



Cisco IOS Release 15.6(3)M6b – Release Notes for Cisco IR800 Industrial Integrated Services Routers

The following release notes support the Cisco IOS 15.6(3)M6b 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.

Note: Throughout this document you will see IR800. In this reference, it is meant as IR809 and IR829.

Contents

This publication consists of the following sections:

- [Image Information and Supported Platforms, page 1](#)
- [Software Downloads, page 2](#)
- [Known Limitations, page 2](#)
- [Major Enhancements, page 3](#)
- [Related Documentation, page 3](#)
- [Caveats, page 3](#)

Image Information and Supported Platforms

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

Cisco IOS Release 15.6(3)M6b includes the following Cisco IOS images:

IR800

- System Bundled Image: ir800-universalk9-bundle.SPA.156-3.M6b

This bundle contains the following components:

- IOS: ir800-universalk9-mz.SPA.156-3.M6b
- Guest Operating System: ir800-ref-gos.img.1.3.4.1.gz
- Hypervisor: ir800-hv.srp.SPA.2.6.30
- FPGA: 2.9.0
- BIOS: 24

- MCU Application: 33

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 809 or 829 link to take you to the specific software you are looking for.

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.M6b` 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.M6b.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

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 Routers.

On the 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.

Please ensure there is a minimum 30MB additional space in the flash: file system before attempting an upgrade or downgrade between releases. Otherwise, the FPGA/BIOS will not have enough space to store files and perform the upgrade. In these current releases, the bundle installation will not display a warning, but future releases from September 2019 going forward will have a warning.

Major Enhancements

IMPORTANT NOTE:

FPGA and BIOS have been signed and updated to versions 2.9.0 and 24 respectively.

Going forward, for the 15.6 Release Train, this image (15.6-3.M6b) is considered as the baseline. Downgrade is unsupported. If the user downgrades, the FPGA/BIOS will not downgrade and continue to remain as 2.9.0 and 24 respectively. Functionality-wise, everything remains exactly the same.

Note: After upgrading to this release, make sure to delete any old image files that may still be in flash:. This will prevent an **unintended** IOS downgrade.

Related Documentation

The following documentation is available:

- Cisco IOS 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>

- IoT Field Network Director, 4.2.x

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

Open Caveats

- **CSCvp74268 - IR809 and IR829**

Bundle install should internally handle "firmware downgrade enable" check.

Symptoms: If you manually downgrade hypervisor and IOS only from releases (159-3.M+, 158-3.M3+, 156-3.M7+, 157-3.M5+) to the releases (158-3.M2a, 157-3.M4b, 156-3.M6b), the router will be stuck in about loop.

Workaround: If you use the recommended 'bundle install' to downgrade, the process will run correctly.

Note: Future releases 159-3.M+, 158-3.M3+, 156-3.M7+, 157-3.M5+ have this issue resolved. Manual and bundle install work, although bundle install continues to be the recommended option for full functionality.

Caveats

Resolved Caveats

None

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

© 2019 Cisco Systems, Inc. All rights reserved.