess.


DPN-3012-E:
```

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Формат: Список

29-2 disable onu rstp

Purpose

Used to disable RSTP of the specific ONU

Format

disable onu rstp [all | <onu_list>]

Description

This command is to disable RSTP for specific ONU.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter

Restrictions

2-level administrator
3-level operator

Example

To disable the 1:1-1:2 ONU RSTP:

```
DPN-3012-E:a#disable onu rstp 1:1-1:2
Command: disable onu rstp 1:1-1:2

Sucess.

DPN-3012-E:
```

Формат: Список

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29-3 show onu rstp

Purpose

Used to display RSTP of the specific ONU

Format

show onu rstp [all | <onu_list>]

Description

This command is to display RSTP information for specific ONU.

Parameter

Parameters	Description
onu list	The specific a range of onu onus to be configured.
all	For set all onus in the system , you may use “all” parameter

Restrictions

user level

Example

To display the 1:1-1:2 ONU RSTP:

```
DPN-3012-E:a#show onu rstp 1:1-1:2
Command: show onu rstp 1:1-1:2

ONU Index    RSTP state
----------   --------------------
1:1          Disabled
1:2          Disabled

DPN-3012-E:
```

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Chapter 30

Access Control List Commands

Формат: Список

Формат: Список

30 ACL COMMAND LIST

create access_profile profile_id <value 1-6> [ethernet { vlan | source_mac <macmask 000000000000-ffffffffffff> | destination_mac <macmask 000000000000-ffffffffffff> | 802.1p | ethernet_type }(1)" | ip { source_ip_mask <netmask> | destination_ip_mask <netmask> | dscp | [icmp | igmp | tcp {src_port_mask <hex 0x0-0xffff> | dst_port_mask(<hex 0x0-0xffff> | flag_mask [al | {urg | ack | psh| rst| syn | fin}(1)] } | udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff>} | protocol_id_mask <hex 0x0-0xff> {user_define_mask <hex 0x0-0xffffffff>}]}(1) | packet_content_mask {offset_0-15 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_16-31 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>| offset_32-47 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>| offset_48-63 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>| offset_64-79 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>} | ipv6 {class | flowlabel | source_ipv6_mask<ipv6mask> | destination_ipv6_mask <ipv6mask>}(1)]
delete access_profile [profile_id <value 1-6> | all]
config access_profile profile_id <value 1-6> [add access_id [auto_assign | <value 1-128>] [ethernet {vlan <vlan_name 32> | source_mac <macaddr 000000000000-ffffffffffff> | destination_mac <macaddr 000000000000-ffffffffffff> | 802.1p <value 0-7> |ethernet_type <hex 0x0-0xffff> }(1) port [<portlist> | all] [permit { priority <value 0-7> |rx_rate [no_limit | <value 1-999>]} | mirror | deny] | ip { source_ip <ipaddr> |destination_ip <ipaddr> |dscp <value 0-63> | [icmp | igmp | tcp { src_port <value 0-65535> | dst_port <value 0-65535> | urg | ack | psh | rst | syn | fin} | udp {src_port(<value 0-65535> | dst_port <value 0-65535>} | protocol_id <value 0 - 255> {user_define<hex 0x0-0xffffffff>}]}(1) port[<portlist> | all] [permit { priority <value 0-7> | rx_rate [no_limit | <value 1-999>] | replace_dscp <value 0-63>} | deny] | packet_content_mask {offset_0-15 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_16-31 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>| offset_32-47 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>| offset_48-63 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>| offset_64-79 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>}

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```
    port [<portlist> | all]
    [ permit { priority <value 0-7> {replace_priority} | rx_ rate [ no_limit |<value 1-999>]} | deny]
| ipv6
        { class <value 0-255> | flowlabel <hex 0x0-0xfffff> |
        source_ipv6 <ipv6addr> | destination_ipv6 <ipv6addr>}(1)
    port [<portlist>| all ] [ permit {priority <value 0-7>|rx_rate [ no_limit |<value 1-999>]} | deny]
    ]
    |delete access_id <value 1-128>
    ]
```

```
show access_profile {profile_id <value 1-6>}
```

30.1 create access_profile

Purpose

Used to create access list rules.

Format

```
create access_profile profile_id <value 1-6>
  [ ethernet
 { vlan | source_mac <macmask 000000000000-ffffffffffff> |
        destination_mac <macmask 000000000000-ffffffffffff> |
        802.1p | ethernet_type }(1)"
 | ip

        source_ip_mask <netmask> |   destination_ip_mask <netmask> |   dscp |
        [icmp | igmp |
tcp   {src_port_mask <hex 0x0-0xffff> | dst_port_mask(<hex 0x0-0xffff> |
                flag_mask [ al | {urg | ack | psh| rst| syn | fin}(1)] } |
        udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff>} |
        protocol_id_mask <hex 0x0-0xff> {user_define_mask <hex 0x0-0xffffffff>}]}(1)
| packet_content_mask
        {offset_0-15 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> |
        offset_16-31 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>|
        offset_32-47 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>|
        offset_48-63 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>|
        offset_64-79 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>}
 | ipv6
     {class | flowlabel | source_ipv6_mask<ipv6mask> | destination_ipv6_mask <ipv6mask>}(1)
 ]
```

Description

The create access_profile command creates access list rules.

Parameter

Parameters	Description
vlan	Specifies a VLAN mask.
source_mac	Specifies the source MAC mask.
destination_mac	Specifies the destination MAC mask.
802.1p	Specifies 802.1p priority tag mask.
ethernet_type	Specifies the Ethernet type mask.
source_ip_mask	Specifies an IP source submask.
destination_ip_mask	Specifies an IP destination submask.
dscp	Specifies the DSCP mask.
icmp	Specifies that the rule applies to icmp traffic.

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igmp	Specifies that the rule applies to IGMP traffic.	
tcp	Specifies that the rule applies to TCP traffic.	
	src_port_mask	Specifies the TCP source port mask.
	dst_port_mask	Specifies the TCP destination port mask.
	flag_mask	Specifies the TCP flag field mask.
udp	Specifies that the rule applies to UDP traffic.	
	src_port_mask	Specifies the TCP source port mask.
	dst_port_mask	Specifies the TCP destination port mask.
protocol_id_mask	Specifies that the rule applies to the IP protocol ID traffic.	
	user_define_mask	Specifies the L4 part mask.
offset	Specifies the mask pattern offset of the frame.	
source_ipv6_mask	Specifies the IPv6 source IP mask.	
destination_ipv6_mask	Specifies the IPv6 destination IP mask.	

Restrictions

2-level administrator
3-level operator

Example

To create access list rules:

```
DPN-3012-E:a#create access_profile profile_id 1 ethernet vlan source_mac FF-F
F-FF-FF-FF-FF destination_mac 00-00-00-FF-FF-FF 802.1p ethernet_type
Command: create access_profile profile_id 1 ethernet vlan source_mac FF-FF-FF-
FF-FF-FF destination_mac 00-00-00-FF-FF-FF 802.1p ethernet_type

Success.

DPN-3012-E:a#

DPN-3012-E:a#create access_profile profile_id 1 ip vlan source_ip_mask 255.25
5.255.255 destination_ip_mask 255.255.255.0 dscp icmp
Command: create access_profile profile_id 1 ip vlan source_ip_mask 255.255.255
.255 destination_ip_mask 255.255.255.0 dscp icmp

Success.

DPN-3012-E:a#
```

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30.2 delete access_profile

Purpose

Used to delete access list rules.

Format

delete access_profile [profile_id <value 1-6> | all]

Description

The delete access_profile command deletes access list rules.

Parameter

Parameters	Description
profile_id	Specifies the index of access list profile.
all	Specifies the whole access list profile to delete.

Restrictions

2-level administrator
3-level operator

Example

To delete access list rules:

```
DPN-3012-E:a#delete access_profile profile_id 1

Command: delete access_profile profile_id 1


Success.


DPN-3012-E:a#
```

30.3 config access_profile

Purpose

Used to configure access list entry.

Format

config access_profile profile_id <value 1-6>
[add access_id [auto_assign | <value 1-128>]
[ethernet
{vlan <vlan_name 32> | source_mac <macaddr 000000000000-ffffffffffff> |
destination_mac <macaddr 000000000000-ffffffffffff> |
802.1p <value 0-7> |ethernet_type <hex 0x0-0xffff> }(1)
port [<portlist> | all]
[permit { priority <value 0-7> |rx_rate [no_limit | <value 1-999>]} | deny]
| ip
{ vlan <vlan_name 32> | source_ip <ipaddr> |destination_ip <ipaddr> |dscp <value 0-63> |
[icmp | igmp |
tcp { src_port <value 0-65535> | dst_port <value 0-65535> |
urg | ack | psh | rst | syn | fin} |
udp {src_port(<value 0-65535> | dst_port <value 0-65535>} |
protocol_id <value 0 - 255> {user_define<hex 0x0-0xffffffff>}]}(1)
port[<portlist> | all]

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[permit { priority <value 0-7> | rx_rate [no_limit | <value 1-999>] |
replace_dscp <value 0-63>} | deny]
| packet_content
{offset_0-15 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> |
offset_16-31 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> |
offset_32-47 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> |
offset_48-63 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> |
offset_64-79 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>}
port | <portlist> | all]
[permit { priority <value 0-7> {replace_priority} | rx_rate [no_limit | <value 1-999>]} | deny]
| ipv6
{ class <value 0-255> | flowlabel <hex 0x0-0xfffff> |
source_ipv6 <ipv6addr> | destination_ipv6 <ipv6addr>}(1)
port [<portlist> | all]
[permit { priority <value 0-7> |rx_rate [no_limit | <value 1-999>]}
| deny]] | delete access_id <value 1-128>

Description

The config access_profile command configures access list entry.

Parameter

Parameters	Description		
profile_id	Specifies the index of the access list profile.		
access_id	Specifies the index of the access list entry. The range of this value is 1 to 200.		
	vlan	Specifies a VLAN name.	
	source_mac	Specifies the source MAC.	
	destination_mac	Specifies the destination MAC.	
	802.1p	Specifies the value of 802.1p priority tag, the value can be configured between 1 to 7.	
	ethernet_type	Specifies the Ethernet type.	
	source_ip	Specifies an IP source address.	
	destination_ip	Specifies an IP destination address.	
	dscp	Specifies the value of DSCP, the value can be configured from 0 to 63.	
	icmp	Specifies that the rule applies to ICMP traffic.	
	igmp	Specifies that the rule applies to IGMP traffic.	
	tcp	src_port	Specifies that the rule applies the range of TCP source port.
		dst_port	Specifies the range of tcp destination port range.
		flag	Specifies the TCP flag fields .
	udp	src_port	Specifies the range of tcp source port range.
		dst_port	Specifies the range of tcp destination port mask.
	protocod_id	Specifies that the rule applies to the value of IP protocol id traffic	
		user_defin e	Specifics the L4 part value.
	class	Specifies IPv6 class value.	
	flowlabel	Specifies IPv6 flow label value.	

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	packet_content	Specifies the frame content mask, the maximum number of offsets that can be configured is 5. Each offset presents 16 bytes, the range of the mask in the frame is 80 bytes(5 offsets) in the first eighty bytes of the frame.
	offset	Specifies the offset of the frame.
	source_ipv6	Specifies IPv6 source IP value.
	destination_ipv6	Specifies IPv6 destionation IP value.
permit	Specifies the packets that match the access profile are permit by the switch.	
priority	Specifies the packets that match the access profile are remap the 802.1p priority tag field by the switch.	
rx_rate	Specifies the limitation of receive data rate.	
replace_dscp	Specifies the DSCP of the packets that match the access profile are modified according to the value.	
deny	Specifies the packets that match the access profile are filtered by the switch.	

Restrictions

2-level administrator
3-level operator

Example

To configure an access list entry:

```
DPN-3012-E:a#config access_profile profile_id 2 add access_id 1 ethernet source_mac
00-00-
00-00-00-05 port all permit
Command: config access_profile profile_id 2 add access_id 1 ethernet source_mac
00
-00-00-00-00-05 port all permit

Success.

DPN-3012-E:a#
```

30.4 show access_profile

Purpose

Used to display current access list table.

Format

show access_profile {profile_id <value 1-6>}

Description

The show access_profile command displays current access list table.

Parameter

Parameters	Description
profile_id	Specifies the index of the access list profile.

Restrictions

None.

Example

To display the current access list table:

```
DPN-3012-E:a#show access_profile
Command: show access_profile

Access Profile Table

Access Profile ID: 1                                TYPE : Ethernet
================================================================================
Owner      : ACL
MASK Option :
VLAN       Source MAC          Destination MAC    802.1P  Ethernet Type
            FF-FF-FF-FF-FF-FF  00-00-00-FF-FF-FF
-----------  -----------------  ----------------- ------  -------------

Access Profile ID: 2                                TYPE : Ethernet
================================================================================
Owner      : ACL
MASK Option :
Source MAC
FF-FF-FF-FF-FF-FF
-----------------
```

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```
Access ID : 1           Mode: Permit            RX Rate(Mbps): no_limit
Ports: 1-16
-----------------
00-00-00-00-00-05
================================================================================


Total Rule Entries: 1


DPN-3012-E:a#"
```

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Chapter 31

Traffic Segmentation Commands

31 Traffic Segmentation Command List

config traffic_segmentation <portlist> forward_list [null | <portlist>]
show traffic_segmentation {<portlist>}

31-1 config traffic_segmentation

Purpose

Used to configure the traffic segmentation.

Format

config traffic_segmentation <portlist> forward_list [null | <portlist>]

Description

The config traffic_segmentation command configures the traffic segmentation.

Parameter

Parameters	Description	
portlist	Specifes a range of ports to be configured.	
forward_list	Specifies a range of port forwarding domains.	
	portlist	Specifes a range of ports to be configured.
	null	Specifies a range of port forwarding domain is null.

Restrictions

2-level administrator
3-level operator

Example

To configure traffic segmentation:

```
DPN-3012-E:a# config traffic_segmentation 1-6 forward_list 7-8
Command: config traffic_segmentation 1-6 forward_list 7-8


Success.


DPN-3012-E:a#
```

31-2 show traffic_segmentation

Формат: Список

Purpose

Used to display current traffic segmentation table.

Format

show traffic_segmentation {<portlist>}

Description

The show traffic_segmentation command displays current traffic segmentation table.

Parameter

Parameters	Description
portlist	Specifies a range of ports to be displayed.
	If no parameter is specified, the system will display all current traffic segmentation tables.

Restrictions

None.

Example

To display the traffic segmentation table:

```
DPN-3012-E:a#show traffic_segmentation
Command: show traffic_segmentation


Traffic Segmentation Table


Port  Forward Portlist
----  ------------------------
1     7-8
2     7-8
3     7-8
4     7-8
5     7-8
6     7-8
7     1-16
8     1-16
9     1-16
10    1-16
11    1-16
12    1-16
13    1-16
14    1-16
15    1-16
16    1-16


DPN-3012-E:a#
```

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Chapter 32

Command List History Commands

32 COMMAND LIST HISTORY COMMAND LIST

?
show command_history
dir
config command_history <value 1-40>

32-1 ?

Purpose

Used to display all commands in the Command Line Interface (CLI).

Format

? {command}

Description

The ? command will display all of the commands available through the Command Line Interface (CLI).

Parameter

Parameters	Description
command	Specifies the command.
	If no command specified, the system will display all commands.

Restrictions

None.

Example

To display all commands:

```
DPN-3012-E:a#

Available Command  Description:
Completion(s)

clear            - Used to clear data or record.
config           - Used to configure data or entries.
create           - Used to create data or entries.
delete           - Used to delete data or entries.
disable          - Used to disable the function.
download         - Used to download and upgrade firmware or configration fro
                   m tftp server.
enable           - Used to enable the function.
help             - Used to display the format and usage of the command.
load             - Used to load the configuration.
login            - Used to login.
logout           - Used to logout.
oam              - Operation Administration Maintenance related functions.
ping             - Used to test connectivity between network devices.
reboot           - Used to reboot the device.
remote           - Used to perform a remote related functions.
reset            - Used to reset the switch to its factory default settings.
save             - Used to save the switch's current configuration to nonvol
                   itale RAM.
show             - Used to display data or entries.
sync             - Used to synchronize function.
update           - Use to upgrade firmware.
upload           - Used to upload the switch settings or the switch history
                   log to a TFTP server.

DPN-3012-E:a#
```

32-2 show command_history

Формат: Список

Purpose

Used to display command history.

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Format

show command_history

Description

The show command_history command displays command history.

Parameter

None.

Restrictions

None.

Example

To display command history:

```
DPN-3012-E:a#show command_history
Command: show command_history

enable clipaging
show traffic_segmentation
config traffic_segmentation 1-6 forward_list 7-8
show access_profile
config access_profile profile_id 2 add access_id 1 ethernet source_mac
00-00-00-00-00-05 port all permit
config access_profile profile_id 2 add access_id 1 ethernet source_mac
00-00-00-00-00-05
create access_profile profile_id 2 ethernet source_mac FF-FF-FF-FF-FF-FF
create access_profile profile_id 1 ethernet vlan source_mac FF-FF-FF-FF-FF-FF
destination_mac 00-00-00-FF-FF-FF 802.1p ethernet_type
delete access_profile profile_id 1
create access_profile profile_id 1 ethernet vlan source_mac FF-FF-FF-FF-FF-FF
destination_mac 00-00-00-FF-FF-FF 802.1p ethernet_type

DPN-3012-E:a#
```

Формат: Список

32-3 config command_history

Purpose

The switch “remembers” the last 40 (maxmum) commands you entered. The command lets you configure the number of commands that the switch can recall.

Format

config command_history <value 1-40>

Description

The config command_history command lets you cofigure the number of commands that the switch can recall.

Parameter

Parameters	Description
value	The number of commands (1-40) that the switch can recall.

Restrictions

2-level administrator
3-level operator

Example

To configure the number of commands history:

```
DPN-3012-E:a#config command_history 20
Command: config command_history 20

Success.

DPN-3012-E:a#
```

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Chapter 33

Time and SNTP Commands

33 TIME AND SNTP COMMAND LIST

config sntp {primary <ipaddr> | secondary <ipaddr> | third <ipaddr> | poll-interval <int 30-99999>}
show sntp
enable sntp
disable sntp
config time <date ddmmmyyyy > <time hh:mm:ss >
config time_zone {operator [+ | -] | hour <gmt_hour 0-13> | min <minute 0-59>}
config dst [disable | repeating {s_week <start_week 1-4,last> | s_wday <start_day sun-sat> | s_mth <start_mth 1-12> | s_time <start_time hh:mm> | e_week <end_week 1-4,last> | e_wday <end_day sun-sat> | e_mth <end_mth 1-12> | e_time <end_time hh:mm> | offset [30 | 60|90|120]} | annual {s_date <start_date 1-31> | s_mth <start_mth 1-12> | s_time <start_time hh:mm> | e_date <end_date 1-31> | e_mth <end_mth 1-12> | e_time <end_time hh:mm> | offset [30 | 60 | 90 | 120]}]
show time

33-1 config sntp

Purpose

Configure SNTP.

Format

config sntp {primary <ipaddr> | secondary <ipaddr> | third <ipaddr> | poll-interval <int 30-99999>}

Description

The config sntp command changes SNTP configurations.

Parameter

Parameters	Description
primary	The SNTP primary server IP address.
secondary	The SNTP secondary server IP address.
third	The third SNTP server IP address
poll-interval	The polling interval range is between 30 and 99999 seconds.

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Restrictions

2-level administrator
3-level operator

Example

To configure SNTP:

```
DPN-3012-E:a#config sntp primary 10.1.1.1 secondary 10.1.1.2 poll-interval 30
Command: config sntp primary 10.1.1.1 secondary 10.1.1.2 poll-interval 30

Success.

DPN-3012-E:a#
```

Формат: Список

33-2 show sntp

Purpose

Display SNTP configuration.

Format

show sntp

Description

The show sntp command displays the current SNTP time source and configuration.

Parameter

None.

Restrictions

None

Example

To show SNTP:

```
DPN-3012-E:a#show sntp
Command: show sntp

 SNTP Global Setting    : Disabled
 SNTP Primary   Server  : 0.0.0.0
 SNTP Secondary Server  : 0.0.0.0
 SNTP Third     Server  : 0.0.0.0
 SNTP poll interval     : 86400 sec

DPN-3012-E:a#
```

Формат: Список

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33-3 enable sntp

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Purpose

Turn on SNTP support.

Format

enable sntp

Description

The enable sntp command turns on SNTP support.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Example

To enable SNTP:

```
DPN-3012-E:a#enable sntp

Command: enable sntp


Success.


DPN-3012-E:a#
```

Формат: Список

33-4 disable sntp

Purpose

Turn off SNTP support.

Format

disable sntp

Description

The disable sntp command turns off SNTP support.

Parameter

None.

Restrictions

2-level administrator
3-level operator

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Example

To disable SNTP:

```
DPN-3012-E:a#disable sntp
Command: disable sntp

Success.

DPN-3012-E:a#
```

33-5 config time

Формат: Список

Purpose

Configure time and date settings of the device.

Format

config time <date ddmthyyyy> <time hh:mm:ss>

Description

The config time command changes time settings.

Parameter

Parameters	Description
date	system clock date
time	system clock time

Restrictions

2-level administrator
3-level operator

Example

To configure time:

```
DPN-3012-E:a# config time 30jun2003 16:30:30
Command: config time 30jun2003 16:30:30

Success.

DPN-3012-E:a#
```

33-6 config time_zone

Формат: Список

Purpose

Configure time zone of the device.

Format

config time_zone {operator [+ | -] | hour <gmt_hour 0-13> | min <minute 0-59>}

Description

The config time_zone command changes time zone settings.

Parameter

Parameters	Description
operator	operator of time zone + : positive - : negative.
hour	hour of time zone
min	minute of time zone

Restrictions

You must have administrator privileges.

Example

To configure the time zone:

```
DPN-3012-E:a#config time_zone operator + hour 2 min 30
Command: config time_zone operator + hour 2 min 30

Success.

DPN-3012-E:a#
```

33-7 config dst

Формат: Список

Purpose

Configure Daylight Saving Time of the device.

Format

config dst [disable | repeating {s-week <start_week 1-4,last> | s-day <start_weekday sun-sat> | s-mth <start_mth 1-12> | s-time <start_time hh:mm> | e-week <end_week 1-4,last> | e-day <end_weekday sun-sat> | e-mth <end_mth 1-12> | e-time <end_time hh:mm> | offset [30 | 60 | 90 | 120]} | annual {s-date <start_date 1-31> | s-mth <start_mth 1-12> | s-time <start_time hh:mm> | e-date <end_date 1-31> | e-mth <end_mth 1-12> | e-time <end_time hh:mm> | offset [30 | 60 | 90 | 120]}]

Description

The config dst command changes Daylight Saving Time settings.

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Parameter.

Parameters	Description
disable	Disable the DST of the switch .
repeating	Set the DST to repeating mode .
annual	Set the DST to annual mode.
s_week, e_week	Configure the start/end week number of DST.
s_day, e_day	Configure the start/end day number of DST.
s_mth, e_mth	Configure the start/end month number of DST.
s_time, e_time	Configure the start/end time of DST.
s_date, e_date	Configure the start/end date of DST
offset	Indicates number of minutes to add or to subtract during summertime. The range of offsets are 30, 60, 90, and 120; The default value is 60.

Restrictions

2-level administrator
3-level operator

Example

To configure DST time settings:

```
DPN-3012-E:a#config dst repeating s_week 2 s_day tue s_mth 4 s_time 15:00 e_week
 2 e_day wed e_mth 10 e_time 15:30 offset 30
Command: config dst repeating s_week 2 s_day tue s_mth 4 s_time 15:00 e_week 2 e
_day wed e_mth 10 e_time 15:30 offset 30

Success.

DPN-3012-E:a#
```

Формат: Список

33-8 show time

Purpose

Display time states.

Format

show time

Description

The show time command displays current time states.

Parameter

None.

Restrictions

None.

Example

To show time:

```
DPN-3012-E:a#show time
Command: show time

Current Time Scource : System Clock
Boot Time            : 26 Sep 2008 12:05:41
Time Zone            : GMT +08:00
Daylight Saving Time : Repeating
Offset in Minutes    : 30
   Repeating  From   : Apr 2nd Tue 15:00
              To     : Oct 2nd Wed 15:30
   Annual     From   : 29 Apr 00:00
              To     : 12 Oct 00:00
DPN-3012-E:a#
```

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Chapter 34

COS COMMANDS

34 COS COMMAND LIST

config bandwidth_control [[all | <uplink_portlist>] rx_rate [no_limit | <value 1-999>] tx_rate [no_limit | <value 1-999>]]
show bandwidth_control {<portlist>}
show scheduling_mechanism
config 802.1p user_priority [<priority 0-7> | <class_id 0-7>]
show 802.p user_priority
config 802.1p default_priority [<portlist> | all] <priority 0-7>
show 802.1p default_priority { <portlist>}

The DPN-3012 switch supports 802.1p priority queuing. The Switch has eight hardware priority queues. These hardware priority queues are numbered from 7 (Class 7) — the highest hardware priority queue — to 0 (Class 0) — the lowest hardware priority queue. The eight priority tags specified in IEEE 802.1p (p0 to p7) are mapped to the switch's hardware priority queues as follows:

- Priority 0 is assigned to the Switch's Q2 queue.
- Priority 1 is assigned to the Switch's Q0 queue.
- Priority 2 is assigned to the Switch's Q1 queue.
- Priority 3 is assigned to the Switch's Q3 queue.
- Priority 4 is assigned to the Switch's Q4 queue.
- Priority 5 is assigned to the Switch's Q5 queue.
- Priority 6 is assigned to the Switch's Q6 queue.
- Priority 7 is assigned to the Switch's Q7 queue.

For strict priority-based scheduling, any packets residing in the higher priority queues are transmitted first. Multiple strict priority queues empty based on their priority tags. Only when these queues are empty, are packets of lower priority transmitted.
The commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Формат: Список

Формат: Список

Формат: Список

34-1 config bandwidth_control

Purpose

Used to configure bandwidth control on a by-port basis.

Format

config bandwidth_control [[all | <uplink_portlist>] rx_rate [no_limit | <value 1-999>] tx_rate [no_limit | <value 1-999>]]

Description

The config bandwidth_control command is used to configure bandwidth on a by-port basis.

Parameter

Parameters	Description
<uplink_portlist>	Specifies uplink or range of uplink ports to be configured.
all	Choose this parameter to select all configurable ports.
rx_rate	Specifies that one of the parameters below (no_limit or <value 1-999>) will be applied to the rate at which the above specified ports will be allowed to receive packets. no_limit - Specifies that there will be no limit on the rate of packets received by the above specified ports. <value 1-999> - Specifies the packet limit, in Mbps, that the above ports will be allowed to receive
tx_rate	Specifies that one of the parameters below (no_limit or <value 1-999>) will be applied to the rate at which the above specified ports will be allowed to transmit packets. no_limit - Specifies that there will be no limit on the rate of packets transmitted by the above specified ports. <value 1-999> - Specifies the packet limit, in Mbps, that the above ports will be allowed to receive.

Restrictions

2-level administrator
3-level operator

Example

To configure bandwidth control:

```
DPN-3012:a# config bandwidth_control 9-12 rx_rate no_limit
Command: config bandwidth_control 9-12 rx_rate no_limit

 Success.

DPN-3012:a#
```

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34-2 show bandwidth_control

Формат: Список

Purpose

Used to display the port bandwidth control table.

Format

show bandwidth_control

Description

The show bandwidth_control command displays the port bandwidth configurations.

Parameter

Parameters	Description
<uplink_portlist>	Specifies uplink or range of uplink ports to be displayed. If no parameter is specified, the system will display all port bandwidth configurations.

Restrictions

None.

Examples

To display the port bandwidth control table:

```
DPN-3012-E:a#show bandwidth_control
Command: show bandwidth_control

Bandwidth Control Table

 Port   RX Rate (Mbit/sec)          TX Rate (Mbit/sec)
 -----  ------------------------   ------------------------
 13     no_limit                   no_limit
 14     no_limit                   no_limit
 15     no_limit                   no_limit
 16     no_limit                   no_limit


DPN-3012-E:a#
```

34-3 show scheduling_mechanism

Формат: Список

Purpose

Used to show the traffic scheduling mechanism.

Format

show scheduling_mechanism

Description

The show scheduling_mechanism command display the traffic scheduling mechanism.

Parameter

None.

Restrictions

None.

Examples

To show the scheduling mechanism:

```
DPN-3012:a#show scheduling_mechanism
Command: show scheduling_mechanism

QOS Scheduling Mechanism: strict

DPN-3012:a#
```

34-4 config 802.1p user_priority

Формат: Список

Purpose

Used to map the 802.1p user priority of an incoming packet to one of the eight hardware queues available on the switch.

Format

config 802.1p user_priority <priority 0-7> <class_id 0-7>

Description

The config 802.1p user_priority command is used to configure the way the switch will map an incoming packet, based on its 802.1p user priority tag, to one of the eight hardware priority queues available on the switch. The switch's default is to map the incoming 802.1p priority values to the eight hardware priority queues according to the following chart:

802.1p Value	Switch Hardware Priority Queue
0	2
1	0
2	1
3	3
4	4
5	5
6	6
7	7

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Parameter.

Parameters	Description
priority	The 802.1p user priority you want to associate with the <class_id> (the number of the hardware queue) with.
class_id	The number of the switch's hardware priority queue. The switch has n+1 hardware priority queues available. They are numbered between 0 (the lowest priority) and n (the highest priority).

Restrictions

2-level administrator
3-level operator

Examples

To configure the 802.1p user priority:

```
DPN-3012:a# config 802.1p user_priority 1 3
Command: config 802.1p user_priority 1 3


Success.


DPN-3012:a#
```

Формат: Список

34-5 show 802.1p user_priority

Purpose

Used to display 802.1p user priority.

Format

show 802.1p user_priority

Description

The show 802.1p user_priority command displays 802.1p user priority.

Parameter

None.

Restrictions

2-level administrator
3-level operator

Examples

To display 802.1p user priority:

```
DPN-3012-E:a# show 802.1p user_priority
Command: show 802.1p user_priority

QOS Class of Traffic
Priority-0  ->  <Class-1>
Priority-1  ->  <Class-3>
Priority-2  ->  <Class-0>
Priority-3  ->  <Class-1>
Priority-4  ->  <Class-2>
Priority-5  ->  <Class-2>
Priority-6  ->  <Class-3>
Priority-7  ->  <Class-3>

DPN-3012-E:a#
```

Формат: Список

34-6 config 802.1p default_priority

Purpose

Used to configure the 802.1p default priority settings on the switch. If an untagged packet is received by the switch, the priority configured with this command will be written to the packet's priority field.

Format

config 802.1p default_priority [<portlist> | all] <priority 0-7>

Description

The config 802.1p default_priority command allows you to specify default priority handling of untagged packets received by the switch. The priority value entered with this command will be used to determine which of the four hardware priority queues the packet is forwarded to.

Parameter

Parameters	Description
<portlist>	This specifies a range of ports for which the default priority is to be configured. That is, a range of ports for which all untagged packets received will be assigned the priority specified below. The beginning and end of the port list range are separated by a dash.
all	Specifies that the command applies to all ports on the switch.
<priority 0-7>	The priority value (0 to 7) you want to assign to untagged packets received by the switch or a range of ports on the switch.

Restrictions

2-level administrator
3-level operator

Examples

To configure the 802.1p default priority settings on the switch:

```
DPN-3012:a#config 802.1p default_priority all 5
Command: config 802.1p default_priority all 5

Success.

DPN-3012:a#
```

Формат: Список

34-7 show 802.1p default_priority

Purpose

Used to display the current default priority settings on the switch.

Format

show 802.1p default_priority { <portlist> }

Description

The show 802.1p default_priority command displays the current default priority settings on the switch.

Parameter

Parameters	Description
<portlist>	Specified a range of ports to be displayed.
	If no parameter is specified, the system will display all ports with 802.1p default_priority.

Restrictions

None.

Examples

To display 802.1p default priority:

```
DPN-3012:a# DPN-3012:a#show 802.1p default_priority
Command: show 802.1p default_priority
 Port   Priority
 ----   --------
 1      0
 2      0
 3      0
 4      0
 5      0
 6      0
 7      0
 8      0
 9      0
 10     0
 11     0
 12     0
 13     0
 14     0
 15     0
 16     0
DPN-3012:a#
```

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Chapter 35

Формат: Список

ONU PROFILE COMMANDS

Формат: Список

35 ONU PROFILE COMMANDS LIST

ONU PROFILE COMMANDS LISTconfig onu queue_policer [upstream | downstream] [all | <onu_list>] queue_num <int 0-7> bandwidth <int 1–10000>
show onu queue_policer [upstream | downstream] {<onu_list>}
config onu queue_size [upstream | downstream] [all | <onu_list>] queue_num <int 0-7> queue_size <int 0-4096>
show onu queue_size [upstream | downstream] {<onu_list>}
config onu port_base_vlan [all|<onu_list>] uni_port <uni_portlist > forward_list [all | <uni_portlist>]
show onu port_base_vlan {<onu_list> {uni_port <uni_portlist>}}
config onu port_base_vlan [all|<onu_list>] state [enable | disable]
config onu default_filter [all | < onu_list >] [upstream | downstream] [tag | untag] [discard | pass]
show onu default_filter { <onu_list >}
config onu classifier_filter [upstream |downstream] [all | <onu_list>] [add rule_id <int 1-56> [ethertype <hex 0x0-0xFFFF> | vid <vlanid 0-4094> | ipv4_protocol_type <int 1-255> | stcp <tcp_port_number 1-65535> | sudp <udp_port_number 1-65535> | sip <ipaddr> | dip <ipaddr >] action [discard | pass] rule_state [enable | disable] | delete rule_id <int 1-56> | enable rule_id <int 1-56> | disable rule_id <int 1-56>]
show onu classifier_filter [upstream | downstream] {<onu_list> {rule_id <int 1-56>}}
config onu default_vlan_rule upstream [all | <onu_list >] [add vlan_type [0x8100 | 0x9100 | 0x88A8] vid <vlanid 0-4094> priority [original | priority_rule] | replace vid <vlanid 0-4094 > priority [original | priority_rule]| none]
config onu default_vlan_rule downstream [all | <onu_list>] [remove | replace vid <vlanid 0-4094 > priority [original | priority_rule] | none]
show onu default_vlan_rule [upstream | downstream] {<onu_list>}
config onu vlan_rule upstream [all | <onu_list>] [add rule_id <int 1- 24> [ethertype <hex 0x0-0xFFFF> | ipv4_protocol_type <int 1-255> | vid <vlanid 0-4094>] action [add vlan_type [0x8100 | 0x9100 | 0x88A8] vid <vlanid 0-4094> priority [original | priority_rule] | replace vid <0-4094 > priority [original | priority_rule] | none] rule_state [enable | disable] | delete rule_id <int 1-24> | enable rule_id <int 1-24> | disable rule_id <int 1-24>]
config onu vlan_rule downstream [all | <onu_list>] [add rule_id <int 1- 24> [ethertype <hex 0x0-0xFFFF> | ipv4_protocol_type <int 1-255> | vid <vlanid 0-4094>] action [remove | replace vid <vlanid 0-4094 > priority [original | priority_rule] | none] rule_state [enable | disable] | delete rule_id <int 1-24> | enable rule_id <int 1-24> | disable rule_id <int 1-24>]
show onu vlan_rule [upstream | downstream] {<onu_list>{rule_id <int 1-24>}}
config onu priority_map [all | <onu_list>] [ip_tos | tag_priority] <priority 0-7> <class_id 0-7>
show onu priority_map {<onu_list>{[ip_tos | tag_priority]} }
config onu priority_rule [upstream|downstream] [all | <onu_list>] [add rule_id <int 1-40> [[ethertype <hex 0x0-0xFFFF> | ipv4_protocol_type <int 1-255> | vid <vlanid 0-4094>] priority <int 0-7> queue <int 0-7> | [sip <ipaddr> | dip <ipaddr>] queue <int 0-7>] rule_state [enable | disable] | delete rule_id <int 1-40> | enable rule_id <int 1-40> | disable rule_id <int 1-40>]
show onu priority_rule [upstream | downstream] {<onu_list> {rule_id <int 1-40>}}

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35-1 config onu upstream/downstream queue policer

Purpose

Used to configure the policed bandwidth of upstream or downstream queues for the PON port of the ONU.

Format

config onu queue_policer [upstream | downstream] [all | <onu_list>] queue_num <int 0-7> bandwidth <int 1–10000>

Description

This command is used to configure the policed bandwidth of upstream or downstream queues for the PON port of the ONU.

Message

None.

Parameter

Parameters	Description
[upstream | downstream]	Specifices the direction of the traffic. Upstream means traffic from the ONU to the OLT while downstream traffic goes from the OLT to the ONU.
[all | <onu_list>]	Specifices a range of ONUs to be configured. For set all ONUs in the system, you may use “all” parameter.
queue_num	The policing queue number, from 0 to 7.
bandwidth	Specifies the bandwidth in100Kbits/Sec. The bandwidth resolution is 100Kbps. The maximum value is 10000, which means 1Gbs. The default setting is 100, which means 10000Kbs. The default setting is 10000.

Restrictions

2-level administrator
3-level operator

Example

To configure the downstream queue’s policed bandwidth to 200Kbits/Sec:

```
DPN-3012-E:a#:config onu queue_policer downstream all queue_num 7 bandwidth 2
Command: config onu queue_policer downstream all queue_num 7 bandwidth 2


 Success.


DPN-3012-E:a#
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35-2 show onu upstream/downstream queue policer

Purpose

Used to display the policed bandwidth configuration of upstream or downstream queues for the PON port of the ONU.

Format

show onu queue_policerr [upstream | downstream] { <onu_list>}

Description

This command is used to display the policed bandwidth configuration of the upstream or downstream queues for the PON port of the ONU.

Message

None.

Parameter

Parameters	Description
[upstream | downstream]	Specifices the direction of the traffic. Upstream means traffic from the ONU to the OLT while downstream traffic goes from the OLT to the ONU.
{<onu_list>}	Specifices a range of ONUs to be displayed.

Restrictions

None

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Example

To display the bandwidth of downstream policing queue:

```
DPN-3012-E:a#show onu queue_policer upstream
Command:show onu queue_policer upstream

ONU   Queue0 Queue1 Queue2 Queue3 Queue4 Queue5 Queue6 Queue7
----  ------ ------ ------ ------ ------ ------ ------ ------
1:1   10000  10000  10000  10000  10000  10000  10000  10000
1:2   10000  10000  10000  10000  10000  10000  10000  10000
1:3   10000  10000  10000  10000  10000  10000  10000  10000
1:4   10000  10000  10000  10000  10000  10000  10000  10000
1:5   10000  10000  10000  10000  10000  10000  10000  10000
1:6   10000  10000  10000  10000  10000  10000  10000  10000
1:7   10000  10000  10000  10000  10000  10000  10000  10000
1:8   10000  10000  10000  10000  10000  10000  10000  10000
1:9   10000  10000  10000  10000  10000  10000  10000  10000
1:10  10000  10000  10000  10000  10000  10000  10000  10000
1:11  10000  10000  10000  10000  10000  10000  10000  10000
1:12  10000  10000  10000  10000  10000  10000  10000  10000
1:13  10000  10000  10000  10000  10000  10000  10000  10000
1:14  10000  10000  10000  10000  10000  10000  10000  10000
1:15  10000  10000  10000  10000  10000  10000  10000  10000
1:16  10000  10000  10000  10000  10000  10000  10000  10000
1:17  10000  10000  10000  10000  10000  10000  10000  10000
1:18  10000  10000  10000  10000  10000  10000  10000  10000

CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

35-3 config onu upstream/downstream queue size

Purpose

Used to configure the queue size of upstream or downstream queues for the PON port of the ONU.

Format

config onu queue_size [upstream | downstream] [all | <onu_list>] queue_num <int 0-7> queue_size <int 0-4096>

Description

This command is used to configure the queue size for upstream or downstream queues for the PON port of the ONU.

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Parameter

Parameters	Description
[upstream | downstream]	Specifices the direction of the traffic. Upstream means traffic from the ONU to the OLT while downstream traffic goes from the OLT to the ONU.
[all | <onu_list>]	Specifices a range of ONUs to be configured.For set all ONUs in the system, you may use “all” parameter.
queue_num	The queue number, from 0 to 7.
queue_size	Specifies the size of queue. The range is from 0 to 4096. The granularity queue size is 128 bytes. That is, the input value must be multiple of 128. The default setting is 4096.

Restrictions

2-level administrator
3-level operator

Example

To configure the queue size of upstream:

```
DPN-3012-E:a#config onu upstream all queue_num 2 queue_size 4096
Command:config onu upstream all queue_num 2 queue_size 4096
Success.
DPN-3012-E:a#
```

35-4 show onu upstream/downstream queue size

Purpose

Used to display the queue size of upstream or downstream queues for the PON port of the ONU.

Format

show onu queue_size [upstream | downstream] {<onu_list>}

Description

This command is used to display the queue size for upstream or downstream queues for the PON port of the ONU.

Parameter

Parameters	Description
[upstream | downstream]	Specifices the direction of the traffic. Upstream means traffic from the ONU to the OLT while downstream traffic goes from the OLT to the ONU.
{<onu_list>}	Specifices a range of ONUs to be displayed.

Restrictions

None

Example

To display the queue size of upstream:

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```
DPN-3012-E:a#show onu queue_size upstream
Command:show onu queue_size upstream

ONU  Queue0   Queue1    Queue2    Queue3   Queue4   Queue5   Queue6   Queue7
---- ------   ------    ------    ------   ------   ------   ------   ------
1:1   800      2000     4096      500      100      600      1000   2000
1:2   800      1000     4096      600      200      300      800    2000
1:3   800      4000     4096      100      100      600      100    2000
1:4   800      1000     4096      100      300      700      100    2000
1:5   800      1000     4096      100      100      600      100    2000
1:6   800      1000     4096      100      800      600      100    2000
1:7   800      1000     4096      100      100      600      100    2000
1:8   800      1250     4096      100      1020     600      100    2000
1:9   800      1000     4096      100      100      600      100    2000
1:10  800      1000     4096      100      100      600      900    2000
1:11  800      1000     4096      100      100      600      100    2000
1:12  800      1000     4096      800      100      600      100    2000
1:13  800      1000     4096      100      100      600      100    2000
1:14  800      1000     4096      100      100      600      100    2000
1:15  800      1000     4096      100      100      600      100    2000
1:16  800      1000     4096      100      100      600      100    2000
1:17  800      1000     4096      100      100      600      100    2000
1:18  800      1000     4096      100      100      600      100    2000


DPN-3012-E:a#
```

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35-5 config onu port_base_vlan

Purpose

Used to configure the port base VLAN for the ONU.

Format

config onu port_base_vlan [all|<onu_list>] uni_port <uni_portlist> forward_list [all | <uni_portlist>]

Description

This command is used to configure the port base VLAN. Only the DPN304 model supports this command.

Parameter

Parameters	Description
[all | <onu_list>]	Specifices a range of ONUs to be configured.To set all ONUs in the system, you may use “all” parameter.
uni_port	Specifices the ONU UNI port to be configured.
forward_list	Specifices the forwarding ONU UNI port list of the port base VLAN. By default, the packet can be forwarded to all UNI ports.

Restrictions

2-level administrator
3-level operator

Example

To configure the port base VLAN:

```
DPN-3012-E:a#config onu port_base_vlan all uni_port 3 forward_list 2-3
Command:config onu port_base_vlan all uni_port 3 forward_list 2-3
Success.
DPN-3012-E:a#
```

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35-6 show onu port_base_vlan

Purpose

Used to display the configuration of port base VLAN of the ONU.

Format

show onu port_base_vlan {<onu_list> {uni_port <uni_portlist>}}

Description

This command is used to display the configuration of port base VALN. Only for 4 port ONU (For example: DPN304).

Parameter

Parameters	Description
<onu_list>	Specifices a range of ONUs to be displayed.
uni_port	Specifices the ONU UNI port to be displayed.

Restrictions

2-level administrator
3-level operator

Example

To configure the port base VLAN:

```
DPN-3012-E:a#show onu port_base_vlan all
Command:show onu port_base_vlan all

 ONU   Port1 List   Port2 List   Port3 List   Port4 List    State
 ----- ----------   ----------   ----------   ----------    ----------
 1:1    1-4         1-4          2-3          1-3          Disable
 1:2    1-4         1-4          2-3          1-3          Disable
 1:3    1-4         1-4          2-3          1-3          Enable
 1:4    1-4         1-4          2-3          1-3          Disable
 1:5    1-4         1-4          2-3          1-3          Disable
 1:6    1-4         1-4          2-3          1-3          Enable
 1:8    1-4         1-4          2-3          1-3          Enable
 1:9    1-4         1-4          2-3          1-3          Disable
 1:10   1-4         1-4          2-3          1-3         Disable
 1:11   1-4         1-4          2-3          1-3         Disable
 1:12   1-4         1-4          2-3          1-3         Disable
 1:13   1-4         1-4          2-3          1-3         Disable
 1:14   1-4         1-4          2-3          1-3         Disable
 1:15   1-4         1-4          2-3          1-3         Disable
 1:16   1-4         1-4          2-3          1-3         Disable
 1:17   1-4         1-4          2-3          1-3         Disable
 1:18   1-4         1-4          2-3          1-3         Disable


DPN-3012-E:a#
```

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35-7 config onu port_base_vlan state

Purpose

Used to configure the port_base VLAN state of the ONU.

Format

config onu port_base_vlan [all | <onu_list>] state [enable | disable]

Description

This command is used to configure the portbase VLAN state of the ONU.

Parameter

Parameters	Description
[all | <onu_list>]	Specifices a range of ONUs to be configured.For set all ONUs in the system, you may use “all” parameter.
state	Enable or disable the ONU portbase VLAN. By default, the port_base VLAN is disabled.

Restrictions

2-level administrator
3-level operator

Example

To configure the portbase VLAN state:

```
DPN-3012-E:a#config onu port_base_vlan 1:3 state enable

Command:config onu port_base_vlan 1:3 state enable

Success.

DPN-3012-E:a#
```

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35-8 config onu default_filter

Purpose

Used to configure the upstream or downstream default filter for the PON port of the ONU.

Format

config onu default_filter [all | <onu_list>] [upstream | downstream] [tag | untag] [discard | pass]

Description

This command is used to configure the default filter for upstream traffic or downstream traffic passing through the PON port of the ONU.

There are two types of filters, default filter and classifier filter. For packets that match the classifier filter, the rule in the matched classifer filter is applied. If the packet does not match any classfier filter. The default ruleis applied.
There is one exception. If the default rule specifies to discard both tagged and untagged packet, then only those classifier rules that match against the VID field will take effect.

Parameter

Parameters	Description
[all | <onu_list>]	Specifices a range of ONUs to be configured.To set all ONUs in the system, you may use “all” parameter.
upstream/downstream	Specifices to configure filter for upstream or downstream direction.
tag/untag	Specifices the packets with a VLAN tag or without a VLAN tag. By default, both tag and untag packet are passed.
discard/pass	To drop or forward the packets.

Restrictions

2-level administrator
3-level operator

Example

To configure the default filter:

```
DPN-3012-E:a#config onu default_filter all upstream tag pass
Command:config onu default_filter all upstream tag pass

Success.

DPN-3012-E:a#
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35-9 show onu default filter

Purpose

Used to display the configuration of default filter of the ONU.

Format

show onu default_filter { <onu_list>}

Description

This command is used to display the configuration of default filter of the ONU.

Parameter

Parameters	Description
{<onu_list>}	Specifices a range of ONUs to be displayed.

Restrictions

user level

Example

To display the configuration of default filter:

```
DPN-3012-E:a#show onu default_filter
Command:show onu default_filter

ONU    Upstream    Upstream   Downstream    Downstream
       Untagged    Tagged     Untagged      Tagged
 ----  ---------  ----------  -----------  -------------
 1:1    Pass       Pass        Pass        Discard
 1:2    Pass       Pass        Pass        Discard
 1:3    Pass       Pass        Pass        Discard
 1:4    Pass       Pass        Pass        Discard
 1:5    Pass       Pass        Pass        Discard
 1:6    Pass       Pass        Pass        Discard
 1:7    Pass       Pass        Pass        Discard
 1:8    Pass       Pass        Pass        Discard
 1:9    Pass       Pass        Pass        Discard
 1:10   Pass       Pass        Pass        Discard
 1:11   Pass       Pass        Pass        Discard
 1:12   Pass       Pass        Pass        Discard
 1:13   Pass       Pass        Pass        Discard
 1:14   Pass       Pass        Pass        Discard
 1:15   Pass       Pass        Pass        Discard
 1:16   Pass       Pass        Pass        Discard
 1:17   Pass       Pass        Pass        Discard
 1:18   Pass       Pass        Pass        Discard


DPN-3012-E:a#
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35-10 . config onu classifier_filter upstream/downstream

Purpose

Used to configure the upstream or downstream classifier filter of the ONU.

Format

config onu classifier_filter [upstream | downstream][all | <onu_list>] [add rule_id <int 1-56> [ethertype <hex 0x0-0xFFFF> | vid <0-4094> | ipv4_protocol_type <int 1-255> | sip <ipaddr> | dip <ipaddr > | stcp <tcp_port_number 1-65535> | sudp <udp_port_number 1-65535>] action [discard | pass] rule_state [enable | disable] | delete rule_id <int 1-56> | enable rule_id <int 1-56> | disable rule_id <int 1-56>]

Description

This command is used to configure the classifier filter for upstream traffic and classifier filter for downstream traffic passing through the PON port of the ONU. For each direction of each ONU , up to 56 rules can be specified . For each field type (also named filter type), up to 8 rules can be configured.

a. At the same time the packet matches VID, Ethertype and IPv4, in one or more of the rules.
b. At the same time the packet matches SIP and DIP, in one or more of the rules..
c. At the same time the packet matches STCP or SUDP rules.

If the data packets to meet "a" condition, and set up the forwarding of data packets are discarded, then that data packets will be discarded.
If the data packets to meet "b" condition. according to the first set of rules transmitted data packets.
If the data packets at the same time meet the "a" and "b" conditions, if "a" set of rules of operation of discarded packets, discarded packets. If only "b" in the rules set up a discarded packets, according to the first set of rules transmitted data packets.
If the data packets at the same time meet the "a" and "c" conditions, if set up the operation of discarded packets, discarded packets.
If the data packets at the same time meet the "b" and "c" conditions, "b" than "C" have a higher priority.

By default, there are two upstream rules. A rule through the match Ethertype type, capture the ARP packet to the CPU, another through the match DIP, the local IP packet capture to the CPU.

Note that if the packet match the upstream filter rule, the upstream filter rule will be applied. If the packet does not match any upstream filter rule, then default upstream filter rule will be applied except with the following exception. If the default upstream filter is specified to discard tag and untag packet, then only those classifier rule that match against VID field rule will take effect.
The same situation also applies to the downstream default filter and downstream classifier filter.

Common Ethernet Type Numbers	
Ethernet Type	**Number**
IP ETH	0800

Common Protocol Types	
Protocol Name	**Number**
ICMP	1

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Parameter.

Parameters	Description
upstream/downstream	Specifies to configure upstream or downstream classifier filter rules.
[all | <onu_list>]	Specifies a range of ONUs to be configured.To set all ONUs in the system, you may use “all” parameter.
add	Specifies to add a rule.
delete	Specifies to delete a rule.
enable rule_id	Specifies to set the rule valid.
disable rule_id	Specifies to set the rule invalid.
rule_id	The rule index number.
ethertype/vid/ipv4_protocol_type/ stcp/sudp/sip/dip	The field to match against. It includes Ethertype, VID, IPv4 protocol type, Src TCP port, Src UDP port, Src IP, Dec IP.
action	Select whether to drop (discard) or forward (pass) the classified packets.
rule_state	Specify to set the rule as valid or invalid.

Restrictions

2-level administrator
3-level operator

Example

To configure the classifier filter:

```
DPN-3012-E:a#config onu classifier_filter upstream all add rule_id 8 vid 2
action pass rule_state enable
Command:config onu classifier_filter upstream all add rule_id 8 vid 2 action
pass rule_state enable

Success.

DPN-3012-E:a#
```

```
DPN-3012-E:a#config onu classifier_filter upstream 5:23 delete rule_id 2
Command:config onu classifier_filter upstream 5:23 delete rule_id 2

Success.

DPN-3012-E:a#
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```
DPN-3012-E:a#config onu classifier_filter upstream 1:13 enable rule_id 1
Command:config onu classifier_filter upstream 1:13 enable rule_id 1

 Success.

DPN-3012-E:a#
```

35-11 show onu classifier_filter

Purpose

Used to display the configuration of classifier filter of the ONU.

Format

show onu classifier_filter [upstream | downstream] {<onu_list> {rule_id <int 1-56>}}

Description

This command is used to display the configuration of upstream or downstream classifier filter of the ONU.

Parameter

Parameters	Description
[upstream | downstream]	Specifices to display downstream or upstream classifier filter.
<onu_list>	Specifices a range of ONUs to be displayed.
rule_id	The rule index number that to be displayed

Restrictions

None

Example

To display the downstream classifier filter:

```
DPN-3012-E:a#show onu classifier_filter upstream
Command:show onu classifier_filter upstream

ONU    Rule ID  Filter Type  Filter Value         Action   State
 ----  -------  -----------  -------------------  -------  ----------
 1:1   1        SIP          202.102.193.161      Pass     Enable
 1:1   2        DIP          212.158.194.155      Pass     Disable
 1:1   3        Ethertype    0x0806               Pass     Enable
 1:1   4        VID          2                    Pass     Disable
 1:1   5        IPv4         1                    Pass     Enable
 1:1   6        Src TCP      455                  Pass     Disable
```

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```
1:1   7       Src UDP       139                 Pass     Enable
1:1   8       SIP           222.168.131.154     Pass     Enable
1:1   9       SIP           203.168.142.145     Pass     Disable
1:1   10      SIP           204.168.164.174     Pass     Disable
1:1   41      SIP           205.168.176.184     Pass     Enable
1:1   52      Src TCP       4000                Pass     Disable
1:1   56      SIP           215.168.182.164     Pass     Disable
1:2   1       Src TCP       137                 Pass     Disable
1:2   6       SIP           215.168.195.184     Pass      Disable
1:3   2       Src TCP       1024                Pass     Disable
1:3   7       SIP           217.168.190.104     Pass      Enable
1:3   50      VID           4094                Pass     Disable


DPN-3012-E:a#
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35-12 . config onu default_vlan_rule upstream

Purpose

Used to configure the default upstream VLAN rule of the ONU.

Format

config onu default_vlan_rule upstream [all | <onu_list>] [add vlan_type [0x8100 | 0x9100 | 0x88A8] vid <vlanid 0-4094> priority [original | priority_classifier] | replace vid <vlanid 0-4094> priority [original | priority_rule] | none]

Description

This command is used to configure the default upstream VLAN rule of the ONU.

By default, set "none" for all packet.

Parameter

Parameters	Description	
[all | <onu_list>]	Specifices a range of ONUs to be configured.To set all ONUs in the system, you may use “all” parameter.	
add	Specifies to add a new VLAN tag to the packet.	
	vlan_type	Select a standard Ethernet type code identifying the frame and indicates whether the frame carries IEEE 802.1Q or IEEE 802.1ad tag information. For untagged frames, the system sets the VLAN type to 0x8100 regardless of your setting here. For tagged frames, the system sets the specified VLAN type.
	vid	VLAN ID (0-4094) that will be added in new tag
	priority	Original: he priority in original VLAN tag will be used. If the packet is untagged, default priority 0 will be used. priority_rule: add the packet priority based on the settings in the priority rule command,. If no priority rule setting matched , default priority “0” will be added.
replace	Specifies to replace the original VLAN tag.	
	vid	VLAN ID used to replace packet’s tag VLAN ID
	priority	Original: don’t change the priority of the packet; priority_rule: to use the priority based on the settings in the priority rule command c, If no priority rule matched , default priority “0” will be used.
none	Specifies to do nothing for the packet.	

Restrictions

2-level administrator
3-level operator

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Example

To configure the default upstream VLAN rule:

```
DPN-3012-E:a#config onu default_vlan_rule upstream all add vlan_type 0x8100 vid
2 priority original
Command: config onu default_vlan_rule upstream all add vlan_type 0x8100 vid 2
priority original
Success.
DPN-3012-E:a#
```

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35-13 config onu default_vlan_rule downstream

Purpose

Used to configure the default downstream VLAN rule of the ONU.

Format

config onu default_vlan_rule downstream [all | <onu_list>] [remove | replace vid <vlanid 0-4094 > priority [original | priority_rule] | none]

Description

This command is used to configure downstream default VLAN rule of the ONU.

By default, set "none" for all packet.

Parameter

Parameters	Description	
[all | <onu_list>]	Specifices a range of ONUs to be configured.For set all ONUs in the system, you may use “all” parameter.	
remove	Remove the VLAN tag of the packet.	
replace	vid	VLAN ID used to replace packet’s tag VLAN ID
	priority	Original: don’t change the priority of the packet; priority_rule: change the packet priority based on the settings in the priority rule command configured for the ONU, If no priority rule setting matched , priority will will be “0”
none	Will do nothing for the packet.	

Restrictions

2-level administrator
3-level operator

Example

To configure the default downstream VLAN rule:

```
DPN-3012-E:a#config onu default_vlan_rule downstream remove
Command:config onu default_vlan_rule downstream remove


 Success.


DPN-3012-E:a#
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35-14 . show onu default_vlan_rule

Purpose

Used to display the default upstream or downstream VLAN rule of the ONU.

Format

show onu default_vlan_rule [upstream | downstream] {<onu_list>}

Description

This command is used to display the upstream or downstream default VLAN rule of the ONU.

Parameter

Parameters	Description
[upstream | downstream]	Specifices the direction of the traffic. Upstream means traffic from the ONU to the OLT while downstream traffic goes from the OLT to the ONU.
{<onu_list>}	Specifices a range of ONUs to be displayed.

Restrictions

None.

Example

To display the downstream default VLAN rule:

```
DPN-3012-E:a#show onu default_vlan_rule downstream
Command:show onu default_vlan_rule downstream

 ONU    Action      VLAN Type New VID    Priority Src
 ----   --------    --------- --------    --------------
 1:1    Replace       ------   2         Original
 1:2    Remove        ------   -          -
 1:3    None          ------   -          -
 1:4    Remove         ------   -         -
 1:5    Remove         ------   -         -
 1:6    Remove         ------   -         -
 1:7    Remove         ------   -         -
 1:8    Remove         ------   -         -
 1:9    Remove         ------   -         -
 1:10   Remove         ------   -         -
 1:11   Remove         ------   -         -
 1:12   Remove         ------   -         -
 1:13   Remove         ------   -         -
 1:14   Remove         ------   -         -
 1:15   Replace        ------   2        Priority_rule
 1:16   Replace        ------   2        Priority_rule
 1:17   Replace        ------   2        Priority_rule
 1:18   Replace        ------   2        Priority_rule


DPN-3012-E:a#
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35-15 . config onu vlan_rule upstream

Purpose

Used to configure the upstream VLAN rule of the ONU.

Format

config onu vlan_rule upstream [all | <onu_list>] [add rule_id <int 1- 24> [ethertype <hex 0x0-0xFFFF> | ipv4_protocol_type <int 1-255> | vid <vlanid 0-4094>] action [add vlan_type [0x8100 | 0x9100 | 0x88A8] vid <vlanid 0-4094> priority [original | priority_rule] | replace vid <vlanid 0-4094 > priority [original | priority_rule] | none] rule_state [enable | disable] | delete rule_id <int 1-24> | enable rule_id <int 1-24> | disable rule_id <int 1-24>]

Description

This command is used to configure the vlan rule for upstream traffic passing through the PON port of the ONU.Up to 24 rules can be specified . For each field type (also named filter type), up to 8 rules can be configured. The rule that matches against VLAN has the highest precedence, then ether type, then ipv4_protocol_type. If two rules has the same precedence, then the rule created earily has the higher precedence.

Note that if the packet match the upstream vlan rule, the upstream vlan rule will be applied. If the packet does not match any upstream vlan rule, then default upstream vlan rule will be applied.

Parameter

Parameters	Description	
[all | <onu_list>]	Specifices a range of ONUs to be configured.To set all ONUs in the system, you may use “all” parameter.	
add	Add a VLAN rule.	
delete	Delete a VLAN rule.	
rule_id	The rule index, from 1 to 24.	
ethertype/ipv4_protocol_type/vid	Specifies the field to match against. Choices are “ethertype”, “ipv4_protoco_type” and “vid”. Select “ethertype” to check the Ethernet type of the packet. Select “ipv4_protocol_type” to check the IPv4 protocol number of the packet. Select “vid” to check the VLAN ID of the packet.	
rule_state	Enable or disable the rule.	
add	Specifies to add a new VLAN tag to the packet.	
	vlan_type	Select a standard Ethernet type code identifying the frame and indicates whether the frame carries IEEE 802.1Q or IEEE 802.1ad tag information. For untagged frames, the system sets the VLAN type to 0x8100 regardless of your setting here. For tagged frames, the system sets the specified VLAN type.
	vid	VLAN ID (0-4094) that will be added in new tag

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	priority	Original: he priority in original VLAN tag will be used. If the packet is untagged, default priority 0 will be used. priority_rule: add the packet priority based on the settings in the priority rule command,. If no priority rule setting matched , default priority “0” will be added.
replace	Specifies to replace the original VLAN tag.	
	vid	VLAN ID used to replace packet’s tag VLAN ID
	priority	Original: don’t change the priority of the packet; priority_rule: to use the priority based on the settings in the priority rule command c, If no priority rule matched , default priority “0” will be used.
none	Specifies to do nothing for the packet.	
rule_state	Enable or disable the rule.	
enable rule_id	Enable the rule.	
disable rule_id	Disable the rule.	

Restrictions

2-level administrator
3-level operator

Example

To configure the upstream VLAN rule:

```
DPN-3012-E:a#config onu vlan_rule upstream all add rule_id 2 ethertype 0x0800
action
add vlan_type 0x8100 vid 2 priority original rule_state enable
Command: config onu vlan_rule upstream all add rule_id 2 ethertype 0x0800 action
add vlan_type 0x8100 vid 2 priority original rule_state enable

 Success.

DPN-3012-E:a#
```

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35-16 config onu vlan_rule downstream

Purpose

Used to configure the downstream VLAN rule of the ONU.

Format

config onu vlan_rule downstream [all | <onu_list>] [add rule_id <int 1- 24>[ethertype <hex 0x0-0xFFFF> | ipv4_protocol_type <int 1-255> | vid <vlanid 0-4094>] action [remove | replace vid <vlanid 0-4094 > priority [original | priority_rule] | none] rule_state [enable | disable] | delete rule_id <int 1-24> | enable rule_id <int 1-24> | disable rule_id <int 1-24>]

Description

This command is used to configure the vlan rule for downstream traffic passing through the PON port of the ONU.Up to 24 rules can be specified . For each field type (also named filter type), up to 8 rules can be configured. The rule that matches against VLAN has the highest precedence, then ether type, then ipv4_protocol_type. If two rules has the same precedence, then the rule created earily has the higher precedence.

Note that if the packet match the downstream vlan rule, the downstream vlan rule will be applied. If the packet does not match any downstream vlan rule, then default downstream vlan rule will be applied.

Parameter

Parameters	Description	
[all | <onu_list>]	Specifices a range of ONUs to be configured.For set all ONUs in the system, you may use “all” parameter.	
add	Add a rule.	
delete	Delete a rule.	
rule_id	The rule index, from 1 to 24.	
ethertype/ipv4_protocol_type/vid	Specify the packet type to check. Choices are “ethertype”, “ipv4_protocol_type” and “vid”. Select “ethertype” to check the Ethernet type of the packet. Select “ipv4_protocol_type” to check the IPv4 protocol number of the packet. Select “vid” to check the VLAN ID of the packet.	
remove	Remove the VLAN tag of the packet.	
replace	vid	VLAN ID used to replace packet’s tag VLAN ID
	priority	Original: don’t change the priority of the packet; priority_rule: change the packet priority based on the settings in the priority rule command configured for the ONU, If no priority rule setting matched , priority will will be “0”
none	Will do nothing for the packet.	
rule_state	Enable or disable the rule.	
enable rule_id	Enable the rule.	
disable rule_id	Disable the rule.	

Restrictions

2-level administrator
3-level operator

Example

To configure the downstream VLAN rule:

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```
DPN-3012-E:a#config onu vlan_rule downstream all add rule_id 1 vid 1 action remove
rule_state
disable
Command:config onu vlan_rule downstream all add rule_id 1 action remove rule_state
disable

 Success.

DPN-3012-E:a#
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35-17 . show onu vlan_rule

Purpose

Used to display the upstream or downstream VLAN rule of the ONU.

Format

show onu vlan_rule [upstream | downstream] {<onu_list>{rule_id <int 1-24>}}

Description

This command is used to display the upstream or downstream VLAN rule.

Parameter

Parameters	Description
[upstream | downstream]	Specifices the direction of the traffic. Upstream means traffic from the ONU to the OLT while downstream traffic goes from the OLT to the ONU.
<onu_list>	Specifices a range of ONUs to be displayed.
rule_id	The rule index, from 1 to 24.

Restrictions

None.

Example

To display the VLAN rule:

```
DPN-3012-E:a#show onu vlan_rule downstream 1:1 rule_id 1
Command:show onu vlan_rule downstream 1:1 rule_id 1

Onu    Rule   Filter    Filter Value    Action   VLAN Type   VID    Priority Src    State
       ID     Type
----   ----   --------  -------------   -------  ---------   ---    -------------   -----------
1:1    1      VID       1               Remove   -----       -      -               Disable
1:1    2      VID       2               Replace  -----       100    Priority Rule   Disable
1:1    3      VID       3               None     -----       -      -               Disable


DPN-3012-E:a#
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```
DPN-3012-E:a#show onu vlan_rule upstream 1:1 rule_id 1
Command:show onu vlan_rule upstream 1:1 rule_id 1

Onu    Rule   Filter    Filter Value    Action   VLAN Type   VID    Priority Src    State
       ID     Type
----   ----   --------  -------------   -------  ---------   ---    -------------   -----------
1:1    1      VID       100             None     -----       -      -               Disable
1:1    2      VID       200             Add      0x8100      100    Priority Rule   Disable

DPN-3012-E:a#
```

35-18 config onu priority_map

Purpose

Used to configure priority map of the ONU.
You can make priority map based on tag priority or TOS field of IPv4 packet.

Format

config onu priority_map [all | <onu_list>] [ip_tos | tag_priority] <priority 0-7> <class_id 0-7>

Description

The priority map maps the priority queue for the upstream and downstream traffic passing through the PON port.
The mapping to a priority queue can be either based on IP TOS or based on 1p priority in the VLAN tag. For the tagged packet, the mapping will base on the 1p priority. For the untagged IP packet, the mapping will base on IP TOS value. For other untagged packet, they will be mapped to queue 0.

For default tag_priority mapping, priority 0 is mapped to class 0, priority 1 is mapped to class 1, priority 2 is mapped to class 2, priority 3 is mapped to class 3, priority 4 is mapped to class 4, priority 5 is mapped to class 5, priority 6 is mapped to class 6, priority 7 is mapped to class 7.

For default IP TOS mapping, priority 0 is mapped to class 0, priority 1 is mapped to class 1, priority 2 is mapped to class 2, priority 3 is mapped to class 3, priority 4 is mapped to class 4, priority 5 is mapped to class 5, priority 6 is mapped to class 6, priority 7 is mapped to class 7.

Parameter

Parameters	Description
[all | <onu_list>]	Specifices a range of ONUs to be configured.To set all ONUs in the system, you may use “all” parameter.
Ip_tos	Specifies the IP TOS mapping rule.
tag_priority	Specifies the 1p priority mapping rule.
priority	The value of IP TOS or 1op priority.
class_id	The priority queue for holding the packet.

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Restrictions

2-level administrator
3-level operator

Example

To configure the priority mapping:

```
DPN-3012-E:a#config onu priority_map all ip_tos 3 1
Command:config onu priority_map all ip_tos 3 1


 Success.


DPN-3012-E:a#
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35-19 . show onu priority_map

Purpose

Used to display the priority mapping rule of the ONU.

Format

show onu priority_map {<onu_list>{[ip_tos | tag_priority]} }

Description

This command is used to display the priority mapping rule.

Parameter

Parameters	Description
<onu_list>	Specifices a range of ONUs to be displayed.
ip_tos | tag_priority	You can specified to show tag priority mapping or tos mapping

Restrictions

None.

Example

To display the priority mapping:

```
DPN-3012-E:a#show onu priority_map 1:3
Command:show onu priority_map 1:3


ONU 1:3
-----------
IP TOS Priority Queue Mapping
   0 -> 0
   1 -> 1
   2 -> 1
   3 -> 1
   4 -> 2
   5 -> 2
   6 -> 7
   7 -> 7


Tag Priority Queue Mapping
   0 -> 0
   1 -> 1
   2 -> 2
   3 -> 3
   4 -> 4
   5 -> 5
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   6 -> 6
   7 -> 7
DPN-3012-E:a#
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35-20 config onu priority_rule upstream/downstream

Purpose

Used to configure the priority rule of the ONU.

Format

config onu priority_rule [upstream|downstream] [all | <onu_list>] [add rule_id <int 1-40> [[ethertype <hex 0x0-0xFFFF> | ipv4_protocol_type <int 1-255> | vid <vlanid 0-4094>] priority <int 0-7> queue <int 0-7> | [sip <ipaddr> | dip <ipaddr>] queue <int 0-7>] rule_state [enable | disable] | delete rule_id <int 1-40> | enable rule_id <int 1-40> | disable rule_id <int 1-40>]

Description

This command is used to configure the priority rules. The purpose of the priority rule is two folded. One is to determine the priority to be used in the VLAN tag of the packet, and the other is to determine the priority queue for holding the packet.

For the rule to determine the priority to be used in the VLAN tag, the rule will be used when the vlan rules or the default vlan rule are specified to use the priority rule. The priority defined in the matched priority rule will be used by the vlan rule. If no priority rule match the packet, then default priorty 0 will be used.

For the rule to determine the priority queue for holding the packet. If the packet match a priority rule, the priority rule will determine the priority queue. Otherwise, the priority queue will be determined based on the priority mapping rule.

.For each direction of each ONU , up to 40 rules can be specified . For each field type (also named filter type), up to 8 rules can be configured.

If the data packets at the same time matching Ethertype, IPv4 and VID, which VID the lowest priority, Ethertype and IPv4 in accordance with the previous rules.
If the data packets at the same time matching SIP and DIP, in accordance with the rules of the last transmitted data packets.
L2 priority than the L3 high priority.

Parameter

Parameters	Description
[all | <onu_list>]	Specifices a range of ONUs to be configured.To set all ONUs in the system, you may use “all” parameter.
upsrteam/downstream	Specifices to confgigure the upstream or downstream priority rule.
add	Add a rule.
delete	Delete a rule.
rule_id	The rule index, from 1 to 40.
ethertype/ipv4_protocol_type/ vid/sip/dip	Specify the field of packets to be matched. “ethertype” match the rule based on the Ethernet type. “ipv4_protocol_type” match the rule based on the IPv4 protocol type. “vid” match the rule based on the VLAN ID. “sip” match the rule based on the source IP address. “dip” match the rule based on the destination IP address.
priority	The priorty to be used in the VLAN tag of the packet,

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queue	The priority queue for holding the packet.
rule_state	Enable or disable the rule.
enable rule_id	Enable the rule.
disable rule_id	Disable the rule.

Restrictions

2-level administrator
3-level operator

Example

To configure the priority rule:

```
DPN-3012-E:a#config onu priority_rule upstream all add rule_id 1 ethertype 0x0806 priority
7 queue 7 rule_state enable
Command: config onu priority_rule upstream all add rule_id 1 ethertype 0x0806 priority
7 queue 7 rule_state enable

 Success.

DPN-3012-E:a#
```

```
DPN-3012-E:a#config onu priority_rule upstream all add rule_id 2 sip 222.175.25.12 queue
7 rule_state enable
Command: config onu priority_rule upstream all add rule_id 2 sip 222.175.25.12 queue 7
rule_state enable

 Success.

DPN-3012-E:a#
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35-21 show onu priority_rule

Purpose

Used to display the priority rules of the ONU.

Format

show onu priority_rule [upstream | downstream] {<onu_list> {rule_id <int 1-40>}}

Description

This command is display the priority rules of the ONU.

Parameter

Parameters	Description
[upstream | downstream]	Specifices the direction of the traffic. Upstream means traffic from the ONU to the OLT while downstream traffic goes from the OLT to the ONU.
<onu_list>	Specifices a range of ONUs to be displayed
rule_id	The rule index, from 1 to 40.

Restrictions

None.

Example

To display the priority rule:

```
DPN-3012-E:a#show onu priority_rule downstream 1:1 rule 1
Command:show onu priority_rule downstream 1:1 rule 1

ONU   Rule ID   Filter Type  Filter Value     Priority   Queue    State
----  --------  -----------   ---------------  --------   -----    ------
1:1   1         SIP          222.175.52.12        -     7       Enable

DPN-3012-E:a#
```