



# Release Notes for Cisco 3G and 4G Serviceability Enhancement

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**Release: Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T  
OL-28189-02**

These release notes describe the serviceability enhancements to Cisco 3G and 4G services with Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T. They should be used with the documents listed in the [Related Documentation](#) section.

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**Americas Headquarters:**  
**Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA**

# Introduction

The support for the serviceability enhancements for Cisco 3G and 4G services starts with Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T. Cisco 3G and 4G serviceability enhancements provide the following features as part of router utility:

- Integrated Modem DM Log Collection
- Integrated Modem Crashdump Log Collection
- Integrated Modem Log Error and Dump Collection

## System Requirements

This section contains the following subsections:

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## Hardware Supported

Cisco 3G and 4G serviceability enhancements are supported on Cisco 819, Cisco 880, and Cisco ISR G2 platforms starting with Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T.

## Software Compatibility

For more information about the latest certified firmware version for your carrier and IOS compatibility for 3G SKUs, see

<http://www.cisco.com/cisco/software/navigator.html?mdfid=279119319&flowid=7001>.

For more information about the latest certified firmware version for your carrier and IOS compatibility for 4G SKUs, see

[http://www.cisco.com/en/US/prod/collateral/modules/ps5949/ps7272/datasheet\\_c78-710314.html](http://www.cisco.com/en/US/prod/collateral/modules/ps5949/ps7272/datasheet_c78-710314.html).

## Determining the Software Version

To determine the release of Cisco IOS software running on your Cisco router, log in to the router and enter the **show version EXEC** command. The following sample output from the show version command indicates the Cisco IOS release on the first output line:

```
Router# show version
Cisco IOS Software, C880 Software (C880DATA-UNIVERSALK9-M), Version 15.2(4)M1.7,
MAINTENANCE INTERIM SOFTWARE
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2012 by Cisco Systems, Inc.
Compiled Tue 11-Sep-12 09:55 by prod_rel_team
```

## Feature Set Tables

Use Cisco Feature Navigator to find information about 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 <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

[Table 1](#) lists the feature information for Cisco 3G and 4G Serviceability Enhancement.

**Table 1** Feature Information for 3G and 4G Serviceability Enhancement

Feature Name	Releases	Feature Information
3G and 4G Serviceability Enhancement	Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T	The 3G and 4G Serviceability Enhancement feature provides integrated DM logging, crashdump logging, and log error and dump collection capability as part of router utility. This feature is supported on Cisco 819, Cisco 880, and Cisco ISR G2 platforms.

## New and Changed Information

### New Features in Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T

This section describes the new features in these releases:

- [Integrated Modem DM Log Collection, page 3](#)
- [Integrated Modem Crashdump Log Collection, page 4](#)
- [Integrated Modem Log Error and Dump Collection, page 4](#)

#### Integrated Modem DM Log Collection

Diagnostic Monitor (DM) is a Qualcomm proprietary protocol. Diagnostic software tools, such as Sierra Wireless SwiLog and Qualcomm QXDM, are based on DM protocol. These tools can be used to capture data transactions between the modem and the network over the RF interface, which makes them useful tools for troubleshooting 3G and 4G data connectivity or performance issues.

For releases earlier than Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T, DM log collection requires a PC (which hosts the DM logging application) to be connected to the router either through serial diagnostic port on the HWIC faceplate or the fixed platform or some LAN/WAN port over the Internet.

As part of the 3G and 4G serviceability enhancement in Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T, DM log collection has been integrated into Cisco IOS, eliminating the need for an external PC and simplifying the DM log collection process.

For information on how to configure the Integrated Modem DM Log Collection feature, see [Cisco 3G and 4G Serviceability Enhancement User Guide](#).

## Integrated Modem Crashdump Log Collection

Modem crashdump collection is useful in debugging firmware crash. To collect crash data, the modem has to be pre-configured so that it will stay in memdump mode after a crash. Memdump mode is a special boot-and-hold mode for the memdump utility to collect crash data.

For releases earlier than Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T, crashdump collection requires the PC to be connected to the router using a USB cable or a special RJ45-USB cable on a non-HSPA+7 3G HWIC.

As part of the 3G and 4G serviceability enhancement in Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T, the crashdump collection utility is integrated into Cisco IOS.

For information on how to configure the Integrated Modem Crashdump Log Collection feature, see [Cisco 3G and 4G Serviceability Enhancement User Guide](#).

**Note**

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The integrated modem crashdump collection feature is supported only on 3G HSPA and 4G LTE based SKUs. This feature is not supported on 3G CDMA HWIC and fixed platforms.

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## Integrated Modem Log Error and Dump Collection

As part of the 3G serviceability enhancement in Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T, AT command strings (**at!err** and **at!gcdump**) can be sent to the modem using Cisco IOS CLI rather than setting up a reverse telnet session to the cellular modem to obtain log error and dump information.

For information on how to configure the Integrated Modem Log Error and Dump Collection feature, see [Cisco 3G and 4G Serviceability Enhancement User Guide](#).

**Note**

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The integrated modem log error and dump collection feature is supported only on 3G SKUs.

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## Limitations and Restrictions

The following limitations and restrictions apply to Cisco 3G and 4G services starting with Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T:

- It is recommended to launch DM logging when the CPU utilization is below 75% to avoid DM packet loss.
- DM and crashdump logging cannot be enabled simultaneously on multiple (E)HWICs on Cisco ISR G2 platforms.

# Open Caveats - Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T

Table 2 lists the open caveats for 3G and 4G Serviceability Enhancements with Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T.

**Table 2** *Open Caveats for 3G and 4G Serviceability Enhancements with Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T*

Defect ID	Summary	Additional Information
CSCuc26467	Router crashes when modem crashdump or DM logging is enabled with USB	<p><b>Symptom</b> Router crashes due to low stack when modem crashdump or DM logging is enabled with USB storage.</p> <p><b>Conditions</b> When modem crashdump or DM logging is enabled with USB storage.</p> <p><b>Workaround</b> Use flash or FTP storage instead.</p>
CSCuc45853	%Error verifying flash0:<IOS Image>: Digital signature verification fails when DM logging is enabled and the IOS image is copied into flash	<p><b>Symptom</b> Cisco IOS image might be corrupted if it is downloaded from the TFTP server while DM logging is running.</p> <p><b>Conditions</b> Copy Cisco IOS image to flash while modem DM logging is in progress.</p> <p><b>Workaround</b> Stop DM logging before downloading the Cisco IOS image from TFTP server.</p>

## Related Documentation

See the following related documentations:

- [Release-Specific Documents, page 6](#)
- [Platform-Specific Documents, page 6](#)

## Release-Specific Documents

For more information on 3G and 4G Serviceability Enhancement supported with Cisco IOS Release 15.2(4)M2 and Cisco IOS Release 15.3(1)T, see the following documents:

- [Cisco 3G and 4G Serviceability Enhancement User Guide](#)
- [3G High-Speed WAN Interface Card Solution Deployment Guide](#)

## Platform-Specific Documents

For more information on Cisco 819 ISRs, see the following documents:

- [Cisco 819 Integrated Services Router Hardware Installation Guide](#)
- [Cisco 819 Integrated Services Routers Software Configuration Guide](#)

For more information on Cisco 880 Series ISRs, see the following documents:

- [Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Hardware Installation Guide](#)
- [Cisco 880 Series Integrated Services Router Software Configuration Guide](#)

For more information on Cisco 1900, 2900, and 3900 ISR G2 platforms, see the following documents:

- [Cisco 1900 Series Integrated Services Router Hardware Installation](#)
- [Cisco 3900 Series and Cisco 2900 Series Hardware Installation Guide](#)
- [Cisco 3900 Series, 2900 Series, and 1900 Series Software Configuration Guide](#)

For more information on Cisco 3G EHWICs and 880G Series ISRs, see the following documents:

- [Configuring 3G Wireless WAN on Modular and Fixed ISRs \(HWIC-3G-CDMA, HWIC-3G-CDMA-x, and PCEX-3G-CDMA-x\)](#)
- [Configuring 3G Wireless WAN on Modular and Fixed ISRs \(HWIC-3G-GSM, HWIC-3G-HSPA, PCEX-3G-HSPA-x\)](#)
- [Configuring Cisco EHWIC and 880G for 3G \(EV-DO Rev A\)](#)
- [Configuring Cisco EHWIC and 880G for 3.7G \(HSPA+\)/3.5G \(HSPA\)](#)

For more information on Cisco 4G EHWICs, see the following documents:

- [Cisco 4G LTE Wireless WAN EHWIC](#)
- [Configuring Cisco 4G LTE Wireless WAN EHWIC](#)

# Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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