



Cisco cBR Converged Broadband Routers High Availability Configuration Guide

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CHAPTER 1

Cisco IOS-XE In-Service Software Upgrade Process

Cisco cBR-8 Routers support the In-Service Software Upgrades (ISSU) for redundant platforms.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the Feature Information Table at the end of this document.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to <http://tools.cisco.com/ITDIT/CFN/>. An account on <http://www.cisco.com/> is not required.

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Hardware Compatibility Matrix for Cisco cBR Series Routers



Note The hardware components introduced in a given Cisco IOS-XE Release are supported in all subsequent releases unless otherwise specified.

Table 1: Hardware Compatibility Matrix for the Cisco cBR Series Routers

Cisco CMTS Platform	Processor Engine	Interface Cards
Cisco cBR-8 Converged Broadband Router	<p>Cisco IOS-XE Release 3.15.0S and Later Releases</p> <p>Cisco cBR-8 Supervisor :</p> <ul style="list-style-type: none"> • PID—CBR-CCAP-SUP-160G • PID—CBR-CCAP-SUP-60G¹ • PID—CBR-SUP-8X10G-PIC 	<p>Cisco IOS-XE Release 3.15.0S and Later Releases</p> <p>Cisco cBR-8 CCAP Line Cards:</p> <ul style="list-style-type: none"> • PID—CBR-LC-8D30-16U30 • PID—CBR-LC-8D31-16U30 • PID—CBR-RF-PIC • PID—CBR-RF-PROT-PIC <p>Cisco cBR-8 Downstream PHY Modules:</p> <ul style="list-style-type: none"> • PID—CBR-D30-DS-MOD • PID—CBR-D31-DS-MOD <p>Cisco cBR-8 Upstream PHY Modules:</p> <ul style="list-style-type: none"> • PID—CBR-D30-US-MOD

¹ Effective with Cisco IOS-XE Release 3.17.0S, CBR-CCAP-SUP-60G supports 8 cable line cards. The total traffic rate is limited to 60Gbps, the total number of downstream service flow is limited to 72268, and downstream unicast low-latency flow does not count against the limits.

Information about In-Service Software Upgrade

Cisco cBR-8 Routers support the In-Service Software Upgrades (ISSU) for redundant platforms. The ISSU process allows software to be updated or otherwise modified while packet forwarding continues with the benefit of LCHA.

For the Cisco cBR Series Routers, ISSU-compatibility depends on the software subpackage being upgraded and the hardware configuration.

The specific procedures in this document represent supported and tested installation sequences. The Cisco IOS-XE system software allows other installation sequences for special purposes under the guidance of Cisco customer support representatives, but the steps in this document should be followed otherwise. These steps should be followed completely, as the Cisco cBR Series Routers are designed to run one version of Cisco IOS-XE on an SUP, and running subpackages from different versions of Cisco IOS-XE can cause unexpected router behavior.

How to Configure In-Service Software Upgrade

This section describes the configuration of the ISSU feature:

Configuring Consolidated Package Upgrade

Subpackages Upgrade

Subpackage upgrade allows a subset of the running software to be upgraded. It is intended for patching small and targeted fix instead of full image upgrade. Subpackage upgrade supports both single and dual SUP setup.

Single SUP Subpackages Upgrade

Before you begin

Be sure to complete the following prerequisites before running the ISSU process:

- Config register autoboot enabled.
- Target patch copied to active SUP in the same directory of the packages.conf file system is booted up with.
- If needed copy patch info file to SUP.
- Enough bootflash disk space on SUP.

Procedure

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	request platform software package install rp <i>rp-slot</i> file bootflash: Example: Router# request platform software package install rp 1 file bootflash:cbrsup-universalk9.03.17.00.S.156-1.S-std.SPA.bin	Upgrades the cBR-8 router with one SUP using subpackages ISSU procedure.

Dual SUPs Subpackages Upgrade

Before you begin

Be sure to complete the following prerequisites before running the ISSU process:

- Standby SUP must be in hot standby.
- Config register autoboot enabled.
- Both SUP in sub-package mode, running same base image and patches from same path.
- Target patch copied to active SUP in the same directory of the packages.conf file system is booted up with.
- If needed copy patch info file to both SUPs.
- Enough bootflash disk space on both SUPs.

Procedure

	Command or Action	Purpose
Step 1	enable Example: <pre>Router> enable</pre>	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	request platform software package install node file bootflash: Example: <pre>Router# request platform software package install node file bootflash:cbrsup-universalk9.03.17.00.S.156-1.S-std.SPA.bin</pre>	Upgrades the cBR-8 router with dual SUPs using subpackages ISSU procedure.

Linecard Only In-Service Software Upgrade

Use **request platform software package install node linecard-only** command to upgrade only the linecard to the same version as the one in the current active SUP, the customer can choose to upgrade one linecard or all the linecards in the chassis.

This command can be used together with **request platform software package install node file *file-path* noreload linecard** command to upgrade SUP first, and then upgrade linecard.

Procedure

	Command or Action	Purpose
Step 1	enable Example: <pre>Router> enable</pre>	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	request platform software package install node linecard-only Example: <pre>Router# request platform software package install node linecard-only all</pre>	Upgrade all the linecards to the same version as the one in the current active SUP.

Cancel Consolidated Package Upgrade

Use **request platform software package install node abort** command to cancel the ISSU procedure.

When you cancel the ISSU, the line cards are in a different version with the SUP.

If the new version is unstable, and if you want to stop the upgrade, you can use this command to cancel the current upgrade process. After you enter this command, you must check the status of both SUP and the line card to decide what to do in the next step. For example,rollback.

Procedure

	Command or Action	Purpose
Step 1	enable Example: <pre>Router> enable</pre>	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	request platform software package install node abort Example: <pre>Router# request platform software package install node abort</pre>	Cancel the ISSU procedure.

Additional References

The following sections provide references related to the ISSU feature.

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for In-Service Software Upgrade

Use Cisco Feature Navigator to find information about the platform support and software image support. Cisco Feature Navigator enables you to determine which software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to the <https://cfng.cisco.com/> link. An account on the Cisco.com page is not required.



Note The following table lists the software release in which a given feature is introduced. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Table 2: Feature Information for ISSU

Feature Name	Releases	Feature Information
ISSU	Cisco IOS-XE Release 3.16.0S	This feature was introduced on the Cisco cBR Series Converged Broadband Routers.
ISSU with LCHA	Cisco IOS-XE Release 3.17.0S	This feature was introduced on the Cisco cBR Series Converged Broadband Routers. Cancel ISSU and linecard only ISSU were supported.
ISSU with sw-reset LCHA	Cisco IOS-XE Release 3.18.0SP	This feature was introduced on the Cisco cBR Series Converged Broadband Routers. See cable lcha sw-reset in Command Reference Guide for details.