



Cisco IOS Release 15.7(3)M2 - Release Notes for Cisco IR800 Industrial Integrated Services Routers and Cisco 1000 Series Connected Grid Routers

The following release notes support the Cisco IOS 15.7(3)M2 release. These release notes are updated to describe new features, limitations, troubleshooting, recommended configurations, caveats, and provide information on how to obtain support and documentation.

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Image Information and Supported Platforms

Note: You must have a Cisco.com account to download the software.

Cisco IOS Release 15.7(3)M2 includes the following Cisco IOS images:

IR800

- System Bundled Image: `ir800-universalk9-bundle.SPA.157-3.M2`

This bundle contains the following components:

- IOS: `ir800-universalk9-mz.SPA.157-3.M2`
- Guest Operating System: `ir800-ref-gos.img.1.6.3.1.gz`
- Hypervisor: `ir800-hv.srp.SPA.3.0.39`
- FPGA: 2.7.0

Software Downloads

- BIOS: 13
- MCU Application: 31

CGR1K

- System Bundled image: cgr1000-universalk9-bundle.SPA.157-3.M2
 - IOS Version: cgr1000-universalk9-mz.SPA.157-3.M2
 - Guest Operating System: cgr1000-ref-gos.img.1.6.3.1.gz
 - Hypervisor: cgr1000-hv.srp.SPA.3.0.17
 - FPGA: 2.9.0
 - BIOS: 14

Software Downloads

IR800

The latest image file for the IR800 series is:

<https://software.cisco.com/download/navigator.html?mdfid=286287045&flowid=75322>

Click on the 807, 809 or 829 link to take you to the specific software you are looking for.

The IR807 link shows only the image file.

The IR809 and IR829 links show three entries to choose:

- IOS Software
- IOx Cartridges
- IOx Fog Node Software

The IR829 also includes downloads for the AP803 Access Point Module:

- Autonomous AP IOS Software
- Lightweight AP IOS Software

Note: The `ir800-universalk9-bundle.SPA.157-3.M2` bundle can be copied via Trivial File Transfer Protocol (TFTP) or SCP to the IR800, and then installed using the `bundle install flash:<image name>` command. The `ir800-universalk9-bundle.SPA.157-3.M2.bin` file can NOT be directly booted using the `boot system flash:/image_name`. Detailed instructions are found in the [Cisco IR800 Integrated Services Router Software Configuration Guide](#).

Note: The cipher `dhe-aes-256-cbc-sha` (which is used with the commands `ip http client secure-ciphersuite` and `ip http secure-ciphersuite`) is no longer available in IOS 15.6(3)M and later as part of the weak cipher removal process. This cipher was flagged as a security vulnerability.

Caution: On older IOS releases, a problem exists where the MCU upgrade fails to complete and the IR829 stays in bootloader mode. The router will get stuck in ROMMON mode and must be sent back to Cisco with a RMA. The IR829 should only be upgraded to IOS version 15.6(3)Mx. For example:

If the IR829 is running 15.5(3)M2, DO NOT upgrade to 15.5(3)M2. Go straight to 15.6(3)Mx.

Known Limitations

CGR1K

The latest image file for the CGR 1000 Series Cisco IOS image is:

<https://software.cisco.com/download/navigator.html?mdfid=284165761&flowid=75122>

For details on the CGR1000 installation, please see:

<http://www.cisco.com/c/en/us/td/docs/routers/connectedgrid/cgr1000/ios/release/notes/OL-31148-05.html#pgfid-998856>

Known Limitations

This release has the following limitations or deviations for expected behavior:

Caveat CSCvf76265 crosses over several different IOS software releases, and is a platform driver code issue. It is included here as a known limitation with the IR800 and CGR Industrial Routers.

On both the CGR1000 and IR800, the core dump fails to write into the local flash. The IOS is running as a virtual machine and then hypervisor is running underneath. The local flash is provided by the hypervisor as a virtual disk. When a crash occurs, this virtual disk is no longer available therefore copying to flash will fail. The workaround is to use an ftp server to copy the core dump to.

Major Enhancements

Virtual LPWA support for LoRaWAN

The IR807 now supports Virtual LPWA in the same manner as the IR809/829.

See the [Cisco Wireless Gateway for LoRaWAN Data Sheet](#) for details.

For details on managing the LoRaWAN (IXM-LPWA-800) Gateway Module interface to IR800, refer to the Cisco IoT Field Network Director User Guide, Release 4.2.x and Release Notes for IoT Field Network Director, Release 4.2.x:

<https://www.cisco.com/c/en/us/support/cloud-systems-management/iot-field-network-director/tsd-products-support-series-home.html>

IOS APIs to Enable Native IOx Applications

Note: The IOx Host Device Management service package needs to be installed for this feature to work.

A new configuration command, **hdm-enable**, has been added in this release to enable the Host Device Management service:

```
ir829-01(config)#iox ?
aaa                IOX AAA options
client             Configure iox client
hdm-enable       Enable IOX Host Device Management (HDM) service
hypervisor        Configure hypervisor policy
recovery-enable   Set Guest OS image recovery
```

For more information on IOx, please visit:

<https://www.cisco.com/c/en/us/support/cloud-systems-management/iox/tsd-products-support-series-home.html>

Related Documentation

The following documentation is available:

Caveats

- Cisco IOS 15.7M cross-platform release notes:
<https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/15-7m/release/notes/15-7-3-m-rel-notes.html>
- All of the Cisco IR800 Industrial Integrated Services Router documentation can be found here:
<http://www.cisco.com/c/en/us/support/routers/800-series-industrial-routers/tsd-products-support-series-home.html>
- All of the Cisco CGR 1000 Series Connected Grid Routers documentation can be found here:
<http://www.cisco.com/c/en/us/support/routers/1000-series-connected-grid-routers/tsd-products-support-series-home.html>
- IoT Field Network Director, 4.2.x
<https://www.cisco.com/c/en/us/support/cloud-systems-management/iot-field-network-director/products-installation-and-configuration-guides-list.html>

Caveats

Caveats describe unexpected behavior in Cisco IOS releases. Caveats listed as open in a prior release are carried forward to the next release as either open or resolved.

Note: You must have a Cisco.com account to log in and access the Cisco Bug Search Tool. If you do not have one, you can [register for an account](#).

For more information about the Cisco Bug Search Tool, see the [Bug Search Tool Help & FAQ](#).

Cisco IOS Release 15.7(3)M2

The following sections list caveats for Cisco IOS Release 15.7(3)M2:

Open Caveats

- **CSCvi59098**
show run does not reflect show line stats when line configs pushed through stty from Guest-OS
Symptoms: Functionally there is no impact. the show line CLI reflects the correct data. The show run | i line' CLI alone reflects the same information for both line1 and line2, only when pushed from Guest-OS.
Workaround: N/A, no functional impact.
- **CSCvi59013**
Serial relay line propagation not working from guest-os after making config edits in IOS
Workaround: Configuration can either be pushed from the Guest-OS or IOS. If using both interchangeably, you need to execute 'no relay line propagation' or 'relay line propagation' each time.
- **CSCvi14609**
IOS image fails to boot if env var set in rommon mode
Symptoms: IOS image will not bootup from rommon2
Workaround: Set BOOT_IOS_SEQUENCE=0
- **CSCvi61559**
Autoboot sequence sometimes stops at 16, instead of 20.

Obtaining Documentation and Submitting a Service Request

Symptoms: When there is a boot failure, for example a bootable image is not found, autoboot sequence failure should go all the way to 20. On occasion, the retries will only attempt 16 or 17 times.

Workaround: There is no workaround.

Resolved Caveats

The following caveats are fixed with this release:

- **CSCvh00968**

Dynamic MAC learning fails with 'mac-address-table secure' configuration

- **CSCve34257**

Autoboot suspension on repeated toggle during IOS bootup changed from 4 to 20.

Symptoms: To prevent constant IOS boot loop, for example with a bad configuration, the reboot loop to has been locked at 20. This helps prevent battery drain. The previous value was 4, now it has changed to 20 to give more leeway.

Workaround: In rommon mode, manually set `BOOT_IOS_SEQUENCE=0`. This is a new feature enhancement.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation at: <http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>.

Subscribe to What's New in Cisco Product Documentation, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.

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