Soft Reload

This chapter contains the following sections:

Information About Soft Reload

The Soft Reload feature provides a best effort mechanism for the switch to be gracefully brought up with minimal impact to production traffic when a process crash occurs. You can also use the **soft-reload** command to trigger a manual soft reload of the switch. After a successful soft reload, we mandatorily recommend performing a normal switch reload as there may be some mismatch between the hardware and software configurations after the soft reload. The normal switch reload can also be performed during the next maintenance window.

We also recommend not making any changes to the configuration until a normal switch reload is done after a soft reload. During a normal switch reload, the switch is reloaded with the **copy running-config startup-config** command ensuring that all configurations are restored without any mismatch between hardware and software configurations. By default, Soft Reload is disabled.

Soft Reload Debugging

Syslogs are generated during various stages of a soft reload indicating the current health of a switch. The following syslogs can be used for debugging Soft Reload:

Syslog	Severity	Description
SOFTRELOAD_ATTEMPT_TRIGGERED	ALERT	Soft reload is triggered.
SOFTRELOAD_ATTEMPTED_SUCCESSFUL	ALERT	Soft reload triggered successfully.

Syslog	Severity	Description
SOFTRELOAD_ATTEMPTED_FAILURE	ALERT	Attempt for soft-reload failed.
INSTALLER_SOFTRELOAD_BASED_KEXEC	ALERT	Kexec is triggered.
INSTALLER_SOFTRELOAD_BASED_KEXEC_FAILED	ALERT	Kexec trigger failed.
INSTALLER_SOFTRELOAD_INITIATED	ALERT	Soft reload process is initiated.
INSTALLER_SOFTRELOAD_ABORTED	ALERT	Soft reload aborted due to internal failure.
INSTALLER_SOFTRELOAD_BOOTUP_ATTEMPT	ALERT	Soft reload attempting bootup.
INSTALLER_SOFTRELOAD_PROCESSING_BOOTUP	ALERT	Bootup attempt successful post softreload.
INSTALLER_SOFTRELOAD_BOOTUP_IN_PROGRESS	ALERT	Soft reload still in progress, waiting for login to be enabled.

Licensing Requirements for Soft Reload

The following table shows the licensing requirements for this feature:

Product	License Requirement
Cisco NX-OS	Soft Reload requires no license. Any feature not included in a license package is bundled with the Cisco NX-OS system images and is provided at no extra charge to you. For a complete explanation of the Cisco NX-OS licensing scheme, see the License and Copyright Information for Cisco NX-OS Software.

Guidelines and Limitations for Soft Reload

- A normal switch reload is attempted if a soft reload due to a process crash fails.

- A soft reload is not triggered when the following scenarios occur:

  - If Layer 3 licenses (LAN_BASE_SERVICES_PKG and LAN_ENTERPRISE_SERVICES_PKG) are installed.

  - Kernel panic/crash

  - Sysmgr crash

  - Crashing of the following processes: mmode, provision, xmlma, res, evms, evmc, securityd, aaa, snmpd, callhome, cts, m2rib, stp, ntp, ntpd, bigsurusd, carmelusd, pfma, sensor, pacifica, bootvar, ipqosmgr, vms, sh, libvirtd, init, sysmgr, pfma, vshd, licmgr and sysinfo.

- We recommend performing a manual soft reload during a debugging window. For example, you can initiate a soft reload to debug a periodic crash with minimal traffic disruption.

- If a soft reload that has been triggered by using the **soft-reload** command fails, the switch will not be reloaded. Soft reload can then be attempted again by using the **soft-reload** command after the failures shown have been corrected.

- Any connected FEXs are not reloaded during a soft reload.

- Soft reload is not triggered if an ISSU is in progress.

- ISSU is not attempted if soft reload is in progress.

- After a soft reload, the switch will come up with the last saved configuration along with any configuration changes made since the last saved switch configuration. However, the **show running-config** command will display only the last saved switch configuration.

- Production traffic may be impacted if there are any STP configurations that may lead to network convergences.

- Soft reload does not trigger all the syslogs available for ISSU.

- Soft reload is not triggered if any FEX processes crash.

- Hardware configurations are not modified during a soft reload.

- Follow the usual debug process to debug any process crashes that lead to a soft reload.

- If the switch crashes within 20 minutes after a soft reload, another soft reload is not triggered.

- If the switch crashes more than 20 minutes after a soft reload, another soft reload is triggered.

- We recommend doing a manual switch reload as soon as possible after a soft reload.

- After a soft reload, we recommend not making any configuration changes until a manual switch reload is done.

Default Setting for Soft Reload

Parameter	Default
Soft Reload	Disabled

Configuring Soft Reload

Enabling the Switch to Perform a Soft Reload After a Process Crash

Procedure

Step 1   Enter global configuration mode:

switch# **configure terminal**

Step 2   Enable the switch to perform a soft reload after a process crash:

switch(config)# **system soft-reload enable**

Step 3   (Optional) Display the status of the soft reload:

switch# **show system soft-reload status**

Running Configuration

This example shows a running configuration, followed by a verification command that displays the status of the soft reload.

```
configure terminal
  system soft-reload enable
  .
  .
  .
switch# show system soft-reload status
Soft-reload is enabled
```

Performing a Manual Soft Reload

Procedure

Step 1   (Optional) Display the status of the soft reload:

switch# **show system soft-reload status**

Step 2   Perform a manual soft reload of the switch:

switch(config)# **soft-reload**

Running Configuration

This example shows a verification command that displays the status of the soft reload, followed by the command to initiate a manual soft reload.

```
show system soft-reload status
Soft-reload is disabled

soft-reload
.
.
.
```

Configuration Examples for Soft Reload

This section provides configuration examples for Soft Reload.

Enabling the Switch to Perform a Soft Reload After a Process Crash

```
configure terminal
  system soft-reload enable
```

Performing a Manual Soft Reload

```
soft-reload
```

Verifying the Soft Reload Status

Command	Purpose
show system soft-reload status	Displays whether Soft Reload is enabled or disabled.

Additional References for Soft Reload

This section describes additional information related to implementing Soft Reload.

Related Documents

Related Topic	Document Title
Command reference	*Cisco Nexus 5600 Series NX-OS System Management Command Reference*

Feature History for Soft Reload

This table lists the release history for this feature.

Feature Name	Release	Information
Soft Reload	7.3(2)N1(1)	The Soft Reload feature provides a best effort mechanism for the switch to be gracefully brought up with minimal impact to production traffic when a process crash occurs. You can also use the **soft-reload** command to trigger a manual soft reload of the switch.