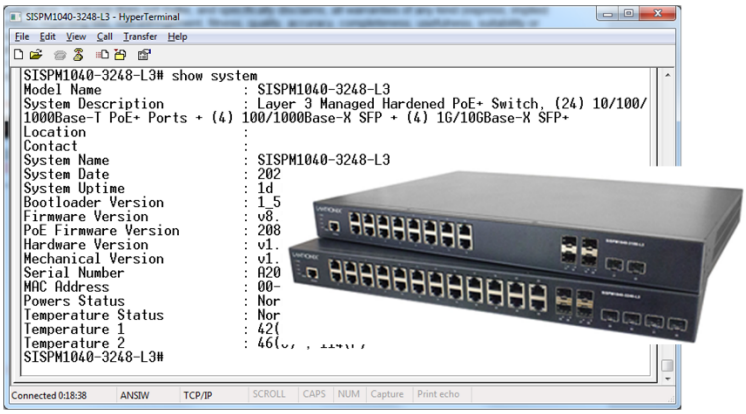

SISPM1040-xxxx-L3

Layer 3 Managed Hardened PoE+ Switch family

SISPM1040-3248-L3 and SISPM1040-3166-L3

CLI Reference

Part Number 33857
Revision D January 2025

Intellectual Property

Warranty

For details on the Lantronix warranty policy, go to http://www.lantronix.com/support/warranty.

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Revision History

Date	Rev	Notes
6/8/22	A	Initial Lantronix release at FW v8.90.884, Bootloader v1_5-38e0421, PoE Firmware v200-211, HW v1.02, Mech v1.01.
8/21/23	B	Update Appendix A and contact information. SISPM1040-3248-L3 FW v 8.10.0086: view the release notes for the latest firmware information.
6/17/24	C	FW v8.10.0105: Add Percepxion and LPM support.
1/30/25	D	FW v8.10.0124: ♦ Add support for Syslog and Web connect on Percepxion. Web connect requires that HTTPS is enabled. ♦ Remove reference to ‘Stream’ support. ♦ Update ‘Initial Switch Setup’ See the Release Notes for details.

Contents

1. Introduction

Product Description

The SISPM1040-3000-L3 Series managed Layer 3 (L3) hardened Gigabit Ethernet PoE switches offer powerful Layer 2 and Layer 3 features and performance required to meet the demands of Smart City and Utility, Transportation, Security and Surveillance applications where performance and reliability across a wide range of temperatures is required. The SISPM1040-3000-L3 Series are designed to support current and future Internet of Things (IoT) applications with their non-blocking / wire speed performance, wide operating temperature range of -40°C to 75°C for outdoor and indoor environments.

About This Manual

This manual gives specific information on how to operate CLI (Command Line Interface) to manage this switch.

The manual is intended for use by network administrators who are responsible for operating and maintaining network equipment. It assumes a strong knowledge of Ethernet switch functions, the RS-232 Console, Internet Protocol (IP), and Telnet Protocol.

Note: Some Documentation may have Transition Networks named or pictured. Transition Networks was acquired by Lantronix in August 2021.

Related Manuals

A printed Quick Start Guide is shipped with each SISPM1040-xxxx-L3 device. Note that this manual provides links to third party web sites for which Lantronix is not responsible. Related manuals include:

1. Product Support Postcard, 33504
2. SISPM1040-xxxx-L3 Quick Start Guide, 33854
3. SISPM1040-xxxx-L3 Install Guide, 33855
4. SISPM1040-xxxx-L3 Web User Guide, 33856
5. Release Notes (firmware version specific)

Note: Information in this document is subject to change without notice. All information was deemed accurate and complete at the time of publication. This manual documents the latest software/firmware version. While all screen examples may not display the latest version number, all of the descriptions and procedures reflect the latest software/firmware version, noted in the Revision History on page 2.

2. Initial Switch Setup

Access the CLI through the Console Port

The SM12XPA switch can be accessed and configured using a direct serial connection between the switch and your computer and terminal emulation software on your computer. Use a standard serial cable (RJ-45 to DB9). You will need a USB to serial adapter if your computer doesn't have a serial port.

To access the CLI through the console port:

1. Connect the serial cable to the console port (RJ45) on the switch and to the serial port on the computer (DB9) or use a DB9 to USB adapter if your computer lacks a serial port.
2. Use a terminal emulator program such as PuTTY or Tera Term to start a serial session.
3. Select Serial connection type, select the COM port, and enter the speed. Serial settings for the switch are the following: Baud rate=115200bps, Data bits=8, Parity=None, Stop bits=1 Flow control=none
    a. To find out which COM port to select, go to Device Manager > Ports to view the COM ports in use. (Windows)
4. At the terminal window, enter the factory default username (admin) and password (admin).
5. Perform initial switch configuration using the CLI.

Access the CLI using an SSH or Telnet Connection

The SM12XPA switch can be remotely accessed and configured through the Command Line Interface (CLI) using SSH or Telnet. Use a terminal emulator program such as PuTTY or Tera Term to establish the connection.

Your computer should have an IP address on the same network as the switch and be able to reach the switch's configured management IP address. SSH or Telnet service must be enabled on your switch. Telnet is disabled by default.

The switch's factory default configuration is IP address: 192.168.1.77, user name: admin, password: admin.

Note: *Telnet is not secure and can expose data to potential eavesdroppers. SSH should be used for more secure communication.*

To access the CLI using SSH or Telnet:

1. Launch the terminal emulator program on your computer .
2. Select SSH or Telnet as the session type.
3. Enter the hostname or IP address of the switch. SSH port = 22, Telnet port = 23.
4. At the terminal window, enter the factory default username (admin) and password (admin).
5. Perform switch configuration using the CLI.

Auto-Logout

The Auto-Logout dropdown lets you set the amount of time after a successful login before an automatic log out occurs. The selections are OFF, 1, 2, 3, 4, 5, 10 (default), 20, 30, 40, and 60 minutes. When you select an auto-logout you must click the Save button for it take effect. Save changes is retained after reboot/restart; however, if you reset the switch to factory defaults, then Auto-Logout goes back to its default of 10 minutes.

After you change the Auto-Logout timeout and then log out and log back in, the Auto-Logout timeout setting will be the setting saved to the start-up config file. When the Auto-Logout timeout setting is changed, it writes directly to the running-config file.

To save the timeout change to start-up config, execute a save to startup-config.

To examine the running-config, run the CLI command "`showing running-config`".

To save the timeout change into startup-config, you must do a save to startup-config and then reboot the switch.

In summary:

- When you power on the switch, it will get the settings from startup-config.
- When you logout and login (without switch reboot), the switch will get the timeout settings from startup-config.
- When you reload defaults, the switch will get the timeout settings default-config.

For the "Save to start-up config" behavior, if you don't save the config, when you change the timeout setting but logout, at the next login the timeout setting remains unchanged as the setting in start-up config.

If you save timeout setting to start-up config:	If you don't save timeout setting to start-up config:
When you change the timeout setting and save to startup-config (click the disc icon), the changed timeout setting will be applied to running-config and start-up config immediately.	When you change the timeout setting (without save to startup-config), the timeout change will be applied to running-config immediately.
After Logout and login, the timeout setting will be the setting saved in start-up config.	After Logout and login, the timeout setting will be the setting saved in start-up configure.
After a switch reboot, the timeout setting will be the setting saved in start-up config.	After you reboot the switch, the timeout setting will be the setting saved in start-up config.

CLI Messages

Message: *Wrong username or password!*

Recovery: Re-try the login with the correct username and password credentials.

Message: *There are too many users in the system.*

Recovery: Try to log in later.

3. Command Line Interface (CLI)

Privilege Levels

Every command has a privilege level (0-15). Users can run a command if the session's privilege level is greater than or equal to the command's privilege level. The session's privilege level initially comes from the login account's privilege level, though it is possible to change the session's privilege level after logging in.

Privilege Level	Types of Commands at this Privilege Level
0	Display basic system information
13	Configure features except for login accounts, the authentication method sequence, multiple logins, and administrator and enable passwords.
15	Configure login accounts, the authentication method sequence, multiple logins, and administrator and enable passwords.

Command Modes

The CLI is divided into several modes. If you have enough privilege to run a particular command, you must run the command in the correct mode. The modes that are available depend on the session's privilege level.

To see the commands of the mode, input "?" after the system prompt, and all commands will be listed on the screen. The command modes are listed below:

Mode	Prompt	Command Function in this Mode
exec	<sys_name>#	Display current configuration, diagnostics, maintenance
config	<sys_name>(config)#	Configure features other than those below
Config-if	<sys_name>(config-interface)#	Configure ports
Config-if-vlan	<sys_name>(config-if-vlan)#	Configure static vlan
Config-line	<sys_name>(config-line)#	Line Configuration
Config-impc-profile	<sys_name>(config-impc-profile)#	IPMC Profile
Config-snmp-host	<sys_name>(config-snmp-host)#	SNMP Server Host
Config-stp-aggr	<sys_name>(config-stp-aggr)#	STP Aggregation
Config-dhcp-pool	<sys_name>(config-dhcp-pool)#	DHCP Pool Configuration

Change Between Command Modes

Commands that reside in a specific mode can run only in that mode. To run a particular command, the user must change to the appropriate mode. The command modes are organized as a tree, and use starts in Exec mode.

The following table explains how to change from one mode to another:

Mode	Enter Mode	Leave Mode
Exec	--	--
Config	Configure terminal	exit
config-interface	Interface <port-type> <port-type-list>	exit
config-vlan	Interface vlan <vlan_list>	exit

Command Line Controls

To navigate the command line:

To display	Press	Description
more	-	dash key
next page	Space	space bar
continue	g	g key
quit	^C	Control C
parameters	?	Single question mark
syntax	??	Two question marks
available commands in table format	Tab key	available commands in table format

CLI Connection

A brief description of the network connection is provided below.

1. Attach the RJ45 serial port on the switch's front panel which you want to use to connect to the switch for SSH/telnet configuration.
2. At "Com Port Properties" Menu, set the parameters as below:

Baud rate	115200
Stop bits	1
Data bits	8
Parity	N
Flow control	none

Login

The command-line interface (CLI) is a text-based interface. User can access the CLI through either a direct serial connection to the device or an SSH or Telnet session (default IP address: 192.168.1.77). The default username and password to log into the switch are listed below:

Username: admin

Password: admin

After you login successfully, the prompt displays as "<sys_name>#" . It means you have administrator privileges for full read/write setting of the switch. If not logged in as an administrator, the prompt displays as "<sys_name>>" which means you have guest privileges, and are only allowed a subset of the full administrator privileges. Each CLI command has its own privilege level.

For example:

```
Username: admin
Password:
SISPM1040-3248-L3#
```

4. Exec Mode Commands

At the Exec mode prompt, enter a ? and hit Enter to display the available Exec mode commands:

```
SISPM1040-3248-L3# ?
    CableDiag     Cable Diagnostic keyword
    aps           Automatic Protection Switching
    clear         Clear
    configure     Enter configuration mode
    copy          Copy from source to destination
    delete        Delete one file in flash: file system
    dir           Directory of all files in flash: file system
    disable       Turn off privileged commands
    do            To run exec commands in the configuration mode
    dot1x         IEEE Standard for port-based Network Access Control
    enable        Turn on privileged commands
    erps          Ethernet Ring Protection Switching
    exit          Exit from EXEC mode
    firmware      Firmware upgrade/swap
    help          Description of the interactive help system
    ip            IPv4 commands
    iperf         network bandwidth measurement tool
    iperf3        network bandwidth measurement tool
    ipv6          IPv6 configuration commands
    link-oam      Link OAM configuration
    logout        Exit from EXEC mode
    more          Display file
    no            Delete trace hunt string
    ping          Send ICMP echo messages
    platform      Platform configuration
    ptp           Misc non persistent 1588 settings.
    reload        Reload system.
    send          Send a message to other tty lines
    show          Display statistics counters.
    terminal      Set terminal line parameters
    traceroute    Send IP Traceroute messages
SISPM1040-3248-L3#
```

APS Commands

Command: **aps**

Description: Automatic Protection Switching commands.

Syntax:

aps <inst> clear

aps <inst> exercise

aps <inst> freeze

aps <inst> lockout

aps <inst> switch { force | manual { protect-to-working | working-to-protect } }

Parameters:

<1-14>	APS instance number.
clear	Clear a switchover (FS, MS-to-W, MS-to-P), lockout (LO), exercise (EXER) request and a WTR condition.
exercise	Exercise an APS instance. Use 'aps <inst> clear' to clear the request.
freeze	Freezes the state of the APS instance. While in this mode, additional near-end commands, condition changes, and received APS information are ignored. Use 'no aps <inst> freeze' to get out of this mode.
lockout	Lockout APS instance of protection. Use 'aps <inst> clear' to clear the request.
switch	Request a switchover from the working path to the protection path or vice versa. Use 'aps <inst> clear' to clear the request.
force	Causes a switchover if no lockout is in effect.
manual	Causes a switchover if the signal is good and no lockout is in effect.
protect-to-working	Causes a manual signal switchover from the protection path to the working path if the protection path signal has not failed.
working-to-protect	Causes a manual signal switchover from the working path to the protection path whether or not the working path signal is active.

Example:

```
SISPM1040-3248-L3#  aps 1 clear
% APS instance is not active
SISPM1040-3248-L3#  aps 2 exercise
% Exercise of the APS protocol is not possible in unidirectional mode
SISPM1040-3248-L3# aps 2 lockout
SISPM1040-3248-L3# aps 2 switch force
SISPM1040-3248-L3# aps 2 switch manual protect-to-working
SISPM1040-3248-L3# aps 2 switch manual working-to-protect
SISPM1040-3248-L3#
```

Clear Commands

```
SISPM1040-3248-L3# clear ?
    access              Access management
    access-list         Access list
    aps                 Automatic Protection Switching
    cfm                 Connectivity Fault Management (CFM)
    dot1x               IEEE Standard for port-based Network Access Control
    erps                Ethernet Ring Protection Switching
    ip                  IP protocol
    ipv6                IPv6 configuration commands
    known-host-keys     Clear the cache of known hosts SSH keys
    lacp                Clear LACP statistics
    link-oam            Clear Link OAM statistics
    lldp                Clears LLDP statistics.
    logging             System logging message
    mac                 MAC Address Table
    mvr                 Multicast VLAN Registration configuration
    network-clock       Clear active WTR timer.
    port-security       Port Security
    ptp
    sflow               Statistics flow.
    spanning-tree       STP Bridge
    statistics          Clear statistics for one or more given interfaces
    system              system
    tsn                 clear TSN related flags
SISPM1040-3248-L3#
```

Command: **access**

Description: Clear Access management.

Syntax: **clear** access management statistics

Parameters:

management	Access management configuration.
statistics	Statistics data.

Example:

```
SISPM1040-3248-L3# clear access management statistics
SISPM1040-3248-L3#
```

Command: **access-list**

Description: Clear Access List parameters.

Syntax: **clear** access-list ace statistics

Parameters:

ace	Access list entry
statistics	Traffic statistics

Example:

```
SISPM1040-3248-L3# clear access-list ace statistics
SISPM1040-3248-L3#
```

Command: **aps**

Description: Clear Automatic Protection Switching.

Syntax: **clear** aps [<range_list>] statistics

Parameters:

<range_list>	The range of APS instances.
statistics	Clear APS counters
|	Output modifiers
begin	Begin with the line that matches
exclude	Exclude lines that match
include	Include lines that match
<line>	String to match output lines

Example:

```
SISPM1040-3248-L3# clear aps 1 statistics
SISPM1040-3248-L3# clear aps statistics | exclude 2
SISPM1040-3248-L3#
```

Command: **cfm**

Description: Clear Connectivity Fault Management (CFM) statistics.

Syntax: **clear** aps <range_list> statistics

Parameters:

<range_list>	The range of APS instances.
statistics	Clear APS counters

Example:

```
SISPM1040-3248-L3# clear aps 1 statistics
SISPM1040-3248-L3#
```

Command: **dot1x**

Description: Clear IEEE Standard for port-based Network Access Control.

Syntax: **clear** dot1x statistics [interface (<port_type> [<v_port_type_list>])]

Parameters:

statistics	Clears the statistics counters
interface	Interface
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# clear dot1x statistics interface GigabitEthernet 1/1-28
SISPM1040-3248-L3#
```

Command: **erps**

Description: Clear Ethernet Ring Protection Switching.

Syntax: **clear** erps 1~64 statistics

clear erps statistics

Parameters:

1~64	Zero or more ERPS group numbers
statistics	Clear ERPS statistics

Example:

```
SISPM1040-3248-L3# clear erps 2 statistics
SISPM1040-3248-L3#
```

Command: **ip**

Description: Clear IP protocol.

Syntax:

clear ip acd [| (begin | exclude | include) <line>]

clear ip arp

clear ip dhcp detailed statistics { server | client | snooping | relay | helper | all } [interface { [*] | GigabitEthernet | 10 GigabitEthernet } < PORT_TYPE_LIST>]

clear ip dhcp relay statistics

clear ip dhcp server binding <ipv4_ucast>

clear ip dhcp server binding type [automatic | manual | expired]

clear ip dhcp server statistics

clear ip dhcp snooping statistics [interface { [*] | GigabitEthernet | 10 GigabitEthernet } < PORT_TYPE_LIST>]

clear ip igmp snooping statistics

clear ip igmp snooping vlan <vlan_list> statistics

clear ip statistics

Parameters:

acd	Address Conflict Detection
arp	Clear ARP cache
dhcp	Dynamic Host Configuration Protocol
igmp	Internet Group Management Protocol
statistics	Traffic statistics
|	Output modifiers
begin	Begin with the line that matches
exclude	Exclude lines that match
include	Include lines that match
<line>	String to match output lines
detailed	Detailed statistics
relay	DHCP relay agent configuration
server	Miscellaneous DHCP server information
snooping	DHCP snooping
all	Clear all DHCP related statistics
client	DHCP client
helper	DHCP normal L2 or L3 forward

relay	DHCP relay
server	DHCP server
interface	Select an interface to configure
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
binding	Clear DHCP binding
statistics	DHCP server statistics
<ipv4_ucast>	IP address of the binding
type	Type of bindings to clear
automatic	Clear (expire) automatic bindings
expired	Clear (remove) expired bindings
manual	Clear (expire) manual bindings
snooping	Snooping IGMP
statistics	Running IGMP snooping counters
vlan	Search by VLAN
<vlan_list>	VLAN identifier (VID)

Example:

```
SISPM1040-3248-L3# clear ip acd
SISPM1040-3248-L3# clear ip dhcp relay statistics
SISPM1040-3248-L3# clear ip rip process
SISPM1040-3248-L3# clear ip ospf process
SISPM1040-3248-L3#
```

Command: **ipv6**

Description: Clear IPv6 configuration commands.

Syntax: **clear** ipv6 mld snooping [vlan <v_vlan_list>] statistics

clear ipv6 neighbors

clear ipv6 statistics

Parameters:

mld	Multicast Listener Discovery
neighbors	Ipv6 neighbors
statistics	Traffic statistics
snooping	Snooping MLD
statistics	Running MLD snooping counters
vlan	Ipv6 interface traffic
<vlan_list>	VLAN identifier(s): VID

Example:

```
SISPM1040-3248-L3# clear ipv6 mld snooping vlan 1 statistics
SISPM1040-3248-L3# clear ipv6 neighbors
SISPM1040-3248-L3# clear ipv6 statistics
SISPM1040-3248-L3#
```

Command: **known-host-keys**

Description: Clear the cache of known hosts SSH keys.

Syntax: **clear** known-host-keys

Parameters: known-host-keys Clear the cache of known hosts SSH keys

Example:

```
SISPM1040-3248-L3# clear known-host-keys
Disconnected
SISPM1040-3248-L3# clear known-host-keys
% Clearing host key cache failed!
SISPM1040-3248-L3#
```

Command: **lacp**

Description: Clear lacp statistics .

Syntax: **clear** lacp statistics

Parameters: statistics Clear all LACP statistics

Example:

```
SISPM1040-3248-L3# clear lacp statistics
SISPM1040-3248-L3#
```

Command: **link-oam**

Description: Clear Link OAM statistics

Syntax: **clear** link-oam statistics

clear link-oam statistics interface *

clear link-oam statistics interface (* | GigabitEthernet | 10GigabitEthernet) <port_type_list>

Parameters:

statistics	Clear Rx/Tx counters
interface	Clear Link OAM statistic on a specific interface or all interfaces.
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# clear link-oam statistics interface 10GigabitEthernet 1/1-3
SISPM1040-3248-L3#
```

Command: **lldp**

Description: Clear LLDP statistics.

Syntax: **clear** lldp statistic

clear lldp statistic | [begin | exclude | include] <line>

clear lldp statistics global

clear lldp statistics global | [begin | exclude | include] <line>

clear lldp statistics interface *

clear lldp statistics interface * | [begin | exclude | include] <line>

clear lldp statistics interface * <port_type_list>

clear lldp statistics interface (GigabitEthernet | 10GigabitEthernet) <port_type_list>

Parameters:

statistics	Clear LLDP statistics
|	Output modifiers
global	Clear global counters
interface	Interface keyword
begin	Begin with the line that matches
exclude	Exclude lines that match
include	Include lines that match
<line>	String to match output lines
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# clear lldp statistics interface *
SISPM1040-3248-L3#
```

Command: **logging**

Description: Clear System logging message.

Syntax:

clear logging [info] [warning] [error] [emerg] [alert] [crit] [notce] [debug] [switch <switch_list>]

clear logging flash

Parameters:		
	alert	Severity 1: Action must be taken immediately
	crit	Severity 2: Critical conditions
	debug	Severity 7: Debug-level messages
	emerg	Severity 0: System is unusable
	error	Severity 3: Error conditions
	flash	Clear all logging messages on Flash
	info	Severity 6: Informational messages
	notice	Severity 5: Normal but significant condition
	warning	Severity 4: Warning conditions
	<cr>	

Example:

```
SISPM1040-3248-L3# clear logging info
SISPM1040-3248-L3# clear logging info debug
SISPM1040-3248-L3# clear logging flash
Deleting syslog from flash...Flash is in use by another process. Please try again later...
SISPM1040-3248-L3#
```

Command: **mac**

Description: Clear AC Address Table.

Syntax: **clear** mac address-table

Parameters: address-table Flush MAC Address table

Example:

```
SISPM1040-3248-L3# clear mac address-table
SISPM1040-3248-L3#
```

Command: **mvr**

Description: Clear Multicast VLAN Registration configuration.

Syntax: **clear** mvr name <word16> statistics
clear mvr statistics
clear mvr vlan <vlan_list> statistics

Parameters:

name	MVR multicast name
statistics	Running MVR protocol counters
vlan	MVR multicast vlan
< word16>	MVR multicast VLAN name
<vlan_list>	MVR multicast VLAN list

Example:

```
SISPM1040-3248-L3# clear mvr statistics
SISPM1040-3248-L3# clear mvr vlan 2-3 statistics
% Invalid MVR VLAN ID 2.
% Invalid MVR VLAN ID 3.
SISPM1040-3248-L3#
```

Command: **port-security**

Description: Clear port security.

Syntax: **Clear** port-security dynamic
Clear port-security dynamic address <mac_addr>
Clear port-security dynamic address <mac_addr> vlan <vlan_id>
Clear port-security dynamic interface *
Clear port-security dynamic interface * [<port_type_list> | vlan <vlan_id>]
Clear port-security dynamic interface (GigabitEthernet | 10GigabitEthernet) <port_type_list>
Clear port-security dynamic vlan <vlan_id>

Parameters:

dynamic	Dynamic entries
address	Clear a specific (VLAN, MAC) tuple
interface	Port interface
vlan	Delete all MAC addresses on a given VLAN
<mac_addr>	MAC address to clear
vlan	VLAN keyword
<vlan_id>	VLAN on which to clear all MAC addresses
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<vlan_id>	VLANs on interface to clear all MAC addresses for
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# clear port-security dynamic vlan 1
SISPM1040-3248-L3#
```

Command: **ptp**

Description: Clear Precision Timing Protocol.

Syntax: **clear** ptp <0-3> servo

Parameters: <0-3>
servo

Example:

```
SISPM1040-3248-L3# clear ptp 0 servo
SISPM1040-3248-L3#
```

Command: **sflow**

Description: Clear Statistics flow.

Syntax: **clear** sflow statistics receiver
clear sflow statistics samplers
clear sflow statistics samplers interface *
clear sflow statistics samplers interface * <port_type_list>
clear sflow statistics samplers interface (GigabitEthernet | 10GigabitEthernet) <port_type_list>

Parameters:

statistics	sFlow statistics
receiver	Clear statistics for receiver.
samplers	Clear statistics for samplers
interface	Clear statistics for a specific interface or interfaces
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# clear sflow statistics samplers interface GigabitEthernet 1/4
-10
SISPM1040-3248-L3#
```

Command: **spanning-tree**

Description: Clear STP Bridge.

Syntax:

clear spanning-tree detected-protocols

clear spanning-tree detected-protocols interface *

clear spanning-tree detected-protocols interface * <port_type_list>

clear spanning-tree detected-protocols interface (GigabitEthernet | 10GigabitEthernet) <port_type_list>

clear spanning-tree statistics

clear spanning-tree statistics interface *

clear spanning-tree statistics interface * <port_type_list>

clear spanning-tree statistics interface (GigabitEthernet | 10GigabitEthernet) <port_type_list>

Parameters:

detected-protocols	Set the STP migration check
statistics	STP statistic
interface	Choose port
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-52
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# clear spanning-tree detected-protocols interface *
SISPM1040-3248-L3# clear spanning-tree statistics interface 10GigabitEthernet 1/3
SISPM1040-3248-L3#
```

Command: **statistics**

Description: Clear statistics for one or more given interfaces.

Syntax: **clear** statistics *
clear statistics * <port_type_list>
clear statistics (GigabitEthernet | 10GigabitEthernet) <port_type_list>
clear statistics interface *
clear statistics interface * <port_type_list>
clear statistics interface (GigabitEthernet | 10GigabitEthernet) <port_type_list>

Parameters:

interface	Interface
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-52
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# clear statistics GigabitEthernet 1/1-5
SISPM1040-3248-L3#
```

5. Config Mode Commands

Enter Config mode from Exec mode by entering **`configure terminal`** `<cr>`.

```
SISPM1040-3248-L3# configure terminal
SISPM1040-3248-L3(config)# ?
    aaa                     Authentication, Authorization and Accounting
    access                  Access management
    access-list             Access list
    aggregation             Aggregation mode
    aps                     Automatic Protection Switching
    banner                  Define a banner
    cfm                     Connectivity Fault Management (CFM)
    clock                   Configure time-of-day clock
    command-history-log     Enable to Save Command History to Flash
    ddmi                    DDMI Information
    default                 Set a command to its defaults
    dms                     Enable DMS Master
    do                      To run exec commands in the configuration mode
    dot1x                   IEEE Standard for port-based Network Access Control
    enable                  Modify enable password parameters
    end                     Go back to EXEC mode
    erps                    Ethernet Ring Protection Switching
    event                   Trap event severity level
    exec-timeout            Autologout timeout
    exit                    Exit from current mode
    green-ethernet          Green Ethernet (Power reduction)
    gvrp                    Enable GVRP feature
    help                    Description of the interactive help system
    hostname                Set system's network name
    interface               Select an interface to configure
    ip                      Interface Internet Protocol configuration commands
    ipmc                    IPv4/IPv6 multicast configuration
    ipv6                    IPv6 configuration commands
    key                     Authentication key management
    lacp                    LACP settings
    line                    Configure a terminal line
    lldp                    Link Layer Discover Protocol.
    logging                 System logging message
    loop-protect            Loop protection configuration
    mac                     MAC table entries/configuration
    map-api-key             Set google map key string
    monitor                 Monitoring different system events
    mrp-ring                MRP Ring Configuration
    mvr                     Multicast VLAN Registration configuration
    mvrp                    Enable MVRP feature globally
    no                      Negate a command or set its defaults
    ntp                     Configure NTP
    percepxion              Configure Percepxion parameters
    poe                     Power Over Ethernet.
    port-security           Port security configuration.
    privilege               Command privilege parameters
    prompt                  Set prompt
    ptp                     Precision time Protocol (1588)
```

```
    qos                     Quality of Service
    radius-server           Configure RADIUS
    rapid-ring              Set Rapid Ring configurations
    rmon                    Remote Monitoring
    router                  Routing process
    sflow                   Statistics flow.
    smtp                    Set email information
    snmp-server             Set SNMP server's configurations
    spanning-tree           Spanning Tree protocol
    svl                     Shared VLAN Learning
    switchport              Set VLAN switching mode characteristics
    system                  Set the SNMP server's configurations
    tacacs-server           Configure TACACS+
    udld                    Enable UDLD in the aggressive or normal mode and to
                            set the configurable message timer on all
                            fiber-optic ports.
    upnp                    Set UPnP configuration
    username                Establish User Name Authentication
    vlan                    VLAN commands
    voice                   Voice appliance attributes
    web                     Web
SISPM1040-3248-L3(config)#
```

Command: **terminal**

Description: Enter Config mode from Exec mode. See Config Mode Commands on page 24 for more Config mode command information.

Syntax: **configure** terminal

Parameters: terminal

Example:

```
SISPM1040-3248-L3# configure terminal
SISPM1040-3248-L3(config)#
```

Command: **aaa**

Description: Set Authentication, Authorization and Accounting parameters.

Syntax:

aaa accounting { console | telnet | ssh | http | https } tacacs { [commands <priv_lvl>] [exec] }*1

aaa authentication login { console | telnet | ssh | https } { { local | radius | tacacs } [{ local | radius | tacacs } [{ local | radius | tacacs }]] }

aaa authorization { console | telnet | ssh } tacacs commands <priv_lvl> [config-commands]

aaa lock { login-failures <failures> | minutes <minutes> }

Parameters:

accounting	Accounting
console	Configure Console command accounting
tacacs	Use TACACS+ for accounting
commands	Enable command accounting
<0-15>	Command privilege level. Commands equal and above this level are accounted
exec	Enable EXEC accounting
https	Configure HTTPS command accounting
ssh	Configure SSH command accounting
telnet	Configure Telnet command accounting
authentication	Authentication
login	Login
console	Configure Console authentication
local	Use local database for authentication
radius	Use RADIUS for authentication
tacacs	Use TACACS+ for authentication
https	Configure HTTPS authentication
ssh	Configure SSH authentication
telnet	Configure Telnet authentication
authorization	Authorization
console	Configure Console command authorization
tacacs	Use TACACS+ for authorization
commands	Enable command authorization
<0-15>	Command privilege level. Commands equal and above this level are authorized
config-commands	Include configuration commands
ssh	Configure SSH command authorization
telnet	Configure Telnet command authorization
lock	Lock Configuration
login-failures	Lock configuration after login failures
<0-99>	Lock configuration after 0-99 login failures
minutes	Lock configuration for minutes
<1-99>	Lock configuration for 1-99 minutes

Example:

```
SISPM1040-3248-L3(config)# aaa authorization console tacacs commands 0 config-commands
SISPM1040-3248-L3(config)# aaa accounting ssh tacacs exec commands 10
SISPM1040-3248-L3(config)# aaa authentication login https local fallback
SISPM1040-3248-L3(config)#
```

Command: **access**

Description: Access management.

Syntax: access management <1..16>

access management <1..16> <1..4095> [<ipv4_ucast> | <ipv6_ucast>] { [web] [snmp] [telnet] | all }

access management <1..16> <1..4095> [<ipv4_ucast> | <ipv6_ucast>] { [web] | [snmp] | [telnet] | [all] }

access management <1..16> <1..4095> [<ipv4_ucast> | <ipv6_ucast>] to <ipv4_ucast>

Parameters:

management	Access management configuration
< 1-16>	ID of access management entry
<1..4095>	The VLAN ID for the access management entry
<ipv4_ucast>	Start IPv4 unicast address
<ipv6_ucast>	Start IPv6 unicast address
all	All services
snmp	SNMP service
telnet	TELNET/SSH service
to	End address of the range
web	Web service
<ipv4_ucast>	End IPv4 unicast address

Example:

```
SISPM1040-3248-L3(config)# access management 10 3 192.168.1.1 all
SISPM1040-3248-L3(config)#
```

Command: **access-list ace**

Description: Access list Access Control Entry.

Syntax:

access-list ace <1-512> action [deny | permit]

access-list ace <1-384> action { (deny | permit) [dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid] }

access-list ace <1-512> action filter interface (* | GigabitEthernet | 10GigabitEthernet) [<port_type_list> | dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]

access-list ace <1-512> action (deny | permit) dmac-type (any | broadcast | multicast | unicast) [frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]

access-list ace <1-512> action (deny | permit) frame-type { (any [dmac-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (arp [arp-flag | arp-opcode | dip | dmac-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | sip | smac | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (etype [dmac | dmac-type | etype-value | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | smac | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (ipv4 [dip | dmac-type | ingress | ip-flag | ip-protocol | logging | mirror | next | policy | rate-limiter | redirect | shutdown | sip | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (ipv4-icmp [dip | dmac-type | icmp-code | icmp-type | ingress | ip-flag | ip-protocol | logging | mirror | next | policy | rate-limiter | redirect | shutdown | sip | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (ipv4-tcp | ipv4-udp) [dip | dmac-type | dport | ingress | ip-flag | logging | mirror | next | policy | rate-limiter | redirect | shutdown | sip | sport | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (ipv6 | ipv6-udp) [dmac-type | hop-limit | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | sip | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (ipv6-icmp [dip | dmac-type | icmp-code | icmp-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | sip | tag | tag-priority | vid]) }

access-list ace <1-512> action (deny | permit) frame-type { (ipv6-tcp [dmac-type | dport | hop-limit | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | sip | sport | tag | tag-priority | tcp-flag | vid]) }

access-list ace <1-512> action (deny | permit) ingress{ (any [dmac-type | frame-type | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]) | { interface (* | GigabitEthernet | 10GigabitEthernet) [<port_type_list> | dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid] }

access-list ace <1-512> action (deny | permit) logging [disable | dmac-type | frame-type | ingress | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]
access-list ace <1-512> action (deny | permit) mirror [disable | dmac-type | frame-type | ingress | logging | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]

access-list ace <1-512> action (deny | permit) next (<1-512> | last) [dmac-type | frame-type | ingress | logging | mirror | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]

access-list ace <1-512> action (deny | permit) policy <0-127> [dmac-type | frame-type | ingress | logging | mirror | next | policy-bitmask | rate-limiter | redirect | shutdown | tag | tag-priority | vid]

access-list ace <1-512> action (deny | permit) rate-limiter (<1-16> | disable) [dmac-type | frame-type | ingress | logging | mirror | next | policy | redirect | shutdown | tag | tag-priority | vid]

access-list ace <1-512> action (deny | permit) redirect { (disable [dmac-type | frame-type | ingress | logging | mirror | next | policy | rate=limiter| shutdown | tag | tag-priority | vid]) } | { interface (* | GigabitEthernet | 10GigabitEthernet) [<port_type_list> | dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | shutdown | tag | tag-priority | vid] }

access-list ace <1-512> action (deny | permit) shutdown [disable | dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | tag | tag-priority | vid]

access-list ace <1-512> action (deny | permit) tag (any | tagged | untagged) [dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag-priority | vid]

access-list ace <1-512> action (deny | permit) tag-priority (0-1 | 0-3 | 2-3 | 4-5 | 4-7 | 6-7 | <0-7> | any) [dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | vid]

access-list ace <1-512> action (deny | permit) vid (<1-4095> | any) [dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority]

access-list ace update <1-512> [action | dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid]

Parameters:

<1-512>	ACE ID
update	Update an existing ACE
action	Access list action
dmac-type	The type of destination MAC address
frame-type	Frame type
ingress	Ingress
logging	Logging frame information. Note: The logging feature only works when the packet length is less than 1518 (without VLAN tags) and the System Log memory size and logging rate is limited.
mirror	Mirror frame to destination mirror port
next	insert the current ACE before the next ACE ID
policy	Policy
rate-limiter	Rate limiter
redirect	Redirect frame to specific port
shutdown	Shutdown incoming port. The shutdown feature only works when the packet length is less than 1518 (without VLAN tags).
tag	Tag
tag-priority	Tag priority
vid	VID field
deny	Deny
filter	Filter
permit	Permit
interface	Select an interface to configure
*	All switches or All ports
GigabitEthernet	Gigabit Ethernet Ports
10GigabitEthernet	10Gigabit Ethernet Ports
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-52
<port_type_list>	Port list in 1/1-4
any	Don't-care the type of destination MAC address
broadcast	Broadcast destination MAC address
multicast	Multicast destination MAC address
unicast	Unicast destination MAC address
any	Don't-care the frame type
arp	Frame type of ARP
etype	Frame type of EtherType
ipv4	Frame type of IPv4
ipv4-icmp	Frame type of IPv4 ICMP
ipv4-tcp	Frame type of IPv4 TCP
ipv4-udp	Frame type of IPv4 TCP

ipv6	Frame type of IPv6
ipv6-icmp	Frame type of IPv6 ICMP
ipv6-tcp	Frame type of IPv6 TCP
ipv6-udp	Frame type of IPv6 UDP
arp-flag	ARP flag
arp-opcode	ARP/RARP opcode field
dip	Destination IP address field
sip	Source IP address field
smac	Source MAC address field
dmac	Destination MAC address field
dmac-type	The type of destination MAC address
etype-value	Ether type value
ip-flag	IP flag
ip-protocol	IPv4 protocol field
icmp-code	ICMP code field
icmp-type	ICMP type field
dport	TCP/UDP destination port field
sport	TCP/UDP source port field
tcp-flag	TCP flag
hop-limit	IPv6 hop limiter field
disable	Disable logging
<1-512>	The next ID
last	Place the current ACE to the end of access list
<0-127>	Policy ID
policy-bitmask	The bitmask for policy ID
<1-16>	Rate limiter ID
disable	Disable rate-limiter
disable	Disable
any	Don't-care tagged or untagged
tagged	Tagged
untagged	Untagged
0-1	The range of tag priority
0-3	The range of tag priority
2-3	The range of tag priority
4-5	The range of tag priority
4-7	The range of tag priority
6-7	The range of tag priority
<0-7>	The value of tag priority
any	Don't-care the value of tag priority field
<1-4095>	The value of VID field
any	Don't-care the value of VID field

Example:

```
SISPM1040-3248-L3(config)# access-list ace 10 action deny
SISPM1040-3248-L3(config)# access-list ace update 1 action permit tag any
SISPM1040-3248-L3(config)#
```

Messages: *% ACE ID 1 isn't existing.*

Command: **access-list rate-limiter**

Description: Access list Rate limiter.

Syntax:

access-list rate-limiter (10pps <0-500000>) | (25kbps <0-400000>) | <1~16> (10pps <0-500000> | 25kbps <0-400000>)

Parameters:

10pps	10 packets per second
25kbps	25k bits per second
<1~16>	Rate limiter ID
<0-500000>	Rate value
<0-400000>	Rate value

Example:

```
SISPM1040-3248-L3(config)# access-list rate-limiter 25kbps 0
SISPM1040-3248-L3(config)# access-list rate-limiter 1 10 10000
SISPM1040-3248-L3(config)#
```

Command: **aggregation**

Description: Aggregation mode.

Syntax: **aggregation** mode [dmac | ip | port | smac]

Parameters:

mode	Traffic distribution mode
dmac	Destination MAC affects the distribution
ip	IP address affects the distribution
port	IP port affects the distribution
smac	Source MAC affects the distribution

Example:

```
SISPM1040-3248-L3(config)# aggregation mode port
SISPM1040-3248-L3(config)# aggregation mode dmac
SISPM1040-3248-L3(config)#
```

Command: **aps**

Description: Enable, disable, and configure Automatic Protection Switching.

Syntax:

aps <inst>
admin-state { enable | disable }
do <command>
end
exit
hold-off-time <hold_off>
level <level>
mode { 1-for-1 | bidirectional-1-plus-1 | unidirectional-1-plus-1 [tx-aps] }
no hold-off-time <hold_off>
no revertive
no smac
no wait-to-restore <wtr>
protect interface <port_type> <port>
protect sf-trigger { link | { mep domain <md_name> service <ma_name> mep-id <mepid> } }
revertive
smac <mac>
vlan { untagged | <vid> [pcp <pcp>] }
wait-to-restore <wtr>
working interface <port_type> <port>
working sf-trigger { link | { mep domain <md_name> service <ma_name> mep-id <mepid> } }

Parameters:

<1-14>	APS instance number
admin-state	Enable or disable this APS instance
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
hold-off-time	When a new (or more severe) defect occurs, the hold-off timer will be started and the event will be reported after the timer expires.
level	Set the MD/MEG level used in L-APS PDUs. Default is 0.
mode	Specify the APS' architecture and direction
no	Negate a command or set its defaults
protect	Protect port configuration
revertive	Traffic switches back to the working port after the wait-to-restore timer has expired after the defect conditions causing a switch to have cleared.
smac	Set a source MAC address to be used in L-APS PDUs. Default to use interface's.
vlan	VLAN commands
wait-to-restore	Only used in revertive mode. Indicates the number of seconds after a defect has cleared until operation is switched back to the working port.
working	Working port configuration
<0-10000>	Hold-off timer value measured in milliseconds. Must be in multiples of 100 ms.
<0-7>	MD/MEG level.

1-for-1	1:1, that is, source determines which port traffic goes into.
bidirectional-1-plus-1	Bidirectional 1+1, that is, traffic goes into both ports, and sink selects based on local defects and APS PDUs received from the far end.
unidirectional-1-plus-1	Unidirectional 1+1, that is, traffic goes into both ports, and sink selects exclusively based on local defects.
hold-off-time	When a new (or more severe) defect occurs, the hold-off timer will be started and the event will be reported after the timer expires.
revertive	Traffic is allowed to remain on the protect port after a switch reason has cleared.
smac	Set source MAC address used in L-APS PDUs to protect port's interface's MAC address.
wait-to-restore	Only used in revertive mode. Indicates the number of seconds after a defect has cleared until operation is switched back to the working port.
interface	Assign an interface to the protect port
sf-trigger	Choose whether the protect port's interface link state or a MEP installed on protect's interface is used as signal-fail trigger
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_id>	Port ID in 1/1-28
<port_type_id>	Port ID in 1/1-4
domain	The MEP's domain
<kword1-15>	The MEP's domain name
service	The MEP's service within the domain
<kword1-15>	The MEP's service name within the domain
mep-id	The MEP's MEP-ID
<1-8191>	The MEP's MEP-ID
<mac_ucast>	Select a unicast MAC address to be used as source MAC address in L-APS PDUs.
<vlan_id>	Insert a VLAN tag with this VLAN ID in L-APS PDUs
untagged	Don't insert a VLAN tag in the L-APS PDUs
pcp	Choose a PCP to be used in the 802.1Q tag.
<0-7>	PCP value
<1-720>	Wait-to-restore measured in seconds.
interface	Assign an interface to the working port
sf-trigger	Choose whether the working port's interface link state or a MEP installed on working's interface is used as signal-fail trigger
link	Working interface link state is used as signal-fail trigger
mep	A MEP installed on working interface is used as signal-fail trigger
domain	The MEP's domain
<kword1-15>	The MEP's domain name
service	The MEP's service within the domain
<kword1-15>	The MEP's service name within the domain

Example:

```
SISPM1040-3248-L3(config)# aps 1
SISPM1040-3248-L3(config-aps)# do show aps
Failure of Protocol defect abbreviations:
C: FOP-CM, Configuration Mismatch (received APS PDU on working interface within
last 17.5 seconds)
P: FOP-PM, Provisioning Mismatch (far and near ends are not using the same mode;
```

```
 bidir only)
N: FOP-NR, No Response (far end hasn't agreed on 'Requested Signal' within 50 ms
; bidir only)
T: FOP-TO, Time Out (near end hasn't received a valid APS PDU within last 17.5 s
econds; bidir only)

                                        Working Protect Tx L-APS  Rx L-APS
Inst Operational State Protection State    State   State   R/S   R B R/S   R B D
fcts Command
---- ----------------- ------------------ ------- ------- --------- --------- -
---- -----------------
   1 Administratively disabled
   2 Active            No Request (W)      OK      OK      NR    0 1 NR    0 0
---T None
SISPM1040-3248-L3(config-aps)#
SISPM1040-3248-L3(config-aps)# hold-off-time 500
SISPM1040-3248-L3(config-aps)# level 3
SISPM1040-3248-L3(config-aps)# protect interface 10GigabitEthernet 1/3
SISPM1040-3248-L3(config-aps)# protect sf-trigger
SISPM1040-3248-L3(config-aps)# revertive
SISPM1040-3248-L3(config-aps)# protect sf-trigger mep domain MepDom1 service Bob mep-id 1
SISPM1040-3248-L3(config-aps)# vlan 1 pcp 1
SISPM1040-3248-L3(config-aps)# wait-to-restore 20
SISPM1040-3248-L3(config-aps)# working sf-trigger mep domain mepdom22 service s mep-id 44
SISPM1040-3248-L3(config-aps)# exit
SISPM1040-3248-L3(config)#
```

Messages: *% Working and protect ports cannot use the same interface*

Command: **banner**

Description: Define a banner

Syntax: **banner** [<LINE>]
banner (exec | login | motd) <LINE>

Parameters:

<line>	c banner-text c, where 'c' is a delimiting character
exec	Set EXEC process creation banner
login	Set login banner
motd	Set Message of the Day banner

Example:

```
SISPM1040-3248-L3(config)# banner exec LINE
% Entering multi-line text input mode. Type in text and exit the mode using the delimiting
character 'L'. All input after that character will be silently ignore d. The effective
buffer size, i.e. excluding the delimiting characters but including any newline characters
(e.g. from multi-line input), cannot be longer than 1023.
SISPM1040-3248-L3(multiline-input)# now is the time
SISPM1040-3248-L3(multiline-input)# for all good men
SISPM1040-3248-L3(multiline-input)# to come to the aid
SISPM1040-3248-L3(multiline-input)# L
Username: admin
Password:
INE
now is the time
```

```
for all good men
to come to the aid
SISPM1040-3248-L3#
```

Command: **cfm**

Description: Connectivity Fault Management (CFM)

Syntax: **cfm** domain <md_name>
cfm interface-status-tlv { disable | enable }
cfm organization-specific-tlv { disable | enable oui <oui> subtype <subtype> value <value> }
cfm port-status-tlv { disable | enable }
cfm sender-id-tlv { disable | chassis | management | chassis-management }

Parameters:

domain	Maintenance Domain (MD)
<kword1-15>	Domain name
interface-status-tlv	Include or exclude Interface Status TLV in CCM PDUs (may be overridden in domain and service)
disable	Exclude Interface Status TLV from PDUs (default)
enable	Include Interface Status TLV in PDUs
organization-specific-tlv	Include or exclude Organization-Specific TLV in PDUs (may be overridden in domain and service)
disable	Exclude Organization-Specific TLV from PDUs (default)
enable	Include Organization-Specific TLV in PDUs
port-status-tlv	Include or exclude Port Status TLV in CCM PDUs (may be overridden in domain and service)
disable	Do not include Port Status TLV in PDUs (default)
enable	Include Port Status TLV in PDUs
sender-id-tlv	Default Sender ID TLV format to be used in PDUs (may be overridden in domain and service)
chassis	Enable Sender ID TLV and send Chassis ID (MAC Address)
chassis-management	Enable Sender ID TLV and send both Chassis ID (MAC Address) and Management Address (IPv4 Address)
disable	Exclude Sender ID TLV from PDUs (default)
management	Enable Sender ID TLV and send Management address (IPv4 Address)
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
format	Change format of this domain
help	Description of the interactive help system
interface-status-tlv	Include or exclude Interface Status TLV in PDUs included in this domain or let higher level determine (may be overridden in service)
level	Change level (MEG-level) of this domain
no	Negate a command or set its defaults
organization-specific-tlv	Include or exclude Organization-Specific TLV in PDUs included in this MD or let higher level determine (may be overridden in service)

port-status-tlv	Include or exclude Port Status TLV in PDUs included in this domain or let higher level determine (may be overridden in service)
sender-id-tlv	Default Sender ID TLV format to be used in PDUs in this domain (may be overridden in service)
service	Create or modify a Service (Maintenance Association/MA)
none	Not present (type 1)
string	ASCII string (type 4)
<string1-43>	Actual domain name (1-43 characters enclosed in double-quotes)
defer	Let the global CFM configuration determine whether to include Interface Status TLV in PDUs in this domain (default)
disable	Exclude Interface Status TLV from PDUs in this domain
enable	Include Interface Status TLV in PDUs domain
<0-7>	The level (MEG-level) for this domain
defer	Let the global CFM configuration determine whether to include Port Status TLV in PDUs in this domain (default)
disable	Exclude Port Status TLV from PDUs in this domain
enable	Include Port Status TLV in PDUs in this domain
chassis	Enable Sender ID TLV and send Chassis ID (MAC Address)
chassis-management	Enable Sender ID TLV and send both Chassis ID (MAC Address) and Management Address (IPv4 Address)
defer	Let the global CFM configuration determine whether to send Sender ID TLVs on PDUs in this domain (default)
disable	Exclude Sender ID TLV from PDUs in this domain
management	Enable Sender ID TLV and send Management address (IPv4 Address)
<kword1-15>	Service name

Example:

```
SISPM1040-3248-L3(config)# cfm domain Bob
SISPM1040-3248-L3(config-cfm-dmn)# format string "CfmDom1"
SISPM1040-3248-L3(config-cfm-dmn)# interface-status-tlv defer
SISPM1040-3248-L3(config-cfm-dmn)# level 6
SISPM1040-3248-L3(config-cfm-dmn)# port-status-tlv enable
SISPM1040-3248-L3(config-cfm-dmn)# sender-id-tlv chassis
SISPM1040-3248-L3(config-cfm-dmn)# service Nnnn
SISPM1040-3248-L3(config-cfm-dmn-svc)# exit
SISPM1040-3248-L3(config-cfm-dmn)# do show cfm s
Domain          Service         MEP Types VLAN MEPs Interval Format      Name
--------------- --------------- --------- ---- ---- -------- ----------- -------
------------------
Bob             Nnnn            Port MEPs  N/A    0 1s       Primary-VID

SISPM1040-3248-L3(config-cfm-dmn)# exit
SISPM1040-3248-L3(config)#
SISPM1040-3248-L3(config)# cfm port-status-tlv enable
SISPM1040-3248-L3(config)# cfm sender-id-tlv chassis
SISPM1040-3248-L3(config)# cfm sender-id-tlv management
SISPM1040-3248-L3(config)#
```

Command: **clock**

Description: Configure time-of-day clock.

Syntax:

clock summer-time <word16> date ([<1-12>]) | (<1-12> <1-31> <2000-2097> <hhmm> <1-12> <1-31> <2000-2097> <hhmm> [<1-1439>])

clock summer-time <word16> recurring ([<1-5>]) | (<1-5> <1-7> <1-12> <hhmm> <1-5> <1-7> <1-12> <hhmm> [<1-1439>])

clock timezone <word16> <-23-23> [<0-59> <0-9>]

Parameters:

set	set clock
<word10>	yyyy/mm/dd
<word8>	hh:mm:ss
summer-time	Configure summer (daylight savings) time
timezone	Configure time zone
<word16>	name of time zone in summer (the string '' is a special syntax that is reserved for null input)
date	Configure absolute summer time
recurring	Configure recurring summer time
<1-12>	Month to start
<1-31>	Date to start
<2000-2097>	Year to start
<hhmm>	Time to start (hh:mm)
<1-12>	Month to end
<1-31>	Date to end
<2000-2097>	Year to end
<hhmm>	Time to end (hh:mm)
<1-1439>	Offset to add in minutes
<1-5>	Week number to start
<1-7>	Weekday to start
<-23-23>	Hours offset from UTC
<0-59>	Minutes offset from UTC
<0-9>	Sub type of time zone

Example:

```
SISPM1040-3248-L3(config)# clock set 2022/1/5 17:52:23
2022-01-05T17:52:24+00:00
SISPM1040-3248-L3(config)# clock timezone cdt 13 1 4
Daylight saving time zone subtype error
SISPM1040-3248-L3(config)# clock timezone cdt 13 1 0
SISPM1040-3248-L3(config)#
```

Command: **command-history-log**

Description: Enable saving Command History to Flash.

Syntax: **command-history-log** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3# show command-history-log status
The status of termal for Command History Feature : Disable
SISPM1040-3248-L3# configure terminal
SISPM1040-3248-L3(config)# command-history-log
SISPM1040-3248-L3(config)# do show command-history-log status
The status of termal for Command History Feature : Enable
SISPM1040-3248-L3(config)#
```

Command: **ddmi**

Description: Enable DDMI (Digital Diagnostic Monitoring Interface) information for SFP and SFP+ devices.

Syntax: **ddmi** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config)# ddmi
SISPM1040-3248-L3(config)# do show ddmi
Current mode: Enabled
SISPM1040-3248-L3(config)#
```

Command: **default**

Description: Set a command to its defaults

Syntax: **default** access-list rate-limiter [<1-16>]

Parameters: access-list Access list
rate-limiter Rate limiter
<1~16> Rate limiter ID
<cr>

Example:

```
SISPM1040-3248-L3(config)# default access-list rate-limiter 1
SISPM1040-3248-L3(config)#
```

Command: **dms**

Description: Enable Device Management System mode and set its priority.

Syntax: **dms** service-mode { disabled | enabled [priority { high | mid | low | non }] }

Parameters:

service-mode	DMS mode
disabled	DMS mode is disabled
enabled	DMS mode is enabled
priority	DMS priority; choose the priority to change the DMS control level of the switch.
high	DMS priority is high; this switch will become the Controller (master) switch.
low	DMS priority is low
mid	DMS priority is mid
non	DMS priority is none; the switch will never become the Controller (master) switch.

Example:

```
SISPM1040-3248-L3(config)# dms service-mode enabled priority high
SISPM1040-3248-L3(config)#
```

Command: **do**

Description: Run Exec mode commands in Configuration mode.

Syntax: **do** <command>

Parameters:

Example:

```
SISPM1040-3248-L3(config)# do show ip int brief
Interface Address            Method Status
--------- ------------------ ------ ------
VLAN 1    169.254.10.140/16  Manual UP
VLAN 1    192.168.1.77/24    Manual UP
SISPM1040-3248-L3(config)#

SISPM1040-3166-L3(config)# do show vlan
VLAN  Name                             Interfaces
----  -------------------------------  ----------
1     default                          Gi 1/1-20 10G 1/1-2

SISPM1040-3166-L3(config)#
```

Command: **dot1x**

Description: IEEE Standard for port-based Network Access Control.

Syntax:

dot1x authentication timer re-authenticate <1-3600>
dot1x authentication timer inactivity <10-1000000>
dot1x feature { [guest-vlan] [radius-qos] [radius-vlan] }
dot1x guest-vlan [<1-4095> | supplicant]
dot1x max-reauth-req <1-255>
dot1x re-authentication
dot1x system-auth-control
dot1x timeout (tx-period <1-65535>) | (quiet-period <10-1000000>)

Parameters:

authentication	Authentication
feature	Globally enables/disables a dot1x feature functionality
guest-vlan	Guest VLAN
max-reauth-req	The number of times a Request Identity EAPOL frame is sent without response before considering entering the Guest VLAN
re-authentication	Set Re-authentication state
system-auth-control	Set the global NAS state
timeout	timeout
timer	timer
inactivity	Time in seconds between check for activity on successfully authenticated MAC addresses.
re-authenticate	The period between re-authentication attempts in seconds
<10-1000000>	seconds
<1-3600>	seconds
guest-vlan	Globally enables/disables state of guest-vlan
radius-qos	Globally enables/disables state of RADIUS-assigned QoS.
radius-vlan	Globally enables/disables state of RADIUS-assigned VLAN.
<1-4095>	Guest VLAN ID used when entering the Guest VLAN
supplicant	The switch remembers if an EAPOL frame has been received on the port for the lifetime of the port. Once the switch considers whether to enter the Guest VLAN, it will first check if this option is enabled or disabled. If disabled (unchecked, default), the switch will only enter the Guest VLAN if an EAPOL frame has not been received on the port for the life-time of the port. If enabled (checked), the switch will consider entering the Guest VLAN even if an EAPOL frame has been received on the port for the life-time of the port.
<1-255>	number of times
quiet-period	Time in seconds before a MAC-address that failed authentication gets a new authentication chance.
tx-period	the time between EAPOL retransmissions.
<1-65535>	seconds

Example:

```
SISPM1040-3248-L3(config)# dot1x authentication timer re-authenticate 1000
SISPM1040-3248-L3(config)# dot1x guest-vlan 1
SISPM1040-3248-L3(config)# dot1x max-reauth-req 30
SISPM1040-3248-L3(config)# dot1x timeout tx-period 5000
SISPM1040-3248-L3(config)#
```

Command: **enable**

Description: Modify enable password parameters.

Syntax: **enable** password [level <priv>] <password>
enable secret { 0 | 5 } [level <priv>] <password>

Parameters:

password	Assign the privileged level clear password
secret	Assign the privileged level secret
<word32>	The UNENCRYPTED (clear-text) password
level	Set exec level password
<1-15>	Level number
<word32>	Password
0	Specifies an UNENCRYPTED password will follow
5	Specifies an ENCRYPTED secret will follow

Example:

```
SISPM1040-3248-L3(config)# enable password admin
SISPM1040-3248-L3(config)# enable secret 5 element345
SISPM1040-3248-L3(config)#
```

Command: **end**

Description: Go back to EXEC mode.

Syntax: **end** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config)# end
SISPM1040-3248-L3#
```

Command: **erps**

Description: Ethernet Ring Protection Switching (G.8032v1 or G.8032v2).

Syntax: **erps** <inst>

admin-state { enable | disable }

control-vlan Set the ERPS instance's control VLAN and PCP used in R-APS PDUs transmitted on both ring ports (if applicable).

control-vlan <vid> [pcp <pcp>]

guard-time <guard_time>

hold-off-time <hold_off>

<mac_ucast> Node ID, which goes into the R-APS PDUs' Node ID field.

port0 interface <port_type> <port>

port0 sf-trigger { link | { mep domain <md_name> service <ma_name> mep-id <mepid> } }

port0 smac <mac>

port1 interface <port_type> <port>

port1 sf-trigger { link | { mep domain <md_name> service <ma_name> mep-id <mepid> } }

port1 smac <mac>

protected-vlans <vlan_list>

node-id <node_id>

port0 interface <port_type> <port>

port0 sf-trigger { link | { mep domain <md_name> service <ma_name> mep-id <mepid> } }

port1 interface <port_type> <port>

port1 sf-trigger { link | { mep domain <md_name> service <ma_name> mep-id <mepid> } }

port1 smac <mac>

protected-vlans <vlan_list>

ring-id <ring_id>

ring-type { major | sub-ring [virtual-channel] | interconnected-sub-ring { connected-ring <connected_ring_inst> [virtual-channel] [propagate-topology-change] } }

rpl { owner | neighbor } { port0 | port1 }

version { v1 | v2 }

wait-to-restore <wtr>

Parameters:

admin-state	Enable or disable this ERPS instance
control-vlan	Set the ERPS instance's control VLAN and PCP used in R-APS PDUs transmitted on both ring ports (if applicable).
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
guard-time	The guard timer is used to prevent ring nodes from acting upon outdated R-APS PDUs upon topology changes.
help	Description of the interactive help system
hold-off-time	When a new (or more severe) defect occurs, the hold-off timer will be started and the event will be reported after the timer expires.
level	Set the MD/MEG level used in R-APS PDUs. Default is 7.
no	Negate a command or set its defaults

node-id	Controls the Node ID used inside the R-APS PDUs to uniquely identify this node (switch). Defaults to using the switch's.
port0	Set configuration for ring port0 (East)
port1	Set configuration for ring port1 (West)
protected-vlans	Set the list of VLANs protected by this ERPS instance.
revertive	Set this instance to be revertive, that is, restore to default after the wait-to-restore timer has expired.
ring-id	Controls the Ring ID, which is used in the last byte of the DMAC of R-APS PDUs. Ring IDs of received R-APS PDUs must match the configured Ring ID.
ring-type	Controls whether this is a major ring or a sub-ring. Only major rings are supported if using G.8032v1.
rpl	Controls whether this node holds the Ring Protection Link (RPL), and what role it has in that case. Use the no-form if this node doesn't hold the RPL.
version	Specify whether to use G.8032v1 or G.8032v2 of the R-APS protocol
wait-to-restore	Only used in revertive mode. Indicates the number of seconds after a defect has cleared until operation is switched back to the normal condition.
<vlan_id>	The VLAN ID used in R-APS PDUs
pcp	Choose a PCP to be used in the 802.1Q tag.
<0-7>	PCP value
<0-2000>	Guard-time value measured in milliseconds. Must be in multiples of 10 ms.
<0-10000>	Hold-off timer value measured in milliseconds. Must be in multiples of 100 ms.
<0-7>	MD/MEG level.
interface	Assign an interface to ring port0
sf-trigger	Choose whether port0's interface link state or a MEP installed on port0's interface is used as signal-fail trigger
smac	Set a source MAC address to be used in R-APS PDUs transmitted on port0. Default to use interface's.
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_id>	Port ID in 1/1-28
<port_type_id>	Port ID in 1/1-4
interface	Assign an interface to ring port1
sf-trigger	Set configuration for ring port1 (West)
smac	Set a source MAC address to be used in R-APS PDUs transmitted on port1. Default to use interface's.
<vlan_list>	List of VLANs, e.g. 2-10,123-456,4044
<1-239>	Ring ID. If using G.8032 version 1, this must be 1.
interconnected-sub-ring	Make this an interconnected sub-ring, which has only one ring port (port0), but connects to a major ring
major	Make this a major ring, which always has two ring ports
sub-ring	Make this a non-interconnected sub-ring, which has two ring ports connected-ring. An interconnected sub-ring points to another ring with two ring ports (that is, that other ring cannot itself be an interconnected sub-ring), which receives flush notifications and may carry R-APS PDUs for the sub-ring
connected-ring	An interconnected sub-ring points to another ring with two ring ports (that is, that other ring cannot itself be an interconnected sub-ring), which receives flush notifications and may carry R-APS PDUs for the sub-ring.
<1-64,1>	The ERPS instance number of the connected ring that this interconnected sub-ring connects to.

propagate-topology-change	If a topology-change occurs on this interconnected sub-ring, the connected ring also flushes its FDB. If this keyword is specified, the connected ring will also send Flush R-APS Event PDU onto its ring ports/
virtual-channel	Configure this interconnected sub-ring with a R-APS virtual channel, that is, R-APS PDUs are transmitted on the connected ring that this sub-ring connects to.
neighbor	This node is RPL neighbor.
owner	This node is RPL owner
port0	This node's RPL is on ring port 0
v1	Use version 1 of the R-APS protocol
v2	Use version 2 of the R-APS protocol
<1-720>	Wait-to-restore measured in seconds.
<0-7>	MD/MEG level.

Example:

```
SISPM1040-3248-L3(config)# erps 1
SISPM1040-3248-L3(config-erps)# control-vlan 1 pcp 3
SISPM1040-3248-L3(config-erps)# guard-time 800
SISPM1040-3248-L3(config-erps)# hold-off-time 7500
SISPM1040-3248-L3(config-erps)# level 3
SISPM1040-3248-L3(config-erps)# port0 interface 10GigabitEthernet 1/3
SISPM1040-3248-L3(config-erps)# protected-vlans 3-13
SISPM1040-3248-L3(config-erps)# revertive
SISPM1040-3248-L3(config-erps)# ring-id 2
SISPM1040-3248-L3(config-erps)# ring-type interconnected-sub-ring connected-ring
 1 propagate-topology-change virtual-channel
SISPM1040-3248-L3(config-erps)# rpl neighbor port0
SISPM1040-3248-L3(config-erps)# rpl owner port0
SISPM1040-3248-L3(config-erps)# version v2
SISPM1040-3248-L3(config-erps)# wait-to-restore 250
SISPM1040-3248-L3(config-erps)# do show erps
Failure of Protocol defect abbreviations:
  T: FOP-TO, Time Out: R-APS PDU expected, but none received within last 17.5 seconds
  0: FOP-PM, Provisioning Mismatch on port0 (RPL owner, only)
  1: FOP-PM, Provisioning Mismatch on port1 (RPL owner, only)

                                Port0 Port1 Port0   Port1
Inst Operational State Node State SF    SF    Blocked Blocked Tx R-APS PDU
     Dfcts Command
---- ----------------- ---------- ---- ------ ------- ------- ------------------
---- ----- -----------------
   1 Administratively disabled
SISPM1040-3248-L3(config-erps)# exit
SISPM1040-3248-L3(config)#
```

Message:

% No such ERPS instance

% ERPS instance is not active

% Port0 and Port1 cannot use the same interface

Command: **event**

Description: Trap event severity level.

Syntax:

event group { AC-Power | ACL | ACL-Log | Access-Mgmt | Auth-Failed | AUTO-SAVING | Cold-Start | Config-Info | Digital-Out | Firmware-Upgrade | Import-Export | LACP | Login | Logout | Mgmt-IP-Change | Module-Change | NAS | Password-Change | Port-Security | Spanning-Tree | Warm-Start | DC-Power | BCS-Protection | DMS | Dying-Gasp | PoE-Auto-Check | Poe-Auto-Power-Reset | FAN | ZTU-FAIL | Surveillance | NTP-Sync | SCP-Success | SCP-Fail | PoE-PD-On | PoE-PD-Off | Over-Max-PoE-Power-Limitation | PoE-PD-Over-Current } { level <lvl> | syslog { enable | disable } | trap { enable | disable } | smtp { enable | disable } | ipush { enable | disable } }

event group { DI-1-Abnormal | DI-1-Normal | Link-Status | Loop-Protect | Temperature | Voltage | Rapid-Ring-Break | Rapid-Ring-Error | OTP | MRP-Event } { level <lvl> | syslog { enable | disable } | trap { enable | disable } | smtp { enable | disable } | ipush { enable | disable } | digital-out { enable | disable } }

Parameters:

group	Configure trap event severity level for a group:
AC-Power	Group ID AC Power
ACL	Group ID ACL
ACL-Log	Group ID ACL Log
Access-Mgmt	Group ID Access Management
Auth-Failed	Group ID Auth Fail
Cold-Start	Group ID Cold Start
Config-Info	Group ID Config Info
DC-Power	Group ID DC Power
DI-1-Abnormal	Group ID DI 1 Abnormal
DI-1-Normal	Group ID DI 1 Normal
DMS	Group ID DMS
Digital-Out	Group ID Digital Out
Firmware-Upgrade	Group ID Firmware Upgrade
Import-Export	Group ID Import Export
LACP	Group ID LACP
Login	Group ID Login
Logout	Group ID Logout
Loop-Protect	Group ID Loop Protect
MRP-Event	Group ID MRP Event
Mgmt-IP-Change	Group ID Management IP Change
Module-Change	Group ID Module Change
NAS	Group ID NAS
NTP-Sync	Group ID NTP Sync
Over-Max-PoE-Power-Limitation	Group ID Over Max PoE Power Limitation
Password-Change	Group ID Password Change
PoE-PD-Off	Group ID PoE PD Off
PoE-PD-On	Group ID PoE PD On
PoE-PD-Over-Current	Group ID PoE PD Over Current
Poe-Auto-Power-Reset	Group ID PoE Auto Power Reset
Port-Security	Group ID Port Security
Rapid-Ring-Break	Group ID Rapid Ring Break
Rapid-Ring-Error	Group ID Rapid Ring Error
SCP-Fail	Group ID SCP Fail
SCP-Success	Group ID SCP Success
Spanning-Tree	Group ID Spanning Tree
Temperature	Group ID Temperature
Voltage	Group ID Voltage
Warm-Start	Group ID Warm Start
level	Severity level
smtp	smtp mode

syslog	syslog mode
trap	trap mode
<0-7>	<0> Emergency ,<1> Alert ,<2> Critical ,<3> Error ,<4> Warning,<5> Notice , <6> Informational ,<7> Debug
disable	smtp mode disable
enable	smtp mode enable
disable	syslog mode disable
enable	syslog mode enable
disable	trap mode disable
enable	trap mode enable

Example:

```
SISPM1040-3248-L3(config)# event group Import-Export level 3
SISPM1040-3248-L3(config)# event group Warm-Start smtp enable
SISPM1040-3248-L3(config)# event group Warm-Start trap disable
SISPM1040-3248-L3(config)#
```

Command: **exec-timeout**

Description: Set automatic logout timeout period.

Syntax: **exec-timeout** autologout { 0 | 1 | 2 | 3 | 4 | 5 | 10 | 20 | 30 | 40 | 50 | 60 }

Parameters:

autologout	autologout
0	off
1	1min
10	10min
2	2min
20	20min
3	3min
30	30min
4	4min
40	40min
5	5min
50	50min
60	60min

Example:

```
SISPM1040-3248-L3(config)# exec-timeout autologout 20
SISPM1040-3248-L3(config)# exec-timeout autologout 60
SISPM1040-3248-L3(config)# exec-timeout autologout 0
SISPM1040-3248-L3(config)#
```

Command: **exit**

Description: Exit from EXEC mode

Syntax: **exit** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-erps)# exit
SISPM1040-3248-L3(config)# exit
SISPM1040-3248-L3#
```

Command: **green-ethernet**

Description: Green Ethernet (Power reduction)

Syntax: **green-ethernet** eee optimize-for-power

Parameters:

optimize-for-power	Set if EEE shall be optimized for least power consumption (else optimized for least traffic latency).

Example:

```
SISPM1040-3248-L3(config)# green-ethernet eee optimize-for-power
SISPM1040-3248-L3(config)#
```

Command: **gvrp**

Description: Enable and configure GVRP (GARP VLAN Registration Protocol).

Syntax:

gvrp

gvrp max-vlans <maxvlans>

gvrp time { [join-time <join_time>] [leave-time <leave_time>] [leave-all-time <leave_all_time>] }*1

Parameters:

max-vlans	Number of simultaneously VLANs that GVRP can control
time	Configure GARP protocol timer parameters. IEEE 802.1D-2004, clause 12.11.
<1-4094>	Number of VLANs
join-time	Set GARP protocol parameter JoinTime.
leave-all-time	Set GARP protocol parameter LeaveAllTime.
leave-time	Set GARP protocol parameter LeaveTime.
<1-20>	join-time in units of centiseconds. Range is 1-20. Default is 20.
<1000-5000>	leave-all-time in units of centiseconds Range is 1000-5000. Default is 1000.
<60-300>	leave-time in units of centiseconds. Range is 60-300. Default is 60.

Example:

```
SISPM1040-3248-L3(config)# gvrp max-vlans 200
SISPM1040-3248-L3(config)# gvrp time leave-time 125
SISPM1040-3248-L3(config)# gvrp time leave-all-time 2500
SISPM1040-3248-L3(config)#
```

Messages: *%% Failed to configure the number of VLANs managed by GVRP.*
% (The GARP application is currently enabled - disable it in order to configure its parameters.)

Command: **help**

Description: Description of the interactive help system

Syntax: **help** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config)# help
Help may be requested at any point in a command by entering
a question mark '?'.  If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.
2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)

Help may be requested at any point in a command by entering
a question mark '?'.  If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.
2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)

SISPM1040-3248-L3(config)#
```

Command: **hostname**

Description: Set system's network name.

Syntax: **hostname** <hostname>

Parameters: <line128> This system's network name

Example:

```
SISPM1040-3248-L3(config)# hostname LTRX Eng.
LTRX Eng.(config)# hostname SISPM1040-3248-L3
SISPM1040-3248-L3(config)#
```

Command: **interface**

Description: Select an interface to configure. See “Interface Config Mode Commands” on page 99.

Syntax: **interface** (<port_type> [<plist>])
interface llag <llag_id>
interface vlan <vlist>

Parameters:

*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
llag	Local link aggregation interface configuration
vlan	VLAN interface configurations
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
<1-16>	ID of LLAG interface
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
lacp	Link Aggregation Control Protocol
no	Negate a command
failover	LACP failover
max-bundle	LACP max bundles
non-revertive	lacp failover non-revertive
revertive	lacp failover revertive
|	Output modifiers
10	Force 10 Mbps
100	Force 100 Mbps
1000	Force 1000 Mbps
auto	Auto negotiation
10	Advertise 10 Mbps
100	Advertise 100 Mbps
1000	Advertise 1000 Mbps
llag	Local link aggregation interface configuration
vlan	VLAN interface configurations
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-10
<port_type_list>	Port list in 1/1-2
<1-6>	ID of LLAG interface
<vlan_list>	List of VLAN interface numbers
ip	IPv4 configuration
ipv6	IPv6 configuration commands
no	Negate a command or set its defaults

Example 1:

```
SISPM1040-3248-L3(config)# interface 10GigabitEthernet 1/1-4
SISPM1040-3248-L3(config-if)# exit
SISPM1040-3248-L3(config)# interface *
SISPM1040-3248-L3(config-if)# exit
SISPM1040-3248-L3(config)# interface llag 1
SISPM1040-3248-L3(config-llag)# exit
SISPM1040-3248-L3(config)# interface vlan 100
SISPM1040-3248-L3(config-if-vlan)# ?
```

```
    do      To run exec commands in the configuration mode
    end     Go back to EXEC mode
    exit    Exit from current mode
    help    Description of the interactive help system
    ip      IPv4 configuration
    ipv6    IPv6 configuration commands
    no      Negate a command or set its defaults
SISPM1040-3248-L3(config-if-vlan)# exit
SISPM1040-3248-L3(config)#
```

Example 2:

```
SISPM1040-3166-L3(config-if)# speed 10g
10GigabitEthernet 1/2 set to forced mode, advertisement configuration updated accordingly
SISPM1040-3166-L3(config-if)# exit
SISPM1040-3166-L3(config)# interface llag ?
    <1-11>    ID of LLAG interface
SISPM1040-3166-L3(config)# interface llag 1 ?
    <cr>
SISPM1040-3166-L3(config)# interface llag 1
SISPM1040-3166-L3(config-llag)# ?
    do      To run exec commands in the configuration mode
    end     Go back to EXEC mode
    exit    Exit from current mode
    help    Description of the interactive help system
    lacp
    no
SISPM1040-3166-L3(config-llag)# lacp failover non-revertive
Error:Max bundle overflow
Could not set LACP parameter
SISPM1040-3166-L3(config-llag)#
```

Message: *Error:Max bundle overflow*
Could not set LACP parameter

Command: **ip**

Description: Configure Internet Protocol parameters for one or more interfaces.

Syntax:

ip arp inspection
ip arp inspection entry interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var>
ip arp inspection translate [interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var>]
ip arp inspection vlan <in_vlan_list>
ip arp inspection vlan <in_vlan_list> logging { deny | permit | all }
ip dhcp relay
ip dhcp relay information option
ip dhcp relay information policy { drop | keep | replace }
ip dhcp server per-port
ip dhcp snooping
ip dhcp vlan <vid>
ip dhcp vlan <vid> <start_ip> <end_ip> <lease> <mask> <gateway> <dns>
ip dns proxy
ip domain name { <v_domain_name> | dhcp [ipv4 | ipv6] [interface vlan <v_vlan_id_dhcp>] }
ip helper-address <v_ipv4_ucast>
ip http port <port>
ip http secure-certificate { upload <url_file> [pass-phrase <pass_phrase>] | delete | generate }
ip http secure-server port <port>
ip igmp host-proxy [leave-proxy]
ip igmp snooping
ip igmp snooping vlan <vlan_list>
ip igmp ssm-range <v_ipv4_mcast> <ipv4_prefix_length>
ip igmp unknown-flooding
ip link-local interface <ifc>
ip name-server [<order>] { <v_ipv4_ucast> | { <v_ipv6_ucast> [interface vlan <v_vlan_id_static>] } | dhcp [ipv4 | ipv6] [interface vlan <v_vlan_id_dhcp>] }
ip route <v_ipv4_addr> <v_ipv4_netmask> <v_ipv4_gw> [distance <v_distance>]
ip route <v_ipv4_subnet> <v_ipv4_gw> [distance <v_distance>]
ip routing
ip scp server { enable | disable }
ip source binding interface <port_type> <in_port_type_id> <vlan_var> <ipv4_var> <mac_var>
ip ssh
ip ssh keyregen
ip ssh port <port>
ip telnet port <port>
ip verify source
ip verify source translate

Parameters:

arp	Address Resolution Protocol
dhcp	Dynamic Host Configuration Protocol
dns	Domain Name System

domain IP DNS Resolver
helper-address DHCP relay server
http HTTP server
igmp Internet Group Management Protocol
link-local Link-Local address binding interface
name-server Domain Name System
route Add IP route
routing Enable routing for IP
scp Secure copy function
source source command
ssh Secure Shell
telnet Telnet
verify verify command
inspection ARP inspection
entry ARP inspection entry
translate ARP inspection translate all entries
vlan ARP inspection VLAN setting
interface ARP inspection entry interface configuration
GigabitEthernet 1 Gigabit Ethernet Port
10GigabitEthernet 10 Gigabit Ethernet Port
<port_type_id> Port ID in 1/1-28
<port_type_id> Port ID in 1/1-4
<vlan_id> Select a VLAN id to configure
<mac_ucast> Select a MAC address to configure
<vlan_list> ARP inspection VLAN list
logging ARP inspection VLAN logging mode configuration
all log all entries
deny log denied entries
permit log permitted entries
relay DHCP relay agent configuration
server Enable DHCP server
snooping DHCP snooping
vlan VLAN interface
information DHCP information option (Option 82)
option DHCP option
policy Policy for handling the receiving DHCP packet already include the information option
drop Drop the package when receive a DHCP message that already contains relay information
keep Keep the original relay information when receive a DHCP message that already contains it
replace Replace the original relay information when receive a DHCP message that already contains it
per-port Enable DHCP server per port
<vlan_id> VLAN ID
<ipv4_ucast> Start IP
<ipv4_ucast> End IP
<uint> Address lease time in second

<ipv4_netmask> Network mask
<ipv4_addr> Default routers
<ipv4_addr> DNS servers
name Define the default domain name
<domain_name> Default domain name
dhcp Dynamic Host Configuration Protocol
interface Select an interface to configure
ipv4 DNS setting is derived from DHCPv4
ipv6 DNS setting is derived from DHCPv6; Default selection
vlan VLAN Interface
<vlan_id> VLAN identifier (VID)
name Define the default domain name
<domain_name> Default domain name
dhcp Dynamic Host Configuration Protocol
<ipv4_ucast> IP address of the DHCP relay server
port Service port number
secure-certificate HTTPS certificate
secure-server secure web server
delete Delete the current certificate
generate Generate a new self-signed RSA certificate
upload Upload a certificate PEM file
port Service port number
<1-65534> Port number
host-proxy IGMP proxy configuration
snooping Snooping IGMP
ssm-range IPv4 address range of Source Specific Multicast
unknown-flooding Flooding unregistered IPv4 multicast traffic
leave-proxy IGMP proxy for leave configuration
vlan IGMP VLAN
<ipv4_mcast> Valid IPv4 multicast address
<1-3> Preference of DNS server. Default selection is 0
<ipv4_ucast> A valid IPv4 unicast address
<ipv6_ucast> A valid IPv6 unicast address
ipv6 DNS setting is derived from DHCPv6
<ipv4_addr> Network
<ipv4_subnet> Network/PrefixSize
server support scp server
disable Set mode to scp Disable
enable Set mode to scp Enable
binding IP source binding
interface IP source binding entry interface configuration
keyregen Regenerate ssh key
port Service port number
<1-65534> Port number

source	verify source
translate	IP verify source translate all entries
<ipv4_addr>	Network
<ipv4_subnet>	Network/PrefixSize
<ipv4_netmask>	Netmask
<ipv4_ucast>	Gateway
distance	Set a distance for this route
<1-255>	Distance value for this route

Example:

```
SISPM1040-3248-L3(config)# ip arp inspection vlan 100 logging permit
SISPM1040-3248-L3(config)# ip dhcp relay information option
SISPM1040-3248-L3(config)# ip dhcp relay information policy drop
SISPM1040-3248-L3(config)# ip dhcp server per-port
SISPM1040-3248-L3(config)# ip dhcp snooping
SISPM1040-3248-L3(config)# ip dhcp vlan 100 1.2.3.4 2.4.6.8 100 255.255.255.0 3.3.3.3
4.4.4.4
SISPM1040-3248-L3(config)# do show ip int brief
Interface Address            Method Status
--------- ------------------ ------ ------
VLAN 1    169.254.10.140/16  Manual UP
VLAN 1    192.168.1.77/24    Manual UP
SISPM1040-3248-L3(config)# ip dns proxy
SISPM1040-3248-L3(config)# ip domain name dhcp interface vlan  100 ipv4
SISPM1040-3248-L3(config)# ip helper-address 192.168.1.100
SISPM1040-3248-L3(config)# ip http secure-certificate delete
SISPM1040-3248-L3(config)# ip igmp host leave-proxy
SISPM1040-3248-L3(config)# ip igmp unknown-flooding
SISPM1040-3248-L3(config)# ip routing
SISPM1040-3248-L3(config)# ip scp server enable
SISPM1040-3248-L3(config)# do show ip route
Codes: C - connected, S - static, O - OSPF, R - RIP
       * - FIB route, D - DHCP installed route

S* 0.0.0.0/0 [1/0] via 192.168.1.254, VLAN 1, 00:00:00
C* 169.254.0.0/16 is directly connected, VLAN 1, 00:00:00
C* 192.168.1.0/24 is directly connected, VLAN 1, 00:00:00
SISPM1040-3248-L3(config)#
```

Messages: *% Failed to add IPv4 route: Route subnet has bits set outside of prefix*

Command: **ipmc**

Description: IPv4/IPv6 multicast configuration.

Syntax:

ipmc profile

ipmc profile <profile_name>

ipmc range <entry_name> { <v_ipv4_mcast> [<v_ipv4_mcast_1>] | <v_ipv6_mcast> [<v_ipv6_mcast_1>] }

Parameters:

profile	IPMC profile configuration
range	A range of IPv4/IPv6 multicast addresses for the profile
<word16>	Profile name in 16 characters
<word16>	Range entry name in 16 characters
default	Set a command to its defaults
description	Additional description about the profile in 64 characters
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
no	Negate a command or set its defaults
range	A range of IPv4/IPv6 multicast addresses for the profile
<ipv4_mcast>	Valid IPv4 multicast address
<ipv6_mcast>	Valid IPv6 multicast address
deny	Deny matching addresses
permit	Permit matching addresses
log	Log when matching
next	Specify next entry used in profile. Default: Add entry last
<word16>	Range entry name in 16 characters

Example:

```
SISPM1040-3248-L3(config)# ipmc profile Bob
SISPM1040-3248-L3(config-ipmc-profile)# range r1 permit log next R2
% Invalid range name r1.

SISPM1040-3248-L3(config-ipmc-profile)# exit
SISPM1040-3248-L3(config)#
```

Command: **ipv6**

Description: IPv6 configuration commands.

Syntax:

ipv6 dhcp snooping
ipv6 dhcp snooping nh-unknown { drop | allow }
ipv6 mld host-proxy [leave-proxy]
ipv6 mld snooping
ipv6 mld snooping vlan <vlan_list>
ipv6 mld ssm-range <v_ipv6_mcast> <ipv6_prefix_length>
ipv6 mld unknown-flooding
ipv6 route <v_ipv6_subnet> <v_ipv6_ucast> [interface vlan <v_vlan_id>] [distance <v_distance>]
ipv6 source binding interface <port_type> <port_type_id> [vlan <vlan_id>] <ipv6_ucast> <mac_ucast>
ipv6 verify source
ipv6 verify source translate

Parameters:

dhcp	Dynamic Host Configuration Protocol V6
mld	Multicast Listener Discovery
route	Configure static routes
source	source command
verify	verify command
snooping	Enables or disables the DHCPv6 snooping function.
nh-unknown	Control how packets with unknown IPv6 extension headers are treated
allow	Allow packets with unknown IPv6 extension headers.
drop	Drop packets with unknown IPv6 extension headers.
host-proxy	MLD proxy configuration
snooping	Snooping MLD
ssm-range	IPv6 address range of Source Specific Multicast
unknown-flooding	Flooding unregistered IPv6 multicast traffic
leave-proxy	MLD proxy for leave configuration
<ipv6_subnet>	IPv6 prefix x:x::y/z
binding	IP source binding
interface	interface command
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_id>	Port ID in 1/1-28
<port_type_id>	Port ID in 1/1-4
<ipv6_ucast>	Select an IPv6 Address to configure, in the format xxxx::yyyy
vlan	VLAN command, optional
<ipv6_subnet>	IPv6 prefix x:x::y/z
<ipv6_ucast>	IPv6 unicast address of next-hop
<mac_ucast>	Select a MAC address to configure
<ipv6_mcast>	Valid IPv6 multicast address
source	Enables or disables the IPv6 Source Guard.

translate Translate command

Example:

```
SISPM1040-3248-L3(config)# ipv6 dhcp snooping nh-unknown allow
SISPM1040-3248-L3(config)# ipv6 dhcp snooping nh-unknown drop
SISPM1040-3248-L3(config)# ipv6 mld host-proxy leave-proxy
SISPM1040-3248-L3(config)# ipv6 source binding interface 10GigabitEthernet 1/3 1
111::2222 00-11-22-33-44-55
SISPM1040-3248-L3(config)# ipv6 mld unknown-flooding
SISPM1040-3248-L3(config)# ipv6 verify source translate
SISPM1040-3248-L3(config)#
```

Command: **key**

Description: Authentication key management (Router Key-Chain Configuration).

Syntax: **key** chain <keychain_name>

Parameters:

chain	Key-chain management
<word31>	Key-chain name
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
key	Authentication key management
no	Negate a command or set its defaults
<1-255>	key length
key-string	key string
encrypted	encrypt the key
unencrypted	no key encryption
<word1-63>	encrypted key length
<word128-224>	unencrypted key length

Example:

```
SISPM1040-3248-L3(config)# key chain 1
SISPM1040-3248-L3(config-keychain)#
SISPM1040-3248-L3(config-keychain)# key 100 key-string unencrypted admin
SISPM1040-3248-L3(config-keychain)#
SISPM1040-3248-L3(config)# key chain sdlxc88791*7^
% Internal framework access error.
SISPM1040-3248-L3(config)#
```

Command: **lacp**

Description: Link Aggregation Control Protocol settings.

Syntax: **lacp** system-priority <v_1_to_65535>

Parameters:

system-priority	System priority
<1-65535>	Priority value, lower means higher priority

Example:

```
SISPM1040-3248-L3(config)# lacp system-priority 3000
SISPM1040-3248-L3(config)#
```

Command: **line**

Description: Configure a terminal line.

Syntax: **line** { <0~16> | console 0 | vty <0~15> }

Parameters:

<0~16>	List of line numbers
console	Console terminal line
vty	Virtual terminal
do	To run exec commands in the configuration mode
editing	Enable command line editing
end	Go back to EXEC mode
exec-banner	Enable the display of the EXEC banner
exec-timeout	Set the EXEC timeout
exit	Exit from current mode
help	Description of the interactive help system
history	Control the command history function
length	Set number of lines on a screen
location	Enter terminal location description
motd-banner	Enable the display of the Message Of The Day banner
no	Negate a command or set its defaults
privilege	Change privilege level for line
width	Set width of the display terminal
0	Console Line number
<0-1440>	Exec Timeout in minutes
size	Set history buffer size
<0-32>	Number of history commands, 0 means disable
<0,3-512>	Number of lines on screen (0 for no pausing)
<line32>	One text line describing the terminal's location in 32 characters.
level	Assign default privilege level for line
<0-15>	Default privilege level for line
<0,40-512>	Number of characters on a screen line (0 for unlimited width)

Example:

```
SISPM1040-3248-L3(config)# line 1
SISPM1040-3248-L3(config-line)# editing
SISPM1040-3248-L3(config-line)# exec-banner
SISPM1040-3248-L3(config-line)# exec-timeout 1440
```

```
SISPM1040-3248-L3(config-line)# history size 4
SISPM1040-3248-L3(config-line)# privilege level 13
SISPM1040-3248-L3(config-line)# exit
SISPM1040-3248-L3(config)#
```

Command: **lldp**

Description: Link Layer Discover Protocol.

Syntax:

lldp holdtime <val>

lldp med datum { wgs84 | nad83-navd88 | nad83-mllw }

lldp med fast <v_1_to_10>

lldp med location-tlv altitude { meters | floors } <v_word11>

lldp med location-tlv civic-addr { { country <country> } | { state | county | city | district | block | street | leading-street-direction | trailing-street-suffix | street-suffix | house-no | house-no-suffix | landmark | additional-info | name | zip-code | building | apartment | floor | room-number | place-type | postal-community-name | p-o-box | additional-code } <v_line> }

lldp med location-tlv elin-addr <v_word25>

lldp med location-tlv latitude { north | south } <v_word8>

lldp med location-tlv longitude { west | east } <v_word9>

lldp med media-vlan-policy <policy_index> { voice | voice-signaling | guest-voice-signaling | guest-voice | softphone-voice | video-conferencing | streaming-video | video-signaling } { untagged | tagged <v_vlan_id> [l2-priority <v_0_to_7>] } [dscp <v_0_to_63>]

lldp reinit <val>

lldp timer <val>

lldp transmission-delay <val>

Parameters:

holdtime	Sets LLDP hold time (The neighbor switch will discard the LLDP information after 'hold time' multiplied with 'timer' seconds).
med	Media Endpoint Discovery.
reinit	LLDP tx reinitialization delay in seconds.
timer	Sets LLDP TX interval (The time between each LLDP frame transmitted in seconds).
transmission-delay	Sets LLDP transmission-delay. LLDP transmission delay (the amount of time that the transmission of LLDP frames will delayed after LLDP configuration has changed) in seconds.)
<2-10>	2-10 seconds holdtime.
datum	Datum (geodetic system) type.
fast	Number of times to repeat LLDP frame transmission at fast start.
location-tlv	LLDP-MED Location Type Length Value parameter.
media-vlan-policy	Create a policy, which can be assigned to an interface.
nad83_mllw	Mean lower low water datum 1983
nad83_navd88	North American vertical datum 1983
wgs84	World Geodetic System 1984
<1-10>	
altitude	Altitude parameter.
civic-addr	Civic address information and postal information. The total number of characters for the combined civic address information must not exceed 250 characters.

	Notes: 1) A non-empty civic address location will use 2 extra characters in addition to the civic address location text. 2) The 2 letter country code is not part of the 250 characters limitation.
elin-addr	Emergency Call Service ELIN identifier data format is defined to carry the ELIN identifier as used during emergency call setup to a traditional CAMA or ISDN trunk-based PSAP. This format consists of a numerical digit string, corresponding to the ELIN to be used for emergency calling. Emergency Location Identification Number, (e.g. E911 and others), such as defined by TIA or NENA.
latitude	Latitude parameter.
longitude	Longitude parameter.
floors	Specify the altitude in floor
meter	Specify the altitude in meters
<word11>	Altitude value. Valid range -2097151.9 to 2097151.9
additional-code	Additional code - Example: 1320300003.
additional-info	Additional location info - Example: South Wing.
apartment	Unit (Apartment, suite) - Example: Apt 42.
block	Neighborhood, block.
building	Building (structure) - Example: Low Library.
city	City, township, shi (Japan) - Example: Copenhagen.
country	The two-letter ISO 3166 country code in capital ASCII letters - Example: DK, DE or US.
county	County, parish, gun (Japan), district.
district	City division, borough, city district, ward, chou (Japan).
floor	Floor - Example: 4.
house-no	House number - Example: 21.
house-no-suffix	House number suffix - Example: A, 1/2.
landmark	Landmark or vanity address - Example: Columbia University.
leading-street-direction	Leading street direction - Example: N.
name	Name (residence and office occupant) - Example: John Doe.
p-o-box	Post office box (P.O. BOX) - Example: 12345.
place-type	Place type - Example: Office.
postal-community-name	Postal community name - Example: Leonia.
room-number	Room number - Example: 450F.
state	National subdivisions (state, canton, region, province, prefecture).
street	Street - Example: Oxford Street.
street-suffix	Street suffix - Example: Ave, Platz.
trailing-street-suffix	Trailing street suffix - Example: SW.
zip-code	Postal/zip code - Example: 2791.
<line250>	Value for the corresponding selected civic address.
<dword25>	ELIN value
north	Setting latitude direction to north.
south	Setting latitude direction to south.
<word8>	Latitude degrees (0.0000-90.0000).
east	Setting longitude direction to east.
west	Setting longitude direction to west.
<word9>	Longitude degrees (0.0000-180.0000).

<0-31>	Policy id for the policy which is created.
guest-voice	Create a guest voice policy.
guest-voice-signaling	Create a guest voice signaling policy.
softphone-voice	Create a softphone voice policy.
streaming-video	Create a streaming video policy.
video-conferencing	Create a video conferencing policy.
video-signaling	Create a video signaling policy.
voice	Create a voice policy.
voice-signaling	Create a voice signaling policy.
tagged	The policy uses tagged frames.
untagged	The policy uses untagged frames.
<vlan_id>	The VLAN the policy uses tagged frames.
dscp	Differentiated Services Code Point. If not given then DSCP value is set to 0.
l2-priority	Layer 2 priority. If not given then L2 priority value is set to 0.
<0-63>	DSCP value 0-63.
<0-7>	Priority 0-7.
<1-10>	1-10 seconds.
<5-32768>	5-32768 seconds.
<1-8192>	1-8192 seconds.

Example:

```
SISPM1040-3248-L3(config)# lldp holdtime 3
SISPM1040-3248-L3(config)# lldp med fast 5
SISPM1040-3248-L3(config)# lldp reinit 3
SISPM1040-3248-L3(config)# lldp timer 555
SISPM1040-3248-L3(config)# lldp transmission-delay 333
Note: According to IEEE 802.1AB-clause 10.5.4.2 the transmission-delay must not be larger
than LLDP timer * 0.25. LLDP timer changed to 1332
SISPM1040-3248-L3(config)#
```

Command: **logging**

Description: System logging message.

Syntax: **logging** host { <ipv4_addr> | <domain_name> | <ipv6> }
logging on
logging port <port_no>

Parameters:

host	host
on	Enable Switch logging host mode
port	Service port number
<domain_name>	A valid name consist of a sequence of domain labels separated by '.', each domain label starting and ending with an alphanumeric character and possibly also containing '-' characters. The length of a domain label must be 63 characters or less.
<ipv4_ucast>	The IPv4 address of the log server
<ipv6_ucast>	The IPv6 address of the log server
<1-65535>	Port number

Example:

```
SISPM1040-3248-L3(config)# logging host 123.234.56.78
SISPM1040-3248-L3(config)# logging port 517
SISPM1040-3248-L3(config)#
```

Command: **loop-protect**

Description: Loop protection configuration.

Syntax: **loop-protect**
loop-protect shutdown-time <t>
loop-protect transmit-time <t>

Parameters:

shutdown-time	Loop protection shutdown time interval
transmit-time	Loop protection transmit time interval
<0-604800>	Shutdown time in seconds
<1-10>	Transmit time in seconds

Example:

```
SISPM1040-3248-L3(config)# loop-protect
SISPM1040-3248-L3(config)# loop-protect shutdown-time 333
SISPM1040-3248-L3(config)# loop-protect transmit-time 3
SISPM1040-3248-L3(config)#
```

Command: **mac**

Description: MAC table entries/configuration

Syntax:

mac address-table aging-time <v_0_10_to_1000000>

mac address-table learning vlan <vlan_list>

mac address-table static <v_mac_addr> vlan <v_vlan_id> [interface (<port_type> [<v_port_type_list>])]

Parameters:		
	address-table	MAC table entries/configuration
	aging-time	Mac address aging time
	learning	Mac Learning
	static	Static MAC address
	<0,10-1000000>	Aging time in seconds, 0 disables aging
	vlan	VLAN
	<vlan_list>	list of VLANs
	<mac_addr>	48 bit MAC address: xx:xx:xx:xx:xx:xx
	vlan	VLAN keyword
	<vlan_id>	VLAN IDs 1-4095
	interface	Select an interface to configure
	*	All switches or All ports
	GigabitEthernet	Gigabit Ethernet Ports
	10GigabitEthernet	10Gigabit Ethernet Ports
	<port_type_list>	Port list for all port types
	<port_type_list>	Port list in 1/1-52
	<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3(config)# mac address-table aging-time 3333
SISPM1040-3248-L3(config)# mac address-table learning vlan 100-200
SISPM1040-3248-L3(config)# mac address-table static 11:22:33:44:55:66 vlan 100 interface
GigabitEthernet 1/14-18
SISPM1040-3248-L3(config)# do show mac address table
Type    VID  MAC Address       Ports
Dynamic 1    00:09:18:4e:20:e9 GigabitEthernet 1/3,6
Dynamic 1    00:09:18:4f:bc:3a GigabitEthernet 1/5
Dynamic 1    00:16:6c:d4:dd:c2 GigabitEthernet 1/3,6
Dynamic 1    00:1b:11:b2:6d:4b GigabitEthernet 1/1
Static  1    00:c0:f2:7c:58:92  CPU
Dynamic 1    00:c0:f2:7c:58:ab GigabitEthernet 1/4
Static  1    01:00:0c:cc:cc:cc  CPU
Static  1    33:33:00:00:00:01 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    33:33:00:00:00:05 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    33:33:00:00:00:06 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    33:33:ff:07:00:08 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    33:33:ff:7c:58:92 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Dynamic 1    e0:55:3d:84:a8:96 GigabitEthernet 1/9
Static  1    ff:ff:ff:ff:ff:ff GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  100  00:c0:f2:7c:58:92  CPU
-- more --, next page: Space, continue: g, quit: ^C
SISPM1040-3248-L3(config)#
```

Command: **map-api-key**

Description: Set Google Maps key string. See the Google Maps API setup page.

Syntax: **map-api-key** <key_str>

Parameters: <word127>

Example:

```
SISPM1040-3248-L3(config)# map-api-key FromTheGoogleMapsWebpage123
SISPM1040-3248-L3(config)# do show map-api-key
Key    : FromTheGoogleMapsWebpage123
SISPM1040-3248-L3(config)#
```

Command: **monitor**

Description: Monitoring different system events.

Syntax:

monitor session <session_number> [destination { interface (<port_type> [<di_list>]) } | source { interface (<port_type> [<si_list>]) [both | rx | tx] }]

Parameters:

session	Configure a MIRROR session
<1-5>	MIRROR session number
destination	MIRROR destination interface
source	MIRROR source interface
interface	MIRROR destination interface
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
both	MIRROR source receive both
rx	MIRROR source receive Rx
tx	MIRROR source receive Tx

Example:

```
SISPM1040-3248-L3(config)# monitor session 1 destination interface GigabitEthernet 1/13
SISPM1040-3248-L3(config)# monitor session 1 source interface * rx
SISPM1040-3248-L3(config)#
```

Command: **mrp-ring**

Description: Media Redundancy Protocol Ring configuration

Syntax:

mrp-ring <domainId> client blocked-state { enable | disable }
mrp-ring <domainId> client link-interval <downInterval> <upInterval> [<linkChangeCount>]
mrp-ring <domainId> diag-clear
mrp-ring <domainId> manager link-change-react { enable | disable }
mrp-ring <domainId> manager media-redundancy { enable | disable }
mrp-ring <domainId> manager nonblocking-supported { enable | disable }
mrp-ring <domainId> manager priority <priority>
mrp-ring <domainId> manager test-interval <testInterval> [<shortTestInterval>]
mrp-ring <domainId> manager test-monitoring <count> [<extendedCount>]
mrp-ring <domainId> manager topology-change <topoChangeInterval> [<topoChangeRepeatCount>]
mrp-ring <domainId> name <domainName>
mrp-ring <domainId> ringport { primary | secondary } <port_type> <mrp_port>
mrp-ring <domainId> ringport-delete { primary | secondary }
mrp-ring <domainId> role { manager | client }
mrp-ring <domainId> status { enable | disable }
mrp-ring <domainId> uuid <domainUUID>
mrp-ring <domainId> vlan <vlanId>
mrp-ring domain delete <domainId>
mrp-ring domain new <domainId>

Parameters:

<1-2>	DomainID of Domain to modify
domain	Create/Delete MRP Domain
client	Operate on an MRP Client
diag-clear	Clear Diagnostic stats for MRP Domain
manager	Operate on an MRP Manager
name	Set name for Domain
ringport	Set/Add Ringport
ringport-delete	Delete Ringport
role	Set role in Domain to manager or client
status	Enable/Disable a domain
uuid	Set UUID for Domain
vlan	Set VLAN for Domain
blocked-state	Enable/Disable Blocked State support for MRP Client
link-interval	Set Client Link Intervals and Count for MRP Client
disable	Disable Client Blocked State support
enable	Enable Client Blocked State support (default)
link-change-react	Enable/Disable Manager Link Change Reaction
media-redundancy	Enable/Disable Manager Media Redundancy Mode (MRM)
nonblocking-supported	Enable/Disable Manager Non-blocking support
priority	Set Manager Priority
test-interval	Set Manager Test Intervals

test-monitoring	Set Manager Test Monitoring values
topology-change	Set Manager Topology Change settings
disable	Disable Manager link change reaction (default)
enable	Enable Manager link change reaction
primary	Set primary Ringport
secondary	Set secondary Ringport
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_id>	Port ID in 1/1-28
primary	Delete the primary Ringport
secondary	Delete the secondary Ringport
client	Set role in Domain to client
manager	Set role in Domain to manager
<word64>	Updated Domain UUID
<0-4094>	VLAN ID to apply to Domain (VLAN 0 means disable vlan)
delete	Delete an MRP Domain
new	Create a new MRP Domain
<1-2>	Domain ID of Domain to be deleted
<1-2>	Domain ID of new Domain

Example:

```
SISPM1040-3248-L3(config)# mrp 1 client blocked-state disable
SISPM1040-3248-L3(config)# mrp 1 diag-clear
SISPM1040-3248-L3(config)# mrp 1 manager link-change-react enable
SISPM1040-3248-L3(config)# mrp 1 name Mrp1
SISPM1040-3248-L3(config)# mrp 1 ringport primary GigabitEthernet 1/6
SISPM1040-3248-L3(config)# mrp 1 role client
SISPM1040-3248-L3(config)# mrp 1 role manager
SISPM1040-3248-L3(config)# mrp 1 status disable
SISPM1040-3248-L3(config)# mrp 1 vlan 100
SISPM1040-3248-L3(config)# mrp domain delete 2
SISPM1040-3248-L3(config)#
```

Messages:

W mrp_ring 05:45:26 232/mrp_icli_manager_link_change_reaction#444: Warning: MRP Manager Link Change Reaction: unable to modify domain with Id 1, Invalid parameter

W mrp_ring 05:43:20 232/mrp_icli_client_blocked_state#501: Warning: MRP Client B locked State: unable to modify domain with Id 1, Invalid parameter

W mrp_ring 05:51:54 232/mrp_icli_domain_ringport#251: Warning: MRP Domain Ringport: unable to modify domain with Id 1, Ring port is used

W mrp_ring 05:57:05 232/mrp_icli_domain_status#306: Warning: MRP Domain Status: unable to modify domain with Id 1, Invalid ring port

W mrp_ring 05:58:25 232/mrp_icli_domain_uuid#219: Warning: MRP Domain UUID: The UUID incorrect

Command: **mvrp**

Description: Enable and configure MVRP (Multiple VLAN Registration Protocol) feature globally.

Syntax: **mvrp** <cr>
mvrp managed vlan { all | none | [add | remove | except] <vlist> }

Parameters:

vlan	Set managed VLANs of MVRP
<vlan_list>	VLAN IDs of the managed VLANs of MVRP
add	Add VLANs to the current list
all	All VLANs
except	All VLANs except the following
none	No VLANs
remove	Remove VLANs from the current list
managed	Set list of MVRP-managed VLANs

Example:

```
SISPM1040-3248-L3(config)# mvrp
SISPM1040-3248-L3(config)# mvrp managed vlan 100-200
SISPM1040-3248-L3(config)# mvrp managed vlan add 10-90
SISPM1040-3248-L3(config)# mvrp managed vlan all
SISPM1040-3248-L3(config)# mvrp managed vlan except 91-100
SISPM1040-3248-L3(config)# mvrp managed vlan none
SISPM1040-3248-L3(config)#
```

Messages: *%% Failed to enable the MVRP feature globally.*
% (Another MRP/GARP application is currently enabled - disable it first)

Command: **no**

Description: Negate a command or set its defaults

Syntax: Type `no??` to display syntax (this is a long list)

Parameters:

aaa	access	access-list
aggregation	aps	banner
cfm	clock	command-history-log
ddmi	dot1x	enable
erps	exec-timeout	green-ethernet
gvrp	hostname	interface
ip	ipmc	ipv6
key	lacp	lldp
logging	loop-protect	mac
map-api-key	monitor	mvr
mvrp	ntp	poe
port-security	privilege	prompt
ptp	qos	radius-server
rmon	router	sflow
snmp-server	spanning-tree	svl
switchport	system	tacacs-server
udld	upnp	username
vlan	voice	web

Example:

```
SISPM1040-3248-L3(config)# no banner motd
SISPM1040-3248-L3(config)# no upnp
SISPM1040-3248-L3(config)# no voice vlan vid
SISPM1040-3248-L3(config)#
```

Command: **ntp**

Description: Configure Network Time Protocol.

Syntax: **ntp**
ntp automatic
ntp interval <interval>
ntp server <index_var> ip-address { <ipv4_var> | <ipv6_var> | <name_var> }

Parameters:

automatic	Configure Automatic
interval	Configure NTP Time-Sync Interval
server	Configure NTP server
<5,10,15,30,60,120>	interval
<1-5>	index number
ip-address	IP address
<domain_name>	Domain name
<ipv4_ucast>	IPv4 address
<ipv6_ucast>	IPv6 address

Example:

```
SISPM1040-3248-L3(config)# ntp automatic
SISPM1040-3248-L3(config)# ntp interval 5
SISPM1040-3248-L3(config)# ntp server 1 ip-address NSrvr1
SISPM1040-3248-L3(config)# ntp server 1 ip-address 192.168.1.60
SISPM1040-3248-L3(config)# ntp server 2 ip-address 132.163.96.5
SISPM1040-3248-L3(config)#
```

Command: **percepxion**

Description: Configure Percepxion parameters to enable it to register with the Percepxion server.

Percepxion is a cloud or on-premise portal for the centralized management of multiple Lantronix switches. A browser-based interface allows an administrator to view status, send commands, view logs and charts, and update firmware. Each Lantronix device can communicate with the cloud server or on-premise server, sending status updates and responding to commands sent by the server.

The SISPM1040-xxxx-L3 requires a unique Device ID to communicate with the Percepxion portal. The ID is viewable in the Percepxion settings by running the 'show' command at the 'config-percepxion' command mode. If a device is not already pre-configured with the ID, the ID must be provisioned using Lantronix Provisioning Manager (LPM). For more information see the LPM product page.

The Percepxion client follows a sequence of steps to connect to the Percepxion server, send status updates, check for firmware and configuration updates, and respond to commands from the server. This series of steps is the same each time the client starts - at boot, or if the client is enabled. Any changes to the Percepxion Device ID, or registration settings require the Percepxion client to be disabled and re-enabled for the changes to take effect.

Percepxion client registration

The client will attempt to register to the Host using the project tag and device ID. If registration fails, the client will wait and retry. The client will retry until it is successful, or the client is disabled. Registration may fail if the Project Tag is invalid, the Device ID is invalid, the Host name cannot be resolved, or the Host is not reachable. Once registration is successful, the **Client State** will display **Registered** with the date and time of registration.

Telemetry

After registration, the client will connect to the Telemetry Host (the hostname is the same as the registration host provided during registration) and perform a telemetry handshake. This handshake may request that the client publish a set of statistics at regular intervals.

Messaging and Status Updates

After the telemetry handshake, the Percepxion client will connect to the messaging host to receive messages and publish status updates. If the connection fails, the client will wait and retry. The connection may fail if the messaging host name cannot be resolved, or the messaging host is not reachable. The client publishes status update messages (changes to the device attributes) at the interval defined by **Status Update Interval**. Each time a status update is published, the **Last status update** will be updated to indicate the elapsed time since the status was sent. The client also accepts command messages from the Percepxion server to perform actions, such as reboot.

Web Connect and Remote CLI connection

Percepxion allows users to make a secure connection to the SISPM1040-xxxx-L3 web interface. This connection opens the SISPM1040-xxxx-L3 login page in the web browser. To use this feature, HTTPS must be enabled on the switch (HTTPS is the default). Use the 'aaa' CLI commands to show or configure HTTPS. The **Web** button will be enabled in the Percepxion UI to use this option.

Percepxion allows users to make remote connections to the CLI in a Web terminal. This is available only for on-premise Percepxion deployments. The **Connect** button will be enabled in the Percepxion UI when this option is available.

Firmware updates and Configuration updates

The Percepxion client checks for firmware and configuration updates at the interval defined by the **Content Check Interval**. When the client checks for firmware or configuration updates, the **Last content check** will be updated to indicate the elapsed time since the check was made. The **Available Firmware updates** and **Available Configuration updates** will indicate if an update was found on the server, or show *Not available*, if no updates were found.

Enter Percepxion Config mode from Config mode:

```
SISPM1040-3248-L3(config)# percepxion <cr>
SISPM1040-3248-L3(config-percepxion)#
```

Subcommands:

```
SISPM1040-3248-L3(config-percepxion)# ?
    active        Sets active connection to Connection <number>
    apply         Sets the mode on firmware updates
    connection    Sets the connection 1 or connection 2
    content       Sets the firmware and configuration check interval
    device        Sets the device attributes
    do            To run exec commands in config mode
    end           Go back to EXEC mode
    exit          Exit from current mode
    help          Description of the interactive help system
    no            Removes
    show          Displays the current configuration
    state         Percepxion state
    status        Sets the status update interval
```

Syntax and Parameters:

active connection connection <1|2>

- connection - sets the active connection

apply configuration updates <enable|disable>

- configuration updates - enables or disables configuration updates

apply firmware updates <enable|disable>

- firmware updates - enables or disables firmware updates

connection <1|2> connect to <cloud|on premise>

connection <1|2> host <host name>

connection <1|2> port <number>

connection <1|2> secure port <enable|disable>

connection <1|2> validate certificates <enable|disable>

- Sets the connection 1 or 2 settings.
- <1|2> - Indicates which connection to configure.
- connect to - sets the connect mode to cloud or on-premise
- host - sets the host name or IP address of the Percepxion server
- port - sets the port number of the Percepxion server. Default is 443.
- secure port - enables or disables secure port.
- validate certificates - If enabled use a certificate authority to validate the HTTPS certificate. Disabled by default.

content check interval <1-56160>

- check interval - sets the interval of time in minutes that the agent waits between checks for firmware or configuration updates. Valid values are 1 to 56160 minutes.

device description <device_desp>

device id <device_id>

device key <device_key>

device name <device_name>

- Sets the device attributes.
- device_desp - sets the description
- device_id – sets the device id
- device_key – sets the device key. After it is set, the key is displayed as <Configured>.
- device_name – sets the device name as it will be shown in Percepxion UI.

do <command>

- Run exec commands in the configuration mode

end

- Go back to exec mode

exit

- Exit from the current mode

help

- Shows description of the interactive help system

no device description

no device id

no device key

no device name

- Removes the value of a configuration setting
- description – removes the description
- id – removes the device id
- key – removes the device key
- name – removes the device name

show <cr>

Displays the current configuration.

show connection <1|2>

- Displays the current configuration of the specified connection

show statistics

- Displays the Percepxion statistics

state <disable|enable>

- Sets the Percepxion client state. Enabled by default.

status update interval <1-1440>

- update interval <1-1440> Sets the interval of time in minutes that the agent waits between sending its status to the Percepxion server. Valid values are 1 to 1440 minutes.

Usage:

Example 1:

```
SISPM1040-3248-L3(config-percepxion)# active connection connection 1
SISPM1040-3248-L3(config-percepxion)# apply configuration updates enable
SISPM1040-3248-L3(config-percepxion)# apply firmware updates enable
SISPM1040-3248-L3(config-percepxion)#
```

Example 2:

```
SISPM1040-3248-L3(config-percepxion)# show <cr>
Percepxion Configuration:
State : Enabled
Device ID :
Device Key : (Configured)
```

```
Device Name : SISPM1040-3248-L3
Device Description : Lantronix SISPM1040-3248-L3
Status Update Interval : 1 minutes
Content Check Interval : 1 minutes
Apply Firmware Updates : Enabled
Apply Configuration Updates : Enabled
Active Connection : Connection 1
Connection 1 Host : api.percepxion.ai
Connection 1 Port : 443
Connection 1 Secure Port : Enabled
Connection 1 Validate Certificates: Enabled

Connection 2 Host : api.percepxion.ai
Connection 2 Port : 443
Connection 2 Secure Port : Enabled
Connection 2 Validate Certificates: Enabled

SISPM1040-3248-L3(config-percepxion)#
```

Example 3:

```
SISPM1040-3248-L3(config-percepxion)# show statistics
Client Status : Running
Not registered -
Last Status Update : Not available
Last Content Check : Not available
Available Firmware Updates: Not available
Available Configuration Updates: Not available
SISPM1040-3248-L3(config-percepxion)#
```

Command: **poe**

Description: Set Power Over Ethernet parameters. Note that PoE operation requires a DC power supply input. See the Install Guide for more information.

Syntax:

poe capacitor-detection

poe management mode { class-consumption | class-reserved-power | allocation-consumption | allocation-reserved-power | lldp-consumption | lldp-reserved-power }

poe ping-check { enable | disable }

poe profile id <id> name <entry_name>

poe profile id <id> { [Sun <hour_v00_0_to_23> <min_v00_0_to_55> <hour_v01_0_to_23> <min_v01_0_to_55>] [Mon <hour_v10_0_to_23> <min_v10_0_to_55> <hour_v11_0_to_23> <min_v11_0_to_55>] [Tue <hour_v20_0_to_23> <min_v20_0_to_55> <hour_v21_0_to_23> <min_v21_0_to_55>] [Wed <hour_v30_0_to_23> <min_v30_0_to_55> <hour_v31_0_to_23> <min_v31_0_to_55>] [Thr <hour_v40_0_to_23> <min_v40_0_to_55> <hour_v41_0_to_23> <min_v41_0_to_55>] [Fri <hour_v50_0_to_23> <min_v50_0_to_55> <hour_v51_0_to_23> <min_v51_0_to_55>] [Sat <hour_v60_0_to_23> <min_v60_0_to_55> <hour_v61_0_to_23> <min_v61_0_to_55>] }

poe reboot-chip mode { enable | disable }

poe reboot-chip { [Sun <hour_v00_0_to_23> <min_v00_0_to_55>] [Mon <hour_v10_0_to_23> <min_v10_0_to_55>] [Tue <hour_v20_0_to_23> <min_v20_0_to_55>] [Wed <hour_v30_0_to_23> <min_v30_0_to_55>] [Thr <hour_v40_0_to_23> <min_v40_0_to_55>] [Fri <hour_v50_0_to_23> <min_v50_0_to_55>] [Sat <hour_v60_0_to_23> <min_v60_0_to_55>] }

Parameters:

capacitor-detection	PoE legacy mode on
management	Use management mode to configure PoE power management method.
ping-check	Enable/Disable POE Ping Check.
profile	poe scheduling profile
reboot-chip	poe schedules to reboot PoE chip
mode	PoE Power Management Mode
allocation-consumption	Max. port power determined by allocated, and power is managed according to power consumption.
allocation-reserved-power	Max. port power determined by allocated, and power is managed according to reserved power.
class-consumption	Max. port power determined by class, and power is managed according to power consumption.
class-reserved-power reserved power.	Max. port power determined by class, and power is managed according to
lldp-consumption	Max. port power determined by LLDP Media protocol, and power is managed according to power consumption.
lldp-reserved-power	Max. port power determined by LLDP Media protocol, and power is managed according to reserved power.
disable	Disable POE Ping Check.
enable	Enable POE Ping Check.
id	poe scheduling profile id
<1-16>	poe scheduling profile id, from 1 to 16
Fri	Configure PoE Power scheduling on Friday
Mon	Configure PoE Power scheduling on Monday
Sat	Configure PoE Power scheduling on Saturday

Sun	Configure PoE Power scheduling on Sunday
Thr	Configure PoE Power scheduling on Thursday
Tue	Configure PoE Power scheduling on Tuesday
Wed	Configure PoE Power scheduling on Wednesday
name	poe scheduling profile name, the name length is 32
<0-23>	start hour
<0-55>	start minute, value must be multiples of 5
<0-23>	end hour
<0-55>	end minute, value must be multiples of 5
Fri	Configure PoE Power scheduling on Friday
Mon	Configure PoE Power scheduling on Monday
Sun	Configure PoE Power scheduling on Sunday
Thr	Configure PoE Power scheduling on Thursday
Tue	Configure PoE Power scheduling on Tuesday
Wed	Configure PoE Power scheduling on Wednesday
Fri	Configure PoE Reboot scheduling on Friday
Mon	Configure PoE Reboot scheduling on Monday
Sat	Configure PoE Reboot scheduling on Saturday
Sun	Configure PoE Reboot scheduling on Sunday
Thr	Configure PoE Reboot scheduling on Thursday
Tue	Configure PoE Reboot scheduling on Tuesday
Wed	Configure PoE Reboot scheduling on Wednesday
mode	Configure poe reboot mode

Example:

```
SISPM1040-3248-L3(config)# poe capacitor-detection
SISPM1040-3248-L3(config)# poe management mode class-consumption
SISPM1040-3248-L3(config)# poe ping-check enable
SISPM1040-3248-L3(config)# poe profile id 1 Sat 12 0 23 0
SISPM1040-3248-L3(config)# poe reboot-chip Sun 1 2 Mon 1 1
% Invalid values.
```

Command: **port-security**

Description: Port security configuration. This command is obsolete.

Syntax: **port-security**
port-security aging
port-security aging time <aging_time>
port-security hold time <hold_time>

Parameters:

aging	Enable/disable port security aging.
hold	Configure hold options
time	Time in seconds between check for activity on learned MAC addresses.
<10-10000000>	Aging time in seconds.
time	Violating MAC addresses are held non-forwarding for this number of seconds.
<10-10000000>	Hold time in seconds.

Example:

```
SISPM1040-3248-L3(config)# port-security aging time 50000
SISPM1040-3248-L3(config)# port-security hold time 100000
SISPM1040-3248-L3(config)#
```

Command: **privilege**

Description: Command privilege parameters.

Syntax: **privilege** <mode_name> level <privilege> <cmd>

Parameters:

<cword>	Valid words are 'aps' 'cfm-dmn' 'cfm-dmn-svc' 'cfm-dmn-svc-mep' 'config-vlan' 'configure' 'dhcp-pool' 'erps' 'exec' 'if-vlan' 'interface' 'ipmc-profile' 'line' 'llag' 'qos-map-egress' 'qos-map-ingress' 'router-keychain' 'router-ospf-if' 'router-ospf6-if' 'router-rip-if' 'snmps-host' 'stp-aggr'
level	Set privilege level of command
<0-15>	Privilege level
<line128>	Initial valid words and literals of the command to modify, in 128 characters

Example:

```
SISPM1040-3248-L3(config)# privilege llag level 14 privilege configure level 1 test
% Fail to set privilege as command "privilege configure level 1 test" is invalid.
SISPM1040-3248-L3(config)#
```

Command: **prompt**

Description: Set prompt.

Syntax: **prompt** <prompt>

Parameters:

<word32>	Up to 32 chars of prompt. Precede prompt variables with a percent sign (%). Prompt variables: %h = hostname, %% = percent sign, %s = space, %t = tab, %D = date, %T = time, %Z = date and time (like '%DT%T' but ensures atomicity in case of %T rollover)

Example:

```
SISPM1040-3248-L3(config)# prompt %h
SISPM1040-3248-L3(config)#
```

Command: **ptp**

Description: Set Precision Time Protocol (1588).

Syntax:

ptp <clockinst> afi-announce

ptp <clockinst> afi-sync

ptp <clockinst> clk sync <threshold> ap <ap>

ptp <clockinst> domain <domain>

ptp <clockinst> filter [delay <delay>] [period <period>] [dist <dist>]

ptp <clockinst> filter-type { aci-default | aci-freq-xo | aci-phase-xo | aci-freq-tcxo | aci-phase-tcxo | aci-freq-ocxo-s3e | aci-phase-ocxo-s3e | aci-bc-partial-on-path-freq | aci-bc-partial-on-path-phase | aci-bc-full-on-path-freq | aci-bc-full-on-path-phase | aci-freq-accuracy-fdd | aci-freq-accuracy-xdsl | aci-elec-freq | aci-elec-phase | aci-phase-relaxed-c60w | aci-phase-relaxed-c150 | aci-phase-relaxed-c180 | aci-phase-relaxed-c240 | aci-phase-ocxo-s3e-r4-6-1 | aci-basic-phase | aci-basic-phase-low | basic }

ptp <clockinst> ho [filter <ho_filter>] [adj-threshold <adj_threshold>]

ptp <clockinst> localpriority <localpriority>

ptp <clockinst> log <debug_mode> [log-to-file] [control] [max-time <max_time>]

ptp <clockinst> log delete

ptp <clockinst> mode { boundary | e2etransparent | p2ptransparent | master | slave | bcfrontend } [onestep | twostep] [ethernet | ethernet-mixed | ip4multi | ip4mixed | ip4unicast | oam | onepps | ip6mixed | ethip4ip6-combo] [oneway | twoway] [id <v_clock_id>] [vid <vid> [<prio>]] [mep <mep_id>] [profile { ieee1588 | g8265.1 | g8275.1 | 802.1as }] [clock-domain <clock_domain>] [dscp <dscp_id>]

ptp <clockinst> path-trace-enable

ptp <clockinst> priority1 <priority1>

ptp <clockinst> priority2 <priority2>

ptp <clockinst> servo ad <ad>

ptp <clockinst> servo ai <ai>

ptp <clockinst> servo ap <ap>

ptp <clockinst> servo displaystates

ptp <clockinst> servo gain <gain>

ptp <clockinst> slave-cfg [stable-offset <stable_offset>] [offset-ok <offset_ok>] [offset-fail <offset_fail>]

ptp <clockinst> time-property [utc-offset <utc_offset>] [valid] [leap-59 | leap-61] [time-traceable] [freq-traceable] [ptptimescale] [time-source <time_source>] [leap-pending <date_string> { leap-59 | leap-61 }]

ptp <clockinst> uni <idx> [duration <duration>] <ip>

ptp <clockinst> virtual-port accuracy <ptp_accuracy>

ptp <clockinst> virtual-port class <ptp_class>

ptp <clockinst> virtual-port io-pin <ptp_io_pin>

ptp <clockinst> virtual-port local-priority <local_priority>

ptp <clockinst> virtual-port priority1 <priority1>

ptp <clockinst> virtual-port priority2 <priority2>

ptp <clockinst> virtual-port variance <ptp_variance>

ptp ext [output | input | out-in] [ext <clockfreq>] [ltc | single | independent | common | auto]

ptp ho-spec [cat1 <cat1>] [cat2 <cat2>] [cat3 <cat3>]

ptp io-pin <io_pin> [pps-output | waveform-output | load | save] [domain <domain>] [freq <freq>] [{ interface <port_type> <v_port_type_id> }]

ptp ref-clock { mhz125 | mhz156p25 | mhz250 }

ptp rs422 baudrate <baudrate> [parity { none | even | odd }] [wordlength <wordlength>] [stopbits <stopbits>] [flowctrl { none | rtscts }]

ptp rs422 { main-auto | main-man | sub | calib } [pps-delay <pps_delay>] { ser [proto { polyt | zda | rmc }] | { pim interface <port_type> <v_port_type_id>} }

ptp system-time { get | set }

ptp tc-internal [mode <mode>]

Parameters:

<0-3>	Clock instance [0-3]
ext	Update the 1PPS and External clock output configuration and VCXO frequency rate adjustment option
ho-spec	Set the Holdover specification for G8275 PTP clocks
io-pin	Set or show input/output configuration
rs422	Set the RS422 clock configuration
system-time	Enable synchronization between PTP time and system time
tc-internal	0 = MODE_30BIT, 1 = MODE_32BIT, 2 = MODE_44BIT, 3 = MODE_48BIT
afi-announce	Enable PTP Announce automatic frame injection
afi-sync	Enable PTP Sync automatic frame injection
clk	Set PTP slave clock options
domain	Clock domain for PTP
filter	Set filter parameters of Basic servo
filter-type	Set the filter-type used by PTP
ho	Set PTP Servo holdover parameters
localpriority	Local priority for G8275.1 BMC algorithm (1 is highest priority)
log	Set the PTP debug mode
mode	Enable a PTP instance
path-trace-enable	Enable path trace option (i.e. Add Path Trace to Announce messages)
priority1	Clock priority 1 for PTP BMC algorithm (0 is highest priority)
priority2	Clock priority 2 for PTP BMC algorithm (0 is highest priority)
servo	Set Servo parameters
slave-cfg	Set PTP clock Slave Configuration
time-property	Set time properties
uni	Set a Unicast Slave configuration entry
virtual-port	
sync	Set PTP slave clock options to 'clock is SyncE locked'
<1-1000>	[1..1000] Threshold in ns for offset from master defines when the offset increment/decrement mode is entered
ap	Set the adjustment factor
<1-40>	[1..40] The offset increment/decrement adjustment factor
<0-127>	PTP domain: range = 0-127
aci-basic-phase	
aci-basic-phase-low	
aci-basic-phase-low-synce	
aci-basic-phase-synce	
aci-bc-full-on-path-freq	
auto	AUTO Select clock control, based on PTP profile and available hardware resources

ext	Enable external clock frequency output
ltc	Select Local Time Counter (LTC) frequency control
<1-25000000>	[1..25.000.000] External Clock output frequency in Hz
cat1	Define cat1 time
cat2	Define cat2 time
cat3	Define cat3 time
<0-999999999>	cat1 time in sec
<0-3>	Pin number
domain	Set domain assigned to this pin.
freq	Set clock frequency in the waveform case
interface	Set PTP slave interface
pps-output	Set input/output configuration to 1-pps output
waveform-output	Set input/output configuration to waveform (clock) output
<0-2>	Domain number 0..2
<1-25000000>	Clock frequency in Hz
GigabitEthernet	Gigabit Ethernet Ports
10GigabitEthernet	10Gigabit Ethernet Ports
<port_type_list>	Port list in 1/1-52
<port_type_list>	Port list in 1/1-4
get	Get the PTP time from the system time
set	Set (update) the system time from the PTP time
mode	Set mode
<0-3>	0 = MODE_30BIT, 1 = MODE_32BIT, 2 = MODE_44BIT, 3 = MODE_48BIT
<1-8>	1-8 Debug log mode, 1 => log offset from master, 2 => log sync packets, 3 => log Delay_req, 4 => log both, 5-8 modes are similar to 1-4 modes with addition of sub nano second logging
delete	Delete
control	Keep on controlling the clock while logging packet contents.
log-to-file	Direct log output to a file instead of console (Use http://<IP address of target>/logs/ptp_log_<0-3>.tpk to fetch the log afterwards).
max-time	Set the max time that the log is running, default is 10.000 sec.
log-to-file	Direct log output to a file instead of console (Use http://<IP address of target>/logs/ptp_log_<0-3>.tpk to fetch the log afterwards).
max-time	Set the max time that the log is running, default is 10.000 sec.
clock-domain	Define clock domain used by this instance. Instances with different clock domain can have different time.
dscp	Define DSCP field used in IPv4 encapsulation
ethernet	Ethernet protocol encapsulation
ethernet-mixed	Ethernet protocol encapsulation using mix of unicast and multicast
ethip4ip6-combo	Encapsulation can be any one of Ethernet or IPv4 or IPv6 encapsulations
id	define PTP clock instance identifier
ip4mixed	IPv4 mixed multicast/unicast protocol encapsulation
ip4multi	IPv4 multicast protocol encapsulation
ip4unicast	IPv4 unicast protocol encapsulation
ip6mixed	IPv6 mixed multicast/unicast protocol encapsulation
mep	Define MEP id used in OAM based PTP

oam	OAM encapsulation (only used in Serval based Distributed TC)
onepps	1PPS master slave synchronization (only used with Gen2 1588 PHYs)
onestep	One-step mode
oneway	One-way slave mode (no Delay Request)
profile	Indication that clock has an associated profile
twostep	Two-step mode
twoway	Two-way slave mode
vid	define VLAN ID
<0-3>	Clock domain used. The Clock domain may be hardware or software based. Jaguar2 has 3 hardware clock domains; other switches have 1 hardware clock domain.
<clock_id>	PTP clock instance identifier (8 bytes)
<1-100>	MEP instance number used if the OAM protocol option is used (only relevant on Serval)
802.1as	802.1AS profile
g8265.1	G8265.1 profile
g8275.1	G8275.1 profile
ieee1588	IEEE 1588 profile
<vlan_id>	VLAN id
<0-7>	The range of Priorities PTP can use in the tagged frames
id	define PTP clock instance identifier
delay	Set delay filter parameter of Basic servo
dist	Set offset filter dist parameter
period	Set offset filter period parameter of Basic servo
<0-6>	Log2 of timeconstant in delay lowpass filter, valid range: 1-6, Setting the value to 0 means use the same filter function as for the offset measurement, in this case the delay filter uses the 'period' and 'dist' parameters.
<0-10>	Distance between servo update n number of measurement periods, valid range: 0-10, 0 => 0,1 Hz lowpass filtering, 1 => averaging over period, >1 => 'min' offset filtering.
<1-10000>	Measurement period in number of sync events, valid range: 1-10000
adj-threshold	Set adjustment threshold
filter	Set stabilization period
<1-3000>	[1..3000] max frequency adjustment change within the holdover stabilization period (in units of 0.1 ppb)
<10-86400>	[10..86400] Holdover filter and stabilization period
<1-255>	PTP clock priority1: range = 1-255
<1-8>	1-8 Debug log mode, 1 = log offset from master, 2 = log sync packets, 3 = log Delay_req, 4 = log both, 5-8 modes are similar to 1-4 modes with addition of sub nano second logging
delete	Delete log entry
bcfrontend	Boundary Clock front end
boundary	Ordinary / Boundary clock
e2etransparent	End to end transparent clock
master	Master only clock
p2ptransparent	Peer to peer transparent clock
slave	Slave only clock
<0-255>	PTP clock priority1: range = 0-255
<0-255>	PTP clock priority2: range = 0-255
ad	Set 'D' parameter in the Basic servo

ai	Set 'I' parameter in the Basic servo
ap	Set 'P' parameter in the Basic servo
displaystates	Enable logging of servo parameters on the console
gain	Set Basic servo gain parameter.
<1-10000>	[1..10000] 'D' component in PID servo regulator
<1-10000>	[1..10000] 'I' component in PID servo regulator.
<1-1000>	[1..1000] 'P' component in PID servo regulator
<1-10000>	[1..10000] gain component in PID servo regulator
offset-fail	set the offset fail threshold
offset-ok	set the offset ok threshold
stable-offset	set the stable offset threshold
<0-1000000>	offset ok threshold in ns
<0-1000000>	stable offset threshold in ns.
freq-traceable	frequency is traceable
leap-59	leap59 in current day
leap-61	leap61 in current day
leap-pending	command includes a pending leap event
ptptimescale	timing is a PTP time scale
time-source	set time source
time-traceable	timing is traceable
utc-offset	set UTC offset
valid	UTC offset is valid
<word10>	date of pending leap
leap-59	pending leap is of type leap-59
leap-61	pending leap is of type leap-61
<0-255>	time source: range 0-255
<-32768-32767>	UTC offset value
<0-4>	[0..4] Index in the slave table
<ipv4_ucast>	IPv4 address of requested master clock
duration	Set the Duration parameter
<10-1000>	Duration [10..1000]. Number of seconds for which the Announce/Sync messages are requested
accuracy	virtual-port accuracy
class	virtual-port class
io-pin	virtual-port io-pin
local-priority	virtual-port local-priority
priority1	virtual-port priority1
priority2	virtual-port priority2
variance	virtual-port variance
<0-255>	PTP accuracy [0-255]
<0-255>	PTP Class [0-255]
<0-3>	PTP assigned input/output pin [0-3]
<0-255>	Local priority [0-255]
<0-255>	PTP clock priority1: range = 0-255
<0-255>	PTP clock priority2: range = 0-255

Example:

```
SISPM1040-3248-L3(config)# ptp 0 log 4 control log-to-file max-time 300
SISPM1040-3248-L3(config)# ptp system-time get
System clock synch mode (Get PTP time from System time)
SISPM1040-3248-L3(config)# W ptp/ms_servo 22:55:15 172/vtss_ptp_update_selected_
src#8617: Warning: Could not change servo mode to 'packet mode'.
SISPM1040-3248-L3(config)# ptp 0 ho adj-threshold 222 filter 900
Basic Servo parameters can be modified only for 802.1AS profile with basic filter
SISPM1040-3248-L3(config)# ptp system-time set
System clock synch mode (Set System time from PTP time)
SISPM1040-3248-L3(config)# ptp tc-internal mode 3
Successfully set the TC internal mode...
Internal TC mode Configuration has been set, you need to reboot to activate the changed
conf.
SISPM1040-3248-L3(config)# ptp 1 mode bcfrontend clock-domain 0 dscp 0 ethernet-mixed
onestep oneway mep 1 profile g8275 vid 100 1
SISPM1040-3248-L3(config)# ptp 1 afi-announce
SISPM1040-3248-L3(config)# ptp 1 afi-sync
SISPM1040-3248-L3(config)# ptp 1 domain 1
SISPM1040-3248-L3(config)# ptp 1 localpriority 5
SISPM1040-3248-L3(config)# ptp 1 log 4 control log-to-file max-time 6000
SISPM1040-3248-L3(config)# ptp 1 path-trace-enable
SISPM1040-3248-L3(config)# ptp 1 priority1 90
SISPM1040-3248-L3(config)# ptp 1 priority2 60
SISPM1040-3248-L3(config)# ptp 1 slave-cfg offset-fail 40000 offset-ok 5000 stable-offset
10000
SISPM1040-3248-L3(config)# ptp 1 time-property freq-traceable leap-61 leap-pending 6-6-22
leap-59 ptptimescale time-source 55 time-traceable utc-offset 9999 valid
SISPM1040-3248-L3(config)# ptp 1 uni 1 5.5.5.5
SISPM1040-3248-L3(config)# ptp 1 uni 1 duration 750 7.7.7.7
SISPM1040-3248-L3(config)# ptp 1 virtual-port accuracy 25
SISPM1040-3248-L3(config)# ptp 1 virtual-port class 125
SISPM1040-3248-L3(config)# ptp 1 virtual-port io-pin 2
SISPM1040-3248-L3(config)# ptp 1 virtual-port local-priority 68
SISPM1040-3248-L3(config)#
```

Messages:

Basic Servo parameters can be modified only for 802.1AS profile with basic filter

Command: **qos**

Description: Configure Quality of Service.

Syntax:

qos map cos-dscp <cos> dpl <dpl> dscp { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }

qos map dscp-classify { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }

qos map dscp-cos { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } } cos <cos> dpl <dpl>

qos map dscp-egress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21| af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4| cs5 | cs6 | cs7 | ef | va } } <dpl> to { <dscp_num_tr> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2| cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }

qos map dscp-ingress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } } to { <dscp_num_tr> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }

qos map egress <map_id>

qos map ingress <map_id>

qos qce refresh

qos qce { [update] } <qce_id> [{ next <qce_id_next> } | last] [interface (<port_type> [<port_list>])] [smac { <smac> | <smac_24> | any }] [dmac { <dmac> | unicast | multicast | broadcast | any }] [tag { [type { untagged | tagged | c-tagged | s-tagged | any }] [vid { <ot_vid> | any }] [pcp { <ot_pcp> | any }] [dei { <ot_dei> | any }] }*1] [inner-tag { [type { untagged | tagged | c-tagged | s-tagged | any }] [vid { <it_vid> | any }] [pcp { <it_pcp> | any }] [dei { <it_dei> | any }] }*1] [frame-type { any | { etype [{ <etype_type> | any }] } | { llc [dsap { <llc_dsap> | any }] [ssap { <llc_ssap>| any }] [control { <llc_control> | any }] } | { snap [{ <snap_data> | any }] } | { ipv4 [proto { <pr4> | tcp | udp | any }] [sip { <sip4> | any }] [dip { <dip4> | any }] [dscp { <dscp4> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } | any }] [fragment { yes | no | any }] [sport { <sp4> | any }] [dport { <dp4> | any }] } | { ipv6 [proto { <pr6> | tcp | udp | any }] [sip { <sip6> | any }] [dip { <dip6> | any }] [dscp { <dscp6> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 |af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } | any }] [sport { <sp6> | any }] [dport { <dp6> | any }] } }] [action { [cos { <action_cos> | default }] [dpl { <action_dpl> | default }] [pcp-dei { <action_pcp> <action_dei> | default }] [dscp { <action_dscp_dscp> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } | default }] [policy { <action_policy> | default }] [ingress-map { <action_ingress_map> | default }] }*1]

qos storm { unicast | multicast | broadcast } <rate> [fps | kfps | kbps | mbps]

qos wred group <group> queue <queue> dpl <dpl> min-fl <min_fl> max <max> [fill-level]

Parameters:

map	Global QoS Map/Table
qce	QoS Control Entry
storm	Storm policer
wred	Weighted Random Early Discard
cos-dscp	Map for COS to DSCP
dscp-classify	Map for DSCP classify enable
dscp-cos	Map for DSCP to COS
dscp-egress-translation	Map for DSCP egress translation
dscp-ingress-translation	Map for DSCP ingress translation
egress	Map for egress configuration
ingress	Map for ingress configuration

<0~7>	Specific class of service or range
dpl	Specify drop precedence level
<0~3>	Specific drop precedence level or range
dscp	Specify DSCP
<0-63>	Specific DSCP
af11	Assured Forwarding PHB AF11(DSCP 10)
af12	Assured Forwarding PHB AF12(DSCP 12)
af13	Assured Forwarding PHB AF13(DSCP 14)
af21	Assured Forwarding PHB AF21(DSCP 18)
af22	Assured Forwarding PHB AF22(DSCP 20)
af23	Assured Forwarding PHB AF23(DSCP 22)
af31	Assured Forwarding PHB AF31(DSCP 26)
af32	Assured Forwarding PHB AF32(DSCP 28)
af33	Assured Forwarding PHB AF33(DSCP 30)
af41	Assured Forwarding PHB AF41(DSCP 34)
af42	Assured Forwarding PHB AF42(DSCP 36)
af43	Assured Forwarding PHB AF43(DSCP 38)
be	Default PHB(DSCP 0) for best effort traffic
cs1	Class Selector PHB CS1 precedence 1(DSCP 8)
cs2	Class Selector PHB CS2 precedence 2(DSCP 16)
cs3	Class Selector PHB CS3 precedence 3(DSCP 24)
cs4	Class Selector PHB CS4 precedence 4(DSCP 32)
cs5	Class Selector PHB CS5 precedence 5(DSCP 40)
cs6	Class Selector PHB CS6 precedence 6(DSCP 48)
cs7	Class Selector PHB CS7 precedence 7(DSCP 56)
ef	Expedited Forwarding PHB(DSCP 46)
va	Voice Admit PHB(DSCP 44)
<0-511>	Map ID
<0-255>	Map ID
<1-256>	QCE ID
refresh	Refresh QCE tables in hardware
update	Update an existing QCE
action	Setup action
dmac	Setup matched DMAC
frame-type	Setup matched frame type
inner-tag	Setup inner tag options
interface	Interfaces
last	Place QCE at the end
next	Place QCE before the next QCE ID
smac	Setup matched SMAC
tag	Setup tag options
cos	Setup class of service action
dpl	Setup drop precedence level action
dscp	Setup DSCP action

ingress-map	Setup ingress map action
pcp-dei	Setup PCP and DEI action
policy	Setup ACL policy action
<mac_addr>	Matched DMAC (XX-XX-XX-XX-XX-XX)
any	Match any DMAC
broadcast	Match broadcast DMAC
multicast	Match multicast DMAC
unicast	Match unicast DMAC
<0-7>	Assign class of service
default	Keep existing class of service
<0-3>	Assign drop precedence level
default	Keep existing drop precedence level
<0-255>	Assign ingress map id
default	Keep existing ingress map
<0-7>	Assign PCP
default	Keep existing PCP and DEI
<0-1>	Assign DEI
<0-127>	Assign ACL policy
default	Keep existing ACL policy
<mac_addr>	Matched DMAC (XX-XX-XX-XX-XX-XX)
any	Match any DMAC
broadcast	Match broadcast DMAC
multicast	Match multicast DMAC
unicast	Match unicast DMAC
any	Match any frame type
etype	Match EtherType frames
ipv4	Match IPv4 frames
ipv6	Match IPv6 frames
llc	Match LLC frames
snap	Match SNAP frames
dei	Setup matched DEI
pcp	Setup matched PCP
type	Setup matched tag type
vid	Setup matched VLAN ID
<0-1>	Matched DEI
any	Match any DEI
<pcp>	Matched PCP value/range
any	Match any PCP
any	Match tagged and untagged frames
c-tagged	Match C-tagged frames
s-tagged	Match S-tagged frames
untagged	Match untagged frames
<vcap_vr>	Matched VLAN ID value/range
any	Match any VLAN ID

*	All switches or All ports
GigabitEthernet	Gigabit Ethernet Ports
10GigabitEthernet	10Gigabit Ethernet Ports
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-52
<port_type_list>	Port list in 1/1-4
broadcast	Police broadcast frames
multicast	Police multicast frames
unicast	Police unicast frames
<1-13128147>	Policer rate (default fps). Internally rounded up to the nearest value supported by the storm policer. Supported rates are divisible by 10 fps or 25 kbps.
fps	Unit is frames per second (default)
kbps	Unit is kilobits per second
kfps	Unit is kiloframes per second
mbps	Unit is Megabits per second
group	Specify group
<1~3>	Specific group or range
queue	Specify queue
<0~7>	Specific queue or range
dpl	Specify DPL
<1~3>	Specific DPL or range
min-fl	Specify minimum fill level
<0-100>	Specific minimum fill level in percent
max	Specify maximum drop probability or fill level
<1-100>	Specific maximum drop probability or fill level in percent (default is drop probability)
fill-level	Specify fill level

Example:

```
SISPM1040-3248-L3(config)# qos qce 1 action cos 2 tag vid any
SISPM1040-3248-L3(config)# qos wred group 1 queue 0 dpl 1 min-fl 0 max 1 fill-level
SISPM1040-3248-L3(config)# qos storm multicast 25 kbps
SISPM1040-3248-L3(config)#
```

Command: **radius-server**

Description: Configure RADIUS server parameters.

Syntax:

radius-server attribute 32 <id>

radius-server attribute 4 <ipv4>

radius-server attribute 95 <ipv6>

radius-server deadtime <minutes>

radius-server host <host_name> [auth-port <auth_port>] [acct-port <acct_port>] [timeout <seconds>] [retransmit <retries>] [key { [unencrypted] <unencrypted_key> | encrypted <encrypted_key> }]

radius-server key { [unencrypted] <unencrypted_key> | encrypted <encrypted_key> }

radius-server retransmit <retries>

radius-server timeout <seconds>

Parameters:

attribute	NAS attributes
deadtime	Time to stop using a RADIUS server that doesn't respond
host	Specify a RADIUS server
key	Set RADIUS encryption key
retransmit	Specify the number of retries to active server
timeout	Time to wait for a RADIUS server to reply
32	attribute number 32 = NAS-Identifier
4	attribute number 4 = NAS-IP-Address
95	attribute number 95 = NAS-IPv6-Address
<line1-253>	NAS-Identifier
<ipv4_ucast>	NAS-IP-Address
<ipv6_ucast>	<NAS-IPv6-Address>
<1-1440>	Deadtime in minutes
<word1-255>	Hostname or IPv4/IPv6 address
acct-port	UDP port for RADIUS accounting server
auth-port	UDP port for RADIUS authentication server
key	Server specific key (overrides default)
retransmit	Specify the number of retries to active server (overrides default)
timeout	Time to wait for this RADIUS server to reply (overrides default)
<0-65535>	UDP port number or 0 to disable accounting
<0-65535>	UDP port number or 0 to disable authentication
<word1-63>	The UNENCRYPTED (Plain Text) secret key. Notice that you have no chance to get the Plain Text secret key after this command. The system will always display the ENCRYPTED password.
encrypted	Specifies an ENCRYPTED secret key will follow
unencrypted	Specifies an UNENCRYPTED secret key will follow
<1-1000>	Wait time in seconds
<word1-63>	The UNENCRYPTED (Plain Text) secret key. Notice that you have no chance to get the Plain Text secret key after this command. The system will always display the ENCRYPTED password.
<word96-224>	The ENCRYPTED (hidden) secret key. Notice the ENCRYPTED secret key will be decoded by system internally. You cannot directly use it the as same as the Plain Text and it is not human-readable text normally.
<1-1000>	Number of retries for a transaction

<1-1000> Wait time in seconds

Example:

```
SISPM1040-3248-L3(config)# radius-server attribute 32 xxxxx
SISPM1040-3248-L3(config)# radius-server attribute 4 1.2.3.4
SISPM1040-3248-L3(config)# radius-server deadtime 300
SISPM1040-3248-L3(config)# radius-server host 1.2.3.4 acct-port 555 auth-port 66
6 key admin retransmit 99 timeout 400
SISPM1040-3248-L3(config)# radius-server key admin
SISPM1040-3248-L3(config)# radius-server key unencrypted  aaaaaaaaaa
SISPM1040-3248-L3(config)# radius-server retransmit 80
SISPM1040-3248-L3(config)# radius-server timeout 450
SISPM1040-3248-L3(config)#
```

Command: **rapid-ring**

Description: Set Rapid Ring configuration. All other ring technologies (e.g., STP) must be disabled.

Syntax: **rapid-ring** entry <entryindex> role disabled
rapid-ring entry <entryindex> role master
rapid-ring entry <entryindex> role member

Parameters:

entry	Set entry index
<uint8>	index
role	Set role value
disabled	role value disabled
master	role value master
member	role value member

Example:

```
SISPM1040-3248-L3(config)# rapid-ring entry 1 role master
SISPM1040-3248-L3(config)# rapid-ring entry 2 role member
SISPM1040-3248-L3(config)# rapid-ring entry 1 role disabled
SISPM1040-3248-L3(config)#
```

Messages: *R_RING_ICLI_system_set error in port 25, STP is enable*

Command: **rmon**

Description: Configure Remote Monitoring.

Syntax:

rmon alarm <id> { ifInOctets | ifInUcastPkts | ifInNUcastPkts | ifInDiscards | ifInErrors | ifInUnknownProtos | ifOutOctets | ifOutUcastPkts | ifOutNUcastPkts | ifOutDiscards | ifOutErrors | ifOutQLen } <ifIndex> <interval> { absolute | delta } rising-threshold <rising_threshold> <rising_event_id> falling-threshold <falling_threshold> <falling_event_id> { [rising | falling | both] }

rmon event <id> [log] [trap [<word127>]] { [description <description>]

Parameters:

alarm	Configure an RMON alarm
event	Configure an RMON event
ifInDiscards	The number of inbound packets that are discarded even the packets are normal
ifInErrors	The number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol
ifInNUcastPkts	The number of broadcast and multicast packets delivered to a higher-layer protocol
ifInOctets	The total number of octets received on the interface, including framing characters
ifInUcastPkts	The number of unicast packets delivered to a higher-layer protocol
ifInUnknownProtos	The number of the inbound packets that were discarded because of the unknown or unsupported protocol
ifOutDiscards	The number of outbound packets that are discarded event the packets is normal
ifOutErrors	The number of outbound packets that could not be transmitted because of errors
ifOutNUcastPkts	The number of broadcast and multicast packets that request to transmit
ifOutOctets	The number of octets transmitted out of the interface, including framing characters
ifOutQLen	The length of the output packet queue (in packets)
ifOutUcastPkts	The number of unicast packets that request to transmit
<uint>	Interface index
<1-2147483647>	Sample interval
absolute	Test each sample directly
delta	Test delta between samples
rising-threshold	Configure the rising threshold
<-2147483648-2147483647>	rising threshold value
<0-65535>	Event to fire on rising threshold crossing. If this value is zero, no associated event will be generated, as zero is not a valid event index.
falling-threshold	Configure the falling threshold
<-2147483648-2147483647>	falling threshold value
<0-65535>	Event to fire on falling threshold crossing. If this value is zero, no associated event will be generated, as zero is not a valid event index.
both	Trigger alarm when the first value is larger than the rising threshold or less than the falling threshold (default)
falling	Trigger alarm when the first value is less than the falling threshold
rising	Trigger alarm when the first value is larger than the rising threshold
<1-65535>	Event entry ID
description	Specify a description of the event
log	Generate RMON log when the event fires
trap	Generate SNMP trap when the event fires

<line127>	Event description
<word127>	OBSOLETE: SNMP community string
description	Specify a description of the event

Example:

```
SISPM1040-3248-L3(config)# rmon alarm 1 ifInErrors 1 9000 absolute rising-thresh
old 5 6 falling-threshold -32476 12350 rising
SISPM1040-3248-L3(config)# rmon event 1 description BBBBB
SISPM1040-3248-L3(config)# rmon event 1 log trap lTrap1
SISPM1040-3248-L3(config)#
```

Command: **router**

Description: Set router access list, OSPF, OSPF v6, and RIP parameters.

Syntax: **router** access-list <access_list_name> { permit | deny } { any | <ipv4_addr> <ipv4_netmask> }
router ospf
router ospf6
router rip

Parameters:

access-list	Router access list
ospf	Open Shortest Path First (OSPF)
ospf6	Open Shortest Path First for IPv6 (OSPFv3)
rip	Routing Information Protocol (RIP)
<word1-31>	The name of the access list
deny	Deny the access right for the following IPv4 network domain
permit	Permit the access right for the following IPv4 network domain
<ipv4_addr>	The IPv4 address for the access list entry
any	Any IPv4 address
<ipv4_netmask>	The IPv4 network mask for the access list entry
area	OSPF area ID
default-information	Control distribution of default information
default-metric	The OSPF default metric
distance	Administrative distance
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
max-metric	OSPF maximum metric
network	Configure routing on an IPv4 network
no	Negate a command or set its defaults
passive-interface	Suppress routing updates on an interface
redistribute	Redistribute route information from the specific routing protocol.
router-id	Router ID for the OSPF process (Notice that the ID is unique within the entire OSPF domain)
<area_id>	The OSPF area ID can be specified as either an IPv4 address format(A.B.C.D) or a decimal value from 0 to 4294967295.
authentication	Enable authentication
nssa	Configure the area as a nssa
range	Summarize routes matching address range (ABRs only)
stub	Configure the area as a stub area.
virtual-link	Configure a virtual link
message-digest	Use message digest(MD5) authentication
no-summary	Do not inject inter-area routes into nssa
translate	Translate LSA
type7	From Type 7 to Type 5
always	Configure NSSA-ABR to always translate
candidate	Configure NSSA-ABR for translate election (default)

never	Configure NSSA-ABR to never translate
<ipv4_addr>	IPv4 address
<ipv4_netmask>	IPv4 address mask
advertise	Summarize intra area paths from the address range in one summary-LSA(Type-3) and advertised to other areas.
cost	User specified cost (or metric) for this summary route.
not-advertise	The intra area paths from the address range are not advertised to other areas.
<0-16777215>	Advertised metric for this summary route.
always	Always advertise default route.
metric	Configure the specified metric for a default route redistribution.
metric-type	The OSPF redistributed metric type.
<0-16777214>	User specified metric value.
metric-type	The OSPF redistributed metric type.
1	External link type 1.
2	External link type 2.
<0-16777214>	User specified default metric value for the OSPF routing protocol.
<1-255>	User specified administrative distance value.
<line>	Exec Command
router-lsa	Advertise own Router-LSA with maximum metric.
administrative	Configures OSPF stub router mode administratively applied, for an indefinite period
on-shutdown	Configures OSPF to advertise a maximum metric during shutdown for a configured period of time. The device advertises a maximum metric when the OSPF router mode is disabled and notice that the mechanism also works when the device reboots but not for the 'reload default' case.
on-startup	Configures OSPF to advertise a maximum metric during startup for a configured period of time
<5-100>	User specified the time interval (seconds) to wait till shutdown completed.
<5-86400>	User specified the time interval (seconds) to advertise itself as stub area.
<ipv4_addr>	IPv4 address
<ipv4_addr>	The wildcard-mask of the IPv4 address, where 0 is a match, and 1 is a 'do not care' bit.
area	OSPF area ID.
<area_id>	The OSPF area ID can be specified as either an IPv4 address format(A.B.C.D) or a decimal value from 0 to 4294967295.
default	all interfaces as passive-interface.
vlan	VLAN interface
<vlan_list>	List of VLAN ID, e.g. 1,3-5,7
connected	The OSPF redistributed metric type for the connected interfaces.
rip	The OSPF redistributed metric type for the RIP routes.
static	The OSPF redistributed metric type for the static routes.
metric	Configure the specified metric for route redistribution.
metric-type	The OSPF redistributed metric type.
metric	metric-type
<0-16777214>	User specified metric value.
1	External link type 1.
2	External link type 2.
<ipv4_addr>	OSPF router-id in IP address format

area	OSPF6 area ID
distance	Administrative distance
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
interface	Select an interface to configure
no	Negate a command or set its defaults
redistribute	Redistribute route information from the specific routing protocol.
router-id	Router ID for the OSPF6 process (Notice that the ID is unique within the entire OSPF6 domain)
range	Summarize routes matching address range (ABRs only)
stub	Configure the area as a stub area.
<ipv6_subnet>	IPv6 Subnet
no-summary	Configure the area as a totally stub area.
<vlan_list>	List of VLAN interface numbers
area	OSPF6 area
<area_id>	Area ID of the interface
connected	The OSPF6 redistributed metric type for the connected interfaces.
static	The OSPF6 redistributed metric type for the static routes.
<ipv4_addr>	OSPF6 router-id in IPv6 address format
<1-16>	User specified default metric value
<line>	Exec Command
<ipv4_addr>	Neighbor address
word1-31>	The name of access-list
in	For incoming updates
out	For outgoing updates
in	For incoming updates
out	For outgoing updates
<0-16>	User specified metric value
vlan	VLAN (Virtual Local Area Network)
<vlan_id>	VLAN identifier (VID)
<vlan_list>	List of VLAN ID, e.g. 1,3-5,7
connected	The RIP redistributed protocol type for the connected interfaces.
ospf	The RIP redistributed protocol type for the RIP routes.
static	The RIP redistributed protocol type for the static routes.
metric	Configure the specified metric for route redistribution
<1-16>	User specified metric value
basic	Basic routing protocol update timers
<5-2147483>	The update time in seconds is an integer value
<5-2147483>	The update time in seconds is an integer value
<5-2147483>	The invalid time in seconds is an integer value
<5-2147483>	The garbage-collection timer in seconds is an integer value
1	Receive/Send RIPv1 packet only
2	Receive/Send RIPv2 packet only

Example 1:

```
SISPM1040-3248-L3(config)# router access-list RtAccL1 deny 1.2.3.4 255.255.255.0
SISPM1040-3248-L3(config)# router access-list Rtr1 permit any
SISPM1040-3248-L3(config)# router ospf
SISPM1040-3248-L3(config-router)# area 1.2.3.4 authentication message-digest
SISPM1040-3248-L3(config-router)# area 1.2.3.4 authentication
SISPM1040-3248-L3(config-router)# area 1.2.3.4 nssa translate type7 always
SISPM1040-3248-L3(config-router)# area 1.2.3.4 nssa translate type7 candidate
SISPM1040-3248-L3(config-router)# area 1.2.3.4 nssa translate type7 never
SISPM1040-3248-L3(config-router)# area 1 range 2.4.6.8 255.255.255.0 advertise cost 90000
SISPM1040-3248-L3(config-router)# default-information originate always metric 7500 metric-
type 1
SISPM1040-3248-L3(config-router)# default-metric 85000
SISPM1040-3248-L3(config-router)# distance 45
SISPM1040-3248-L3(config-router)# max-metric router-lsa administrative on-shutdown 88 on-
startup 975
SISPM1040-3248-L3(config-router)# network 2.3.7.9 1.1.1.1 area 52
% Cannot map the wildcard mask vaule to a valid network mask length.
The 'do not care'(value 1) bits must continuously and the 'match'(value 0) bits
MUST not presented in its right-most bits.
For example, 0.0.0.255 means the network mask length is 8.
SISPM1040-3248-L3(config-router)# passive-interface vlan 100
% VLAN interface VLAN 100 does not exist. Use command 'interface vlan <vid>' in
global configuration mode to create an interface.
SISPM1040-3248-L3(config-router)# redistribute connected metric-type 2 metric 7777
SISPM1040-3248-L3(config-router)# router-id 1.2.3.4
SISPM1040-3248-L3(config-router)# area 100 stub no-summary
SISPM1040-3248-L3(config-router)# distance 95
SISPM1040-3248-L3(config-router)# interface vlan 100 area 10
SISPM1040-3248-L3(config-router)# redistribute static
SISPM1040-3248-L3(config-router)# redistribute connected
SISPM1040-3248-L3(config-router)# router-id 1.2.3.4
SISPM1040-3248-L3(config-router)# exit
SISPM1040-3248-L3(config)#
```

Example 2:

```
SISPM1040-3166-L3(config)# router rip
SISPM1040-3166-L3(config-router)# default-information originate
SISPM1040-3166-L3(config-router)# default-metric 8
SISPM1040-3166-L3(config-router)# distance 75
SISPM1040-3166-L3(config-router)# neighbor 192.168.1.90
SISPM1040-3166-L3(config-router)# network 1.2.3.4 1.3.5.7
% Cannot map the wildcard mask value to a valid network mask length.
The 'don't care' (value 1) bits must be sequential and the 'match' (value 0) bit
s MUST always be to the left.
For example, 0.0.0.255 means that the network mask length is 8.
SISPM1040-3166-L3(config-router)# network 1.2.3.4 0.0.0.255
SISPM1040-3166-L3(config-router)# offset-list BobB in 5 vlan 10
SISPM1040-3166-L3(config-router)# passive-interface vlan 10
% VLAN interface VLAN 10 does not exist. Use command 'interface vlan <vid>' in global
configuration mode to create an interface.
SISPM1040-3166-L3(config-router)# passive-interface default
SISPM1040-3166-L3(config-router)# redistribute connected metric 1
SISPM1040-3166-L3(config-router)# redistribute ospf metric 9
SISPM1040-3166-L3(config-router)# redistribute static metric 4
```

```
SISPM1040-3166-L3(config-router)# timers basic 100000 20000 30000
SISPM1040-3166-L3(config-router)# version 2
SISPM1040-3166-L3(config-router)# exit
SISPM1040-3166-L3(config)#
```

Command: **sflow**

Description: Set Statistics flow parameters.

Syntax: **sflow** agent-ip { ipv4 <v_ipv4_addr> | ipv6 <v_ipv6_addr> }
sflow collector-address [receiver <rcvr_idx_list>] [<ipv4_var> | <ipv6_var> | <domain_name>]
sflow collector-port [receiver <rcvr_idx_list>] <collector_port>
sflow max-datagram-size [receiver <rcvr_idx_list>] <datagram_size>
sflow mode [receiver <rcvr_idx_list>] { enable | disable }
sflow timeout [receiver <rcvr_idx_list>] <timeout>

Parameters:

agent-ip	The agent IP address used as agent-address in UDP datagrams. Defaults to IPv4 loopback address.
collector-address	Collector address
collector-port	Collector UDP port
disable	disable sflow mode
enable	enable sflow mode
max-datagram-size	Maximum datagram size.
timeout	Receiver timeout measured in seconds. The switch decrements the timeout once per second, and as long as it is non-zero, the receiver receives samples. Once the timeout reaches 0, the receiver and all its configuration is reset to defaults.
ipv4	Use IPv4 as agent-address
ipv6	Use IPv6 as agent-address
<ipv4_addr>	the IPv4 address
<ipv6_addr>	the IPv6 address
<domain_name>	Domain name identifying the collector receiver
<ipv4_addr>	IPv4 address identifying the collector receiver
<ipv6_ucast>	IPv6 address identifying the collector receiver
<1-65535>	Port number
<200-1468>	bytes
<0-2147483647>	Number of seconds.

Example:

```
SISPM1040-3248-L3(config)# sflow agent-ip ipv4 1.2.3.5
SISPM1040-3248-L3(config)# sflow collector-address 1.3.6.9
SISPM1040-3248-L3(config)# sflow collector-port 456
SISPM1040-3248-L3(config)# sflow disable
SISPM1040-3248-L3(config)# sflow enable
SISPM1040-3248-L3(config)# sflow max-datagram-size 500
SISPM1040-3248-L3(config)# sflow timeout 60000
SISPM1040-3248-L3(config)#
```

Command: **smtp**

Description: Set email information

Syntax: **smtp** delete { server | username | sender | returnpath | mailaddress <index> }
smtp mailaddress <index> <mail_addr_name>
smtp returnpath <return_path>
smtp sender <sender_name>
smtp server <hostname>
smtp username <username> <password>

Parameters:

delete	Delete command
mailaddress	Configure email address
returnpath	Configure email return path
sender	Configure email sender
server	Configure email server
username	Configure email user name
<1-6>	Email address index
<word47>	Up to 47 characters describing mail address
<word47>	Up to 47 characters describing return path
<word47>	Up to 47 characters describing sender
<word47>	Up to 47 characters describing email server
<word31>	Up to 47 characters describing user name
<word31>	Configure email password

Example:

```
SISPM1040-3248-L3(config)# smtp mailaddress 1 j@work
SISPM1040-3248-L3(config)# smtp returnpath aaaa
SISPM1040-3248-L3(config)# smtp sender TomT
SISPM1040-3248-L3(config)# smtp server inAccounting
SISPM1040-3248-L3(config)# smtp username anders admin%%
SISPM1040-3248-L3(config)#
```

Command: **snmp-server access**

Description: Set SNMP server Access parameters.

Syntax:

snmp-server access <group_name> model { v1 | v2c | v3 | any } level { auth | noauth | priv } [read <view_name>] [write <write_name>]

Parameters:		
	<word32>	group name
	model	security model
	any	any security model
	v1	v1 security model
	v2c	v2c security model
	v3	v3 security model
	level	security level
	auth	authNoPriv Security Level
	noauth	noAuthNoPriv Security Level
	priv	authPriv Security Level
	read	specify a read view for the group
	write	specify a write view for the group
	<word32>	read view name
	<word32>	write view name

Example:

```
SISPM1040-3248-L3(config)# snmp-server access SGrp1 model v3 level priv read Rdr1 write
Wrt1
SISPM1040-3248-L3(config)# snmp-server access text model v2c level noauth write
text
SISPM1040-3248-L3(config)#
```

Messages: *The group name 'SGrp1' does not exist*

Command: **snmp-server community**

Description: Set SNMP server community parameters.

Syntax:

snmp-server community <v3_comm> [{ ip-range <v_ipv4_addr> <v_ipv4_netmask> | ipv6-range <v_ipv6_subnet> }] [<v3_sec> | encrypted <v3_sec_enc>]

snmp-server community readcommunity { enable | disable }

snmp-server community v2c <comm> [ro | rw]

snmp-server community v3 <v3_comm> [<v_ipv4_addr> <v_ipv4_netmask>]

snmp-server community writecommunity { enable | disable }

Parameters:

<word32>	Security name
readcommunity	SNMP server ReadCommunity
v2c	SNMPv2c
v3	SNMPv3
writecommunity	SNMP server WriteCommunity
ip-range	Use IPv4 range
ipv6-range	Use IPv6 range
<ipv4_addr>	IPv4 address
<ipv6_subnet>	IPv6 subnet

Example:

```
SISPM1040-3248-L3(config)# snmp-server community SrvrSecret ip-range 1.2.3.4 255.255.255.0
SISPM1040-3248-L3(config)# snmp-server community a a
SISPM1040-3248-L3(config)#
```

Messages: *Community has invalid IP address or prefix length.*

Command: **snmp-server contact**

Description: Set the SNMP server's contact string

Syntax: **snmp-server** contact <v_line255>

Parameters: <line255> contact string

Example:

```
SISPM1040-3248-L3(config)# snmp-server contact aa
SISPM1040-3248-L3(config)#
```

Command: **snmp-server engine-id**

Description: Set SNMP engine ID. The format of 'Engine ID' may not be all zeros or all 'ff'H and is restricted to 5 - 32 octet string.

Syntax: **snmp-server** engine-id local <engineID>

Parameters:

local	Set SNMP local engine ID
<word10-64>	local engine ID

Example:

```
SISPM1040-3248-L3(config)# snmp-server engine-id local 800003640300c0f27c5892
SISPM1040-3248-L3(config)#
```

Command: **snmp-server host**

Description: Set SNMP host parameters.

Syntax: **snmp-server** host <conf_name>

Parameters:

<word32>	Name of the host configuration
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
host	host configuration
informs	Send Inform messages to this host
no	Negate a command or set its defaults
shutdown	Disable the trap configuration
trapmode	Configure trap mode
version	Set SNMP trap version
<domain_name>	hostname of SNMP trap host
<ipv4_ucast>	IP address of SNMP trap host
<ipv6_ucast>	IP address of SNMP trap host
<1-65535>	TCP/UDP port of the trap messages
informs	Send Inform messages to this host
traps	Send Trap messages to this host

Example:

```
SISPM1040-3248-L3(config)# snmp-server host SHost1
SISPM1040-3248-L3(config-snmps-host)# host 1.2.4.6 456 informs
SISPM1040-3248-L3(config-snmps-host)# host 1.2.4.6 456 traps
SISPM1040-3248-L3(config-snmps-host)# exit
SISPM1040-3248-L3(config)#
```

Command: **snmp-server location**

Description: Set the SNMP server's location string.

Syntax: **snmp-server** location <v_line255>

Parameters: <line255> location string

Example:

```
SISPM1040-3248-L3(config)# snmp-server location Eng-2nd Floor
SISPM1040-3248-L3(config)#
```

Command: **snmp-server security-to-group**

Description: Set SNMP security-to-group configuration.

Syntax:

snmp-server security-to-group model { v1 | v2c | v3 } name <security_name> group <group_name>

Parameters:		
	model	security model
	v1	v1 security model
	v2c	v2c security model
	v3	v3 security model
	name	security user
	<word32>	security user name
	group	security group
	<word32>	security group name

Example:

```
SISPM1040-3248-L3(config)# snmp-server security-to-group model v2c name Sserver2 group Ssrv
SISPM1040-3248-L3(config)#
```

Command: **snmp-server user**

Description: Set the SNMPv3 user's configurations.

Syntax:

snmp-server user <username> engine-id <engineID> [{ md5 { <md5_passwd> | { encrypted <md5_passwd_encrypt> } } | sha { <sha_passwd> | { encrypted <sha_passwd_encrypt> } } } [priv { des | aes } { <priv_passwd> | { encrypted <priv_passwd_encrypt> } }]]

Parameters:		
	<word32>	Username
	engine-id	engine ID
	<word10-64>	Engine ID octet string
	md5	Set MD5 protocol
	sha	Set SHA protocol
	<word8-32>	MD5 unencrypted password
	encrypted	Specifies an ENCRYPTED password will follow.
	<word16-64>	MD5 encrypted password
	priv	Set Privacy
	aes	Set AES protocol
	des	Set DES protocol
	<word8-32>	Privacy unencrypted password
	<word16-64>	Set privacy password

Example:

```
SISPM1040-3248-L3(config)# snmp-server user BobB engine-id 800003640300c0f27c5892 md5
encrypted 1234567812345678* priv aes encrypted 1234567812345678
SISPM1040-3248-L3(config)# snmp-server user BobB engine-id 800003640300c0f27c5892 sha
admin!@1234 priv aes myprivatePword!
SISPM1040-3248-L3(config)#
```

Command: **snmp-server view**

Description: Set SNMP MIB view configuration.

Syntax: **snmp-server** view <view_name> <oid_subtree> { include | exclude }

Parameters:

<word32>	MIB view name.
<word255>	MIB view OID. The OID defining the root of the subtree to add to the named view. The allowed OID length is 1 to 128. The allowed string content is digital number or asterisk (*).
exclude	Excluded type from the view.
include	Included type from the view.

Example:

```
SISPM1040-3248-L3(config)# snmp-server view MibView1 .33 include
SISPM1040-3248-L3(config)#
```

Command: **spanning-tree aggregation**

Description: Set Spanning Tree Protocol configuration.

Syntax: **spanning-tree** aggregation

Parameters:

aggregation	Aggregation mode
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
no	Negate a command or set its defaults
spanning-tree	Spanning Tree protocol
auto-edge	Auto detect edge status
bpdu-guard	Enable/disable BPDU guard
edge	Edge port
link-type	Port link-type
mst	STP bridge instance
restricted-role	Port role is restricted (never root port)
restricted-tcn	Restrict topology change notifications
auto	Auto detect
point-to-point	Forced to point-to-point
shared	Forced to Shared
<0-7>	instance (CIST=0, MSTI1=1...)
cost	STP Cost of this port
port-priority	STP priority of this port
<1-200000000>	Cost range
auto	Use auto cost

Example:

```
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree auto-edge
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree bpdu-guard
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree edge
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree link-type auto
```

```
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree link-type point-to-point
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree mst 0 cost 40000
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree restricted-role
SISPM1040-3248-L3(config-stp-aggr)# spanning-tree restricted-tcn
SISPM1040-3248-L3(config-stp-aggr)# exit
SISPM1040-3248-L3(config)#
```

Command: **spanning-tree edge**

Description: Set Spanning Tree Protocol Edge port parameters.

Syntax: **spanning-tree** edge bpdu-filter
spanning-tree edge bpdu-guard

Parameters: bpdu-filter Enable BPDU filter (stop BPDU tx/rx)
bpdu-guard Enable BPDU guard

Example:

```
SISPM1040-3248-L3(config)# spanning-tree edge bpdu-filter
SISPM1040-3248-L3(config)# spanning-tree edge bpdu-guard
SISPM1040-3248-L3(config)#
```

Command: **spanning-tree mode**

Description: Set STP protocol mode.

Syntax: **spanning-tree** mode { stp | rstp | mstp }

Parameters: mstp Multiple Spanning Tree (802.1s)
rstp Rapid Spanning Tree (802.1w)
stp 802.1D Spanning Tree

Example:

```
SISPM1040-3248-L3(config)# spanning-tree mode mstp
SISPM1040-3248-L3(config)# spanning-tree mode rstp
SISPM1040-3248-L3(config)#
```

Command: **spanning-tree mst**

Description: STP bridge instance.

Syntax: **spanning-tree** mst <instance> priority <prio>
spanning-tree mst <instance> vlan <v_vlan_list>
spanning-tree mst forward-time <fwdtime>
spanning-tree mst hello-time <hellotime>
spanning-tree mst max-age <maxage> [forward-time <fwdtime>]
spanning-tree mst max-hops <maxhops>
spanning-tree mst name <name> revision <v_0_to_65535>

Parameters:

<0-7>	instance (CIST=0, MSTI1=1...)
forward-time	Delay between port states
hello-time	MSTP bridge hello time
max-age	Max bridge age before timeout
max-hops	MSTP bridge max hop count
name	Name keyword
priority	Priority of the instance
vlan	VLAN keyword
<0-61440>	Represents the STP bridge priority. Supported values are 0/4096/8192/12288/16384/20480/ 24576/28672/32768/36864/40960/45056/49152/53248/57344/61440 (i.e., divisible by 4096). Default value is 32768.
<4-30>	Range in seconds
<1-10>	Hello BPDU timer value
<6-40>	Range in seconds
<6-40>	Hop count range
<word32>	Name of the bridge
revision	Revision keyword
<0-65535>	Revision number

Example:

```
SISPM1040-3248-L3(config)# spanning-tree mst name a revision 4
SISPM1040-3248-L3(config)# spanning-tree mst forward-time 9
Could not set MSTP bridge parameters
SISPM1040-3248-L3(config)# spanning-tree mst hello-time 3
SISPM1040-3248-L3(config)# spanning-tree mst max-hops 19
SISPM1040-3248-L3(config)# spanning-tree mst name StpBr111 revision 11
SISPM1040-3248-L3(config)# spanning-tree mst name StpBr111 revision 12
SISPM1040-3248-L3(config)#
```

Command: **spanning-tree recovery**

Description: Set the error recovery timeout.

Syntax: **spanning-tree** recovery interval <interval>

Parameters:

interval	The interval
<30-86400>	Range in seconds

Example:

```
SISPM1040-3248-L3(config)# spanning-tree recovery interval 8000
SISPM1040-3248-L3(config)#
```

Command: **spanning-tree transmit**

Description: BPDUs to transmit

Syntax: **spanning-tree** transmit hold-count <holdcount>

Parameters:

hold-count	Max number of transmit BPDUs per second
<1-10>	1-10 per second, 6 is default

Example:

```
SISPM1040-3248-L3(config)# spanning-tree transmit hold-count 5
SISPM1040-3248-L3(config)#
```

Command: **svl**

Description: Configure Shared VLAN Learning.

Syntax: svl fid <fid> vlan <vlan_list>

Parameters:

fid	Filter ID keyword
<1-4095>	Filter ID
vlan	VLAN keyword
<vlan_list>	VLAN List

Example:

```
SISPM1040-3248-L3(config)# svl fid 1 vlan 100
SISPM1040-3248-L3(config)#
```

Command: **switchport**

Description: Set VLAN switching mode characteristics.

Syntax: **switchport** vlan mapping <gid> <vlan_list> <tvid>
switchport vlan mapping <gid> { both | ingress | egress } <vid> <tvid>

Parameters:

vlan	VLAN
mapping	VLAN translation entry configuration.
<1-32>	Group ID <gid>
<vlan_list>	VLAN ID List (deprecated)
both	Bi-directional Translation
egress	Egress-only Translation
ingress	Ingress-only Translation

Example:

```
SISPM1040-3248-L3(config)# switchport vlan mapping 1 both 100 200
SISPM1040-3248-L3(config)# switchport vlan mapping 1 egress 100 200
SISPM1040-3248-L3(config)#
```

Command: **system**

Description: Set system configuration parameters.

Syntax: **system** contact <v_line128>
system description <sys_desc>
system di { high | low }
system do relay { open | close }
system do { open | close }
system location <v_line128>
system name <v_line128>

Parameters:

contact	Set the system contact string
description	Configure System Description
di	Set the Switch DI input configurations
do	Set the Switch DO output configurations
location	Set the SNMP server's location string
name	Set the SNMP server's system model name string
<line128>	contact string
<line128>	System Description string
<line128>	location string
<line128>	name string

Example:

```
SISPM1040-3248-L3(config)# system contact tester1 in sqa
SISPM1040-3248-L3(config)# system description L3switch in Eng Sqa lab
SISPM1040-3248-L3(config)# system location Hdqtrs
SISPM1040-3248-L3(config)# system name 3248-L3 4Test
3248-L3 4Test(config)#
SISPM1040-3248-L3(config)#
```

Command: **tacacs-server**

Description: Configure TACACS+ server parameters.

Syntax:

tacacs-server deadtime <minutes>

tacacs-server host <host_name> [port <port>] [timeout <seconds>] [key { [unencrypted] <unencrypted_key> | encrypted <encrypted_key> }]

tacacs-server key { [unencrypted] <unencrypted_key> | encrypted <encrypted_key> }

tacacs-server timeout <seconds>

Parameters:

deadtime	Time to stop using a TACACS+ server that doesn't respond
host	Specify a TACACS+ server
key	Set TACACS+ encryption key
timeout	Time to wait for a TACACS+ server to reply
<1-1440>	Time in minutes
key	Server specific key (overrides default)
port	TCP port for TACACS+ server
timeout	Time to wait for this TACACS+ server to reply (overrides default)
<word1-63>	The UNENCRYPTED (Plain Text) secret key. Notice that you have no chance to get the Plain Text secret key after this command. The system will always display the ENCRYPTED password.
encrypted	Specifies an ENCRYPTED secret key will follow
unencrypted	Specifies an UNENCRYPTED secret key will follow
<0-65535>	TCP port number
timeout	Time to wait for this TACACS+ server to reply (overrides default)
<1-1000>	Wait time in seconds
<word96-224>	The ENCRYPTED (hidden) secret key. Notice the ENCRYPTED secret key will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally.
<1-1000>	Wait time in seconds

Example:

```
SISPM1040-3248-L3(config)# tacacs-server deadtime 300
SISPM1040-3248-L3(config)# tacacs-server host TacHost1 key admin1! port 678 timeout 400
SISPM1040-3248-L3(config)# tacacs-server key encrypted ************************
**********************************************************************
% AAA: Invalid secret key configuration parameter
SISPM1040-3248-L3(config)# tacacs-server timeout 750
SISPM1040-3248-L3(config)#
```

Command: **udld**

Description: Enable UDLD in the aggressive or normal mode and to set the configurable message timer on all fiber-optic ports.

Syntax: **udld** { aggressive | enable | message time-interval <v_interval> }

Parameters:

aggressive	Enables UDLD in aggressive mode on all fiber-optic ports.
enable	Enables UDLD in normal mode on all fiber-optic ports.
message	Configures the period of time between UDLD probe messages on ports that are in the advertisement phase and are determined to be bidirectional. The valid range is 7 - 90 seconds (currently default message time interval 7 sec is supported).
time-interval	Configures the period of time between UDLD probe messages on ports that are in the advertisement phase and are determined to be bidirectional. The valid range is 7 - 90 seconds (currently default message time interval 7 sec is supported).

Example:

```
SISPM1040-3248-L3(config)# udld aggressive
% Only fiber ports are allowed, port_no: 1
% Only fiber ports are allowed, port_no: 2
% Only fiber ports are allowed, port_no: 3
SISPM1040-3248-L3(config)# udld enable
% Only fiber ports are allowed, port_no: 1
% Only fiber ports are allowed, port_no: 2
% Only fiber ports are allowed, port_no: 3
SISPM1040-3248-L3(config)# udld message time-interval 7
% Only fiber ports are allowed, port_no: 1
% Only fiber ports are allowed, port_no: 2
% Only fiber ports are allowed, port_no: 3

SISPM1040-3166-L3(config)# udld enable
% Only fiber ports are allowed, port_no: 1
% Only fiber ports are allowed, port_no: 2
% Only fiber ports are allowed, port_no: 3
% Only fiber ports are allowed, port_no: 4
% Only fiber ports are allowed, port_no: 5
% Only fiber ports are allowed, port_no: 6
% Only fiber ports are allowed, port_no: 7
% Only fiber ports are allowed, port_no: 8
% Only fiber ports are allowed, port_no: 9
% Only fiber ports are allowed, port_no: 10
% Only fiber ports are allowed, port_no: 11
% Only fiber ports are allowed, port_no: 12
% Only fiber ports are allowed, port_no: 13
% Only fiber ports are allowed, port_no: 14
% Only fiber ports are allowed, port_no: 15
% Only fiber ports are allowed, port_no: 16
SISPM1040-3166-L3(config)#
```

Command: **upnp**

Description: Set Universal Plug and Play configuration.

Syntax: **upnp**
upnp advertising-duration <v_66_to_86400>
upnp ip-addressing-mode { dynamic | static }
upnp static interface vlan <v_vlan_id>

Parameters:

advertising-duration	Set advertising duration
ip-addressing-mode	Set IP addressing mode
static	Set static VLAN interface ID
<66-86400>	advertising duration specified in seconds
dynamic	Dynamic IP addressing mode
static	Static IP addressing mode
interface	Select an interface to configure
vlan	VLAN Interface
<vlan_id>	VLAN identifier (VID)

Example:

```
SISPM1040-3248-L3(config)# upnp advertising-duration 3000
SISPM1040-3248-L3(config)# upnp ip-addressing-mode dynamic
SISPM1040-3248-L3(config)# upnp static interface vlan 100
SISPM1040-3248-L3(config)#
```

Command: **username**

Description: Establish User Name Authentication.

Syntax:

username { default-administrator | <input_username> } privilege <priv> password { unencrypted <unencry_password> | encrypted <encry_password> | none }

Parameters:

<word31>	User name allows letters, numbers and underscores
privilege	Set user privilege level
<0-15>	User privilege level
password	Specify the password for the user
encrypted	Specifies an ENCRYPTED password will follow
none	NULL password
unencrypted	Specifies an UNENCRYPTED password will follow
<word128>	The ENCRYPTED (hidden) user password. Notice the ENCRYPTED password will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally. **Note**: The “encrypted” parameter is for device bootup use (to read start-up config and configure to running-config); use the parameter “unencrypted” to create a user account. The system automatically converts the password to encrypted in the running-config file.
<line31>	The UNENCRYPTED (Plain Text) user password. Any printable characters including space is accepted. Note that you have no chance to get the Plain Text password after this command. The system will always display the ENCRYPTED password.

Example:

```
SISPM1040-3248-L3(config)# username BobB_s14 privilege 14 password unencrypted admin1!
SISPM1040-3248-L3(config)# username BobB privilege 15 password none
SISPM1040-3248-L3(config)# username test privilege 15 password unencrypted dGVzdDEyMw==
SISPM1040-3248-L3(config)# end
SISPM1040-3248-L3# show running-config
Building configuration...
hostname SISPM1040-3248-L3
username test privilege 15 password encrypted
1005a55f07e409ae3d92466e0b079612196e3b1e64c341461579ac05c96d6095b0afa75278ce17b264f21acd854
e01e96c2f5c85a2b7e39fe29ebe9b38be36bd
username admin privilege 15 password encrypted
350a508e8ec68e2f88403fb77ca9f4b2981ab0f79d9c67ba11b73b9065e2b250a2a6edb864988aa396a7e593bad
fd96e7ae7803d3b249b1c196c43cdf0bac7a9
!
SISPM1040-3248-L3#
```

Command: **vlan**

Description: VLAN configuration commands.

Syntax:

vlan <vlist>

vlan ethertype s-custom-port <etype>

vlan protocol { { eth2 { <etype> | arp | ip | ipx | at } } | { snap { <oui> | rfc-1042 | snap-8021h } <pid> } | { llc <dsap> <ssap> } } group <grp_id>

Parameters:

<vlan_list>	ISL VLAN IDs
ethertype	EtherType for Custom S-ports
protocol	Protocol-based VLAN commands
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
name	ASCII name of the VLAN
no	Negate a command
<vword32>	The ASCII name for the VLAN
s-custom-port	Custom S-ports configuration
<0x0600-0xffff>	EtherType (Range: 0x0600-0xffff)
eth2	Ethernet-based VLAN commands
llc	LLC-based VLAN group
snap	SNAP-based VLAN group
<0x600-0xffff>	Ether Type (Range: 0x600 - 0xFFFF)
arp	Ether Type is ARP
at	Ether Type is AppleTalk
ip	Ether Type is IP
ipx	Ether Type is IPX

group	Protocol-based VLAN group commands
<word16>	Group Name (Range: 1 - 16 characters)
<0x0-0xff>	DSAP (Range: 0x00 - 0xFF)
<0x0-0xff>	SSAP (Range: 0x00 - 0xFF)
group	Protocol-based VLAN group commands
<word16>	Group Name (Range: 1 - 16 characters)
<0x0-0xffffff>	SNAP OUI (Range 0x000000 - 0XFFFFFF)
rfc-1042	SNAP OUI is rfc-1042
snap-8021h	SNAP OUI is 8021h

Example:

```
SISPM1040-3248-L3(config)# vlan ethertype s-custom-port 0x0700
SISPM1040-3248-L3(config)# vlan protocol eth2 0x6000 group aa
SISPM1040-3248-L3(config)# vlan protocol llc 0x1 0x2 group 12345678
SISPM1040-3248-L3(config)# vlan 100
SISPM1040-3248-L3(config-vlan)# name VID100
SISPM1040-3248-L3(config-vlan)#
```

Message: *% Cannot modify name for multiple VLANs*

Command: **voice**

Description: Voice appliance attributes

Syntax: **voice** vlan
voice vlan aging-time <aging_time>
voice vlan class { <traffic_class> | low | normal | medium | high }
voice vlan oui <oui> [description <description>]
voice vlan vid <vid>

Parameters:

vlan	VLAN for voice traffic
aging-time	Set secure learning aging time
class	Set traffic class
oui	OUI configuration
vid	Set VLAN ID
<10-10000000>	Aging time, 10-10000000 seconds
<0-7>	Traffic class value
<oui>	OUI value
description	Set description for the OUI
<line32>	Description line
<vlan_id>	VLAN ID, 1-4094

Example:

```
SISPM1040-3248-L3(config)# voice vlan  aging-time 40000
SISPM1040-3248-L3(config)# voice vlan class 2
SISPM1040-3248-L3(config)# voice vlan oui 11-22-33  description  ipPhone22
SISPM1040-3248-L3(config)# voice vlan vid 200
SISPM1040-3248-L3(config)#
```

Command: **web**

Description: Web privilege groups configuration.

Syntax:

web privilege group <group_name> level { [cro <configRoPriv>] [crw <configRwPriv>] }*1

Parameters:

privilege	Web privilege		
group	Web privilege group		
< group_name >	Valid words are:		
APS	Aggregation	CFM	
DDMI	DHCP	DHCPv6_Client	
DMS_Trouble_Shooting	DMS_Vbatch	DMS_client	
DMS_server	Debug	Diagnostics	
ERPS	ETH_LINK_OAM	Firmware	
Green_Ethernet	IP	IPMC_Snooping	
Install_Wizard	LACP	LLDP	
Loop_Protect	MAC_Table	MRP	
MRP_Ring	MVR	Miscellaneous	
NTP	POE	PTP	
Ports	Private_VLANs	QoS	
RMirror	R_RING	SMTP	
Security(access)	Security(network)	Spanning_Tree	
System	Trap_Event	UDLD	
UPnP	VCL	VLAN_Translation	
VLANs	Voice_VLAN	Watchdog	
XXRP	sFlow	uFDMA_AIL	
uFDMA_CIL			
sFlow	uFDMA_AIL	uFDMA_CIL	
level	Web privilege group level		
cro	Configuration Read-only level		
crw	Configuration Read-write level		
<0-15>			

Example:

```
SISPM1040-3248-L3(config)# web privilege group Security level cro 14 crw 15
SISPM1040-3248-L3(config)# web privilege group DDMI level crw 15 cro 14
SISPM1040-3248-L3(config)#
SISPM1040-3166-L3(config)# web privilege group Install_Wizard level crw 14 cro 6
SISPM1040-3166-L3(config)#
```

6. Interface Config Mode Commands

Enter Interface Config mode from Config mode by selecting an interface to configure:

```
SISPM1040-3248-L3(config)# interface ?
    *                   All switches or All ports
    GigabitEthernet     1 Gigabit Ethernet Port
    10GigabitEthernet   10 Gigabit Ethernet Port
    llag                Local link aggregation interface configuration
    vlan                VLAN interface configurations
SISPM1040-3248-L3(config)#
```

Port Commands

These commands apply to All ports, GigabitEthernet ports, and 10GigabitEthernet port selections:

access-list	Access list
aggregation	Create an aggregation
description	Description of the interface
do	To run exec commands in the configuration mode
dot1x	IEEE Standard for port-based Network Access Control
duplex	Interface duplex
end	Go back to EXEC mode
event	Configure port event settings
excessive-restart	Restart backoff algorithm after 16 collisions (No excessive-restart means discard frame after 16 collisions)
exit	Exit from current mode
flowcontrol	Traffic flow control.
frame-length-check	Drop frames with mismatch between EtherType/Length field and actually payload size.
green-ethernet	Green Ethernet (Power reduction)
gvrp	Enable GVRP on interface or interfaces
help	Description of the interactive help system
ip	IPv4 configuration
ipv6	IPv6 configuration commands
lacp	LACP port configuration
link-oam	Enable or Disable (when the no keyword is entered) Link OAM on the interface
lldp	Link Layer Discover Protocol
loop-protect	Loop protection configuration on port
mac	MAC keyword
media-type	Media type.
mrp	Media Redundancy Protocol
mtu	Maximum Transmission Unit
mvr	Multicast VLAN Registration configuration
mvrp	Enable MVRP on the interface
no	Set to default value.
poe	Power Over Ethernet.
port-security	Enable/disable port security per interface.
priority-flowcontrol	Priority Flow Control (802.1Qbb)

ptp	Precision time Protocol (1588)
pvlan	Private VLAN
qos	Quality of Service
rmon	Configure Remote Monitoring on an interface
sflow	Statistics flow.
shutdown	Shutdown of the interface.
spanning-tree	Spanning Tree protocol
speed	Configures interface speed. If you use 10, 100, 1000 or one of the other keywords with the auto keyword the port will only advertise the specified speeds.
switchport	Set VLAN switching mode characteristics
udld	UDLD configurations.
vcl	Configure VLAN Control List port matching (either dmac/dip or smac/sip)

Command: **access-list**

Description: Access list

Syntax: **access-list** action { permit | deny }
access-list logging
access-list mirror
access-list policy <policy_id>
access-list port-state
access-list rate-limiter <rate_limiter_id>
access-list shutdown
access-list { redirect } interface { <port_type> <port_type_id> | (<port_type> [<port_type_list>]) }

Parameters:

action	Access list action
logging	Logging frame information. Note: The logging feature only works when the packet length is less than 1518 (without VLAN tags) and the System Log memory size and logging rate is limited.
mirror	Mirror frame to destination mirror port
policy	Policy
port-state	Re-enable shutdown port that was shut down by access-list module
rate-limiter	Rate limiter
redirect	Redirect frame to specific port
shutdown	Shutdown incoming port. The shutdown feature only works when the packet length is less than 1518 (without VLAN tags).
<0-127>	The Value of Policy ID specified in decimal or hexadecimal
interface	Select an interface to configure
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3(config-if)# access-list action permit
SISPM1040-3248-L3(config-if)# access-list logging
SISPM1040-3248-L3(config-if)# access-list mirror
SISPM1040-3248-L3(config-if)# access-list policy 0
SISPM1040-3248-L3(config-if)# access-list port-state
SISPM1040-3248-L3(config-if)# access-list rate-limiter 1
SISPM1040-3248-L3(config-if)# access-list redirect interface 10GigabitEthernet 1/3
SISPM1040-3248-L3(config-if)# access-list shutdown
SISPM1040-3248-L3(config-if)#
```

Messages: *% Port redirect cannot be configured while permitted action on GigabitEthernet 1/3.*

Command: **aggregation**

Description: Create an aggregation.

Syntax: **aggregation** group <v_uint> mode { [active | on | passive] }

Parameters:

group	Create an aggregation group
1-16>	The aggregation group id
mode	The mode of the aggregation
active	Active LACP
on	Static aggregation
passive	Passive LACP

Example:

```
SISPM1040-3248-L3(config-if)# aggregation group 1 mode active
SISPM1040-3248-L3(config-if)# aggregation group 1 mode on
SISPM1040-3248-L3(config-if)# aggregation group 1 mode passive
SISPM1040-3248-L3(config-if)#
```

Command: **description**

Description: Description of the interface.

Syntax: description <dscr>

Parameters: <line200> Setup description with alphanumeric characters

Example:

```
SISPM1040-3248-L3(config-if)# description ThisIFDescript
SISPM1040-3248-L3(config-if)#
```

Command: **do**

Description: Run Exec mode commands in Interface Configuration mode.

Syntax: **do** <command>

Parameters: <line> Exec Command

Example:

```
SISPM1040-3248-L3(config-if)# do show ip interface brief
Interface Address            Method Status
--------- ------------------ ------ ------
VLAN 1    169.254.10.140/16  Manual UP
VLAN 1    192.168.1.77/24    Manual UP
SISPM1040-3248-L3(config-if)#
```

Command: **dot1x**

Description: Set IEEE Standard for port-based Network Access Control.

Syntax: **dot1x** guest-vlan
dot1x port-control { force-authorized | force-unauthorized | auto | single | multi | mac-based }
dot1x radius-qos
dot1x radius-vlan
dot1x re-authenticate

Parameters:

guest-vlan	Enables/disables guest VLAN
port-control	Sets the port security state.
radius-qos	Enables/disables per-port state of RADIUS-assigned QoS.
radius-vlan	Enables/disables per-port state of RADIUS-assigned VLAN.
re-authenticate	Refresh (restart) 802.1X authentication process.
auto	Port-based 802.1X Authentication
force-authorized	Port access is allowed
force-unauthorized	Port access is not allowed
mac-based	Switch authenticates on behalf of the client
multi	Multiple Host 802.1X Authentication
single	Single Host 802.1X Authentication
auto	Port-based 802.1X Authentication
force-authorized	Port access is allowed
force-unauthorized	Port access is not allowed
mac-based	Switch authenticates on behalf of the client
multi	Multiple Host 802.1X Authentication
single	Single Host 802.1X Authentication

Example:

```
SISPM1040-3248-L3(config-if)# dot1x guest-vlan
SISPM1040-3248-L3(config-if)# dot1x port-control auto
SISPM1040-3248-L3(config-if)# dot1x port-control force-authorized
SISPM1040-3248-L3(config-if)# dot1x radius-qos
SISPM1040-3248-L3(config-if)# dot1x radius-vlan
SISPM1040-3248-L3(config-if)# dot1x re-authenticate
SISPM1040-3248-L3(config-if)#
```

Messages: *% (The 802.1X Admin State must be set to Authorized for ports that are enabled for LACP)*

Command: **duplex**

Description: Set Interface duplex

Syntax: **duplex** { half | full | auto [half | full] }

Parameters:

auto	Auto negotiation of duplex mode.
full	Forced full duplex.
half	Forced half duplex.

Example:

```
SISPM1040-3248-L3(config-if)# duplex auto full
GigabitEthernet 1/3 set to auto mode, speed configuration updated accordingly
SISPM1040-3248-L3(config-if)# duplex full
GigabitEthernet 1/3 cannot force duplex while speed is set to auto
SISPM1040-3248-L3(config-if)#
```

Command: **end**

Description: Go back to Exec mode.

Syntax: **end** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# end
SISPM1040-3248-L3#
```

Command: **event**

Description: Configure port event settings.

Syntax: **event** { active { enable | disable } | link-on { enable | disable } | link-off { enable | disable } | overload { enable | disable } | rx-threshold <rx_threshold> | traffic-duration <traffic_duration> | syslog { enable | disable } | trap { enable | disable } | smtp { enable | disable } | switch2go { enable | disable } | digital-out { enable | disable } | severity <severity> }

Parameters:

active	Active
digital-out	Digital out
link-off	Link Off
link-on	Link On
overload	Traffic Overload
rx-threshold	Rx threshold
severity	Severity
smtp	Smtp
syslog	Syslog
traffic-duration	Traffic duration
trap	Trap
disable	Active disable
enable	Active enable

Example:

```
SISPM1040-3248-L3(config-if)# event active enable
SISPM1040-3248-L3(config-if)# event overload disable
SISPM1040-3248-L3(config-if)#
```

Command: **excessive-restart**

Description: Restart backoff algorithm after 16 collisions (No excessive-restart means discard frame after 16 collisions)

Syntax: excessive-restart <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# excessive-restart
GigabitEthernet 1/25 does not support this mode/speed
GigabitEthernet 1/26 does not support this mode/speed
GigabitEthernet 1/27 does not support this mode/speed
GigabitEthernet 1/28 does not support this mode/speed
10GigabitEthernet 1/1 does not support this mode/speed
10GigabitEthernet 1/2 does not support this mode/speed
10GigabitEthernet 1/3 does not support this mode/speed
10GigabitEthernet 1/4 does not support this mode/speed
SISPM1040-3248-L3(config-if)#
```

Command: **exit**

Description: Exit from current mode.

Syntax: exit <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# exit
SISPM1040-3248-L3(config)#
```

Command: **flowcontrol**

Description: Traffic flow control.

Syntax: **flowcontrol** { on | off }

Parameters: **off** Disable flow control.
on Enable flow control.

Example:

```
SISPM1040-3248-L3(config-if)# flowcontrol on
SISPM1040-3248-L3(config-if)#
```

Command: **frame-length-check**

Description: Drop frames with mismatch between EtherType/Length field and actually payload size.

Syntax: **frame-length-check** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# frame-length-check
SISPM1040-3248-L3(config-if)#
```

Command: **green-ethernet**

Description: Set Green Ethernet (Power reduction) for a port interface.

Syntax: **green-ethernet** eee
green-ethernet eee urgent-queues [<urgent_queue_range_list>]
green-ethernet energy-detect
green-ethernet short-reach

Parameters:

eee	Power down PHYs when there is no traffic.
energy-detect	Enable power saving for ports with no link partner.
short-reach	Enable power saving for ports which is connect to link partner with short cable.
urgent-queues	Enables EEE urgent queue. An urgent queue means that latency is kept to a minimum for traffic going to that queue. Note: EEE power savings will be reduced.
<range_list>	EEE Interface.

Example:

```
SISPM1040-3248-L3(config-if)# green-ethernet eee urgent-queues 2-4
SISPM1040-3248-L3(config-if)# green-ethernet energy-detect
SISPM1040-3248-L3(config-if)# green-ethernet short-reach
SISPM1040-3248-L3(config-if)#
```

Command: **gvrp**

Description: Enable GVRP on interface or interfaces

Syntax: gvrp <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# gvrp
SISPM1040-3248-L3(config-if)#
```

Command: **help**

Description: Description of the interactive help system.

Syntax: **help** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# help
a question mark '?'.  If nothing matches, the help list will be empty and you must backup
until entering a '?' shows the available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a command argument (e.g. 'show ?')
and describes each possible argument.
2. Partial help is provided when an abbreviated argument is entered and you want to know
what arguments match the input (e.g. 'show pr?'.)

Help may be requested at any point in a command by entering a question mark '?'.  If
nothing matches, the help list will be empty and you must backup until entering a '?' shows
the available options.
```

```
Two styles of help are provided:
1. Full help is available when you are ready to enter a command argument (e.g. 'show ?')
and describes each possible argument.
2. Partial help is provided when an abbreviated argument is entered and you want to know
what arguments match the input (e.g. 'show pr?'.)

SISPM1040-3248-L3(config-if)#
```

Command: **ip**

Description: Set IPv4 configuration for an interface.

Syntax:
ip arp inspection check-vlan
ip arp inspection logging { deny | permit | all }
ip arp inspection trust
ip dhcp snooping trust
ip igmp snooping filter <profile_name>
ip igmp snooping immediate-leave
ip igmp snooping max-groups <throttling>
ip igmp snooping mrouter
ip verify source
ip verify source limit <cnt_var>

Parameters:

arp	Address Resolution Protocol
dhcp	Dynamic Host Configuration Protocol
igmp	Internet Group Management Protocol
verify	verify command
inspection	ARP inspection
check-vlan	ARP inspection VLAN mode configuration
logging	ARP inspection logging mode configuration
trust	ARP inspection trust configuration
all	log all entries
deny	log denied entries
permit	log permitted entries
snooping	DHCP snooping
trust	DHCP Snooping trust configuration
snooping	Snooping IGMP
filter	Access control on IGMP multicast group registration
immediate-leave	Immediate leave configuration
max-groups	IGMP group throttling configuration
mrouter	Multicast router port configuration
<word16>	Profile name in 16 characters
<1-10>	Maximum number of IGMP group registration
source	verify source
limit	limit command
<0-2>	the number of limit

Example:

```
SISPM1040-3248-L3(config-if)# ip arp inspection log all
SISPM1040-3248-L3(config-if)# ip dhcp snooping trust
SISPM1040-3248-L3(config-if)# ip igmp snooping max-groups 3
SISPM1040-3248-L3(config-if)# ip igmp snooping mrouter
SISPM1040-3248-L3(config-if)# ip verify source limit 1
SISPM1040-3248-L3(config-if)#
```

Command: **ipv6**

Description: Set IPv6 configuration for an interface.

Syntax: **ipv6** dhcp snooping trust
ipv6 mld snooping filter <profile_name>
ipv6 mld snooping immediate-leave
ipv6 mld snooping max-groups <throttling>
ipv6 mld snooping mrouter
ipv6 verify source
ipv6 verify source limit <max_dynamic_clients>

Parameters:

dhcp	Dynamic Host Configuration Protocol V6
mld	Multicast Listener Discovery
verify	verify command
snooping	DHCPv6 Snooping
trust	DHCP Snooping trust configuration
snooping	Snooping MLD
filter	Access control on MLD multicast group registration
immediate-leave	Immediate leave configuration
max-groups	MLD group throttling configuration
mrouter	Multicast router port configuration
<word16>	Profile name in 16 characters
<1-10>	Maximum number of MLD group registration
source	verify source
limit	limit command
<0-2>	the number of limit

Example:

```
SISPM1040-3248-L3(config-if)# ipv6 dhcp snooping trust
SISPM1040-3248-L3(config-if)# ipv6 mld snooping filter immediate-leave
SISPM1040-3248-L3(config-if)# ipv6 mld snooping max-groups 4
SISPM1040-3248-L3(config-if)# ipv6 mld snooping mrouter
SISPM1040-3248-L3(config-if)# ip verify source limit 2
SISPM1040-3248-L3(config-if)#
```

Messages: *% Please specify correct filter profile name.*

% Failed to set filtering profile Prof1.

Command: **lacp**

Description: Set Link Aggregation Control Protocol port parameters for an interface.

Syntax: **lacp** port-priority <v_1_to_65535>
lacp timeout { fast | slow }

Parameters:

port-priority	LACP priority of the port
timeout	The period between BPDU transmissions
<1-65535>	Priority value, lower means higher priority
fast	Transmit BPDU each second (fast timeout)
slow	Transmit BPDU each 30th second (slow timeout)

Example:

```
SISPM1040-3248-L3(config-if)# lacp port 765
SISPM1040-3248-L3(config-if)# lacp timeout fast
SISPM1040-3248-L3(config-if)# lacp timeout slow
SISPM1040-3248-L3(config-if)#
```

Command: **link-oam**

Description: Enable or Disable (when the no keyword is entered) Link OAM on the interface.

Syntax:
link-oam
link-oam link-monitor frame { [window <error_window>] [threshold <error_threshold>] }*1
link-oam link-monitor frame-seconds { [window <error_window>] [threshold <error_threshold>] }*1
link-oam link-monitor supported
link-oam link-monitor symbol-period { [window <error_window>] [threshold <error_threshold>] }*1
link-oam mib-retrieval supported
link-oam mode { active | passive }
link-oam remote-loopback supported
link-oam variable-retrieve { local-info | remote-info }

Parameters:

link-monitor	Configure link monitoring
mib-retrieval	Set MIB retrieval support
mode	Set Link OAM mode Active or Passive on this interface
remote-loopback	Link OAM remote loopback support
variable-retrieve	Set MIB variable retrieve local info or remote info (This feature is not supported yet.)
frame	Configure frame error event thresholds and window for error frames that trigger an error-frame link event
frame-seconds	Configure frame seconds summary
supported	Enable or Disable (when the no keyword is entered) link monitor on the interface
symbol-period	Configure window and thresholds for an error-symbol period that triggers an error-symbol period link event
frame	Configure frame error event thresholds and window for error frames that trigger an error-frame link event
frame-seconds	Configure frame seconds summary
threshold	Set a threshold in number of frames
window	Set a window of time during which error frames are counted

<1-60>	Duration of the monitoring period in terms of seconds
supported	Enable or Disable (when the no keyword is entered) MIB retrieval support on the interface
active	Enable Link OAM Active mode on this interface
passive	Enable Link OAM Passive mode on this interface
supported	Enable or Disable (when the no keyword is entered) remote loopback on the interface
local-info	Set MIB retrieve local info (not supported yet)
remote-info	Set MIB retrieve remote info (not supported yet)

Example:

```
SISPM1040-3248-L3(config-if)# link-oam link-monitor frame threshold 9000 window 40
SISPM1040-3248-L3(config-if)# link-oam mib-retrieval supported
SISPM1040-3248-L3(config-if)# link-oam mode active
SISPM1040-3248-L3(config-if)# link-oam remote-loopback supported
SISPM1040-3248-L3(config-if)# link-oam variable-retrieve local-info
% This feature is not supported yet.
SISPM1040-3248-L3(config-if)# link-oam variable-retrieve remote-info
% This feature is not supported yet.
SISPM1040-3248-L3(config-if)#
```

Command: **lldp**

Description: Set Link Layer Discover Protocol on an interface.

Syntax:

lldp cdp-aware

lldp med media-vlan policy-list <v_range_list>

lldp med transmit-tlv [capabilities] [location] [network-policy] [poe]

lldp med type { connectivity | end-point }

lldp receive

lldp tlv-select { management-address | port-description | system-capabilities | system-description | system-name }

lldp transmit

lldp trap

Parameters:

cdp-aware	Configures if the interface shall be CDP aware (CDP discovery information is added to the LLDP neighbor table)
med	Media Endpoint Discovery.
receive	Enable/Disable decoding of received LLDP frames.
tlv-select	Which optional TLVs to transmit.
transmit	Enable/Disabled transmission of LLDP frames.
trap	Configures if an SNMP trap shall be emitted when the LLDP neighbor table changes for the interface
media-vlan	Media VLAN assignment.
transmit-tlv	LLDP-MED Location Type Length Value parameter.
type	Select if the interface is working as 'Network Connectivity Device' or an 'Endpoint Device'. The difference between working as 'Network Connectivity Device' and an 'Endpoint Device' is a question of who is initializing the LLDP-MED TLVs transmission. A 'Network Connectivity Device' is not starting LLDP-MED TLVs transmission until it has detected an 'Endpoint Device' as link partner. An 'Endpoint Device' will start LLDP-MED TLVs transmission at once.
policy-list	Assignment of policies.
<range_list>	Policies to assign to the interface.
capabilities	Enable transmission of the optional capabilities TLV.
location	Enable transmission of the optional location TLV.
network-policy	Enable transmission of the optional network-policy TLV.
poe	Enable/Disable transmission of the optional PoE TLV.
connectivity	Work as connectivity device.
end-point	Work as end-point device.
management-address	Enable/Disable transmission of management address.
port-description	Enable/Disable transmission of port description.
system-capabilities	Enable/Disable transmission of system capabilities.
system-description	Enable/Disable transmission of system description.
system-name	Enable/Disable transmission of system name.

Example:

```
SISPM1040-3248-L3(config-if)# lldp cdp-aware
SISPM1040-3248-L3(config-if)# lldp med media-vlan policy-list 1-4
SISPM1040-3248-L3(config-if)# lldp med transmit-tlv capabilities location network-policy
poe
SISPM1040-3248-L3(config-if)# lldp med type connectivity
```

```
SISPM1040-3248-L3(config-if)# lldp med type end-point
SISPM1040-3248-L3(config-if)# lldp tlv-select management-address
SISPM1040-3248-L3(config-if)# lldp tlv-select system-capabilities
SISPM1040-3248-L3(config-if)# lldp transmit
SISPM1040-3248-L3(config-if)# lldp trap
SISPM1040-3248-L3(config-if)#SISPM1040-3248-L3(config-if)#
```

Messages: *Ignoring policy 1 for GigabitEthernet 1/3, because no such policy is defined*

Command: **loop-protect**

Description: Set Loop protection configuration on port.

Syntax: **loop-protect**
loop-protect action { [shutdown] [log] }*1
loop-protect tx-mode

Parameters:

action	Action if loop detected
tx-mode	Actively generate PDUs
log	Generate log
shutdown	Shutdown port

Example:

```
SISPM1040-3248-L3(config-if)# loop-protect action log shutdown
SISPM1040-3248-L3(config-if)# loop-protect tx-mode
SISPM1040-3248-L3(config-if)#
```

Command: **mac**

Description: Set MAC keyword on an instance.

Syntax: **mac** address-table learning [secure]

Parameters:

address-table	MAC table configuration
learning	Port learning mode
secure	Port Secure mode

Example:

```
SISPM1040-3248-L3(config-if)# mac address-table learning secure
SISPM1040-3248-L3(config-if)#
```

Command: **media-type**

Description: Set type of media for a 10G SFP interface.

Syntax: **media-type** { rj45 | sfp | dual | dac-1m | dac-2m | dac-3m | dac-5m }

Parameters:

dac-1m	SFP interface (fiber interface) tuned for 1m DAC cables.
dac-2m	SFP interface (fiber interface) tuned for 2m DAC cables.
dac-3m	SFP interface (fiber interface) tuned for 3m DAC cables.
dac-5m	SFP interface (fiber interface) tuned for 5m DAC cables.
sfp	SFP interface (fiber interface).

Example:

```
SISPM1040-3166-L3(config-if)# media-type sfp
SISPM1040-3166-L3(config-if)# media-type dac-5m
SISPM1040-3166-L3(config-if)# media-type dac-1m
GigabitEthernet 1/1 does not support this mode/speed
GigabitEthernet 1/2 does not support this mode/speed
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
GigabitEthernet 1/18 does not support this mode/speed
GigabitEthernet 1/19 does not support this mode/speed
GigabitEthernet 1/20 does not support this mode/speed
SISPM1040-3166-L3(config-if)# do show interface 10G 1/1 capabilities

10GigabitEthernet 1/1 Capabilities:
  SFP Vendor P/N:        DAC-10G-SFP-01M
  SFP Vendor S/N:        18102063725
  SFP Vendor Name:       Transition
  SFP Vendor Revision:   G
  SFP Date Code:         180416
  SFP Type:              10G_DAC
  Speed cap:             1000,10G,auto
  Duplex cap:            full,auto
  Trunk encap. type:     802.1Q
  Trunk mode:            access,hybrid,trunk
  Channel:               yes
  Broadcast suppression: no
  Flowcontrol:           yes
  Fast Start:            no
  QoS scheduling:        tx-(8q)
  CoS rewrite:           yes
  ToS rewrite:           yes
  UDLD:                  no
  Inline power:          yes
  RMirror:               yes
SISPM1040-3166-L3(config-if)#
```

Command: **mrp**

Description: Set Media Redundancy Protocol parameters on an interface.

Syntax: **mrp** periodic
mrp timers default
mrp timers { [join-time <jointime>] [leave-time <leavetime>] [leave-all-time <leavealltime>] }*1

Parameters:

periodic	Enable MRP periodic transmission on the interface
timers	Configure MRP protocol timer parameters. IEEE 802.1Q-2014, clause 10.7.
default	Set all MRP timers to their default values
join-time	Set MRP protocol parameter JoinTime.
leave-all-time	Set MRP protocol parameter LeaveAllTime.
leave-time	Set MRP protocol parameter LeaveTime.
1-20>	join-time in units of centiseconds. Range is 1-20. Default is 20.
<1000-5000>	leave-all-time in units of centiseconds. Range is 1000-5000. Default is 1000.
<60-300>	leave-time in units of centiseconds. Range is 60-300. Default is 60.

Example:

```
SISPM1040-3248-L3(config-if)# mrp periodic
SISPM1040-3248-L3(config-if)# mrp timers default
SISPM1040-3248-L3(config-if)# mrp timers join-time 4 leave-all-time 2500 leave-time 175
SISPM1040-3248-L3(config-if)#
```

Command: **mtu**

Description: Set Maximum Transmission Unit on an interface.

Syntax: **mtu** <max_length>

Parameters: <1518-10240> Maximum frame size in bytes.

Example:

```
SISPM1040-3248-L3(config-if)# mtu 10240
SISPM1040-3248-L3(config-if)#
```

Command: **mvr**

Description: Set Multicast VLAN Registration configuration on an interface.

Syntax: **mvr** immediate-leave
mvr name <mvr_name> type { source | receiver }
mvr vlan <v_vlan_list> type { source | receiver }

Parameters:

immediate-leave	Immediate leave configuration
name	MVR multicast name
vlan	MVR multicast VLAN
<word16>	MVR multicast VLAN name
type	MVR port role configuration
receiver	MVR receiver port
source	MVR source port

Example:

```
SISPM1040-3248-L3(config-if)# mvr name MvrVid1 type receiver
SISPM1040-3248-L3(config-if)# mvr immediate-leave
SISPM1040-3248-L3(config-if)# mvr vlan 1-3 type source
SISPM1040-3248-L3(config-if)#
```

Command: **mvrp**

Description: Enable MVRP on the interface.

Syntax: **mvrp** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# mvrp
SISPM1040-3248-L3(config-if)#
```

Command: **no**

Description: Set to default value.

Syntax: **no** <command>

Parameters:

access-list	aggregation	debug	description	dot1x
duplex	excessive-restart	flowcontrol	frame-length-check	green-ethernet
gvrp	ip	ipv6	lacp	link-oam
lldp	loop-protect	mac	mrp	mtu
mvr	mvrp	poe	port-security	
priority-flowcontrol	ptp	pvlan	qos	rmon
sflow	shutdown	spanning-tree	speed	switchport
udld	vcl			

Example:

```
SISPM1040-3248-L3(config-if)# no priority-flowcontrol prio 0
SISPM1040-3248-L3(config-if)# no udld port
SISPM1040-3248-L3(config-if)#
```

Command: **poe**

Description: Set Power Over Ethernet parameters for one or more interfaces. Note that PoE operation requires a DC power supply input. See the Install Guide for more information.

Syntax:

poe delay-mode
poe delay-time <v_0_to_300>
poe failure-action { nothing | reboot-Remote-PD }
poe interval-time <interval>
poe lldp
poe max-reboot-times <reboot>
poe mode { enable | disable }
poe ping-ip-addr { <address> | <ipv6> }
poe ping-retry-time <retry>
poe port-profile name <entry_name>
poe power limit { <v_word9> }
poe priority { low | high | critical }
poe reboot-time <reboot>
poe startup-time <startuptime>

Parameters:

delay-mode	Configure PoE Power delay mode
delay-time	Setting power delay time from 0 to 300(sec).
failure-action	Configure PoE Auto Power Reset Failure Action.
interval-time	Configure PoE Auto Power Reset Interval Time.
lldp	Enable PoE LLDP functionality
max-reboot-times	Configure PoE Auto Power Reset Max Reboot Times.
mode	PoE mode.
ping-ip-addr	Configure PoE Ping IP Address.
ping-retry-time	Configure PoE Auto Power Reset Retry Time.
port-profile	poe scheduling profile
power	Setting maximum power for port in allocation mode.
priority	Interface priority.
reboot-time	Configure PoE Auto Power Reset Reboot Time.
startup-time	Configure PoE Auto Power Reset Start up Time.
<0-300>	PoE delay-time in seconds
nothing	Failure Action : Do nothing.
reboot-Remote-PD	Failure Action : Reboot the Remote PD.
<10-120>	Interval Time : 10 ~ 120(sec).
<0-10>	Max. Reboot Times : 0 ~ 10 times
disable	Set mode to PoE Disable
enable	Set mode to PoE Enable (Maximum power 30.0 W)
<ipv4_addr>	Set PoE Ping IP Address.
<ipv6_addr>	Set PoE Ping IP v6 Address.
<1-5>	Retry Time : 1 ~ 5.
name	poe scheduling profile name
<line32>	profile name, the name length is 32
<line32>	profile name, the name length is 32

limit	The maximum power.
<fword2.1>	Maximum power for the interface (Class 4 PDs limited to 30W).
critical	Set priority to critical.
high	Set priority to high.
low	Set priority to low.
<3-120>	Reboot Time : 3 ~ 120 (seconds).
<30-600>	Start up Time : 30 ~ 600(sec).

Example:

```
SISPM1040-3248-L3(config-if)# poe delay-mode
SISPM1040-3248-L3(config-if)# poe delay-time 60
SISPM1040-3248-L3(config-if)# poe failure-action reboot-Remote-PD
SISPM1040-3248-L3(config-if)# poe interval-time 45
SISPM1040-3248-L3(config-if)# poe lldp
SISPM1040-3248-L3(config-if)# poe max-reboot-times 4
SISPM1040-3248-L3(config-if)# poe mode enable
SISPM1040-3248-L3(config-if)# poe ping-ip-addr 192.168.1.90
SISPM1040-3248-L3(config-if)# poe port-profile name Prof1
SISPM1040-3248-L3(config-if)# poe power limit 30
SISPM1040-3248-L3(config-if)# poe priority critical
SISPM1040-3248-L3(config-if)# poe reboot-time 45
SISPM1040-3248-L3(config-if)# poe startup-time 100
SISPM1040-3248-L3(config-if)#
```

Messages: *% profile name does not exist.*

Maximum allowed power (for the current mode) for GigabitEthernet 1/3 is limited to 30.0 W

Command: **port-security**

Description: Enable/disable port security per interface.

Syntax: **port-security**
port-security mac-address { [sticky] [<mac> [vlan <vlan_id>]] }*1
port-security maximum <limit>
port-security maximum-violation <violate_limit>
port-security violation { protect | restrict | shutdown }

Parameters:

mac-address	Add a static (or sticky, though not recommended) MAC address on interface
maximum	Maximum number of MAC addresses that can be learned on this set of interfaces.
maximum-violation	Maximum number of violating MAC addresses (used when violation is restricted)
violation	The action taken if limit is exceeded.
<mac_ucast>	Unicast MAC address to add
sticky	Add a sticky MAC address (not recommended to do so manually)
<0-1023>	Number of addresses
<1-1023>	Maximum number of violation MAC addresses
protect	Don't do anything
restrict	Keep recording violating MAC addresses
shutdown	Shutdown the port

Example:

```
SISPM1040-3248-L3(config-if)# port-security mac-address sticky
SISPM1040-3248-L3(config-if)# port-security maximum 200
SISPM1040-3248-L3(config-if)# port-security maximum-violation 100
SISPM1040-3248-L3(config-if)# port-security violation protect
SISPM1040-3248-L3(config-if)# port-security violation restrict
SISPM1040-3248-L3(config-if)#
```

Command: **priority-flowcontrol**

Description: Set Priority Flow Control (802.1Qbb) for an interface.

Syntax: **priority-flowcontrol** prio <prio>

Parameters:

prio	Traffic priority Flow Control.
<0~7>	Specify range of priorities

Example:

```
SISPM1040-3248-L3(config-if)# priority-flowcontrol prio 3
SISPM1040-3248-L3(config-if)#
```

Command: **ptp**

Description: Set Precision time Protocol (1588) for an interface.

Syntax:

ptp <clockinst> [internal]
ptp <clockinst> allow-faults <allow_faults>
ptp <clockinst> allow-lost-resp <allow_lost_resp>
ptp <clockinst> announce { [interval { <interval> | stop | default }] [timeout <timeout>] }*1
ptp <clockinst> delay-asymmetry <delay_asymmetry>
ptp <clockinst> delay-mechanism { e2e | p2p | common-p2p }
ptp <clockinst> delay-req interval { <interval> | stop | default }
ptp <clockinst> delay-thresh <delay_thresh>
ptp <clockinst> egress-latency <egress_latency>
ptp <clockinst> gptp-interval { <interval> | stop | default }
ptp <clockinst> gptp-to <gptp_to>
ptp <clockinst> ingress-latency <ingress_latency>
ptp <clockinst> localpriority <localpriority>
ptp <clockinst> mcast-dest { default | link-local }
ptp <clockinst> mgtSettableLogAnnounceInterval { <interval> | stop | default }
ptp <clockinst> mgtSettableLogGptpCapableMessageInterval { <interval> | stop | default }
ptp <clockinst> mgtSettableLogPdelayReqInterval { <interval> | stop | default }
ptp <clockinst> mgtSettableLogSyncInterval { <interval> | stop | default }
ptp <clockinst> not-slave
ptp <clockinst> statistics [clear]
ptp <clockinst> sync-interval { <interval> | stop | default }
ptp <clockinst> sync-rx-to <sync_rx_to>
ptp <clockinst> two-step [true]
ptp <clockinst> two-step false
ptp <clockinst> useMgtSettableLogGptpCapableMessageInterval <usemgtSettableLogGp
tpCapableMessageInterval>
ptp <clockinst> usemgtSettableLogAnnounceInterval <usemgtSettableLogAnnounceInterval>
ptp <clockinst> usemgtSettableLogPdelayReqInterval <usemgtSettableLogPdelayReqInterval>
ptp <clockinst> usemgtSettableLogSyncInterval <usemgtSettableLogSyncInterval>
ptp <v_0_to_3> compute-meanlinkdelay [force]
ptp <v_0_to_3> compute-neighbor-rate-ratio [force]
ptp cmlds allow-faults <v_1_to_255>
ptp cmlds allow-lost-resp <v_0_to_10>
ptp cmlds compute-meanlinkdelay [force]
ptp cmlds compute-neighbor-rate-ratio [force]
ptp cmlds delay-asymmetry <v_minus_100000_to_100000>
ptp cmlds pdelay-thresh <v_0_to_4000000000>
ptp cmlds pdelayreq-interval { <v_minus_7_to_5> | stop | default } [force]
ptp cmlds statistics [clear]
ptp pps-delay { { auto master-port interface <port_type> <v_port_type_id> } | { man cable-delay <cable_delay> } }

ptp pps-sync { main-auto | main-man | sub } [pps-phase <pps_phase>] [cable-asy <cable_asy>] [ser-man | ser-auto]

Parameters:

<0-3>	[0-3] Clock instance
cmlds	Common Mean Link Delay Service
allow-faults	Set the allowedFaults value for the port
allow-lost-resp	Set the allowedLostResponses value for the port
announce	Set announce interval and timeout
compute-meanlinkdelay	Compute the Mean Link Delay to neighbor
compute-neighbor-rate-ratio	Compute the neighbor rate ratio
delay-asymmetry	Set path delay asymmetry
delay-mechanism	Set delay mechanism
delay-req	Set pdelay req interval
delay-thresh	Set the meanLinkDelayThresh value for the port to a number of nanoseconds
egress-latency	Set port egress latency
gptp-interval	Set gptp interval
gptp-to	Set the gPtpCapableReceiptTimeout value for the port
ingress-latency	Set port ingress latency
internal	Enable as an internal interface
localpriority	Local priority pr port for G8275.1 BMC algorithm (1 is highest priority)
mcast-dest	Set multicast destination address type for the port
mgtSettableLogAnnounceInterval	Set announce interval
mgtSettableLogGptpCapableMessageInterval	802.1AS profile only: instructs the peer to stop sending sync messages
mgtSettableLogPdelayReqInterval	Set management settable pdelay req interval
mgtSettableLogSyncInterval	Set sync interval
not-slave	set 'not-slave' attribute for G8275.1 BMC algorithm
statistics	Get G802.1AS statistics counters for the port
sync-interval	Set sync interval
sync-rx-to	Set the syncReceiptTimeout value for the port
two-step	Set the two-step override value for the port to true
useMgtSettableLogGptpCapableMessageInterval	option to set sync interval
usemgtSettableLogAnnounceInterval	option to set announce interval
usemgtSettableLogPdelayReqInterval	option to set peer delay request interval
usemgtSettableLogSyncInterval	option to set sync interval
<1-255>	The allowedFaults value for the port
<0-10>	The allowedLostResponses value for the port
interval	Set announce interval
timeout	Set Announce timeout
<-3-4>	LogAnnounceInterval
default	802.1AS profile only: instructs the peer to use the initial value
stop	802.1AS profile only: instructs the peer to stop sending announce messages
<-3-4>	LogAnnounceInterval
force	force indicates to use management settable compute Mean Link Delay
<-100000-100000>	Delay asymmetry in ns.

common-p2p	Common Peer to Peer Delay mechanism
e2e	End to End Delay mechanism
p2p	Peer to Peer Delay mechanism
<-7-5>	logMinPdelayReqInterval
default	802.1AS profile only: instructs the peer to use the initial value
stop	802.1AS profile only: instructs the peer to stop sending PDelay_Req messages
<0-4000000000>	The meanLinkDelayThresh value in nanoseconds.
<-100000-100000>	Egress latency in ns
<int>	LogGptpInterval
default	802.1AS profile only: instructs the peer to use the initial value
stop	802.1AS profile only: instructs the peer to stop sending gptp messages
<1-255>	The gPtpCapableReceiptTimeout value for the port in number of gPtpCapable message TimeIntervals.
<-100000-100000>	Ingress latency in ns
<1-255>	PTP clock priority1: range = 1-255
<-3-4>	LogAnnounceInterval
default	802.1AS profile only: instructs the peer to use the initial value
stop	802.1AS profile only: instructs the peer to stop sending announce messages
<int>	802.1AS profile only: instructs the peer to use the initial value
default	
stop	
<-7-5>	logMinPdelayReqInterval
clear	Clear G802.1AS statistics counters for the port
<-7-4>	logSyncInterval
<1-255>	The syncReceiptTimeout value for the port in number of syncTimeIntervals.
false	two-step false
true	two-step true
1-255>	the allowedFaults value for the port
<0-10>	the allowedFaults value for the port
force	useMgtSettableComputeMeanLinkDelay : Use management set value as preferred one over value provided by Link Delay Interval machine
force	useMgtSettableComputeNeighborRateRatio : Use management set value as preferred one over value provided by Link Delay Interval machine
<-100000-100000>	Setting for ptp cmlds delay-asymmetry
<0-4000000000>	Setting for ptp cmlds pdelay-thresh
<-7-5>	Setting for ptp cmlds pdelayreq-interval
default	instructs the peer to use the initial value
stop	instructs the peer to stop sending PDelay_Req messages
force	useMgtSettableLogPdelayReqInterval : Use management set value as preferred one over value provided by Link Delay Interval machine

Example 1:

```
SISPM1040-3248-L3(config-if)# ptp 0 allow-faults 100
SISPM1040-3248-L3(config-if)# ptp 0 allow-lost 3
SISPM1040-3248-L3(config-if)# ptp 0 announce interval -1 timeout 4
SISPM1040-3248-L3(config-if)# ptp 0 compute-meanlinkdelay force
SISPM1040-3248-L3(config-if)# ptp 0 compute-meanlinkdelay
```

```
SISPM1040-3248-L3(config-if)# ptp 0 delay-asymmetry 4000
SISPM1040-3248-L3(config-if)# ptp 0 delay-mechanism common-p2p
SISPM1040-3248-L3(config-if)# ptp 0 delay-mechanism e2e
SISPM1040-3248-L3(config-if)# ptp 0 delay-req interval -3
SISPM1040-3248-L3(config-if)# ptp 0 delay-req interval default
SISPM1040-3248-L3(config-if)# ptp 0 delay-thresh 10000000
SISPM1040-3248-L3(config-if)# ptp 0 gptp-interval default
SISPM1040-3248-L3(config-if)# ptp 0 gptp-interval stop
SISPM1040-3248-L3(config-if)# ptp 0 gptp-interval 1
SISPM1040-3248-L3(config-if)# ptp 0 gptp-to 16
SISPM1040-3248-L3(config-if)# ptp 0 internal
SISPM1040-3248-L3(config-if)# ptp 0 localpriority 120
SISPM1040-3248-L3(config-if)# ptp 0 mcast-dest default
SISPM1040-3248-L3(config-if)# ptp 0 mcast-dest link-local
SISPM1040-3248-L3(config-if)# ptp 0 mgtSettableLogAnnounceInterval -3
SISPM1040-3248-L3(config-if)# ptp 0 mgtSettableLogAnnounceInterval default
SISPM1040-3248-L3(config-if)# ptp 0 mgtSettableLogGptpCapableMessageInterval default
SISPM1040-3248-L3(config-if)# ptp 0 mgtSettableLogPdelayReqInterval stop
SISPM1040-3248-L3(config-if)# ptp 0 mgtSettableLogSyncInterval -5
SISPM1040-3248-L3(config-if)# ptp 0 not-slave
SISPM1040-3248-L3(config-if)# ptp 0 sync-interval 1
SISPM1040-3248-L3(config-if)# ptp 0 sync-interval stop
SISPM1040-3248-L3(config-if)# ptp 0 sync-rx-to 60
SISPM1040-3248-L3(config-if)# ptp 0 two-step false
SISPM1040-3248-L3(config-if)# ptp 0 two-step true
SISPM1040-3248-L3(config-if)# ptp 0 statistics
Port  Parameter                                  counter
----  -----------------------------------------  ----------
   3  rxSyncCount                                         0
      rxFollowUpCount                                     0
      rxPdelayRequestCount                                0
      rxPdelayResponseCount                               0
      rxPdelayResponseFollowUpCount                       0
      rxAnnounceCount                                     0
      rxPTPPacketDiscardCount                             0
      syncReceiptTimeoutCount                             0
      announceReceiptTimeoutCount                         0
      pdelayAllowedLostResponsesExceededCount             0
      txSyncCount                                         0
      txFollowUpCount                                     0
      txPdelayRequestCount                                0
      txPdelayResponseCount                               0
      txPdelayResponseFollowUpCount                       0
      txAnnounceCount                                     0
SISPM1040-3248-L3(config-if)#
```

Example 2:

```
SISPM1040-3248-L3(config-if)# ptp cmlds allow-faults 90
SISPM1040-3248-L3(config-if)# ptp cmlds allow-lost-resp 3
SISPM1040-3248-L3(config-if)# ptp cmlds compute-meanlinkdelay
SISPM1040-3248-L3(config-if)# ptp cmlds compute-meanlinkdelay force
SISPM1040-3248-L3(config-if)# ptp cmlds compute-neighbor-rate-ratio
SISPM1040-3248-L3(config-if)# ptp cmlds compute-neighbor-rate-ratio force
SISPM1040-3248-L3(config-if)# ptp cmlds delay-asymmetry -9000
SISPM1040-3248-L3(config-if)# ptp cmlds pdelay-thresh 75000
```

```
SISPM1040-3248-L3(config-if)# ptp cmlds pdelayreq-interval -3 force
SISPM1040-3248-L3(config-if)# ptp cmlds statistics clear
Port  Parameter                                  counter
----  -----------------------------------------  ----------
   3  rxPdelayRequestCount                                0
      rxPdelayResponseCount                               0
      rxPdelayResponseFollowUpCount                       0
      rxPTPPacketDiscardCount                             0
      pdelayAllowedLostResponsesExceededCount             0
      txPdelayRequestCount                                0
      txPdelayResponseCount                               0
      txPdelayResponseFollowUpCount                       0

 counters cleared
SISPM1040-3248-L3(config-if)#

SISPM1040-3248-L3(config-if)#
```

Messages: *Error setting port data instance 0 port 3*

W ptp/phy_ts 16:46:28 254/vtss_1588_egress_latency_set#5372: Warning: Could not set egress latency value in HW. The calibration for port 3 is likely invalid. You may want to reset the calibration and/or recalibrate.

Command: **pvlan**

Description: Set Private VLAN for an interface.

Syntax: **pvlan** <pvlan_list>
pvlan isolation

Parameters:

<range_list>	list of PVLANs. Range is from 1 to number of ports.
isolation	Port isolation.

Example:

```
SISPM1040-3248-L3(config-if)# pvlan 1
SISPM1040-3248-L3(config-if)# pvlan isolation
SISPM1040-3248-L3(config-if)#
```

Command: **qos**

Description: Set Quality of Service for an interface.

Syntax:

qos class <cosid>
qos cos <cos>
qos dei <dei>
qos dpl <dpl>
qos dscp-classify { zero | selected | any }
qos dscp-remark { rewrite | remap | remap-dp }
qos dscp-translate
qos egress-map <id>
qos ingress-map <id>
qos map cos-tag cos <cos> dpl <dpl> pcp <pcp> dei <dei>
qos map tag-cos pcp <pcp> dei <dei> cos <cos> dpl <dpl>
qos pcp <pcp>
qos policer <rate> [kbps | mbps | fps | kfps] [flowcontrol]
qos queue-policer queue <queue> <rate> [kbps | mbps]
qos queue-shaper queue <queue> <rate> [kbps | mbps] [excess | credit] [rate-type { line | data }]
qos shaper <rate> [kbps | mbps] [rate-type { line | data }]
qos storm { unicast | broadcast | unknown } <rate> [fps | kfps | kbps | mbps]
qos tag-remark { pcp <pcp> dei <dei> | mapped }
qos trust dscp
qos trust tag
qos wred-group <wred_group>
qos wrr <w0> <w1> [<w2> [<w3> [<w4> [<w5> [<w6> [<w7>]]]]]]

Parameters:

class	Class of service ID configuration
cos	Class of service configuration
dei	Drop Eligible Indicator configuration
dpl	Drop precedence level configuration
dscp-classify	DSCP ingress classification
dscp-remark	DSCP egress remarking

dscp-translate	DSCP ingress translation
egress-map	Egress map association
ingress-map	Ingress map association
map	QoS Map/Table configuration
pcp	Priority Code Point configuration
policer	Policer configuration
queue-policer	Queue policer configuration
queue-shaper	Queue shaper configuration
shaper	Shaper configuration
storm	Storm policer
tag-remark	Tag remarking configuration
trust	Trust configuration
wred-group	WRED group configuration
wrr	Weighted round robin configuration
<0-7>	Specific class of service ID
<0-7>	Specific class of service
<0-1>	Specific Drop Eligible Indicator
<0-3>	Specific drop precedence level
any	Classify to new DSCP always
selected	Classify to new DSCP if classify is enabled for specific DSCP value in global DSCP classify map
zero	Classify to new DSCP if DSCP is 0
<0-511>	Map ID - egress
<0-255>	Map ID - ingress
cos-tag	Map for cos to tag configuration
tag-cos	Map for tag to cos configuration
cos	Specify class of service
<0~7>	Specific class of service or range
dpl	Specify drop precedence level
<0~1>	Specific drop precedence level or range
pcp	Specify PCP (Priority Code Point)
<0-7>	Specific PCP
dei	Specify DEI (Drop Eligible Indicator)
<0-1>	Specific DEI
<0-7>	Specific Priority Code Point
<1-13128147>	Policer rate (default kbps). Internally rounded up to the nearest value supported by the port policer.
flowcontrol	Enable flow control
fps	Unit is frames per second
kbps	Unit is kilobits per second (default)
kfps	Unit is kiloframes per second
mbps	Unit is Megabits per second
flowcontrol	Enable flow control
queue	Specify queue
<0~7>	Specific queue or range

<1-13128147>	Policer rate (default kbps). Internally rounded up to the nearest value supported by the queue policer.
kbps	Unit is kilobits per second (default)
mbps	Unit is Megabits per second
queue	Specify queue
<0~7>	Specific queue or range
<1-13107100>	Shaper rate (default kbps). Internally rounded up to the nearest value supported by the queue shaper.
credit	Allow use of credit based shaper
kbps	Unit is kilobits per second (default)
mbps	Unit is Megabits per second
rate-type	Setup shaping rate type
data	Data rate shaping
line	Line rate shaping
<1-13107100>	Shaper rate (default kbps). Internally rounded up to the nearest value supported by the port shaper.
kbps	Unit is kilobits per second (default)
mbps	Unit is Megabits per second
rate-type	Setup shaping rate type
broadcast	Police broadcast frames
unicast	Police unicast frames
unknown	Police unknown (flooded) frames
<1-13128147>	Policer rate (default kbps). Internally rounded up to the nearest value supported by the storm policer. Supported rates are divisible by 10 fps or 25 kbps.
fps	Unit is frames per second
kbps	Unit is kilobits per second (default)
kfps	Unit is kiloframes per second
mbps	Unit is Megabits per second
mapped	Used mapped values (COS, DPL -> PCP, DEI)
pcp	Specify default PCP
dscp	DSCP value
tag	VLAN tag
<1-3>	Specific WRED group
<1-100>	Weight for queue 1
<1-100>	Weight for queue 2
<1-100>	Weight for queue 3
<1-100>	Weight for queue 4
<1-100>	Weight for queue 5
<1-100>	Weight for queue 6
<1-100>	Weight for queue 7

Example:

```
SISPM1040-3248-L3(config-if)# qos class 0
SISPM1040-3248-L3(config-if)# qos cos 3
SISPM1040-3248-L3(config-if)# qos dei 1
SISPM1040-3248-L3(config-if)# qos dpl 2
SISPM1040-3248-L3(config-if)# qos dscp-classify any
```

```
SISPM1040-3248-L3(config-if)# qos dscp-classify selected
SISPM1040-3248-L3(config-if)# qos dscp-translate
SISPM1040-3248-L3(config-if)# qos egress-map 123
SISPM1040-3248-L3(config-if)# qos ingress-map 1
SISPM1040-3248-L3(config-if)# qos map cos-tag cos 4 dpl 1 pcp 2 dei 0
SISPM1040-3248-L3(config-if)# qos map tag-cos pcp 5 dei 0 cos 2 dpl 3
SISPM1040-3248-L3(config-if)# qos pcp 1
SISPM1040-3248-L3(config-if)# qos policer 500000 fps flowcontrol
SISPM1040-3248-L3(config-if)# qos queue-policer queue 2 7500000 kbps
SISPM1040-3248-L3(config-if)# qos queue-shaper queue 1 400000 credit kbps rate-type data
SISPM1040-3248-L3(config-if)# qos queue-shaper queue 1 400000 credit kbps rate-type line
SISPM1040-3248-L3(config-if)# qos shaper 4000000 kbps rate-type line
SISPM1040-3248-L3(config-if)# qos shaper 4000000 kbps rate-type data
SISPM1040-3248-L3(config-if)# qos storm broadcast 50000 kfps
SISPM1040-3248-L3(config-if)# qos storm unicast 100
SISPM1040-3248-L3(config-if)# qos tag-remark mapped
SISPM1040-3248-L3(config-if)# qos trust dscp
SISPM1040-3248-L3(config-if)# qos trust tag
SISPM1040-3248-L3(config-if)# qos wred-group 1
SISPM1040-3248-L3(config-if)# qos wrr 25 20 15 10 9 8 7 6
SISPM1040-3248-L3(config-if)#
```

Messages: *% QOS: max rate is 13128 when using mbps*
% QOS: max rate is 13128 when using kfps
% QOS: min rate is 10 when using kbps

Command: **rmon**

Description: Configure Remote Monitoring on an interface.

Syntax: **rmon** collection history <id> [buckets <buckets>] [interval <interval>]
rmon collection stats <id>

Parameters:

collection	Configure Remote Monitoring Collection on an interface
history	Configure history
stats	Configure statistics
<1-65535>	History entry ID
buckets	Requested buckets of intervals. Default is 50 buckets
interval	Interval to sample data for each bucket. Default is 1800 seconds
<1-65535>	Requested buckets of intervals
<1-3600>	Interval in seconds to sample data for each bucket
<1-65535>	Statistics entry ID

Example:

```
SISPM1040-3248-L3(config-if)# rmon collection history 25000 buckets 6000 interval 1500
SISPM1040-3248-L3(config-if)# rmon collection stats 1
SISPM1040-3248-L3(config-if)#
```

Command: **sflow**

Description: Set Statistics flow for an interface.

Syntax:

sflow [<sampler_idx_list>]

sflow counter-poll-interval [sampler <sampler_idx_list>] [<poll_interval>]

sflow max-sampling-size [sampler <sampler_idx_list>] [<max_sampling_size>]

sflow sampler-type [sampler <sampler_idx_list>] { rx | tx | all }

sflow sampling-rate [sampler <sampler_idx_list>] [<sampling_rate>]

Parameters:

counter-poll-interval	The interval - in seconds - between counter poller samples.
max-sampling-size	Specifies the maximum number of bytes to transmit per flow sample. To have room for any frame, the maximum datagram size should be roughly 100 bytes larger than the maximum header size.
sampler-type	Specifies the types of flow sample.
sampling-rate	Specifies the statistical sampling rate. The sample rate is specified as N to sample 1/Nth of the packets n the monitored flows. There are no restrictions on the value, but the switch will adjust it to the closest possible sampling rate.
<1-3600>	seconds
<14-200>	bytes
all	All sampler types
rx	Just transmit sampler types
tx	Just receive sampler types
<1-32767>	Sampling rate

Example:

```
SISPM1040-3248-L3(config-if)# sflow counter-poll-interval 1000
SISPM1040-3248-L3(config-if)# sflow max-sampling-size 35
SISPM1040-3248-L3(config-if)# sflow sampler-type all
SISPM1040-3248-L3(config-if)# sflow sampler-type tx
SISPM1040-3248-L3(config-if)# sflow sampling-rate 5000
SISPM1040-3248-L3(config-if)#
```

Command: **shutdown**

Description: Shutdown of the interface.

Syntax: **shutdown** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if)# shutdown
SISPM1040-3248-L3(config-if)#
```

Command: **spanning-tree**

Description: Set Spanning Tree Protocol for one or more interfaces.

Syntax:
spanning-tree
spanning-tree auto-edge
spanning-tree bpdu-guard
spanning-tree edge
spanning-tree link-type { point-to-point | shared | auto }
spanning-tree mst <instance> cost { <cost> | auto }
spanning-tree mst <instance> port-priority <prio>
spanning-tree restricted-role
spanning-tree restricted-tcn

Parameters:

auto-edge	Auto detect edge status
bpdu-guard	Enable/disable BPDU guard
edge	Edge port
link-type	Port link-type
mst	STP bridge instance
restricted-role	Port role is restricted (never root port)
restricted-tcn	Restrict topology change notifications
auto	Auto detect
point-to-point	Forced to point-to-point
shared	Forced to Shared
cost	STP Cost of this port
port-priority	STP priority of this port
<1-200000000>	Cost range
auto	Use auto cost

Example:

```
SISPM1040-3248-L3(config-if)# spanning-tree auto-edge
SISPM1040-3248-L3(config-if)# spanning-tree bpdu-guard
SISPM1040-3248-L3(config-if)# spanning-tree edge
SISPM1040-3248-L3(config-if)# spanning-tree link-type point-to-point
SISPM1040-3248-L3(config-if)# spanning-tree link-type shared
SISPM1040-3248-L3(config-if)# spanning-tree mst 1 cost 2500
SISPM1040-3248-L3(config-if)# spanning-tree restricted-role
SISPM1040-3248-L3(config-if)# spanning-tree restricted-tcn
SISPM1040-3248-L3(config-if)#
```

Command: **speed**

Description: Configures interface speed. If you use 10, 100, 1000 or one of the other keywords with the auto keyword the port will only advertise the specified speeds.

Syntax: speed { 25g | 25g-r-fec | 25g-rs-fec | 10g | 5g | 2500 | 1000 | 100 | 10 | auto { [10] [100] [1000] [2500] [5g] [10g] } | kr { [1000] [2500] [5g] [10g] [25g] [no-r-fec] [no-rs-fec] [no-train [remote-only]] } }

Parameters:

10	Force 10 Mbps
100	Force 100 Mbps
1000	Force 1000 Mbps
auto	Auto negotiation

Example:

```
SISPM1040-3248-L3(config-if)# speed 100
GigabitEthernet 1/3 set to forced mode, advertisement configuration updated accordingly
SISPM1040-3248-L3(config-if)# speed 1000
GigabitEthernet 1/3 set to forced mode, advertisement configuration updated accordingly
SISPM1040-3248-L3(config-if)# speed auto 1000
GigabitEthernet 1/6 set to auto mode, duplex configuration updated accordingly
SISPM1040-3248-L3(config-if)#
SISPM1040-3166-L3(config-if)# speed 25g ?
                                    ^
% Invalid word detected at '^' marker.

SISPM1040-3166-L3(config-if)# speed 5g
                                    ^
% Invalid word detected at '^' marker.

SISPM1040-3166-L3(config-if)#
```

Command: **switchport**

Description: Set VLAN switching mode characteristics for one or more interfaces.

Syntax:

switchport access vlan <pvid>
switchport forbidden vlan { add | remove } <vlan_list>
switchport hybrid acceptable-frame-type { all | tagged | untagged }
switchport hybrid allowed vlan { all | none | [add | remove | except] <vlan_list> }
switchport hybrid egress-tag { none | all [except-native] }
switchport hybrid ingress-filtering
switchport hybrid native vlan <pvid>
switchport hybrid port-type { unaware | c-port | s-port | s-custom-port }
switchport mode { access | trunk | hybrid }
switchport trunk allowed vlan { all | none | [add | remove | except] <vlan_list> }
switchport trunk native vlan <pvid>
switchport trunk vlan tag native
switchport vlan ip-subnet [id <1-128>] <ipv4> vlan <vid>
switchport vlan mac <mac_addr> vlan <vid>
switchport vlan mapping <gid>
switchport vlan protocol group <grp_id> vlan <vid>

switchport voice vlan discovery-protocol { oui | lldp | both }
switchport voice vlan mode { auto | force | disable }
switchport voice vlan security

Parameters:

access	Set access mode characteristics of the interface
forbidden	Adds or removes forbidden VLANs from the current list of forbidden VLANs
hybrid	Change PVID for hybrid port
mode	Set mode of the interface
trunk	Change PVID for trunk port
vlan	VLAN commands
voice	Voice appliance attributes
vlan	Set VLAN when interface is in access mode
<vlan_id>	VLAN ID of the VLAN when this port is in access mode
vlan	Add or modify VLAN entry in forbidden table.
add	Add to existing list.
remove	Remove from existing list.
<vlan_list>	VLAN IDs
acceptable-frame-type	Set acceptable frame type on a port
allowed	Set allowed VLAN characteristics when interface is in hybrid mode
egress-tag	Egress VLAN tagging configuration
ingress-filtering	VLAN Ingress filter configuration
native	Set native VLAN
port-type	Set port type
all	Allow all frames
tagged	Allow only tagged frames
untagged	Allow only untagged frames
vlan	Set allowed VLANs when interface is in hybrid mode
<vlan_list>	VLAN IDs of the allowed VLANs when this port is in hybrid mode
add	Add VLANs to the current list
all	All VLANs
except	All VLANs except the following
none	No VLANs
remove	Remove VLANs from the current list
all	Tag all frames
none	No egress tagging
except-native	Tag all frames except frames classified to native VLAN of the hybrid port
vlan	Set native VLAN when interface is in hybrid mode
<vlan_id>	VLAN ID of the native VLAN when this port is in hybrid mode
c-port	Customer port
s-custom-port	Custom Provider port
s-port	Provider port
unaware	Port in not aware of VLAN tags.
access	Set mode to ACCESS unconditionally
hybrid	Set mode to HYBRID unconditionally

```
trunk                Set mode to TRUNK unconditionally
allowed              Set allowed VLAN characteristics when interface is in trunk mode
native               Set native VLAN
vlan                 VLAN commands
vlan                 Set allowed VLANs when interface is in trunk mode
<vlan_list>          VLAN IDs of the allowed VLANs when this port is in trunk mode
add                  Add VLANs to the current list
all                  All VLANs
except               All VLANs except the following
none                 No VLANs
remove               Remove VLANs from the current list
vlan                 Set native VLAN when interface is in trunk mode
<vlan_id>            VLAN ID of the native VLAN when this port is in trunk mode
allowed              Set allowed VLAN characteristics when interface is in trunk mode
native               Set native VLAN
vlan                 VLAN commands
tag                  tag parameters
native               tag native VLAN
ip-subnet            VCL IP Subnet-based VLAN configuration.
mac                  MAC-based VLAN commands
mapping              Maps an interface to a VLAN translation group.
protocol             Protocol-based VLAN commands
<ipv4_subnet>    Source IP address and mask (Format: xx.xx.xx.xx/mm.mm.mm.mm).
id                   Specify an index for the IP subnet entry (deprecated).
<mac_ucast>      48 bit unicast MAC address: xx:xx:xx:xx:xx:xx
<1-32>               Group id
group                Protocol-based VLAN group commands
<word16>             Group Name (Range: 1 - 16 characters)
vlan                 VLAN keyword
<vlan_id>            VLAN ID required for the group to VLAN mapping (Range: 1-4094)
vlan                 VLAN for voice traffic
discovery-protocol   Set Voice VLAN port discovery protocol
mode                 Set Voice VLAN port mode
security             Enable Voice VLAN port security mode
both                 Detect telephony device by OUI address and LLDP
lldp                 Detect telephony device by LLDP
oui                  Detect telephony device by OUI address
discovery-protocol   Set Voice VLAN port discovery protocol
mode                 Set Voice VLAN port mode
security             Enable Voice VLAN port security mode
auto                 Enable auto detect mode
disable              disjoin Voice VLAN
force                Force to join Voice VLAN
```

Example:

```
SISPM1040-3248-L3(config-if)# switchport access vlan 10
SISPM1040-3248-L3(config-if)# switchport forbidden vlan remove 10
SISPM1040-3248-L3(config-if)# switchport hybrid acceptable-frame-type all
SISPM1040-3248-L3(config-if)# switchport hybrid allowed vlan 100
SISPM1040-3248-L3(config-if)# switchport hybrid egress-tag all except-native
SISPM1040-3248-L3(config-if)# switchport hybrid ingress-filtering
SISPM1040-3248-L3(config-if)# switchport hybrid native vlan 10
SISPM1040-3248-L3(config-if)# switchport hybrid port-type c-port
SISPM1040-3248-L3(config-if)# switchport hybrid port-type unaware
SISPM1040-3248-L3(config-if)# switchport mode access
SISPM1040-3248-L3(config-if)# switchport mode hybrid
SISPM1040-3248-L3(config-if)# switchport mode trunk
SISPM1040-3248-L3(config-if)# switchport trunk allowed vlan 1000
SISPM1040-3248-L3(config-if)# switchport trunk allowed vlan add 100-200
SISPM1040-3248-L3(config-if)# switchport trunk allowed vlan all
SISPM1040-3248-L3(config-if)# switchport trunk native vlan 1000
SISPM1040-3248-L3(config-if)# switchport trunk vlan tag native
SISPM1040-3248-L3(config-if)# switchport vlan mapping 1
SISPM1040-3248-L3(config-if)# switchport voice vlan discovery-protocol both
SISPM1040-3248-L3(config-if)# switchport voice vlan discovery-protocol lldp
SISPM1040-3248-L3(config-if)# switchport voice vlan discovery-protocol oui
SISPM1040-3248-L3(config-if)# switchport voice vlan mode force
SISPM1040-3248-L3(config-if)# switchport voice vlan security
SISPM1040-3248-L3(config-if)#
```

Command: **udld**

Description: UDLD (Unidirectional Link Detection) configuration for an interface.

Syntax: **udld** port [aggressive] [message time-interval <v_interval>]

Parameters:

port	UDLD configuration on the interface
aggressive	Enable UDLD in the aggressive mode on an interface
message	Configures the period of time between UDLD probe messages on ports that are in the advertisement phase and are determined to be bidirectional. The range is from 7 to 90 seconds (Currently default message time interval 7 sec is supported).
time-interval	Configures the period of time between UDLD probe messages on ports that are in the advertisement phase and are determined to be bidirectional. The range is from 7 to 90 seconds (Currently default message time interval 7 sec is supported).
<7-90>	Configures the period of time between UDLD probe messages on ports that are in the advertisement phase and are determined to be bidirectional. The range is from 7 to 90 seconds (Currently default message time interval 7 sec is supported).

Example:

```
SISPM1040-3248-L3(config-if)# udld port aggressive message time-interval 7
SISPM1040-3248-L3(config-if)#
```

Command: **vcl**

Description: Configure VLAN Control List port matching (either dmac/dip or smac/sip)

Syntax: **vcl** { dmacdip | smacsip }

Parameters:

dmacdip	Do vcl matching on dmac/dip
smacsip	Do vcl matching on smac/sip

Example:

```
SISPM1040-3248-L3(config-if)# vcl dmac
SISPM1040-3248-L3(config-if)# vcl smac
```

LLAG Commands

These commands apply to LLAG (Local Link Aggregation) ports:

Syntax: **do** <command>
end
exit
help
lacp failover { revertive | non-revertive }
lacp max-bundle <v_uint>
no lacp failover [revertive | non-revertive]
no lacp max-bundle [<uint>]

Parameters:

<1-16>	ID of LLAG interface
do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
lacp	Set failover and max-bundle
no	Set to default values
failover	Set failover to non-revertive or revertive
max-bundle	Set lacp max-bundle
non-revertive	Set failover to non-revertive
revertive	Set failover to revertive
|	Output modifiers
<1-16>	lacp max-bundle

Example:

```
SISPM1040-3248-L3(config)# interface llag 1
SISPM1040-3248-L3(config-llag)# lacp failover non-revertive
Error:Max bundle overflow
Could not set LACP parameter
SISPM1040-3248-L3(config-llag)# lacp failover revertive
Error:Max bundle overflow
Could not set LACP parameter
SISPM1040-3248-L3(config-llag)# lacp max-bundle 1
SISPM1040-3248-L3(config-llag)# lacp max-bundle 15
SISPM1040-3248-L3(config-llag)# lacp failover revertive
SISPM1040-3248-L3(config-llag)# exit
SISPM1040-3248-L3(config)#
```

VLAN Port Commands

These commands apply to VLANs:

Syntax:

do <command>

end

exit

help

ip address <subnet>

ip address { { <address> <netmask> } | { dhcp [fallback <fallback_address> <fallback_netmask> [timeout <fallback_timeout>]] [client-id { <port_type> <client_id_interface> | ascii <ascii_str> | hex <hex_str> }] [hostname <hostname>] } }

ip igmp snooping

ip igmp snooping compatibility { auto | v1 | v2 | v3 }

ip igmp snooping last-member-query-interval <ipmc_lmqi>

ip igmp snooping priority <cos_priority>

ip igmp snooping querier { election | address <v_ipv4_ucast> }

ip igmp snooping query-interval <ipmc_qi>

ip igmp snooping query-max-response-time <ipmc_qri>

ip igmp snooping robustness-variable <ipmc_rv>

ip igmp snooping unsolicited-report-interval <ipmc_uri>

ip ospf authentication [null | message-digest]

ip ospf authentication-key { unencrypted <unencrypted_pwd> | encrypted <encrypted_pwd> }

ip ospf message-digest-key <md_key_id> md5 { unencrypted <unencrypted_pwd> | encrypted <encrypted_pwd> }

ip ospf { priority <priority> | cost <cost> | hello-interval <hello_interval> | retransmit-interval <retransmit_interval> | dead-interval { <dead_interval> | minimal hello-multiplier <fast_hello_packets> } }

ip rip authentication key-chain <key_chain_str>

ip rip authentication mode { text | md5 }

ip rip authentication string { unencrypted <unencrypted_pwd> | encrypted <encrypted_pwd> }

ip rip receive version { none | 1 [2] | 2 [1] }

ip rip send version { 1 [2] | 2 [1] }

ip rip split-horizon [poisoned-reverse]

ipv6 address <subnet>

ipv6 address { autoconfig | dhcp [rapid-commit] }

ipv6 dhcp relay [destination <v_ipv6_ucast>] interface vlan <v_vlan_id>

ipv6 mld snooping

ipv6 mld snooping compatibility { auto | v1 | v2 }

ipv6 mld snooping last-member-query-interval <ipmc_lmqi>

ipv6 mld snooping priority <cos_priority>

ipv6 mld snooping querier election

ipv6 mld snooping query-interval <ipmc_qi>

ipv6 mld snooping query-max-response-time <ipmc_qri>

ipv6 mld snooping robustness-variable <ipmc_rv>

ipv6 mld snooping unsolicited-report-interval <ipmc_uri>

ipv6 ospf { passive | priority <priority> | cost <cost> | hello-interval <hello_interval> | retransmit-interval <retransmit_interval> | transmit-delay <transmit_delay> | dead-interval { <dead_interval> } }
no ip address
no ip igmp snooping
no ip igmp snooping compatibility
no ip igmp snooping last-member-query-interval
no ip igmp snooping priority
no ip igmp snooping querier { election | address }
no ip igmp snooping query-interval
no ip igmp snooping query-max-response-time
no ip igmp snooping robustness-variable
no ip igmp snooping unsolicited-report-interval
no ip ospf authentication
no ip ospf authentication-key
no ip ospf message-digest-key <md_key_id>
no ip ospf { priority | cost | dead-interval | hello-interval | retransmit-interval }
no ip rip authentication { mode | key-chain | string }
no ip rip split-horizon [poisoned-reverse]
no ip rip { send | receive } version
no ipv6 address [<ipv6_subnet>]
no ipv6 address { autoconfig | dhcp [rapid-commit] }
no ipv6 dhcp relay [{ destination <ipv6_ucast> interface vlan <v_vlan_id> } | { interface vlan <i_vlan_id> }]
no ipv6 mld snooping
no ipv6 mld snooping compatibility
no ipv6 mld snooping last-member-query-interval
no ipv6 mld snooping priority
no ipv6 mld snooping querier election
no ipv6 mld snooping query-interval
no ipv6 mld snooping query-max-response-time
no ipv6 mld snooping robustness-variable
no ipv6 mld snooping unsolicited-report-interval
no ipv6 ospf { priority | cost | dead-interval | hello-interval | retransmit-interval | transmit-delay | passive }

Parameters:

do	To run exec commands in the configuration mode
end	Go back to EXEC mode
exit	Exit from current mode
help	Description of the interactive help system
ip	IPv4 configuration
ipv6	IPv6 configuration commands
no	Negate a command or set its defaults

Example: <see below for examples>

Command: **do**

Description: To run Exec mode commands in Interface Configuration mode.

Syntax: **do** <command>

Parameters: <line> Exec Command

Example:

```
SISPM1040-3248-L3(config-if-vlan)# do show ip interface brief
Interface Address            Method Status
--------- ------------------ ------ ------
VLAN 1    169.254.10.140/16  Manual UP
VLAN 1    192.168.1.77/24    Manual UP
SISPM1040-3248-L3(config-if-vlan)# do show vlan
VLAN  Name                           Interfaces
----  -------------------------------  ----------
1     default                          Gi 1/1,3-28 10G 1/1-4

SISPM1040-3248-L3(config-if-vlan)#
```

Command: **end**

Description: Go back to EXEC mode

Syntax: **end** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if-vlan)# end
SISPM1040-3248-L3#
```

Command: **exit**

Description: Exit from current mode.

Syntax: **exit** <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if-vlan)# exit
SISPM1040-3248-L3(config)#
```

Command: **help**

Description: Description of the interactive help system

Syntax: help <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3(config-if-vlan)# help
Help may be requested at any point in a command by entering
a question mark '?'.  If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.
2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)

Help may be requested at any point in a command by entering
a question mark '?'.  If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.
2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)

SISPM1040-3248-L3(config-if-vlan)#
```

Command: **ip**

Description: IPv4 configuration.

Syntax: ip address <subnet>

ip address { { <address> <netmask> } | { dhcp [fallback <fallback_address> <fallback_netmask> [timeout <fallback_timeout>]] [client-id { <port_type> <client_id_interface> | ascii <ascii_str> | hex <hex_str> }] [hostname <hostname>] } }

ip igmp snooping

ip igmp snooping compatibility { auto | v1 | v2 | v3 }

ip igmp snooping last-member-query-interval <ipmc_lmqi>

ip igmp snooping priority <cos_priority>

ip igmp snooping querier { election | address <v_ipv4_ucast> }

ip igmp snooping query-interval <ipmc_qi>

ip igmp snooping query-max-response-time <ipmc_qri>

ip igmp snooping robustness-variable <ipmc_rv>

ip igmp snooping unsolicited-report-interval <ipmc_uri>

ip ospf authentication [null | message-digest]

ip ospf authentication-key { unencrypted <unencrypted_pwd> | encrypted <encrypted_pwd> }

ip ospf message-digest-key <md_key_id> md5 { unencrypted <unencrypted_pwd> | encrypted <encrypted_pwd> }

ip ospf { priority <priority> | cost <cost> | hello-interval <hello_interval> | retransmit-interval <retransmit_interval> | dead-interval { <dead_interval> | minimal hello-multiplier <fast_hello_packets> } }

ip rip authentication key-chain <key_chain_str>

ip rip authentication mode { text | md5 }

ip rip authentication string { unencrypted <unencrypted_pwd> | encrypted <encrypted_pwd> }

ip rip receive version { none | 1 [2] | 2 [1] }

ip rip send version { 1 [2] | 2 [1] }

ip rip split-horizon [poisoned-reverse]

Parameters:

address	Address configuration
igmp	Internet Group Management Protocol
ospf	Open Shortest Path First (OSPF)
rip	Routing Information Protocol (RIP)
<ipv4_addr>	IP address
<ipv4_subnet>	IP address/prefix-size
dhcp	Enable DHCP
client-id	DHCP client identifier
fallback	DHCP fallback settings
hostname	DHCP host name
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
ascii	ASCII type for DHCP client identifier
hex	HEX type DHCP client identifier
<port_type_id>	Port ID in 1/1-28
<port_type_id>	Port ID in 1/1-4

<word31>	A unique ASCII string is taken for DHCP client identifier
<word64>	A unique hexadecimal value is taken for DHCP client identifier
<ipv4_addr>	DHCP fallback address
<ipv4_netmask>	DHCP fallback netmask
<domain_name63>	A valid name consist of a sequence of domain labels separated by '.', each domain label starting and ending with an alphanumeric character and possibly also containing '-' characters. The length of a domain label must be 63 characters or less.
compatibility	Interface compatibility
last-member-query-interval	Last Member Query Interval in tenths of seconds
priority	Interface CoS priority
querier	IGMP Querier configuration
query-interval	Query Interval in seconds
query-max-response-time	Query Response Interval in tenths of seconds
robustness-variable	Robustness Variable
unsolicited-report-interval	Unsolicited Report Interval in seconds
auto	Compatible with IGMPv1/IGMPv2/IGMPv3
v1	Forced IGMPv1
v2	Forced IGMPv2
v3	Forced IGMPv3
authentication	Enable authentication
authentication-key	Configure simple password authentication
cost	Set OSPF link state metric for the interface. It is used for Shortest Path First (SPF) calculation.
dead-interval	Set the dead-interval value (number of seconds) for the specific interface.
hello-interval	Set the hello-interval value for the specific interface.
message-digest-key	Configure message digest key authentication
priority	Set OSPF router priority for the specific interface.
retransmit-interval	Set the retransmit-interval value for the specific interface. It's the time interval (in seconds) to wait before retransmitting a database description packet or a link-state request when it has not been acknowledged.
message-digest	Use message digest(MD5) authentication
null	Use null authentication
encrypted	Specifies an ENCRYPTED password will follow
unencrypted	Specifies an UNENCRYPTED password will follow
<word128>	The ENCRYPTED (hidden) user password. Notice the ENCRYPTED password will be decoded by system internally. You cannot directly use it the same as the Plain Text and it is not human-readable text normally.
<word1-8>	The UNENCRYPTED (Plain Text) user password. Any printable characters including space is accepted. Notice that you have no chance to get the Plain Text password after this command. The system will always display the ENCRYPTED password.
<1-65535>	User specified cost for the interface.
<1-65535>	User dead-interval value for the specific interface.
minimal	Minimal time value
hello-multiplier	Set the fast hello packet. It specifies how many Hello packets will be sent per second.
<1-10>	User value of how many Hello packets will be sent per second.
<1-65535>	User hello-interval value for the specific interface.

<1-255>	Configure message digest key ID
md5	Use message digest(MD5) authentication
encrypted	Specifies an ENCRYPTED password will follow
unencrypted	Specifies an UNENCRYPTED password will follow
<word128>	The ENCRYPTED (hidden) user password. Notice the ENCRYPTED password will be decoded by system internally. You cannot directly use it the same as the Plain Text and it is not human-readable text normally.
<word1-16>	The UNENCRYPTED (Plain Text) user password. Any printable characters including space is accepted. Notice that you have no chance to get the Plain Text password after this command. The system will always display the ENCRYPTED password.
<0-255>	User specified router priority for the interface.
<3-65535>	User retransmit-interval value for the specific interface.
authentication	Enable authentication
receive	Advertisement reception
send	Advertisement transmission
split-horizon	Enable split horizon
key-chain	Configure key chain used by MD5 authentication
mode	Set authentication type
string	Configure simple password authentication
<word1-31>	key-chain length
md5	Use message digest(MD5) authentication
text	Use simple password authentication
version	Set routing protocol version
1	Receive RIP version 1
2	Receive RIP version 2
none	Receive No RIP version
1	Send RIP version 1
2	Send RIP version 2
poisoned-reverse	Enable split horizon with poisoned reverse

Example:

```
SISPM1040-3248-L3(config-if-vlan)# ip address dhcp fallback 1.2.3.4 255.255.255.0 client-id
ascii 12345678
% Failed to add IPv4 address to VLAN 101: IP address conflicts with existing interface
address.
SISPM1040-3248-L3(config-if-vlan)# ip address dhcp
SISPM1040-3248-L3(config-if-vlan)# ip igmp snooping compatibility v3
SISPM1040-3248-L3(config-if-vlan)# ip ospf authentication message-digest
SISPM1040-3248-L3(config-if-vlan)# ip ospf authentication null
SISPM1040-3248-L3(config-if-vlan)# ip ospf cost 400
SISPM1040-3248-L3(config-if-vlan)# ip ospf dead-interval 9000
Set OSPF interface configuration failed
SISPM1040-3248-L3(config-if-vlan)# ip ospf hello-interval 8000
SISPM1040-3248-L3(config-if-vlan)# ip ospf message-digest-key 95 md5 encrypted A
AAAAAAAAAAAAAAAAAAAAAAAv666
 % The password/key is invalid on VLAN 100.
SISPM1040-3248-L3(config-if-vlan)# ip ospf priority 55
SISPM1040-3248-L3(config-if-vlan)# ip ospf retransmit-interval 4000
```

```
SISPM1040-3248-L3(config-if-vlan)# ip rip authentication key-chain Kkeyc1235
SISPM1040-3248-L3(config-if-vlan)# ip rip authentication mode md5
SISPM1040-3248-L3(config-if-vlan)# ip rip authentication mode text
SISPM1040-3248-L3(config-if-vlan)# ip rip receive version 2
SISPM1040-3248-L3(config-if-vlan)# ip rip receive version 2  1
SISPM1040-3248-L3(config-if-vlan)# ip rip send version 2 1
SISPM1040-3248-L3(config-if-vlan)# ip rip split-horizon
SISPM1040-3248-L3(config-if-vlan)# ip rip split-horizon poisoned-reverse
SISPM1040-3248-L3(config-if-vlan)#
```

Command: **ipv6**

Description: IPv6 configuration commands for a VLAN interface.

Syntax:

ipv6 address <subnet>
ipv6 address { autoconfig | dhcp [rapid-commit] }
ipv6 dhcp relay [destination <v_ipv6_ucast>] interface vlan <v_vlan_id>
ipv6 mld snooping
ipv6 mld snooping compatibility { auto | v1 | v2 }
ipv6 mld snooping last-member-query-interval <ipmc_lmqi>
ipv6 mld snooping priority <cos_priority>
ipv6 mld snooping querier election
ipv6 mld snooping query-interval <ipmc_qi>
ipv6 mld snooping query-max-response-time <ipmc_qri>
ipv6 mld snooping robustness-variable <ipmc_rv>
ipv6 mld snooping unsolicited-report-interval <ipmc_uri>
ipv6 ospf { passive | priority <priority> | cost <cost> | hello-interval <hello_interval> | retransmit-interval <retransmit_interval> | transmit-delay <transmit_delay> | dead-interval { <dead_interval> } }

Parameters:

address	Configure the IPv6 address of an interface
dhcp	Configure DHCPv6 related parameters
mld	Multicast Listener Discovery
ospf	Open Shortest Path First for IPv6 (OSPFv3)
<ipv6_subnet>	IPv6 prefix x:x::y/z
dhcp	Enable DHCPv6 client function
rapid-commit	Enable DHCPv6 client Rapid-Commit option
relay	Configure DHCP6 relay parameters
destination	Configure DHCPv6 destination address
interface	Configure VLAN interface used for relaying
<ipv6_ucast>	IPv6 address of the DHCPv6 server
vlan	Configure VLAN interface used for relaying
<vlan_id>	VLAN ID of interface used for relaying
snooping	Snooping MLD
compatibility	Interface compatibility
last-member-query-interval	Last Member Query Interval in tenths of seconds
priority	Interface CoS priority
querier	MLD Querier configuration
query-interval	Query Interval in seconds
query-max-response-time	Query Response Interval in tenths of seconds
robustness-variable	Robustness Variable
unsolicited-report-interval	Unsolicited Report Interval in seconds
auto	Compatible with MLDv1/MLDv2
v1	Forced MLDv1
v2	Forced MLDv2

cost	Set OSPF6 link state metric for the interface. It is used for Shortest Path First (SPF) calculation.
dead-interval	Set the dead-interval value (number of seconds) for the specific interface.
hello-interval	Set the hello-interval value for the specific interface.
passive	Set the interface as passive
priority	Set OSPF6 router priority for the specific interface.
retransmit-interval	Set the retransmit-interval value for the specific interface. It's the time interval (in seconds) to wait before retransmitting a database description packet or a link-state request when it has not been acknowledged.
transmit-delay	Set the transmit-delay value for the specified interface
<1-65535>	User specified cost for the interface.
<1-65535>	User dead-interval value for the specific interface.
<1-65535>	User hello-interval value for the specific interface.
<0-255>	User specified router priority for the interface.
<3-65535>	User specified retransmit-interval value for the specific interface.
<1-3600>	User transmit-delay value for the specified interface

Example:

```
SISPM1040-3248-L3(config-if-vlan)# ipv6 address dhcp
SISPM1040-3248-L3(config-if-vlan)# ipv6 address dhcp rapid-commit
SISPM1040-3248-L3(config-if-vlan)# ipv6 dhcp relay interface vlan 100
% DHCP6 relay:  Failed to enable on VLAN 100: Invalid relay interface
SISPM1040-3248-L3(config-if-vlan)# ipv6 mld snooping compatibility auto
SISPM1040-3248-L3(config-if-vlan)# ipv6 ospf cost 9000
SISPM1040-3248-L3(config-if-vlan)# ipv6 ospf dead-interval 4000
SISPM1040-3248-L3(config-if-vlan)# ipv6 ospf hello-interval 800
SISPM1040-3248-L3(config-if-vlan)# ipv6 ospf passive
SISPM1040-3248-L3(config-if-vlan)# ipv6 ospf priority 55
SISPM1040-3248-L3(config-if-vlan)# ipv6 ospf retransmit-interval 400
SISPM1040-3248-L3(config-if-vlan)# ipv6 ospf transmit-delay 450
SISPM1040-3248-L3(config-if-vlan)# exit
SISPM1040-3248-L3(config)# exit
SISPM1040-3248-L3#
```

Command: **no**

Description: Negate a command or set its defaults.

Syntax:

no ip address
no ip igmp snooping
no ip igmp snooping compatibility
no ip igmp snooping last-member-query-interval
no ip igmp snooping priority
no ip igmp snooping querier { election | address }
no ip igmp snooping query-interval
no ip igmp snooping query-max-response-time
no ip igmp snooping robustness-variable
no ip igmp snooping unsolicited-report-interval
no ip ospf authentication
no ip ospf authentication-key
no ip ospf message-digest-key <md_key_id>
no ip ospf { priority | cost | dead-interval | hello-interval | retransmit-interval }
no ip rip authentication { mode | key-chain | string }
no ip rip split-horizon [poisoned-reverse]
no ip rip { send | receive } version
no ipv6 address [<ipv6_subnet>]
no ipv6 address { autoconfig | dhcp [rapid-commit] }
no ipv6 dhcp relay [{ destination <ipv6_ucast> interface vlan <v_vlan_id> } | { interface vlan <i_vlan_id> }]
no ipv6 mld snooping
no ipv6 mld snooping compatibility
no ipv6 mld snooping last-member-query-interval
no ipv6 mld snooping priority
no ipv6 mld snooping querier election
no ipv6 mld snooping query-interval
no ipv6 mld snooping query-max-response-time
no ipv6 mld snooping robustness-variable
no ipv6 mld snooping unsolicited-report-interval
no ipv6 ospf { priority | cost | dead-interval | hello-interval | retransmit-interval | transmit-delay | passive }

Parameters:

ip	IPv4 configuration
ipv6	IPv6 configuration commands
address	Address configuration
igmp	Internet Group Management Protocol
ospf	Open Shortest Path First (OSPF)
rip	Routing Information Protocol (RIP)
snooping	Snooping IGMP
compatibility	Interface compatibility
last-member-query-interval	Last Member Query Interval in tenths of a second
priority	Interface CoS priority
querier	IGMP Querier configuration

query-interval	Query Interval in seconds
query-max-response-time	Query Response Interval in tenths of seconds
robustness-variable	Robustness Variable
unsolicited-report-interval	Unsolicited Report Interval in seconds
authentication	Enable authentication
authentication-key	Configure simple password authentication
cost	Set OSPF link state metric for the interface to default.
dead-interval	Set the dead-interval value (number of seconds) for the specific interface to default.
hello-interval	Set the hello-interval value for the specific interface to default.
message-digest-key	Configure message digest key authentication
priority	Set OSPF router priority for the specific interface to default.
retransmit-interval	Set the retransmit-interval value for the specific interface to default.

Example:

```
SISPM1040-3248-L3(config-if-vlan)# no ip igmp snooping query-interval
SISPM1040-3248-L3(config-if-vlan)# no ipv6 mld snooping querier election
% Failed to control MLD VLAN 163.
SISPM1040-3248-L3(config-if-vlan)# no ip igmp snooping robustness-variable
SISPM1040-3248-L3(config-if-vlan)# no ip ospf retransmit-interval
SISPM1040-3248-L3(config-if-vlan)#
```

7. Copy Commands

Description: Copy from source to destination.

Syntax:

copy { startup-config | running-config | <source_path> } { startup-config | running-config | <destination_path> } [syntax-check] [save-host-key] [ftp-active] [{ merge | replace }]

Parameters:

<url_file>	File in FLASH or on remote server. Syntax: <flash:filename> | <protocol>://[<username>[:<password>]@]<host>[:<port>][/<path>]> A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.
running-config	Currently running configuration
startup-config	Startup configuration
|	Output modifiers
merge	merge source file with running-config
replace	replace running-config with source file, default action
syntax-check	Perform syntax check on source configuration
begin	Begin with the line that matches
exclude	Exclude lines that match
include	Include lines that match

Example:

```
SISPM1040-3248-L3# copy running-config startup-config merge syntax-check
Building configuration...
sflow mode enable
      ^
% Invalid word detected at '^' marker.

ptp 0 filter-type aci-default
                  ^
% Invalid word detected at '^' marker.
SISPM1040-3248-L3# copy startup-config running-config replace
% startup-config: Load failed: Cannot read file status.
SISPM1040-3248-L3#
```

Messages: *% Source and destination are identical; no copy done.*

8. Delete Commands

Description: Delete one file in flash: file system.

Syntax: **delete** <path>

Parameters:

<url_file> File in FLASH. Syntax: <flash:filename>. A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.

Example:

```
SISPM1040-3248-L3# del flash:icon_list
SISPM1040-3248-L3#
```

9. Dir Commands

Description: Show directory of all files in flash: file system.

Syntax: dir

dir | [begin | exclude | include] <line>

Parameters:

Example:

```
SISPM1040-3248-L3# dir
Directory of flash:
    r- 2021-10-15 07:49:24      650 default-config
    rw 2020-01-01 00:02:40     1021 custom-config
    rw 2020-01-01 00:00:03   134279 api_translater.set
    rw 2020-01-08 07:09:26    45435 crashfile
    rw 2020-01-01 00:03:32      207 icon_list
    rw 2020-01-01 00:02:40     8419 web_01
    rw 2020-01-01 00:02:40     8419 web_02
    rw 2020-01-01 00:02:40     2898 web_03
    rw 2020-01-01 00:02:40      169 web_04
    rw 2020-01-01 00:03:38      254 TLV-config
    rw 2020-01-01 00:02:40      102 webiconlist
11 files, 201853 bytes total.

Flash size:         58482688 bytes (55.8 MiB)
Flash free:         58003456 bytes (55.3 MiB)
SISPM1040-3248-L3#
```

10. Disable Commands

Description: Turn off privilege commands.

Syntax: **disable** [<new_priv>]

Parameters: <0-15> privilege level

Example:

```
SISPM1040-3248-L3# disable 12
SISPM1040-3248-L3#
```

11. Do Commands

Description: To run Exec mode commands in Configuration mode.

Syntax: **do** <command>

Parameters: <line> Exec Command

Example:

```
SISPM1040-3248-L3# do show clock
System Time     : 2021-12-16T02:27:11+13:01

SISPM1040-3248-L3#
```

12. Dot1X Commands

Description: IEEE Standard for port-based Network Access Control.

Syntax: **dot1x** initialize
dot1x initialize interface *
dot1x initialize interface * <port_type_list>
dot1x initialize interface (GigabitEthernet | 10GigabitEthernet) <port_type_list>

Parameters:

initialize	Force re-authentication immediately
interface	Interface
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-52
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# dot1x initialize interface * 1/2-9
SISPM1040-3248-L3#
```

13. Enable Commands

Description: Turn on privileged commands.

Syntax: **enable** [<new_priv>]

Parameters: <0-15> Choose privileged level

Example:

```
SISPM1040-3248-L3# enable 10
SISPM1040-3248-L3# enable 15
% No password set
```

```
SISPM1040-3248-L3#
```

14. ERPS Commands

ERPS Commands (Exec Mode)

Description: Ethernet Ring Protection Switching.

Syntax: **erps** <inst> clear

erps <inst> switch { force | manual } { port0-to-port1 | port1-to-port0 }

Parameters:

<1-64,1,2,3>	ERPS instance number
clear	Clear a switchover (FS or MS) request and a WTB/WTR condition and force reversion even if not revertive.
switch	Request a switchover from port0 to port1 or vice versa. Use 'erps <inst> clear' to clear the request.
force	Causes a forced switchover.
manual	Causes a switchover if the signal is good and no forced switch is in effect.
port0-to-port1	Blocks port0 and unblocks port1.
port1-to-port0	Blocks port1 and unblocks port0.

Example:

```
SISPM1040-3248-L3# erps 3 switch manual port0-to-port1
SISPM1040-3248-L3# erps 3 switch force port0-to-port1
SISPM1040-3248-L3# erps 2 clear
SISPM1040-3248-L3#
SISPM1040-3248-L3# show erps
Failure of Protocol defect abbreviations:
  T: FOP-TO, Time Out: R-APS PDU expected, but none received within last 17.5 seconds
  0: FOP-PM, Provisioning Mismatch on port0 (RPL owner, only)
  1: FOP-PM, Provisioning Mismatch on port1 (RPL owner, only)

                                Port0 Port1 Port0   Port1
Inst Operational State Node State SF    SF    Blocked Blocked Tx R-APS PDU
     Dfcts Command
---- ----------------- ---------- ---- ------ ------- ------- ------------------
---- ----- -----------------
   1 Internal error has occurred. See console or crashlog for details
   2 Administratively disabled
   3 Active (warnings) Idle       No    No    Yes     No      NR, RB, DNF, BPR=p
ort0 ---   None
SISPM1040-3248-L3#
```

Messages: *% ERPS instance is not active*

ERPS Commands (Config Mode)

Description: Ethernet Ring Protection Switching.

Syntax:

admin-state { enable | disable }
control-vlan <vid> [pcp <pcp>]
do <command>
end
exit
guard-time <guard_time>
help
hold-off-time <hold_off>
level <level>
no guard-time <guard_time>
no hold-off-time <hold_off>
no node-id
no port0 smac
no port1 smac
no protected-vlans
no revertive
no rpl
no wait-to-restore <wtr>
node-id <node_id>
port0 interface <port_type> <port>
port0 sf-trigger { link | { mep domain <md_name> service <ma_name> mep-id <mepid> } }
port0 smac <mac>
protected-vlans <vlan_list>
revertive
ring-id <ring_id>
ring-type { major | sub-ring [virtual-channel] | interconnected-sub-ring { connected-ring <connected_ring_inst> [virtual-channel] [propagate-topology-change] } }
rpl { owner | neighbor } { port0 | port1 }
version { v1 | v2 }
wait-to-restore <wtr>

Parameters:

<1-64,1,2,3>	ERPS instance number.
admin-state	Enable or disable this ERPS instance.
control-vlan	Set the ERPS instance's control VLAN and PCP used in R-APS PDUs transmitted on both ring ports (if applicable).
do	To run exec commands in the configuration mode.
end	Go back to EXEC mode.
exit	Exit from current mode.
guard-time	The guard timer is used to prevent ring nodes from acting upon outdated R-APS PDUs upon topology changes.
help	Description of the interactive help system.
hold-off-time	When a new (or more severe) defect occurs, the hold-off.
hold-off-time	When a new (or more severe) defect occurs, the hold-off after the timer expires.

level	Set the MD/MEG level used in R-APS PDUs. Default is 7.
no	Negate a command or set its defaults
node-id	Controls the Node ID used inside the R-APS PDUs to uniquely identify this node (switch). Defaults to using the switch's.
port0	Set configuration for ring port0 (East).
protected-vlans	Set the list of VLANs protected by this ERPS instance.
revertive	Set this instance to be revertive, that is, restore to default after the wait-to-restore timer has expired.
ring-id	Controls the Ring ID, which is used in the last byte of the DMAC of R-APS PDUs. Ring IDs of received R-APS PDUs must match the configured Ring ID.
ring-type	Controls whether this is a major ring or a sub-ring. Only major rings are supported if using G.8032v1.
rpl	Controls whether this node holds the Ring Protection Link (RPL), and what role it has in that case. Use the no-form if this node doesn't hold the RPL.
version	Specify whether to use G.8032v1 or G.8032v2 of the R-APS protocol
wait-to-restore	Only used in revertive mode. Indicates the number of seconds after a defect has cleared until operation is switched back to the normal condition.
disable	Disable this ERPS instance
enable	Enable this ERPS instance
<vlan_id>	The VLAN ID used in R-APS PDUs
pcp	Choose a PCP to be used in the 802.1Q tag.
<0-7>	PCP value
<0-2000>	Guard-time value measured in milliseconds. Must be in multiples of 10 ms.
<0-10000>	Hold-off timer value measured in milliseconds. Must be in multiples of 100 ms.
<0-7>	MD/MEG level.
<mac_ucast>	Node ID, which goes into the R-APS PDUs' Node ID field.
interface	Assign an interface to ring port0
sf-trigger	Choose whether port0's interface link state or a MEP installed on port0's interface is used as signal-fail trigger
smac	Set a source MAC address to be used in R-APS PDUs transmitted on port0. Default to use interface's.
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_id>	Port ID in 1/1-28
<port_type_id>	Port ID in 1/1-4
link	Port0's interface link state is used as signal-fail trigger
mep	A MEP installed on port0 is used as signal-fail trigger
domain	The MEP's domain
service	The MEP's service within the domain
<kword1-15>	The MEP's service name within the domain
mep-id	The MEP's MEP-ID
<1-8191>	The MEP's MEP-ID
<mac_ucast>	Select a unicast MAC address to be used as source MAC address in R-APS PDUs transmitted on port0.
<vlan_list>	List of VLANs, e.g. 2-10,123-456,4044.
<1-239>	Ring ID. If using G.8032 version 1, this must be 1.

interconnected-sub-ring	Make this an interconnected sub-ring, which has only one ring port (port0), but connects to a major ring.
major	Make this a major ring, which always has two ring ports.
sub-ring	Make this a non-interconnected sub-ring, which has two ring ports.
connected-ring	An interconnected sub-ring points to another ring with two ring ports (that is, that other ring cannot itself be an interconnected sub-ring), which receives flush notifications and may carry R-APS PDUs for the sub-ring.
<1-64,1,2,3>	The ERPS instance number of the connected ring that this interconnected sub-ring connects to.
propagate-topology-change	If a topology-change occurs on this interconnected sub-ring, the connected ring also flushes its FDB. If this keyword is specified, the connected ring will also send Flush R-APS Event PDU onto its ring ports.
virtual-channel	Configure this interconnected sub-ring with a R-APS virtual channel, that is, R-APS PDUs are transmitted on the connected ring that this sub-ring connects to.
neighbor	This node is RPL neighbor.
owner	This node is RPL owner.
port0	This node's RPL is on ring port 0.
v1	Use version 1 of the R-APS protocol.
v2	Use version 2 of the R-APS protocol.
<1-720>	Wait-to-restore measured in seconds.

Example:

```
SISPM1040-3248-L3(config)# erps 1
SISPM1040-3248-L3(config-erps)# admin-state enable
SISPM1040-3248-L3(config-erps)# control-vlan 10 pcp 2
SISPM1040-3248-L3(config-erps)# guard-time 500
SISPM1040-3248-L3(config-erps)# hold-off-time 800
SISPM1040-3248-L3(config-erps)# level 4
SISPM1040-3248-L3(config-erps)# port0 interface 10GigabitEthernet 1/3
SISPM1040-3248-L3(config-erps)# port0 sf-trigger link
SISPM1040-3248-L3(config-erps)# port0 sf-trigger mep domain domain service Svc1 mep-id 1
SISPM1040-3248-L3(config-erps)# protected-vlans 100-200
SISPM1040-3248-L3(config-erps)# revertive
SISPM1040-3248-L3(config-erps)# ring-id 1
SISPM1040-3248-L3(config-erps)# ring-id 2
SISPM1040-3248-L3(config-erps)# ring-type interconnected-sub-ring connected-ring
 3 propagate-topology-change virtual-channel
SISPM1040-3248-L3(config-erps)# rpl neighbor port0
SISPM1040-3248-L3(config-erps)# rpl owner port0
SISPM1040-3248-L3(config-erps)# version v1
% Ring type must be "major" when using G.8032v1
SISPM1040-3248-L3(config-erps)# version v2
SISPM1040-3248-L3(config-erps)# wait-to-restore 125
SISPM1040-3248-L3(config-erps)# exit
SISPM1040-3248-L3(config)#
```

15. Firmware Commands

Description: Firmware upgrade/swap.

Syntax: **firmware** swap
firmware upgrade <url_file> [save-host-key] [ftp-active]

Parameters:

swap	Swap between Active and Backup firmware image.
upgrade	Firmware upgrade
<url_file>	Uniform Resource Locator. It is a specific character string that constitutes a reference to a resource. Syntax: <protocol>://[<username>[:<password>]@]<host>[:<port>][/<path>]/<file_name> If the following special characters: space !"#$%&'()*+,/:;<=>?@[\]^`{|}~ need to be contained in the input URL string, they should be percent-encoded. A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.
save-host-key	Save the host key
ftp-active	Use active mode for FTP transfers (default is passive mode)

Example:

```
SISPM1040-3248-L3# firmware swap
Alternate image activated, now rebooting.
SISPM1040-3248-L3# firmware upgrade tftp://192.168.1.1/running-config
Downloading...
W firmware 00:02:40 204/execute#248: Warning: Timeout waiting for data exceeded
Download failed: Timeout
SISPM1040-3248-L3#
```

Note to verify modifications, follow these steps after upgrading to FW v8.10.0105: 1. Login device via CLI. 2. Type Command "reload defaults". 3. Type Command "copy running-config startup-config". 4. Reboot device.

16. IP Commands

Description: IPv4 commands.

Syntax: **ip** dhcp retry interface vlan x

Parameters:

dhcp	DHCP commands
retry	Restart the DHCP query process
interface	Interface
vlan	VLAN interface
<vlan_id>	VLAN ID

Example:

```
SISPM1040-3248-L3# ip dhcp retry interface vlan 100
% Failed to restart DHCP client on VLAN = 100.
SISPM1040-3248-L3#
```

17. iperf Commands

Description: Network bandwidth measurement tool.

Syntax: **iperf** host <v_host> [port <v_port>] [time <v_time>] [interval <v_interval>] [ttl <v_ttl>]

Parameters:

host	host address
<word1-255>	host address
interval	seconds between periodic bandwidth reports
port	server port
time	time in seconds to transmit for
ttl	time-to-live, for multicast
<1-60>	seconds between periodic bandwidth reports
port	server port
time	time in seconds to transmit for
ttl	time-to-live, for multicast
<1-65535>	server port (default 5001)
time	time in seconds to transmit for
ttl	time-to-live, for multicast
<1-60>	time in seconds to transmit for (default 10 secs)
ttl	time-to-live, for multicast
<1-255>	time-to-live, for multicast (default 1)

Example:

```
SISPM1040-3248-L3# iperf host 1.2.3.4 interval 30 port 5001 time 25 ttl 9
SISPM1040-3248-L3#
```

18. iperf3 Commands

Description: Network bandwidth measurement tool.

Syntax: **iperf3** host <v_host> [port <v_port>] [time <v_time>] [interval <v_interval>]

Parameters:

host	host address.
<word1-255>	host address.
interval	seconds between periodic bandwidth reports.
port	server port.
time	time in seconds to transmit for.
<1-65535>	server port (default 5201)
time	time in seconds to transmit for
<1-60>	time in seconds to transmit for (default 10 secs)

Example:

```
SISPM1040-3248-L3# iperf3 host BHost2 interval 22 port 444 time 48
SISPM1040-3248-L3#
```

19. IPv6 Commands

Description: IPv6 configuration commands.

Syntax: **ipv6** dhcp-client restart [interface vlan <v_vlan_list>]

Parameters:

dhcp-client	Manage DHCPv6 client service
restart	Restart DHCPv6 client service
interface	Select an interface to configure
vlan	VLAN of IPv6 interface
<vlan_list>	IPv6 interface VLAN list

Example:

```
SISPM1040-3248-L3# ipv6 dhcp-client restart interface vlan 1-3
% Invalid DHCPv6 client interface Vlan1
% Invalid DHCPv6 client interface Vlan2
% Invalid DHCPv6 client interface Vlan3
SISPM1040-3248-L3#
```

20. Link OAM Commands

Link OAM configuration.

Syntax: **link-oam** remote-loopback { start | stop } interface (<port_type> [<v_port_type_list>])

Parameters:

remote-loopback	Configure remote loopback on interface.
start	Start remote loopback test on interface.
stop	Stop remote loopback test on interface.
interface	Start/Stop remote loopback test on a specific interface or interfaces.
*	All switches or All ports.
GigabitEthernet	1 Gigabit Ethernet Port.
10GigabitEthernet	10 Gigabit Ethernet Port.
<port_type_list>	Port list for all port types.
<port_type_list>	Port list in 1/1-28.
<port_type_list>	Port list in 1/1-4.

Example:

```
SISPM1040-3248-L3# link-oam remote-loopback start interface 10GigabitEthernet 1/3
% Requested configuration is not supported with the current OAM mode for 10GigabitEthernet
1/3
SISPM1040-3248-L3# link-oam remote-loopback start interface * 1/22
% Requested configuration is not supported with the current OAM mode for Gigabit
Ethernet 1/22
SISPM1040-3248-L3#
```

21. More Commands

Display file.

Syntax: **more** <path> [save-host-key] [ftp-active]

Parameters:

<url_file>	File in FLASH or on remote server. Syntax: <flash:filename> | <protocol>://[<username>[:<password>]@]<host>[:<port>][/<path>]> A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.
|	Output modifiers
ftp-active	Use active mode for FTP transfers (default is passive mode)
save-host-key	Always save SSH host keys in local cache

Example:

```
SISPM1040-3248-L3# more flash:runnin-config ftp-active save-host-key
% runnin-config: Load failed: Cannot read file status.
SISPM1040-3248-L3# more tftp://192.168.1.1/ddd | begin a
% Loading ddd from TFTP server 192.168.1.1
% Error loading remote file: Connection timed out (9)
SISPM1040-3248-L3#
```

22. No Commands (Exec Mode)

Description: Negate or default a command in Exec mode.

Syntax:

no aps <inst> freeze
no debug gdbserver
no debug interrupt monitor [source <intr_name>]
no debug kr-options
no debug ptp ms-pdv log-level
no debug trace hunt
no port-security shutdown [interface (<port_type> [<v_port_type_list>])]
no ptp <clockinst> wireless mode interface (<port_type> [<v_port_type_list>])
no terminal editing
no terminal exec-timeout
no terminal history size
no terminal length
no terminal width

Parameters:

aps	Automatic Protection Switching
debug	Debugging functions
port-security	Port Security
ptp	Misc non persistent 1588 settings.
terminal	Set terminal line parameters
<1-32>	APS instance number
freeze	Freezes the state of the APS instance. While in this mode, additional near-end commands, condition changes, and received APS information are ignored. Use 'no aps <inst> freeze' to get out of this mode.
gdbserver	GNU Project debugger
interrupt	Application-handled interrupt source
kr-options	Debug command to enable options in "speed kr <options>" interface command.
ptp	Precision Timing Protocol
trace	Line trace
monitor	Print a line on the console every time the corresponding source interrupt fires.
source	Select a particular source interrupt to monitor
<cword>	Valid words are 'AMS' 'CLK_ADJ' 'CLK_TSTAMP' 'EGR_ENGINE_ERR' 'EGR_FIFO_OVERFLOW' 'EGR_RW_FCS_ERR' 'EGR_TIMESTAMP_CAPTURED' 'EXT_1_SYNC' 'EXT_SYNC' 'FLNK' 'INGR_ENGINE_ERR' 'INGR_RW_FCS_ERR' 'INGR_RW_PREAM_ERR' 'KR' 'LOS' 'MOD_DET' 'PTP_PIN_0' 'PTP_PIN_1' 'PTP_PIN_2' 'PTP_PIN_3' 'PUSH_BUTTON' 'SYNC' 'VOE'
shutdown	Reopen one or more ports whose limit is exceeded and shut down.
interface	select an interface
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port

10GigabitEthernet 10 Gigabit Ethernet Port
<port_type_list> Port list for all port types
<port_type_list> Port list in 1/1-28
<port_type_list> Port list in 1/1-4
<0-3> Clock instance [0-3]
wireless Enable wireless mode for one or more interfaces.
mode Enable wireless mode for an interface.
interface Interface
editing Enable command line editing
exec-timeout Set the EXEC timeout
history Control the command history function
length Set number of lines on a screen
width Set width of the display terminal
size Set history buffer size

Example:

```
SISPM1040-3248-L3# no aps 1 freeze
% No such APS instance
SISPM1040-3248-L3# no debug gdbserver
SISPM1040-3248-L3# no debug interrupt monitor source voe
% Unable to unhook VOE interrupt
SISPM1040-3248-L3# no port-security shutdown interface 10GigabitEthernet 1/2
SISPM1040-3248-L3# no ptp 0 wireless mode interface GigabitEthernet 1/3
Wireless mode not available for ptp instance 0, port 3
Wireless mode requires a two-step or Oam based BC
SISPM1040-3248-L3#
```

23. No Commands (Config Mode)

Description: Negate a command or set its defaults in Config mode.

Syntax:

no aaa accounting { console | telnet | ssh | http | https }
no aaa authentication login { console | telnet | ssh | http | https }
no aaa authorization { console | telnet | ssh }
no access management
no access management <access_id_list>
no access-list ace <ace_list>
no access-list rate-limiter [<rate_limiter_list>]
no aggregation mode
no aps { <inst> | all }
no banner [motd | login | exec]
no cfm domain { <md_name> | all }
no clock summer-time
no clock timezone
no command-history-log
no ddmi
no dot1x authentication timer inactivity
no dot1x authentication timer re-authenticate
no dot1x feature { [guest-vlan] [radius-qos] [radius-vlan] }*1
no dot1x guest-vlan
no dot1x guest-vlan supplicant
no dot1x max-reauth-req
no dot1x re-authentication
no dot1x system-auth-control
no dot1x timeout quiet-period
no dot1x timeout tx-period
no enable password [level <priv>]
no enable secret { [0 | 5] } [level <priv>]
no erps { <inst> | all }
no exec-timeout autologout
no green-ethernet eee optimize-for-power
no gvrp
no gvrp max-vlans <maxvlans>
no gvrp time { [join-time <join_time>] [leave-time <leave_time>] [leave-all-time <leave_all_time>] }*1
no hostname
no interface llag <llag_id>
no interface vlan <vlist>
no ip arp inspectionno ip arp inspection entry interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var>
no ip arp inspection vlan <in_vlan_list>
no ip arp inspection vlan <in_vlan_list> logging
no ip dhcp relay
no ip dhcp relay information option
no ip dhcp relay information policy
no ip dhcp server per-port
no ip dhcp snooping
no ip dhcp vlan <vid>
no ip dns proxy
no ip domain name
no ip helper-address
no ip igmp host-proxy [leave-proxy]
no ip igmp snooping
no ip igmp snooping vlan [<vlan_list>]
no ip igmp ssm-range
no ip igmp unknown-flooding
no ip name-server [<order>]
no ip route <v_ipv4_addr> <v_ipv4_netmask> <v_ipv4_gw> [distance <v_distance>]
no ip route <v_ipv4_subnet> <v_ipv4_gw> [distance <v_distance>]

no ip routing
no ip source binding interface <port_type> <in_port_type_id> <vlan_var> <ipv4_var> <mac_var>
no ip ssh
no ip verify source
no ipmc profile
no ipmc profile <profile_name>
no ipmc range <entry_name>
no ipv6 dhcp snooping
no ipv6 mld host-proxy [leave-proxy]
no ipv6 mld snooping
no ipv6 mld snooping vlan [<vlan_list>]
no ipv6 mld ssm-range
no ipv6 mld unknown-flooding
no ipv6 route <v_ipv6_subnet> <v_ipv6_ucast> [interface vlan <v_vlan_id>] [distance <v_distance>]
no ipv6 source binding interface <port_type> <port_type_id> [vlan <vlan_id>] <ipv6_ucast> <mac_ucast>
no ipv6 verify source
no key chain <key_chain_name>
no lacp system-priority <v_1_to_65535>
no lldp holdtime
no lldp med datum
no lldp med fast
no lldp med location-tlv altitude
no lldp med location-tlv civic-addr { country | state | county | city | district | block | street | leading-street-direction | trailing-street-suffix | street-suffix | house-no | house-no-suffix | landmark | additional-info | name | zip-code | building | apartment | floor | room-number | place-type | postal-community-name | p-o-box | additional-code }
no lldp med location-tlv elin-addr
no lldp med location-tlv latitude
no lldp med location-tlv longitude
no lldp med media-vlan-policy <policies_list>
no lldp reinit
no lldp timer
no lldp transmission-delay
no logging host
no logging on
no loop-protect
no loop-protect shutdown-time
no loop-protect transmit-time
no mac address-table aging-time
no mac address-table aging-time <v_0_10_to_1000000>
no mac address-table learning vlan <vlan_list>
no mac address-table static <v_mac_addr> vlan <v_vlan_id> [interface (<port_type> [<v_port_type_list>])]
no map-api-key
no monitor session <session_number> [destination { interface (<port_type> [<di_list>]) } | source { interface (<port_type> [<si_list>]) [both | rx | tx] }]
no mvr
no mvr name <mvr_name> channel
no mvr name <mvr_name> frame priority
no mvr name <mvr_name> frame tagged
no mvr name <mvr_name> last-member-query-interval
no mvr name <mvr_name> mode
no mvr name <mvr_name> { election | igmp-address }
no mvr vlan <v_vlan_list>
no mvr vlan <v_vlan_list> channel
no mvr vlan <v_vlan_list> frame priority
no mvr vlan <v_vlan_list> frame tagged
no mvr vlan <v_vlan_list> last-member-query-interval
no mvr vlan <v_vlan_list> mode
no mvr vlan <v_vlan_list> { election | igmp-address }
no mvrp
no ntp
no ntp automatic
no ntp interval <interval>

no ntp server <index_var>
no port-security aging
no port-security aging time
no port-security hold time
no privilege <mode_name> level <0-15> <cmd>
no prompt
no ptp <clockinst> afi-announce
no ptp <clockinst> afi-sync
no ptp <clockinst> clk
no ptp <clockinst> domain
no ptp <clockinst> ho
no ptp <clockinst> localpriority
no ptp <clockinst> log
no ptp <clockinst> mode { boundary | e2etransparent | p2ptransparent | master | slave | bcfrontend }
no ptp <clockinst> path-trace-enable
no ptp <clockinst> priority1
no ptp <clockinst> priority2
no ptp <clockinst> servo ad
no ptp <clockinst> servo ai
no ptp <clockinst> servo ap
no ptp <clockinst> servo displaystates
no ptp <clockinst> servo gain
no ptp <clockinst> uni <idx>
no ptp <clockinst> virtual-port accuracy
no ptp <clockinst> virtual-port class
no ptp <clockinst> virtual-port io-pin
no ptp <clockinst> virtual-port local-priority
no ptp <clockinst> virtual-port priority1
no ptp <clockinst> virtual-port priority2
no ptp <clockinst> virtual-port variance
no ptp ext
no ptp ho-spec
no ptp io-pin <io_pin>
no ptp ref-clock
no ptp rs422
no ptp system-time
no qos map cos-dscp <cos> dpl <dpl>
no qos map dscp-classify { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }
no qos map dscp-cos { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }no qos map dscp-egress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } } <dpl>
no qos map dscp-ingress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }
no qos map egress <id>
no qos map ingress <id>
no qos qce <qce_id_range>
no qos storm { unicast | multicast | broadcast }
no qos wred group <group> queue <queue> dpl <dpl>
no radius-server attribute 32
no radius-server attribute 4
no radius-server attribute 95
no radius-server deadtime
no radius-server host <host_name> [auth-port <auth_port>] [acct-port <acct_port>]
no radius-server key
no radius-server retransmit
no radius-server timeout
no rmon alarm <id>
no rmon event <id>
no router access-list <access_list_name>
no router access-list <access_list_name> { permit | deny } { any | <ipv4_addr> <ipv4_netmask> }
no router ospf

no router ospf6
no router rip
no sflow agent-ip
no sflow collector-address [receiver <rcvr_idx_list>]
no sflow collector-port [receiver <rcvr_idx_list>]
no sflow max-datagram-size [receiver <rcvr_idx_list>]
no sflow timeout [receiver <rcvr_idx_list>]
no snmp-server
no snmp-server access <group_name> model { v1 | v2c | v3 | any } level { auth | noauth | priv }
no snmp-server community <v3_comm> [{ ip-range <v_ipv4_addr> <v_ipv4_netmask> | ipv6-range <v_ipv6_subnet> }]
no snmp-server community v3 <community>
no snmp-server contact
no snmp-server engine-id local
no snmp-server host <conf_name>
no snmp-server location
no snmp-server security-to-group model { v1 | v2c | v3 } name <security_name>
no snmp-server user <username> engine-id <engineID>
no snmp-server view <view_name> <oid_subtree>
no spanning-tree edge bpdu-filter
no spanning-tree edge bpdu-guard
no spanning-tree mode
no spanning-tree mst <instance> priority
no spanning-tree mst <instance> vlan
no spanning-tree mst forward-time
no spanning-tree mst hello-time
no spanning-tree mst max-age
no spanning-tree mst max-hops
no spanning-tree mst name
no spanning-tree recovery interval
no spanning-tree transmit hold-count
no svl fid { <fid_list> | all }
no switchport vlan mapping <gid> <vlan_list>
no switchport vlan mapping <gid> { both | ingress | egress } <vid>
no system contact
no system description
no system location
no system name
no tacacs-server deadtime
no tacacs-server host <host_name> [port <port>]
no tacacs-server key
no tacacs-server timeout
no udld { aggressive | enable }
no upnp
no upnp advertising-duration
no upnp ip-addressing-mode
no upnp static interface vlan
no username <username>
no vlan protocol { { eth2 { <etype> | arp | ip | ipx | at } } | { snap { <oui> | rfc-1042 | snap-8021h } <pid> } | { llc <dsap> <ssap> } } [group <word16>]
no vlan { { ethertype s-custom-port } | <vlan_list> }
no voice vlan
no voice vlan aging-time
no voice vlan class
no voice vlan oui <oui>
no voice vlan vid
no web privilege group [<group_name>] level

Parameters:

aaa	access	access-list	aggregation
aps	banner	cfm	clock
command-history-log	ddmi	dot1x	enable
erps	exec-timeout	green-ethernet	gvrp

hostname	interface	ip	ipmc
ipv6	key	lacp	lldp
logging	loop-protect	mac	map-api-key
monitor	mvr	mvrp	ntp
port-security	privilege	prompt	ptp
qos	radius-server	rmon	router
sflow	snmp-server	spanning-tree	svl
switchport	system	tacacs-server	udld
upnp	username	vlan	voice
web			

Example:

```
SISGM1040-3248-L3(config)#
SISGM1040-3248-L3(config)# no aps 4
% No such APS instance
SISGM1040-3248-L3(config)# no aps 3
SISGM1040-3248-L3(config)# no ip helper-address
SISGM1040-3248-L3(config)# no upnp static interface vlan
SISGM1040-3248-L3(config)# no username TomT
SISGM1040-3248-L3(config)#
```

24. No Commands (Interface Config Mode)

Description: Set a command to its defaults in Interface Config mode.

Syntax:
no access-list logging
no access-list mirror
no access-list policy
no access-list port-state
no access-list rate-limiter
no access-list redirect
no access-list shutdown
no aggregation group <v_uint>no debug phy loopback [near | far | connector | mac-serdes-input | mac-serdes-facility | mac-serdes-equipment | media-serdes-input | media-serdes-facility | media-serdes-equipment]
no description
no dot1x guest-vlan
no dot1x port-control
no dot1x radius-qos
no dot1x radius-vlan
no duplex
no excessive-restart
no flowcontrol
no frame-length-check
no green-ethernet eee
no green-ethernet eee urgent-queues [<urgent_queue_range_list>]
no green-ethernet energy-detect
no green-ethernet short-reach
no gvrp
no ip arp inspection check-vlan
no ip arp inspection logging
no ip arp inspection trust
no ip dhcp snooping trust
no ip igmp snooping filter
no ip igmp snooping immediate-leave
no ip igmp snooping max-groups
no ip igmp snooping mrouter
no ip verify source
no ip verify source limit
no ipv6 dhcp snooping trust
no ipv6 mld snooping filter
no ipv6 mld snooping immediate-leave
no ipv6 mld snooping max-groups
no ipv6 mld snooping mrouter
no ipv6 verify source
no ipv6 verify source limit
no lacp port-priority <v_1_to_65535>
no lacp timeout { fast | slow }
no link-oam
no link-oam link-monitor frame
no link-oam link-monitor frame-seconds
no link-oam link-monitor supported
no link-oam link-monitor symbol-period
no link-oam mib-retrieval supported
no link-oam mode
no link-oam remote-loopback supported
no link-oam variable-retrieve
no lldp cdp-aware
no lldp med media-vlan policy-list [<v_range_list>]

no lldp med transmit-tlv [capabilities] [location] [network-policy] [poe]
no lldp med type
no lldp receive
no lldp tlv-select { management-address | port-description | system-capabilities | system-description | system-name }
no lldp transmit
no lldp trap
no loop-protect
no loop-protect action
no loop-protect tx-mode
no mac address-table learning [secure]
no media-type
no mrp periodic
no mtu
no mvr immediate-leave
no mvr name <mvr_name> type
no mvr vlan <v_vlan_list> type
no mvrp
no port-security
no port-security mac-address { [sticky] [<mac> [vlan <vlan_id>]] }*1
no port-security maximum
no port-security maximum-violation
no port-security violation
no priority-flowcontrol prio [<prio>]
no ptp <0-3> announce { interval | timeout }
no ptp <clockinst>
no ptp <clockinst> allow-faults
no ptp <clockinst> allow-lost-resp
no ptp <clockinst> delay-asymmetry
no ptp <clockinst> delay-mechanism
no ptp <clockinst> delay-req interval
no ptp <clockinst> delay-thresh
no ptp <clockinst> egress-latency
no ptp <clockinst> gptp-interval
no ptp <clockinst> gptp-to
no ptp <clockinst> ingress-latency
no ptp <clockinst> localpriority
no ptp <clockinst> not-slave
no ptp <clockinst> sync-interval
no ptp <clockinst> sync-rx-to
no ptp <clockinst> two-step
no ptp <v_0_to_3> compute-meanlinkdelay [force]
no ptp <v_0_to_3> compute-neighbor-rate-ratio [force]
no ptp cmlds allow-faults <v_1_to_255>
no ptp cmlds allow-lost-resp <v_0_to_10>
no ptp cmlds compute-meanlinkdelay [force]
no ptp cmlds compute-neighbor-rate-ratio [force]
no ptp cmlds delay-asymmetry
no ptp cmlds pdelay-thresh
no ptp cmlds pdelayreq-interval
no ptp cmlds pdelayreq-interval { <v_minus_7_to_5> | stop | default } [force]
no ptp pps-delay
no ptp pps-sync
no pvlan <pvlan_list>
no pvlan isolation
no qos class
no qos cos
no qos dei
no qos dpl
no qos dscp-classify

no qos dscp-remark
no qos dscp-translate
no qos egress-map
no qos ingress-map
no qos map cos-tag cos <cos> dpl <dpl>
no qos map tag-cos pcp <pcp> dei <dei>
no qos pcp
no qos policer
no qos queue-policer queue <queue>
no qos queue-shaper queue <queue>
no qos shaper
no qos storm { unicast | broadcast | unknown }
no qos tag-remark
no qos trust dscp
no qos trust tag
no qos wred-group
no qos wrr
no rmon collection history <id>
no rmon collection stats <id>
no sflow [<sampler_idx_list>]
no sflow counter-poll-interval [<sampler_idx_list>]
no sflow max-sampling-size [sampler <sampler_idx_list>]
no sflow sampler-type [sampler <sampler_idx_list>]
no shutdown
no spanning-tree
no spanning-tree auto-edge
no spanning-tree bpdu-guard
no spanning-tree edge
no spanning-tree link-type
no spanning-tree mst <instance> cost
no spanning-tree mst <instance> port-priority
no spanning-tree restricted-role
no spanning-tree restricted-tcn
no speed
no switchport access vlan
no switchport forbidden vlan
no switchport hybrid acceptable-frame-type
no switchport hybrid allowed vlan
no switchport hybrid egress-tag
no switchport hybrid ingress-filtering
no switchport hybrid native vlan
no switchport hybrid port-type
no switchport mode
no switchport trunk allowed vlan
no switchport trunk native vlan
no switchport trunk vlan tag native
no switchport vlan ip-subnet <ipv4>
no switchport vlan mac <mac_addr> [vlan <vlan_id>]
no switchport vlan mapping
no switchport vlan protocol group <grp_id> [vlan <vlan_id>]
no switchport voice vlan discovery-protocol
no switchport voice vlan mode
no switchport voice vlan security
no udld port
no vcl { dmacdip | smacsip }

Parameters:

access-list	Access list
aggregation	Aggregation keyword

debug	Debugging functions
description	Description of the interface
dot1x	IEEE Standard for port-based Network Access Control
duplex	Set duplex to default.
excessive-restart	Restart backoff algorithm after 16 collisions (No excessive-restart means discard frame after 16 collisions)
flowcontrol	Configure flow control.
frame-length-check	Do not drop frames with mismatch between EtherType/Length field and actually payload size.
green-ethernet	Green Ethernet (Power reduction)
gvrp	Enable GVRP on interface or interfaces
ip	IPv4 configuration
ipv6	IPv6 configuration commands
lacp	LACP port configuration
link-oam	Enable or Disable (when the no keyword is entered) Link OAM on the interface
lldp	LLDP configurations.
loop-protect	Loop protection configuration on port
mac	MAC keyword
media-type	Set media type to default (dual for dual-media interfaces, RJ45 for interfaces only supporting RJ45, SFP for interfaces only supporting SFP).
mrp	Media Redundancy Protocol
mtu	Maximum transmission unit
mvr	Multicast VLAN Registration configuration
mvrp	Multiple VLAN Registration Protocol
port-security	Enable/disable port security per interface.
priority-flowcontrol	Priority Flow Control (802.1Qbb)
ptp	Disable PTP for the interface(s)
pvlan	Private VLAN
qos	Quality of Service
rmon	Configure Remote Monitoring on an interface
sflow	Statistics flow.
shutdown	Shutdown of the interface.
spanning-tree	Enable/disable STP on this interface
speed	Configure speed to default.
switchport	Set VLAN switching mode characteristics
udld	Disable UDLD
vcl	Configure vcl port matching (either dmac/dip or smac/sip)

Parameters:

Example:

```
SISGM1040-3248-L3(config-if)# no aggregation group 5
SISGM1040-3248-L3(config-if)# no description
SISGM1040-3248-L3(config-if)# no link-oam variable-retrieve
% This feature is not supported yet.
SISGM1040-3248-L3(config-if)# no media-type
SISGM1040-3248-L3(config-if)# no shutdown
SISGM1040-3248-L3(config-if)#
```

25. Ping Commands

Description: Send ICMP echo messages.

Syntax:

ping [ip] { <domain_name> | <ip_addr> } [ttl <ttl_value>] [repeat <count>] [{ saddr <src_addr> | sif { <port_type> <src_if> | vlan <vlan_id> } }] [size <size>] [data <data_value>] [{ verbose | quiet }] ping ipv6 { <domain_name> | <ip_addr> } [repeat <count>] [saddr <src_addr>] [sif { <port_type> <src_if> | vlan <vlan_id> }] [size <size>] [data <data_value>] [{ verbose | quiet }]

Parameters:		
	<domain_name>	Destination hostname or FQDN
	<ipv4_addr>	Destination IPv4 address
	ip	ICMPv4 Echo Request
	ipv6	ICMPv6 Echo Request
	data	Specify payload data byte value
	quiet	Set quiet output
	repeat	Specify repeat count
	saddr	Send from interface with source address
	sif	Send from specified interface
	size	Specify datagram size
	ttl	Set IPv4 Time-To-Live (TTL)
	verbose	Set verbose output
	<ipv4_addr>	Source Address of interface
	size	Specify datagram size
	ttl	Set IPv4 Time-To-Live (TTL)
	<2-1452>	Size (bytes): 2-1452; Default is 56 (excluding MAC, IP and ICMP headers)
	ttl	Set IPv4 Time-To-Live (TTL)
	<1-255>	IPv4 TTL: 1-255; Default is 64

Example:

```
SISPM1040-3248-L3# ping 192.168.1.77
PING 192.168.1.77 (192.168.1.77): 56 data bytes
64 bytes from 192.168.1.77: seq=0 ttl=64 time=3.632 ms
64 bytes from 192.168.1.77: seq=1 ttl=64 time=1.066 ms
64 bytes from 192.168.1.77: seq=2 ttl=64 time=1.045 ms
64 bytes from 192.168.1.77: seq=3 ttl=64 time=1.027 ms
64 bytes from 192.168.1.77: seq=4 ttl=64 time=1.099 ms

--- 192.168.1.77 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 1.027/1.573/3.632 ms
SISPM1040-3248-L3#
```

Messages: *% Error: Source IP Address is invalid or unknown!*

26. PTP Commands

Description: Precision Time Protocol commands.

Syntax:

ptp <clockinst> local-clock { update | ratio <ratio> }
ptp <clockinst> wireless delay <base_delay> [<incr_delay>] interface (<port_type> [<v_port_type_list>])
ptp <clockinst> wireless mode interface (<port_type> [<v_port_type_list>])
ptp <clockinst> wireless pre-notification interface (<port_type> [<v_port_type_list>])
ptp cal 1pps <cable_latency>
ptp cal p2p <port_type> <ref_port> <port_type> <other_port> <cable_latency>
ptp cal port <port_type> <v_port_type_id> [mode { 10m-cu | 100m-cu | 1g-cu | 1g | 2g5 | 5g | 10g | all }] reset
ptp cal port <port_type> <v_port_type_id> offset <pps_offset> cable-latency <cable_latency>
ptp cal port <port_type> <v_port_type_id> start [synce]
ptp cal t-plane <port_type> <v_port_type_id> { ext | int }

Parameters:

<0-3>	PTP Clock instance [0-3]
cal	PTP calibration
local-clock	Update local clock current time, or set clock ratio
wireless	Enable wireless mode for one or more interfaces.
ratio	Set the local master clock frequency ratio.
update	The local clock is synchronized to the OS system clock
<-10000000-10000000>	Ratio in units of 0,1 PPB, (ratio > 0 => faster clock, ratio < 0 => slower clock).
delay	Delay
mode	Enable wireless mode for an interface.
pre-notification	Issue a pre notification that the wireless modem is going to change.
<0-1000000000>	Base wireless transmission delay (in picoseconds)
<0-1000000>	Incremental wireless transmission delay pr. byte (in picoseconds)
interface	Interface parameter
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
1pps	
p2p	
port	
t-plane	
ext	Specifies that external loopback is to be used
int	Specifies that internal loopback is to be used
<-100000-100000>	Latency of the cable used for calibration

Example:

```
SISPM1040-3248-L3# ptp 0 local-clock ratio 5
SISPM1040-3248-L3# ptp 0 local-clock update
```

```
SISPM1040-3248-L3# ptp 0 wireless delay 650000 interface 10GigabitEthernet 1/3
Wireless mode not available for ptp instance 0, port 31
Wireless mode requires a two-step or Oam based BC
SISPM1040-3248-L3# ptp 0 wireless pre-notification interface *
Wireless mode not available for ptp instance 0, port 1
Wireless mode requires a two-step or Oam based BC
SISPM1040-3248-L3# ptp cal 1pps 5000
Calibration of 1PPS input (cable_latency = 5000)
W ptp 01:52:58 04.125,272 204/vtss_ext_clock_rs422_conf_set#7894: Warning: RS422
 not supported on board type: 15
Now waiting up tp 30 seconds for calibration to be performed.
SISPM1040-3248-L3# ptp cal p2p GigabitEthernet 1/9 GigabitEthernet 1/11 -100000

Starting port to port calibration of port: 11 with reference port: 9 and cable latency: -
100000)
Deleting any existing PTP instances
Resetting VLAN configuration to default
Adding VLAN IDs 2 and 3 to allowed access VLANs
Creating PTP master and slave used for calibration
Now waiting up tp 30 seconds for calibration to be performed.
Calibration aborted.
SISPM1040-3248-L3# ptp cal port GigabitEthernet 1/1 start
Starting calibration of port: 1 using external reference.
Deleting any existing PTP instances
Resetting VLAN configuration to default
Creating PTP slave used for calibration
------------------------------------------------------------------------------------------
A PTP slave was setup for calibration.
Please wait for servo to lock. Then measure 1PPS difference between PTP master (reference)
and PTP slave (device under calibration) the continue calibration i.e. issue command:

    ptp cal port <port> offset <-100000-100000> cable-latency <-100000-100000>

------------------------------------------------------------------------------------------
SISPM1040-3248-L3#

SISPM1040-3248-L3# ptp cal t-plane GigabitEthernet 1/5 ext
Starting calibration of t-plane on port: 5 with loopback type: External
Deleting any existing PTP instances
Resetting VLAN configuration to default
Adding VLAN ID 2 to allowed access VLANs
Creating PTP master and slave used for calibration
Now waiting up tp 30 seconds for calibration to be performed.
Calibration aborted.
SISPM1040-3248-L3#
```

27. Reload Commands

Description: Reload system.

Syntax: **reload** { warm | defaults [keep-ip] }

Parameters:

defaults	Reload defaults without rebooting.
warm	Reload warm (CPU restart only).

Example:

```
SISPM1040-3248-L3# reload defaults keep-ip
% Reloading defaults, attempting to keep IP address. Closing session.
SISPM1040-3248-L3#
```

28. Send Commands

Description: Send a message to other tty lines.

Syntax: **send** { * | <session_list> | console 0 | vty <vty_list> } <message>

Parameters:

*	All tty lines
<0~16>	Send a message to multiple lines
console	Primary terminal line
vty	Virtual terminal
<line128>	Message to be sent to lines, in 128 characters

Example:

```
SISPM1040-3248-L3# send * aaa

----------------------------------------
*** Message from line 1:

----------------------------------------
SISPM1040-3248-L3#
```

29. Show Commands

Display information.

Table : Show Commands:

aaa	Authentication, Authorization and Accounting methods
access	Access management
access-list	Access list
aggregation	Aggregation port configuration
aps	Automatic Protection Switching
cfm	Connectivity Fault Management (CFM)
clock	Configure time-of-day clock
command-history-log	Command History List
ddmi	DDMI configuration
dot1x	IEEE Standard for port-based Network Access Control
erps	Ethernet Ring Protection Switching
event	Show trap event configuration
green-ethernet	Green Ethernet (Power reduction)
history	Display the session command history
interface	Interface.
ip	Interface Internet Protocol configuration commands
ipmc	IPv4/IPv6 multicast configuration
ipv6	IPv6 configuration commands
lacp	LACP configuration/status
licenses	Show license information
line	TTY line information
link-oam	Link OAM configuration
lldp	Link Layer Discover Protocol.
logging	System logging message
loop-protect	Loop protection configuration
mac	Mac Address Table information
map-api-key	show Google Maps key configuration
monitor	Monitoring different system events
mrp	MRP status
mrp-ring	Show MRP Ring Status
mvr	Multicast VLAN Registration configuration
ntp	Show NTP
platform	Platform configuration
poe	Power Over Ethernet.
port-security	Show Port Security overview status.
privilege	Display command privilege
process	show process
pse	Power Over Ethernet power-sourcing equipment info.
ptp	Precision time Protocol (1588)
pvlan	PVLAN configuration

qos	Quality of Service
radius-server	RADIUS configuration
rapid-ring	Display Rapid Ring configurations
rmon	RMON statistics
running-config	Show running system information
sflow	Statistics flow.
smtp	Show email information
snmp	Set SNMP server's configurations
spanning-tree	STP Bridge
svl	Shared VLAN Learning configuration
switchport	Display switching mode characteristics
system	Show system
tacacs-server	TACACS+ configuration
tech-support	Tech support information
terminal	Display terminal configuration parameters
udld	Unidirectional Link Detection (UDLD) configurations, statistics and status
upnp	Display UPnP configuration
user-privilege	Users privilege configuration
users	Display information about terminal lines
version	System hardware and software status
vlan	VLAN status
voice	Voice appliance attributes
watchdog	show watchdog mode
web	Web

Command: **aaa**

Description: Display Authentication, Authorization and Accounting methods.

Syntax: **show** aaa <cr>

Parameters: | Output modifiers

<cr>

Example:

```
SISPM1040-3248-L3# show aaa
Authentication :
  console : local
  telnet  : local
  ssh     : local
  http    : local
  https   : no
Authorization :
  console : no, commands disabled
  telnet  : no, commands disabled
  ssh     : no, commands disabled
Accounting :
  console : no, commands disabled, exec disabled
  telnet  : no, commands disabled, exec disabled
  ssh     : no, commands disabled, exec disabled
```

```
SISPM1040-3248-L3#
```

Command: **access management**

Description: Display Access management information.

Syntax: **show** access management [statistics | <access_id_list>]

Parameters:

	<1~16>	ID of access management entry
	|	Output modifiers
	statistics	Statistics data

Example:

```
SISPM1040-3248-L3# show access management 1
Switch access management mode is disabled

W: WEB/HTTPS
S: SNMP
T: TELNET/SSH

Idx VID  Start IP Address                End IP Address                 W S T
--- ---  ------------------------------ ------------------------------ - - -
SISPM1040-3248-L3#
SISPM1040-3248-L3# show access management statistics

Access Management Statistics:
-----------------------------
HTTP     Receive:          0    Allow:          0    Discard:          0
HTTPS    Receive:          0    Allow:          0    Discard:          0
SNMP     Receive:          0    Allow:          0    Discard:          0
TELNET   Receive:          0    Allow:          0    Discard:          0
SSH      Receive:          0    Allow:          0    Discard:          0
SISPM1040-3248-L3#
```

Command: **access-list**

Description: Display Access list information.

Syntax:

show access-list [interface [(<port_type> [<v_port_type_list>])]] [rate-limiter [<rate_limiter_list>]] [ace statistics [<ace_list>]]

show access-list ace-status [static] [link-oam] [loop-protect] [dhcp] [dhcp6-snooping] [ptp] [upnp] [arp-inspection] [cfm] [aps] [erps] [ipmc] [ip-source-guard] [ipv6-source-guard] [ip-mgmt] [ztp] [ip] [conflicts] [switch <switch_list>]

Parameters:

ace	Access list entry
ace-status	The local ACEs status
interface	Select an interface to configure
rate-limiter	Rate limiter
<1~512>	ACE ID
|	Output modifiers
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
<1~16>	Rate limiter ID
aps	The ACEs that are configured by APS module
arp-inspection	The ACEs that are configured by ARP Inspection module
cfm	The ACEs that are configured by CFM module
conflicts	The ACEs that did not get applied to the hardware due to hardware limitations
dhcp	The ACEs that are configured by DHCP module
dhcp6-snooping	The ACEs that are configured by DHCPv6 Snooping module
erps	The ACEs that are configured by ERPS module
ip	The ACEs that are configured by IP module
ip-source-guard	The ACEs that are configured by IP Source Guard module
ipmc	The ACEs that are configured by IPMC module
ipv6-source-guard	The ACEs that are configured by IPv6 Source Guard module
link-oam	The ACEs that are configured by Link OAM module
loop-protect	The ACEs that are configured by Loop Protect module
ptp	The ACEs that are configured by PTP module
static	The ACEs that are configured by users manually
upnp	The ACEs that are configured by UPnP module

Example 1:

```
SISPM1040-3248-L3# show access management
Switch access management mode is disabled

W: WEB/HTTPS
S: SNMP
T: TELNET/SSH
```

```
Idx VID  Start IP Address                End IP Address                W S T
--- ---  ------------------------------ ------------------------------ - - -
SISPM1040-3248-L3#
```

Example 2:

```
SISPM1040-3248-L3# show access-list ace statistics 1 interface 10GigabitEthernet 1/4 rate-
limiter 1

Switch access-list ace number: 0

Switch access-list rate limiter ID 1 is 10 pps


10GigabitEthernet 1/4 :
-----------------------
  action is permit
  policy ID is 0
  rate limiter ID is disabled
  redirect is disabled
  mirror is disabled
  logging is disabled
  shutdown is disabled
  port-state is enabled
  counter is 0
SISPM1040-3248-L3#
```

Example 3:

```
SISPM1040-3248-L3# show access-list ace-status aps arp-inspection cfm
User
----
S   : static
IPSG: ipSourceGuard
IP6SG: ipv6SourceGuard
IP  : IP
IPMC: ipmc
CFM : Connectivity Fault Management
APS : Automatic (Linear) Protection Switching
ERPS: Ethernet Ring Protection Switching
ARPI: arpInspection
UPnP: upnp
PTP : ptp
DHCP: dhcp
D6SN: dhcp6Snooping
LOOP: loopProtect
LOAM: linkOam
Test: test

User ID   Frame   Action Rate L.  Mirror   CPU    Counter Conflict
---- --   ------  ------ -------- -------- ------ ------- -------
?    1    UDP     Permit Disabled Disabled Yes          0 No
Switch 1 access-list ace number: 1
SISPM1040-3248-L3#
```

Command: **aggregation**

Description: Display Aggregation port configuration.

Syntax: **show** aggregation [mode]

Parameters: mode Traffic distribution mode

Example:

```
SISPM1040-3248-L3# show aggregation mode
Aggregation Mode:

SMAC  : Enabled
DMAC  : Disabled
IP    : Enabled
Port  : Enabled
SISPM1040-3248-L3#
```

Command: **aps**

Description: Display Automatic Protection Switching information.

Syntax: **show** aps [<inst_list>] { [statistics] | [details] }

Parameters:

<range_list>	The range of APS instances.
details	Show detailed status
statistics	Show APS PDU Rx and Tx counters

Example:

```
SISPM1040-3248-L3# show aps 1 statistics
Inst Rx Valid     Rx Invalid   Tx
---- ------------ ------------ ------------
   1            0            0           78
   2            0            0           74
SISPM1040-3248-L3#
SISPM1040-3248-L3# show aps 1 details
SISPM1040-3248-L3# show aps details

--------------------------------------------------------------------------------
Instance:            1
Operational state:   Active
Operational warning: None
Protection state:    Signal Fail (W)
Working state:       SF
Protect state:       OK
FOP-CM:              No
FOP-PM:              No
FOP-NR:              No
FOP-TO:              Yes
Command:             None
Tx L-APS PDU
  Request/State:     SF-W
  Requested Signal:  1
  Bridged Signal:    1
Rx L-APS PDU
  Request/State:     NR
  Requested Signal:  0
```

```
  Bridged Signal:    0
-------------------------------------------------------------------------------


-------------------------------------------------------------------------------
Instance:            2
Operational state:   Active
Operational warning: None
Protection state:    No Request (W)
Working state:       OK
Protect state:       OK
FOP-CM:              No
FOP-PM:              No
FOP-NR:              No
FOP-TO:              Yes
Command:             None
Tx L-APS PDU
  Request/State:     NR
  Requested Signal:  0
  Bridged Signal:    0
Rx L-APS PDU
  Request/State:     NR
  Requested Signal:  0
  Bridged Signal:    0
-------------------------------------------------------------------------------
SISPM1040-3248-L3#
```

Command: **cfm**

Description: Display Connectivity Fault Management information. The CFM standard is defined by IEEE802.1ag. It defines protocols and practices for OAM (Operations, Administration, and Maintenance) and is almost identical to ITU-T Recommendation Y.1731.

Syntax: **show** cfm domains [domain <md_name>] [details]

show cfm errors

show cfm meps [domain <md_name>] [service <ma_name>] [mep-id <mepid>] [details]

show cfm services [domain <md_name>] [service <ma_name>] [details]

Parameters:

domains	Show CFM Domains
errors	Show errors
meps	Show MEPs
services	Show CFM Services
details	Show details of the domain(s)
domain	Show particular domain, only
details	Show detailed information
domain	Select domain to show info for
mep-id	Select a MEP to show info for
service	Select a service to show info for
<1-8191>	Particular MEP-ID to show info for
<kword1-15>	Show a particular service, only
<kword1-15>	Domain name to show info for
<kword1-15>	Service name to show info for

Example 1:

```
SISGM1040-3248-L3# show cfm domains
Domain          Services Level Format Name
--------------- -------- ----- ------ ----------------------------------------

domain1                1     0 String "DEFAULT"
domain2                2     3 None   <N/A>
domain3                0     0 String "DEFAULT2"

SISGM1040-3248-L3#
SISGM1040-3248-L3# show cfm domains details
Domain:                    domain1
Format:                    String
Level:                     0
Name:                      "DEFAULT"
Sender-ID TLV:             Management
Port Status TLV:           Deferred
Interface Status TLV:      Enabled
Organization-Specific TLV: Deferred
Services:                  a1

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


Domain:                    domain2
Format:                    None
Level:                     3
```

```
Name:                       <N/A>
Sender-ID TLV:              Deferred
Port Status TLV:            Enabled
Interface Status TLV:       Enabled
Organization-Specific TLV: Deferred
Services:                   <None>
-- more --, next page: Space, continue: g, quit: ^C
```

Example 2:

```
SISPM1040-3248-L3# show cfm meps service Svc1
Defect abbreviations (alarm level in parentheses):
R (1): someRDIdefect (RDI received from at least one remote MEP)
M (2): someMACstatusDefect (received Port Status TLV != psUp or Interface Status
 TLV != isUp)
C (3): someRMEPCCMdefect (valid CCM is not received within 3.5 times CCM interval from at
least one remote MEP)
E (4): errorCCMdefect (received CCM from an unknown remote MEP-ID or CCM interval mismatch)
X (5): xconCCMdefect (received CCM with an MD/MEG level smaller than configured
or wrong MAID/MEGID (cross-connect))

Domain          Service         MEP-ID Dfcts Operational State
--------------- --------------- ------ ----- ---------------------------------------------
domain1         Svc1                 1       Administratively disabled

SISGM1040-3248-L3# show cfm meps
Defect abbreviations (alarm level in parentheses):
R (1): someRDIdefect (RDI received from at least one remote MEP)
M (2): someMACstatusDefect (received Port Status TLV != psUp or Interface Status
 TLV != isUp)
C (3): someRMEPCCMdefect (valid CCM is not received within 3.5 times CCM interval from at
least one remote MEP)
E (4): errorCCMdefect (received CCM from an unknown remote MEP-ID or CCM interval mismatch)
X (5): xconCCMdefect (received CCM with an MD/MEG level smaller than configured
or wrong MAID/MEGID (cross-connect))

Domain          Service         MEP-ID Dfcts Operational State
--------------- --------------- ------ ----- ----------------------------------
------------
domain1         a1                   1       Administratively disabled
domain2         Svc1                10       MEP Uncreatable: The MEP does not have any
remote MEPs configured
domain2         s                    2       MEP Uncreatable: The MEP does not have any
remote MEPs configured

SISGM1040-3248-L3# show cfm errors
Domain          Service         MEP-ID Error
--------------- --------------- ------ ----------------------------------------------
domain2         Svc1                10 RMEP SM error: No link on residence interface
domain2         s                    2 RMEP SM error: No link on residence interface

SISGM1040-3248-L3#
```

Command: **clock**

Description: Show time-of-day clock.

Syntax: **show** clock
show clock detail

Parameters: detail Display detailed information

Example:

```
SISPM1040-3248-L3# show clock
System Time     : 2022-01-07T05:03:05+13:01

SISPM1040-3248-L3# show clock detail
System Time     : 2022-01-07T05:02:06+13:01

Timezone : Timezone Offset : 7810 ( 781 minutes)
Timezone Acronym : cdt

Daylight Saving Time Mode : Disabled.
Daylight Saving Time Start Time Settings :
        Week: 1
        Day: 1
        Month: 1
        Date: 1
        Year: 2014
        Hour: 0
        Minute: 0
Daylight Saving Time End Time Settings :
         Week: 1
        Day: 1
        Month: 1
        Date: 1
        Year: 2097
        Hour: 0
        Minute: 0
Daylight Saving Time Offset : 1 (minutes)
SISPM1040-3248-L3#
```

Command: **command-history-log**

Description: Display Command History log status.

Syntax: **show** command-history-log status

Parameters: status Enable/Disable to Save Command History to Flash

Example:

```
SISPM1040-3248-L3# show command-history-log status
The status of termal for Command History Feature : Disable
SISPM1040-3248-L3# show command-history-log status
The status of termal for Command History Feature : Enable
SISPM1040-3248-L3#
```

Command: **ddmi**

Description: Show DDMI (Digital Diagnostic Monitoring Interface) state.

Syntax: **show** ddmi

Parameters: None

Example:

```
SISPM1040-3248-L3# show ddmi
Current mode: Enabled
SISPM1040-3248-L3#
```

Command: **dot1x**

Description: Display EEE Standard for port-based Network Access Control.

Syntax:

show dot1x statistics { eapol | radius | all } [interface (<port_type> [<v_port_type_list>])]

show dot1x status [interface (<port_type> [<v_port_type_list>])] [brief

Parameters:

|	Output modifiers
brief	Show status in a brief format (deprecated)
all	Show all dot1x statistics
eapol	Show EAPoL statistics
radius	Show Back-end Server statistics
interface	Interface
|	Output modifiers
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show dot1x status brief interface 10GigabitEthernet 1/1
Interface  Admin Port State      Last Src          Last ID           QOS VLAN Guest
---------- ----- --------------- ----------------- ----------------- --- ---- -----
10G 1/1    Auth  Disabled        -                 -                 -   -    -
SISPM1040-3248-L3#
SISPM1040-3248-L3# show dot1x statistics all interface *
Gi 1/1 EAPOL Statistics:
Rx Total:                              0   Tx Total:
    0
Rx Response/Id:                        0   Tx Request/Id:
    0
Rx Response:                           0   Tx Request:
    0
Rx Start:                              0
Rx Logoff:                             0
Rx Invalid Type:                       0
Rx Invalid Length:                     0

Gi 1/1 Backend Server Statistics:
Rx Access Challenges:                  0   Tx Responses:
    0
Rx Other Requests:                     0
Rx Auth. Successes:                    0
Rx Auth. Failures:                     0

Gi 1/2 EAPOL Statistics:
Rx Total:                              0   Tx Total:
    0
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **erps**

Description: Display Ethernet Ring Protection Switching parameters.

Syntax: **show** erps [<inst_list>] [statistics] [details]

Parameters:

|	Output modifiers
<1~64>	List of ERPS instances to show
details	Show detailed status or statistics
statistics	Show statistics

Example 1:

```
SISGM1040-3248-L3# show erps
Failure of Protocol defect abbreviations:
  T: FOP-TO, Time Out: R-APS PDU expected, but none received within last 17.5 seconds
  0: FOP-PM, Provisioning Mismatch on port0 (RPL owner, only)
  1: FOP-PM, Provisioning Mismatch on port1 (RPL owner, only)

                                  Port0 Port1 Port0   Port1
Inst Operational State Node State SF    SF    Blocked Blocked Tx R-APS PDU
     Dfcts Command
---- ----------------- ---------- ---- ------ ------- ------- ------------------
---- ----- -----------------
   1 Administratively disabled
   2 Administratively disabled
   3 Active (warnings) Protection Yes   No    Yes     No      SF, DNF, BPR=port0
     T--   None
SISPM1040-3248-L3# show erps 1 details statistics
Instance: 1
Flushes:  0

Counter        | Port0          | Port1
---------------|----------------|----------------
Rx R-APS NR    |              0 |              0
Rx R-APS NR-RB |              0 |              0
Rx R-APS SF    |              0 |              0
Rx R-APS FS    |              0 |              0
Rx R-APS MS    |              0 |              0
Rx R-APS Event |              0 |              0
Rx Drop Guard  |              0 |              0
Rx Drop Error  |              0 |              0
Rx Own Node ID |              0 |              0
Rx FOP-PM      |              0 |              0
Local SF       |              0 |              0
Tx R-APS NR    |              0 |              0
Tx R-APS NR-RB |              0 |              0
Tx R-APS SF    |              0 |              0
Tx R-APS FS    |              0 |              0
Tx R-APS MS    |              0 |              0
Tx R-APS Event |              0 |              0
SISPM1040-3248-L3#
```

Example 2:

```
SISGM1040-3248-L3# show erps 3 details

--------------------------------------------------------------------------------
Instance:                3
Operational state:       Active
Operational warning:     Ring port0's VLAN configuration causes the control VLA
N to become untagged on egress
Node state:              Protection
Ring type:               Interconnected sub-ring
Ring ID:                 1
Level:                   7
Control VLAN:            1
Protected VLANs:         2
RPL role:                Owner on port0
Connected ring instance: 1 with topology change propagation
Virtual channel:         Enabled
Revertive:               Yes
Command:                 None
FOP-TO:                  Yes
                         | Tx               | Port0 Rx          | Port1 Rx
-------------------------|------------------|-------------------|-------------
------
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **event port**

Description: Show event and event port configuration.

Syntax: **show** event
show event port

Parameters: port Show event port configuration

Example:

```
SISPM1040-3248-L3# show event
Group Name                        Severity Level    Syslog Mode   Trap Mode
SMTP Mode     Digital Out
--------------------------------  ---------------  ------------  ------------
------------  ------------
AC-Power                          Informational     enable        disable
disable       N/A
ACL                               Informational     enable        disable
disable       N/A
ACL-Log                           Informational     enable        disable
disable       N/A
Access-Mgmt                       Informational     enable        disable
disable       N/A
Auth-Failed                       Warning           enable        disable
disable       N/A
Cold-Start                        Warning           enable        disable
disable       N/A
Config-Info                       Informational     enable        disable
disable       N/A
DC-Power                          Informational     enable        disable
disable       N/A
DI-1-Abnormal                     Warning           enable        disable
disable       disable
-- more --, next page: Space, continue: g, quit: ^C
SISPM1040-3248-L3# show event port
Port Active  LinkOn  LinkOff Overload RxThreshold TrafficDuration Syslog  Trap  SMTP
DigitalOut Severity
---- ------- ------- ------- -------- ----------- --------------- ------- ------- ------- -
--------- --------
1    enable  enable  enable  disable  0           1               enable  disable disable
disable    Warning
2    enable  enable  enable  disable  0           1               enable  disable disable
disable    Warning
3    enable  enable  enable  disable  0           1               enable  disable disable
disable    Warning
4    enable  enable  enable  disable  0           1               enable  disable disable
disable    Warning
5    enable  enable  enable  disable  0           1               enable  disable disable
disable    Warning
6    enable  enable  enable  disable  0           1               enable  disable disable
disable    Warning
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **show format**

Description: Display format information.

Syntax: **show** format <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3# show format
formatDateTime : disable
dateTime       : dd-mm-yyyy
timeFormat     : 12 hour
formatPortDesc : disable
SISPM1040-3248-L3#
```

Command: **green-ethernet**

Description: Display Green Ethernet (Power reduction) information.

Syntax:

show green-ethernet [interface (<port_type> [<port_list>])]
show green-ethernet eee [interface (<port_type> [<port_list>])]
show green-ethernet energy-detect [interface (<port_type> [<port_list>])]
show green-ethernet short-reach [interface (<port_type> [<port_list>])]

Parameters:

|	Output modifiers
eee	Shows green Ethernet EEE status for a specific port or ports.
energy-detect	Shows green Ethernet energy-detect status for a specific port or ports.
interface	Shows green Ethernet status for a specific port or ports.
short-reach	Shows green Ethernet short-reach status for a specific port or ports.
interface	
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show green-ethernet energy-detect interface 10GigabitEthernet
 1/1
Interface               Lnk  Energy-detect
----------------------  ---  --------------
10GigabitEthernet 1/1   No   N/A
SISPM1040-3248-L3#
SISPM1040-3248-L3# show green-ethernet eee
Interface               Lnk  EEE Capable  EEE Enabled  LP EEE Capable   EEE In Power Save
----------------------  ---  -----------  -----------  ---------------  -----------------
GigabitEthernet 1/1     Yes  Yes          No           No               No
GigabitEthernet 1/2     No   Yes          Yes          No               No
GigabitEthernet 1/3     No   Yes          Yes          No               No
GigabitEthernet 1/4     No   Yes          No           No               No
GigabitEthernet 1/5     No   Yes          No           No               No
```

```
GigabitEthernet 1/6     No   Yes          Yes          No               No
GigabitEthernet 1/7     No   Yes          Yes          No               No
GigabitEthernet 1/8     No   Yes          Yes          No               No
GigabitEthernet 1/9     No   Yes          Yes          No               No
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **history**

Description: Display the session command history.

Syntax: **show** history <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3# show history
  show cfm errors
  show cfm meps mep-id 1
  show cfm meps mep-id 1 details
  show cfm meps mep-id 1 details domain service
  show cfm services
  show cfm services service Svc1
  show cfm meps
  show cfm meps mep-id 1
  show clock
  show clock detail
  show command-history-log status
  con t
  command-history-log
  exit
  show command-history-log
  show command-history-log status
  show ddmi
  show dot1x status brief interface 10GigabitEthernet 1/1
  show dot1x statistics all interface *
  show erps 1 details statistics
  show erps statistics
  show erps statistics 1 details
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **interface**

Description: Display Interface parameters.

Syntax:

show interface (<port_type> [<in_port_list>]) switchport [access | trunk | hybrid]

show interface (<port_type> [<plist>]) description

show interface (<port_type> [<plist>]) transceiver

show interface (<port_type> [<v_port_type_list>]) CableDiag

show interface (<port_type> [<v_port_type_list>]) capabilities

show interface (<port_type> [<v_port_type_list>]) statistics [{ packets | bytes | errors | discards | filtered | dot3br | { priority [<priority_v_0_to_7>] } | average | average-type }] [{ up | down }]

show interface (<port_type> [<v_port_type_list>]) status [err-disable]

show interface vlan [<vlist>]

Parameters:

*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
vlan	VLAN status
<port_type_list>	Port list for all port types
CableDiag	Display the latest cable diagnostic results.
capabilities	Display capabilities.
description	Description of interface
statistics	Display statistics counters.
status	Display status.
switchport	Show interface switchport information
transceiver	Show interface transceiver
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
access	Show access ports status
hybrid	Show hybrid ports status
trunk	Show trunk ports status
<vlan_list>	List of VLANs to show status for. Omit to show for all defined.
bytes	Show byte statistics.
discards	Show discard statistics.
down	Show ports which are down
errors	Show error statistics.
filtered	Show filtered statistics.
packets	Show packet statistics.
priority	Show priority statistics.
up	Show ports which are up

Example 1:

```
SISPM1040-3248-L3# show interface 10GigabitEthernet 1/1 status
Interface               Mode     Speed/Duplex  Media Type  Flow Control  Max Frame
Excessive  Link
----------------------  -------  ------------  ----------  ------------  -------
--  ---------  --------
```

```
10GigabitEthernet 1/1   enabled  10Gfdx        sfp         disabled      10240
    Discard    Down
SISPM1040-3248-L3# show interface 10GigabitEthernet 1/1 capabilities

10GigabitEthernet 1/1 Capabilities:
  SFP Vendor P/N:        TN-SFP-SXD
  SFP Vendor S/N:        8672325
  SFP Vendor Name:       Transition
  SFP Vendor Revision:   0000
  SFP Date Code:         110908
  SFP Type:              1000BASE_SX
  Speed cap:             1000,auto
  Duplex cap:            full,auto
  Trunk encap. type:     802.1Q
  Trunk mode:            access,hybrid,trunk
  Channel:               yes
  Broadcast suppression: no
  Flowcontrol:           yes
  Fast Start:            no
  QoS scheduling:        tx-(8q)
  CoS rewrite:           yes
  ToS rewrite:           yes
  UDLD:                  no
  Inline power:          yes
  RMirror:               yes
-- more --, next page: Space, continue: g, quit: ^C
SISPM1040-3248-L3# show interface 10GigabitEthernet 1/1 switchport access
Name: 10GigabitEthernet 1/1
Administrative mode: access
Access Mode VLAN: 1
Trunk Native Mode VLAN: 1
Administrative Native VLAN tagging: disabled
Allowed VLANs: 1-4095
Hybrid port configuration
-------------------------
Port Type: C-Port
Acceptable Frame Type: All
Ingress filter: Disabled
Egress tagging: All except-native
Hybrid Native Mode VLAN: 1
Hybrid VLANs Enabled: 1-4095

SISPM1040-3248-L3# show interface vlan
VLAN 1
  LINK: 00-c0-f2-7c-58-92 Mtu:1500 <UP BROADCAST MULTICAST>
  IPv4: 169.254.10.140/16 169.254.255.255
  IPv4: 192.168.1.77/24 192.168.1.255
  IPv6: fe80::2c0:f2ff:fe7c:5892/64
SISPM1040-3248-L3#
```

Example 2:

```
SISPM1040-3248-L3# show interface GigabitEthernet 1/1 CableDiag
Interface               Link Status    Test Result    Length
----------------------  -------------  -------------  -------------
GigabitEthernet 1/1     1G             OK                      3(m)
SISPM1040-3248-L3#
SISPM1040-3248-L3# show interface GigabitEthernet 1/1 statistics discards up
Interface               Rx Discards         Tx Discards
----------------------  ------------------  ------------------
GigabitEthernet 1/1     0                   0
SISPM1040-3248-L3#
```

Example 2:

```
SISPM1040-3166-L3# show interface GigabitEthernet 1/17 transceiver

GigabitEthernet 1/17
------------------------------
Transceiver Information
================================================================================
Vendor             : Transition
Part Number        : TN-SFP-SXD
Serial Number      : 8672325
Revision           : 0000
Date Code          : 2011-09-08
Transceiver        : 1000BASE_SX

DDMI Information
++ : high alarm, +  : high warning, -  : low warning, -- : low alarm.
Tx: transmit, Rx: receive, mA: milliamperes, mW: milliwatts.
================================================================================
              current   High Alarm   High Warn    Low Warn      Low Alarm
                         Threshold    Threshold    Threshold     Threshold
-------------  --------  ----------   ----------   ----------    --------
Temperature(C) 52.375      95.000       85.000       -5.000       -10.000
Voltage(V)     3.3200      3.6000       3.5000       3.1000       3.0000
Tx Bias(mA)    4.800       20.000       15.000       2.000        1.000
Tx Power(mW)   0.2152      0.5012       0.3981       0.1259       0.1000
Rx Power(mW)   0.0037 --   0.6310       0.5012       0.0200       0.0126

SISPM1040-3166-L3#
```

Command: **ip**

Description: Display Interface Internet Protocol configuration commands.

Syntax:

show ip acd
show ip arp
show ip arp inspection [interface (<port_type> [<in_port_type_list>]) | vlan <in_vlan_list>]
show ip arp inspection entry [dhcp-snooping | static] [interface (<port_type> [<in_port_type_list>])]
show ip dhcp detailed statistics { server | client | snooping | relay | normal-forward | combined } [interface (<port_type> [<in_port_list>])]
show ip dhcp relay [statistics]
show ip dhcp server binding <ip>
show ip dhcp server binding [state { allocated | committed | expired }] [type { automatic | manual | expired }]
show ip dhcp server declined-ip
show ip dhcp server declined-ip <declined_ip>
show ip dhcp server statistics
show ip dhcp snooping [interface (<port_type> [<in_port_list>])]
show ip dhcp snooping table
show ip dhcp vlan [<vid>]
show ip domain
show ip http
show ip igmp snooping [vlan <v_vlan_list>] [group-database [interface (<port_type> [<v_port_type_list>])] [sfm-information]] [detail]
show ip igmp snooping mrouter [detail]
show ip interface [brief]
show ip link-local interface
show ip name-server
show ip neighbor
show ip ospf
show ip ospf database [{ router | network | summary | asbr-summary | external | nssa-external } [link-state-id <link_state_id>]] [adv-router <adv_router_id > | self-originate]
show ip ospf interface [vlan <vlan_list> | vlink <vlink_list>]
show ip ospf neighbor [detail]
show ip ospf route
show ip rip [database]
show ip route
show ip source binding [dhcp-snooping | static] [interface (<port_type> [<in_port_type_list>])]
show ip ssh
show ip ssh key
show ip statistics [system]
show ip telnet
show ip verify source [interface (<port_type> [<in_port_type_list>])]

Parameters:

acd	Address Conflict Detection
arp	Address Resolution Protocol
dhcp	Dynamic Host Configuration Protocol
domain	Default domain name
http	Hypertext Transfer Protocol
igmp	Internet Group Management Protocol

```
interface          IP interface status and configuration
link-local         Link-Local address binding
name-server        Domain Name System
neighbor           Neighbor list
ospf               Open Shortest Path First (OSPF)
rip                Routing Information Protocol (RIP)
route              Display the current IP routing table
source             source command
ssh                Secure Shell
statistics         Traffic statistics
telnet             Telnet
verify             verify command
inspection         ARP inspection
|                  Output modifiers
entry              ARP inspection entries
interface          ARP inspection entry interface configuration
vlan               VLAN configuration
dhcp-snooping      learn from DHCP snooping
interface          ARP inspection entry interface configuration
static             setting from static entries
domain             Default domain name
snooping           Snooping IGMP
detail             Detail running information/statistics of IGMP snooping
group-database     Multicast group database from IGMP
mrouter            Multicast router port status in IGMP
vlan               Search by VLAN
interface          Search by port
sfm-information    Including source filter multicast information from IGMP
interface          show Link-Local address binding interface
database           OSPF database summary
interface          OSPF Interface status
neighbor           OSPF Neighbor list
route              OSPF routing information
adv-router         Advertising router link state
asbr-summary       ASBR summary link states
external           External link states
network            Network link states
nssa-external      NSSA external link states
router             Router link states
self-originate     Self-originated link states
summary            Network summary link states
<ipv4_addr>        Advertising router ID (as an IPv4 address format)
link-state-id      Link state
<ipv4_addr>        Link state ID (as an IPv4 address format)
database           RIP Database
binding            IP source binding
dhcp-snooping      Learn from DHCP snooping
interface          IP source binding interface configuration
```

static	setting from static entries
key	SSH key
source	verify source
interface	IP verify source interface configuration

Example 1:

```
SISPM1040-3248-L3# show ip interface brief
Interface Address            Method Status
--------- ------------------ ------ ------
VLAN 1    169.254.10.140/16  Manual UP
VLAN 1    192.168.1.77/24    Manual UP
SISPM1040-3248-L3# show ip http
Switch HTTP web server port is 80
Switch secure HTTP web server port is 443
Switch secure HTTP web server is disabled
Switch secure HTTP web redirection is disabled
Switch secure HTTP certificate is presented
SISPM1040-3248-L3# show ip igmp snooping detail group-database sfm-information vlan 1

IGMP Snooping is disabled to stop snooping IGMP control plane.
Multicast streams destined to unregistered IGMP groups will be flooding.
Groups in range 232.0.0.0/8 follow IGMP SSM registration service model.

IGMP Group Database

Switch-1 IGMP Group Count: 0
SISPM1040-3248-L3# show ip link-local interface
Link-Local Address binding interface: 1
SISPM1040-3248-L3# show ip neighbor
192.168.1.99 via VLAN 1:00-1b-11-b2-6d-4b <REACHABLE>
SISPM1040-3248-L3# show ip route
Codes: C - connected, S - static, O - OSPF, R - RIP
       * - FIB route, D - DHCP installed route

S* 0.0.0.0/0 [1/0] via 192.168.1.254, VLAN 1, 18:42:42
C* 169.254.0.0/16 is directly connected, VLAN 1, 18:42:42
C* 192.168.1.0/24 is directly connected, VLAN 1, 18:42:42
SISPM1040-3248-L3# show ip telnet
Switch Telnet server is enabled
Switch Telnet server port is 23

SISPM1040-3248-L3# show ip verify source interface GigabitEthernet 1/1

Port                     Port Mode    Dynamic Entry Limit
----                     ---------    -------------------
GigabitEthernet 1/1      disabled     unlimited
SISPM1040-3248-L3#

SISPM1040-3248-L3# show ip rip
Sending updates every 30 seconds, next due in 23 seconds
Invalid after 180 seconds, garbage collect after 120 seconds
Default redistribution metric is 1
Redistributing:
Default version control: send version 2, receive any version
  Interface             Send  Recv  Triggered RIP  Auth         MD5 Key-chain
```

```
Routing for Networks:
  Address         Wildcard-mask
Passive Interface(s):Routing Information Sources:
Distance: (default is 120)

SISPM1040-3248-L3# show ip rip database
Codes: R - RIP, C - connected, S - Static, O - OSPF
Sub-codes:
      (n) - normal, (s) - static, (d) - default, (r) - redistribute,
      (i) - interface

     Network            Next Hop        Metric From            Ext. Metric   Tag
 Time
R(d) 0.0.0.0/0          0.0.0.0              1 self                           0
C(r) 169.254.0.0/16     0.0.0.0              1 self                           0
C(i) 192.168.1.0/24     0.0.0.0              1 self                           0

SISPM1040-3248-L3#
```

Example 2:

```
SISGM1040-3248-L3# show ip acd
SISGM1040-3248-L3# show ip domain

Current domain name is not configured.
SISGM1040-3248-L3# show ip link-local interface
Link-Local Address binding interface: 1
SISGM1040-3248-L3# show ip neighbor
192.168.1.99 via VLAN 1:00-1b-11-b2-6d-4b <REACHABLE>
SISGM1040-3248-L3# show ip route
Codes: C - connected, S - static, O - OSPF, R - RIP
       * - FIB route, D - DHCP installed route

S* 0.0.0.0/0 [1/0] via 192.168.1.254, VLAN 1, 00:00:00
C* 169.254.0.0/16 is directly connected, VLAN 1, 00:00:00
C* 192.168.1.0/24 is directly connected, VLAN 1, 00:00:00
SISGM1040-3248-L3# show ip dhcp vlan 1

VLAN: 1
--------------------------------------------------
 Mode:           Disabled
 Type:           Network
 IP Range:       0.0.0.0 - 0.0.0.0
 Lease Time:     86400
 Subnet Mask:    0.0.0.0
 Default Router: 0.0.0.0
 DNS Server:     0.0.0.0
--------------------------------------------------
SISGM1040-3248-L3#
```

Example 3:

```
SISPM1040-3166-L3# show ip neighbor
169.254.6.57 via VLAN 1:00-09-18-4f-bc-3a <STALE>
169.254.7.49 via VLAN 1:00-09-18-4e-20-e9 <STALE>
169.254.11.169 via VLAN 1:00-16-6c-d4-dd-c2 <STALE>
169.254.130.145 via VLAN 1:ac-cc-8e-ba-f7-c1 <REACHABLE>
```

```
192.168.1.99 via VLAN 1:00-1b-11-b2-6d-4b <REACHABLE>
192.168.1.100 via VLAN 1:00-16-6c-d4-dd-c2 <REACHABLE>
SISPM1040-3166-L3#
```

Command: **ipmc**

Description: Display IPv4/IPv6 multicast configuration.

Syntax: **show** ipmc profile [<profile_name>] [detail]
show ipmc range [<entry_name>]

Parameters:

profile	IPMC profile configuration
range	A range of IPv4/IPv6 multicast addresses for the profile
<word16>	Profile name in 16 characters
detail	Detail information of a profile
<word16>	Range entry name in 16 characters

Example:

```
SISPM1040-3248-L3# show ipmc profile Prof1

IPMC Profile is now enabled to start filtering.

Profile: Prof1 (In VER-INI Mode)
Description: firstProfile in IPMC Profile Table
SISPM1040-3248-L3# show ipmc profile Prof1 detail

IPMC Profile is now enabled to start filtering.

Profile: Prof1 (In VER-INI Mode)
Description: firstProfile in IPMC Profile Table

IGMP will deny matched address between [224.0.0.0 <-> 239.255.255.255]
MLD will deny matched address between [ff00:: <-> ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff]
SISPM1040-3248-L3# show ipmc range 233.20.20.60
% Invalid range name 233.20.20.60.

SISPM1040-3248-L3#
```

Messages: *IPMC Profile is currently disabled, please enable profile to start filtering.*
% Invalid profile name Prof1.
% Invalid range name 1.

Command: **ipv6**

Description: Display IPv6 configuration commands.

Syntax:

show ipv6 dhcp relay [interface vlan <v_vlan_id>]
show ipv6 dhcp relay statistics [interface vlan <vlan_id>]
show ipv6 dhcp snooping [interface (<port_type> [<in_port_list>])]
show ipv6 dhcp snooping statistics [interface (<port_type> [<in_port_list>])] [zero-suppress]
show ipv6 dhcp snooping table [all]
show ipv6 dhcp-client [interface vlan <v_vlan_list>]
show ipv6 interface [brief]
show ipv6 mld snooping [vlan <v_vlan_list>] [group-database [interface (<port_type> [<v_port_type_list>])] [sfm-information]] [detail]
show ipv6 mld snooping mrouter [detail]
show ipv6 neighbor
show ipv6 ospf
show ipv6 ospf database [{ router | network | inter-prefix | inter-router | external | link | intra-prefix } [link-state-id <link_state_id>]] [adv-router <adv_router_id> | self-originate]
show ipv6 ospf interface [vlan <vlan_list>]
show ipv6 ospf neighbor [detail]
show ipv6 ospf route
show ipv6 route
show ipv6 source binding [dhcpv6-snooping | static] [interface (<port_type> [<port_list>])]
show ipv6 statistics [system] [interface vlan <vlan_list>]
show ipv6 verify source [interface (<port_type> [<port_list>])]

Parameters:

dhcp	Dynamic Host Configuration Protocol V6
dhcp-client	Manage DHCPv6 client service
interface	Select an interface to configure
mld	Multicast Listener Discovery
neighbor	IPv6 neighbors
ospf	Open Shortest Path First for IPv6 (OSPFv3)
route	IPv6 routes
source	source command
statistics	Traffic statistics
verify	verify command
interface	Select an interface to view
statistics	View statistics
interface	Select an interface to configure
statistics	Traffic statistics
table	Show table of known DHCP clients with assigned addresses.
all	Also show clients currently acquiring an address
vlan	VLAN of IPv6 interface
<vlan_list>	IPv6 interface VLAN list
snooping	Snooping MLD
detail	Detail running information/statistics of MLD snooping
group-database	Multicast group database from MLD
mrouter	Multicast router port status in MLD

vlan	Search by VLAN
database	database summary
neighbor	Neighbor list
route	routing information
adv-router	Advertising router link state
external	External link states
inter-prefix	Inter Area Prefix link states
inter-router	Inter Area Router link states
intra-prefix	Intra Area Prefix states
link	Link LSA link states
network	Network link states
router	Router link states
self-originate	Self-originated link states
<ipv4_addr>	Advertising router ID (as an IPv4 address format)
link-state-id	Link state
<ipv4_addr>	Link state ID (as an IPv4 address format)
vlan	VLAN interface
<vlan_list>	List of VLAN ID, e.g. 1,3-5,7
binding	binding command
dhcpv6-snooping	see dynamic entries learned from DHCPv6 shielding
interface	interface command
static	see static entries
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port

Example:

```
SISPM1040-3248-L3# show ipv6 interface brief
Interface Address                                 Status
--------- --------------------------------------- ------
VLAN 1    fe80::2c0:f2ff:fe7c:5892/64             UP
SISPM1040-3248-L3#

SISPM1040-3248-L3# show ipv6 ospf database adv-router 1.2.3.4 external  link-state-id
2.4.6.8
SISPM1040-3248-L3# show ipv6 ospf database external self-originate
SISPM1040-3248-L3# show ipv6 ospf interface vlan 1
 % OSPF6 not enabled on VLAN interface 1
SISPM1040-3248-L3# show ipv6 route
Codes: C - connected, S - static, O - OSPF
       * - FIB route

C* fe80::/64 is directly connected, VLAN 1, 19:13:00

SISPM1040-3248-L3# show ipv6 source binding dhcpv6-snooping interface * 1/1

Type     Port                     VLAN    IPv6 Address MAC Address
----     ----                     ----    ------------ -----------
SISPM1040-3248-L3#
```

```
SISPM1040-3248-L3# show ipv6 verify source interface GigabitEthernet 1/1

Port                    Port Mode    Dynamic Entry Limit
----                    ---------    -------------------
GigabitEthernet 1/1     disabled     unlimited
SISPM1040-3248-L3#
```

Messages: *MLD Snooping is disabled to stop snooping MLD control plane.*
Multicast streams destined to unregistered MLD groups will be flooding.

Command: **lacp**

Description: Display Link Aggregation Control Protocol configuration/status

Syntax: **show** lacp { internal | statistics | system-id | neighbor } [details]

Parameters:

internal	Internal LACP configuration
neighbor	Neighbor LACP status
statistics	Internal LACP statistics
system-id	LACP system id
details	LACP state

Example:

```
SISPM1040-3248-L3# show lacp internal details
Port     State   Key  Priority  Activit  Timeout  Aggrege Synchro  Collect  Distrib  Default  Expired
-------  ------  ---  -------  -------  -------  -------  ------  -------  -------  -------  -------
Gi 1/5   Down     3     32768    Active   Fast     Yes      Yes      No       No       Yes      No
Gi 1/6   Down     3     32768    Active   Fast     Yes      Yes      No       No       Yes      No
Gi 1/7   Down     4     32768    Passive  Fast     Yes      Yes      No       No       Yes      No
Gi 1/8   Down     4     32768    Passive  Fast     Yes      Yes      No       No       Yes      No
Gi 1/11  Down     4     32768    Passive  Slow     Yes      Yes      No       No       Yes      No
Gi 1/12  Down     3     32768    Active   Fast     Yes      Yes      No       No       Yes      No
SISPM1040-3248-L3# show lacp statistics
Port        Rx Frames   Tx Frames   Rx Unknown  Rx Illegal
----------  ----------  ----------  ----------  ----------
Gi 1/5      0           0           0           0
Gi 1/6      0           0           0           0
Gi 1/7      0           0           0           0
Gi 1/8      0           0           0           0
Gi 1/11     0           0           0           0
Gi 1/12     0           0           0           0
SISPM1040-3248-L3# show lacp system-id
System ID: 32768 - 00:c0:f2:7c:58:92

SISPM1040-3166-L3# show lacp internal
Port        State     Key   Priority
----------  --------  ----  --------
Gi 1/7      Down      2     1
Gi 1/8      Down      2     1
SISPM1040-3166-L3#
```

Command: **license**

Description: Show license information.

Syntax: **show** licenses [details]

Parameters:

|	Output modifiers
details	Also display details, that is, the raw licenses
<cr>	

Example:

```
SISPM1040-3248-L3# show license
License summary
===============

Component Name                  Version
  License Type                                          Source
--------- --------------------- ------------------------------------------------
- ------------------------------------------------------ -----------------
--------------------------------------------------------------------------------
-----------------------------------------------------
Appl      WebStaX
  Microsemi
Appl      ISC DHCP              4.1.0
  ISC                                                   http://www.isc.org
/software/dhcp
Appl      MD5
  BSD
Appl      Host AP               0.5.9
  BSD                                                   http://hostap.epit
est.fi/hostapd
Appl      WPA Supplicant        0.6.1
  BSD                                                   http://hostap.epit
est.fi/wpa_supplicant
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **line**

Description: Display TTY line information.

Syntax: **show** line [alive]

Parameters:

|	Output modifiers
alive	Display information about alive lines
<cr>	

Example:

```
SISPM1040-3248-L3# show line alive
Line is vty 0.
---------------
    * You are at this line now.
    Alive from Telnet.
    Default privileged level is 2.
    Command line editing is disabled
    Display EXEC banner is enabled.
    Display Day banner is enabled.
    Terminal width is 80.
             length is 24.
             history size is 32.
             exec-timeout is 1440 min 0 second.

    Current session privilege is 15.
    Elapsed time is 0 day 20 hour 7 min 3 sec.
    Idle time is 0 day 0 hour 0 min 0 sec.

SISPM1040-3248-L3#
```

Command: **link-oam**

Description: Display Link OAM configuration.

Syntax: **show** link-oam { [status] [link-monitor] [statistics] } [interface (<port_type> [<plist>])]

Parameters:

interface	Interface status and configuration
link-monitor	Display link-monitor status parameters
statistics	Display statistics parameters
status	Display local and remote node status parameters
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show link-oam interface GigabitEthernet 1/1

    Interface             Control    Mode        Status
--------------------     ---------  -------   -----------
GigabitEthernet    1/1    disabled  passive   non operational

SISPM1040-3248-L3# show link-oam statistics status

GigabitEthernet 1/1
----------------------------------------
Admin state:                           Disabled
PDU permission:                        Receive only
Discovery state:                       Fault state
Remote MAC Address:                    -

                                    Local client          Remote Client
                                    ------------          -------------

port status:                        non operational         -------
Mode:                               passive                 -------
Unidirectional operation support:   disabled                -------
Remote loopback support:            disabled                -------
Link monitoring support:            enabled                 -------
MIB retrieval support:              disabled                -------
MTU Size:                           1500                    -------
Multiplexer state:                  Forwarding              -------
Parser state:                       Forwarding              -------
OUI:                                00-c0-f2                -------
PDU revision:                          0                    -------
-- more --, next page: Space, continue: g, quit: ^C
SISPM1040-3248-L3#
```

Command: **lldp**

Description: Display Link Layer Discover Protocol parameters.

Syntax:
show lldp eee [interface (<port_type> [<v_port_type_list>])]
show lldp med media-vlan-policy [<v_0_to_31>]
show lldp med remote-device [interface (<port_type> [<port_list>])]
show lldp neighbors [interface (<port_type> [<v_port_type_list>])]
show lldp preempt [interface (<port_type> [<v_port_type_list>])]
show lldp statistics [interface (<port_type> [<v_port_type_list>])]

Parameters:

eee	Display LLDP local and neighbor EEE information.
med	Display LLDP-MED neighbors information.
neighbors	Display LLDP neighbors information.
preempt	Display LLDP local and neighbor Preempt information.
statistics	Display LLDP statistics information.
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
media-vlan-policy	Display media VLAN policies.
remote-device	Display remote device LLDP-MED neighbors information.

Example:

```
SISPM1040-3248-L3# show lldp med media-vlan-policy 1
Policy Id  Application Type          Tag      Vlan ID  L2 Priority  DSCP
SISPM1040-3248-L3# show lldp neighbors
Local Interface     : GigabitEthernet 1/4
Chassis ID          : 00-C0-F2-7C-58-92
Port ID             : 25
Port Description    : GigabitEthernet 1/25
System Name         : SISPM1040-3248-L3
System Description  : Layer 3 Managed Hardened PoE+ Switch, (24) 10/100/1000Base
-T PoE+ Ports + (4) 100/1000Base-X SFP + (4) 1G/10GBase-X SFP+
System Capabilities : Bridge(+)
Management Address  : 192.168.1.77 (IPv4) - if-index:25
PoE Type            :
PoE Source          :
PoE Power           :
PoE Priority        :

Local Interface     : GigabitEthernet 1/25
Chassis ID          : 00-C0-F2-7C-58-92
Port ID             : 4
Port Description    : GigabitEthernet 1/4
System Name         : SISPM1040-3248-L3
System Description  : Layer 3 Managed Hardened PoE+ Switch, (24) 10/100/1000Base
-T PoE+ Ports + (4) 100/1000Base-X SFP + (4) 1G/10GBase-X SFP+
System Capabilities : Bridge(+)
Management Address  : 192.168.1.77 (IPv4) - if-index:4
PoE Type            : PSE Device
```

```
PoE Source          : Primary Power Source
PoE Power           : 4.0 [W]
PoE Priority        : Low Priority

SISPM1040-3248-L3# show lldp statistics
LLDP global counters
Neighbor entries was last changed at 2022-01-07T02:37:32+13:01  (9379 secs. ago)
.
Total Neighbors Entries Added    2.
Total Neighbors Entries Deleted  0.
Total Neighbors Entries Dropped  0.
Total Neighbors Entries Aged Out 0.

LLDP local counters
                        Rx          Tx          Rx          Rx          Rx TLV
    Rx TLV      Rx TLV
Interface               Frames      Frames      Errors      Discards    Errors
    Unknown     Organiz.    Aged
---------               ------      ------      ------      --------    ------
    -------     --------    ----
GigabitEthernet 1/1     0           6017        0           0           0
    0           0           0
GigabitEthernet 1/2     0           0           0           0           0
    0           0           0
GigabitEthernet 1/3     0           6049        0           0           0
    0           0           0
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **logging**

Description: Display system logging message.

Syntax:

show logging <log_id> [switch <switch_list>]

show logging [info] [warning] [error] [emerg] [alert] [crit] [notice] [debug] [switch <switch_list>] [reverse]

show logging flash [category { debug | system | application }] [level { informational | notice | warning | error }] [reverse]

Parameters:

<1-4294967295>	Logging ID
alert	Severity 1: Action must be taken immediately
crit	Severity 2: Critical conditions
debug	Severity 7: Debug-level messages
emerg	Severity 0: System is unusable
error	Severity 3: Error conditions
flash	Logging message on Flash
info	Severity 6: Informational messages
notice	Severity 5: Normal but significant condition
warning	Severity 4: Warning conditions
category	Category of logging message
level	Severity level
reverse	display syslog in reverse order
application	Application category
debug	Debug category
system	System category

Example:

```
SISPM1040-3248-L3# show logging 30
Switch : 1
ID     : 30
Level  : Informational
Time   : 2020-01-01T02:01:07+00:00
Message: Login passed for user 'admin' through TELNET from 192.168.1.99:50206 and
authenticated by local method
SISPM1040-3248-L3# show logging debug
Switch logging host mode is disabled
Switch logging host address is null
Switch logging host port is 514
Number of entries on Switch 1:
Emergency    : 0
Alert        : 0
Critical     : 0
Error        : 0
Warning      : 49
Notice       : 1
Informational: 122
Debug        : 0
All          : 172
SISPM1040-3248-L3# show logging flash category application level error reverse
No entries found
SISPM1040-3248-L3#
```

Command: **loop-protect**

Description: Display Loop Protection configuration.

Syntax: **show** loop-protect [interface (<port_type> [<plist>])]

Parameters:

*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show loop-protect interface GigabitEthernet 1/3

Loop Protection Configuration
=====================================
Loop Protection   : Disable
Transmission Time : 5 sec
Shutdown Time     : 180 sec

GigabitEthernet 1/3
------------------------------
    Loop protect mode is enabled.
    Action is shutdown.
    Transmit mode is enabled.
    No loop.
    The number of loops is 0.
    Status is down.
SISPM1040-3248-L3#
```

Command: **mac**

Description: Show MAC Address Table information.

Syntax:

show mac address-table [conf | static | aging-time | { { learning | count } [interface (<port_type> [<v_port_type_list>]) | vlan <v_vlan_id_2>] } | { address <v_mac_addr> [vlan <v_vlan_id>] } | vlan <v_vlan_id_1> | interface (<port_type> [<v_port_type_list_1>])]

Parameters:

address-table	Mac Address Table
address	VLAN IDs 1-4095
aging-time	Aging time
conf	User added static mac addresses
count	Total number of mac addresses
interface	Addresses in this VLAN
learning	Learn/disable/secure state
static	All static mac addresses
vlan	VLAN IDs 1-4094
vlan	48 bit MAC address: xx:xx:xx:xx:xx:xx
<vlan_id>	VLAN lookup
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
<mac_addr>	MAC address lookup

Example:

```
SISPM1040-3248-L3# show mac address-table aging-time
MAC Age Time: 300
SISPM1040-3248-L3# show mac address-table count interface GigabitEthernet 1/1
Port Dynamic addresses
GigabitEthernet 1/1              1
Total learned dynamic addresses for the switch: 1
Total static addresses in table: 5
SISPM1040-3248-L3# show mac address-table static
Type    VID  MAC Address       Ports
Static  1    00:c0:f2:7c:58:92  CPU
Static  1    01:00:0c:cc:cc:cc  CPU
Static  1    33:33:00:00:00:01 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    33:33:ff:7c:58:92 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    ff:ff:ff:ff:ff:ff GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
SISPM1040-3248-L3# show mac address-table vlan 1
Type    VID  MAC Address       Ports
Dynamic 1    00:1b:11:b2:6d:4b GigabitEthernet 1/1-2
Static  1    00:c0:f2:7c:58:92  CPU
Static  1    01:00:0c:cc:cc:cc  CPU
Static  1    33:33:00:00:00:01 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    33:33:ff:7c:58:92 GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
Static  1    ff:ff:ff:ff:ff:ff GigabitEthernet 1/1-28 10GigabitEthernet 1/1-4 CPU
SISPM1040-3248-L3#
```

Command: **map-api-key**

Description: Show Google Maps key configuration.

Syntax: **show** map-api-key

Parameters: None

Example:

```
SISPM1040-3248-L3# show map-api-key
Key   : GMapKeyforSispm1040-3248-l3
SISPM1040-3248-L3#
```

Command: **monitor**

Description: Monitor mirror session.

Syntax: **show** monitor [session { <session_number> | all }]

Parameters:

	session	MIRROR session
	<1-5>	MIRROR session number
	all	Show all MIRROR sessions

Example:

```
SISPM1040-3248-L3# show monitor session  1

Session 1
---------
Mode                      : Disabled
Type                      : Mirror
Source VLAN(s)            :
CPU Port                  :
SISPM1040-3248-L3#
```

Command: **mrp**

Description: Show Media Redundancy Protocol status

Syntax: **show** mrp status [interface (<port_type> [<plist>])] [all | mvrp]

Parameters:

status	Show a collection of MRP statistics for each interface.
all	Show MRP statistics for all MRP Applications.
interface	Interface specification.
mvrp	Show MRP statistics for the MVRP Application.
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show mrp status
GigabitEthernet 1/1 :
---------------------
MRP Appl  FailedRegistrations  LastPduOrigin
--------  -------------------  -------------
MVRP      0                    00-00-00-00-00-00

GigabitEthernet 1/2 :
---------------------
MRP Appl  FailedRegistrations  LastPduOrigin
--------  -------------------  -------------
MVRP      0                    00-00-00-00-00-00

GigabitEthernet 1/3 :
---------------------
MRP Appl  FailedRegistrations  LastPduOrigin
--------  -------------------  -------------
MVRP      0                    00-00-00-00-00-00

GigabitEthernet 1/4 :
---------------------
MRP Appl  FailedRegistrations  LastPduOrigin
--------  -------------------  -------------
-- more --, next page: Space, continue: g, quit: ^C
```

Messages:

E trace 00:54:44 157/vtss_trace_global_module_lvl_get#1473: Error: grp_idx (2) too big for module MRP_Ring, (id = 177) (grp_cnt = 2)

N mrp_ring/± 00:54:44 157/mrp_send_frame#551: Port 4: MRP frame transmission done
E trace 00:58:54 157/vtss_trace_global_module_lvl_get#1473: Error: grp_idx (4) too big for module MRP_Ring, (id = 177) (grp_cnt = 2)

D mrp_ring/330§Å 00:58:54 157/sm_MRC_MRP_MRC_STATE_PT_MRP_SM_EVENT_UPTIMER _EXPIRED_Enter#581: MRC->MRP_MRC_STATE_PT_IDLE

Command: **mrp-ring**

Description: Show Media Redundancy Protocol Ring Status.

Syntax: **show** mrp-ring <domainId>
show mrp-ring <domainId> diag
show mrp-ring <domainId> ringport [{ primary | secondary }]

Parameters:

<1-2>	DomainID to display status of
diag	Diagnostic output for MRP Ring Domain
ringport	Ringport status for MRP Domain
primary	Show status for primary Ringport
secondary	Show status for secondary Ringport

Example:

```
SISPM1040-3248-L3# show mrp-ring 2 ringport primary
Primary Ring Port ID:      4
Status:                    Forwarding
SISPM1040-3248-L3# show mrp-ring 2 ringport secondary
Secondary Ring Port ID:    5
Status:                    Forwarding
SISPM1040-3248-L3# show mrp-ring 1 diag
Status                          : 0x04(Open)
Error                           : 0x01(No error)
Transitions                     :            2
MRP Transmitted Frames          :            4

MRP Received Frames             :            0
MRP Received Errors             :            0
MRP Received Unrecognized       :            0
Tx Error Total                  :            0
Rx Vlan Frames Total            :            0
Rx Test Frames Total            :            0
Rx Topology Change Frames Total :            0
Rx Link Change Frames Total     :            0
ACL counter 0                   :            0
ACL counter 1                   :            0
Round Trip Delay Minimum, ms    :            0
Round Trip Delay Average, ms    :            0
Round Trip Delay Maximum, ms    :            0
Ring Open Count                 :            0
Lost frames by sequence id      :            0
Mixed frames by sequence id     :            0
Received with different UUID    :            0
Loop detected                   :            0
SISPM1040-3248-L3# show mrp-ring 2
Operational:
  Role:                     Client
  Status:                   Enabled
  Primary Ring Port State:  Not connected
  Secondary Ring Port State: Not connected
Domain:
  Admin Role:               Client
  Name:                     Domain2
  UUID:                     Default
```

```
  Primary Ring Port ID:      4
  Secondary Ring Port ID:    5
  VLAN ID:                   20
Client:
  Link Down Interval, ms:    20
  Link Up Interval, ms:      20
  Link Change Count:         4
  BLOCKED state supported:   Enabled
SISPM1040-3248-L3#
```

Command: **mvr**

Description: Display Multicast VLAN Registration configuration.

Syntax:

show mvr [vlan <v_vlan_list> | name <mvr_name>] [group-database [interface (<port_type> [<v_port_type_list>])] [sfm-information]] [detail]

Parameters:

detail	Detail information/statistics of MVR group database
group-database	Multicast group database from MVR
name	Search by MVR name
vlan	Search by VLAN
sfm-information	Including source filter multicast information from MVR
<word16>	MVR multicast VLAN name
interface	Search by port

Example:

```
SISPM1040-3248-L3# show mvr
MVR is now enabled to start group registration.
Switch-1 MVR-IGMP Interface Status
IGMP MVR VLAN 10 (Name is MVRCFG1) interface is enabled.
Querier status is IDLE
RX IGMP Query:0 V1Join:0 V2Join:0 V3Join:0 V2Leave:0
TX IGMP Query:0 / (Source) Specific Query:0
Interface Channel Profile: <No Associated Profile>
Switch-1 MVR-MLD Interface Status
MLD MVR VLAN 10 (Name is MVRCFG1) interface is enabled.
Querier status is IDLE
RX MLD Query:0 V1Report:0 V2Report:0 V1Done:0
TX MLD Query:0 / (Source) Specific Query:0
Interface Channel Profile: <No Associated Profile>
SISPM1040-3248-L3# show mvr group-database sfm-information
MVR is now enabled to start group registration.
MVR Group Database
Switch-1 MVR Group Count: 0
SISPM1040-3248-L3#
```

Messages:

W mvr 23:34:48 77/_mvr_vlan_warning_handler#3887: Warning: Please adjust the management VLAN ports overlapped with MVR source ports!

MVR is currently disabled, please enable MVR to start group registration.

Command: **ntp**

Description: Show Network Time Protocol status.

Syntax: **show** ntp status

Parameters: status status

Example:

```
SISPM1040-3248-L3# show ntp status
NTP Mode : disabled
Automatic: enabled
Idx   Server IP host address (a.b.c.d)
---   ----------------------------------------------------
1

Idx   Server IP host address (a.b.c.d) or a host name string
---   ----------------------------------------------------
1     129.6.15.29
2     time-a-g.nist.gov
3     time.google.com
4
5
SISPM1040-3248-L3#
```

Command: **platform**

Description: Show Platform configuration. **WARNING**: The use of 'debug' commands may negatively impact system behavior. For use only by or at the direction of Technical Support.
Do not enable unless instructed to. Use 'platform debug deny' to disable debug commands.
Note: 'debug' command syntax, semantics and behavior are subject to change without notice.

Syntax:

show platform debug

show platform phy [interface (<port_type> [<v_port_type_list>])]

show platform phy id [interface (<port_type> [<v_port_type_list>])]

show platform phy instance

show platform phy status [interface (<port_type> [<v_port_type_list>])]

Parameters:

debug	Debug command setting
phy	PHYs' information
|	Output modifiers
failover	Failover status
id	Identifier
instance	PHY Instance Information
interface	Interface type
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show platform debug
Platform debug command function is denied.
SISPM1040-3248-L3# show platform phy failover
Port         Active     Channel    Broadcast  After reset
----         ------     -------    ---------  ------------
SISPM1040-3248-L3# show platform phy instance
Next Restart    : Cold
Previous Restart: Cool
Current API Version : 0
Previous API Version: 0
Phy Instance Restart Source:1G
Phy Instance Restart Port:0
Current Phy Start Instance:none
Current Phy Start Instance:none
SISPM1040-3248-L3# show platform phy id
Port   Channel    API Base   Phy Id     Phy Rev.
----   -------    --------   -------    ------
1      0          0 (1g)     8504       3
2      1          1 (1g)     8504       3
3      2          0 (1g)     8504       3
4      3          1 (1g)     8504       3
5      0          4 (1g)     8504       3
6      1          5 (1g)     8504       3
7      2          4 (1g)     8504       3
8      3          5 (1g)     8504       3
```

```
9      0          8 (1g)     8504       3
10     1          9 (1g)     8504       3
11     2          8 (1g)     8504       3
12     3          9 (1g)     8504       3
13     0          12 (1g)     8504       3
14     1          13 (1g)     8504       3
15     2          12 (1g)     8504       3
16     3          13 (1g)     8504       3
17     0          16 (1g)     8504       3
18     1          17 (1g)     8504       3
19     2          16 (1g)     8504       3
20     3          17 (1g)     8504       3
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **poe**

Description: Show Power Over Ethernet.

Syntax: **show** poe config [interface (<port_type> [<v_port_type_list>])]
show poe power-delay [interface (<port_type> [<v_port_type_list>])]
show poe profile [id <has_id>]
show poe reboot
show poe status [interface (<port_type> [<v_port_type_list>])]
show poe { auto-check | auto-power-reset } [interface (<port_type> [<v_port_type_list>])]

Parameters:

auto-power-reset	Show PoE Auto Power Reset configuration.
config	Display PoE (Power Over Ethernet) config for the switch.
power-delay	Display PoE (Power Over Ethernet) power delay for the switch.
profile	show poe scheduling profile
reboot	show poe reboot scheduling
status	Display PoE (Power Over Ethernet) status for the switch.
|	Output modifiers
interface	Interface type
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example 1:

```
SISPM1040-3248-L3# show poe status interface GigabitEthernet 1/3-8
Interface               PD Class  Port Status                                Pwr
Req Pwr Alloc Power   Current  Priority
                                                                           Used
[W] Used[W]   Used[W] Used[mA]
---------------------- --------- ----------------------------------------- ----
--- --------- ------- -------- --------
GigabitEthernet 1/3     -         PoE turned ON                            30.0
    30.0      1.9     35       Low
GigabitEthernet 1/4     -         PoE turned ON                            30.0
    30.0      1.8     33       Low
GigabitEthernet 1/5     -         PoE turned ON                            30.0
    30.0      1.8     34       Low
GigabitEthernet 1/6     -         PoE turned ON                            30.0
    30.0      1.9     35       Low
GigabitEthernet 1/7     -         No PD detected                           0.0
    0.0       0.0     0        Low
GigabitEthernet 1/8     -         PoE turned ON                            30.0
    30.0      4.2     71       Low

Total Power Request :   150.0 [W]
Total Power Alloctaed : 150.0 [W]
Total Power Used :      11.6 [W]
Total Current Used :    208 [mA]
```

```
Capacitor Detection : No
SISPM1040-3248-L3#
```

Example 2:

```
SISPM1040-3248-L3# show poe auto-power-reset interface GigabitEthernet 1/1

Ping Check : Disabled

Port  Ping IP Address         Start up Interval Retry Failure Log      Failure Action
Reboot Max.Reboot
                              Time      Time    Time
           Time  Times
----  ---------------------- -------- -------- ----- ---------------- ----------------- --
---- ------
```

Example 3:

```
SISPM1040-3248-L3# show poe config
Primary Power Supply [W]     : 370

Port  Mode      Schedule                          Priority  Max. Power [W]
----  --------  --------------------------------  --------  --------------
1     Enabled   Profile 1                         Critical  30.0
2     Enabled   Profile 2                         High      30.0
3     Enabled   Profile 3                         High      30.0
4     Enabled   Disable                           Low       30.0
5     Enabled   Disable                           Low       30.0
6     Enabled   Disable                           Low       30.0
7     Enabled   Disable                           Low       30.0
8     Enabled   Disable                           Low       30.0
-- more --, next page: Space, continue: g, quit: ^C
```

Example 4:

```
SISPM1040-3248-L3# show poe power-delay interface GigabitEthernet 1/1-3

Port  Delay Mode DelAy Time(0~300 sec)
----  ---------- ---------------------
1     Enabled    0
2     Enabled    20
3     Enabled    3
SISPM1040-3248-L3# show poe profile id 1

PoE profile: Profile 1
              Start Time   End Time
  Week Day     HH : MM     HH : MM
 ----------    -------     -------
  Monday        0  0        0  0
  Tuesday       0  0        0  0
  Wednesday     0  0        0  0
  Thursday      0  0        0  0
  Friday        0  0        0  0
  Saturday      1  0        2  0
  Sunday        0  0        0  0

SISPM1040-3248-L3#
```

PoE Status can be one of these values:

PoE not available - No PoE chip found: PoE not supported for the port.

PoE turned OFF - PoE disabled: PoE is disabled by user.

PoE turned OFF - Power budget exceeded: The total requested or used power by the PDs exceeds the maximum power the Power Supply can deliver, and port(s) with the lowest priority is/are powered down.

No PD detected: No PD detected for the port.

PoE turned OFF - PD overload: The PD has requested or used more power than the port can deliver, and is powered down.

PoE turned OFF: PD is off.

Invalid PD: PD detected, but is not working correctly.

Note: GigabitEthernet 1/25-28 and 10GigabitEthernet 1/1 - 1/4 do not have PoE support.

Command: **port**

Description: Show Port information.

Syntax: **show** port address
show port interface

Parameters:

address	Show MAC Addresses learned by Port Security
interface	Port interface
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-20
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3166-L3# show port address
VLAN MAC Address         Type        State        Port            Age/Hold Time

Number of MAC addresses manageable by port-security in the system: 1024
Number of MAC addresses currently used by port-security in the system: 0

SISPM1040-3166-L3#
```

Command: **port-security**

Description: Show Port Security status.

Syntax: **show** port-security [interface (<port_type> [<plist>])]
show port-security address [interface (<port_type> [<plist>])]

Parameters:

address	Show MAC Addresses learned by Port Security
interface	Port interface
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show port-security interface GigabitEthernet 1/1
Users:
  P = Port Security (Admin)
  8 = 802.1X
  V = Voice VLAN

Interface  Users Limit Current Violating Violation Mode Sticky State
---------- ----- ----- ------- --------- -------------- ------ -------------
Gi 1/1     ---     N/A       0       N/A Disabled       No     No users

Aging disabled
Hold time: 300 seconds

SISPM1040-3248-L3# show port-security address
VLAN MAC Address       Type    State      Port       Age/Hold Time
---- ----------------- ------- ---------- ---------- -------------

Number of MAC addresses manageable by port-security in the system: 1024
Number of MAC addresses currently used by port-security in the system: 0

SISPM1040-3248-L3#
```

Command: **privilege**

Description: Display command privilege.

Syntax: **show** privilege

Parameters: None

Example:

```
SISPM1040-3248-L3# show privilege
SISPM1040-3248-L3#
```

Command: **process**

Description: Show process.

Syntax: **show** process list [detail]
show process load

Parameters:

|	Output modifiers
detail	optionally show thread call stack
<cr>	

Example:

```
SISPM1040-3248-L3# show process load
0.58 0.65 0.69 1/175 251
SISPM1040-3248-L3#
```

Command: **pse**

Description: Show Power Over Ethernet Power Sourcing Equipment type and class.

Syntax: **show** pse [interface (<port_type> [<v_port_type_list>])]

Parameters:

|	Output modifiers
interface	Interface type
<cr>	
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show pse
Interface               PSE Type     Supported PD Classes
----------------------  -----------  --------------------
GigabitEthernet 1/1     Type 2                  Class 0-4
GigabitEthernet 1/2     Type 2                  Class 0-4
GigabitEthernet 1/3     Type 2                  Class 0-4
GigabitEthernet 1/4     Type 2                  Class 0-4
GigabitEthernet 1/5     Type 2                  Class 0-4
GigabitEthernet 1/6     Type 2                  Class 0-4
GigabitEthernet 1/7     Type 2                  Class 0-4
GigabitEthernet 1/8     Type 2                  Class 0-4
GigabitEthernet 1/9     Type 2                  Class 0-4
GigabitEthernet 1/10    Type 2                  Class 0-4
GigabitEthernet 1/11    Type 2                  Class 0-4
GigabitEthernet 1/12    Type 2                  Class 0-4
GigabitEthernet 1/13    Type 2                  Class 0-4
GigabitEthernet 1/14    Type 2                  Class 0-4
GigabitEthernet 1/15    Type 2                  Class 0-4
GigabitEthernet 1/16    Type 2                  Class 0-4
GigabitEthernet 1/17    Type 2                  Class 0-4
GigabitEthernet 1/18    Type 2                  Class 0-4
GigabitEthernet 1/19    Type 2                  Class 0-4
GigabitEthernet 1/20    Type 2                  Class 0-4
GigabitEthernet 1/21    Type 2                  Class 0-4
GigabitEthernet 1/22    Type 2                  Class 0-4
GigabitEthernet 1/23    Type 2                  Class 0-4
GigabitEthernet 1/24    Type 2                  Class 0-4
GigabitEthernet 1/25 does not have PoE support
GigabitEthernet 1/26 does not have PoE support
GigabitEthernet 1/27 does not have PoE support
GigabitEthernet 1/28 does not have PoE support
10GigabitEthernet 1/1 does not have PoE support
10GigabitEthernet 1/2 does not have PoE support
10GigabitEthernet 1/3 does not have PoE support
10GigabitEthernet 1/4 does not have PoE support
SISPM1040-3248-L3#
```

Command: **ptp**

Description: Show Precision Time Protocol (1588) information.

Syntax:

show ptp <clockinst> filter-type
show ptp <clockinst> local-clock
show ptp <clockinst> slave-cfg
show ptp <clockinst> slave-table-unicast
show ptp <clockinst> virtual-port
show ptp <clockinst> { default | current | parent | time-property | filter | servo | clk | ho | uni | master-table-unicast | slave | { { port-state | port-statistics | port-ds | wireless | foreign-master-record } [interface (<port_type> [<v_port_type_list>])] } | log-mode }
show ptp cal
show ptp cmlds default-ds
show ptp cmlds { port-state | port-ds | port-statistics } interface (<port_type> [<v_port_type_list>])
show ptp ext
show ptp ms-pdv all-apr-statistics cgu <cgu_id>
show ptp ms-pdv apr cgu <cgu_id>
show ptp ms-pdv cgu <cgu_id> server <server_id> status
show ptp ms-pdv cur-path-delays cgu <cgu_id>
show ptp ms-pdv path-statistics cgu <cgu_id>
show ptp ms-pdv psl-fcl-config cgu <cgu_id>
show ptp rs422
show ptp rs422 baudrate
show ptp servo mode-ref
show ptp servo source
show ptp system-time

Parameters:

<0-3>	Show various PTP data
cal	Show the PTP calibration.
cmlds	Common Mean Link Delay Service
ext	Show the 1PPS and External clock output configuration and VCXO frequency rate adjustment option.
ms-pdv	Show the configuration of the MS-PDV.
rs422	This command shows the configuration of the alternative clock, that is connected to the RS422 connector.
servo	PTP servo parameters
system-time	Show the PTP <-> system time synchronization mode.
clk	Show PTP slave clock options parameters.
current	Show PTP current data set (IEEE1588 paragraph 8.2.2).
default	Show PTP default data set (IEEE1588 paragraph 8.2.1).
filter	Show PTP filter parameters.
filter-type	Show PTP filter type
foreign-master-record	Show PTP port foreign masters.
ho	Show PTP slave holdover parameters.
local-clock	Show local clock current time
log-mode	Show PTP log mode.

master-table-unicast	Show PTP master list of connected unicast slaves.
parent	Show PTP parent data set (IEEE1588 paragraph 8.2.3).
port-ds	Show PTP port data set (IEEE1588 paragraph 8.2.5).
port-state	Show PTP port state.
port-statistics	Show PTP port statistics.
servo	Show PTP servo parameters.
slave	Show PTP slave clock lock threshold parameters.
slave-cfg	Show slave lock configuration
slave-table-unicast	Show the Unicast slave table of the requested unicast masters
time-property	Show PTP time properties data set (IEEE1588 paragraph 8.2.4).
uni	Show PTP slave unicast configuration parameters.
virtual-port	Show the configuration of a PTP clocks virtual port
wireless	Show PTP port wireless parameters.
interface	Define interface list for the 'port' show commands. Default is show all interfaces.
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
interface	Define interface list for the 'port' show commands. Default is show all interfaces.
slave-cfg	Show slave lock configuration
slave-table-unicast	Show the Unicast slave table of the requested unicast masters
default-ds	CMLDS Default data structure
port-ds	CMLDS Port Configuration data structure
port-state	CMLDS Port Status
port-statistics	CMLDS Port Statistics
all-apr-statistics	All Absolute Pull Range statistics
apr	Absolute Pull Range
cgu	
cur-path-delays	
path-statistics	
psl-fcl-config	
cgu	
<0-3>	
rs422	This command shows the configuration of the alternative clock, that is connected to the RS422 connector.
baudrate	This command shows baud rate that has been configured for the RS422 port
mode-ref	Servo mode of reference
source	Servo source

Example 1:

```
SISPM1040-3248-L3# show ptp 0 clk
Option  threshold  'P'constant
------  ---------  -----------
free     1000       2
```

```
SISPM1040-3248-L3# show ptp 0 current
stpRm  OffsetFromMaster    MeanPathDelay
-----  ------------------  ------------------
0       0.000,000,000       0.000,000,000
SISPM1040-3248-L3#SISPM1040-3248-L3# show ptp 0 current
stpRm  OffsetFromMaster    MeanPathDelay
-----  ------------------  ------------------
SISPM1040-3248-L3# show ptp 0 default
ClockId  HW-Domain  DeviceType  Profile     2StepFlag  Ports  vtss_appl_clock_id
entity
-------  ---------  ----------  ----------  ---------  -----  ------------------
------
0        0          Ord-Bound   No profile  False      32     00:c0:f2:ff:fe:7c:
58:92

Dom  vtss_appl_clock_quality         Pri1  Pri2  Lpri
---  ------------------------------  ----  ----  ----
0    Cl:248 Ac:Unknwn Va:65535       128   128   128

Protocol         One-Way    VID    PCP  DSCP  PathTraceEnable
---------------  ---------  -----  ---  ----  ---------------
Ethernet         False      1      0    0     False

SISPM1040-3248-L3# show ptp 2 default
ClockId  HW-Domain  DeviceType  Profile     2StepFlag  Ports  vtss_appl_clock_id
entity
-------  ---------  ----------  ----------  ---------  -----  ------------------
------
2        2          Ord-Bound   802.1as     True       32     00:c0:f2:ff:fe:7c:
58:94

Dom  vtss_appl_clock_quality         Pri1  Pri2  Lpri
---  ------------------------------  ----  ----  ----
0    Cl:248 Ac:Unknwn Va:65535       246   248   128

Protocol         One-Way    VID    PCP  DSCP  PathTraceEnable
---------------  ---------  -----  ---  ----  ---------------
Ethernet         False      1      0    0     True

gmCapable  sdoId
---------  -----
True       0x100
SISPM1040-3248-L3#
SISPM1040-3248-L3# show ptp 0 filter
DelayFilter  Period  Dist
-----------  ------  ----
6            1       2
SISPM1040-3248-L3# show ptp 0 filter-type
Clockinst: 0, filter type: aci-basic-phase-low
SISPM1040-3248-L3# show ptp 0 foreign-master-record interface 10GigabitEthernet 1/1-4
Port  ForeignmasterIdentity         ForeignmasterClockQality     Pri1  Pri2  Lpr
i  Qualif  Best
----  ----------------------------  ----------------------------  ----  ----  ---
-  ------  -----
```

Example 2:

```
SISPM1040-3248-L3# show ptp 0 ho
Holdover filter  Adj threshold (ppb)
---------------  -------------------
             60                 30.0
SISPM1040-3248-L3# show ptp 0 local-clock
PTP Time (0)    : 1970-01-01T00:09:02+00:00 565,537,318
Clock Adjustment method: Internal Timer
SISPM1040-3248-L3# show p tp 0 log-mode
Debug mode       Active  KeepControl  Log time (sec)  Time left (sec)
---------------  ------  -----------  --------------  ---------------
log not active
SISPM1040-3248-L3# show ptp 0 master-table-unicast
ip_addr          mac_addr           port  Ann  Sync
---------------  -----------------  ----  ---  -----
SISPM1040-3248-L3# show ptp 0 parent
ParentPortIdentity      port  Pstat  Var  ChangeRate
----------------------  ----  -----  ---  ----------
SISPM1040-3248-L3# show ptp 0 port-statistics
Port  Parameter                                  counter
----  -----------------------------------------  ----------
Port  Parameter                                  counter
----  -----------------------------------------  ----------
Port  Parameter                                  counter
----  -----------------------------------------  ----------
Port  Parameter                                  counter
----  -----------------------------------------  ----------
Port  Parameter                                  counter
----  -----------------------------------------  ----------
Port  Parameter                                  counter
----  -----------------------------------------  ----------
Port  Parameter                                  counter
----  -----------------------------------------  ----------
-- more --, next page: Space, continue: g, quit: ^C

SISPM1040-3248-L3# show ptp 0 virtual-port
clockinst 0, class 248, accuracy 254, variance 65535, localPriority 128, priority1 128,
priority2 128, io-pin 0, enable FALSE
SISPM1040-3248-L3# show ptp cmlds default-ds
ClockIdentity  : 00:00:00:ff:fe:00:00:04
numberLinkPorts: 32
sdoId          : 0x200
SISPM1040-3248-L3# show ptp cmlds port-ds interface GigabitEthernet 1/2
Port  Delay-Asym     Dly-thresh     Init-Pdel-Int  Use-Mgt-Pdel-Int  Mgt-Pdel-In
t  Init-comp-ratio  Use-Mgt-ratio  Mgt-comp-ratio  Init-comp-del  Use-Mgt-del  M
gt-comp-del  allow-lost-resp  allow-faults
----  -------------  -------------  -------------  ----------------  -----------
-  ---------------  -------------  -------------  -------------  -----------  -
-----------  ---------------  ------------
   2  0.000,000,000  0.000,000,800  0              False             0
   True             False          True           True           False        True
3               9
SISPM1040-3248-L3#
```

Example 3:

```
SISPM1040-3248-L3# show ptp ext
PTP External One PPS mode: Disable, Clock output enabled: False, frequency : 1,
Preferred adj method: Auto
SISPM1040-3248-L3# show ptp ms-pdv all-apr-statistics cgu 0
W zl_3038x 00:44:51 17.206,492 231/zl_30380_apr_show_statistics#2045: Warning: ZL Error
code: 7d2
SISPM1040-3248-L3# show ptp rs422 baudrate
Parameters of RS422 port are: baudrate = 115200, parity = none, wordlength = 8,
stopbits = 1, flags = 00000000
SISPM1040-3248-L3# show ptp servo mode-ref
Servo [0] mode NONE ref -1
Servo [1] mode NONE ref -1
Servo [2] mode NONE ref -1
Servo [3] mode NONE ref -1
SISPM1040-3248-L3# show ptp servo source
Servo current source is type NONE ref 0, DPLL_type Generic
SISPM1040-3248-L3# show ptp system-time
System clock synch mode (No System clock to PTP Sync)
SISPM1040-3248-L3#
```

Command: **pvlan**

Description: Show PVLAN configuration.

Syntax: **show** pvlan [<pvlan_list>]
show pvlan isolation [interface (<port_type> [<plist>])]

Parameters:

<range_list>	PVLAN ID to show configuration for
isolation	show isolation configuration
interface	List of port type and port ID, ex, Fast 1/1 Gigabit 2/3-5 Gigabit 3/2-4 10 Gigabit 4/6
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show pvlan 1
PVLAN ID  Ports
--------  --------------------------------------------------------------------------------
1         GigabitEthernet 1/1, GigabitEthernet 1/2, GigabitEthernet 1/3,
          GigabitEthernet 1/4, GigabitEthernet 1/5, GigabitEthernet 1/6,
          GigabitEthernet 1/7, GigabitEthernet 1/8, GigabitEthernet 1/9,
          GigabitEthernet 1/10, GigabitEthernet 1/11, GigabitEthernet 1/12,
          GigabitEthernet 1/13, GigabitEthernet 1/14, GigabitEthernet 1/15,
          GigabitEthernet 1/16, GigabitEthernet 1/17, GigabitEthernet 1/18,
          GigabitEthernet 1/19, GigabitEthernet 1/20, GigabitEthernet 1/21,
          GigabitEthernet 1/22, GigabitEthernet 1/23, GigabitEthernet 1/24,
          GigabitEthernet 1/25, GigabitEthernet 1/26, GigabitEthernet 1/27,
          GigabitEthernet 1/28, 10GigabitEthernet 1/1, 10GigabitEthernet 1/2,
          10GigabitEthernet 1/3, 10GigabitEthernet 1/4
SISPM1040-3248-L3# show pvlan isolation interface GigabitEthernet 1/1
Port                              Isolation
--------------------------------  ---------
GigabitEthernet 1/1               Disabled
SISPM1040-3248-L3#
```

Command: **qos**

Description: Show Quality of Service

Syntax:

show qos [{ interface [(<port_type> [<port>])] } | wred | { maps [dscp-cos] [dscp-ingress-translation] [dscp-classify] [cos-dscp] [dscp-egress-translation] [{ ingress [<ing_id>] }] [{ egress [<egr_id>] }] } | storm | { qce [<qce>] }]

Parameters:

|	Output modifiers
interface	Interface
maps	QoS Maps/Tables
qce	QoS Control Entry
storm	Storm policer
wred	Weighted Random Early Discard
<cr>	
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
cos-dscp	Map for COS to DSCP
dscp-classify	Map for DSCP classify enable
dscp-cos	Map for DSCP to COS
dscp-egress-translation	Map for DSCP egress translation
dscp-ingress-translation	Map for DSCP ingress translation
egress	Map for egress configuration
ingress	Map for ingress configuration
<1-256>	QCE ID

Example:

```
SISPM1040-3248-L3# show qos maps cos-dscp dscp-classify dscp-cos egress ingress
qos map dscp-cos:
=================
DSCP       Trust      Cos  Dpl
---------  --------  ---  ---
0  (BE)    disabled  0    0
1          disabled  0    0
2          disabled  0    0
3          disabled  0    0
4          disabled  0    0
5          disabled  0    0
6          disabled  0    0
7          disabled  0    0
8  (CS1)   disabled  0    0
9          disabled  0    0
10 (AF11)  disabled  0    0
11         disabled  0    0
12 (AF12)  disabled  0    0
13         disabled  0    0
```

```
14 (AF13)  disabled  0    0
15         disabled  0    0
16 (CS2)   disabled  0    0
17         disabled  0    0
-- more --, next page: Space, continue: g, quit: ^C
SISPM1040-3248-L3# show qos storm
qos storm:
==========
Unicast  : disabled       10 fps
Multicast: disabled       10 fps
Broadcast: disabled       10 fps
Storm detected: FALSE
SISPM1040-3248-L3# show qos wred
qos wred:
=========
Group  Queue  Dpl  Mode      Min Fl  Max Dp or Fl
-----  -----  ---  --------  ------  ----------------------
    1      0    1  disabled    0 %    50 % Drop Probability
    1      0    2  disabled    0 %    50 % Drop Probability
    1      0    3  disabled    0 %    50 % Drop Probability
    1      1    1  disabled    0 %    50 % Drop Probability
    1      1    2  disabled    0 %    50 % Drop Probability
    1      1    3  disabled    0 %    50 % Drop Probability
    1      2    1  disabled    0 %    50 % Drop Probability
    1      2    2  disabled    0 %    50 % Drop Probability
    1      2    3  disabled    0 %    50 % Drop Probability
    1      3    1  disabled    0 %    50 % Drop Probability
    1      3    2  disabled    0 %    50 % Drop Probability
    1      3    3  disabled    0 %    50 % Drop Probability
    1      4    1  disabled    0 %    50 % Drop Probability
    1      4    2  disabled    0 %    50 % Drop Probability
    1      4    3  disabled    0 %    50 % Drop Probability
    1      5    1  disabled    0 %    50 % Drop Probability
    1      5    2  disabled    0 %    50 % Drop Probability
    1      5    3  disabled    0 %    50 % Drop Probability
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **radius-server**

Description: Show RADIUS configuration.

Syntax: **show** radius-server [statistics]

Parameters:

|	Output modifiers
statistics	RADIUS statistics
<cr>	

Example:

```
SISPM1040-3248-L3# show radius-server
Global RADIUS Server Timeout      : 5 seconds
Global RADIUS Server Retransmit   : 3 times
Global RADIUS Server Deadtime     : 0 minutes
Global RADIUS Server Key          :
Global RADIUS Server Attribute 4  : 192.168.1.33
Global RADIUS Server Attribute 95 :
Global RADIUS Server Attribute 32 :
RADIUS Server #1:
  Host name  : 1.2.3.4
  Auth port  : 1812
  Acct port  : 1813
  Timeout    : 60 seconds
  Retransmit : 350 times
  Key        : ae61049ffc79d1fcbedf243186ca6b854698f6badb831edf0590b2000a5249c6a
28bdf31412e800e68d4158b631ed2f1700c016d716a80808953ae99111f11b8
RADIUS Server #2:
  Host name  : Radrvr1
  Auth port  : 1645
  Acct port  : 1646
  Timeout    : 45 seconds
  Retransmit : 222 times
  Key        : f0370019a6a21d42ff2f031d22b0a8b52dd9551981086005330bfef1d78c69f4d
0a2509b5809822cc665f255b2337d3989fdab2a41d39244a3bebc335cb12438968556f8fe114b900
9f31b3be0a19d58
SISPM1040-3248-L3#
```

Command: **rapid-ring**

Description: Show Rapid Ring configuration. Other ring technologies, such as STP, must be disabled.

Syntax: **show** rapid-ring <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3# show rapid-ring
Entry Index               : 1
Rapid Ring Role           : Disabled
Rapid Ring Port 1         : 25
Rapid Ring Port 2         : 26
Rapid Ring Port 1 State   : Forwarding
Rapid Ring Port 2 State   : Forwarding

Entry Index               : 2
Rapid Ring Role           : Disabled
Rapid Ring Port 1         : 27
Rapid Ring Port 2         : 28
Rapid Ring Port 1 State   : Forwarding
Rapid Ring Port 2 State   : Forwarding

Entry Index               : 3
Rapid Ring Role           : Disabled
Rapid Ring Port 1         : 29
Rapid Ring Port 2         : 30
Rapid Ring Port 1 State   : Forwarding
Rapid Ring Port 2 State   : Forwarding

Entry Index               : 4
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **rmon**

Description: Show RMON parameters.

Syntax: **show** rmon alarm [<id_list>]
show rmon event [<id_list>]
show rmon history [<id_list>]
show rmon statistics [<id_list>]

Parameters:

alarm	Display the RMON alarm table
event	Display the RMON event table
history	Display the RMON history table
statistics	Display the RMON statistics table
<1~65535>	Alarm entry list

Example:

```
SISPM1040-3248-L3# show rmon alarm 1

Alarm ID :     1
----------------
      Interval          : 30
      Variable          : .1.3.6.1.2.1.2.2.1.10.11
      SampleType        : deltaValue
      Value             : 0
      Startup           : risingOrFallingAlarm
      RisingThrld       : 6
      FallingThrld      : 5
      RisingEventIndex  : 6
      FallingEventIndex : 5
SISPM1040-3248-L3# show rmon event 1

Event ID :     1
----------------
      Description     : one
      Type            : logandtrap
      LastSent        : 0d 00:00:00
SISPM1040-3248-L3# show rmon history

History ID :     1
------------------
    Data Source         : .1.3.6.1.2.1.2.2.1.1.11
    Data Bucket Request : 50
    Data Bucket Granted : 50
    Data Interval       : 1800
SISPM1040-3248-L3#
```

Command: **running-config**

Description: Show running system information.

Syntax: **show** running-config [all-defaults]
show running-config feature <feature_name> [all-defaults]
show running-config interface (<port_type> [<list>]) [all-defaults]
show running-config interface vlan <list> [all-defaults]
show running-config line { console | vty } <list> [all-defaults]
show running-config vlan { [<vlan_list>] } [all-defaults]

Parameters:

all-defaults	Include most/all default values
feature	Show configuration for specific feature
interface	Show specific interface or interfaces
line	Show line settings
vlan	VLAN
<cword>	Valid words are: 'GVRP' 'MRP' 'MVRP' 'R-Ring' 'access' 'access-list' 'aggregation' 'aps' 'arp-inspection' 'auth' 'cfm' 'clock' 'cpuport' 'ddmi' 'dhcp' 'dhcp-snooping' 'dhcp6-snooping' 'dhcp6_client_interface' 'dhcp6_relay' 'dhcp_server' 'dms-server' 'dns' 'dot1x' 'erps' 'green-ethernet' 'http' 'icli' 'ip-igmp-snooping' 'ip-igmp-snooping-port' 'ip-igmp-snooping-vlan' 'ipmc-profile' 'ipmc-profile-range' 'ipv4' 'ipv6' 'ipv6-mld-snooping' 'ipv6-mld-snooping-port' 'ipv6-mld-snooping-vlan' 'ipv6-source-guard' 'lacp' 'link-oam' 'lldp' 'logging' 'loop-protect' 'mac' 'mrp' 'mstp' 'mvr' 'mvr-port' 'ntp' 'ospf' 'ospf6' 'poe' 'port' 'port-security' 'ptp' 'pvlan' 'qos' 'rip' 'rmon' 'router_global_conf' 'router_keychain_conf' 'sflow' 'smtp' 'snmp' 'source-guard' 'ssh' 'sysutil' 'trap_event' 'tsn' 'udld' 'upnp' 'user' 'vlan' 'voice-vlan' 'vtss-rmirror' 'web' 'web-privilege-group-level'
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
<vlan_list>	List of VLAN numbers

Example 1:

```
SISPM1040-3248-L3# show running-config all-defaults
Building configuration...
hostname SISPM1040-3248-L3
prompt %h
no logging on
command-history-log
no logging host
logging port 514
username admin privilege 15 password encrypted 5c106ebc5c28884e6d0a4d255d0fca1d5
004f5380961f7ca62eadb300e9566801bff230a1dab07a76366394d0fd376f5de45fe91678b3e9d0
b93ab1a6face207
nosystem contact
nosystem name SISPM1040-3248-L3
nosystem location
nosystem description Layer 3 Managed Hardened PoE+ Switch, (24) 10/100/1000Base-
T PoE+ Ports + (4) 100/1000Base-X SFP + (4) 1G/10GBase-X SFP+
multi-language off
language selector off
switch-finder on off
```

```
language set English
language allow
language label
system di low
SISPM1040-3248-L3# show running-config interface  vlan  1-3
Building configuration...
interface vlan 1
 ip address 192.168.1.77 255.255.255.0
!
interface vlan 2
 no ip address
!
interface vlan 3
 no ip address
!
end
SISPM1040-3248-L3#
```

Example 2:

```
SISGM1040-3248-L3# show running-config feature rip
Building configuration...
interface vlan 1
!
interface vlan 2
!
router rip
 distance 1
!
end
SISGM1040-3248-L3# show running-config feature rip all-defaults
Building configuration...
interface vlan 1
 no ip rip send version
 no ip rip receive version
 ip rip split-horizon
 ip rip authentication mode
 no ip rip authentication key-chain
 no ip rip authentication string
!
interface vlan 2
 no ip rip send version
 no ip rip receive version
 ip rip split-horizon
 ip rip authentication mode
 no ip rip authentication key-chain
 no ip rip authentication string
!
router rip
 no version
 timers basic 30 180 120
 no redistribute connected
 no redistribute static
 no redistribute ospf
 no passive-interface default
 no default-information originate
```

```
 default-metric 1
 distance 1
!
end
SISGM1040-3248-L3#

SISGM1040-3248-L3# show running-config feature port all-defaults
Building configuration...
!
interface GigabitEthernet 1/1
 speed auto
 flowcontrol off
 no priority-flowcontrol prio
 mtu 10240
 duplex auto
 no description
 no excessive-restart
 no frame-length-check
 no shutdown
!
interface GigabitEthernet 1/2
 speed auto
 flowcontrol off
 no priority-flowcontrol prio
 mtu 10240
 duplex auto
 no description
 no excessive-restart
 no frame-length-check
-- more --, next page: Space, continue: g, quit: ^C
```

Example 3:

```
SISGM1040-3248-L3# show running-config feature tsn all-defaults
Building configuration...
interface GigabitEthernet 1/1
 vcl smacsip
!
interface GigabitEthernet 1/2
 vcl smacsip
!
interface GigabitEthernet 1/3
 vcl smacsip
!
interface GigabitEthernet 1/4
 vcl smacsip
!
interface GigabitEthernet 1/5
 vcl smacsip
!
interface GigabitEthernet 1/6
 vcl smacsip
!
-- more --, next page: Space, continue: g, quit: ^C
```

Command: **sflow**

Description: Show Statistics flow.

Syntax:

show sflow

show sflow statistics { receiver [<rcvr_idx_list>] | samplers [interface [<samplers_list>] (<port_type> [<v_port_type_list>])] }

Parameters:

|	Output modifiers
statistics	sFlow statistics.
<cr>	
receiver	Show statistics for receiver.
samplers	Show statistics for samplers.
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show sflow

Agent Configuration:
====================

Agent Address: 127.0.0.1

Receiver Configuration:
=======================

Owner        : <none>
Receiver     : 0.0.0.0
UDP Port     : 6343
Max. Datagram: 1400 bytes
Time left    : 0 seconds

No enabled collectors (receivers). Skipping displaying per-port info.
SISPM1040-3248-L3#
SISPM1040-3248-L3# show sflow statistics samplers interface GigabitEthernet 1/3

Per-Port Statistics:
====================

Interface               Rx Flow Samples  Tx Flow Samples  Counter Samples
----------------------  ---------------  ---------------  ---------------
GigabitEthernet 1/3                   0                0                0
SISPM1040-3248-L3#
```

Command: **smtp**

Description: Show email information.

Syntax: **show** smtp <cr>

Parameters:

Example:

```
SISPM1040-3248-L3# show smtp
Mail Server     : 192.168.1.77
User Name       : Bob
Password        : ********
Sender          : 3248-L3
Return Path     : sqa@lantronix.com
Email Adress 1  : jsherman@lantronix.com
Email Adress 2  : jeffsherman@comcast.net
Email Adress 3  :
Email Adress 4  :
Email Adress 5  :
Email Adress 6  :
SISPM1040-3248-L3#
```

Command: **snmp**

Description: Display SNMP server parameters.

Syntax:

show snmp
show snmp access [<group_name> [{ v1 | v2c | v3 | any } [{ auth | noauth | priv }]]]
show snmp community [<community>]
show snmp host [<conf_name>]
show snmp info
show snmp mib context
show snmp mib ifmib ifIndex [port] [aggregation] [vlan]
show snmp security-to-group [{ v1 | v2c | v3 } [<security_name>]]
show snmp trap [<source_name>]
show snmp user [<username> [<engineID>]]
show snmp view [<view_name> [<oid_subtree>]]

Parameters:

access	access configuration
community	Community
host	Set SNMP host's configurations
info	show snmp information
mib	MIB (Management Information Base)
security-to-group	security-to-group configuration
trap	Set SNMP host's configurations
user	User
view	MIB view configuration
<word32>	group name
<word32>	Specify community name
<word32>	Name of the host configuration
context	MIB context
ifmib	IF-MIB
v1	v1 security model
v2c	v2c security model
v3	v3 security model
<word32>	security user name
<cword>	Valid words are 'authenticationFailure' 'coldStart' 'entConfigChange' 'fallingAlarm' 'ipTrapInterfacesLink' 'linkDown' 'linkUp' 'lldpRemTablesChange' 'newRoot' 'psecTrapGlobalsMain' 'psecTrapInterfaces' 'risingAlarm' 'topologyChange' 'warmStart'
<word32>	Security user name
<word10-64>	Security Engine ID
<word32>	MIB view name
<word255>	MIB view OID

Example:

```
SISPM1040-3248-L3# show snmp access Grp-1
Group Name       : Grp-1
Security Model   : any
Security Level   : NoAuth, NoPriv
Read View Name   : 2
```

```
Write View Name  : 2

Group Name       : Grp-1
Security Model   : v3
Security Level   : Auth, Priv
Read View Name   : 2
Write View Name  : 2

SISPM1040-3248-L3# show snmp community
Community/Security Name : public
Source IP               : 0.0.0.0/0
Community secret        : public

Community/Security Name : public
Source IP               : ::/0
Community secret        : public

Community/Security Name : private
Source IP               : 0.0.0.0/0
Community secret        : private

Community/Security Name : private
Source IP               : ::/0
Community secret        : private

Community/Security Name : private1
Source IP               : 0.0.0.0/0
Community secret        :

SISPM1040-3248-L3# show snmp info

SNMP Info:
Conf VendorName:TN, VENDOR_TN, PRODUCT:SISPM1040-3248-L3
EngineID: 800003640300c0f27c5892
Using     oid :1.3.6.1.4.1.868.2.80.11, length:10
SISPM1040-3248-L3#

SISPM1040-3248-L3# show snmp mib context
BRIDGE-MIB :
    - dot1dBase (.1.3.6.1.2.1.17.1)
    - dot1dTp (.1.3.6.1.2.1.17.4)
Dot3-OAM-MIB :
    - dot3OamMIB (.1.3.6.1.2.1.158)
ENTITY-MIB :
    - entityMIBObjects (.1.3.6.1.2.1.47.1)
EtherLike-MIB :
    - transmission (.1.3.6.1.2.1.10)
IEEE8021-AS-MIB:
    -  (.1.3.111.2.802.1.1.20)
IEEE8021-BRIDGE-MIB :
    - ieee8021BridgeBasePortTable (.1.3.111.2.802.1.1.2.1.1.4)
IEEE8021-MSTP-MIB :
    - ieee8021MstpMib (.1.3.111.2.802.1.1.6)
IEEE8021-PAE-MIB :
    - ieee8021paeMIB (.1.0.8802.1.1.1.1)
```

```
IEEE8021-Q-BRIDGE-MIB :
    - ieee8021QBridgeMib (.1.3.111.2.802.1.1.4)
IEEE8023-LAG-MIB :
    - lagMIBObjects (.1.2.840.10006.300.43.1)
IF-MIB :
-- more --, next page: Space, continue: g, quit: ^C

SISPM1040-3248-L3# show snmp security-to-group v3
Security Model : v3
Security Name  : 1
Group Name     : Grp-1

SISPM1040-3248-L3# show snmp user 1
User/Security Name      : 1
Engine ID               : 800003640300c0f27c5892
Security Level          : Auth, Priv
Authentication Protocol : MD5
Privacy Protocol        : DES

SISPM1040-3248-L3#
```

Command: **spanning-tree**

Description: Show STP Bridge information.

Syntax:

show spanning-tree [summary | active | { interface (<port_type> [<v_port_type_list>]) } | { detailed [interface (<port_type> [<v_port_type_list_1>])] } | { mst [configuration | { <instance> [interface (<port_type> [<v_port_type_list_2>])] }] }]

Parameters:

active	STP active interfaces
detailed	STP statistics
interface	Choose port
mst	Multiple STP
summary	STP summary
interface	Choose port
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
configuration	Show MSTI to VLAN mapping

Example:

```
SISPM1040-3248-L3# show spanning-tree
CIST Bridge STP Status
Bridge ID    : 32768.00-C0-F2-7C-58-92
Root ID      : 32768.00-C0-F2-7C-58-92
Root Port    : -
Root PathCost: 0
Regional Root: 32768.00-C0-F2-7C-58-92
Int. PathCost: 0
Max Hops     : 20
TC Flag      : Steady
TC Count     : 0
TC Last      : -
Port       Port Role       State       Pri  PathCost  Edge  P2P         Uptime
---------  --------------  ----------  ---  --------  ----  ---  -------------
Gi 1/1     DesignatedPort  Forwarding  128     20000  Yes   Yes  0d 15:52:21
SISPM1040-3248-L3# show spanning-tree summary
Protocol Version: MSTP
Hello Time      : 2
Max Age         : 20
Forward Delay   : 15
Tx Hold Count   : 6
Max Hop Count   : 20
BPDU Filtering  : Disabled
BPDU Guard      : Disabled
Error Recovery  : Disabled
CIST Bridge is active
SISPM1040-3248-L3#
```

Command: **svl**

Description: Show Shared VLAN Learning configuration.

Syntax: **show** svl { [fid [<fid_list>]] | [vlan [<vlan_list>]] }

Parameters:

|	Output modifiers
fid	Show a given FID
vlan	Show a given VLAN ID
<cr>	
<vlan_list>	List of VIDs to show
<vword32>	VLAN name
<vlan_list>	VLAN IDs

Example:

```
SISPM1040-3248-L3# show svl fid 1
FID   VLANs
----  ------------------------------
   1  1 (default)
SISPM1040-3248-L3# show svl vlan  1-3
VLAN  FID
----  ----
   1  VLAN
   2  VLAN
   3  VLAN
SISPM1040-3248-L3#
```

Messages: *% VLAN name does not exist*

Command: **switchport**

Description: Display switching mode characteristics.

Syntax: **show** switchport forbidden [{ vlan <vlan_list> } | { name <name> }]

Parameters:

forbidden	Lookup VLAN Forbidden port entry.
|	Output modifiers
name	Forbidden VLANs by VLAN name
vlan	Forbidden VLAN by VLAN ID
<vword32>	VLAN name
<vlan_list>	VLAN IDs

Example:

```
SISPM1040-3248-L3# show switchport forbidden vlan 1-4
VLAN  Name                            Interfaces
----  ------------------------------  ----------
1     default
2     VLAN0002                        Gi 1/2
3     VLAN0003                        Gi 1/3
4     VLAN0004

SISPM1040-3248-L3#
```

Command: **system**

Description: Show system information.

Syntax: **show** system
show system cpu status

Parameters:

cpu	CPU
status	Average load

Example:

```
SISPM1040-3248-L3# show system cpu status
    Average load in 100 ms  : 0%
    Average load in   1 sec : 3%
    Average load in  10 sec : 4%
SISPM1040-3166-L3# show system
Model Name                  : SISPM1040-3166-L3
System Description          : Layer 3 Managed Hardened PoE+ Switch, (16) 10/100/1000Base-T
PoE+ Ports + (4) 100/1000Base-X SFP + (2) 1G/10GBase-X SFP+
Location                    :
Contact                     :
System Name                 : SISPM1040-3166-L3
System Date                 : 2020-01-01T00:09:25+00:00
System Uptime               : 00:09:56
Bootloader Version          : 1_5-38e0421
Firmware Version            : v8.10.0124 2024-09-16
PoE Firmware Version        : 200-211
Hardware Version            : v1.02
Mechanical Version          : v1.01
Serial Number               : A209121BR4300003
MAC Address                 : 00-c0-f2-7c-59-7f
Powers Status               : Normal
Temperature Status          : Normal
Temperature 1               : 38(C) ; 100(F)
Temperature 2               : 38(C) ; 100(F)
SISPM1040-3166-L3#
```

Command: **tacacs-server**

Description: Show TACACS+ configuration.

Syntax: **show** tacacs-server

Parameters: | Output modifiers
<cr>

Example:

```
SISPM1040-3248-L3# show tacacs-server
Global TACACS+ Server Timeout      : 5 seconds
Global TACACS+ Server Deadtime     : 2 minutes
Global TACACS+ Server Key          : b16046f57d732166012e5c725a45ce852913487e69e
327c15fe84eb883e559aa6c94817f6651eed5464ba82199afd91e2bdfcd063a421e4a4ed8e0ceb0b
7b02c
TACACS+ Server #1:
  Host name  : 10.10.2.4
  Port       : 49
  Timeout    : 60 seconds
  Key        : 3de1616defecd8cb2902ef6b156ede1efb21acb9fb0a4356c26d00c164a9247a3
61736aa84ec313860876a6508e09e963128f70e8f929b19a524fc996f5bfa0d
TACACS+ Server #2:
  Host name  : TacSrvr2
  Port       : 49
  Timeout    : 45 seconds
  Key        : 0ba00b906da779035735137df66ac6a5ddf9c4b0f9c4cb66cb7fa5904d819738f
05e54b79e68860d58289db284607c8b7f6ea8366d4f10cedb4671f22e06685332e70ca182db0f6a5
277b63686042c89
SISPM1040-3248-L3#
```

Command: **tech-support**

Description: Show Tech support information.

Syntax: show tech-support

Parameters: | Output modifiers
<cr>

Example:

```
SISPM1040-3248-L3# show tech-support
====================================
System version
====================================
Linux (none) 5.4.45-svn1 #1 Wed Oct 13 16:14:45 CST 2021 mips GNU/Linux

====================================
System status
====================================
Mem: 177160K used, 335932K free, 0K shrd, 26164K buff, 68832K cached
CPU:   0% usr  23% sys   0% nic  76% idle   0% io   0% irq   0% sirq
Load average: 0.88 0.87 0.73 1/173 234
  PID  PPID USER     STAT   VSZ %VSZ %CPU COMMAND
  234   232 root     R<    5676   1%  13% top -b -n 1
   45     1 root     S    1169m 233%   7% /usr/bin/switch_app
    7     2 root     SW       0   0%   3% [ksoftirqd/0]
```

Command: **terminal**

Description: Show terminal configuration parameters.

Syntax: **show** terminal

Parameters: | Output modifiers
<cr>

Example:

```
SISPM1040-3248-L3# show terminal
Line is vty 0.
---------------
    * You are at this line now.
    Alive from Telnet.
    Default privileged level is 2.
    Command line editing is disabled
    Display EXEC banner is enabled.
    Display Day banner is enabled.
    Terminal width is 80.
             length is 24.
             history size is 32.
             exec-timeout is 1440 min 0 second.

    Current session privilege is 15.
    Elapsed time is 0 day 15 hour 56 min 11 sec.
    Idle time is 0 day 0 hour 0 min 0 sec.

SISPM1040-3248-L3#
```

Command: **udld**

Description: Show Unidirectional Link Detection (UDLD) configurations, statistics and status.

Syntax: **show** udld [interface (<port_type> [<plist>])]

Parameters:

|	Output modifiers
interface	Choose port
<cr>	
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show udld interface 10GigabitEthernet 1/3

10GigabitEthernet 1/3
------------------------------------------------------------------------
UDLD Mode                 : Disable
Admin State               : Disable
Message Time Interval(Sec): 7
Device ID(local)          : 00-C0-F2-7C-58-92
Device Name(local)        : SISPM1040-3248-L3
Bidirectional state       : Indeterminant

No neighbor cache information stored
---------------------
SISPM1040-3248-L3#
```

Command: **upnp**

Description: Display Universal Plug and Play configuration.

Syntax: **show** upnp <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3# show upnp
UPnP Mode                      : disabled
UPnP TTL                       : 4
UPnP Advertising Duration      : 100
UPnP IP Addressing Mode        : dynamic
UPnP Static IP Interface ID    : 1
SISPM1040-3248-L3#
```

Command: **user-privilege**

Description: Show Users privilege configuration.

Syntax: **show** user-privilege <cr>

Parameters: None

Example:

```
SISPM1040-3248-L3# show user-privilege
username admin privilege 15 password encrypted 5c106ebc5c28884e6d0a4d255d0fca1d5
004f5380961f7ca62eadb300e9566801bff230a1dab07a76366394d0fd376f5de45fe91678b3e9d0
b93ab1a6face207
SISPM1040-3248-L3#
```

Command: **users**

Description: Show information about terminal lines.

Syntax: **show** users [myself]

Parameters:

|	Output modifiers
myself	Display information about mine
<cr>	

Example:

```
SISPM1040-3248-L3# show users myself
Line is vty 0.
    * You are at this line now.
    Connection is from 192.168.1.99:57114 by Telnet.
    User name is admin.
    Privilege is 15.
    Elapsed time is 0 day 16 hour 27 min 41 sec.
    Idle time is 0 day 0 hour 0 min 0 sec.

SISPM1040-3248-L3#
```

Command: **version**

Description: Show System hardware and software status.

Syntax: **show** version [brief]

Parameters:

|	Output modifiers
brief	short version
<cr>	
begin	Begin with the line that matches
exclude	Exclude lines that match
include	Include lines that match
<line>	String to match output lines

Example:

```
SISPM1040-3166-L3# show version brief
Version      : SISPM1040-3166-L3 (standalone) v8.10.0124
Build Date   : 2024-02-16T10:23:27+08:00
SISPM1040-3166-L3# show version

MAC Address      : 00-c0-f2-7c-59-7f
Previous Restart : Warm

System Contact   :
System Name      : SISPM1040-3166-L3
System Location  :
System Time      : 2020-01-01T00:11:28+00:00
System Uptime    : 00:11:59


Bootloader
----------
Image            : RedBoot
Version          : version 1_5-38e0421
Date             : 10:42:42, Jul 19 2021

Primary Image
-------------
Image            : linux (Active)
Version          : v8.10.0124
Date             : 2024-09-16T10:23:27+08:00
Upload filename  : SISPM1040-3166-L3_v8.10.0105_CM_202309017.imgs

Backup Image
------------
Image            : linux.bk
Version          : v8.10.0123
Date             : 2024-08-15T15:18:02+08:00
Upload filename  : v8.90.696.mfi

SISPM1040-3166-L3#
```

Command: **vlan**

Description: Show VLAN status.

Syntax:

show vlan [id <vlan_list> | name <name> | brief] [all]

show vlan ip-subnet [<ipv4>]

show vlan mac [address <mac_addr>]

show vlan membership [id <vlan_list> | name <name>] [admin | combined | erps | gvrp | mstp | mvr | nas | rmirror | vcl | voice-vlan | mvrp | dms | forbidden]

show vlan protocol [eth2 { <etype> | arp | ip | ipx | at }] [snap { <oui> | rfc-1042 | snap-8021h } <pid>] [llc <dsap> <ssap>]

show vlan status [interface (<port_type> [<plist>])] [admin | all | combined | conflicts | erps | gvrp | mstp | mvr | nas | rmirror | vcl | voice-vlan]

Parameters:

all	Show all VLANs (if left out only access VLANs are shown)
brief	VLAN summary information
id	VLAN status by VLAN id
ip-subnet	Show VCL IP Subnet entries.
mac	Show VLAN MAC entries.
membership	VLAN membership
name	VLAN status by VLAN name
protocol	Protocol-based VLAN status
status	Show the VLANs configured for each interface.
<vlan_list>	VLAN IDs
<vword32>	VLAN name
<ipv4_subnet>	Specify a specific IP Subnet.
address	Show a specific MAC entry.
<mac_ucast>	The specific MAC entry to show.
admin	Show the VLANs configured by administrator.
combined	Show the combined set of configured VLANs.
dms	Show the VLANs configured by DMS.
forbidden	Show VLANs configurations that has forbidden.
gvrp	Show the VLANs configured by GVRP.
id	VLAN membership by VLAN id
mvr	Show the VLANs configured by MVR.
mvrp	Show the VLANs configured by MVRP.
name	VLAN membership by VLAN name
nas	Show the VLANs configured by NAS.
rmirror	Show the VLANs configured by Remote mirroring.
voice-vlan	Show the VLANs configured by Voice VLAN.
<vlan_list>	VLAN IDs 1-4095
<word31>	VLAN name
eth2	Ethernet protocol based VLAN status
llc	LLC-based VLAN status
snap	SNAP-based VLAN status

<0x600-0xffff> Ether Type (Range: 0x600 - 0xFFFF)
arp Ether Type is ARP
at Ether Type is AppleTalk
ip Ether Type is IP
ipx Ether Type is IPX
<0x0-0xffffff> SNAP OUI (Range 0x000000 - 0XFFFFFF)
rfc-1042 SNAP OUI is rfc-1042
snap-8021h SNAP OUI is 8021h
<0x0-0xffff> PID (Range: 0x0 - 0xFFFF)
interface Show the VLANs configured for a specific interface or interfaces.
* All switches or All ports
GigabitEthernet 1 Gigabit Ethernet Port
10GigabitEthernet 10 Gigabit Ethernet Port
<port_type_list> Port list for all port types
<port_type_list> Port list in 1/1-28
<port_type_list> Port list in 1/1-4

Example:

```
SISPM1040-3248-L3# show vlan all brief
VLAN  Name                            Interfaces
----  ------------------------------  ----------
1     default                         Gi 1/1,4-28 10G 1/1-4
2     VLAN0002                        Gi 1/4-5
3     VLAN0003                        Gi 1/4-5
4     VLAN0004                        Gi 1/4-5
5     VLAN0005                        Gi 1/4-5
6     VLAN0006                        Gi 1/4-5
7     VLAN0007                        Gi 1/4-5
8     VLAN0008                        Gi 1/4-5
9     VLAN0009                        Gi 1/4-5
10    VLAN0010                        Gi 1/4-5
-- more --, next page: Space, continue: g, quit: ^C

SISPM1040-3248-L3# show vlan protocol eth2 0x700 llc 0x11 0x22 snap rfc-1042 0x0

The requested protocol was not found
% (VCL Error - The requested entry was not found in the switch)
SISPM1040-3248-L3# show vlan status conflicts interface 10GigabitEthernet 1/1
10GigabitEthernet 1/1 :
-----------------------
VLAN User   PortType       PVID  Frame Type     Ing Filter  Tx Tag            U
VID  Conflicts
----------  -------------  ----  -------------  ----------  -----------------  -
---  ---------

SISPM1040-3248-L3#
```

Messages: *Entry with MAC address 00-00-00-00-00-00 was not found in the switch/stack*

Command: **voice**

Description: Show Voice appliance attributes.

Syntax: **show** voice vlan [oui [<oui>] | interface (<port_type> [<port_list>])]

Parameters:

vlan	VLAN for voice traffic
|	Output modifiers
interface	Select an interface to configure
oui	OUI configuration
<cr>	
*	All switches or All ports
GigabitEthernet	1 Gigabit Ethernet Port
10GigabitEthernet	10 Gigabit Ethernet Port
<port_type_list>	Port list for all port types
<port_type_list>	Port list in 1/1-28
<port_type_list>	Port list in 1/1-4
<oui>	OUI value

Example:

```
SISPM1040-3248-L3# show voice vlan
Switch voice vlan is enabled
Switch voice vlan ID is 10
Switch voice vlan aging-time is 86400 seconds
Switch voice vlan traffic class is 4

Telephony OUI  Description
-------------  -----------
00-0F-E2       H3C phone
00-DD-F1       voip

Voice VLAN switchport is configured on following:

GigabitEthernet 1/1 :
---------------------
GigabitEthernet 1/1 switchport voice vlan mode is disabled
GigabitEthernet 1/1 switchport voice security is enabled
GigabitEthernet 1/1 switchport voice discovery protocol is oui

GigabitEthernet 1/2 :
---------------------
GigabitEthernet 1/2 switchport voice vlan mode is disabled
GigabitEthernet 1/2 switchport voice security is enabled
GigabitEthernet 1/2 switchport voice discovery protocol is lldp

GigabitEthernet 1/3 :
---------------------
GigabitEthernet 1/3 switchport voice vlan mode is disabled
GigabitEthernet 1/3 switchport voice security is enabled
GigabitEthernet 1/3 switchport voice discovery protocol is both

GigabitEthernet 1/4 :
---------------------
GigabitEthernet 1/4 switchport voice vlan mode is disabled
```

```
GigabitEthernet 1/4 switchport voice security is enabled
GigabitEthernet 1/4 switchport voice discovery protocol is lldp

-- more --, next page: Space, continue: g, quit: ^C
SISPM1040-3248-L3# show voice vlan interface GigabitEthernet 1/1

GigabitEthernet 1/1 :
--------------------
GigabitEthernet 1/1 switchport voice vlan mode is disabled
GigabitEthernet 1/1 switchport voice security is disabled
GigabitEthernet 1/1 switchport voice discovery protocol is oui
SISPM1040-3248-L3#

SISPM1040-3248-L3# show voice vlan oui
Telephony OUI  Description
-------------  -----------
00-0F-E2       H3C phone
00-DD-F1       voip
SISPM1040-3248-L3#
```

Command: **watchdog**

Description: Show watchdog mode.

Syntax: **show** watchdog mode <cr>

Parameters: mode Get the watchdog mode status

Example:

```
SISPM1040-3248-L3# show watchdog mode
Watchdog Status : Enable
SISPM1040-3248-L3#
```

Command: **web**

Description: Show Web privilege group parameters

Syntax: **show** web privilege group [<group_name>] level

Parameters:

privilege	Web privilege
group	Web privilege group
<cword>	Valid words are 'APS' 'Aggregation' 'CFM' 'DDMI' 'DHCP' 'DHCPv6_Client' 'DMS_Trouble_Shooting' 'DMS_Vbatch' 'DMS_client' 'DMS_server' 'Debug' 'Diagnostics' 'ERPS' 'ETH_LINK_OAM' 'Firmware' 'Green_Ethernet' 'IP' 'IPMC_Snooping' 'Install_Wizard' 'LACP' 'LLDP' 'Loop_Protect' 'MAC_Table' 'MRP' 'MRP_Ring' 'MVR' 'Miscellaneous' 'NTP' 'POE' 'PTP' 'Ports' 'Private_VLANs' 'QoS' 'RMirror' 'R_RING' 'SMTP' 'Security(access)' 'Security(network)' 'Spanning_Tree' 'System' 'Trap_Event' 'UDLD' 'UPnP' 'VCL' 'VLAN_Translation' 'VLANs' 'Voice_VLAN' 'Watchdog' 'XXRP' 'sFlow' 'uFDMA_AIL' 'uFDMA_CIL'
level	Web privilege group level

Example:

```
SISPM1040-3248-L3# show web privilege group uFDMA_AIL level
Group Name                       Privilege Level
                                 CRO CRW
-------------------------------- --- ---
uFDMA_AIL                          5  10
SISPM1040-3248-L3#
SISPM1040-3248-L3# show web privilege group smtp level
Group Name                       Privilege Level
                                 CRO CRW
-------------------------------- --- ---
SMTP                               5  10
SISPM1040-3248-L3#
SISPM1040-3248-L3# show web privilege group level
Group Name                       Privilege Level
                                 CRO CRW
-------------------------------- --- ---
Aggregation                        5  10
APS                                5  10
CFM                                5  10
DDMI                               5  10
Debug                             15  15
DHCP                               5  10
DHCPv6_Client                      5  10
Diagnostics                        5  10
DMS_client                         5  10
DMS_server                         5  10
DMS_Trouble_Shooting               5  10
DMS_Vbatch                         5  10
ERPS                               5  10
ETH_LINK_OAM                       5  10
Firmware                           5  10
Green_Ethernet                     5  10
Install_Wizard                     5  10
IP                                 5  10
IPMC_Snooping                      5  10
-- more --, next page: Space, continue: g, quit: ^C
```

30. Terminal Commands

Description: Set terminal line parameters.

Syntax:
terminal editing
terminal exec-timeout <min> [<sec>]
terminal help
terminal history size <history_size>
terminal length <lines>
terminal width <width>

Parameters:

editing	Enable command line editing
exec-timeout	Set the EXEC timeout
help	Description of the interactive help system
history	Control the command history function
length	Set number of lines on a screen
width	Set width of the display terminal
<0-1440>	Timeout in minutes
size	Set history buffer size
<0-32>	Number of history commands, 0 means disable
<0,3-512>	Number of lines on screen (0 for no pausing)
<0,40-512>	Number of characters on a screen line (0 for unlimited width)

Example:

```
SISPM1040-3248-L3# terminal exec-timeout 1440
SISPM1040-3248-L3# terminal history size 16
SISPM1040-3248-L3#
```

31. Traceroute Commands

Description: Send IP Traceroute messages.

Syntax:

traceroute ip { <domain_name> | <ip_addr> } [dscp <dscp>] [timeout <timeout>] [{ saddr <src_addr> | sif { <port_type> <src_if> | vlan <vlan_id> } }] [probes <probes>] [firstttl <firstttl>] [maxttl <maxttl>] [icmp] [numeric]

traceroute ipv6 { <domain_name> | <ip_addr> } [dscp <dscp>] [timeout <timeout>] [saddr <src_addr>] [sif { <port_type> <src_if> | vlan <vlan_id> }] [probes <probes>] [maxttl <maxttl>] [numeric]

Parameters:		
	ip	Traceroute (IPv4)
	ipv6	Traceroute (IPv6)
	<domain_name>	Destination hostname or FQDN
	<ipv4_addr>	Destination IPv4 address
	dscp	Specify DSCP value (default 0)
	firstttl	Specify first number of hops (starting TTL) (default 1)
	icmp	Use ICMP instead of UDP
	maxttl	Specify max number of hops (max TTL) (default 30)
	numeric	Print numeric addresses
	probes	Specify number of probes per hop (default 3)
	saddr	Send from interface with source address
	sif	Send from specified interface
	timeout	Specify time to wait for a response in seconds (default 3)
	<0-63>	DSCP value (decimal value, default 0)
	<1-30>	First number of hops (default 1)
	<1-255>	Max number of hops (default 30)
	<1-60>	Number of probes per hop (default 3)
	<ipv4_addr>	Source Address of interface
	<1-86400>	Time to wait for a response in seconds (default 3)

Example:

```
SISPM1040-3248-L3# traceroute ip 192.168.1.90 dscp 4 firstttl 5 icmp
traceroute to 192.168.1.90 (192.168.1.90), 30 hops max, 38 byte packets
 5  192.168.1.77 (192.168.1.77)  3071.979 ms !H  3079.664 ms !H  3072.840 ms !H
SISPM1040-3248-L3# traceroute ip 192.168.1.99 maxttl 45 numeric timeout 480
traceroute to 192.168.1.99 (192.168.1.99), 45 hops max, 38 byte packets
 1
SISPM1040-3248-L3# traceroute ip 192.168.1.77
traceroute to 192.168.1.77 (192.168.1.77), 30 hops max, 38 byte packets
 1  192.168.1.77 (192.168.1.77)  0.179 ms  0.185 ms  0.184 ms
SISPM1040-3248-L3# traceroute ip 192.168.1.1 probes 3
traceroute to 192.168.1.1 (192.168.1.1), 30 hops max, 38 byte packets
 1  192.168.1.77 (192.168.1.77)  3054.081 ms !H  3053.809 ms !H  3071.055 ms !H
SISPM1040-3248-L3#
```

Appendix A. DHCP Per Port Configuration

DHCP per Port

You can configure DHCP Per Port via the CLI as described below.

You can configure DHCP Per Port via the CLI and Web UI. The DHCP Per Port factory default mode is Disabled. See the *Web User Guide* for web UI mode operation.

The switch's DHCP server assigns IP addresses. Clients get IP addresses in sequence and the switch assigns IP addresses to on a per-port basis starting from the configured IP range. For example, if the IP address range is configured as 192.168.10.20 - 192.168.10.37 with one DHCP device connected to port 1, the client will always get IP address 192.168.10.20, then port 3 is always distributed IP address 192.168.10.22, even if port 2 is an empty port (because port 2 is always distributed IP address 192.168.10.21).

The switch does not allow a DHCP per Port pool to include the switch's address.

IP address assigned range and VLAN 1 should stay in the same subnet mask.

The configurable IP address range is allowed to configure over 18 IP addresses, but the switch always assigns one IP address per port connecting device.

The DHCP Per Port function is only supported on VLAN 1.

When the DHCP Per Port function is enabled, the switch software will automatically create the related DHCP pool named "DHCP_Per _Port".

Once the DHCP Per Port function is enabled on one switch, IPv4 DHCP client at VLAN1 mode (DMS DHCP mode), DHCP server mode are all limited to be enabled at the same time (an error message displays if attempted).

If the DHCP server pool has been configured, once you enable the DHCP Per port function that DHCP server pool configuration will be overwritten.

Only for VLAN 1, clients issued DHCP packets will not be broadcast/forwarded to other ports. DHCP packets in other VLANs will be broadcast/forwarded to other ports.

The DHCP Per Port function allows the switch to connect only one DHCP client device.

The DHCP Per Port function is configured and shown using these CLI commands:

```
# show ip dhcp server
(config)# ip dhcp server per-port
(config)# no ip dhcp server per-port
```

The CLI commands to configure and show DHCP Per Port are described below.

Command: Show the current DHCP Server and DHCP Per Port configuration

Syntax: **show ip dhcp server** <cr>

Description: Show if DHCP server is globally enabled or disabled, if all VLANs are disabled or enabled, and if the DHCP server Per Port function is disabled or enabled.

Example: Display the current DHCP Server and Per Port configuration, change the config, and display the results:

```
SISPM1040-3248-L3(config)# do show ip dhcp server

DHCP server is globally enabled.
  Enabled VLANs are 1.
  DHCP server per port is disabled.

SISPM1040-3248-L3(config)# ip dhcp server per-port
SISPM1040-3248-L3(config)# do show ip dhcp server

DHCP server is globally enabled.
  Enabled VLANs are 1.
  DHCP server per port is enabled.

SISPM1040-3248-L3(config)# no ip dhcp server per-port
SISPM1040-3248-L3(config)# do show ip dhcp server

DHCP server is globally enabled.
  Enabled VLANs are 1.
  DHCP server per port is disabled.

SISPM1040-3248-L3(config)#
```

Command: Configure the DHCP Per Port function

Syntax: **ip dhcp server per-port** <cr>

Description: Toggle the DHCP Per Port function from Disabled (default) to Enabled.

Example: Toggle the DHCP Per Port function and show the resulting config:

```
SISPM1040-3248-L3 show ip dhcp server
DHCP server is globally enabled.
  All VLANs are disabled.
  DHCP server per port is enabled.
SISPM1040-3248-L3
SISPM1040-3248-L3 con ter
SISPM1040-3248-L3(config)# ip dhcp ?
    excluded-address   Prevent DHCP from assigning certain addresses
    pool                Configure DHCP address pools
    relay               DHCP relay agent configuration
    server              Enable DHCP server
    snooping            DHCP snooping
SISPM1040-3248-L3(config)# ip dhcp server ?
    per-port                Enable DHCP server per port
SISPM1040-3248-L3(config)# ip dhcp server
SISPM1040-3248-L3(config)# end
SISPM1040-3248-L3 show ip dhcp server
DHCP server is globally enabled.
  All VLANs are disabled.
  DHCP server per port is disabled.
SISPM1040-3248-L3(config)# ip dhcp server per-port
SISPM1040-3248-L3(config)# do show ip dhcp server
DHCP server is globally enabled.
  All VLANs are disabled.
  DHCP server per port is enabled.
SISPM1040-3248-L3(config)#
```

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