

In-Service Software Upgrade (ISSU)

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In-Service Software Upgrade (ISSU)

Information About In-Service Software Upgrade (ISSU)

ISSU is a process that upgrades an image to another image on a device while the network continues to forward packets. ISSU helps network administrators avoid a network outage when performing a software upgrade. ISSU is supported in install mode.

Note Refer to the release notes and check the list of unsupported commands across releases before initiating an ISSU upgrade, as the upgrade may fail when unsupported commands are present.

ISSU Process Recommendations

Note This document applies only to the Cisco Catalyst 9800 Series Wireless Controllers. For the corresponding information on switching platforms, see the In-Service Software Upgrade (ISSU) guide.

ISSU Failure on Cisco CW9800L When Initiated From 17.18.2, 17.18.3, or 26.1.1

ISSU operations fail on Cisco CW9800L Wireless Controllers running IOS XE releases from 17.18.2, 17.18.3, or 26.1.1 (Refer to CSCwt98619).

Workaround:

Use the **install activate issu force** command to complete the upgrade in the CLI or use the **Override** option in the GUI.

Resolution:

Native ISSU support (via Catalyst Center and without the force flag) will be restored in releases 17.18.4 and 26.1.2.

For New Deployments:

Cisco will publish cold SMU on 17.18.2, 17.18.3 & 26.1.1 to support ISSU.

ISSU Process Recommendations for Cisco IOS XE 17.15.x and 17.18.1

Due to a collateral introduced in 17.15 and later versions, avoid the ISSU process until a fix is available in IOS-XE. Use the normal upgrade process. This notice does not affect any other feature or code evaluation at this time.

The defects tracked are CSCws35670 and CSCwr15775. Both the fixes are required for ISSU to work.

Symptoms:

The symptoms may vary, and they may include:

- controller crash
- NETCONF is broken after upgrade

- missing 802.11be profiles that cause WLANs not to be broadcast
- WLANs are not pushed to the APs
- the GUI is unresponsive

Recovery:

Delete the persistent database configuration. Reload both the controllers without saving the configuration (configuration is recreated from startup-config).

```
delete /force /recursive bootflash:.dbpersist/persistent-config.tar.gz
delete /force /recursive bootflash:.dbpersist/persistent-config.meta
delete /force /recursive stby-bootflash:.dbpersist/persistent-config.tar.gz
delete /force /recursive stby-bootflash:.dbpersist/persistent-config.meta
```

Detection:

The 802.11be profile issue has been included in WCAE 1.3. Additional symptoms are currently under evaluation for automated detection.

If you have performed ISSU from older releases, such as 17.9 or 17.12 to 17.15 or 17.18, you may be impacted. In this case, perform the recommended recovery process.

ISSU Known Issues

The following are the issues in 17.15.x and 17.18.x:

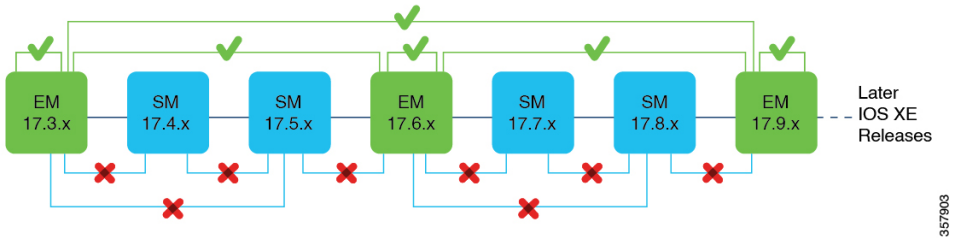
Table 1: ISSU known issues 17.15.x and 17.18.x

Bug ID	Description	Comments
CSCws35670	APs not broadcasting SSIDs after changing tags.	Fixed in 17.12.7a, 17.15.4d, 17.18.2, and 26.1.1
CSCwr15775	After ISSU upgrade to 17.15.x/17.18.x, SSIDs aren't pushed to APs; default 802.11be profile is missing	Fixed in 17.12.7a, 17.15.4d, 17.18.2 and 26.1.1
CSCwk20820	Standby switch stuck in reload with V-Mismatch state due to SMU_MISMATCH error	Fixed in 17.12.5, 17.15.3 and 17.9.6 (install remove inactive)
CSCwj02911	MCG (Meraki Campus GW) - Fresnel - Add Punt related changes	17.15 Release Notes describes the changes in **platform punt-policer** commands causing ISSU MCL errors. For example: **platform punt-policer wls_dot11_pkt** > **platform punt-policer wls-mgmt-pkt** **platform punt-policer wls_sisf_arp_v6nd_pkt** > **platform punt-policer wls-sisf-arp-v6nd-pkt**
CSCws53690	SST:17.12.6a->17.18.2 ISSU, AP disjoin after active -> standby	Fixed in 17.18.3

Bug ID	Description	Comments
CSCws19380	WLC crash during ISSU upgrade	Fixed in 17.15.5, 17.18.3 and 26.1.1
CSCws58703	SST: ndbmand cores are seen after ISSU upgrade from 17.15.x to 17.18.2 with CatC, NETCONF not working	Fixed in 17.18.3 and 26.1.1
CSCwt98619	CW9800L PID is missing in ISSU comp_matrix file. **Note** This caveat is applicable only to CW9800L.	Fixed in 17.18.4 and 26.1.2 **Note** Fix is available in 17.18.4, 26.1.2 and 26.2.1. Workaround CLI is **install activate issue force** or use the GUI Override option.

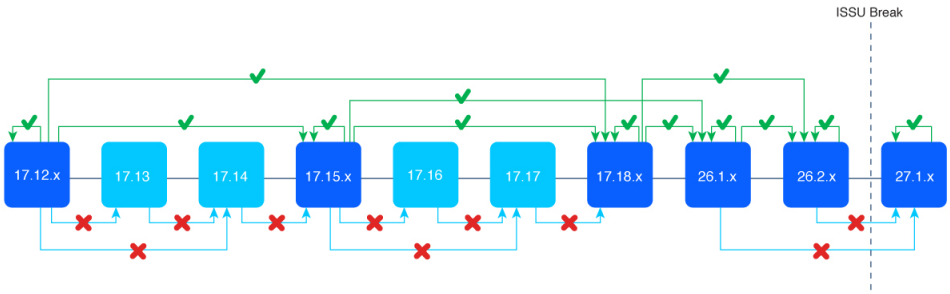
ISSU Support between Releases

Figure 1: ISSU Support Between Releases



EM: extended maintenance

SM: standard maintenance



For information on IOS XE Software Lifecycle, see the following link: https://www.cisco.com/c/en/us/products/collateral/ios-nx-os-software/ios-xe-16/bulletin-c25-2378701.html

Table 2: ISSU Supported and Unsupported Scenarios

Supported Scenarios	Unsupported Scenarios

• Within a major release train (for example 17.x), ISSU is supported between any two EMs that are released not more than 3 years apart.
• Within a major release train, ISSU is supported from:
  • Any EM (EM1, EM2, EM3) to another EM (EM1, EM2, EM3)
  Example: 17.3.x to 17.6.x, 17.6.x to 17.9.x
  • Any release within the same EM
  Example: 17.3.1 to 17.3.2 or 17.3.3 or 17.3.x
• Starting with the 26.1.1 train all releases are EM releases, so ISSU support extends to all forward rebuild releases across the N, N+1, and N+2 throttles (except the ISSU break between 26.2 and 27.1). For example, 27.1.1 supports forward ISSU to releases in the 27.1.x, 27.2.x, and 28.1. trains.
	• Between major release trains, ISSU is not supported from:
	  • An EM of a major release train to an EM of another major release train
	  Example: 16.x.x to 17.x.x or 17.x.x to 18.x.x is not supported
	  • An SM to EM or EM to SM
	  Example: 17.3.x or 17.4.x to 17.5.x is not supported
	• ISSU is not supported on engineering special releases and .s (or similar) images.
	• ISSU is not supported between Licensed Data Payload Encryption (LDPE) and No Payload Encryption (NPE) Cisco IOS XE software images.
	• ISSU downgrades are not supported.
	• 27.1.1 is an ISSU break releases, no ISSU upgrades can be done from a previous release to 27.1.1 or higher.
	Note
	No configuration changes should be performed while ISSU is being performed.

Release Support Matrix

The following tables show ISSU support within the same EM.

- For Cisco Catalyst 9800 Series Wireless Controllers, ISSU support starts from Cisco IOS XE Amsterdam 17.3.1.

For a comprehensive list of supported ISSU upgrade matrices across multiple releases for the Cisco Catalyst 9800 Series Wireless Controllers, see the following link: https://www.cisco.com/c/dam/td-xml/en_us/wireless/vewlc/issu/ISSU-Matrix_Updated.xlsx.

Cisco Catalyst 9800 Series Wireless Controllers

Table 3: Cisco Catalyst 9800 Series Wireless Controllers - 17.3.x Release

From/To	17.3.1	17.3.2a	17.3.3	17.3.4	17.3.4c	17.3.5
17.3.1	—	✓	✓	✓	✓	✓
17.3.2a	x	—	✓	✓	✓	✓
17.3.3	x	x	—	✓	✓	✓
17.3.4	x	x	x	—	✓	✓

17.3.4c	**x**	**x**	**x**	**x**	**—**	**✓**
17.3.5	**x**	**x**	**x**	**x**	**x**	**—**
17.3.5a	**x**	**x**	**x**	**x**	**x**	**x**
17.3.5b	**x**	**x**	**x**	**x**	**x**	**x**
17.3.6	**x**	**x**	**x**	**x**	**x**	**x**
17.3.7	**x**	**x**	**x**	**x**	**x**	**x**
17.3.8	**x**	**x**	**x**	**x**	**x**	**x**
17.3.8a	**x**	**x**	**x**	**x**	**x**	**x**
17.6.1	**x**	**x**	**x**	**x**	**x**	**x**
17.6.2	**x**	**x**	**x**	**x**	**x**	**x**
17.6.3	**x**	**x**	**x**	**x**	**x**	**x**
17.6.4	**x**	**x**	**x**	**x**	**x**	**x**
17.6.5	**x**	**x**	**x**	**x**	**x**	**x**
17.6.6	**x**	**x**	**x**	**x**	**x**	**x**
17.6.6a	**x**	**x**	**x**	**x**	**x**	**x**
17.6.7	**x**	**x**	**x**	**x**	**x**	**x**
17.6.8	**x**	**x**	**x**	**x**	**x**	**x**
17.9.1	**x**	**x**	**x**	**x**	**x**	**x**
17.9.2	**x**	**x**	**x**	**x**	**x**	**x**
17.9.3	**x**	**x**	**x**	**x**	**x**	**x**
17.9.4	**x**	**x**	**x**	**x**	**x**	**x**
17.9.4a	**x**	**x**	**x**	**x**	**x**	**x**
17.9.5	**x**	**x**	**x**	**x**	**x**	**x**
17.9.6	**x**	**x**	**x**	**x**	**x**	**x**
17.9.7	**x**	**x**	**x**	**x**	**x**	**x**
17.9.8	**x**	**x**	**x**	**x**	**x**	**x**
17.9.9	**x**	**x**	**x**	**x**	**x**	**x**
17.9.10	**x**	**x**	**x**	**x**	**x**	**x**

Table 4: Cisco Catalyst 9800 Series Wireless Controllers - 17.6.x Release

From/To	17.6.1	17.6.2	17.6.3	17.6.4	17.6.5	17.6.6
17.6.1	—	✓	✓	✓	✓	✓
17.6.2	x	—	✓	✓	✓	✓
17.6.3	x	x	—	✓	✓	✓
17.6.4	x	x	x	—	✓	✓
17.6.5	x	x	x	x	—	✓
17.6.6	x	x	x	x	x	—
17.6.6a	x	x	x	x	x	x
17.6.7	x	x	x	x	x	x
17.6.8	x	x	x	x	x	x
17.9.1	x	x	x	x	x	x
17.9.2	x	x	x	x	x	x
17.9.3	x	x	x	x	x	x
17.9.4	x	x	x	x	x	x
17.9.4a	x	x	x	x	x	x
17.9.5	x	x	x	x	x	x
17.9.6	x	x	x	x	x	x
17.9.7	x	x	x	x	x	x
17.9.8	x	x	x	x	x	x
17.9.9	x	x	x	x	x	x
17.9.10	x	x	x	x	x	x
17.12.1	x	x	x	x	x	x
17.12.2	x	x	x	x	x	x
17.12.3	x	x	x	x	x	x
17.12.4	x	x	x	x	x	x
17.12.5	x	x	x	x	x	x
17.12.6a	x	x	x	x	x	x
17.12.7a	x	x	x	x	x	x

17.12.8	**x**	**x**	**x**	**x**	**x**	**x**

Table 5: Cisco Catalyst 9800 Series Wireless Controllers - 17.9.x Release

From/To	17.9.1	17.9.2	17.9.3	17.9.4	17.9.4a	17.9.5
17.9.1	—	✓	✓	✓	✓	✓
17.9.2	**x**	—	✓	✓	✓	✓
17.9.3	**x**	**x**	—	✓	✓	✓
17.9.4	**x**	**x**	**x**	—	✓	✓
17.9.4a	**x**	**x**	**x**	**x**	—	✓
17.9.5	**x**	**x**	**x**	**x**	**x**	—
17.9.6	**x**	**x**	**x**	**x**	**x**	**x**
17.9.7	**x**	**x**	**x**	**x**	**x**	**x**
17.9.8	**x**	**x**	**x**	**x**	**x**	**x**
17.9.9	**x**	**x**	**x**	**x**	**x**	**x**
17.9.10	**x**	**x**	**x**	**x**	**x**	**x**
17.12.1	**x**	**x**	**x**	**x**	**x**	**x**
17.12.2	**x**	**x**	**x**	**x**	**x**	**x**
17.12.3	**x**	**x**	**x**	**x**	**x**	**x**
17.12.4	**x**	**x**	**x**	**x**	**x**	**x**
17.12.5	**x**	**x**	**x**	**x**	**x**	**x**
17.12.6a	**x**	**x**	**x**	**x**	**x**	**x**
17.12.7a	**x**	**x**	**x**	**x**	**x**	**x**
17.12.8	**x**	**x**	**x**	**x**	**x**	**x**
17.15.1	**x**	**x**	**x**	**x**	**x**	**x**
17.15.2	**x**	**x**	**x**	**x**	**x**	**x**
17.15.2b	**x**	**x**	**x**	**x**	**x**	**x**
17.15.3	**x**	**x**	**x**	**x**	**x**	**x**
17.15.4b	**x**	**x**	**x**	**x**	**x**	**x**
17.15.4d	**x**	**x**	**x**	**x**	**x**	**x**

17.15.5	**x**	**x**	**x**	**x**	**x**	**x**
17.15.6	**x**	**x**	**x**	**x**	**x**	**x**

Table 6: Cisco Catalyst 9800 Series Wireless Controllers - 17.12.x Release

From/To	17.12.1	17.12.2	17.12.3	17.12.4	17.12.5	17.12.6a	17.12.7a	17.12.8	17.15.1	17.15.2
17.12.1	—	✓	✓	✓	✓	✓	✓	✓	✓	✓
17.12.2	**x**	—	✓	✓	✓	✓	✓	✓	✓	✓
17.12.3	**x**	**x**	—	✓	✓	✓	✓	✓	✓	✓
17.12.4	**x**	**x**	**x**	—	✓	✓	✓	✓	✓	✓
17.12.5	**x**	**x**	**x**	**x**	—	✓	✓	✓	✓	✓
17.12.6a	**x**	**x**	**x**	**x**	**x**	—	✓	✓	✓	✓
17.12.7a	**x**	**x**	**x**	**x**	**x**	**x**	—	✓	✓	✓
17.12.8a	**x**	**x**	**x**	**x**	**x**	**x**	**x**	—	✓	✓
17.15.1	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	—	✓
17.15.2	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	—
17.15.2b	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.15.3	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.15.4b	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.15.4d	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.15.5	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.15.6	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.18.1	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.18.2	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.18.3	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.18.4a	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**

Table 7: Cisco Catalyst 9800 Series Wireless Controllers - 17.15.x Release

From/To	17.15.1	17.15.2	17.15.2b	17.15.3	17.15.4b	17.15.4d	17.15.5	17.15.6	17.18.1	17.18.2
17.15.1	—	✓	✓	✓	✓	✓	✓	✓	✓	✓
17.15.2	**x**	—	✓	✓	✓	✓	✓	✓	✓	✓

17.15.2b	**x**	**x**	—	✓	✓	✓	✓	✓	✓	✓
17.15.3	**x**	**x**	**x**	—	✓	✓	✓	✓	✓	✓
17.15.4b	**x**	**x**	**x**	**x**	—	✓	✓	✓	✓	✓
17.15.4d	**x**	**x**	**x**	**x**	**x**	—	✓	✓	✓	✓
17.15.5	**x**	**x**	**x**	**x**	**x**	**x**	—	✓	✓	✓
17.15.6	**x**	**x**	**x**	**x**	**x**	**x**	**x**	—	✓	✓
17.18.1	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	—	✓
17.18.2	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	—
17.18.3	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
17.18.4a	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
26.1.1	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
26.1.2	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
26.2.1	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**

How to Configure ISSU

To configure ISSU, see the In-Service Software Upgrade chapter of the configuration guide:

- Cisco Catalyst 9800 Series Wireless Controller Software Configuration Guide

Additional References for ISSU

Related Topic	Document Title
Software Configuration Guides	Cisco Catalyst 9800 Series Wireless Controller Software Configuration Guide
Release Notes	Release Notes for Cisco Catalyst 9800 Series Wireless Controller
Command References	Cisco Catalyst 9800 Series Wireless Controller Command Reference
Troubleshooting TechNotes	

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