



Stack Manager and High Availability

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debug platform stack-manager

To enable debugging of the stack manager software, use the **debug platform stack-manager** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug platform stack-manager {all | rpc | sdp | sim | ssm | trace}
```

```
no debug platform stack-manager {all | rpc | sdp | sim | ssm | trace}
```

Syntax Description

all	Displays all stack manager debug messages.
rpc	Displays stack manager remote procedure call (RPC) usage debug messages.
sdp	Displays the Stack Discovery Protocol (SDP) debug messages.
sim	Displays the stack information module debug messages.
ssm	Displays the stack state-machine debug messages.
trace	Traces the stack manager entry and exit debug messages.

Command Default

Debugging is disabled.

Command Modes

Privileged EXEC

Command History

Release	Modification
Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines

This command is supported only on stacking-capable switches.

The **undebug platform stack-manager** command is the same as the **no debug platform stack-manager** command.

When you enable debugging on a switch stack, it is enabled only on the active switch. To enable debugging on a stack member, you can start a session from the active switch by using the **session** *switch-number* EXEC command. Enter the **debug** command at the command-line prompt of the stack member. You also can use the **remote command** *stack-member-number* *LINE* EXEC command on the active switch to enable debugging on a member switch without first starting a session.

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 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines	The mode sso command can be entered only from within redundancy configuration mode.
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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) #
```

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 3.3SE	Cisco IOS XE 3.3SE 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 #
```

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 3.3SE Cisco IOS XE 3.3SE 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
```

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 3.3SE	Cisco IOS XE 3.3SE 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 3.3SE Cisco IOS XE 3.3SE 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 config-sync mismatched-commands

To allow the standby switch to join the stack if a configuration mismatch occurs between the active and standby switches, use the **redundancy config-sync mismatched-commands** command in privileged EXEC mode.

redundancy config-sync {ignore | validate} mismatched-commands

Syntax Description	
ignore	Ignores the mismatched command list.
validate	Revalidates the mismatched command list with the modified running-configuration.

Command Default None

Command Modes Privileged EXEC

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines If the command syntax check in the running configuration of the active switch fails while the standby switch is booting, use the **redundancy config-sync mismatched-commands** command to display the Mismatched Command List (MCL) on the active switch and to reboot the standby switch.

The following is a log entry example for mismatched commands:

```
00:06:31: Config Sync: Bulk-sync failure due to Servicing Incompatibility. Please check
full list of mismatched commands via:
show redundancy config-sync failures mcl
00:06:31: Config Sync: Starting lines from MCL file:
interface GigabitEthernet7/7
! <submode> "interface"
- ip address 192.0.2.0 255.255.255.0
! </submode> "interface"
```

To display all 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 running configuration of the active switch.
2. Revalidate the MCL with a modified running configuration by using the **redundancy config-sync validate mismatched-commands** command.
3. Reload the standby switch.

You can ignore the MCL by doing the following:

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



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

3. Verify the ignored MCL with the **show redundancy config-sync ignored mcl** command.

If SSO mode cannot be established between the active and standby switches because of an incompatibility in the configuration file, a mismatched command list (MCL) is generated at the active switch and a reload into route processor redundancy (RPR) mode is forced for the standby switch.

This example shows how to revalidate the mismatched command list with the modified configuration:

```
Device# redundancy config-sync validate mismatched-commands  
Device#
```

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 3.3SE	Cisco IOS XE 3.3SE 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) #
```

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 on a switch stack.

redundancy force-switchover

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Privileged EXEC
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Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE 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 image, and the modules are reset to their default settings.

The old active switch reboots with the new image and joins the stack.

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#
```

redundancy reload

To force a reload of one or all of the switches in the stack, use the **redundancy reload** command in privileged EXEC mode.

redundancy reload {peer | shelf}

Syntax Description	
peer	Reloads the peer unit.
shelf	Reboots all switches in the stack.

Command Default	
	None

Command Modes	
	Privileged EXEC

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines	
	Before using this command, see the “Performing a Software Upgrade” section of the <i>Stacking Configuration Guide (Catalyst 3650 Switches)</i> for additional information.

Use the **redundancy reload shelf** command to reboot all the switches in the stack.

This example shows how to manually reload all switches in the stack:

```
Device# redundancy reload shelf
Device#
```

reload

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

reload [{/noverify | /verify}] [{LINE | at | cancel | in | slot *stack-member-number* | standby-cpu}]

Syntax Description		
/noverify	(Optional)	Specifies to not verify the file signature before the reload.
/verify	(Optional)	Verifies the file signature before the reload.
LINE	(Optional)	Reason for the reload.
at	(Optional)	Specifies the time in hh:mm for the reload to occur.
cancel	(Optional)	Cancels the pending reload.
in	(Optional)	Specifies a time interval for reloads to occur.
slot	(Optional)	Saves the changes on the specified stack member and then restarts it.
<i>stack-member-number</i>		
standby-cpu	(Optional)	Reloads the standby route processor (RP).

Command Default Immediately reloads the stack member and puts a configuration change into effect.

Command Modes Privileged EXEC

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines If there is more than one switch in the switch stack, and you enter the **reload slot *stack-member-number*** command, you are not prompted to save the configuration.

Examples

This example shows how to reload the switch stack:

```
Device# reload
System configuration has been modified. Save? [yes/no]: yes
Reload command is being issued on Active unit, this will reload the whole stack
Proceed with reload? [confirm] yes
```

This example shows how to reload a specific stack member:

```
Device# reload slot 6
Proceed with reload? [confirm] y
```

This example shows how to reload a single-switch switch stack (there is only one member switch):

```
Device# reload slot 3
System configuration has been modified. Save? [yes/no]: y
Proceed to reload the whole Stack? [confirm] y
```

reload

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

reload [{/noverify | /verify}] [{LINE | at | cancel | in | slot *stack-member-number* | standby-cpu}]

Syntax Description		
/noverify	(Optional)	Specifies to not verify the file signature before the reload.
/verify	(Optional)	Verifies the file signature before the reload.
LINE	(Optional)	Reason for the reload.
at	(Optional)	Specifies the time in hh:mm for the reload to occur.
cancel	(Optional)	Cancels the pending reload.
in	(Optional)	Specifies a time interval for reloads to occur.
slot	(Optional)	Saves the changes on the specified stack member and then restarts it.
		<i>stack-member-number</i>
standby-cpu	(Optional)	Reloads the standby route processor (RP).

Command Default Immediately reloads the stack member and puts a configuration change into effect.

Command Modes Privileged EXEC

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines If there is more than one switch in the switch stack, and you enter the **reload slot *stack-member-number*** command, you are not prompted to save the configuration.

Examples

This example shows how to reload the switch stack:

```
Device# reload
System configuration has been modified. Save? [yes/no]: yes
Reload command is being issued on Active unit, this will reload the whole stack
Proceed with reload? [confirm] yes
```

This example shows how to reload a specific stack member:

```
Device# reload slot 6
Proceed with reload? [confirm] y
```

This example shows how to reload a single-switch switch stack (there is only one member switch):

```
Device# reload slot 3
System configuration has been modified. Save? [yes/no]: y
Proceed to reload the whole Stack? [confirm] y
```


session

To access a specific stack member, use the **session** command in privileged EXEC mode on the active stack.

session *stack-member-number*

Syntax Description	<i>stack-member-number</i>	Stack member number to access from the active switch.
---------------------------	----------------------------	---

Command Default	None
------------------------	------

Command Modes	Privileged EXEC
----------------------	-----------------

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE

Usage Guidelines

When you access the member, its member number is appended to the system prompt.

Use the **session** command from the active switch to access a member.

Use the **session** command with **processor 1** from the active or a standalone switch to access the internal controller. A standalone device is always member 1.

Examples

This example shows how to access stack member 3:

```
Device# session 3
Device-3#
```

session

To access a specific stack member, use the **session** command in privileged EXEC mode on the active stack.

session *stack-member-number*

Syntax Description

stack-member-number Stack member number to access from the active switch.

Command Default

None

Command Modes

Privileged EXEC

Command History

Release	Modification
Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines

When you access the member, its member number is appended to the system prompt.

Use the **session** command from the active switch to access a member.

Use the **session** command with **processor 1** from the active or a standalone switch to access the internal controller. A standalone device is always member 1.

Examples

This example shows how to access stack member 3:

```
Device# session 3
Device-3#
```

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 { <i>switch-number</i> active standby }	Specifies information about the switch. You have the following options:	<ul style="list-style-type: none"> • <i>switch-number</i>. • 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.	
F1 active	Specifies information about the active Embedded Service Processor.	
fss pak-cache <i>count</i>	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 16.11.1	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 16.11.1	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 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 { <i>switch-number</i> active standby }	Displays information about the switch. You have the following options: <ul style="list-style-type: none"> • <i>switch-number</i>. • active —Displays information relating to the active switch. • standby—Displays information relating to the standby switch, if available. <p>Note This keyword is not supported.</p>
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 { <i>interface-type interface-number</i> } 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 { <i>interface-type interface-number</i> } 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 16.11.1	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 an output example 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 an output example 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 an output example 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  |                                     TX  |
-----                                     -----
1493                                4988                                4988
      RX                                RX

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

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

The following is an output example 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 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}
R0 counters {slots slot-number } {port port-number } packets {slots slot-number } {port port-number
} {switch-info}
```

Syntax Description

switch { <i>switch-number</i> active standby }	Displays information about the switch. You have the following options: <ul style="list-style-type: none"> • <i>switch-number</i>. • active—Displays information relating to the active switch. • standby—Displays information relating to the standby switch, if available. <p>Note This keyword is not supported.</p>
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 <i>lpn-index</i>	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 <i>lpn-index</i> .
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 an output example 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 an output example from the **show platform software nif-mgr switch active R0 counters lpn lpn-index** command.

```
Device# Switch#sh 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 an output example 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 LPN	Peer LPN	Seq 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 LPN	Peer LPN	Seq 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 platform stack-manager

To display platform-dependent switch-stack information, use the **show platform stack-manager** command in privileged EXEC mode.

show platform stack-manager {**oir-states** | **sdp-counters** | **sif-counters**} **switch** *stack-member-number*

Syntax Description		
oir-states		Displays Online Insertion and Removal (OIR) state information
sdp-counters		Displays Stack Discovery Protocol (SDP) counter information.
sif-counters		Displays Stack Interface (SIF) counter information.
switch <i>stack-member-number</i>		Specifies the stack member for which to display stack-manager information.

Command Default None

Command Modes Privileged EXEC

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines Use the **show platform stack-manager** command to collect data and statistics for the switch stack.

Use this command only when you are working directly with your technical support representative while troubleshooting a problem. Do not use this command unless your technical support representative asks you to do so.

show platform stack-manager

To display platform-dependent switch-stack information, use the **show platform stack-manager** command in privileged EXEC mode.

show platform stack-manager {**oir-states** | **sdp-counters** | **sif-counters**} **switch** *stack-member-number*

Syntax Description	Parameter	Description
	oir-states	Displays Online Insertion and Removal (OIR) state information
	sdp-counters	Displays Stack Discovery Protocol (SDP) counter information.
	sif-counters	Displays Stack Interface (SIF) counter information.
	switch <i>stack-member-number</i>	Specifies the stack member for which to display stack-manager information.

Command Default None

Command Modes Privileged EXEC

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines Use the **show platform stack-manager** command to collect data and statistics for the switch stack. Use this command only when you are working directly with your technical support representative while troubleshooting a problem. Do not use this command unless your technical support representative asks you to do so.

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 3.3SE	Cisco IOS XE 3.3SE 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 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. For more information, see show redundancy config-sync, on page 30 .
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 subordinates in the redundancy facility.
<i>slave-name</i>	(Optional) The name of the redundancy facility subordinate to display specific information for. Enter additional keywords to display all clients or counters in the specified subordinate.
clients	Displays all redundancy facility clients in the specified subordinates.
counters	Displays all counters in the specified subordinate.
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 3.3SE	Cisco IOS XE 3.3SE 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, 9 hours, 23 minutes
Switchovers system experienced = 0
    Standby failures = 0
    Last switchover reason = not known

    Hardware Mode = Simplex
Configured Redundancy Mode = SSO
Operating Redundancy Mode = SSO
Maintenance Mode = Disabled
Communications = Down      Reason: Simplex mode

Current Processor Information :
-----
    Active Location = slot 1
    Current Software state = ACTIVE
    Uptime in current state = 6 days, 9 hours, 23 minutes
    Image Version = Cisco IOS Software, IOS-XE Software, Catalyst 3
850 L3 Switch Software (CAT3850-UNIVERSALK9-M), Version 03.08.59.EMD EARLY DEPLO
YMENT ENGINEERING NOVA_WEEKLY BUILD, synced to DSGS_PI2_POSTPC_FLO_DSBU7_NG3K_11
05
Copyright (c) 1986-2012 by Cisco Systems, Inc.
Compiled Sun 16-S
    Configuration register = 0x102

Peer (slot: 0) information is not available because it is in 'DISABLED' state
Device#

```

This example shows how to display redundancy facility client information:

```

Device# show redundancy clients
Group ID = 1
  clientID = 20002   clientSeq = 4   EICORE HA Client
  clientID = 24100   clientSeq = 5   WCM_CAPWAP
  clientID = 24101   clientSeq = 6   WCM_RRM HA
  clientID = 24103   clientSeq = 8   WCM_QOS HA
  clientID = 24105   clientSeq = 10  WCM_MOBILITY
  clientID = 24106   clientSeq = 11  WCM_DOT1X
  clientID = 24107   clientSeq = 12  WCM_APFROGUE
  clientID = 24110   clientSeq = 15  WCM_CIDS
  clientID = 24111   clientSeq = 16  WCM_NETFLOW
  clientID = 24112   clientSeq = 17  WCM_MCAST
  clientID = 24120   clientSeq = 18  wcm_comet
  clientID = 24001   clientSeq = 21  Table Manager Client
  clientID = 20010   clientSeq = 24  SNMP SA HA Client
  clientID = 20007   clientSeq = 27  Installer HA Client
  clientID = 29      clientSeq = 60  Redundancy Mode RF
  clientID = 139     clientSeq = 61  IfIndex
  clientID = 3300    clientSeq = 62  Persistent Variable
  clientID = 25      clientSeq = 68  CHKPT RF
  clientID = 20005   clientSeq = 74  IIF-shim
  clientID = 10001   clientSeq = 82  QEMU Platform RF

```

<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 = 0
      tx buffers unavailable = 0
      buffers rx = 0
      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
00:00:00 *my state = INITIALIZATION(2) peer state = DISABLED(1)
00:00:00 RF_EVENT_INITIALIZATION(524) op=0 rc=0
00:00:00 *my state = NEGOTIATION(3) peer state = DISABLED(1)
00:00:01 client added: Table Manager Client(24001) seq=21
00:00:01 client added: SNMP SA HA Client(20010) seq=24
00:00:06 client added: WCM_CAPWAP(24100) seq=5
00:00:06 client added: WCM QOS HA(24103) seq=8
00:00:07 client added: WCM_DOT1X(24106) seq=11
00:00:07 client added: EICORE HA Client(20002) seq=4
00:00:09 client added: WCM_MOBILITY(24105) seq=10
00:00:09 client added: WCM_NETFLOW(24111) seq=16
00:00:09 client added: WCM_APPFROGUE(24107) seq=12
00:00:09 client added: WCM RRM HA(24101) seq=6
00:00:09 client added: WCM_MCAST(24112) seq=17
00:00:09 client added: WCM_CIDS(24110) seq=15
00:00:09 client added: wcm_comet(24120) seq=18
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) First Slave(0) op=0 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) Slave(6107) op=0 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) Slave(6109) op=0 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) Slave(6128) op=0 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) Slave(8897) op=0 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) Slave(8898) op=0 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) Slave(8901) op=0 rc=0
00:00:22 RF_EVENT_SLAVE_STATUS_DONE(523) First Slave(0) op=405 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) Redundancy Mode RF(29) op=0 rc=0
00:00:22 RF_STATUS_REDUNDANCY_MODE_CHANGE(405) IfIndex(139) op=0 rc=0

<output truncated>
```

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

```
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 = 1 -DISABLED
Mode = Simplex
Unit ID = 1

Redundancy Mode (Operational) = SSO
Redundancy Mode (Configured) = SSO
Redundancy State = Non Redundant
Manual Swact = disabled (system is simplex (no peer unit))

Communications = Down Reason: Simplex mode

client count = 75
client_notification_TMR = 360000 milliseconds
keep_alive TMR = 9000 milliseconds
keep_alive count = 0
keep_alive threshold = 18
RF debug mask = 0

Device#
```

show switch

To display information that is related to the stack member or the switch stack, use the **show switch** command in EXEC mode.

```
show switch [{stack-member-number} | detail | neighbors | stack-ports [{summary}]]
```

Syntax Description	
<i>stack-member-number</i>	(Optional) Number of the stack member. The range is 1 to 9.
detail	(Optional) Displays detailed information about the stack ring.
neighbors	(Optional) Displays the neighbors of the entire switch stack.
stack-ports	(Optional) Displays port information for the entire switch stack.
summary	(Optional) Displays the stack cable length, the stack link status, and the loopback status.

Command Default None

Command Modes User EXEC (>)
Privileged EXEC (#)

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines This command displays these states:

- **Initializing**—A switch has been just added to the stack and it has not completed the basic initialization to go to the ready state.
- **HA Sync in Progress**—After the standby is elected, the corresponding switch remains in this state until the synchronization is completed.
- **Syncing**—A switch that is added to an already existing stack remains in this state until the switch add sequence is complete.
- **Ready**—The member has completed loading the system- and interface-level configurations and can forward traffic.
- **V-Mismatch**—A switch in version mismatch mode. Version-mismatch mode is when a switch that joins the stack has a software version that is incompatible with the active switch.
- **Provisioned**—The state of a preconfigured switch before it becomes an active member of a switch stack. The MAC address and the priority number in the display are always 0 for the provisioned switch.
- **Unprovisioned**—The state of a switch when the provisioned switch number was unprovisioned using the **no switch *switch-number* provision** command.
- **Removed**—A switch that was present in the stack was removed using the **reload slot** command.

- Sync not started—When multiple switches are added to an existing stack together, the active switch adds them one by one. The switch that is being added is in the Syncing state. The switches that have not been added yet are in the Sync not started state.
- Lic-Mismatch—A switch has a different license level than the active switch.

A typical state transition for a stack member (including an active switch) booting up is Waiting > Initializing > Ready.

A typical state transition for a stack member in version mismatch (VM) mode is Waiting > Ver Mismatch.

You can use the **show switch** command to identify whether the provisioned switch exists in the switch stack. The **show running-config** and the **show startup-config** privileged EXEC commands do not provide this information.

The display also includes stack MAC-persistence wait-time if persistent MAC address is enabled.

Examples

This example shows how to display summary stack information:

```
Device# show switch
Switch/Stack Mac Address : 6400.f124.e900
```

Switch#	Role	Mac Address	Priority	H/W Version	Current State
1	Member	0000.0000.0000	0	0	Provisioned
2	Member	0000.0000.0000	0	0	Removed
*3	Active	6400.f124.e900	2	0	Ready
8	Member	0000.0000.0000	0	0	Unprovisioned

This example shows how to display detailed stack information:

```
Device# show switch detail
Switch/Stack Mac Address : 2037.06ce.3f80 - Local Mac Address
Mac persistency wait time: Indefinite
```

Switch#	Role	Mac Address	Priority	H/W Version	Current State
*1	Active	2037.06ce.3f80	1	0	Ready
2	Member	0000.000.0000	0	0	Provisioned
6	Member	2037.06ce.1e00	1	0	Ready

Switch#	Stack Port Status		Neighbors	
	Port 1	Port 2	Port 1	Port 2
1	Ok	Down	6	None
6	Down	Ok	None	1

This example shows how to display the member 6 summary information:

```
Device# show switch 6
```

Switch#	Role	Mac Address	Priority	State
6	Member	0003.e31a.1e00	1	Ready

This example shows how to display the neighbor information for a stack:

```
Device# show switch neighbors
```

Switch #	Port A	Port B
6	None	8

```

      8          6          None

```

This example shows how to display stack-port information:

```

Device# show switch stack-ports
Switch #   Port A   Port B
-----
      6     Down     Ok
      8     Ok      Down

```

This example shows the output for the **show switch stack-ports summary** command. The table that follows describes the fields in the display.

Table 1: Show switch stack-ports summary Command Output

Field	Description
Switch#/Port#	Member number and its stack port number.
Stack Port Status	Status of the stack port. <ul style="list-style-type: none"> • Down—A cable is detected, but either no connected neighbor is up, or the stack port is disabled. • OK—A cable is detected, and the connected neighbor is up.
Neighbor	Switch number of the active member at the other end of the stack cable.
Cable Length	Valid lengths are 50 cm, 1 m, or 3 m. If the switch cannot detect the cable length, the value is <i>no cable</i> . The cable might not be connected, or the link might be unreliable.
Link OK	Whether the stack cable is connected and functional. There may or may not be a neighbor connected on the other end. The <i>link partner</i> is a stack port on a neighbor switch. <ul style="list-style-type: none"> • No—There is no stack cable connected to this port or the stack cable is not functional. • Yes—There is a functional stack cable connected to this port.
Link Active	Whether a neighbor is connected on the other end of the stack cable. <ul style="list-style-type: none"> • No—No neighbor is detected on the other end. The port cannot send traffic over this link. • Yes—A neighbor is detected on the other end. The port can send traffic over this link.
Sync OK	Whether the link partner sends valid protocol messages to the stack port. <ul style="list-style-type: none"> • No—The link partner does not send valid protocol messages to the stack port. • Yes—The link partner sends valid protocol messages to the port.

Field	Description
# Changes to LinkOK	The relative stability of the link. If a large number of changes occur in a short period of time, link flapping can occur.
In Loopback	Whether a stack cable is attached to a stack port on the member. <ul style="list-style-type: none">• No— At least one stack port on the member has an attached stack cable.• Yes—None of the stack ports on the member has an attached stack cable.

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 3.3SE	Cisco IOS XE 3.3SE 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 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

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC (#)

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

Usage Guidelines The **show tech-support stack** command captures the snapshot of stacking states and information for debug issues. Use this command, when a stacking issues (such as stack cable issue, silent reload, switch not becoming ready, 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 following commands:

- **show clock**
- **show version**
- **show running-config**
- **show redundancy switchover history**
- **show switch stack-ports summary**
- **show switch stack-mode**
- **show switch stack-ring speed**
- **show switch stack-bandwidth**
- **show switch detail**
- **show switch neighbors**

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**

- **dir crashinfo-<n>**:
- **dir flash-<n>:/core**

Examples

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

```
Device# show tech-support stack
.
.
.
----- show switch stack-ports summary -----

Sw#/Port#  Port Status  Neighbor  Cable Length  Link OK  Link Active  Sync OK  #Changes
to LinkOK  In Loopback
-----
1/1        OK          3         50cm          Yes      Yes          Yes      1
          No
1/2        OK          2         50cm          Yes      Yes          Yes      1
          No
2/1        OK          1         50cm          Yes      Yes          Yes      1
          No
2/2        OK          3         50cm          Yes      Yes          Yes      1
          No
3/1        OK          2         50cm          Yes      Yes          Yes      1
          No
3/2        OK          1         50cm          Yes      Yes          Yes      1
          No

----- show switch stack-mode -----

Switch#  Role    Mac Address      Version  Mode  Configured  State
-----
*1       Active  046c.9d1e.f380   V01     N+1   None        Ready
2        Member  0c75.bd11.5d80   V01     N+1   None        Ready
3        Standby 0c75.bd11.59ff   P1A     N+1   None        Ready

----- show switch stack-bandwidth -----

Switch#  Role    Stack      Current
          Role    Bandwidth  State
-----
*1       Active  480G      Ready
2        Member  480G      Ready
3        Standby 480G      Ready

----- show switch stack-ring speed -----

Stack Ring Speed      : 480G
```

show tech-support stack

```
Stack Ring Configuration: Full
Stack Ring Protocol      : StackWise
```

```
----- show switch detail -----
```

```
Switch/Stack Mac Address : 046c.9dle.f380 - Local Mac Address
Mac persistency wait time: Indefinite
```

Switch#	Role	Mac Address	Priority	H/W Version	Current State
*1	Active	046c.9dle.f380	1		Ready
2	Member	0c75.bd11.5d80	1	V01	Ready
3	Standby	0c75.bd11.59ff	1	PlA	Ready

Switch#	Stack Port Status		Neighbors	
	Port 1	Port 2	Port 1	Port 2
1	OK	OK	3	2
2	OK	OK	1	3
3	OK	OK	2	1

```
----- show switch neighbors -----
```

Switch #	Port 1	Port 2
1	3	2
2	1	3
3	2	1

```
----- show platform software stack-mgr switch 1 R0 oir-states --
```

Switch#	OIR State	Type	Provisioned
1	CHASSIS_COMPATIBLE	C9300-24U	YES
2	CHASSIS_COMPATIBLE	C9300-48U	YES
3	CHASSIS_COMPATIBLE	C9300-48U	YES

```
----- show platform software stack-mgr switch 1 R0 sdp-counters --
```

```
Stack Discovery Protocol (SDP) Counters
```

Message	Tx Success	Tx Fail	Rx Success	Rx Fail
Discovery	16	0	27	0
Neighbor	5	1	5	2
Keepalive	473	0	945	0
SEPPUKU	0	0	0	0
Standby Elect Req	1	0	0	0
Standby Elect Ack	0	0	1	0
Standby IOS State	0	0	2	0

Reload Req	0	0	0	0
Reload Ack	0	0	0	0
SESA Mesg	0	0	0	0
RTU Msg	1	0	4	0
Disc Timer Stop	1	0	2	0

----- show platform software sif switch 1 R0 counters -----

Stack Interface (SIF) Counters

Stack Discovery Protocol (SDP) Messages

Message	Tx Success	Tx Fail	Rx Success	Rx Fail
Discovery	0	0	0	0
Neighbor	0	0	0	0
Forward	516	0	1040	0

SIF Management Messages

Message	Success	Fail
Link Status	4	0
Link Management	0	0
Chassis Num	1	0
Topo Change	2	0
Active Declare	1	0
Template set	0	0

----- show platform software sif switch 1 R0 counters oob -----

SIF OOB Statistics

Message	Count
TX LSMPI	524
TX Enq Failed	0
TX Copy Failed	0
TX Ring Full	0
TX Iiter	516
TX Enq Success	526
RX Process	1042
RX Exception	0
RX Total	1042
Dequeue Attempts	986
Dequeue Success	1043

SIF Netdrv OOB Statistics
Unicast Messages

```

-----
Switch      Count
-----
2           42228
3           79287
-----
Broadcast messages count: 4
-----

```

```

----- show platform software sif switch 1 R0 counters cable -----

```

SIF Cable Statistics

```

-----
Direction   Remove      Insert
-----
East        0           1
West        0           1
-----

```

SIF Link Statistics

```

-----
ASIC        Port        State      Changes
-----
0           1           1          2
1           2           1          2
-----

```

```

----- show platform software sif switch 1 R0 exceptions -----

```

```

----- show platform software sif switch 1 R0 topo -----

```

Stack Interface (SIF) Topology

Stacked Switch List

```

-----
Chassis#    MAC Adress      Role
-----
3           0c75.bd11.59ff
2           0c75.bd11.5d80
1           046c.9dle.f380      L,A
-----

```

```

L: Local Switch;  A: Active Switch;
-----
.
.
.

```

The output fields are self-explanatory.

stack-mac update force

To update the stack MAC address to the MAC address of the active switch, use the **stack-mac update force** command in EXEC mode on the active switch.

stack-mac update force

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes User EXEC
Privileged EXEC

Command History	Release	Modification
	Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines By default, the stack MAC address is not changed to the MAC address of the new active switch during a high availability (HA) failover. Use the **stack-mac update force** command to force the stack MAC address to change to the MAC address of the new active switch.

If the switch with the same MAC address as the stack MAC address is currently a member of the stack, the **stack-mac update force** command has no effect. (It does not change the stack MAC address to the MAC address of the active switch.)



Note If you do not change the stack MAC address, Layer 3 interface flapping does not occur. It also means that a foreign MAC address (a MAC address that does not belong to any of the switches in the stack) could be the stack MAC address. If the switch with this foreign MAC address joins another stack as the active switch, two stacks will have the same stack MAC address. You must use the **stack-mac update force** command to resolve the conflict.

This example shows how to update the stack MAC address to the MAC address of the active switch:

```
Device> stack-mac update force
Device>
```

You can verify your settings by entering the **show switch** privileged EXEC command. The stack MAC address includes whether the MAC address is local or foreign.

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 3.3SE	Cisco IOS XE 3.3SE 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)#
```


switch stack port

To disable or enable the specified stack port on the member, use the **switch** command in privileged EXEC mode on a stack member.

```
switch stack-member-number stack port port-number {disable | enable}
```

Syntax Description

stack-member-number

stack port *port-number* Specifies the stack port on the member. The range is 1 to 2.

disable Disables the specified port.

enable Enables the specified port.

Command Default

The stack port is enabled.

Command Modes

Privileged EXEC

Command History

Release	Modification
Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines

A stack is in the full-ring state when all members are connected through the stack ports and are in the ready state.

The stack is in the partial-ring state when the following occurs:

- All members are connected through their stack ports but some are not in the ready state.
- Some members are not connected through the stack ports.



Note Be careful when using the **switch** *stack-member-number* **stack port** *port-number* **disable** command. When you disable the stack port, the stack operates at half bandwidth.

If you enter the **switch** *stack-member-number* **stack port** *port-number* **disable** privileged EXEC command and the stack is in the full-ring state, you can disable only one stack port. This message appears:

```
Enabling/disabling a stack port may cause undesired stack changes. Continue?[confirm]
```

If you enter the **switch** *stack-member-number* **stack port** *port-number* **disable** privileged EXEC command and the stack is in the partial-ring state, you cannot disable the port. This message appears:

```
Disabling stack port not allowed with current stack configuration.
```

Examples

This example shows how to disable stack port 2 on member 4:

```
Device# switch 4 stack port 2 disable
```

switch priority

To change the stack member priority value, use the **switch priority** command in EXEC mode on the active switch.

switch *stack-member-number* **priority** *new-priority-value*

Syntax Description

stack-member-number

new-priority-value New stack member priority value. The range is 1 to 15.

Command Default

The default priority value is 1.

Command Modes

User EXEC

Privileged EXEC

Command History

Release	Modification
Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines

The new priority value is a factor when a new active switch is elected. When you change the priority value, the active switch is not changed immediately.

Examples

This example shows how to change the priority value of stack member 6 to 8:

```
Device# switch 6 priority 8
Changing the Switch Priority of Switch Number 6 to 8
Do you want to continue?[confirm]
```

switch provision

To supply a configuration to a new switch before it joins the switch stack, use the **switch provision** command in global configuration mode on the active switch. To delete all configuration information that is associated with the removed switch (a stack member that has left the stack), use the **no** form of this command.

```
switch stack-member-number provision type
no switch stack-member-number provision
```

Syntax Description

stack-member-number

type Switch type of the new switch before it joins the stack.

Command Default

The switch is not provisioned.

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE 3.3SE	Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines

For *type*, enter the model number of a supported switch that is listed in the command-line help strings.

To avoid receiving an error message, you must remove the specified switch from the switch stack before using the **no** form of this command to delete a provisioned configuration.

To change the switch type, you must also remove the specified switch from the switch stack. You can change the stack member number of a provisioned switch that is physically present in the switch stack if you do not also change the switch type.

If the switch type of the provisioned switch does not match the switch type in the provisioned configuration on the stack, the switch stack applies the default configuration to the provisioned switch and adds it to the stack. The switch stack displays a message when it applies the default configuration.

Provisioned information appears in the running configuration of the switch stack. When you enter the **copy running-config startup-config** privileged EXEC command, the provisioned configuration is saved in the startup configuration file of the switch stack.



Caution

When you use the **switch provision** command, memory is allocated for the provisioned configuration. When a new switch type is configured, the previously allocated memory is not fully released. Therefore, do not use this command more than approximately 200 times, or the switch will run out of memory and unexpected behavior will result.

Examples

This example shows how to provision a switch with a stack member number of 2 for the switch stack. The **show running-config** command output shows the interfaces associated with the provisioned switch.

```
Device(config)# switch 2 provision WS-xxxx
Device(config)# end
```

```
Device# show running-config | include switch 2
!
interface GigabitEthernet2/0/1
!
interface GigabitEthernet2/0/2
!
interface GigabitEthernet2/0/3
<output truncated>
```

You also can enter the **show switch** user EXEC command to display the provisioning status of the switch stack.

This example shows how to delete all configuration information about stack member 5 when the switch is removed from the stack:

```
Device(config)# no switch 5 provision
```

You can verify that the provisioned switch is added to or removed from the running configuration by entering the **show running-config** privileged EXEC command.

switch renumber

To change the stack member number, use the **switch renumber** command in EXEC mode on the active switch.

switch *current-stack-member-number* **renumber** *new-stack-member-number*

Syntax Description

current-stack-member-number

new-stack-member-number

Command Default

The default stack member number is 1.

Command Modes

User EXEC

Privileged EXEC

Command History

Release

Modification

Cisco IOS XE 3.3SE Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines

If another stack member is already using the member number that you just specified, the active switch assigns the lowest available number when you reload the stack member.



Note

If you change the number of a stack member, and no configuration is associated with the new stack member number, that stack member loses its current configuration and resets to its default configuration.

Do not use the **switch** *current-stack-member-number* **renumber** *new-stack-member-number* command on a provisioned switch. If you do, the command is rejected.

Use the **reload slot** *current stack member number* privileged EXEC command to reload the stack member and to apply this configuration change.

Examples

This example shows how to change the member number of stack member 6 to 7:

```
Device# switch 6 renumber 7
```

```
WARNING:Changing the switch number may result in a configuration change for that switch.
The interface configuration associated with the old switch number will remain as a provisioned
configuration.
```

```
Do you want to continue?[confirm]
```

switch renumber

To change the stack member number, use the **switch renumber** command in EXEC mode on the active switch.

switch *current-stack-member-number* **renumber** *new-stack-member-number*

Syntax Description

current-stack-member-number

new-stack-member-number

Command Default

The default stack member number is 1.

Command Modes

User EXEC

Privileged EXEC

Command History

Release

Modification

Cisco IOS XE 3.3SE Cisco IOS XE 3.3SE This command was introduced.

Usage Guidelines

If another stack member is already using the member number that you just specified, the active switch assigns the lowest available number when you reload the stack member.



Note

If you change the number of a stack member, and no configuration is associated with the new stack member number, that stack member loses its current configuration and resets to its default configuration.

Do not use the **switch** *current-stack-member-number* **renumber** *new-stack-member-number* command on a provisioned switch. If you do, the command is rejected.

Use the **reload slot** *current stack member number* privileged EXEC command to reload the stack member and to apply this configuration change.

Examples

This example shows how to change the member number of stack member 6 to 7:

```
Device# switch 6 renumber 7
```

```
WARNING:Changing the switch number may result in a configuration change for that switch.
The interface configuration associated with the old switch number will remain as a provisioned
configuration.
```

```
Do you want to continue?[confirm]
```