



Cisco 4000 Series Integrated Services Routers Release Notes, Cisco IOS XE Denali 16.3

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This document provides information about the Cisco IOS XE Denali 16.3.1 software release for the Cisco 4000 Series Integrated Services Routers (ISRs) and consists of the following sections:

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Cisco 4000 Series Integrated Services Routers Overview

The Cisco 4000 Series ISRs are modular routers with LAN and WAN connections that can be configured by means of interface modules, including Cisco Enhanced Service Modules (SM-Xs), and Network Interface Modules (NIMs).

The following table lists the router models that belong to the Cisco 4000 Series ISRs.



Cisco 4400 Series ISR	Cisco 4300 Series ISR
Cisco 4431 ISR	Cisco 4321 ISR
Cisco 4451 ISR	Cisco 4331 ISR
	Cisco 4351 ISR

Migrating to Cisco IOS XE Denali 16.3.1

The *Cisco IOS XE Denali 16.3.1 Migration Guide for Access and Edge Routers* contains important information for migrating successfully from Cisco IOS XE 3S to Cisco IOS XE 16.3.1. Before you begin the migration, read this information to ensure that you have completed all the prerequisites and understand the migration process.

For a list of caveats in this release, see the [Open Caveats - Cisco IOS XE Denali 16.3.1, page 32](#) section.

System Requirements

The following are the minimum system requirements:

- Memory: 4GB DDR3 up to 16GB
- Hard Drive: 200GB or higher (Optional). (The hard drive is only required for running services such as Cisco ISR-WAAS.)
- Flash Storage: 4GB to 32GB
- NIMs and SM-Xs: Modules (Optional)
- NIM SSD (Optional)

Determining the Software Version

You can use the following commands to verify your software version:

- For a consolidated package, use the **show version** command
- For individual sub-packages, use the **show version installed** command

Upgrading to a New Software Release

To install or upgrade, obtain a Cisco IOS XE Denali 16.3.1 consolidated package (image) from Cisco.com. You can find software images at <http://software.cisco.com/download/navigator.html>. To run the router using individual sub-packages, you also need to first download the consolidated package and extract the individual sub-packages from a consolidated package.

For information about upgrading software, see the “How to Install and Upgrade Software” section in the *Software Configuration Guide for the Cisco 4000 Series ISRs*.

Recommended Firmware Versions

Table 1 provides information about the recommended Rommon and CPLD versions for releases prior to Cisco IOX XE Denali 16.3.1.

Table 1 Recommended Firmware Versions

Cisco 4000 Series ISRs	Existing RoMmon	Cisco Field-Programmable Devices
Cisco 4451 ISR	15.3(3r)S1	15010638 Note Upgrade CLI output has a typo and it would show the version incorrectly as 15010738 instead of 15010638. This does not impact the upgrade.
Cisco 4431 ISR	15.4(2r)S	15010638 Note Upgrade CLI output has a typo and it would show the version incorrectly as 15010738 instead of 15010638. This does not impact the upgrade.
Cisco 4351 ISR	15.4(3r)S3	14101324
Cisco 4331 ISR	15.4(3r)S5	14101324
Cisco 4321 ISR	15.4(3r)S5	14101324

Upgrading the ROMMON Version on the Cisco 4000 Series ISR

For information about ROMMON version that is needed to load the Cisco IOS Denali 16.3.1 image on a Cisco ISR 4000 Series, see the [Cisco IOS XE Denali 16.3.1 Migration Guide for Access and Edge Routers](#).



Note

To upgrade to the Cisco IOS Denali 16.3.1 version, you need to first upgrade the ROMMON version to Cisco IOS 16.x.

For information about ROMMON and upgrading procedure, see the "ROM Monitor Overview and Basic Procedures" section in the [Hardware Installation Guide for the Cisco 4000 Series Integrated Services Routers](#).

Upgrading Field-Programmable Hardware Devices

The hardware-programmable firmware is upgraded when Cisco 4000 Series ISR contains an incompatible version of the hardware-programmable firmware. To do this upgrade, a hardware-programmable firmware package is released to customers.

Generally, an upgrade is necessary only when a system message indicates one of the field-programmable devices on the Cisco 4000 Series ISR needs an upgrade, or a Cisco technical support representative suggests an upgrade.

Note: CPLD upgrade and ROMMON upgrade to 16.2(1r) is required for the NIM-ES2-8 module to boot up.

From Cisco IOS XE Release 3.10S onwards, you must upgrade the CPLD firmware to support the incompatible versions of the firmware on the Cisco 4000 Series ISR. For upgrade procedures, see the [Upgrading Field-Programmable Hardware Devices for Cisco 4000 Series ISRs](#).

Feature Navigator

You can use Cisco Feature Navigator to find information about feature, platform, and software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on cisco.com is not required.

Limitations and Restrictions

The following limitations and restrictions apply to all releases:

- [Cisco Unified Threat Defense](#)
- [Cisco ISR-WAAS and AppNav-XE Service](#)
- [IPsec Traffic](#)
- [Dial on Demand](#)
- [USB Etoken](#)
- [Recommended Release for Cisco IWAN](#)

Cisco Unified Threat Defense

The Cisco Unified Threat Defense (UTD) service requires a minimum of 8GB of DRAM and 200GB SSD.

Cisco ISR-WAAS and AppNav-XE Service

The Cisco ISR-WAAS/AppNav service requires a system to be configured with a minimum of 8GB of DRAM and 16GB flash storage. For large service profiles, 16GB of DRAM and 32GB flash storage is required. Also, Cisco ISR-WAAS requires a minimum of 200GB SSD.

IPsec Traffic

IPsec traffic is restricted on the Cisco ISR 4451-X. The router has the same IPsec functionality as a Cisco ISR G2. The default behavior of the router will be as follows (unless an HSECK9 license is installed):

- If the limit of 225 concurrent IPsec tunnels is exceeded, no more tunnels are allowed and the following error message appears:

```
%CERM-4-TUNNEL_LIMIT: Maximum tunnel limit of 225 reached for Crypto functionality with securityk9 technology package license.
```

- When the throughput value for the inbound (decrypted) traffic exceeds 85Mbps, subsequent IPsec traffic in that direction will be dropped and the following message will be displayed:

```
%IOSXE-4-PLATFORM:cpp_cp: QFP:0.0 Thread:001 TS:00000001786413378010
%CERM_DP-4-DP_RX_BW_LIMIT: Maximum Rx Bandwidth limit of 85000 Kbps reached for Crypto functionality with securityk9 technology package license.
```

- To avoid this restriction and enable full IPsec functionality on the router, install an HSECK9 feature license.
- The Cisco 4000 Series ISR does not currently support nested SA transformation such as:


```
crypto ipsec transform-set transform-1 ah-sha-hmac esp-3des esp-md5-hmac
crypto ipsec transform-set transform-1 ah-md5-hmac esp-3des esp-md5-hmac
```
- The Cisco 4000 Series ISR does not currently support COMP-LZS configuration.

Dial on Demand

Dial on demand feature is not supported on Cisco 4000 series platform.

USB Etoken

USB Etoken is not supported on Cisco IOS XE Denali 16.2.1.

Unified Communication on Cisco 4000 Series ISR

- For T1/E1 clocking design and configuration changes, For detailed information, see the following Cisco document: [T1/E1 Voice and WAN Configuration Guide](#).
- For Cisco ISR 4000 Series UC features interpretation with CUCM versions, For detailed information, see the following Cisco document: [Compatibility Matrix](#).
- For High density DSPfarm PVDM (SM-X-PVDM) and PVDM4 DSP planning, For detailed information, see the following Cisco document: [DSP Calculator for DSP planning](#).

Recommended Release for Cisco IWAN

Cisco IOS XE Denali 16.3.5 is not recommended for Cisco IWAN due to the following bugs: CSCvf98783, CSCvg35332, and CSCvg05896. Instead, it is recommended to use [Cisco IOS XE Denali 16.3.5c](#) for Cisco IWAN, which provides a fix for these bugs. For more details on these bugs, see [Cisco Bug Search Tool](#).

New Features and Important Notes About Cisco 4000 Series ISRs Release Denali 16.3.1

This section describes new features in Cisco IOS XE Denali 16.3.1 that are supported on the Cisco 4000 Series ISRs.

New and Changed Information

- [New Software Features in Cisco 4000 Series ISR Release Cisco IOS XE Denali 16.3.1](#), page 6

New Software Features in Cisco 4000 Series ISR Release Cisco IOS XE Denali 16.3.1

The following features are supported by the Cisco 4000 Series Integrated Services Routers for Cisco IOS XE Denali 16.3.1:

- For information on migrating from existing Cisco IOS XE 3S releases to the Cisco IOS XE Denali 16.3.1 release, see [Cisco IOS XE Denali 16.3.1 Migration Guide for Access and Edge Routers](#).
- Supported Technology Configuration Guides—When a technology is supported on Cisco 4000 series ISR, the corresponding technology configuration guide is displayed on the product landing page.
- 3-Level User-defined Queuing Policy Support—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_mqc/configuration/xs-16/qos-mqc-xe-16-book/3-level-user-defined-queuing-policy-support.html.
- Allow Use of Same ACL or Router-map on Multiple NAT Statements—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipaddr_nat/configuration/xs-16/nat-xe-16-book/iadnat-dynamic-hsrp.html.
- BGP - mVPN PE-PE Ingress Replication—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipmulti_mvpn/configuration/xs-16/imc-mvpn-xe-16-book/bgp-mvpn-pe-pe-ingress-replication.html.
- Consumption of Forked 18X Responses with SDP for CUBE—For detailed information, see the following Cisco document:
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-for-ked-18x-responses.html>.
- Cisco Asynchronous Serial NIM - 16/24 Port for Cisco 4000 Series ISRs—For detailed information, see the following Cisco document:
<https://www.cisco.com/c/en/us/td/docs/routers/access/interfaces/NIM/software/configuration/guide/Async-Serial-NIM-16-24-Port-xe-16-book.html>.
- Cisco UCS E-Series EN140 NIM Support on Cisco 4000 Series ISR—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/e/hw/e_series_install.html.

- Cisco IOx Local Manager—Cisco IOx Local Manager is a platform-specific application that is installed on a host system as part of the installation of the Cisco IOx framework on that device. It provides a web-based user interface that you can use to manage, administer, monitor, and troubleshoot apps on the host system, and to perform a variety of related activities. For detailed information see the following document: *Cisco IOx Local Manager Reference Guide*.
- Cisco Umbrella Branch—The Cisco Umbrella Branch feature enables cloud-based security service by inspecting the DNS query that is sent to the enterprise DNS server through Cisco 4000 Series Integrated Services Routers (ISR). For detailed information, see the following Cisco document: *Security Configuration Guide: Cisco Umbrella Branch*.
- CTS SGACL Support on Routers. For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/sec_usr_cts/configuration/xs-16/sec-usr-cts-xe-16-book/sec-cts-sgac.html.
- Cisco V.150.1 Minimum Essential Requirements Support on Cisco 4000 Series ISRs—The support for Cisco V.150.1 MER is available from Cisco IOS XE Denali Release 16.3.1. For detailed information, see the following Cisco document: *Cisco V.150.1 Minimum Essential Requirements Configuration Guide*.
- Customization of NBAR2 Built-in Protocols—For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_nbar/configuration/xs-16/qos-nbar-xe-16-book.html.
- CVP TCL HA Enhancement—For detailed information, see the following Cisco document: <http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-cvptcl-ha.html>.
- DMVPN Config Simplification—For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/sec_conn_dmvpn/configuration/xs-16/sec-conn-dmvpn-xe-16-book.html.
- DNS Guard for DNS Learning Mechanism—For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_nbar/configuration/xs-16/qos-nbar-xe-16-book.html.
- DNS Protocol Classification Change—For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_nbar/configuration/xs-16/qos-nbar-xe-16-book.html.
- ECMP Loadbalance with Tunnel Visibility—For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipswitch_cef/configuration/xs-16/isw-cef-xe-16-book/isw-cef-ecmp-loadbalance-with-tunnel-visibility.html.
- FedRAMP Secure Conference and SIP FAX—For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/security/b_11xcucsecx/b_11xcucsecx_chapter_01001.html.
- Hoot and Holler over IP—For detailed information, see the following Cisco document: http://www.cisco.com/c/en/us/td/docs/ios/12_2/voice/configuration/guide/fvfax_c/vvfhip.html.
- Media Monitoring on Control Plane for CUBE—For detailed information, see the following Cisco document: <http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-voice-quality-monitoring.html>.

- Multitenancy Call Routing and Scaling Enhancements for CUBE—For detailed information, see the following Cisco document:
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-multi-vrf.html>.
- Multiple SIP-UA Support—For detailed information, see the following Cisco document:
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-multi-tenants.html>.
- Multi-Tenant Support for NAT—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipaddr_nat/configuration/xe-16/nat-xe-16-book/ianat-dynamic-hsrp.html.
- Multi-VRF Support for CUBE—For detailed information, see the following Cisco document:
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-multi-vrf.html>.
- Night Service support for SIP Phones—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucme/admin/configuration/guide/cmeadm/mecover.html.
- PKI Trustpool Enhancements—Effective with Cisco IOS XE Denali 16.3.1, the way PKI Trustpools are managed have changed. The PKI Trustpool Enhancements feature is used for authentication of HTTPS connections built from the router. Common features that leverage this feature include, but not exhaustive, Plug and Play (PnP), Cisco Web Security (CWS), Cisco Umbrella Branch. If you are upgrading to this release, please review the changes to the feature at the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/sec_conn_pki/configuration/xe-16/sec-pki-xe-16-book/sec-pki-trustpool-mgmt.html
- Session-ID Support on CUBE—For detailed information, see the following Cisco document:
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-session-id.html>.
- Smart Licensing—For detailed information, see the following Cisco document:
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/csa/configuration/xe-16/csa-xe-16-book.html>.
- Support for Auto registration of SIP phones—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucme/admin/configuration/guide/cmeadm/mebasic.html.
- Support for BACD with Voice Hunt group—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucme/bacd/configuration/guide/cme40tcl/4Obacd.html.
- Transport Hierarchy Support for DNS—For detailed information, see the following Cisco document:
http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_nbar/configuration/xe-16/qos-nbar-xe-16-book.html.
- Virtual Routing and Forwarding (VRF) Support on Snort IPS—The VRF feature is supported on Snort IPS configuration from Cisco IOS XE Denali Release 16.3.1 and later releases. For detailed information, see the following Cisco document: *Security Configuration Guide: Unified Threat Defense*.
- Web Filtering— The Web Filtering feature enables the user to provide controlled access to Internet websites or Interanet sites by configuring the domain-based or URL-based policies and filters on the device. For detailed information, see the following Cisco document: *Security Configuration Guide: Unified Threat Defense*.

- Web User Interface—Supports an embedded GUI-based device-management tool that provides the ability to provision the router, simplifies device deployment and manageability, and enhances user experience. The following features are supported on Web User Interface from Cisco IOS XE Denali Release 16.3.1:
 - Software Upgrade
 - Enhanced Interior Gateway Routing Protocol (EIGRP)
 - Network Address Translation (NAT)
 - Virtual Routing and Forwarding (VRF)
 - Application Visibility and Control
 - Custom Application
 - Serial Interface
 - Ethernet Sub Interfaces

For information on how to access the Web User Interface, see [Configure the Router for Web User Interface, page 9](#).

- WebEx/Huron Requirements for Video SDP—For detailed information, see the following Cisco document:
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-audio-fo-rced.html>.

New Features and Important Notes About Cisco 4000 Series ISRs Release Denali 16.3.2

This section describes new features in Cisco IOS XE Denali 16.3.2 that are supported on the Cisco 4000 Series ISRs.

New and Changed Information

- [New Software Features in Cisco 4000 Series ISR Release Cisco IOS XE Denali 16.3.2, page 9](#)

New Software Features in Cisco 4000 Series ISR Release Cisco IOS XE Denali 16.3.2

The following features are supported by the Cisco 4000 Series Integrated Services Routers for Cisco IOS XE Denali 16.3.2:

Web User Interface: Configuring EIGRP Routing—Enhanced Interior Gateway Routing Protocol (EIGRP) is an interior gateway protocol suited for many different topologies and media. In a well-designed network, EIGRP scales well and provides extremely quick convergence times with minimal network traffic.

Configure the Router for Web User Interface

This section explains how to configure the router to access Web User Interface.

Web User Interface require the following basic configuration to connect to the router and manage it.

- An http or https server must be enabled with local authentication.
- A local user account with privilege level 15 and accompanying password must be configured.
- Vty line with protocol ssh/telnet must be enabled with local authentication. This is needed for interactive commands.
- You can use the Cisco IOS CLI to enter the necessary configuration commands. To use this method, see [Entering the Configuration Commands Manually](#).

Entering the Configuration Commands Manually

If you don't want to use the factory default configuration because the router already has a configuration, or for any other reason, you can use the procedure in this section to add each required command to the configuration.

To enter the Cisco IOS commands manually, complete the following steps:

Step 1 Log on to the router through the Console port or through an Ethernet port.

Step 2 If you use the Console port, and no running configuration is present in the router, the Setup command Facility starts automatically, and displays the following text:

```
--- System Configuration Dialog ---
```

```
Continue with configuration dialog? [yes/no]:
```

Enter **no** so that you can enter Cisco IOS CLI commands directly.

If the Setup Command Facility does not start automatically, a running configuration is present, and you should go to the next step.

Step 3 When the router displays the user EXEC mode prompt, enter the **enable** command, and the enable password, if one is configured, as shown in the following example:

```
Router> enable  
password password
```

Step 4 Enter config mode by entering the config terminal command, as shown in the following example.

```
Router> config terminal  
Router(config)#
```

Step 5 Using the command syntax shown, create a user account with privilege level 15.

```
Router(config)# username name privilege 15 secret 0 password
```

Step 6 If no router interface is configured with an IP address, configure one so that you can access the router over the network. The following example shows the interface Fast Ethernet 0 configured.

```
Router(config)# int FastEthernet0  
Router(config-if)# ip address 10.10.10.1 255.255.255.248  
Router(config-if)# no shutdown  
Router(config-if)# exit
```

If you are going to connect the PC directly to the router, the PC must be on the same subnet as this interface.

Step 7 Configure the router as an http server for nonsecure communication, or as an https server for secure communication.

To configure the router as an http server, enter the **ip http server** command shown in the example:

```
Router(config)# ip http server
```

To configure the router as an https server, enter the **ip http secure-server** command shown in the example:

```
Router(config)# ip http secure-server
```

- Step 8** Configure the router for local authentication, by entering the **ip http authentication local** command, as shown in the example:

```
Router(config)# ip http authentication local
```

- Step 9** Configure the vty lines for privilege level 15. For nonsecure access, enter the **transport input telnet** command. For secure access, enter the **transport input telnet ssh** command. An example of these commands follows:

```
Router(config)# line vty 0 4
Router(config-line)# privilege level 15
Router(config-line)# login local
Router(config-line)# transport input telnet
Router(config-line)# transport output telnet
Router(config-line)# transport input telnet ssh
Router(config-line)# transport output telnet ssh
Router(config-line)# exit
Router(config)# line vty 5 15
Router(config-line)# privilege level 15
Router(config-line)# login local
Router(config-line)# transport input telnet
Router(config-line)# transport output telnet
Router(config-line)# transport input telnet ssh
Router(config-line)# transport output telnet ssh
Router(config-line)# end
```

Caveats

This section provides information about the caveats in Cisco 4000 Series Integrated Services Routers routers, Cisco IOS XE Denali 16.3.1 Caveats describe unexpected behavior. Severity 1 caveats are the most serious caveats. Severity 2 caveats are less serious. Severity 3 caveats are moderate caveats. This section includes severity 1, severity 2, and selected severity 3 caveats.

The open and resolved bugs for this release are accessible through the [Cisco Bug Search Tool](#). This web-based tool provides you with access to the Cisco bug tracking system, which maintains information about bugs and vulnerabilities in this product and other Cisco hardware and software products. Within the [Cisco Bug Search Tool](#), each bug is given a unique identifier (ID) with a pattern of CSCxxNNNNN, where x is any letter (a-z) and N is any number (0-9). The bug IDs are frequently referenced in Cisco documentation, such as Security Advisories, Field Notices and other Cisco support documents. Technical Assistance Center (TAC) engineers or other Cisco staff can also provide you with the ID for a specific bug. The [Cisco Bug Search Tool](#) enables you to filter the bugs so that you only see those in which you are interested.

In addition to being able to search for a specific bug ID, or for all bugs in a product and release, you can filter the open and/or resolved bugs by one or more of the following criteria:

- Last modified date
- Status, such as fixed (resolved) or open
- Severity
- Support cases

You can save searches that you perform frequently. You can also bookmark the URL for a search and email the URL for those search results.

**Note**

If the defect that you have requested cannot be displayed, this may be due to one or more of the following reasons: the defect number does not exist, the defect does not have a customer-visible description yet, or the defect has been marked Cisco Confidential.

We recommend that you view the field notices for the current release to determine whether your software or hardware platforms are affected. You can access the field notices from the following location:

http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html

Using the Cisco Bug Search Tool

For more information about how to use the [Cisco Bug Search Tool](#), including how to set email alerts for bugs and to save bugs and searches, see [Bug Search Tool Help & FAQ](#).

Before You Begin

**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.

- Step 1** In your browser, navigate to the [Cisco Bug Search Tool](#).
- Step 2** If you are redirected to a Log In page, enter your registered Cisco.com username and password and then, click Log In.

- Step 3** To search for a specific bug, enter the bug ID in the Search For field and press Enter.
- Step 4** To search for bugs related to a specific software release, do the following:
- a. In the Product field, choose Series/Model from the drop-down list and then enter the product name in the text field. If you begin to type the product name, the [Cisco Bug Search Tool](#) provides you with a drop-down list of the top ten matches. If you do not see this product listed, continue typing to narrow the search results.
 - b. In the Releases field, enter the release for which you want to see bugs.
- The [Cisco Bug Search Tool](#) displays a preview of the results of your search below your search criteria.
- Step 5** To see more content about a specific bug, you can do the following:
- Mouse over a bug in the preview to display a pop-up with more information about that bug.
 - Click on the hyperlinked bug headline to open a page with the detailed bug information.
- Step 6** To restrict the results of a search, choose from one or more of the following filters:

Filter	Description
Modified Date	A predefined date range, such as last week or last six months.
Status	A specific type of bug, such as open or fixed.
Severity	The bug severity level as defined by Cisco. For definitions of the bug severity levels, see Bug Search Tool Help & FAQ .
Rating	The rating assigned to the bug by users of the Cisco Bug Search Tool .
Support Cases	Whether a support case has been opened or not.

Your search results update when you choose a filter.

Caveats in Cisco 4000 Series Integrated Services Routers

This section contains the following topics:

- [Open Caveats - Cisco IOS XE Denali 16.3.9, page 14](#)
- [Resolved Caveats - Cisco IOS XE Denali 16.3.9, page 15](#)
- [Open Caveats - Cisco IOS XE Denali 16.3.7, page 18](#)
- [Resolved Caveats - Cisco IOS XE Denali 16.3.7, page 19](#)
- [Open Caveats - Cisco IOS XE Denali 16.3.7, page 18](#)
- [Resolved Caveats - Cisco IOS XE Denali 16.3.7, page 19](#)
- [Open Caveats - Cisco IOS XE Denali 16.3.6, page 21](#)
- [Resolved Caveats - Cisco IOS XE Denali 16.3.6, page 21](#)
- [Open Caveats - Cisco IOS XE Denali 16.3.5, page 25](#)
- [Resolved Caveats - Cisco IOS XE Denali 16.3.5, page 25](#)
- [Open Caveats - Cisco IOS XE Denali 16.3.4, page 28](#)

- [Resolved Caveats - Cisco IOS XE Denali 16.3.4, page 28](#)
- [Open Caveats - Cisco IOS XE Denali 16.3.3, page 30](#)
- [Resolved Caveats - Cisco IOS XE Denali 16.3.3, page 31](#)
- [Open Caveats - Cisco IOS XE Denali 16.3.2, page 31](#)
- [Resolved Caveats - Cisco IOS XE Denali 16.3.2, page 31](#)
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Open Caveats - Cisco IOS XE Denali 16.3.9

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCvi28402	Stateful features enhancement for big flow (Elephant flow) -CFT infra dependency
CSCvm56670	ACL dropping packets after updating it - %CPPEXMEM-3-NOMEM
CSCvn03502	SR: CFLOW input intf index is 0xffffffff for Service-engine DSP module interface
CSCvn31903	ISR4K CUBE send first register with wrong ip address after reload - SIP-UA
CSCvn78961	Subscribers cannot re-login due to CoA time-out (lite-sessions in routed mode)
CSCvo20934	FMAN crash due to Flexible Netflow (fnf)
CSCvo62122	IOS-XE Router may crash when attempting to Fragment Corrupted IPv4 Packet
CSCvp00054	Router unexpected reloads when doing ipv4_nat_destroy_addrport_bind
CSCvp24981	When FQDN used for APN, IOS DNS resolves FQDN to IP, but GTP stays in DNS pending and IP 0.0.0.0
CSCvp31671	Router crashes due to a call loop
CSCvp32910	CHUNKBADROOTCHUNKPTR: Bad root chunk pointer in chunk header post SSO - ASR1K
CSCvp34230	CUBE HA - Global bind is removed during interface flap
CSCvp79485	DMVPN - Packet is encapsulated but not encrypted going out DMVPN tunnel
CSCvp86216	Router ucode crash with NAT with interface flap

Resolved Caveats - Cisco IOS XE Denali 16.3.9

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCvb22637	nginx crashes when username containing formatted string logs into WebUI
CSCve47826	Memory leak Crypto IKEv2 at ikev2_ios_psh_set_route_info
CSCvf25402	Incorrect handling of SIGVTALRM (signal 26)
CSCvh11088	Crash on OPF_CSR32_OPF_LOGIC_ERR_LEAF_INT__INT_START_OF_BURST_MARKER_ERR
CSCvj28921	High CPU due to Alignment Corrections - SMEF & IWAN
CSCvk17998	Rekey Timer are same for both the Server and Client
CSCvk53405	Router crash - AFW_application_process
CSCvm51112	"clear crypto sa vrf MyVrf" triggers crash after updating pre-shared-keys
CSCvn00104	Software crash due to memory corruption after packet trace was enabled.
CSCvn05317	Router crashes due to the watchdog timeout
CSCvn17530	Router Crashes When PKI-CRL-IO_0 Runs out of Stack Space During Failed DNS Lookup for CA Server
CSCvn37237	ASR1002-HX crashed after huge traffic is transmitted over it
CSCvn37915	Crash in cpp_bqs_rm_yoda_proc_pend_fc_cb
CSCvn53969	Memory leak in SMD process due to AAA Idle-timer not being freed
CSCvn78349	FlexVPN with password encryption - keyring aaa LIST password 6 xxxxx encrypted again upon reload
CSCvo03458	PKI "revocation check crl none" does not fallback if CRL not reachable
CSCvo08337	Crash when inserting second NIM-2MFT-T1/E1 in 4331
CSCvo27553	PKI incorrect fingerprint calculation during CA authentication
CSCvo42379	ASR1000 / ISR4300 Console Hang with line speed set to 115200 in 16.3
CSCvo43897	ISR 4331, wrongly adding to Port to subscriber field after translation.
CSCvo46127	MaxSusRate is not working with service class
CSCvo47866	Crash at Process = SCCP Auto Config
CSCvo66216	IPSec-Session count in "show crypto eli" reaches max causing VPN failure
CSCvo67856	in.telnetd process consumes 100% CPU in show process cpu platform sorted
CSCvo70504	Missing Calling-Station-ID in Accounting Ticket for Web-Tal locations
CSCvo71721	When sending account-logon ISG do not reply with ACK nor NACK.

Caveat ID Number	Description
CSCvo80960	Streaming CRCs seen with GLC-GE-100FX VID: V02 on ISR4k
CSCvo94468	%PERF_MON_ASYNC-3-MEM: Memory cleanup failed - ssrc db cache results in PMI not created on BR
CSCvo99156	Unexpected reload in btrace routines due to division by NULL.
CSCvp00579	bqs may select an inaccurate rate
CSCvp39597	Crashes with GRE tunnels configured with QOS over Multilink Frame-relay interfaces
CSCvp42709	ISR44xx NO_PUNT_KEEPALIVE kernel crash due to CP drivers stuck punt and IPC rings
CSCvp59848	ASR1001-x crash while configuring policy-map
CSCvp63616	Crash due to too many DSPs
CSCvp92334	Crash after Media monitor look up.

Open Caveats - Cisco IOS XE Denali 16.3.8

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCvk50822	Cisco 4000 Series ISRs silent crash due to LocalSoft.
CSCvm62742	Cisco 4300 ISR shows abnormal large RTT.
CSCvn02419	Router crash occurs while running Dell software update.
CSCvn31903	Cisco 4000 Series ISRs CUBE send first register with wrong ip address after reload - SIP-UA.
CSCvn83172	Router reloads on 'show track' command when there is track object for deleted serial sub-interface.
CSCvn86402	IOS FW thread crashed with Stuck CPP Thread - tw timer lock.
CSCvn97846	Cisco 4000 Series ISRs silent crash due to LocalSoftADR.

Resolved Caveats - Cisco IOS XE Denali 16.3.8

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCtw50974	Cisco 4000 Series ISRs DTMF 2833 to 2833 Not Working with MTP CoLocated and OOB+2833.
CSCva46032	FlexVPN: Hostname in DHCP is incorrect when using AnyConnect.
CSCvf18470	IOS-XE CUBE HA crash.
CSCvh49380	PFRv3 Incorrect reported value of TCA threshold in traffic-class router change history.
CSCvh91460	punt_debug.log file fails to be stored on some ASR1k/Cisco 4000 Series ISRs routers
CSCvi01558	iBGP dynamic peer using TTL 1.
CSCvi63425	Cisco 4400 ISR cpp crashed when configured HSRP with PMIPv6.
CSCvi65958	Standby RP crashes due to shortage of memory when running OSPF.
CSCvi74088	link local multicast packets are received when the SVI is in down state
CSCvi78168	CUBE does not update Session number after receiving a 491 request Pending Message.
CSCvj59170	CUBE fails to handle second SDP Offer during initial dialog setup.
CSCvj86876	Cisco 4000 Series ISRs- IOS 16.8 - crypto-related issues seen with a single AF configured in VRF definition.
CSCvj90089	Crash while doing a conference call.
CSCvj91448	PKI:-IP address parsing issue while printing the subject name if classless IP is used in Trustpoint.
CSCvj95351	OSPF SR uloop : After issuing "clear ip ospf process". ospf process crashed.
CSCvk02072	Hoot-n-holler multicast traffic marked with DSCP 0.
CSCvk12152	Unable to remove command 'ip nat inside destination'
CSCvk16771	ISIS for IP is enabled/installing routes in the RIB while IP routing is disabled.
CSCvk20560	491 not sent in a multiple re-invites in DO2EO scenario.
CSCvk37875	High Availability system with two Voice Gateways - Crash.
CSCvk45884	BGP 'address-family ipv4' sub-configuration is not shown in the running configuration.
CSCvk65072	Crash due ZBF + NAT.
CSCvk66880	CUBE incorrectly formats SIP SDP.
CSCvk69093	CUBE is not responding to SIP INFO.
CSCvm03696	ISDN PRI calls getting dropped with cause 47 because of bad interaction between CDAPI and TSP layers.
CSCvm19399	CRL file is getting overwritten when PKI server turns up after reload.
CSCvm49190	Hairpin call to PSTN fails with primary-net5 switch-type on Cisco 4000 Series ISRs..
CSCvm58960	"VoIP dial-Peer <XX> is Busied out" printed in log every 2 minutes when destination is not reachable.
CSCvm59483	Host crashes the DSP if ipv6 commands are configured under Service-Engine [Purge ipv6 config option].

Caveat ID Number	Description
CSCvm65384	SNMP OID conflict. Trap being generated with wrong oid 6999. it should be 854.
CSCvm66103	Crash due to communication failure - IPC (Inter-Procedure Call) messages between DSP and RP.
CSCvm67419	Cisco 4400 ISRMACsec drops small frames.
CSCvm74894	PKI authentication should proceed even if GetCACaps return any http failure.
CSCvm76452	IPSec background crash while sending SNMP trap.
CSCvm91422	[MiFID] [Inbox-HA] VRF-ID is set to 65535 after switchover, call fails.
CSCvm92019	Media Ant-Trombone does not properly handle a Re-Invite utilizing a Replaces Header.
CSCvm93725	ISR4331 Static MAC add/remove breaks physical link connectivity.
CSCvn00218	CUBE Crash in sipSPIAppAddCallInfoUI.
CSCvn01507	ISR not re-calculating the hash value correctly after payload change.
CSCvn07614	Out of Band DTMF Events Not Passing to CUCM via SCCP When Using IOS MTP.
CSCvn14454	iWAN router PDP crash.
CSCvn14737	Crash with SIP call.
CSCvn17062	Cisco 4000 Series ISRs: add SCCP MTP single-VRF support with a limitation no traffic from/to other VRF.
CSCvn28017	Cisco 4331 ISR may crash when "eigrp default-route-tag" Configured on IPv4 AF.
CSCvn36359	CUBE doesn't forward INVITE with "midcal-signalling passthru media-change" during a video escalation
CSCvn41467	Recommit of CSCvm99778 - eca/ewlc/qwlc/mewlc Sanity : AP join failed.
CSCvn56706	Crash due to ZBF.
CSCvn63198	iWAN domain password is overwritten by the global password, "password encryption aes".

Open Caveats - Cisco IOS XE Denali 16.3.7

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCvg67820	HIGH CPU observation on FMAN RP ESS EVENT TRACING
CSCvj17326	isr44xx crashes in o2_cavm_pci_unlock when forwarding large packets for VPLS
CSCvj72854	Router crash due to NHRP process Segmentation fault(11)
CSCvj90089	Crash while doing a conference call

Caveat ID Number	Description
CSCvk10633	bgp crash while running show command and same time bgp peer reset
CSCvk22449	BGP Traceback/Crash seen with 20k IPv4 BGP scale after reload/clearing bgp

Resolved Caveats - Cisco IOS XE Denali 16.3.7

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCvc98209	IOS XE Crafted IPv6 Packet Denial of Service Vulnerability on ISR platform
CSCvd46821	Dreamliner: flowcontrol receive command on L2 ports does not take effect
CSCvd47657	Cisco 4000 Series ISRs routers may crashed with Segmentation Fault in AFW Application Process
CSCvd50613	ISR4431 crashes with UNIX-EXT-SIGNAL: Segmentation fault(11), Process = HTTP CP
CSCve23281	Crash on Session Border Control bad chunk free
CSCve42983	16.6: Cisco 4000 Series ISRs: PPPoE session fails to come up after remove and re-add sub-intf.
CSCve56437	Router runs Denali 16.3.x may crash with AFW_application_process when sip call disconnect
CSCvf84349	Router crash on polling cEigrpPeerEntry
CSCvg03444	Hub MC continues to send EIGRP SAF hellos after adjacency removed
CSCvg05452	IOS-XE router crash from memory corruption during CCB cleanup
CSCvg09010	KS merge fails for groups with TBAR due to PST update failure on primary KS
CSCvg30991	IOS-XE routers: Memory leak observed on process ivr: peer_item_t in AFW_application_process
CSCvg34731	IOS-XE MOS scores always show 4.x even with massive packet loss.
CSCvg52180	ISR4000 ROMMON upgrade fails on certain IOS-XE 16.x releases
CSCvg94908	Mgig stack keeps crashing while configuring with Radius commands
CSCvh06249	Crash when receiving EVPN NLRI with incorrect NLRI length field value
CSCvh14715	CVLA crash on memory merge scan task
CSCvh32216	Sporadic Crashes Due to IPsec (during ISAKMP AAA interaction)
CSCvh57061	Cisco 4000 Series ISRs-PPTP passthrough traffic not working with PAT, GRE packet consumed by router
CSCvh57242	c++-mcplo-ucode crash when layer 2 switching packet
CSCvh57402	ISR4451-X sometime drop the packet when volume -based rekey occurred
CSCvh59195	Cisco 4000 Series ISRs: QFP crashed due to NAT memory leak
CSCvh75132	CPP crash stuck thread detected multikey_hash_replace_int
CSCvh83215	IOS-XE Voice NIM/PVDM Service-Engine Admin Down leads to one-way audio

Caveat ID Number	Description
CSCvh83319	Interop vrrp doesnt work between cedge and vedge
CSCvh85788	Local LAN-only prefix present in master route-import table but not present in site prefix DB
CSCvh89773	Bootloop due to file system errors
CSCvh91443	Cisco 4000 Series ISRs Crashed due to CPUHOG Net background.
CSCvh97246	ucode crash with fw_base_flow_create
CSCvi02816	ZBF not able to identify the WAAS optimized flow and drops ACK
CSCvi16454	Router crash due to PuntInject Keepalive Process - kmalloc failures
CSCvi21288	PFRv3 RC FIA is not enabled on interfaces with one of sub-interface with xconnect config
CSCvi24515	IOS-XE - FTP closing connection as NAT device does not process the 230 reply message
CSCvi34314	ISR/C1100: interface down/up does not renew dhcp assigned ip address
CSCvi35609	ISR4431 do not update mac address after STP topology changed
CSCvi38391	H.245 messages are not translated by NAT outside when H.323 video call is initiated from Out-2-In
CSCvi44298	ISR4451 Installs 2 IPsec SA's with different peers having same proxy identities
CSCvi54878	Memory leaks seen at PKI_name_list_add(0xa139cc0)+0x3e
CSCvi56463	Unexpected Reset, Crypto IKMP Segmentation fault with IPsec AAA Configuration
CSCvi67613	Protocol type for GRE header doesn't work consistently with "cts sgt inline" enable over auto-tunnel
CSCvi81216	[Cisco 4000 Series ISRs LISP]Ping src Looback(lo is EID) has been dropped after reloading
CSCvi86983	ZBFW HA: active router stuck in cold standby state after shut no shut the wan interface
CSCvi96164	PnP DHCP discovery over VRF fails when using server FQDN in option 43 string
CSCvj02955	ISR4221 16.6.2 - SIP NAT ALG not sending packets out of WAN interface
CSCvj09541	Cisco 4000 Series ISRs IOS-XE PBR fails when next hop is recursive over tunnel
CSCvj16818	ISR 4431 crashing immediately following auto-CA certificate renewal
CSCvj17682	MAC filtering incorrectly set on builtin ports of ISR4300
CSCvj20302	Cisco 4000 Series ISRs MTP not performing RFC2833 payload type conversion
CSCvj27172	Crash during Generic Call Filter Module cleanup
CSCvj29593	debug platform condition start causes keepalive failures with Vasi interface
CSCvj41550	default channel operation state changing from I/O to D/O failed when zero-sla enabled
CSCvj50410	ISR4331 no collisions count up on duplex mismatch condition
CSCvj57502	Memory leak@CENT-BR-0 when change the path label frequently
CSCvj67042	LAN Switches does not learn the right ED upon OTV failover
CSCvj67623	DNS ALG will not work when trying to match specific destination hosts

Caveat ID Number	Description
CSCvj70568	FlexVPN DHCP entries not flushing for ikev2 timed out reconnect sessions
CSCvj76285	Snmp v2 breaks due to Authentication failure, bad community string, 16.03.06
CSCvj84104	PLR channel is not muted for some time
CSCvj90814	Crash due to Memory corruption in Cisco 4000 Series ISRs
CSCvk15062	Modification to ZBFW access-lists do not reflect in TCAM
CSCvk18252	16.3.7/XE316 : Observed drop while clearing the Zone pair counters

Open Caveats - Cisco IOS XE Denali 16.3.6

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCvf80757	NETCONF-YANG/RESTCONF edit config fails, subsequent get config reports false-positive.
CSCvg05452	IOS-XE router crash from memory corruption during CCB clean up.
CSCvg94600	The device crashes with "debug platform condition ipv4 access-list "
CSCvh47124	Nexthop is wrong in route-import table on branch when delete WAN interface and reconfigure it.
CSCvh50515	Cisco 4331ISR crashed due to SA creation failure.
CSCvh96950	Cisco XE 16.3:Ping failure and router crash while testing PFRv3 scenario.
CSCvh97792	Router: CCE crashed with EPC classify packets.

Resolved Caveats - Cisco IOS XE Denali 16.3.6

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Caveat ID Number	Description
CSCus14734	IP SLA http operation with customizable status for return codes.
CSCuw85826	Evaluation of Cisco IOS and IOS-XE for NTP_October_2015.
CSCux86075	Unexpected crash during SSH operation.
CSCuz86212	Cisco 4400 ISR may crash while withdrawing 3.5M IPv6 BGP routes.
CSCuz87695	SCCP phones on CME not forwarding video packets on outbound calls.
CSCva13768	Cisco 4000 Series ISR PPPoE Interface is not forwarding all IP fragments.
CSCva30873	Hairpin call loop crash
CSCva46459	SSH session hangs if it is not closed properly.
CSCva89792	Auto-registration failure warning and RTP port allocation failure.

Caveat ID Number	Description
CSCva92216	BGP session is reset when unrecognized capability received in OPEN message.
CSCvb00288	CME no ringback after blind transfer.
CSCvb01800	Cisco 4000 ISR changes defaults for TDM clocking commands.
CSCvb34443	ikev2 fragmentation not working with aes-gcm encryption.
CSCvb53469	Ephone-DN remains in down state when restart all is given in telephony-service.
CSCvb65024	LDAP authentication reuses old TCP connection.
CSCvb88867	Excess BGP traps generated just after upgrade.
CSCvc18534	Incorrect Radius Server Status when locally defined user called in tester command.
CSCvc18884	Cisco 4321 ISRLSMPI-4-INJECT_FEATURE_ESCAPE: Egress IP packet delivered via legacy inject path.
CSCvc26134	Self-generated packets sent fail over PMIP-MUDP tunnel in LMA.
CSCvc48376	Cisco 43xx ISR: Environmental monitoring is not enabled messages is causing confusion.
CSCvc61653	Memory leak in btrace thread deletion.
CSCvc63958	SIP CME relays out "Authorization: header" received from IP Phone.
CSCvc64017	IOS/IOS-XE logging "sym_xapp_calleg_setup_req:codec not passthru do_rtcp == TRUE" messages.
CSCvd11419	Configuring packet tracer on IOS-XE triggers a crash intermittently.
CSCvd16501	High CPU due to SNMP ENGINE when polling mplsTunnelHopEntry.
CSCvd64670	SCEP enrollment failing with HTTP/1.1 500 Internal Error
CSCvd80733	Cisco 4000 Series ISR: Hung Inactive SCCP session in transcoder/MTP required call flow.
CSCvd80837	Crash observed in DHCP SIP.
CSCvd97768	Cisco 4000 Series ISR crash at sstrncpy using voice.
CSCve09104	Command "segment-routing mpls" under router isis 1 not getting NVGEN'd
CSCve21725	CUBE no DTMF after transfer to UCCX when midcall-signaling passthru media-change.
CSCve41775	Crash over CCSIP_SPI_CONTROL process due to null pointer / segmentation fault.
CSCve54486	Crash when attempting to assign nonexistent/shutdown VLAN to 802.1x port.
CSCve55089	BGP crashes at bgp_ha_sso_enable_ssmode.
CSCve57506	IPv6 ESP traffic incorrectly dropped after decryption by IPv6 interface access-list.
CSCve59906	Router crashes with "param long-dur-action disconnect".
CSCve68771	Crashes in TCL/AFW processes.
CSCve74806	Standby router crashes when there is a m-line shrink case within the dialog.
CSCve75919	In-dialog options ping received post ACK (call completion) cause cube to change codec and no audio.
CSCve97061	Unable to remove mpls tp configuration from Router.
CSCvf05864	BGP RR changes tunnel parameters for bgp evpn route type 3

Caveat ID Number	Description
CSCvf16338	voiprtp_register_transport_port_manager_and_reserve: Alloc ports failed, min: 8000, max: 48199 248.
CSCvf16448	No all IPv6 GRE crypto tunnels may come up or recover from flapping at scale.
CSCvf24607	Ipsec Session Fail After Up/down Link Between Dmvpn Tunnel.
CSCvf24928	QFP exmem memory leak in cpp_fm_sce_result_chunk.
CSCvf30772	Cisco 4331 ISR - ATM - T1 CAS - One Way Audio: Dropping Packets due to Tail Drop.
CSCvf31368	Router crashes after EEM-wanfailover script triggered.
CSCvf33947	CUBE can't handle mid-call re-invite when midcall-signalling passthrough mediachange is configured.
CSCvf35507	Crash in SSH Process due to SCP memory corruption
CSCvf36269	Cisco IOS and IOS XE Software Plug-and-Play PKI API certificate validation vulnerability.
CSCvf36888	IOS-XE DMVPN Per-tunnel QoS not working on CSR1k without AX license.
CSCvf38837	Stateless IPsec is running at HSRP standby router.
CSCvf39474	GETVPN: TBAR sync "timer is not running" after KS upgrade causing anti-reply drops and GM outages.
CSCvf43271	Traceback: Stack master crash at dot1x authentication.
CSCvf48159	Router crash during T38 fax bitrate negotiation.
CSCvf54314	Crashes due to a null pointer dereference on htsp structure.
CSCvf60862	Cisco IOS and IOS XE Software IOS daemon Cross-Site Scripting vulnerability.
CSCvf63269	After on the vnic edit on the fly changes - LAN-SRIOV sub interface ping fails after Reboot of ISRv.
CSCvf63541	BGP w/global import/export crashes when several nbrs deleted simultaneously
CSCvf67269	IS-IS support for mult-instance redistribution for IPv6.
CSCvf68261	Crash when printing IPSEC anti-replay error.
CSCvf69272	SNMP ENGINE high CPU usage observed with 1.3.6.1.2.1.185.1.1.1(mgmdHostInterfaceEntry)
CSCvf70383	Crashes in SDP Passthru when T.38 as 1st mline in mid-call SDP.
CSCvf73320	[UniScale]isr4431 crashes while finding NDR with max oif number per multicast grp at scale.
CSCvf74829	CRL download fails due to "failed to create getcacert message".
CSCvf80495	IPv6 BGP network advertized not seen in the peer.
CSCvf89608	Missing ip route to cellular interface after router reload or modem power cycle.
CSCvf89894	GETVPN // Primary KS sending rekey first to GM's and then to Secondary KS via scheduled rekey.
CSCvf94948	Cisco 4331 ISR: Input policy-map classify traffic incorrectly.
CSCvf95077	Stale Mac entry in MLRIB.
CSCvf96035	ISIS redistribute connected not working for IPV6 routes.

Caveat ID Number	Description
CSCvf97230	RE-INVITE and OPTIONS Glare not handled by CUBE.
CSCvg02533	Router crashed after triggers with debug.
CSCvg03498	The "copy run start all" command makes the router stuck.
CSCvg05599	Router does not recalculate UDP checksum after NAT.
CSCvg05896	IWAN EIGRP SAF - seq number mismatch after branch reload.
CSCvg07428	PfRv3 triggers List Header leak in FNF.
CSCvg09235	OPTIONS not replied by CUBE over TCP without interface bind.
CSCvg14256	Crash at cc_detect_mute_call.
CSCvg15158	DMVPN session get stuck in NHRP and UP-NO-IKE state without active IKEv2 session until rekey.
CSCvg20200	Polaris: Crash observed while client association with key-wrap enabled in controller.
CSCvg21440	Memory leak with DMVPN tunnel protection ipsec.
CSCvg28395	Crash when doing snmp walk for ipAddressEntry
CSCvg29183	Cisco 4000 Series ISR - XE 16.3.4 - SIP-TDM GW - FLEXDSPRM-3-TDM_CONNECT errors and unexpected reboot
CSCvg31373	Cisco 4000 Series ISRs Error Msg (SYS-2-CHUNKEXPANDFAIL: Could not expand chunk pool for ASR1000 SPA TDL)
CSCvg31493	Stale Mac entry in MLRIB additional fix.
CSCvg31607	IPv4 PLU mtrie lookup return invalid oce_chain_p
CSCvg33403	Incoming call fails with 'Lower layer disconnected call cause=47' error caused by T.38 calls
CSCvg40085	Cisco 4000 Series ISR - IOSd crash with SIGABRT with CCVPM_HTSP.
CSCvg40430	Cisco 4431 ISR QFP crashes by a LLC packet received in a Serial Interface.
CSCvg45247	Site-prefix learning: Unexpected Reboot in 'IP RIB Update' Process after 'no domain default.
CSCvg52560	Traceback: OCSP creates a large number of lists and triggers a memory problem.
CSCvg56088	Getting "HA Module DSP_MSP reported CALL_MODIFY RECREATE failure" in CUBE HA.
CSCvg60288	Device IP address AV pair replaced with 192.16x.1.x.
CSCvg60721	Cisoc 4451 ISRcrashes when MobileIP receives SNMP Trap
CSCvg74048	PKI: All SCEP requests fail with "Failed to send the request. There is another request in progress"
CSCvg75380	Cisco IOS XE 16.3.5: Unexpected Reboot with Device Classifier enabled.
CSCvg76912	CFD: pnp config upgrade failed when IFS returns size 0 for all TFTP files.
CSCvg84039	Traceback: Crash on WAAS menu prompt for WAN Interface.
CSCvg84989	List Header leak with PfR enabled
CSCvg85879	BGP sets the wrong Local Preference for routes validated by RPKI server.
CSCvg90226	Crypto Traceback: Router crash at 'Crypto Support' segmentation fault

Caveat ID Number	Description
CSCvg92437	AToM: MSPW VC Down with Reason as No VC Remote Label Binding Received on RP SSO.
CSCvg94978	CUBE Router crashed - Critical software exception, Process = CCH323_CT.
CSCvg98890	IOS-XE GM router might crash after the rekey method is changed from unicast to multicast.
CSCvh00038	Device IP address AV pair replaced with 192.16x.1.x.
CSCvh05575	Cisco 4000 Series ISR SCCP Process Does Not Wait for All PVDM Modules to Come Up Before Registering.
CSCvh05611	IOSd crash while applying dial peer configuration.
CSCvh17481	PKI: Device crash during srl download with multiple CDP URI.
CSCvh24315	Memory leak for CCSIP_TCP_SOCKET and CCSIP_UDP_SOCKET on CUBE
CSCvh47443	Spoke-to-spoke site-prefix reachability checking should be removed.
CSCvh53691	FP crash with scaled IKE sessions.
CSCvh60525	CLI 'aaa common-criteria' not available on IPBASEK9 license..
CSCvh70557	CPP crash in MMA

Open Caveats - Cisco IOS XE Denali 16.3.5

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCvg52180	Cisco 4000 Series ISR ROMMON upgrade fails on certain IOS-XE 16.x releases.
CSCvc23012	Cisco 43xx ISR reloads with no crash or core file generated, the only evidence found is in the show version output, it should display: Last Reload Reason:Localsoft.
CSCvf95077	The stale mac route entry is in MLRIB.
CSCva65244	The TI-LFA tunnel is not getting created after unconfig/reconfig operation.
CSCvd11419	Packet tracer feature is not tracing/matching the packets intermittently on IOS-XE while we configure packet tracer.
CSCvf60961	BGP scanner crashed with add/remove command bgp mpls-local-label.
CSCvg05896	After an IWAN branch router is reloaded, PFRv3 may stop functioning at any time up to 24 hours after the reload.

Resolved Caveats - Cisco IOS XE Denali 16.3.5

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCuu68879	Cisco 4300 ISR shows abnormal large RTT/jitter value in IP SLA udp-jitter v2/v3.
CSCvf01501	NBAR data-plane crash for DNS TXT query with an additional record.
CSCvc58538	BGP crashes when removing advertise-map.
CSCvd90251	Duplicate BGP prefixes are not dropped.
CSCve68911	Nested Enhanced Route Refresh requests triggers Stale Prefixes.
CSCuz20869	RFC: BGP sending error sub-code: 8 instead of '4'.
CSCvf62916	Router crashes when doing "show ip bgp neighbor" on a flapping BGP neighborship.
CSCve51657	Slow convergence with scale after a core link flaps.
CSCvf24713	stale path message for that prefix is noticed when dampening is configured.
CSCvd19860	OSPFv3 AUTH breaks IPv6 traffic intermittently.
CSCvb86484	EIGRP: wrong EIGRP redistribution statement in startup configuration breaks BGP settings after router reload.
CSCve90812	Cisco 4431 ISR drops all received packets due to CRC error after power off/on.
CSCve78101	Inconsistent Behavior on Link states with different SFP's plugged into the module.
CSCvf03810	Cisco 4221 ISR boot loop when Gig0/0/0 up.
CSCve64508	Cisco 4451-X ISR: CWDM-SFP-1530 SFP Rx power fluctuates for built-in ports.
CSCve32524	Cisco 4000 Series ISR4 crashed with Process = CWAN OIR Handler.
CSCvf04211	Privilege Escalation from level 15 to binos/root using picocom.
CSCve62353	Startup-config missing after power outage.
CSCve39622	Cisco 4431 ISR and Cisco 4451 ISR CPP CP/SP/HA/FMAN FP process exits (rc 255) without producing core file.
CSCvf92057	CUBE is unable to send PRACK to Skype server for inbound calls.
CSCvd99474	IPsec: For sVTI after rekey old SAs are not getting deleted.
CSCvf11237	Memory leak seen@crypto_init_show_instance.
CSCve87898	Session coming up late after RP failover due to PD delay.
CSCvc78492	DMVPN: Unable to pass traffic if spoke to spoke fails to build in phase 2.
CSCvf34835	IOS-XE GETVPN KS crashes while sending cgmGdoiKeyServerRegistrationComplete trap after GM reg.
CSCvb75167	Crash in Crypto IKEv2 process.
CSCvd54358	Dynamic routes do not get propagated if old session is present in In-Active state.
CSCvc78694	Ikev2 SA INIT queue CLI : Fix default behavior.
CSCve07263	IPSec Tunnel stuck in Up/Down state after shut/no-shut - VPN Interop.
CSCuz15131	Dqueue not empty prior to destruction crashes ipv4fib_les_switch_wrapper.
CSCvd97524	Fixed versions for CSCuz15131 crash when traffic with maximum size is on wire.
CSCve47374	Assert stop processing leaks memory.
CSCvd47567	Unexpected reboot with NAT and Multicast configured
CSCve98696	Interoperability issue of 16.3.4 with other releases.

Identifier	Description
CSCve86613	IOSXE-RP Punt Service Process crash @ __be_fmm_flow_int_table_entry_compare.
CSCve61713	PfRv3: Crash in Route-Control Process.
CSCve14782	PfRv3: Crash Observed While Checking/Modifying Channel Prefixes.
CSCve43611	PfRv3: Multiple TCAs Logged Simultaneously May Lead to Crash
CSCvf29213	PFRV3: Site Prefix shows unreachable after removing and adding the specific route for the prefix.
CSCve80719	Site-prefix learning: Prefix withdrawal not working for hub-> branch on 16.6.
CSCve92511	Site-prefix of Peer BR is not synchronized after shut/no shut BR border.
CSCve15722	The second and later PfRv3 VRF configs are missing after reload.
CSCvf51341	Crash after show ip ospf database summary command.
CSCvd48206	OSPF TILFA SCALE: On reopt or clearing OSPF process, no. of protected prefixes goes down drastically.
CSCvd73491	OSPF TILFA SCALE: with 2K Inter-area Prefix Scale, some non-ECMP routes are not getting protected.
CSCvd40276	OSPF: Not able to remove ospfv3 config under Virtual-Template
CSCvd38714	OSPF: When anycast present in two areas, when one area is removed, rout not getting installed in RIB.
CSCvd67254	Crash during CRL fetch failure.
CSCvd38619	EST client pki authentication request goes out to default URL always.
CSCve29882	EST client pki simpleenroll request goes out to default URL always.
CSCve53984	Cisco 4300 ISR crashed while importing certificate.
CSCvd69749	PKI Server: "Rollover RA Certificate" Becomes "Rollover ID Certificate" After Reload of Router.
CSCve52258	Both ESP crash on changing COS type on ATM VC.
CSCve42512	Both ESP crash on changing shaper rate under port-channel.
CSCve49596	FP crash while changing port-channel from vlan based mode to LACP.
CSCve40432	Collapse HQF Aggregation Node.
CSCve76827	large NAT policy-map takes long time to download.
CSCvf74154	SGACL: cpp_sp_svr crash during CFM EDIT request with reseq_enable = TRUE.
CSCve08943	QFP sorter interrupts related to REAL_DISTANCE are fatal when they should be informational.
CSCve98056	ESP ucode crash with ALG for PPTP traffic and PAP is enabled.
CSCva28875	NAT ALG fails on Multipart SIP Header.
CSCve60402	Crash in Voice DNIS SNMP code.
CSCvf18162	Crash observed in Mlpp-Bacd scenario.
CSCve71893	Cisco 4000 Series ISR Hoot and Holler multicast replication issue.
CSCve21448	Cisco 4000 Series ISR VGW's crashed with Segmentation fault(11), Process = DSMP.
CSCvf19607	Cisco 4000 Series ISR not correctly handling forked 18X responses with SDP.
CSCCuy68013	Switch crashed after add "ip wccp 61 global" command during traffic.

Open Caveats - Cisco IOS XE Denali 16.3.4

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCVa70449	The stand-by CUBE crashes when an active CUBE is reloaded.
CSCVd97768	Cisco 4000 Series ISR crashes randomly with voice configuration on a router.
CSCVe23281	CPP bad chunk free is observed after SBC session destruction attempt, <i>cpp_sbc_call_modify_lvl2_secondary_destroy_cpp</i> .
CSCVe41775	The router crashes over <i>CCSIP_SPI_CONTROL</i> process due to null pointer/segmentation fault.
CSCVe45274	A Cisco router may crash when issuing the show dmvpn detail command in Virtual-Access.
CSCVe50678	After the Cisco 4000 Series ISR is reloaded, an interface delay value changes.
CSCVd06688	Traceback: Loop in Crypto ACL creates CPUHOG then crashes.
CSCVd69608	Router crashes due to memory corruption on pushing 4 or more ipv6 per-user static routes from the radius server.
CSCVe08418	IPsec/IKEv2 installation fails with simultaneous negotiations.
CSCVe13491	Router might crash due watchdog on the VTEMPLATE Background Mgr process when creating a new SWIDB.
CSCVe44393	The system crashes due watchdog triggered by DHCP client process.
CSCVe59906	Router crashes with "param long-dur-action disconnect".

Resolved Caveats - Cisco IOS XE Denali 16.3.4

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCVb97638	Router running CUBE feature sees memory leak under <i>CCSIP_SPI_CONTROL</i> process, leading to crash.
CSCVc27565	Cisco 4321ISR crashes when sending a large packet.
CSCVc49737	The call experiences one way audio during the call when the transcoders is unable to open the port.
CSCVc56422	NIM Serial Interface fails to send packet out and further causes interface flapping.
CSCVc56866	Cisco 4000 Series ISR router crashes due to voice IVR script.
CSCVc65935	Cisco 4451 ISR with K9 and release 16.3.2 image crashes when you configure NAT66.
CSCVc68778	Platform switchport svi command is not supported on NIM UCSE.
CSCVc82808	The show power inline command output does not display any of the modules ports although they are PoE enabled ports.
CSCVd17146	The leakage of the dtmf is enlarged by plc, which causes end-point equipment detects double digit.

Identifier	Description
CSCvd29093	Cisco 4000 Series ISR ucode crashes when decrypting a ipsec packet with length between 3820 and 3840.
CSCvd29515	ERSPAN packet drops with error message: "svc_eng_punt2: PUNT: NULL dev".
CSCvd71879	Cisco 4451-X ISR crashed with "Segmentation fault(11).
CSCvd78519	PfRv3: Crashes while updating/deleting the parent-route reference.
CSCve21448	Cisco 4000 Series ISR routers running voice may reload unexpectedly with Segmentation fault(11),
CSCut35260	Issue has been noticed on AppNav controller and Call-home during SSL handshake as part of HTTPS.
CSCvd58884	During PKI enrollment, Cisco router rejects PKI process after "GetCACaps" message is sent to CA.
CSCuz52528	This product includes a version of OpenSSL that is affected by the vulnerability identified by one or more of the following Common Vulnerability and Exposures (CVE) IDs.
CSCvb20224	Router crashes on configuring bandwidth on the dialer interface.
CSCvb21929	Ping fails under PPPOE configuration.
CSCvb27784	Router crashes when running the csim start command.
CSCvc09368	Router crashes when trying to update the context of NHRP, after the retrieval of Tunnel IPSEC information.
CSCvc12420	OSPF SRTE: CSTR path is not installed in some cases properly.
CSCvc14385	Crash occurs when exporting a route that belongs to a VRF to another VRF and has the next-hop address going down.
CSCvc17525	The traffic drops with DATA MDTs.
CSCvc19234	Stale MPLS forwarding entry seen in show mpls forwarding command.
CSCvc34235	The crypto ipsec fragmentation before-encryption command disappears after reload.
CSCvc35196	Aggregate dual authentication (Cert + AAA) is failing to lookup the TP for the certificate received from client after EAP 'cert-request' from the server.
CSCvc51408	SIS route oscillation due to ldp sync and interface max metric.
CSCvc54211	SRTE tunnel keeps on flapping and protected ADJ is created with repair path having invalid out label when OSPF segment routing is disabled on the NBR.
CSCvc59750	When you take longer than ~15 seconds to enter username/password credentials, IKEv2/IPSEC Anyconnect session will establish briefly, and then disconnect within a few seconds.
CSCvc62532	HTTP connection may fail when IPv6 address is configured on any interface.
CSCvc65604	After an interface flap on a VNET trunk, global VRF EIGRP neighbors do not recover.
CSCvc71872	OSPF: IPFRR repair path computation stopped after receiving type 10 opaque EPL Isa.
CSCvc89965	After reload route policy processing, it is not re-evaluated with route-map using match RPKI.
CSCvc96709	Device experiences a critical software exception when an EIGRP adjacency forms on a DVTI that is configured with HMAC-SHA authentication.

Identifier	Description
CSCvc99820	BGP crashed when configuring different update-source interface with v6 LL peering.
CSCvd01488	Running command show policy-map interface or br can cause crash
CSCvd09584	BGP EVPN RR incorrectly reflects EVPN IMED (type 3) route PMSI attribute with VNI as MPLS label.
CSCvd15140	Router crashes when performing BGP show commands.
CSCvd16828	High CPU due to periodic route refresh to VPN peers using rtfiler AF.
CSCvd18792	Cisco 4000 Serie ISR: Hoot and Holler E&M port cannot be co-located with multicast hub.
CSCvd39741	The authentication local eap command is deleted from the "ikev2 profile" upon bootup.
CSCvd40880	After modifying a crypto acl and waiting for a rekey the crypto map config is removed.
CSCvd41270	A router performing as a IWAN hub may unexpectedly reboot due to segv exception
CSCvd43437	The wrong BGP source IP address is chosen for eBGP, when the interface is flapped or peer power cycle.
CSCvd61632	Invalid BGP distance values for IPv6 address family.
CSCvd68050	A device running IOS or IOS-XE might experience a software forced crash shortly after entering a command from CLI via telnet or SSH.
CSCvd69373	Unable to initiate IKE session to a specific peer due to 'in-neg' SA Leak.
CSCvd69397	Crash on vtcp parsing in Extended Processing Path for the FIA.

Open Caveats - Cisco IOS XE Denali 16.3.3

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCvd06728	A crash is seen on a Cisco 4400 ISR and Cisco 4300 ISR router.
CSCvd07066	Cisco 4451ISR fails to power 8851 phones after a reload.
CSCvd18792	Cisco 4000 Series ISR: Hoot and Holler E and M port cannot be co-located with multicast hub.
CSCvc31036	Cisco 4000 SErIES ISR: ecell_ipc_alloc_buf: out of IPC buffers.
CSCvc46230	A crash is observed after processing a Pfrv3 TCA to move one or more TC's to a different path (channel).
CSCvc78492	In a DMVPN phase 2 environment, if the spoke-to-spoke fails to build for any reason (udp 500 blocked), the traffic will be black holed.
CSCvc81017	when running a Cisco 4000 IS router with NIM module for DSL connectivity, when the PPP interface is configured with "ip unnumbered loopback 1" then PPPoA session is established and ppp keepalives are passed across the virtual-access interface.
CSCvd04871	A crash is observed after an IWAN does a recalculation in the RIB.
CSCvd06688	Traceback: loop in Crypto ACL creates CPUHOG then crash at a large scale.

Resolved Caveats - Cisco IOS XE Denali 16.3.3

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCuz51603	Multicast crashed with an invalid leaf pointer.
CSCva31303	Cisco 44xx ISR cannot send large, fragmented or reassembled packets into containers.
CSCvb75726	When the user runs show version command, IOS-XE displays "System returned to ROM by reload" despite the device being reloaded by other means.
CSCvb71936	Router may crash with "IOSXE-WATCHDOG: Process = HTTP CP" when running the show running-config command.
CSCvb95663	NIM-2GE-CU-SFP : You cannot ping GLBP Gateway IP address.
CSCvc08339	Cisco 4331 ISR with NIM-1MFT-T1/E1 and Frame-relay circuit does not come up.
CSCvc08848	An initialization failure is reported by the CPP driver.
CSCvc38341	At a low shaper or an interface rate and few active flows, the conditional policer in a priority class may not be activated after adding the fair-queue command to other traffic class.
CSCvc45316	Cisco 4000 Series ISR: IGMP groups under VRF are shown under global table.

Open Caveats - Cisco IOS XE Denali 16.3.2

There are no open caveats in this release.

Resolved Caveats - Cisco IOS XE Denali 16.3.2

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCux60876	A Cisco router may reload when the DHCP is used.

Open Caveats - Cisco IOS XE Denali 16.3.1a

There are no open caveats in this release.

Resolved Caveats - Cisco IOS XE Denali 16.3.1a

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCvb04298	NTP-PTP: Invalid PTP time during NTP leap second insertion/deletion.

Identifier	Description
CSCvb01730	The router may reset unexpectedly with the following message: <i>Kernel panic - not syncing: Watchdog timeout.</i>
CSCvb19326	NTP leap second addition is not working during leap second event.

Open Caveats - Cisco IOS XE Denali 16.3.1

All open bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCva48701	User cannot login to Web UI.
CSCuz76882	When show tech-support command is issued in any of the Cisco 4400 ISR and Cisco 4300 routers, the CLI output contains few incomplete commands and invalid command inputs in between.
CSCuz86212	Cisco 4451 ISR may reload with withdrawal of large amount of IPv6 BGP routes
CSCuz96485	Unable to create LAN subinterfaces via GUI.
CSCuz99149	EIGRP interface screen is not showing the configured value in the user interface.
CSCva10698	Cisco 4000 Series ISR crashes while executing the no opendns in and no opendns out command on an interface after device registration.
CSCva20195	Router reloads due to an exception.
CSCva20244	Dig utility does not work with Cisco Umbrella Branch.
CSCva38141	DTE interface is not going down while applying RX clock less than threshold.
CSCva39773	Web UI: Link-Local address picked up wrongly by port-channel.
CSCva40002	Web UI: Unable to configure VRF on loopback interface.
CSCva54203	Cisco 4451 ISR router restarts and reloaded.
CSCva57206	Cisco 4331 ISR crashes when the Cisco Umbrella Branch is enabled.

Resolved Caveats - Cisco IOS XE Denali 16.3.1

All resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Identifier	Description
CSCuw22107	Fan speed should be changed for complex thermal modules.
CSCux36263	Cisco 4351 ISR NIM-SSD OIR support.
CSCux71187	Displays kernel messages on Cisco 4400 ISR with overnight traffic.
CSCux78148	Cisco 4300 Series ISR: smand exceeds 5 min load average warning level.
CSCux79326	Web User Interface does not list any L3 interface if VRF is set to None for Call Home profile.
CSCux81308	Device crashes while configuring opendns in twice in quick succession.
CSCux84825	Registration fails if we change the host name first time after a fresh reload.

Identifier	Description
CSCux97520	Device may reload after an exception.
CSCuy35965	Missing information for network throttle statistics, Libvirt - Storage information, Console connection status to VMs in show virtual-service tech-support.
CSCuy50028	The following error logs may be displayed, If NIM-SSD is installed, and the router timezone is set to anything other than UTC on Cisco 4400 ISR: <i>IOSXE-5-PLATFORgger: ERR:SMART OFFLINE test failed.:please do 'more booflash:/tracelogs/smart_errors.log</i>
CSCuy54180	The show platform integrity command is not working.
CSCuy75073	The output of show plat soft chasfs r0 brief command is not correct.
CSCuy77536	CSX: flow control identifiers are not being set for NGIO-based interface.
CSCuy78780	Issues in snap shot values in alerts tab of the Smart call page.
CSCuy21267	When you configure Cisco Umbrella Branch device ID, you might see an exception.
CSCuy73443	Cisco 4000 Series ISR Cisco Umbrella Branch connector will over write any existing EDNS header.
CSCuy82477	When you destroy SSD file system in Cisco 4351 ISR device, the "hw-module subslot 0/1 reload" file system will not be created.
CSCuy92420	Cisco 4000 Series ISR core is generated while booting the routers.
CSCva30146	Cisco 4000 Series ISR: Add firmware auto-upgrade support in Cisco IOS XE Release 16.3.1.
CSCuz01696	CRC counters are not functional on Cisco 4300 ISR.
CSCuz08882	Registration fails if the egress interface is on a VRF.
CSCuz17612	When you try to session into PVDm4 console on T1/E1 module, it does not allow to access the PVDm4 console.
CSCuz23087	On Cisco 4300 Series ISR, the show process cpu platform sorted xx commands do not display more than 99% of the process utilization.
CSCuz27890	USB is not detected in IOS prompt for Cisco 4300 ISR.
CSCuz53155	When you increase the committed memory, the device crashes.
CSCuz60348	Device crashes with corrupted DNS packet.
CSCuz64042	Verification of Cisco Umbrella Branch certificate used for DNSCrypt fails.
CSCuz66348	While configuring Cisco Umbrella Branch device ID for registration, router may reload.
CSCuz89861	UTD: Traceback is seen while unconfiguring UTD with URL filtering configuration.
CSCuz95201	When you browse from a client behind a Cisco 4000 Series ISR, you may see failures.

Related Documentation

- [Platform-Specific Documentation](#), page 34
- [Cisco IOS Software Documentation](#), page 34
- [Obtaining Documentation and Submitting a Service Request](#), page 34

Platform-Specific Documentation

For information about the Cisco 4000 Series ISRs and associated services and modules, see:

Documentation Roadmap for the Cisco 4000 Series ISRs, Cisco IOS XE Denali 16.x.

Cisco IOS Software Documentation

The Cisco IOS XE Denali 16.x software documentation set consists of Cisco IOS XE Denali 16.x configuration guides and Cisco IOS command references. The configuration guides are consolidated platform-independent configuration guides organized and presented by technology. There is one set of configuration guides and command references for the Cisco IOS XE Denali 16.x release train. These Cisco IOS command references support all Cisco platforms that are running any Cisco IOS XE Denali 16.x software image.

See http://www.cisco.com/en/US/products/ps11174/tsd_products_support_series_home.html

Information in the configuration guides often includes related content that is shared across software releases and platforms.

Additionally, you can use Cisco Feature Navigator to find information about feature, platform, and software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on cisco.com is not required.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, 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>.

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