



# Release Notes for Cisco Catalyst IR1101, IR1800, IR8140, and IR8340 Routers - Cisco IOS XE 17.15.x

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## Introduction to this Document

This Release Notes document provides information about the Cisco Catalyst IR1101 Rugged Series Routers, Cisco Catalyst IR1800 Rugged Series Routers, Cisco Catalyst IR8140 Heavy Duty Series Routers, and Cisco Catalyst IR8340 Rugged Series Routers running Cisco IOS XE 17.15.x.

This document describes the new features, limitations, troubleshooting, besides providing recommended configurations, caveats, and information on how to obtain support and documentation.

### Product References

For more information about Cisco Catalyst IR1101, IR1800, IR8140, and IR8340 Routers, see:

- [Cisco Catalyst IR1101 Rugged Series Router Data Sheet](#)
- [Cisco Catalyst IR1800 Rugged Series Routers Data Sheet](#)
- [Cisco Catalyst IR8140 Heavy Duty Series Router](#)
- [Cisco Catalyst IR8340 Rugged Series Router Data Sheet](#)

## New Features in Cisco IOS XE 17.15.x

This table lists the new features in this release and the devices they are introduced on in this release.

**Table 1: New Features in Cisco IOS XE 17.15.1**

Feature Name	License Level	Description	Supported Devices	Related Document
CAT6 to CAT7 PIM Migration	Network Essentials	From this release, the IR8340 router supports migration from LTE Cat6 to Cat7 Pluggable Interface Modules (PIMs), which improves performance and provides higher downlink and uplink speeds.	IR8340	CAT6 to CAT7 PIM Migration
Dying Gasp	Network Essentials	From this release, the Dying Gasp feature is supported. When the router is about to shut down due to a power failure, it sends alerts to connected devices as packets through the configured Fast Ethernet and Gigabit Ethernet ports.	IR1101	<a href="#">Dying Gasp</a>

Feature Name	License Level	Description	Supported Devices	Related Document
GNSS on PIMS		This feature allows you to configure and manage the Global Navigation Satellite System (GNSS) PIM module on Cisco IOS XE Catalyst SD-WAN devices using Cisco SD-WAN Manager.	IR1101 and IR1800	<a href="#">GNSS on PIMS</a>
Layer 2 Tunneling Protocol v3 Generic Object-Oriented Substation Event Traffic Support	Network Essentials and Network Advantage	This release supports Layer 2 Tunneling Protocol v3 (L2TPv3) to transmit Generic Object-Oriented Substation Event (GOOSE) and Sampled Value (SV) traffic through Layer 2 tunnels between geographically separated substations over a WAN. This feature supports interoperability and real-time exchange of information between the substations to facilitate improved monitoring, control, efficiency, safety, and reliability.	IR1101 and IR8340	
MACsec Support	HSEC License	From this release, you can configure MACsec on the LAN port and IPsec on the WAN port to secure sensitive traffic originating from distribution automation assets. The router acts as a gateway, enabling distribution automation assets to utilize MACsec encryption at Layer 2 and establish IPsec tunnels through the LTE or WAN port.	IR1800	<a href="#">MACsec Support</a>
Managed Cellular Activation	Network Essentials	<p>The Managed Cellular Activation solution provides a programmable subscriber identity module (SIM), called an eSIM, a physical SIM card that you can configure with a cellular service plan of your choice.</p> <p>When ordering a pluggable interface module (PIM) to provide cellular connectivity for your router, choose a PIM model with a preinstalled eSIM. The Managed Cellular Activation solution comes with a “bootstrap” cellular plan to provide internet connectivity with a limited amount of data intended only for Day 0 onboarding of the device to your cellular plan. For information about configuring Cisco SD-WAN Manager with the details of your cellular plan in preparation for onboarding the device, see the <a href="#">Cisco Managed Cellular Activation Configuration Guide</a>.</p> <p>Prepare the configuration in Cisco SD-WAN Manager before powering on and onboarding the device, to avoid running out of the limited data in the bootstrap cellular plan.</p> <p><b>Note:</b> In this context, eSIM refers to a removable SIM pre-installed by Cisco. In other contexts, eSIM can refer to a non-removable SIM embedded in a cellular-enabled device.</p>	IR1101 and IR1800	<a href="#">Cisco Managed Cellular Activation Configuration Guide</a>

Feature Name	License Level	Description	Supported Devices	Related Document
P-LTE-450 Module Firmware Upgrade	Network Essentials	The P-LTE-450 module now supports firmware upgrades using a REST API. This method allows you to upgrade the module's PIM and modem firmware.	IR1101 and IR1800	
vCPU and RAM Distribution	Network Essentials	The Cisco IR8340, IR1835, and IR8100 routers now offer higher vCPU and RAM allocation to host Cisco IOx applications. These routers support Data Plane Heavy and Service Plane Heavy distribution templates. You can allocate 3 GB of RAM and two vCPU cores to the IR1835 and IR8100 routers, and 3 GB of RAM and three vCPU cores to the IR8340 router.	IR 8340, IR 1835 and IR 8100	<ul style="list-style-type: none"> <li>• <a href="#">IR8340</a></li> <li>• <a href="#">IR1835</a></li> <li>• <a href="#">IR8100</a></li> </ul>
WAN Port on IR1101 Routers	Network Essentials	This release enables the conversion of the Layer 2 GO/0/5 interface into a Layer 3 WAN port. This feature enhances network flexibility and optimizes traffic management without additional hardware, and it is compatible with Jumbo MTU (9000 bytes) IRM-1100-SPMI and IRM-1100-SP expansion modules.	IR1101	<a href="#">Configure WAN Port</a>
Web Authentication Support on WGB	Network Essential	From this release, the WP-WIFI6 module supports the Web Authentication feature. This feature allows a captive portal to offer secure Wi-Fi access. The Web Authentication feature is particularly beneficial for public Wi-Fi and is compatible with macOS, Windows, and Android devices.	IR1800	<a href="#">Web Authentication Support on WGB</a>

## Behavior Changes

### CSDL Changes Impacting IOX Behavior

From Cisco IOS XE Release 17.15.1a, the application signature verification is performed by default for all applications during installation. Only Cisco-signed applications can be installed after verification. Unsigned applications will not be allowed to install.



**Note** If unsigned applications were installed on your system before upgrading to version 17.15.1a, they will continue to function after the upgrade. However, if you uninstall an unsigned application and try to reinstall it, the signature verification will fail.

To install unsigned applications, disable signature verification manually by using the **app-hosting verification disable** command, as shown in the example here:

```
Device# app-hosting verification disable
```

Use the **show app-hosting infra** command to verify Application signature verification, as shown in the example here:

```
Device# show app-hosting infra
IOX version: 2.11.0.2
App signature verification: disabled
CAF Health: Stable
```




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**Note** Unsigned applications are third-party applications built by customers or users.

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## CAT 6 to CAT 7 PIM Migration and 5G PIM Support for IR8340

This release supports these PIDs and modems on the IR8340:

**Table 2: PIDs and Modems supported on IR8340**

PIDs	Modems
P-LTEA7-JP	EM7411
P-LTEA7-EAL	EM7421
P-LTDA7-NA	EM7431

**Table 3: PID and 5G modem supported on IR8340**

PID	Modem
P-5GS6-R16SA-GL	EM9293

The LTE CAT 6 Pluggable Interface Modules (PIMs) are migrated to CAT 7 modems, providing these updates:

- CAT 6 Sierra Wireless EM7455/7430 updates to CAT 7 Sierra Wireless EM7411/7421/7431.
- CAT 7 modems offer higher downlink and uplink speeds.




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**Note** • IOS XE release 17.15.1 does not support eSIM for the new PIDs on IR8140 or IR8340, although the CLI commands may permit it.

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## Software Images for Cisco IOS XE Release 17.15.x




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

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Cisco IOS XE Release 17.15.1a includes the following Cisco images.

Table 4: Software Images for Cisco IOS-XE, Release 17.15.1a

Router	Image Type	Filename
IR1101	Universal	ir1101-universalk9.17.15.01a.SPA.bin
	NPE	ir1101-universalk9_npe.17.15.01a.SPA.bin
IR1800	Universal	ir1800-universalk9.17.15.01a.SPA.bin
	NPE	ir1800-universalk9_npe.17.15.01a.SPA.bin
	UTD Engine for Cisco IR1835	utd.17.15.01a.1.0.7_SV3.1.55.0_XE17.15.x86_arch64.tar
IR8100	Universal	ir8100-universalk9.17.15.01a.SPA.bin
	NPE	ir8100-universalk9_npe.17.15.01a.SPA.bin
IR8340	Universal	ir8340-universalk9.17.15.01a.SPA.bin
	NPE	ir8340-universalk9_npe.17.15.01a.SPA.bin
	UTD Engine for Cisco IR8340	utd.17.15.01a.1.0.7_SV3.1.55.0_XE17.15.x86_64.tar

The latest software downloads for the routers can be found at the [Software Downloads](#) page. Click the link corresponding to your device to take you to the specific software you are looking for.

## Interface Naming Conventions

This section shows the names of the interfaces on Cisco Catalyst IR1101, IR1800, IR8140, and IR8340 routers on each port.

### Cisco Catalyst IR1101 Rugged Series Router

Port	Naming Convention
Gigabit Ethernet combo port	GigabitEthernet0/0/0
Gigabit Ethernet SFP port on IRM-1100	GigabitEthernet0/0/5
Gigabit Ethernet on IRM-1100-4A2T mounted on the Expansion side	gigabitethernet 0/0/5 gigabitethernet 0/0/6
Fast Ethernet ports	FastEthernet0/0/1 FastEthernet0/0/2 FastEthernet0/0/3 FastEthernet0/0/4

Port	Naming Convention
Cellular Interface on IR1101 Base	Cellular 0/1/0 Cellular 0/1/1
Cellular Interface on IRM-1100 mounted on the top (EM) side	Cellular 0/3/0 Cellular 0/3/1
Cellular Interface on IRM-1100 mounted on the bottom (CM) side	Cellular 0/4/0 Cellular 0/4/1
Asynchronous Serial Interface Base	Async0/2/0
IRM-1100-4A2T is mounted on the top (EM) side	async 0/3/0 async 0/3/1 async 0/3/2 async 0/3/3
IRM-1100-4A2T is mounted on the bottom (CM) side	async 0/4/0 async 0/4/1 async 0/4/2 async 0/4/3
USB	usbflash0:
mSATA	msata:
IR1101 Base Unit Alarm input	alarm contact 0
GPIO on IRM-1100	alarm contact 1-4
LoRaWAN interface on IR1101 Base	LORAWAN0/1/0
LoRaWAN interface on the top (EM) side	LORAWAN0/3/0
Gigabit Ethernet interface for LTE 450MHz module on IR1101 Base	GI0/1/0 GI0/1/0.x for multiPDN operation
Gigabit Ethernet interface for LTE 450MHz module mounted on the bottom (CM) side	GI0/4/0

#### Cisco Catalyst IR1800 Rugged Series Router

Port	Naming Convention
Gigabit Ethernet combo port	GigabitEthernet0/0/0

Port	Naming Convention
Gigabit Ethernet ports	GigabitEthernet0/1/0 GigabitEthernet0/1/1 GigabitEthernet0/1/2 GigabitEthernet0/1/3
Cellular Interface	Cellular 0/4/0 Cellular 0/4/1 Cellular 0/5/0 Cellular 0/5/1
Asynchronous Serial Interface	Async0/2/0 Async0/2/1 (when the base platform supports two asynchronous serial interfaces)
Wi-Fi Interface	Wi0/1/4
USB	usbflash0:
mSATA	msata:
GPIO	alarm contact 1-4

#### Cisco Catalyst IR8140 Heavy Duty Series Router

Port	Naming Convention
Gigabit Ethernet ports	GigabitEthernet0/0/0 GigabitEthernet0/0/1
Cellular Interface	Cellular 0/2/0 Cellular 0/2/1 Cellular 0/3/0 Cellular 0/3/1
SSD	Virtual port Group0
WPAN	Wpan 0/1/0 Wpan 0/2/0 Wpan 0/3/0
Digital IO	alarm contact 1-2

**Cisco Catalyst IR8340 Rugged Series Router**

Port	Naming Convention
Gigabit Ethernet WAN ports	GigabitEthernet0/0/0 GigabitEthernet0/0/1
Gigabit Ethernet LAN ports	GigabitEthernet0/1/0 GigabitEthernet0/1/1 GigabitEthernet0/1/2 GigabitEthernet0/1/3 GigabitEthernet0/1/4 GigabitEthernet0/1/5 GigabitEthernet0/1/6 GigabitEthernet0/1/7 GigabitEthernet0/1/8 GigabitEthernet0/1/9 GigabitEthernet0/1/10 GigabitEthernet0/1/11
Cellular Interface	Cellular 0/4/0 Cellular 0/4/1 Cellular 0/5/0 Cellular 0/5/1
NIM Interface (Asynchronous/Synchronous Serial Ports or E1/T1 ports)	0/2/0 0/2/1 0/3/0 0/3/1
mSATA SSD	msata:
GPIO	alarm contact 0-2
USB Port	usb0:
Console Port	Line console 0

**Cellular Module Modem Firmware, OEM/PRI**

This section contains the latest modem firmware available for each of the modems used by the Cisco IoT routers. See the [Cisco Firmware Upgrade Guide for 4G LTE and 5G Cellular Modems](#) for upgrade instructions.





**Note** Cisco IOS XE updates do not automatically update the modem firmware. The user should check and update all modems to the latest firmware and any associated PRI and/or OEMPRI. See the following table for the latest information:

**Table 5: Cellular Module Modem Firmware**

Cellular Module	Modem	Firmware Version	Software Download Link
P-5GS6-GL	FN980	38.03.0202	<a href="https://software.cisco.com/download/home/286329300/type/">https://software.cisco.com/download/home/286329300/type/</a>
P-LTEAP18-GL IRMH-LTEAP18-GL	LM960	32.00.1x9	<a href="https://software.cisco.com/download/home/286324947/type">https://software.cisco.com/download/home/286324947/type</a>
P-LTEA-EA IRMH-LTEA-EA	EM7455	02.33.03.00	<a href="https://software.cisco.com/download/home/286308426/type">https://software.cisco.com/download/home/286308426/type</a>
P-LTEA-LA IRMH-LTEA-LA	EM7430	02.33.03.00	<a href="https://software.cisco.com/download/home/286308413/type">https://software.cisco.com/download/home/286308413/type</a>
P-LTE-VZW	WP7601	02.37.0x.00	<a href="https://software.cisco.com/download/home/286322139/type">https://software.cisco.com/download/home/286322139/type</a>
P-LTE-US	WP7603	02.37.0x.00	<a href="https://software.cisco.com/download/home/286322143/type">https://software.cisco.com/download/home/286322143/type</a>
P-LTE-JN	WP7605	02.28.03	<a href="https://software.cisco.com/download/home/286322156/type">https://software.cisco.com/download/home/286322156/type</a>
P-LTE-GB	WP7607	02.37.03.05	<a href="https://software.cisco.com/download/home/286322147/type">https://software.cisco.com/download/home/286322147/type</a>
P-LTE-IN	WP7608	02.28.03	<a href="https://software.cisco.com/download/home/286322152/type">https://software.cisco.com/download/home/286322152/type</a>
P-LTE-AU	WP7609	02.28.03	<a href="https://software.cisco.com/download/home/286323720/type">https://software.cisco.com/download/home/286323720/type</a>
P-LTE-MNA	WP7610	02.37.0x.0x	<a href="https://software.cisco.com/download/home/286324942/type">https://software.cisco.com/download/home/286324942/type</a>

Cellular Module	Modem	Firmware Version	Software Download Link
P-LTEA7-NA	EM7411	01.14.22.00	<a href="https://software.cisco.com/download/home/286333933/type">https://software.cisco.com/download/home/286333933/type</a>
P-LTEA7-EAL	EM7421	01.14.22.00	<a href="https://software.cisco.com/download/home/286333937/type">https://software.cisco.com/download/home/286333937/type</a>
P-LTEA7-JP	EM7431	01.14.22.00	<a href="https://software.cisco.com/download/home/286333939/type">https://software.cisco.com/download/home/286333939/type</a>
P-5GS6-R16SA-GL	EM9293	02.13.08.00	<a href="https://software.cisco.com/download/home/286334597/type">https://software.cisco.com/download/home/286334597/type</a>
P-LTE-450	Not Applicable	v1.3.0	Contact Intelliport for the software download link ( <a href="mailto:info@intelliport.hu">info@intelliport.hu</a> )

## Known Limitations

### Smart Licensing Using Policy

Starting with Cisco IOS XE 17.6.1, with the introduction of Smart Licensing Using Policy, even if you configure a hostname for a product instance or device, only the Unique Device Identifier (UDI) is displayed. This change in the display can be observed in all licensing utilities and user interfaces where the hostname was displayed in earlier releases. It does not affect any licensing functionality. There is no workaround for this limitation.

The licensing utilities and user interfaces that are affected by this limitation include only the following: Cisco Smart Software Manager (CSSM), Cisco Smart License Utility (CSLU), and Smart Software Manager On-Prem (SSM On-Prem).

### VLAN-Aware Interoperability Limitations on IR1101

Cisco does not support VLAN-aware interoperability with other vendors on the IR1101 platform.

## Standalone MAC Authentication Bypass Limitation

Standalone MAC Authentication Bypass (MAB) is an authentication method that grants network access to specific MAC addresses regardless of 802.1X capability or credentials. The IR1100 crashes with concurrent IPSec traffic and macsec traffic (device to client).

Refer to the following table for details:

Details	Release Affected	Release Fixed
MAB/Dot1x may not work if the global type-6 encryption setting is enabled.  If users still want to use MAB/Dot1x, they should disable the type-6 encryption and enable type-7 encryption.	17.4.x 17.5.x 17.6.1 17.6.2 17.7.1	17.3.5  Fixed in these future releases: 17.6.3 17.7.2 17.8.1 and later.
dACL and device-tracking features are not supported on the Cisco Catalyst IR1101 Rugged Series Routers due to a hardware limitation. dACL is supported on the Cisco Catalyst IR1800 Rugged Series Routers series.  Therefore, features such as MAB and Dot1x should not be used with the optional dACL/device-tracking enabled.	<b>Note</b> Occurs in all releases.	Hardware limitation, no software fix available.

## Caveats

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

### Cisco Bug Search Tool (BST)

The Cisco [Bug Search Tool](#) (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

## Open Caveats in Cisco IOS XE 17.15.1a

To view the details of a caveat, click on the identifier.

Identifier	Description	Platform
<a href="#">CSCwk59606</a>	Platform usb disable is not working after resear USB	IR1101
<a href="#">CSCwk45072</a>	Few constellations are stuck in acquiring state	IR1101
<a href="#">CSCwd38611</a>	FN980 modem is not showing in show inventory after multiple modem-power cycle	IR1101 and IR1800
<a href="#">CSCwj33878</a>	P-LTEA7-NA/EAL/JP Modules not able to send Dying-gasp after sudden power loss	IR1101 and IR1800

Identifier	Description	Platform
<a href="#">CSCvz30726</a>	High CF/TE, Turnaround and Latency number after reload of router	IR8340
<a href="#">CSCwa92737</a>	CPP/FMAN Download errors on attaching ngsw class-map using etype classification	IR8340

## Resolved Caveats in Cisco IOS XE 17.15.1a

To view the details of a caveat, click on the identifier.

Identifier	Description	Platform
<a href="#">CSCwi66681</a>	Modem resets frequently on 17.12.02 with RSSI spikes upto -130 dBm	IR1101
<a href="#">CSCwi59341</a>	P-LPWA-XXX module reloads periodically causing service outage requiring manual intervention	IR1101
<a href="#">CSCwi59687</a>	Guestshell not persistent across reloads	IR1800
<a href="#">CSCwi43664</a>	WP-WIFI6 : Module Out of Service upon reload	IR1800
<a href="#">CSCwj81049</a>	Unexpected power-on behavior when using ignition detection and/or voltage sense	IR1800
<a href="#">CSCwi53014</a>	Python App cannot open serial port /dev/ttyGyro	IR1800
<a href="#">CSCwi39241</a>	EA Modem/OD Inaccurate GPS Coordinates	IR1800
<a href="#">CSCwj54544</a>	Power usage is at normal level - Events sent every 30 sec in 17.11.1a	IR8140
<a href="#">CSCwi63267</a>	Failed to upgrade from 17.7.1 (ROM: v0.49(REL)) to 17.13.1a on IR8340, routers keep reloading	IR8340
<a href="#">CSCwi29218</a>	Traffic is impacted when HSR link goes down with 100mbps speed.	IR8340
<a href="#">CSCwi52138</a>	Insufficient Power for PoE	IR1835

## Related Documentation

### Cisco Catalyst IR1101 Rugged Series Router

[IR1101 documentation landing page](#)

### Cisco Catalyst IR1800 Rugged Series Router

[IR1800 documentation landing page](#)

**Cisco Catalyst IR8140 Heavy Duty Series Router**

[IR8100 documentation landing page](#)

**Cisco Catalyst IR8340 Rugged Series Router**

[IR8340 documentation landing page](#)

**Product Independent Documentation**

[Cisco Industrial Routers and Industrial Wireless Access Points Antenna Guide](#)

[Cisco IOS XE 17.x](#)

[Cisco SD-WAN](#)

[Cisco IoT Field Network Director](#)

[Cisco Industrial Network Director](#)

[Cisco IoT Operations Dashboard](#)

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