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clear diagnostic event-log

To clear the diagnostic event logs for a specific switch module or event type, use the **clear diagnostic event-log** command in privileged EXEC mode.

clear diagnostic event-log [**event-type** {**error** | **info** | **warning**} | **switch** {*switch_num* **module** *module_num* | **all** [**event-type** {**error** | **info** | **warning**}]}]

Syntax Description

event-type error	Clears the error events.
event-type info	Clears the informative events.
event-type warning	Clears the warning events.
switch *num*	Clears the events for a specific switch.
module *num*	Clears the events for a specific module.
switch all	Clears all the event logs from all the switches.

Command Modes

Privileged EXEC (#)

Command History

Examples

This example shows how to clear error event logs:

```
Device# clear diagnostic event-log event-type error
```

This example shows how to clear event logs on switch 1 module 1:

```
Device# clear diagnostic event-log switch 1 module 1
```

This example shows how to clear error event logs on all the switches:

```
Device# clear diagnostic event-log switch all
```

Related Commands

Command	Description
show diagnostic events	Displays the diagnostic event log.

clear secure-stackwise-virtual interface

To clear the Secure StackWise Virtual interface statistics counters, use the **clear secure-stackwise-virtual interface** command in privileged EXEC mode.

clear secure-stackwise-virtualinterface*interface-id*

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.12.x	This command was introduced.

Example:

The following example shows how to clear a Secure StackWise Virtual 40 Gigabit Ethernet interface:

```
Device# clear secure-stackwise-virtual interface fortyGigabitEthernet 1/0/10
```

diagnostic monitor

To configure health-monitoring diagnostic testing, use the **diagnostic monitor** command in global configuration mode. Use the **no** form of this command to disable testing and to return to the default settings.

diagnostic monitor interval switch *number* **module** *number* **test** {*name* | *test-id* | *test-id-range* | **all**} *hh:mm:ss milliseconds day* [**cardindex** *number*]

diagnostic monitor switch *number* **module** *number* **test** {*name* | *test-id* | *test-id-range* | **all**} [**cardindex** *number*]

diagnostic monitor threshold switch *number* **module** *number* **test** {*name* | *test-id* | *test-id-range* | **all**} **failure count** *count* [**days** *number* | **hours** *number* | **milliseconds** *number* | **minutes** *number* | **runs** *number* | **seconds** *number*] **cardindex** *number*

no diagnostic monitor interval switch *number* **module** *number* **test** {*name* | *test-id* | *test-id-range* | **all**} [**cardindex** *number*]

no diagnostic monitor switch *number* **module** *number* **test** {*name* | *test-id* | *test-id-range* | **all**} [**cardindex** *number*]

no diagnostic monitor threshold switch *number* **module** *number* **test** {*name* | *test-id* | *test-id-range* | **all**} { **failure count** [[*count* [**days** *number* | **hours** *number* | **milliseconds** *number* | **minutes** *number* | **runs** *number* | **seconds** *number*] | **cardindex** *number*] | **cardindex** *number*] }

Syntax Description

interval	Configures the interval between tests.
switch *number*	Specifies the switch number, which is the stack member number. If the switch is a standalone switch, the switch number is 1. If the switch is in a stack, the range is from 1 to 9, depending on the switch member numbers in the stack. This keyword is supported only on on stacking-capable switches.
test	Specifies the tests to be run.
name	Name of the test.
test-id	ID number of the test.
test-id-range	Range of test ID numbers. Enter the range as integers separated by a comma and a hyphen (for example, 1,3-6 specifies test IDs 1, 3, 4, 5, and 6).
all	Specifies all the diagnostic tests.
hh:mm:ss	Monitoring interval, in hours, minutes, and seconds. Enter the hours from 0 to 24, minutes from 0 to 60, and seconds from 0 to 60.

milliseconds	Monitoring interval, in milliseconds (ms). Enter the test time, in milliseconds, from 0 to 999.
day	Monitoring interval, in days. Enter the number of days between test, from 0 to 20.
threshold	Configures the failure threshold.
failure count *count*	Sets the failure threshold count.
cardindex *number*	(Optional) Specifies the card index number.

Command Default

Monitoring is disabled, and a failure threshold value is not set.

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.11.1	This command was introduced.

Usage Guidelines

You must configure the failure threshold and the interval between tests before enabling diagnostic monitoring.

When entering the **diagnostic monitor switch module test** command, you must isolate network traffic by disabling all the connected ports, and not send test packets during a test.

Examples

This example shows how to set the failure threshold count of Test 1 to 20:

```
Device# configure terminal
Device(config)# diagnostic monitor threshold switch 2 test 1 failure count 20
```

This example shows how to configure the monitoring interval of Test 2:

```
Device# configure terminal
Device(config)# diagnostic monitor interval switch 2 test 2 12:30:00 750 5
```

Related Commands

Command	Description
show diagnostic content switch module	Displays online diagnostic test results.

diagnostic schedule module

To schedule test-based diagnostic task for a specific switch module or schedule a supervisor engine switchover, use the **diagnostic schedule switch module** command in global configuration mode. To remove the schedule, use the **no** form of this command.

diagnostic schedule switch *number* **module** *module-num* **test** {*test-id* | { {**complete** | **minimal**} {**daily** *hh:mm* | **on** *month* | **weekly** *day-of-week*}} | { {**all** | **basic** | **non-disruptive** | **per-port** } {**daily** *hh:mm* | **on** *month* | **port** {*interface-port-number* | *port-number-list* | **all** {**daily** *hh:mm* | **on** *month* | **weekly** *day-of-week* }} | **weekly** *day-of-week* }}}
no diagnostic schedule switch *number* **module** *module-num* **test** {*test-id* | { {**complete** | **minimal**} {**daily** *hh:mm* | **on** *month* | **weekly** *day-of-week*}} | { {**all** | **basic** | **non-disruptive** | **per-port** } {**daily** *hh:mm* | **on** *month* | **port** {*interface-port-number* | *port-number-list* | **all** {**daily** *hh:mm* | **on** *month* | **weekly** *day-of-week* }} | **weekly** *day-of-week* }}}

Syntax Description

switch *switch_num*	Specifies the switch number.
module *module_num*	Specifies the module number.
test	Specifies the diagnostic test suite attribute.
test-id	Identification number for the test to be run. Enter the **show diagnostic content** command to displ
all	Runs all the diagnostic tests.
complete	Selects the complete bootup test suite.
minimal	Selects the minimal bootup test suite.
non-disruptive	Selects the nondisruptive test suite.
per-port	Selects the per-port test suite. **per-port** is not supported when specifying a schedule
port	(Optional) Specifies the port-to-schedule testing.
interface-port- number	(Optional) Port number. The range is from 1-48.
port-number-list	(Optional) Range of port numbers, separated by a hyp 1-48.
all	(Optional) Specifies all the ports.
on *month*	Specifies the schedule of a test-based diagnostic task. Enter the month name, for example, January or Febru lowercase characters).

daily *hh:mm*	Specifies the daily schedule of a test-based diagnostic tas Enter the time as a two-digit number (for a 24-hour clock the colon (**:**) is required.
weekly *day-of-week*	Specifies the weekly schedule of a test-based diagnostic t Enter the day of the week, for example, Monday or Tuesc or lowercase characters).

Command Default

Test-based diagnostic task for a specific switch module is not scheduled.

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Usage Guidelines

Run the **diagnostic schedule switch module test** command to schedule a switchover from the active supervisor engine to the standby supervisor engine.

The **show diagnostic content switch module** command displays the test ID list. The test ID is displayed in the **ScheduleSwitchover** field.

You can specify a periodic switchover (daily or weekly) or a single switchover occurrence at a specific time using these commands:

- **diagnostic schedule switch** *number* **module** *module_num* **test** *test-id* **on** *mm*
- **diagnostic schedule switch** *number* **module** *module_num* **test** *test-id* **daily** *hh:mm*
- **diagnostic schedule switch** *number* **module** *module_num* **test** *test-id* **weekly** *day-of-week*

Note To avoid system downtime in the event that the standby supervisor module cannot switch over the system, we recommend that you schedule a switchover from the standby supervisor module to the active supervisor module 10 minutes after the switchover occurs.

Examples

This example shows how to schedule diagnostic testing on a specific month, date, and time for a specific switch module:

```
Device# configure terminal
Device(config)# diagnostic schedule switch 1 module 1 test 5 on may
```

This example shows how to schedule diagnostic testing to occur daily at a certain time for a specific switch module:

```
Device# configure terminal
Device(config)# diagnostic schedule switch 1 module 1 test 5 daily 12:25
```

This example shows how to schedule diagnostic testing to occur weekly on a certain day for a specific switch module:

```
Device# configure terminal
Device(config)# diagnostic schedule module 1 test 5 weekly friday
```

Related Commands

Command	Description
show diagnostic content	Displays test information, including test ID, test attributes, and supported coverage test levels for all the tests and modules.
show diagnostic schedule	Displays the current scheduled diagnostic tasks.

debug secure-stackwise-virtual

To enable debugging of Secure StackWise Virtual , use the **debugsecure-stackwise-virtual** command in privileged EXEC mode.

To disable debugging, use the **undebug secure-stackwise-virtual** command.

debug secure-stackwise-virtual
`undebug secure-stackwise-virtual`

Command Default

Debugging is disabled.

Command Modes

Privileged EXEC

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.12.x	This command was introduced.

Example:

The following is a sample output of the **debugsecure-stackwise-virtual** command :

```
Device# debug secure-stackwise-virtual
Secure-SVL debugging is on
Switch#
```

The following is a sample output of the **undebugsecure-stackwise-virtual** command :

```
Device# undebug secure-stackwise-virtual
Secure-SVL debugging is off
Switch#
```

diagnostic start

To run a specified diagnostic test, use the **diagnostic start** command in privileged EXEC mode.

diagnostic start switch *number* **module** *module_num* **test** {*test-id* | **minimal** | **complete** | { {**all** | **basic** | **non-disruptive** | **per-port** } {**port** {*num* | *port_range* | **all**}}}}

Syntax Description

switch *switch_num*	Specifies the switch number.
module *module_num*	Specifies the module number.
test	Specifies a test to run.
test-id	Enter the identification number of the test you want to run. Enter the *test-id-range* or *port_range* as integers separated by a comma and a hyphen (for example, 1,3-6 specifies test IDs 1, 3, 4, 5, and 6).
minimal	Runs minimal bootup diagnostic tests.
complete	Runs complete bootup diagnostic tests.
basic	Runs basic on-demand diagnostic tests.
per-port	Runs per-port level tests.
non-disruptive	Runs nondisruptive health-monitoring tests.
all	Runs all the diagnostic tests.
port *num*	(Optional) Specifies the interface port number. The range is from 1-48.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Usage Guidelines

Run the **show diagnostic content** command to display the test ID list .

Use the **diagnostic stop** command to stop the testing process.

Examples

This example shows how to run the complete online diagnostic tests:

```
Device# diagnostic start switch 1 module 1 test all

Diagnostic[switch 1, module 1]: Running test(s) 2 may disrupt normal system operation and
requires reload
```

```
Do you want to continue? [no]: y
Device#
*Jul  5 03:04:49.081 PDT: %DIAG-6-TEST_RUNNING: switch 1, module 1: Running
TestGoldPktLoopback{ID=1} ...
*Jul  5 03:04:49.086 PDT: %DIAG-6-TEST_OK: switch 1, module 1: TestGoldPktLoopback{ID=1}
has completed successfully
*Jul  5 03:04:49.086 PDT: %DIAG-6-TEST_RUNNING: switch 1, module 1: Running
TestPhyLoopback{ID=2} ...
*Jul  5 03:04:49.092 PDT: %DIAG-6-TEST_OK: switch 1, module 1: TestPhyLoopback{ID=2} has
completed successfully
*Jul  5 03:04:49.092 PDT: %DIAG-6-TEST_RUNNING: switch 1, module 1: Running TestThermal{ID=3}
 ...
*Jul  5 03:04:52.397 PDT: %DIAG-6-TEST_OK: switch 1, module 1: TestThermal{ID=3} has completed
 successfully
*Jul  5 03:04:52.397 PDT: %DIAG-6-TEST_RUNNING: switch 1, module 1: Running
TestScratchRegister{ID=4} ...
*Jul  5 03:04:52.414 PDT: %DIAG-6-TEST_OK: switch 1, module 1: TestScratchRegister{ID=4}
has completed successfully
*Jul  5 03:04:52.414 PDT: %DIAG-6-TEST_RUNNING: switch 1, module 1: Running TestPoe{ID=5}
...
*Jul  5 03:04:52.415 PDT: %DIAG-6-TEST_OK: switch 1, module 1: TestPoe{ID=5} has completed
 successfully
*Jul  5 03:04:52.415 PDT: %DIAG-6-TEST_RUNNING: switch 1, module 1: Running
TestUnusedPortLoopback{ID=6} ...
*Jul  5 03:04:52.415 PDT: %DIAG-6-TEST_OK: switch 1, module 1: TestUnusedPortLoopback{ID=6}
 has completed successfully
*Jul  5 03:04:52.415 PDT: %DIAG-6-TEST_RUNNING: switch 1, module 1: Running
TestPortTxMonitoring{ID=7} ...
*Jul  5 03:04:52.416 PDT: %DIAG-6-TEST_OK: switch 1, module 1: TestPortTxMonitoring{ID=7}
has completed successfull
```

Related Commands

Command	Description
diagnostic bootup level	Configures the diagnostic bootup level.
diagnostic event-log size	Modifies the diagnostic event log size dynamically.
diagnostic monitor	Configures health-monitoring diagnostic testing.
diagnostic ondemand	Configures the on-demand diagnostics.
diagnostic schedule	Sets the diagnostic test schedule for a particular bay, slot, or subslot.
diagnostic stop	Stops a specified diagnostic test.
show diagnostic bootup	Displays the configured diagnostics level at bootup.
show diagnostic content module	Displays the available diagnostic tests.
show diagnostic description	Provides the description for diagnostic tests.
show diagnostic events	Displays the diagnostic event log.
show diagnostic ondemand settings	Displays the settings for the on-demand diagnostics.
show diagnostic result	Displays the diagnostic test results for a module.
show diagnostic schedule	Displays the current scheduled diagnostic tasks.

Command	Description
show diagnostic status	Displays the running diagnostics tests.

diagnostic stop

To stop the testing process, use the **diagnostic stop** command in privileged EXEC mode.

diagnostic stop switch *number* **module** *module_num*

Syntax Description

switch *switch_num*	Specifies the switch number.
module *module_num*	Specifies the module number.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Usage Guidelines

Use the **diagnostic start** command to start the testing process.

Examples

This example shows how to stop the diagnostic test process:

```
Device# diagnostic stop module 3
```

Related Commands

Command	Description
diagnostic bootup level	Configures the diagnostic bootup level.
diagnostic event-log size	Modifies the diagnostic event log size dynamically.
diagnostic monitor	Configures health-monitoring diagnostic testing.
diagnostic ondemand	Configures the on-demand diagnostics.
diagnostic schedule	Sets the diagnostic test schedule for a particular bay, slot, or subslot.
diagnostic start	Runs a specified diagnostic test.
show diagnostic bootup	Displays the configured diagnostics level at bootup.
show diagnostic content module	Displays the available diagnostic tests.
show diagnostic description	Provides the description for the diagnostic tests.
show diagnostic events	Displays the diagnostic event log.
show diagnostic ondemand settings	Displays the settings for the on-demand diagnostics.

Command	Description
show diagnostic result	Displays the diagnostic test results for a module.
show diagnostic schedule	Displays the current scheduled diagnostic tasks.
show diagnostic status	Displays the running diagnostics tests.

domain id

To configure Cisco StackWise Virtual domain ID on a switch, use the **domain** *id* command in the StackWise Virtual configuration mode. To disable, use the **no** form of this command.

domain *id*
no domain *id*

Syntax Description

domain	Associates StackWise Virtual configuration with a specific domain.
id	Value of the domain ID. The range is from 1 to 255. The default is one.

Command Default

No domain ID is configured.

Command Modes

StackWise Virtual configuration (config-stackwise-virtual)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Usage Guidelines

This command is optional. You must enable Stackwise Virtual, using the **stackwise-virtual** command, before configuring the domain ID.

Example

The following example shows how to enable Cisco StackWise Virtual and configure a domain ID:

```
Device(config)# stackwise-virtual
Device(config-stackwise-virtual)#domain 2
```

dual-active detection pagp

To enable PAgP dual-active detection, use the **dual-active detection pagp** command in the StackWise Virtual configuration mode. To disable PAgP dual-active detection, use the **no** form of the command.

dual-active detection pagp
no dual-active detection pagp

Syntax Description

dual-active detection pagp	Enables pagp dual-active detection.

Command Default

Enabled.

Command Modes

StackWise Virtual configuration (config-stackwise-virtual)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following example shows how to enable PAgP dual-active detection trust mode on channel-group:

```
Device(config)# stackwise-virtual
Device(config-stackwise-virtual)#dual-active detection pagp
Device(config-stackwise-virtual)#dual-active detection pagp trust channel-group 1
```

dual-active recovery-reload-disable

To disable automatic recovery reload of a switch, use the **dual-active recovery-reload-disable** command in the StackWise Virtual configuration mode. To enable automatic recovery reload, use the **no** form of the command.

dual-active recovery-reload-disable
no dual-active recovery-reload-disable

Syntax Description

dual-active recovery-reload-disable	Disables automatic recovery reload.

Command Default

Enabled.

Command Modes

StackWise Virtual configuration (config-stackwise-virtual)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.11.1	This command was introduced.

Example:

The following example shows how to disable automatic recovery reload of a switch:

```
Device(config)# stackwise-virtual
Device(config-stackwise-virtual)#dual-active recovery-reload-disable
```

hw-module switch slot

To control components such as linecard or a supervisor available in a slot, use the **hw-module switch slot** command in the global configuration mode.

hw-module switch *switch-number* **slot** *slot-number* {**logging onboard** [**counter** | **environment** | **message** | **poe** | **temperature** | **voltage**] | **shutdown**}

Syntax Description

switch-number	The switch to access. Valid values are 1 and 2.
slot*slot-number*	Specifies the slot number to access. Valid values are 1 to 4. • 1: Linecard slot 1 • 2: Supervisor slot 0 • 3: Supervisor slot 1 • 4: Linecard slot 4
logging onboard	Enables logging onboard.
counter	(Optional) Configures the logging onboard counter.
environment	(Optional) Configures the logging onboard environment.
message	(Optional) Configures the logging onboard message.
poe	(Optional) Configures the logging onboard PoE.
temperature	(Optional) Configures the logging onboard temperature.
voltage	(Optional) Configures the logging onboard voltage.
shutdown	Shuts down a field-replaceable unit (FRU).

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

This example shows how to enable logging onboard for switch 1, slot l:

```
Device# hw-module switch 1 slot 1 logging onboard
```

This example shows how to configure the logging onboard counter for switch 1, slot l:

```
Device# hw-module switch 1 slot 1 logging onboard counter
```

This example shows how to configure the logging onboard environment for switch 1, slot l:

```
Device# hw-module switch 1 slot 1 logging onboard environment
```

This example shows how to configure the logging onboard message for switch 1, slot 1:

```
Device# hw-module switch 1 slot 1 logging onboard message
```

This example shows how to configure the logging onboard PoE for switch 1, slot 1:

```
Device# hw-module switch 1 slot 1 logging onboard poe
```

This example shows how to configure the logging onboard temperature for switch 1, slot 1:

```
Device# hw-module switch 1 slot 1 logging onboard temperature
```

This example shows how to configure the logging onboard volatge for switch 1, slot 1:

```
Device# hw-module switch 1 slot 1 logging onboard voltage
```

This example shows how to shut down an FRU:

```
Device# hw-module switch 1 slot 1 shutdown
```

hw-module switch usbflash

To unmount the USB SSD, use the **hw-module switch** *switch-number* **usbflash** command in privileged EXEC mode.

hw-module switch *switch-number***usbflashunmount**

Syntax Description

switch number	The switch to access. Valid values are 1 and 2.
usbflash unmount	Unmounts the USB SSD.

Command Default

None

Command Modes

Global Configuration (config)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Example

This example shows how to unmount the USB SSD from switch 1:

```
Device# hw-module switch 1 usbflash unmount
```

main-cpu

To enter the redundancy main configuration submode and enable the standby switch, use the **main-cpu** command in redundancy configuration mode.

main-cpu

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Redundancy configuration (config-red)

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

Usage Guidelines

From the redundancy main configuration submode, use the **standby console enable** command to enable the standby switch.

This example shows how to enter the redundancy main configuration submode and enable the standby switch:

```
Device(config)# redundancy
Device(config-red)# main-cpu
Device(config-r-mc)# standby console enable
Device#
```

maintenance-template

To create a maintenance template, use the **maintenance-template** *template_name*command in the global configuration mode. To delete the template, use the **no** form of the command.

maintenance-template *template_name*
no maintenance-template *template_name*

Syntax Description

maintenance-template	Creates a template for GIR with a specific name.
template_name	Name of the maintanence template.

Command Default

Disabled.

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following example shows how to configure a maintenance template with the name g1:

```
Device(config)# maintenance template g1
```

mode sso

To set the redundancy mode to stateful switchover (SSO), use the **mode sso** command in redundancy configuration mode.

mode sso

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Redundancy configuration

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

Usage Guidelines

The **mode sso** command can be entered only from within redundancy configuration mode.

Follow these guidelines when configuring your system to SSO mode:

- You must use identical Cisco IOS images on the switches in the stack to support SSO mode. Redundancy may not work due to differences between the Cisco IOS releases.
- If you perform an online insertion and removal (OIR) of the module, the switch resets during the stateful switchover and the port states are restarted only if the module is in a transient state (any state other than Ready).
- The forwarding information base (FIB) tables are cleared on a switchover. Routed traffic is interrupted until route tables reconverge.

This example shows how to set the redundancy mode to SSO:

```
Device(config)# redundancy
Device(config-red)# mode sso
Device(config-red)#
```

policy config-sync prc reload

To reload the standby switch if a parser return code (PRC) failure occurs during configuration synchronization, use the **policy config-sync reload** command in redundancy configuration mode. To specify that the standby switch is not reloaded if a parser return code (PRC) failure occurs, use the **no** form of this command.

policy config-sync {**bulk** | **lbl**} **prc reload**
no policy config-sync {**bulk** | **lbl**} **prc reload**

Syntax Description

bulk	Specifies bulk configuration mode.
lbl	Specifies line-by-line (lbl) configuration mode.

Command Default

The command is enabled by default.

Command Modes

Redundancy configuration (config-red)

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

This example shows how to specify that the standby switch is not reloaded if a parser return code (PRC) failure occurs during configuration synchronization:

```
Device(config-red)# no policy config-sync bulk prc reload
```

redundancy

To enter redundancy configuration mode, use the **redundancy** command in global configuration mode.

redundancy

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

Usage Guidelines

The redundancy configuration mode is used to enter the main CPU submode, which is used to enable the standby switch.

To enter the main CPU submode, use the **main-cpu** command while in redundancy configuration mode.

From the main CPU submode, use the **standby console enable** command to enable the standby switch.

Use the **exit** command to exit redundancy configuration mode.

This example shows how to enter redundancy configuration mode:

```
Device(config)# redundancy
Device(config-red)#
```

This example shows how to enter the main CPU submode:

```
Device(config)# redundancy
Device(config-red)# main-cpu
Device(config-r-mc)#
```

Related Commands

Command	Description
show redundancy	Displays redundancy facility information.

redundancy force-switchover

To force a switchover from the active switch to the standby switch, use the **redundancy force-switchover** command in privileged EXEC mode.

redundancy force-switchover

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

Usage Guidelines

Use the **redundancy force-switchover** command to manually switch over to the redundant switch. The redundant switch becomes the new active switch that runs the Cisco IOS XE image, and the modules are reset to their default settings. The old active switch reboots with the new image.

If you use the **redundancy force-switchover** command on the active switch, the switchports on the active switch go down.

If you use this command on a switch that is in a partial ring stack, the following warning message appears:

```
Device# redundancy force-switchover

Stack is in Half ring setup; Reloading a switch might cause stack split
This will reload the active unit and force switchover to standby[confirm]
```

This example shows how to manually switch over from the active to the standby supervisor engine:

```
Device# redundancy force-switchover
Device#
```

reload

To reload the stack member and to apply configuration changes, use the **reload** command in privileged EXEC mode.

reload [**/noverify** | **/verify**] [**at** | **cancel** | **in** | **pause** | **reason** *reason*]

Syntax Description

/noverify	(Optional) Specifies to not verify the file signature before the reload.
/verify	(Optional) Verifies the file signature before the reload.
at	(Optional) Specifies the time in hh:mm format for the reload to occur.
cancel	(Optional) Cancels the pending reload.
in	(Optional) Specifies a time interval for reloads to occur.
pause	(Optional) Pauses the reload.
reason *reason*	(Optional) Specifies the reason for reloading the system.

Command Default

Immediately reloads the stack member and configuration change come into effect.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

Examples

This example shows how to reload the switch stack:

```
Device# reload
System configuration has been modified. Save? [yes/no]: y
Proceed to reload the whole Stack? [confirm] y
```

router routing protocol shutdown l2

To create instances that should be isolated within a maintenance template, use the **router** *routing_protocol instance_id* | **shutdown l2** command in the maintenance template configuration mode. To delete the instance, use the **no** form of the command.

{ **router** *routing_protocol instance_id* | **shutdown l2** }
no { **router** *routing_protocol instance_id* | **shutdown l2** }

Syntax Description

router	Configures instance associated with routing protocol.
routing_protocol	Routing protocol defined for the template.
instance_id	Instance ID associated with the routing protocol.
shutdown l2	Configures instance to shut down layer 2 interfaces.

Command Default

Disabled.

Command Modes

Maintenance template configuration (config-maintenance-*temp*)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following example shows how to create an instance for ISIS with an instance ID of one under maintenance template temp1:

```
Device(config)# maintenance template g1
Device(config-maintenance-templ)# router isis 1
```

The following example shows how to create an instance for shutting down layer 2 interfaces under maintenance template g1:

```
Device(config)# maintenance template g1
Device(config-maintenance-templ)# shutdown l2
```

secure-stackwise-virtual authorization-key 128-bits

To configure the Secure StackWise Virtual authorization key, use the **secure-stackwise-virtual authorization-key 128-bits** command in global configuration mode.

To remove the authorization key on all nodes, use the **no**form of this command.

secure-stackwise-virtual authorization-key 128-bits
nosecure-stackwise-virtual authorization-key 128-bits

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.12.x	This command was introduced.

Usage Guidelines

The StackWise Virtual authorization key must be configured individually on all stack members before they join the stack.

The same authorization key must be set on all members of the stack.

The **nosecure-stackwise-virtualauthorization-key** command will remove the authorization key without zeroizing it. You must remove the authorization key from all members of the stack

Example:

The following is a sample output of the **secure-stackwise-virtual authorization-key 128-bits** command.

```
Device(config)#secure-stackwise-virtual authorization-key 128-bits
Device(config)#$ual authorization-key FACEFACEFACEFACEFACEFACEFACEFACE
SECURE SVL key successfully set.
The stacking will run in SECURE SVL
mode after the reload. Make sure you set the
same secure-svl key on all the members of the stack.
nyq_SVL(config)#
```

secure-stackwise-virtual zeroize sha1-key

To zeroize the Secure StackWise Virtual SHA-1 key from the device, use the **secure-stackwise-virtual zeroize sha1-key** command in global configuration mode.

secure-stackwise-virtual zeroize sha1-key

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.12.x	This command was introduced.

Usage Guidelines

Note This command will zeroize the Secure StackWise Virtual SHA-1 key from the device by deleting the IOS image and configuration from the device by deleting the IOS image and configuration files.

Example:

The following is a sample output of the **secure-stackwise-virtual zeroize sha1-key** command.

```
Device(config)#secure-stackwise-virtual zeroize sha1-key

**Critical Warning** - This command is irreversible and will zeroize the Secure-SVL-VPK by
 Deleting the IOS image and config files, please use extreme caution and confirm with Yes
on each of three
iterations to complete. The system will reboot after the command executes successfully
 Proceed ?? (yes/[no]): yes
 Proceed ?? (yes/[no]): yes
 Proceed with zeroization ?? (yes/[no]): yes

% Proceeding to zeroize image. "Reload" session to remove the loaded image.
*Dec 14 11:04:43.004: %SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
Removing packages.conf
The configuration is reset and the system will now reboot
```

set platform software fed switch

To set the packet cache count per SVL port, use the **set platform software fed switch** command in privileged EXEC or user EXEC mode.

set platform software fed switch {*switch-number* | **active** | **standby**} {**F0** | **F1 active**}**fss pak-cache** *count*

Syntax Description

switch {*switch-number* | **active** | **standby**}	Specifies information about the switch. You have the following options: • *switch-number* • **active** —Displays information relating to the active switch. • **standby**—Displays information relating to the standby switch, if available.
F0	Specifies information about the Embedded Service Processor slot 0.
FP active	Specifies information about the active Embedded Service Processor.
pak-cache *count*	Specifies the packet cache count. The range is 10 to 600.The default is 10.

Command Default

The default per port packet cache count is 10.

Command Modes

User EXEC(>)

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.10.1	This command was introduced.

Usage Guidelines

None

Example

This example shows how to set the packet cache count per SVL port.

```
Device# set platform software fed switch active F1 active fss pak-cache 40
```

set platform software nif-mgr switch

To set the packet cache count per SVL port, use the **set platform software nif-mgr switch** command in privileged EXEC or user EXEC mode.

set platform software nif-mgr switch {*switch-number* | **active** | **standby** }**R0 pak-cache** *count*

Syntax Description

switch {*switch-number* | **active** | **standby**}	Specifies information about the switch. You have the following options: • *switch-number* • **active** —Displays information relating to the active switch. • **standby**—Displays information relating to the standby switch, if available.
R0	Specifies information about the Route Processor (RP) slot 0.
pak-cache *count*	Specifies the packet cache count. The range is 10 to 600.The default is 10.

Command Default

The default per port packet cache count is 10.

Command Modes

User EXEC(>)

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.10.1	This command was introduced.

Usage Guidelines

None

Example

This example shows how to set the packet cache count per SVL port.

```
Device# set platform software nif_mgr switch active R0 pak-cache 40
```

show diagnostic bootup

To show the diagnostic boot information for a switch, use the **show diagnostic bootup** command in privileged EXEC mode.

show diagnostic bootup level

Syntax Description

level	Shows the diagnostic boot-level information.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

The following is a sample output of the **show diagnostic bootup level** command:

```
Device# show diagnostic bootup level

Current bootup diagnostic level: minimal
```

show diagnostic content

To show the diagnostic test content for a switch, use the **show diagnostic content** command in privileged EXEC mode.

show diagnostic content switch {*switch-number* **module** {**1** | **2** | **4**} | **all** [**all**]}

Syntax Description

switch *switch-number*	Specifies the switch to be selected.
module	Selects a module of the switch.
1	Displays the diagnostic test content for the module C9400-LC-48U.
2	Displays the diagnostic test content for the module C9400-SUP-1.
4	Displays the diagnostic test content for the module C9400-LC-48T.
switch all [**all**]	• **switch all**–Selects all the switches. • (Optional) **all**–Displays all the diagnostic test content for all the switches.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

The following example shows a sample ouput of the **show diagnostic content switch all** [**all**] command.

```
Device# show diagnostic content switch all all

switch 1, module 1:

  Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA
      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA
    D/N/* - Disruptive test / Non-disruptive test / NA
      S/* - Only applicable to standby unit / NA
      X/* - Not a health monitoring test / NA
      F/* - Fixed monitoring interval test / NA
      E/* - Always enabled monitoring test / NA
      A/I - Monitoring is active / Monitoring is inactive

                                                          Test Interval   Thre-
  ID   Test Name                          Attributes      day hh:mm:ss.ms shold
  ==== ================================== ============    =============== =====
    1) TestGoldPktLoopback -------------> *BPN*X**I       not configured  n/a
    2) TestPhyLoopback -----------------> *BPD*X**I       not configured  n/a
```

```
    3) TestThermal ----------------------> *B*N****A       000 00:01:30.00 1
    4) TestScratchRegister --------------> *B*N****A       000 00:01:30.00 5
    5) TestPoe --------------------------> *B*N*X**I       not configured  n/a
    6) TestUnusedPortLoopback -----------> *BPN****I       not configured  1
    7) TestPortTxMonitoring -------------> *BPN****A       000 00:01:15.00 1


switch 1, module 2:

  Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA
      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA
    D/N/* - Disruptive test / Non-disruptive test / NA
      S/* - Only applicable to standby unit / NA
      X/* - Not a health monitoring test / NA
      F/* - Fixed monitoring interval test / NA
      E/* - Always enabled monitoring test / NA
      A/I - Monitoring is active / Monitoring is inactive

                                                          Test Interval   Thre-
  ID   Test Name                           Attributes     day hh:mm:ss.ms shold
  ==== ================================== ============   =============== =====
    1) TestGoldPktLoopback --------------> *BPN*X**I       not configured  n/a
    2) TestFantray ----------------------> *B*N****A       000 00:01:40.00 1
    3) TestPhyLoopback ------------------> *BPD*X**I       not configured  n/a
    4) TestThermal ----------------------> *B*N****A       000 00:01:30.00 1
    5) TestScratchRegister --------------> *B*N****A       000 00:01:30.00 5
    6) TestMemory -----------------------> *B*D*X**I       not configured  n/a
    7) TestUnusedPortLoopback -----------> *BPN****I       not configured  1
    8) TestPortTxMonitoring -------------> *BPN****A       000 00:01:15.00 1


switch 1, module 4:

  Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA
      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA
    D/N/* - Disruptive test / Non-disruptive test / NA
      S/* - Only applicable to standby unit / NA
      X/* - Not a health monitoring test / NA
      F/* - Fixed monitoring interval test / NA
      E/* - Always enabled monitoring test / NA
      A/I - Monitoring is active / Monitoring is inactive

                                                          Test Interval   Thre-
  ID   Test Name                           Attributes     day hh:mm:ss.ms shold
  ==== ================================== ============   =============== =====
    1) TestGoldPktLoopback --------------> *BPN*X**I       not configured  n/a
    2) TestPhyLoopback ------------------> *BPD*X**I       not configured  n/a
    3) TestThermal ----------------------> *B*N****A       000 00:01:30.00 1
    4) TestScratchRegister --------------> *B*N****A       000 00:01:30.00 5
    5) TestUnusedPortLoopback -----------> *BPN****I       not configured  1
    6) TestPortTxMonitoring -------------> *BPN****A       000 00:01:15.00 1


switch 2, module 1:

  Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA
      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA
    D/N/* - Disruptive test / Non-disruptive test / NA
```

```
      S/* - Only applicable to standby unit / NA
      X/* - Not a health monitoring test / NA
      F/* - Fixed monitoring interval test / NA
      E/* - Always enabled monitoring test / NA
      A/I - Monitoring is active / Monitoring is inactive

                                                          Test Interval   Thre-
  ID   Test Name                           Attributes     day hh:mm:ss.ms shold
  ==== ================================== ============   =============== =====
    1) TestGoldPktLoopback -------------> *BPN*X**I      not configured  n/a
    2) TestPhyLoopback -----------------> *BPD*X**I      not configured  n/a
    3) TestThermal ---------------------> *B*N****A      000 00:01:30.00 1
    4) TestScratchRegister -------------> *B*N****A      000 00:01:30.00 5
    5) TestPoe -------------------------> *B*N*X**I      not configured  n/a
    6) TestUnusedPortLoopback ----------> *BPN****I      not configured  1
    7) TestPortTxMonitoring ------------> *BPN****A      000 00:01:15.00 1


switch 2, module 2:

  Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA
      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA
    D/N/* - Disruptive test / Non-disruptive test / NA
      S/* - Only applicable to standby unit / NA
      X/* - Not a health monitoring test / NA
      F/* - Fixed monitoring interval test / NA
      E/* - Always enabled monitoring test / NA
      A/I - Monitoring is active / Monitoring is inactive

                                                          Test Interval   Thre-
  ID   Test Name                           Attributes     day hh:mm:ss.ms shold
  ==== ================================== ============   =============== =====
    1) TestGoldPktLoopback -------------> *BPN*X**I      not configured  n/a
    2) TestFantray ---------------------> *B*N****A      000 00:01:40.00 1
    3) TestPhyLoopback -----------------> *BPD*X**I      not configured  n/a
    4) TestThermal ---------------------> *B*N****A      000 00:01:30.00 1
    5) TestScratchRegister -------------> *B*N****A      000 00:01:30.00 5
    6) TestMemory ----------------------> *B*D*X**I      not configured  n/a
    7) TestUnusedPortLoopback ----------> *BPN****I      not configured  1
    8) TestPortTxMonitoring ------------> *BPN****A      000 00:01:15.00 1


switch 2, module 4:

  Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA
      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA
    D/N/* - Disruptive test / Non-disruptive test / NA
      S/* - Only applicable to standby unit / NA
      X/* - Not a health monitoring test / NA
      F/* - Fixed monitoring interval test / NA
      E/* - Always enabled monitoring test / NA
      A/I - Monitoring is active / Monitoring is inactive

                                                          Test Interval   Thre-
  ID   Test Name                           Attributes     day hh:mm:ss.ms shold
  ==== ================================== ============   =============== =====
    1) TestGoldPktLoopback -------------> *BPN*X**I      not configured  n/a
    2) TestPhyLoopback -----------------> *BPD*X**I      not configured  n/a
    3) TestThermal ---------------------> *B*N****A      000 00:01:30.00 1
    4) TestScratchRegister -------------> *B*N****A      000 00:01:30.00 5
```

```
5) TestUnusedPortLoopback ----------> *BPN****I       not configured  1
6) TestPortTxMonitoring ------------> *BPN****A       000 00:01:15.00 1
```

show diagnostic description

To show the diagnostic test description for a switch, use the **show diagnostic description** command in privileged EXEC mode.

show diagnostic description switch {*switch-number* **module** {**1** | **2** | **4**} {**test** {*test-id* | **all**}} | **all test** {*test-list* | *test-id* | **all**}}

Syntax Description

switch *switch-number*	Specifies the switch to be selected.
switch all	Selects all the switches.
module	Selects a module of the switch.
1	Selects the module C9400-LC-48U.
2	Selects the module C9400-SUP-1.
4	Selects the module C9400-LC-48T.
test *test-id*	Displays the diagnostic test description for the test ID or test name specified.
test *test-list*	Displays the diagnostic test description for the list of test IDs specified.
test all	Displays the diagnostic test description for all the test IDs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

This example shows sample output of the **show diagnostic description switch** *switch-number* **module 4 test all** command:

```
Device# show diagnostic description switch 1 module 4 test all

TestGoldPktLoopback :
 The GOLD packet Loopback test verifies the MAC level loopback
 functionality. In this test, a GOLD packet, for which doppler
 provides the support in hardware, is sent. The packet loops back
 at MAC level and is matched against the stored packet. It is a
 non-disruptive test.

TestPhyLoopback :
 The PHY Loopback test verifies the PHY level loopback
 functionality. In this test, a packet is sent which loops back
 at PHY level and is matched against the stored packet. It is a
 disruptive test and cannot be run as a health monitoring test.
```

```
TestThermal :
 This test verifies the temperature reading from the sensor is
 below the yellow temperature threshold. It is a non-disruptive
 test and can be run as a health monitoring test.

TestScratchRegister :
 The Scratch Register test monitors the health of
 application-specific integrated circuits (ASICs) by writing values
 into registers and reading back the values from these registers.
 It is a non-disruptive test and can be run as a health monitoring
        test.

TestUnusedPortLoopback :
 This test verifies the PHY level loopback functionality for
 admin-down ports. In this test, a packet is sent which loops back
 at PHY level and is matched against the stored packet. It is a
 non-disruptive test and can be run as a health monitoring test.

TestPortTxMonitoring :
 This test monitors the TX counters of a connected interface.
 This test verifies if the connected port is able to send the
 packets or not. It is a non-disruptive test and can be run
 as a health monitoring test.
```

show diagnostic events

To show the diagnostic event log for a switch, use the **show diagnostic events** command in privileged EXEC mode.

show diagnostic events switch {*switch-number* **module** {**1** | **2** | **4**} | **all** [**event-type** [**error** | **info** | **warning**]]}

Syntax Description

switch *switch-number*	Specifies the switch to be selected.
switch all	Selects all the switches.
module	Selects a module of the switch.
1	Displays diagnostic event logs for the C9400-LC-48U module.
2	Displays diagnostic event logs for the C9400-SUP-1 module.
4	Displays diagnostic event logs for the C9400-LC-48T module.
event-type	(Optional) Displays the event log of a specific event type. The following are the valid values: • **error :** Displays the error type event logs. • **info :** Displays the information type event logs. • **warning :** Displays the warning type event logs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

This example shows a sample output of the **show diagnostic events switch** *switch-number* **module 2** command.

```
Device# show diagnostic events switch 1 module 2

Diagnostic events (storage for 500 events, 500 events recorded)
Number of events matching above criteria = 500
Event Type (ET): I - Info, W - Warning, E - Error

Time Stamp         ET [Card] Event Message
------------------ -- ------ --------------------------------------------------
07/08 13:54:05.110 E  [1-2]    TestThermal Failed
07/08 13:55:35.111 E  [1-2]    TestThermal Failed
07/08 13:57:05.111 E  [1-2]    TestThermal Failed
```

```
07/08 13:58:35.613 E  [1-2]    TestThermal Failed
07/08 14:00:05.614 E  [1-2]    TestThermal Failed
07/08 14:01:35.615 E  [1-2]    TestThermal Failed
07/08 14:03:05.616 E  [1-2]    TestThermal Failed
07/08 14:04:36.367 E  [1-2]    TestThermal Failed
07/08 14:06:06.368 E  [1-2]    TestThermal Failed
07/08 14:07:37.370 E  [1-2]    TestThermal Failed
07/08 14:09:07.371 E  [1-2]    TestThermal Failed
07/08 14:10:38.372 E  [1-2]    TestThermal Failed
07/08 14:12:10.873 E  [1-2]    TestThermal Failed
07/08 14:13:41.374 E  [1-2]    TestThermal Failed
<Output truncated>
```

show diagnostic result

To show the diagnostic test result information, use the **show diagnostic result** command in privileged EXEC mode.

show diagnostic result switch {*switch-number***module** {**1** | **2** | **4**} [**detail** | **failure** [**detail**] | **test** {*test-id* | **all**} [**detail**] | **xml**] | **all** [**all** [**detail** | **failure** [**detail**]]]}

Syntax Description

switch *switch-number*	Specifies the switch to be selected.
module	Selects a module of the switch.
1	Displays the diagnostic test results for the module C9400-LC-48U.
2	Displays the diagnostic test results for the module C9400-SUP-1.
4	Displays the diagnostic test results for the module C9400-LC-48T.
detail	(Optional) Displays the detailed test results.
failure	(Optional) Displays the failed test results.
test *test-id*	(Optional) Displays the diagnostic test results for the selected test ID or test name or list of test IDs of a module.
test all	(Optional) Displays the diagnostic test results for all the tests of a module.
xml	(Optional) Displays the test results in XML format.
switch all [**all**]	• **switch all**—Displays the diagnostic test results for all the switches. • (Optional)**all**—Displays the diagnostic test results for all the cards of all the switches.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

This example displays sample output of the **show diagnostic result switch** *switch-number* **module 4** [**failure** [**detail**]] command:

```
Device# show diagnostic result switch 1 module 4 failure detail

Current bootup diagnostic level: minimal

switch 1, module 4:   SerialNo : JAE204700PH

  Overall Diagnostic Result for switch 1, module 4 : PASS
  Diagnostic level at card bootup: minimal

  Test results: (. = Pass, F = Fail, U = Untested)
```

This example displays sample output for the **show diagnostic result switch** *switch-number* **module 4** [**detail**] command.

```
Device# show diagnostic result switch 1 module 4 detail

Current bootup diagnostic level: minimal

switch 1, module 4:   SerialNo : JAE204700PH

  Overall Diagnostic Result for switch 1, module 4 : PASS
  Diagnostic level at card bootup: minimal

  Test results: (. = Pass, F = Fail, U = Untested)

  _____________________________________________________________________________

    1) TestGoldPktLoopback:

   Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U

   Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U


          Error code ------------------> 3 (DIAG_SKIPPED)
          Total run count -------------> 0
          Last test testing type ------> n/a
          Last test execution time ----> n/a
          First test failure time -----> n/a
          Last test failure time ------> n/a
          Last test pass time ---------> n/a
          Total failure count ---------> 0
          Consecutive failure count ---> 0
  _____________________________________________________________________________

    2) TestPhyLoopback:

   Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U

   Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U


          Error code ------------------> 3 (DIAG_SKIPPED)
          Total run count -------------> 0
          Last test testing type ------> n/a
```

```
        Last test execution time ----> n/a
        First test failure time -----> n/a
        Last test failure time ------> n/a
        Last test pass time ---------> n/a
        Total failure count ---------> 0
        Consecutive failure count ---> 0
_____________________________________________________________________________

  3) TestThermal ----------------------> .

        Error code ------------------> 0 (DIAG_SUCCESS)
        Total run count -------------> 1771
        Last test testing type ------> Health Monitoring
        Last test execution time ----> Jul 09 2018 03:06:53
        First test failure time -----> n/a
        Last test failure time ------> n/a
        Last test pass time ---------> Jul 09 2018 03:06:53
        Total failure count ---------> 0
        Consecutive failure count ---> 0
_____________________________________________________________________________

  4) TestScratchRegister -------------> .

        Error code ------------------> 0 (DIAG_SUCCESS)
        Total run count -------------> 1771
        Last test testing type ------> Health Monitoring
        Last test execution time ----> Jul 09 2018 03:06:53
        First test failure time -----> n/a
        Last test failure time ------> n/a
        Last test pass time ---------> Jul 09 2018 03:06:53
        Total failure count ---------> 0
        Consecutive failure count ---> 0
_____________________________________________________________________________

  5) TestUnusedPortLoopback:

Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
------------------------------------------------------------------------------
      U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U

Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
------------------------------------------------------------------------------
      U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U


        Error code ------------------> 3 (DIAG_SKIPPED)
        Total run count -------------> 0
        Last test testing type ------> n/a
        Last test execution time ----> n/a
        First test failure time -----> n/a
        Last test failure time ------> n/a
        Last test pass time ---------> n/a
        Total failure count ---------> 0
        Consecutive failure count ---> 0
_____________________________________________________________________________

  6) TestPortTxMonitoring:

Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
------------------------------------------------------------------------------
      .  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U

Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
------------------------------------------------------------------------------
```

```
          U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  .


          Error code ------------------> 0 (DIAG_SUCCESS)
          Total run count -------------> 2146
          Last test testing type ------> Health Monitoring
          Last test execution time ----> Jul 09 2018 03:07:08
          First test failure time -----> n/a
          Last test failure time ------> n/a
          Last test pass time ---------> Jul 09 2018 03:07:08
          Total failure count ---------> 0
          Consecutive failure count ---> 0
  ____________________________________________________________________________
```

This example displays sample output for the **show diagnostic result switch** *switch-number* **module 4** [**test** [*test-id*]] command.

```
Device# show diagnostic result switch 1 module 4 test 3

Current bootup diagnostic level: minimal


  Test results: (. = Pass, F = Fail, U = Untested)

    3) TestThermal ----------------------> .


Switch#show diagnostic result switch 1 module 4 test 3 detail ?
  |     Output modifiers
  <cr>  <cr>

Switch#show diagnostic result switch 1 module 4 test 3 detail

Current bootup diagnostic level: minimal


  Test results: (. = Pass, F = Fail, U = Untested)

  ____________________________________________________________________________

    3) TestThermal ----------------------> .

          Error code ------------------> 0 (DIAG_SUCCESS)
          Total run count -------------> 1772
          Last test testing type ------> Health Monitoring
          Last test execution time ----> Jul 09 2018 03:08:23
          First test failure time -----> n/a
          Last test failure time ------> n/a
          Last test pass time ---------> Jul 09 2018 03:08:23
          Total failure count ---------> 0
          Consecutive failure count ---> 0
  ____________________________________________________________________________
```

This example displays sample output for the **show diagnostic result switch** *switch-number* **module 4** [**xml**] command.

```
Device# show diagnostic result switch 1 module 4 xml

Current bootup diagnostic level: minimal

 <?xml version="1.0" ?><diag>
<diag_results>
<diag_info>
This file report diag test results
```

```
</diag_info>
<diag_card_result>
<result overall_result="DIAG_PASS" new_failure="FALSE" diag_level="DIAG_LEVEL_MINIMAL" />
<card name="switch 1, module 4" index="3198" serial_no="JAE204700PH" >
<card_no>
9
</card_no>
<total_port>
48
</total_port>
<test name="TestGoldPktLoopback" >
<test_result>
<portmask>
00000000-00000000-00000000-00000000-00000000-00000000-11111111-11111111-11111111</portmask>
<per_port_result result="DIAG_RESULT_UNKNOWN" port="1" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="2" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="3" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="4" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="5" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="6" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="7" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="8" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="9" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="10" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="11" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="12" />
<per_port_result result="DIAG_RESULT_UNKNOWN" port="13" />

<Output truncated>
```

show diagnostic simulation failure

To display the diagnostic failure simulation information for a card on a switch, use the **show diagnostic simulation failure** command in privileged EXEC mode.

show diagnostic simulation failure switch {*switch-number* **module** {**1** | **2** | **4**} | **all** [**all**]}

Syntax Description

switch *switch-number*	Specifies the switch to be selected.
module	Selects a module of the switch.
1	Displays diagnostic failure simulation information for the C9400-LC-48U module.
2	Displays diagnostic failure simulation information for the C9400-SUP-1 module.
4	Displays diagnostic failure simulation information for the C9400-LC-48T module.
switch all [**all**]	• **switch all**—Selects all the switches. • (Optional)**all**—Displays all the diagnostic failure simulation information for all the switches.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

This example shows sample output of the **show diagnostic simulation failure switch all** command:

```
Device# show diagnostic simulation failure switch all

There is no test failure simulation installed.
```

show diagnostic schedule

To display the diagnostic schedule information for a card on a switch, use the **show diagnostic schedule** command in privileged EXEC mode.

show diagnostic schedule switch {*switch-number* **module** {**1** | **2** | **4**} | **all** [**all**]}

Syntax Description

switch *switch-number*	Specifies the switch to be selected.
module	Selects a module of the switch.
1	Displays diagnostic schedule information for the C9400-LC-48U module.
2	Displays diagnostic schedule information for the C9400-SUP-1 module.
4	Displays diagnostic schedule information for the C9400-LC-48T module.
switch all [**all**]	• **switch all**—Selects all switches. • (Optional)**all**—Displays all the diagnostic schedule information for all the switches.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

This example shows sample output of the **show diagnostic schedule switch** *switch-number* **module 2** command:

```
Device# show diagnostic schedule  switch 1 module 2

Current Time = 03:14:24 PDT Mon Jul 9 2018

Diagnostic for switch 1, module 2 is not scheduled.
```

show hw-module switch subslot

To display information for all the supported modules in the system and chassis location information, use the **show hw-module switch** *switch-number* **subslot** command in priviledged EXEC mode. To disable this feature, use the **no** form of this command.

show hw-module switch *switch-number* **subslot**
{*slot/subslot* | **all** {**attribute** | **entity** | **oir** | **sensors** [**limits**] | **subblock** | **tech-support**} }

noshow hw-module switch *switch-number* **subslot**
{*slot/subslot* | **all** {**attribute** | **entity** | **oir** | **sensors** [**limits**] | **subblock** | **tech-support**} }

Syntax Description

switch number	Specifies the switch to access; valid values are 1 and 2.
subslot *slot/subslot*	Specifies module slot or subslot number. Valid values for slot are 1 to 4. Valid value for subslot is 0.
all	Selects all the supported modules in the subslot level.
attribute	Displays module attribute information.
entity	Displays entity MIB details. **Note** Not intended for production use.
oir	Displays online insertion and removal (OIR) summary.
sensors	Displays environmental sensor summary.
limits	Displays sensor limits.
subblock	Displays subblock details. **Note** Not intended for production use.
tech-support	Displays subslot information for technical support.

Command Default

None

Command Modes

Priviledged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Examples

This example shows how to obtain module attribute information for switch 1 for all the modules in the subslot level:

```
Device# show hw-module switch 1 subslot all attribute
```

This example shows how to obtain module OIR information for switch 1 for all the modules in the subslot level:

```
Device# show hw-module switch 1 subslot all oir
```

This example shows how to obtain environmental sensor summary for switch 1 for all the modules in the subslot level:

```
Device# show hw-module switch 1 subslot all sensors
```

This example shows how to obtain sensory limits information for switch 1 for all modules in the subslot level:

```
Device# show hw-module switch 1 subslot all sensors limit
```

This example shows how to obtain subslot information for technical support for switch 1 for all modules in the subslot level:

```
Device# show hw-module switch 1 subslot all tech-support
```

show logging onboard switch

To display the on-board failure logging (OBFL) information of a switch, use the **show logging onboard switch** command in privileged EXEC mode.

show logging onboard switch {*switch-number* | **active** | **standby**} {**RP** {**standby** | **active**} | **slot** {**1** | **4** | **F0** | **F1** | **R0** | **R1**}} {{**clilog** | **counter** | **environment** | **message** | **poe** | **temperature** | **uptimevo** | **voltage**} [**continuous** | **detail** | **summary**] [**start** *hh:mm:ss day month year*] [**end** *hh:mm:ss day month year*]} | **state** | **status**}

Syntax Description

switch-number	Switch for which OBFL information is displayed.
active	Displays OBFL information about the active switch.
standby	Displays OBFL information about the standby switch.
RP	Specifies the route processor (RP).
slot	Specifies the slot information.
clilog	Displays the OBFL commands that were entered on the standalone switch or specified stack members.
counter	Displays the counter of the standalone switch or specified stack members.
environment	Displays the unique device identifier (UDI) information for the standalone switch or specified stack members. Also displays the product identification (PID), the version identification (VID), and the serial number for all the connected FRU devices.
message	Displays the hardware-related system messages generated by the standalone switch or specified stack members.
poe	Displays the power consumption of the Power over Ethernet (PoE) ports on the standalone switch or specified stack members.
state	Displays the state of the standalone switch or specified stack members.
status	Displays the status of the standalone switch or specified stack members.
temperature	Displays the temperature of the standalone switch or specified stack members.
uptime	Displays the time at which the standalone switch or specified stack members start, the reason the standalone switch or specified members restart, and the length of time the standalone switch or specified stack members have been running since they last restarted.

voltage	Displays the system voltages of the standalone switch or the specified switch stack members.
continuous	(Optional) Displays the data in the continuous file.
detail	(Optional) Displays both the continuous and summary data.
summary	(Optional) Displays the data in the summary file.
start *hh:mm:ss day month year*	(Optional) Displays the data from the specified time and date. Enter the time as a 2-digit number for a 24-hour clock. Make sure to use the colons (:), for example, 13:32:45. The range of day is from 1 to 31. The month in upper case or lower case letters. You can enter the full name of the month, such as January or august, or the first three letters of the month, such as jan or Aug. The year is a 4-digit number, such as 2008. The range is from 1970 to 2099.
end *hh:mm:ss day month year*	(Optional) Displays the data up to the specified time and date. Enter the time as a 2-digit number for a 24-hour clock. Make sure to use the colons (:), for example, 13:32:45. The range of day is from 1 to 31. The month in upper case or lower case letters. You can enter the full name of the month, such as January or august, or the first three letters of the month, such as jan or Aug. The year is a 4-digit number, such as 2008. The range is from 1970 to 2099.

Command Modes

Priviledged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Fuji 16.9.1	This command was introduced.

Usage Guidelines

When OBFL is enabled, the switch records the OBFL data in a continuous file that contains all the data. The continuous file is circular. When the continuous file is full, the switch combines the data into a summary file, which is also known as a historical file. Creating the summary file frees up space in the continuous file so that the switch can write newer data to it.

Use the **start** and **end** keywords to display the data collected only during a particular time period.

Examples

This is a sample output of the **show logging onboard switch 1 RP active message** command:

```
Device# show logging onboard switch 1 RP active message

--------------------------------------------------------------------------------
ERROR MESSAGE SUMMARY INFORMATION
--------------------------------------------------------------------------------
MM/DD/YYYY HH:MM:SS Facility-Sev-Name | Count | Persistence Flag
--------------------------------------------------------------------------------
07/06/2018 00:45:23 %IOSXE-2-DIAGNOSTICS_FAILED :  >254 LAST  Diagnostics Thermal failed
07/06/2018 00:19:57 %IOSXE-2-DIAGNOSTICS_PASSED :  >254 LAST  Diagnostics Fantray passed
07/07/2018 11:36:10 %IOSXE-2-TRANSCEIVER_INSERTED :  >254 LAST  Transceiver module inserted
 in TenGigabitEthernet1/2/0/5
05/03/2018 05:49:57 %IOSXE-2-TRANSCEIVER_REMOVED :  82   : LAST :  Transceiver module removed
 from TenGigabitEthernet1/2/0/7
```

```
07/07/2018 08:20:36 %IOSXE-2-SPA_REMOVED :    >254 LAST  SPA removed from subslot 14/0
07/06/2018 01:50:33 %IOSXE-2-SPA_INSERTED :   >254 LAST  SPA inserted in subslot 11/0
--------------------------------------------------------------------------------
```

This is a sample output of the **show logging onboard switch 1 slot 4 status** command:

```
Device# show logging onboard switch 1 slot 4 status

--------------------------------------------------------------------------------
OBFL Application Status
--------------------------------------------------------------------------------
Application Uptime:
            Path: /obfl0/
            Cli enable status: enabled
Application Message:
            Path: /obfl0/
            Cli enable status: enabled
Application Voltage:
            Path: /obfl0/
            Cli enable status: enabled
Application Temperature:
            Path: /obfl0/
            Cli enable status: enabled
Application POE:
            Path: /obfl0/
            Cli enable status: enabled
Application Environment:
            Path: /obfl0/
            Cli enable status: enabled
Application Counter:
            Path: /obfl0/
            Cli enable status: enabled
Application Clilog:
            Path: /obfl0/
            Cli enable status: enabled
```

This is a sample output of the **show logging onboard switch 1 slot 4 state** command:

```
Device# show logging onboard switch 1 slot 4 state

GREEN
```

Related Commands

Command	Description
clear logging onboard	Removes the OBFL data from flash memory.
hw-module logging onboard	Enables OBFL.

show platform pm l2bum-status

To display the global status of the Layer 2 Broadcast, Unicast, Muticast (BUM) traffic optimization use the **show platform pm l2bum-status** command in privileged EXEC mode.

show platform pm l2bum-status

Syntax Description

pm	Displays the platform port manager information.
l2bum-status	Displays the Layer 2 BUM traffic optimization global status.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Amsterdam 17.2.x	This command was introduced.

Example:

The following shows a sample ouput of the **show platform pm l2bum-status** command.

```
Device# show platform pm l2bum-status
Layer2 BUM SVL Optimization is Enabled Globally
```

show platform pm l2bum-status vlan

To display the forwarding physical port count in a VLAN , use the **show platform pm l2bum-status vlan***vlan-id* command in privileged EXEC mode.

show platform pm l2bum-statusvlan*vlan-id*

Syntax Description

pm	Displays the platform port manager information.
l2bum-status	Displays the Layer 2 BUM traffic optimization global status.
vlan*vlan-id*	Displays the forwarding physical port count in vlan. The VLAN ID range is from 1 to 4093.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Amsterdam 17.2.x	This command was introduced.

Example:

The following shows a sample ouput of the **show platform pm l2bum-status vlan** *vlan-id* command.

```
Device# show platform pm l2bum-status vlan 1
Vlan      Physical  port forwarding count
----      --------------------------------

   1          2
```

show platform software fed

To display the per port SDP/LMP control packet exchange history between FED and Network Interface Manager (NIF Mgr) software processes, use the **show platform software fed** command in privileged EXEC mode.

show platform software fed switch {*switch-number* | **active** | **standby**} **fss** {**counters** | **interface-counters interface** {*interface-type interface-number*} | **lmp-packets interface** {*interface-type interface-number*} | **sdp-packets**

Syntax Description

switch {*switch-number* | **active** | **standby**}	Displays information about the switch. You have the following options: • *switch-number* • **active**—Displays information relating to the active switch. • **standby**—Displays information relating to the standby switch, if available. **Note** This keyword is not supported.
fss	Specifies information about Front Side Stacking (FSS).
counters	Displays the number of TX and RX packets of SDP, LMP, OOB1/2, EMP and LOOPBACK types.
interface-counters	Displays the number of TX and RX packets for all the interfaces. You can filter the output to display for a particular SVL interface using the **interface-counters interface** {*interface-type interface-number*} command.
lmp-packets	Displays details of LMP packet transactions between FED and NIF Manager for all the SVL interfaces. You can filter the output to display for a particular SVL interface using the **lmp-packets interface** {*interface-type interface-number*} command.
sdp-packets	Displays details of SDP packets transmitted between FED and NIF Manager for all the SVL interfaces.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.10.1	This command was introduced.

Usage Guidelines

By default, the output of **show platform software fed switch active fss sdp-packets** command displays a packet cache count of 10. You can set the packet cache count per port to a maximum of 600 using the **set platform software fed switch** command.

Example

The following is sample output from the **show platform software fed switch active fss lmp-packets interface** *interface-type interface-number* command.

```
Device# show platform software fed switch active fss lmp-packets interface
fortygigabitethernet1/0/1

Interface: fortygigabitethernet1/0/1 IFID:0x1d
FED FSS LMP packets max 10:

FED --> Nif Mgr
Timestamp                    Local    Peer       Seq
                             LPN      LPN        Num
-----------------------------------------------------
Tue Sep 18 12:45:13 2018     11       11         4329
Tue Sep 18 12:45:14 2018     11       11         4330
```

The following is sample output from the **show platform software fed switch active fss sdp-packets** command.

```
Device# show platform software fed switch active fss sdp-packets
FED FSS SDP packets max 10:
------------------------

FED-> Nif Mgr
Timestamp                       Src Mac                 Dst Mac.                Seq Num
-------------------------------------------------------------------------------------------
Thu Oct  4 05:54:04 2018        e4aa:5d54:8aa8          ffff:ffff:ffff           262
Thu Oct  4 05:54:08 2018        e4aa:5d54:8aa8          ffff:ffff:ffff           263
Thu Oct  4 05:54:12 2018        e4aa:5d54:8aa8          ffff:ffff:ffff           264
```

The following is sample output from the **show platform software fed switch active fss counters** command.

```
Device# show platform software fed switch active fss counters
FSS Packet Counters
       SDP                                          LMP
TX  |              RX                       TX  |              RX
---------------------                      ---------------------
1493             1494                      4988             4988

       OOB1                                         OOB2
TX  |              RX                       TX  |              RX
---------------------                      ---------------------
22                  8                      134858         133833

       EMP
TX  |              RX                              LOOPBACK
----------------------                     --------------------
0                     0                            71
```

The following is sample output from the **show platform software fed switch active fss interface-counters interface** *interface-type interface-number* command.

```
Device# show platform software fed switch active fss interface-counters
fortygigabitethernet1/0/1
```

```
Interface fortygigabitethernet1/0/1 IFID: 0x1d Counters
       LMP
  TX    |    RX
---------------------
6391        6389
```

Related Commands

Command	Description
set platform software fed switch	Configures the per port packet cache count for an SVL interface.

show platform software fed switch fss bum-opt summary

To display the Front Side Stacking (FSS) BUM traffic optimization information, use the **show platform software fed switch fss bum-opt summary** command in privileged EXEC mode.

show platformsoftwarefedswitch {*switch-number* | **active** | **standby** } { **fssbum-optsummary**

Syntax Description

switch {*switch-number* | **active** | **standby**}	Displays information about the switch. You have the following options: • *switch-number*—Specifies the switch number. The available switch numbers are 1 and 2. • **active** —Displays information relating to the active switch. • **standby**—Displays information relating to the standby switch, if available.
fss	Displays front side stacking (FSS) information.
bum-opt	Displays FSS BUM traffic optimization info.
summary	Displays FSS BUM traffic optimization summary.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Amsterdam 17.2.x	This command was introduced.

Example:

The following is a sample ouput for the **show platform software fed switch 1 fss bum-opt summary** command:

```
Device# show platform software fed switch 1 fss bum-opt summary
FSS BUM Traffic Optimization Summary
====================================
Vlan 1: Opt en 0, svl added 1 l2tun 0 ECs:20
Vlan 2: Opt en 1, svl added 0 l2tun 0 ECs:
Etherchannel 1: Local 0, Remote 0 Vlans:
Etherchannel 20: Local 1, Remote 0 Vlans:1
```

show platform software l2_svl_bum forwarding-manager switch

To display the forwarding-manager Layer 2 BUM traffic optimization information for a switch, use the **show platform software l2_svl_bum forwarding-manager switch** command in privileged EXEC mode.

show platform software l2_svl_bum forwarding-manager switch {*switch-number* | **active** | **standby**} {**F0** {**vlan** *vlan-id* | **R0** {**entries**} }

Syntax Description

switch {*switch-number* | **active** | **standby**}	Displays information about the switch. You have the following options: • *switch-number*—Specifies the switch number. The range is 1 to 16. • **active** —Displays information relating to the active switch. • **standby**—Displays information relating to the standby switch, if available.
F0vlan *vlan-id*	• **F0** —Displays information about Embedded-Service-Processor slot 0. • **vlan** *vlan-id*—Specifies the VLAN ID The VLAN ID ranges from 1 to 65535.
R0entries	• **R0**—Displays information about the Route-Processor (RP) slot 0. • **entries**—Displays the SVL link optimization entry for VLAN.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Amsterdam 17.2.x	This command was introduced.

Example:

The following is a sample ouput for the **show platform software l2_svl_bum forwarding-manager switch active F0 vlan** *vlan-id* command:

```
Device# show platform software l2_svl_bum forwarding-manager switch active F0 vlan 200
Displaying fmanfp l2_svl_bum opt_info
=======================================

Vlan          Vlan opt_state    Global opt state
-------------------------------------------------
200           Opt_ON            Opt_ON
```

The following is a sample ouputs for the **show platform software l2_svl_bum forwarding-manager switch active R0 entries** command:

```
Device#show platform software l2_svl_bum forwarding-manager switch active R0 entries
Displaying fmanrp l2_svl_bum opt_info
=======================================

Vlan          Vlan_opt_state    Global_opt_state
-------------------------------------------------
1             Opt_OFF           Opt_ON
200           Opt_ON           Opt_ON
```

show platform software nif-mgr switch

To display the control packet exchange history between the Network Interface Manager software process (NIF Mgr) and the StackWise Virtual Link (SVL) interfaces, use the **show platform software nif-mgr switch** command in privileged EXEC mode.

show platform software nif-mgr switch {*switch-number* | **active** | **standby**} **R0** {**counters** [**lpn** *lpn-index*] | **packets** [**lpn** *lpn-index*] | **switch-info**}

show platform software nif-mgr switch {*switch-number* | **active** | **standby**} **R0counters** {**slot***slot-number* } {**port** *port-number* }**packets** {**slot***slot-number* } {**port** *port-number* } {**switch-info**}

Syntax Description

switch {*switch-number* | **active** | **standby**}	Displays information about the switch. You have the following options: • *switch-number.* • **active** —Displays information relating to the active switch. • **standby**—Displays information relating to the standby switch, if available. **Note** This keyword is not supported.
R0	Displays information about the Route Processor (RP) slot 0.
counters	Displays the number of TX and RX packets of LMP and SDP type.
lpn *lpn-index*	Specifies the local port number (LPN). The range is 1 to 96. Use the **show platform software nif-mgr switch active R0 switch-info** command for information about *lpn-index*.
packets	Displays the details of TX and RX packets of LMP and SDP type.
switch-info	Displays information about NIF Manager operational database.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.10.1	This command was introduced.

Usage Guidelines

The output of the **show platform software nif-mgr switch active R0 counters** command displays counters for LMP and SDP packets that are transmitted.

The output of the **show platform software nif-mgr switch active R0 switch-info** command displays the SVL links details and the protocol flap count on each of the links.

- LMP to FED

- SDP to FED
- FED to LMP
- FED to SDP
- Stack Manager to SDP
- SDP to Stack Manager

The output of the **show platform software nif-mgr switch active R0 packets** command displays the timestamp details of the LMP and SDP packets transmitted.

- Timestamp of last 10 LMP frames from FED
- Timestamp of last 10 LMP frames to FED
- Timestamp of last 10 SDP frames from Stack manager
- Timestamp of last 10 SDP frames to Stack manager

By default, the packet cache count per SVL port during bootup is 10. To set the packet cache count per port, use the **set platform software nif-mgr switch** command.

Example

The following is sample output from the **show platform software nif-mgr switch active R0 counters** command.

```
Device# show platform software nif-mgr switch active R0 counters
NIF Manager Counters
 Counters:
##################################################
Stack Link : 1
==============================================
FED to NIF Mgr
---------------
Number of LMP RX Packets : 749
NIF Mgr to FED
---------------
Number of LMP TX Packets : 758
Stack Link : 2
==============================================
FED to NIF Mgr
---------------
Number of LMP RX Packets : 0
NIF Mgr to FED
---------------
Number of LMP TX Packets : 0

NIF Mgr to Stack Mgr
-----------------------
Number of SDP Success Packets - 1854
Number of SDP Fail Packets - 0
Stack Mgr to NIF Mgr
--------------------
Number of SDP Success Packets - 1850
Number of SDP Fail Packets - 0
```

The following is sample output from the **show platform software nif-mgr switch active R0 counters lpn** *lpn-index* command.

```
Device# show platform software nif_mgr switch active r0 counters lpn 1
Counters:
################################################
LPN : 1 Stack Link : 1 port 1
================================================
FED to NIF Mgr
---------------
Number of LMP RX Packets : 760
NIF Mgr to FED
---------------
Number of LMP TX Packets : 768
```

The following is sample output from the **show platform software nif-mgr switch active R0 packets** command.

```
Device# show platform software nif-mgr switch active R0 packets
NIF manager packets max 10:

Stack Link :   1
LMP
------------------------
FED->
Nif Mgr
Timestamp                      Local    Peer     Seq
                               LPN      LPN      Num
-------------------------------------------------------------
Wed Jun 20 02:20:49 2018       3        3        1050
Wed Jun 20 02:20:50 2018       3        3        1051
Wed Jun 20 02:20:41 2018       3        3        1042
Wed Jun 20 02:20:42 2018       3        3        1043
Wed Jun 20 02:20:43 2018       3        3        1044
Wed Jun 20 02:20:44 2018       3        3        1045
Wed Jun 20 02:20:45 2018       3        3        1046
Wed Jun 20 02:20:46 2018       3        3        1047
Wed Jun 20 02:20:47 2018       3        3        1048
Wed Jun 20 02:20:48 2018       3        3        1049

Nif Mgr->
FED
Timestamp              Local    Peer     Seq
                               LPN      LPN      Num
-------------------------------------------------------------
Wed Jun 20 02:20:49 2018       3        3        1050
Wed Jun 20 02:20:50 2018       3        3        1051
Wed Jun 20 02:20:41 2018       3        3        1042
Wed Jun 20 02:20:42 2018       3        3        1043
Wed Jun 20 02:20:43 2018       3        3        1044
Wed Jun 20 02:20:44 2018       3        3        1045
Wed Jun 20 02:20:45 2018       3        3        1046
Wed Jun 20 02:20:46 2018       3        3        1047
Wed Jun 20 02:20:47 2018       3        3        1048
Wed Jun 20 02:20:48 2018       3        3        1049

SDP
------------------------
Nif Mgr->
Stack Mgr
Timestamp                      Src Mac        Dst Mac        Seq Num
-----------------------------------------------------------------------------
Wed Jun 20 02:20:40 2018       40ce:2499:aa90 ffff:ffff:ffff 320
```

```
Wed Jun 20 02:20:44 2018       40ce:2499:aa90 ffff:ffff:ffff 321
Wed Jun 20 02:20:48 2018       40ce:2499:aa90 ffff:ffff:ffff 322
Wed Jun 20 02:20:12 2018       40ce:2499:aa90 ffff:ffff:ffff 313
Wed Jun 20 02:20:16 2018       40ce:2499:aa90 ffff:ffff:ffff 314
Wed Jun 20 02:20:20 2018       40ce:2499:aa90 ffff:ffff:ffff 315
Wed Jun 20 02:20:24 2018       40ce:2499:aa90 ffff:ffff:ffff 316
Wed Jun 20 02:20:28 2018       40ce:2499:aa90 ffff:ffff:ffff 317
Wed Jun 20 02:20:32 2018       40ce:2499:aa90 ffff:ffff:ffff 318
Wed Jun 20 02:20:36 2018       40ce:2499:aa90 ffff:ffff:ffff 319

Stack Mgr->
Nif Mgr
Timestamp                      Src Mac        Dst Mac        Seq Num
--------------------------------------------------------------------------
Wed Jun 20 02:20:17 2018       40ce:2499:a9d0 ffff:ffff:ffff 310
Wed Jun 20 02:20:21 2018       40ce:2499:a9d0 ffff:ffff:ffff 311
Wed Jun 20 02:20:25 2018       40ce:2499:a9d0 ffff:ffff:ffff 312
Wed Jun 20 02:20:29 2018       40ce:2499:a9d0 ffff:ffff:ffff 313
Wed Jun 20 02:20:33 2018       40ce:2499:a9d0 ffff:ffff:ffff 314
Wed Jun 20 02:20:37 2018       40ce:2499:a9d0 ffff:ffff:ffff 315
Wed Jun 20 02:20:41 2018       40ce:2499:a9d0 ffff:ffff:ffff 316
Wed Jun 20 02:20:45 2018       40ce:2499:a9d0 ffff:ffff:ffff 317
Wed Jun 20 02:20:49 2018       40ce:2499:a9d0 ffff:ffff:ffff 318
Wed Jun 20 02:20:13 2018       40ce:2499:a9d0 ffff:ffff:ffff 309
```

Related Commands

Command	Description
set platform software nif-mgr switch	Configures the per port packet cache count for an SVL interface.

show redundancy

To display redundancy facility information, use the **show redundancy** command in privileged EXEC mode

show redundancy [**clients** | **config-sync** | **counters** | **history** [**reload** | **reverse**] | **slaves**[*slave-name*] {**clients** | **counters**} | **states** | **switchover history** [**domain default**]]

Syntax Description

clients	(Optional) Displays information about the redundancy facility client.
config-sync	(Optional) Displays a configuration synchronization failure or the ignored mismatched command list (MCL).
counters	(Optional) Displays information about the redundancy facility counter.
history	(Optional) Displays a log of past status and related information for the redundancy facility.
history reload	(Optional) Displays a log of past reload information for the redundancy facility.
history reverse	(Optional) Displays a reverse log of past status and related information for the redundancy facility.
slaves	(Optional) Displays all standby switches in the redundancy facility.
slave-name	(Optional) The name of the redundancy facility standby switch to display specific information for. Enter additional keywords to display all clients or counters in the specified standby switch.
clients	Displays all redundancy facility clients in the specified secondary switch.
counters	Displays all counters in the specified standby switch.
states	(Optional) Displays information about the redundancy facility state, such as disabled, initialization, standby or active.
switchover history	(Optional) Displays information about the redundancy facility switchover history.
domain default	(Optional) Displays the default domain as the domain to display switchover history for.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

This example shows how to display information about the redundancy facility:

```
Device# show redundancy
```

```
Redundant System Information :
------------------------------
       Available system uptime = 6 days, 5 hours, 28 minutes
Switchovers system experienced = 0
              Standby failures = 0
        Last switchover reason = none

                 Hardware Mode = Duplex
    Configured Redundancy Mode = sso
     Operating Redundancy Mode = sso
              Maintenance Mode = Disabled
                Communications = Up

Current Processor Information :
-------------------------------
               Active Location = slot 5
        Current Software state = ACTIVE
       Uptime in current state = 6 days, 5 hours, 28 minutes
                 Image Version = Cisco IOS Software, Catalyst L3 Switch Software
(CAT9K_IOSXE),Experimental Version 16.x.x [S2C-build-v16x_throttle-4064-/
nobackup/mcpre/BLD-BLD_V16x_THROTTLE_LATEST 102]
Copyright (c) 1986-201x by Cisco Systems, Inc.
Compiled Mon 07-Oct-xx 03:57 by mcpre
                         BOOT = bootflash:packages.conf;
        Configuration register = 0x102

Peer Processor Information :
----------------------------
              Standby Location = slot 6
        Current Software state = STANDBY HOT
       Uptime in current state = 6 days, 5 hours, 25 minutes
                 Image Version = Cisco IOS Software, Catalyst L3 Switch Software
(CAT9K_IOSXE), Experimental Version 16.x.x [S2C-build-v16x_throttle-4064-/
nobackup/mcpre/BLD-BLD_V16x_THROTTLE_LATEST_20191007_000645 102]
Copyright (c) 1986-201x by Cisco Systems, Inc.
Compiled Mon 07-Oct-xx 03:57 by mcpre
                         BOOT = bootflash:packages.conf;
                   CONFIG_FILE =
        Configuration register = 0x102
Device#
```

This example shows how to display redundancy facility client information:

```
Device# show redundancy clients

Group ID =     1
     clientID = 29       clientSeq = 60       Redundancy Mode RF
     clientID = 139      clientSeq = 62       IfIndex
     clientID = 25       clientSeq = 71       CHKPT RF
     clientID = 10001    clientSeq = 85       QEMU Platform RF
     clientID = 77       clientSeq = 87       Event Manager
     clientID = 1340     clientSeq = 104      RP Platform RF
     clientID = 1501     clientSeq = 105      CWAN HA
     clientID = 78       clientSeq = 109      TSPTUN HA
     clientID = 305      clientSeq = 110      Multicast ISSU Consolidation RF
     clientID = 304      clientSeq = 111      IP multicast RF Client
     clientID = 22       clientSeq = 112      Network RF Client
     clientID = 88       clientSeq = 113      HSRP
     clientID = 114      clientSeq = 114      GLBP
     clientID = 225      clientSeq = 115      VRRP
     clientID = 4700     clientSeq = 118      COND_DEBUG RF
     clientID = 1341     clientSeq = 119      IOSXE DPIDX
     clientID = 1505     clientSeq = 120      IOSXE SPA TSM
     clientID = 75       clientSeq = 130      Tableid HA
```

```
     clientID = 501      clientSeq = 137      LAN-Switch VTP VLAN

<output truncated>
```

The output displays the following information:

- clientID displays the client's ID number.
- clientSeq displays the client's notification sequence number.
- Current redundancy facility state.

This example shows how to display the redundancy facility counter information:

```
Device# show redundancy counters

Redundancy Facility OMs
               comm link up = 0
             comm link down = 0

          invalid client tx = 0
          null tx by client = 0
                tx failures = 0
      tx msg length invalid = 0

      client not rxing msgs = 0
 rx peer msg routing errors = 0
           null peer msg rx = 0
         errored peer msg rx = 0

                 buffers tx = 135884
     tx buffers unavailable = 0
                 buffers rx = 135109
      buffer release errors = 0

 duplicate client registers = 0
  failed to register client = 0
       Invalid client syncs = 0

Device#
```

This example shows how to display redundancy facility history information:

```
Device# show redundancy history

00:00:04 client added: Redundancy Mode RF(29) seq=60
00:00:04 client added: IfIndex(139) seq=62
00:00:04 client added: CHKPT RF(25) seq=71
00:00:04 client added: QEMU Platform RF(10001) seq=85
00:00:04 client added: Event Manager(77) seq=87
00:00:04 client added: RP Platform RF(1340) seq=104
00:00:04 client added: CWAN HA(1501) seq=105
00:00:04 client added: Network RF Client(22) seq=112
00:00:04 client added: IOSXE SPA TSM(1505) seq=120
00:00:04 client added: LAN-Switch VTP VLAN(501) seq=137
00:00:04 client added: XDR RRP RF Client(71) seq=139
00:00:04 client added: CEF RRP RF Client(24) seq=140
00:00:04 client added: MFIB RRP RF Client(306) seq=150
00:00:04 client added: RFS RF(520) seq=163
00:00:04 client added: klib(33014) seq=167
00:00:04 client added: Config Sync RF client(5) seq=168
00:00:04 client added: NGWC FEC Rf client(10007) seq=173
00:00:04 client added: LAN-Switch Port Manager(502) seq=190
00:00:04 client added: Access Tunnel(530) seq=192
```

```
00:00:04 client added: Mac address Table Manager(519) seq=193
00:00:04 client added: DHCPC(100) seq=238
00:00:04 client added: DHCPD(101) seq=239
00:00:04 client added: SNMP RF Client(34) seq=251
00:00:04 client added: CWAN APS HA RF Client(1502) seq=252
00:00:04 client added: History RF Client(35) seq=261

<output truncated>
```

This example shows how to display information about the redundancy facility standby switches:

```
Device# show redundancy slaves

Group ID =   1
Slave/Process ID =  6107   Slave Name = [installer]
Slave/Process ID =  6109   Slave Name = [eicored]
Slave/Process ID =  6128   Slave Name = [snmp_subagent]
Slave/Process ID =  8897   Slave Name = [wcm]
Slave/Process ID =  8898   Slave Name = [table_mgr]
Slave/Process ID =  8901   Slave Name = [iosd]

Device#
```

This example shows how to display information about the redundancy facility state:

```
Device# show redundancy states

       my state = 13 -ACTIVE
     peer state = 8  -STANDBY HOT
           Mode = Duplex
           Unit = Primary
        Unit ID = 5

Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
     Maintenance Mode = Disabled
    Manual Swact = enabled
 Communications = Up

   client count = 115
 client_notification_TMR = 30000 milliseconds
           RF debug mask = 0x0

Device#
```

show redundancy config-sync

To display a configuration synchronization failure or the ignored mismatched command list (MCL), if any, use the **show redundancy config-sync** command in EXEC mode.

show redundancy config-sync {**failures** {**bem** | **mcl** | **prc**} | **ignored failures mcl**}

Syntax Description

failures	Displays MCL entries or best effort method (BEM)/Parser Return Code (PRC) failures.
bem	Displays a BEM failed command list, and forces the standby switch to reboot.
mcl	Displays commands that exist in the switch's running configuration but are not supported by the image on the standby switch, and forces the standby switch to reboot.
prc	Displays a PRC failed command list and forces the standby switch to reboot.
ignored failures mcl	Displays the ignored MCL failures.

Command Default

None

Command Modes

User EXEC

Privileged EXEC

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

Usage Guidelines

When two versions of Cisco IOS images are involved, the command sets supported by two images might differ. If any of those mismatched commands are executed on the active switch, the standby switch might not recognize those commands, which causes a configuration mismatch condition. If the syntax check for the command fails on the standby switch during a bulk synchronization, the command is moved into the MCL and the standby switch is reset. To display all the mismatched commands, use the **show redundancy config-sync failures mcl** command.

To clean the MCL, follow these steps:

1. Remove all mismatched commands from the active switch's running configuration.
2. Revalidate the MCL with a modified running configuration by using the **redundancy config-sync validate mismatched-commands** command.
3. Reload the standby switch.

Alternatively, you could ignore the MCL by following these steps:

1. Enter the **redundancy config-sync ignore mismatched-commands** command.
2. Reload the standby switch; the system transitions to SSO mode.

Note If you ignore the mismatched commands, the out-of-synchronization configuration on the active switch and the standby switch still exists.

3. You can verify the ignored MCL with the **show redundancy config-sync ignored mcl** command.

Each command sets a return code in the action function that implements the command. This return code indicates whether or not the command successfully executes. The active switch maintains the PRC after executing a command. The standby switch executes the command and sends the PRC back to the active switch. A PRC failure occurs if these two PRCs do not match. If a PRC error occurs at the standby switch either during bulk synchronization or line-by-line (LBL) synchronization, the standby switch is reset. To display all PRC failures, use the **show redundancy config-sync failures prc** command.

To display best effort method (BEM) errors, use the **show redundancy config-sync failures bem** command.

This example shows how to display the BEM failures:

```
Device> show redundancy config-sync failures bem
BEM Failed Command List
-----------------------

 The list is Empty
```

This example shows how to display the MCL failures:

```
Device> show redundancy config-sync failures mcl
Mismatched Command List
-----------------------

The list is Empty
```

This example shows how to display the PRC failures:

```
Device# show redundancy config-sync failures prc
PRC Failed Command List
-----------------------

 The list is Empty
```

show secure-stackwise-virtual

To view your Secure StackWise Virtual configuration information, use the **showsecure-stackwise-virtual** command in in privileged EXEC mode.

show secure stackwise-virtual { **authorization-key** | **interface***interface-id* | **status**

Syntax Description

authorization-key	Displays the Secure StackWise Virtual authorization key installed on the device.
interface *interface-id*	Displays the Secure StackWise Virtual interface statistics.
status	Displays the Secure StackWise Virtual status of the device.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.12.x	This command was introduced.

Example:

The following is a sample output of the **show secure-stackwise-virtual authorization key** command

```
Device# show secure-stackwise-virtual authorization-key
SECURE-SVL: Stored key (16) : FACEFACEFACEFACEFACEFACEFACEFACE
```

The following is a sample output of the **show secure-stackwise-virtual interface**command

```
Device# show secure-stackwise-virtual interface fortyGigabitEthernet 1/0/10
Secure-SVL is enabled
  Replay protect       : Strict
  Replay window      : 0
  Cipher                      : GCM-AES-XPN-128
  Session Number    : 0
  Number of Rekeys : 0

 Transmit Secure-SVL Channel
   Encrypt Pkts                       : 80245
   Cumulative Encrypt Pkts : 80245

Receive Secure-SVL Channel
   Valid Pkts                         : 80927
   Invalid Pkts                      : 0
   Delay Pkts                        : 0
   Cumulative Valid Pkts   : 80927

 Port Statistics
   Egress untag pkts    : 0
   Ingress untag pkts   : 0
   Ingress notag pkts   : 0
```

```
   Ingress badtag pkts : 0
   Ingress noSCI pkts   : 0
```

The following is the sample output of the **show secure-stackwise-virtual status** command.

```
Device# show secure-stackwise-virtual status
Switch is running in SECURE-SVL mode
```

show stackwise-virtual

To display your Cisco StackWise Virtual configuration information, use the **show stackwise-virtual** command.

show stackwise-virtual { [**switch** [*switch number <1-2>*] {**link** | **bandwidth** | **neighbors** | **dual-active-detection**} }

Syntax Description

switch *number*	(Optional) Displays information of a particular switch in the stack.
link	Displays Stackwise Virtual link information.
bandwidth	Displays bandwidth availability for StackWise Virtual.
neighbors	Displays Stackwise Virtual neighbors.
dual-active-detection	Displays Stackwise-Virtual dual-active-detection information.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following is a sample output from the **show stackwise-virtual** command:

```
Device#  show stackwise-virtual

Stackwise Virtual: <Enabled/Disabled>
Domain Number:     <Domain Number>
Switch    Stackwise Virtual Link     Ports
-------- -------------------------- --------------------------
1           1                        Tengigabitethernet1/0/4
            2                        Tengigabitethernet1/0/5
2           1                        Tengigabitethernet2/0/4
            2                        Tengigabitethernet2/0/5
```

The following is a sample output from the **show stackwise-virtual link** command:

```
Device# show stackwise-virtual link

Stackwise Virtual Link (SVL) Information:
-------------------------------------------------
Flags:
```

```
------
Link Status
--------------
U-Up D-Down
Protocol Status
------------------
S-Suspended P-Pending E-Error T-Timeout R-Ready
-----------------------------------------------------------------
Switch   SVL      Ports                          Link-Status      Protocol-Status
------   ---      -----                          -----------      ---------------
1        1        FortyGigabitEthernet1/1/1       U                R
2        1        FortyGigabitEthernet2/1/1       U                R
```

The following is a sample output from the **show stackwise-virtual bandwidth** command:

```
Device# show stackwise-virtual bandwidth

Switch  Bandwidth

1             160
2       160
```

The following is a sample output from the **show stackwise-virtual neighbors** command:

```
Device#show stackwise-virtual neighbors

Switch Number           Local Interface              Remote Interface

1                       Tengigabitethernet1/0/1  Tengigabitethernet2/0/1
                   Tengigabitethernet1/0/2  Tengigabitethernet2/0/2
2                  Tengigabitethernet2/0/1  Tengigabitethernet1/0/1
                   Tengigabitethernet2/0/2  Tengigabitethernet2/0/2
```

The following is a sample output from the **show stackwise-virtual dual-active-detection** command:

```
Device#show stackwise-virtual dual-active-detection

Stackwise Virtual Dual-Active-Detection (DAD) Configuration:
Switch Number       Dual-Active-Detection Interface

1                   Tengigabitethernet1/0/10
                    Tengigabitethernet1/0/11
2                   Tengigabitethernet2/0/12
                    Tengigabitethernet2/0/13

Stackwise Virtual Dual-Active-Detection (DAD) Configuration After Reboot:
Switch Number       Dual-Active-Detection Interface

1                   Tengigabitethernet1/0/10
                    Tengigabitethernet1/0/11
2                   Tengigabitethernet2/0/12
                    Tengigabitethernet2/0/13
```

show tech-support stack

To display all switch stack-related information for use by technical support, use the **show tech-support stack** command in privileged EXEC mode.

show tech-support stack

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Gibraltar 16.10.1	This command was introduced.
Cisco IOS XE Gibraltar 16.12.1	The output for this command was enhanced to include more stack-related information.

Usage Guidelines

The **show tech-support stack** command captures the snapshot of stacking states and information for debug issues. Use this command, when stacking issues (such as stack cable issue, silent reload, switch not coming to ready state, stack crash, and so on) occur.

The output of the **show tech-support stack** command is very long. To better manage this output, you can redirect the output to a file (for example, **show tech-support stack | redirect flash:***filename*) in the local writable storage file system or remote file system.

The output of the **show tech stack** command displays the output of the following commands:

The following commands are only available on stacked switches in ready state

- **show platform software stack-mgr switch**
- **show platform software sif switch**
- **show platform hardware fed switch**
- **dir crashinfo:**
- **dir flash:/core**

Cisco Catalyst 9500 Series Switches with Stackwise Virtual Link

- **show clock**
- **show version**
- **show running-config**

The following commands are only available on non-stackable switches in ready state:

- **show redundancy switchover history**
- **show platform software fed switch active**
- **show platform software fed switch standby**
- **show stackwise-virtual bandwidth**

- **show stackwise-virtual dual-active-detection**
- **show stackwise-virtual link**
- **show stackwise-virtual neighbors**
- **dir crashinfo:**
- **dir flash:/core**

The following is sample output from the **show tech-support stack** command:

```
Device# show tech-support stack

.
.
.

------------------ show stackwise-virtual bandwidth ------------------

Switch  Bandwidth
------  ---------
1        400G
2        400G


------------------ show stackwise-virtual dual-active-detection ------------------

In dual-active recovery mode: No
Recovery Reload: Enabled

Dual-Active-Detection Configuration:
------------------------------------
Switch  Dad port                      Status
------  ------------                  ---------


------------------ show stackwise-virtual dual-active-detection pagp ------------------

Pagp dual-active detection enabled: No
In dual-active recovery mode: No
Recovery Reload: Enabled


No PAgP channel groups configured

------------------ show stackwise-virtual link ------------------

Stackwise Virtual Link(SVL) Information:
----------------------------------------
Flags:
------
Link Status
-----------
U-Up D-Down
Protocol Status
---------------
S-Suspended P-Pending E-Error T-Timeout R-Ready
-----------------------------------------------
Switch  SVL     Ports                         Link-Status     Protocol-Status
------  ---     -----                         -----------     ---------------
1       1       HundredGigE1/0/45             D               R
                HundredGigE1/0/46             D               R
```

```
                HundredGigE1/0/47               D               R
                HundredGigE1/0/48               D               R
2       1       HundredGigE2/0/45               D               R
                HundredGigE2/0/46               D               R
                HundredGigE2/0/47               D               R
                HundredGigE2/0/48               D               R


------------------ show stackwise-virtual link detail ------------------


------------------ show stackwise-virtual neighbors ------------------

Stackwise Virtual Link(SVL) Neighbors Information:
-------------------------------------------------
Switch  SVL     Local Port                      Remote Port
------  ---     ----------                      -----------
1       1       HundredGigE1/0/45               HundredGigE2/0/45
                HundredGigE1/0/46               HundredGigE2/0/46
                HundredGigE1/0/47               HundredGigE2/0/47
                HundredGigE1/0/48               HundredGigE2/0/48
2       1       HundredGigE2/0/45               HundredGigE1/0/45
                HundredGigE2/0/46               HundredGigE1/0/46
                HundredGigE2/0/47               HundredGigE1/0/47
                HundredGigE2/0/48               HundredGigE1/0/48


------------------ dir crashinfo-1: ------------------


------------------ dir flash-1:/core ------------------


------------------ dir crashinfo: ------------------


Directory of crashinfo:/

15778  -rw-              337   Dec 9 2018 09:29:47 +00:00  shutdown_fp0.log
15779  -rw-              336   Dec 9 2018 09:29:48 +00:00  shutdown_cc1.log
15780  -rw-             3675   Dec 9 2018 09:29:50 +00:00  shutdown_rp0.log
15781  drwx           147456  Jun 27 2019 18:21:13 +00:00  tracelogs
15910  drwx             8192  Jun 24 2019 08:58:06 +00:00  license_evlog
15872  -rw-          6769749  Dec 10 2018 07:12:56 +00:00
PROM2_1_RP_0_trace_archive_0-20181210-071255.tar.gz
16367  -rw-          3312204  Dec 16 2018 13:34:55 +00:00
PROM2_1_RP_0_trace_archive_0-20181216-133455.tar.gz
16392  -rw-          9858028  Dec 17 2018 03:36:07 +00:00
PROM2_1_RP_0_trace_archive_0-20181217-033605.tar.gz
16506  -rw-         10925702  Dec 17 2018 03:55:51 +00:00
PROM2_1_RP_0_trace_archive_0-20181217-035549.tar.gz
15804  -rw-         36415970  Dec 17 2018 03:56:45 +00:00
system-report_RP_0_20181217-035641-UTC.tar.gz
15951  -rw-          9769982   Jan 2 2019 10:32:42 +00:00
PROM2_1_RP_0_trace_archive_0-20190102-103239.tar.gz
16266  -rw-          2789185  Jan 27 2019 09:16:00 +00:00
PROM2_trace_archive_0-20190127-091559.tar.gz
15913  -rw-          2817836  Jan 27 2019 09:16:01 +00:00
SV_PROM2_20190127-091600-20190127-091600.tar.gz
15892  -rw-          4226737  Jan 29 2019 09:21:35 +00:00
PROM2_trace_archive_0-20190129-092134.tar.gz
```

```
15908  -rw-          4278342  Jan 29 2019 09:21:36 +00:00
SV_PROM2_1_RP_0_20190129-092135-20190129-092135.tar.gz
16147  -rw-          2749781   Feb 9 2019 07:40:30 +00:00
PROM2_trace_archive_0-20190209-074029.tar.gz
16174  -rw-          2758048   Feb 9 2019 07:40:30 +00:00
SV_PROM2_1_RP_0_20190209-074030-20190209-074030.tar.gz
16255  -rw-          7587256   Feb 9 2019 07:54:30 +00:00
PROM2_trace_archive_0-20190209-075428.tar.gz
16111  -rw-          4138377  Feb 12 2019 14:49:27 +00:00
PROM2_trace_archive_0-20190212-144926.tar.gz
16289  -rw-          4163980  Feb 12 2019 14:49:28 +00:00
SV_PROM2_20190212-144927-20190212-144927.tar.gz
16408  -rw-         11192891  Feb 16 2019 03:46:34 +00:00
PROM2_trace_archive_0-20190216-034631.tar.gz
16532  -rw-         10775214  Feb 17 2019 08:26:00 +00:00
PROM2_trace_archive_0-20190217-082558.tar.gz
16724  -rw-          8511058  Feb 20 2019 07:16:24 +00:00
prom_trace_archive_0-20190220-071622.tar.gz
16142  -rw-          9272613  Feb 20 2019 07:59:18 +00:00
prom_trace_archive_0-20190220-075916.tar.gz
16487  -rw-          9489722  Feb 20 2019 08:17:15 +00:00
prom_1_RP_0_trace_archive_1-20190220-081712.tar.gz
15938  -rw-          8269605  Feb 21 2019 08:25:01 +00:00
prom_trace_archive_0-20190221-082459.tar.gz
16365  -rw-          8770811  Feb 23 2019 05:34:39 +00:00
prom_trace_archive_0-20190223-053437.tar.gz
16511  -rw-         11781087  Feb 23 2019 08:02:23 +00:00
prom_trace_archive_0-20190223-080219.tar.gz
16478  -rw-         12131870  Feb 23 2019 09:52:20 +00:00
prom_1_RP_0_trace_archive_1-20190223-095217.tar.gz
16518  -rw-          8884135  Feb 25 2019 04:54:49 +00:00
prom_trace_archive_0-20190225-045447.tar.gz
16015  -rw-          9323140  Feb 25 2019 05:20:51 +00:00
prom_trace_archive_0-20190225-052049.tar.gz
15827  -rw-         10669814  Feb 25 2019 06:19:23 +00:00
prom_1_RP_0_trace_archive_0-20190225-061920.tar.gz
16618  -rw-         11593370  Feb 26 2019 05:46:57 +00:00
prom_1_RP_0_trace_archive_0-20190226-054653.tar.gz
16566  -rw-          9183975  Feb 26 2019 09:06:15 +00:00
prom_trace_archive_0-20190226-090612.tar.gz
16101  -rw-         10331235  Feb 26 2019 09:33:31 +00:00
prom_trace_archive_0-20190226-093328.tar.gz
16583  -rw-         10877332  Feb 26 2019 15:06:11 +00:00
prom_trace_archive_0-20190226-150608.tar.gz
157761  -rw-         11572215  Feb 27 2019 04:25:32 +00:00
prom_trace_archive_0-20190227-042529.tar.gz
16597  -rw-         10179574   Mar 3 2019 09:53:09 +00:00
prom_trace_archive_0-20190303-095307.tar.gz
16411  -rw-         13563488   Mar 4 2019 09:25:11 +00:00
prom_trace_archive_0-20190304-092506.tar.gz
16206  -rw-         12814910   Mar 4 2019 10:35:28 +00:00
prom_trace_archive_0-20190304-103523.tar.gz
17008  -rw-         13367417   Mar 4 2019 14:48:42 +00:00
prom_1_RP_0_trace_archive_1-20190304-144838.tar.gz
16040  -rw-         13241640   Mar 4 2019 15:17:11 +00:00
prom_trace_archive_0-20190304-151706.tar.gz
157762  -rw-         13371247   Mar 4 2019 15:20:11 +00:00
SV_prom_1_RP_0_20190304-152007-20190304-152007.tar.gz
16450  -rw-         13382489   Mar 5 2019 05:57:08 +00:00
prom_trace_archive_0-20190305-055703.tar.gz
157763  -rw-         11658032   Mar 9 2019 11:03:00 +00:00
prom_trace_archive_0-20190309-110257.tar.gz
16679  -rw-         11492610  Mar 11 2019 08:53:16 +00:00
prom_trace_archive_0-20190311-085313.tar.gz
```

```
17015  -rw-         10077961  Mar 13 2019 05:17:33 +00:00
prom_trace_archive_0-20190313-051731.tar.gz
16004  -rw-          2408001  Mar 27 2019 11:50:31 +00:00
prom_1_RP_0_trace_archive_0-20190327-172031.tar.gz
16012  -rw-          2452283  Mar 27 2019 11:50:32 +00:00
SV_prom_20190327-172031-20190327-172031.tar.gz
16341  -rw-          2562092  Mar 27 2019 14:44:59 +00:00
prom_1_RP_0_trace_archive_1-20190327-201458.tar.gz
16332  -rw-          8298681  Mar 27 2019 17:16:51 +00:00
prom_1_RP_0_trace_archive_0-20190327-224649.tar.gz
16496  -rw-          9432359  Mar 27 2019 18:19:50 +00:00
prom_1_RP_0_trace_archive_0-20190327-234947.tar.gz
16664  -rw-          8910820  Mar 28 2019 15:58:12 +00:00
prom_1_RP_0_trace_archive_1-20190328-212810.tar.gz
16035  -rw-          8578186  Mar 29 2019 08:00:27 +00:00
prom_1_RP_0_trace_archive_0-20190329-133025.tar.gz
16312  -rw-          8735806  Mar 29 2019 08:30:39 +00:00
prom_1_RP_0_trace_archive_1-20190329-140037.tar.gz
15891  -rw-          9944637   Apr 4 2019 09:05:31 +00:00
prom_1_RP_0_trace_archive_0-20190404-143528.tar.gz
157764  -rw-          9969565   Apr 4 2019 09:05:36 +00:00
SV_prom_1_RP_0_20190404-143533-20190404-143533.tar.gz
15782  -rw-          9507820   Apr 4 2019 09:05:56 +00:00
system-report_RP_0_20190404-143553-IST.tar.gz
15790  -rw-           563542   Apr 4 2019 09:06:01 +00:00
SV_prom_1_RP_0_20190404-143600-20190404-143600.tar.gz
16131  -rw-         11331090  Apr 23 2019 14:43:24 +00:00
prom_trace_archive_0-20190423-201322.tar.gz
16524  -rw-         11230265  Apr 23 2019 14:49:24 +00:00
prom_1_RP_0_trace_archive_1-20190423-201921.tar.gz
16272  -rw-         11417387  Apr 23 2019 14:55:27 +00:00
SV_prom_1_RP_0_20190423-202524-20190423-202524.tar.gz
15901  -rw-         11435393  Apr 23 2019 14:56:03 +00:00
prom_1_RP_0_trace_archive_2-20190423-202600.tar.gz
16118  -rw-         11337603  Apr 23 2019 15:01:59 +00:00
SV_prom_1_RP_0_20190423-203157-20190423-203157.tar.gz

.
.
.
```

The output fields are self-explanatory.

stackwise-virtual

To enable Cisco StackWise Virtual on a switch, use the **stackwise-virtual** command in the global configuration mode. To disable Cisco StackWise Virtual, use the **no** form of this command.

stackwise-virtual
no stackwise-virtual

Syntax Description

stackwise-virtual	Enables Cisco StackWise Virtual.

Command Default

Disabled.

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Usage Guidelines

After disabling Cisco StackWise Virtual, the switches must be reloaded to unstack them.

Example

The following example shows how to enable Cisco StackWise Virtual :

```
Device(config)# stackwise-virtual
```

stackwise-virtual dual-active-detection

To configure an interface as dual-active-detection link, use the **stackwise-virtual dual-active-detection** command in the interface configuration mode. To disassociate the interface, use the **no** form of the command.

stackwise-virtual dual-active-detection
no stackwise-virtual dual-active-detection

Syntax Description

stackwise-virtual dual-active-detection	Enables Cisco StackWise Virtual dual-active-detection for the specified interface.

Command Default

Disabled.

Command Modes

Interface configuration (config-if)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following example shows how to configure a 10 Gigabit Ethernet interface as Dual-Active-Detection link:

```
Device(config)# interface TenGigabitEthernet1/0/2
(config-if)#stackwise-virtual dual-active-detection
```

stackwise-virtual link

To associate an interface with configured StackWise Virtual link, use the **stackwise-virtual link** command in the interface configuration mode. To disassociate the interface, use the **no** form of the command.

stackwise-virtual link *link-value*
no stackwise-virtual link *link-value*

Syntax Description

stackwise-virtual link	Associates a interface to StackWise Virtual link.
link value	Domain ID configured for Cisco StackWise Virtual.

Command Default

Disabled.

Command Modes

Interface configuration (config-if).

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

This example shows how to associate a 40 Gigabit Ethernet interface with configured Stackwise Virtual Link (SVL):

```
Device(config)# interface FortyGigabitEthernet1/1/1
Device(config-if)#stackwise-virtual link 1
```

standby console enable

To enable access to the standby console switch, use the **standby console enable** command in redundancy main configuration submode. To disable access to the standby console switch, use the **no** form of this command.

standby console enable
no standby console enable

Syntax Description

This command has no arguments or keywords.

Command Default

Access to the standby console switch is disabled.

Command Modes

Redundancy main configuration submode

Command History

Release	Modification
Cisco IOS XE Everest 16.5.1a	This command was introduced.

Usage Guidelines

This command is used to collect and review specific data about the standby console. The command is useful primarily for Cisco technical support representatives troubleshooting the switch.

This example shows how to enter the redundancy main configuration submode and enable access to the standby console switch:

```
Device(config)# redundancy
Device(config-red)# main-cpu
Device(config-r-mc)# standby console enable
Device(config-r-mc)#
```

start maintenance

To put the system into maintenance mode, use the **start maintenance** command in the privileged EXEC mode.

start maintenance

Syntax Description		
	start maintenance	Puts the system into maintenance mode.

Command Default Disabled.

Command Modes Privileged EXEC

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following example shows how to start maintenance mode:

```
Device# start maintenance
```

stop maintenance

To put the system out of maintenance mode, use the **stop maintenance** command in the privileged EXEC mode.

stop maintenance

Command Default Disabled.

Command Modes Privileged EXEC

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following example shows how to stop maintenance mode:

```
Device# stop maintenance
```

svl l2bum optimization

To enable Layer 2 Broadcast, Unicast, Muticast (BUM) traffiic optimization on a StackWise Virtual link, use the **svl l2bum optimization** command in the global configuration mode.

To disable the Layer 2 BUM traffic optimization, use the **no** form of this command.

svl l2bum optimization
no svl l2bum optimization

Syntax Description

svl l2bum optimization	Enables Layer 2 BUM traffiic optimization on StackWise Virtual link.

Command Default

Enabled

Command Modes

Global Configuration (config) #

Command History

Release	Modification
Cisco IOS XE Amsterdam 17.2.x	This command was introduced.

Example:

The following example shows how to enable Layer 2 BUM traffic optimization on a StackWise Virtual link:

```
Device(config)# svl l2bum optimization
```

system mode maintenance

To enter the system mode maintenance configuration mode, use the **system mode maintenance**command in the global configuration mode.

system mode maintenance

Syntax Description

system mode maintenance	Enters the maintenance configuration mode.

Command Default

Disabled.

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Everest 16.6.1	This command was introduced.

Example:

The following example shows how to enter the maintenance configuration mode:

```
Device(config)# system mode maintenance
Device(config-maintenance)#
```