

# Release Notes for Cisco Catalyst IR1101, IR1800, IR8140, and IR8340, Routers - (Cisco IOS XE Cupertino 17.9.5)

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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 17.9.5.

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

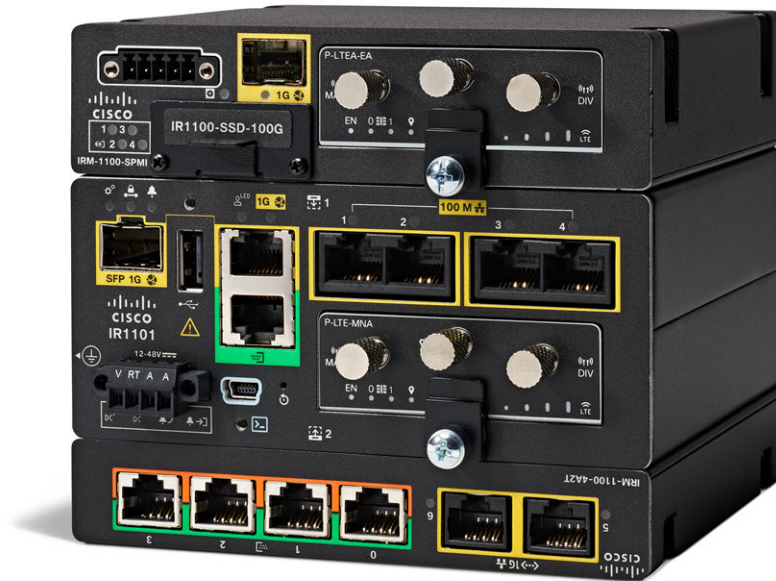


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**Note** The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

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# Cisco Catalyst IR1101 Rugged Series Router



The Cisco Catalyst IR1101 Rugged Series Router is a next-generation modular industrial router, which has a base platform with additional pluggable modules that can be added. The pluggable modules provide the flexibility of adding different interfaces to the IR1101 platform, for example, a cellular module, which provides 5G and Fourth-Generation Long-Term Evolution (4G LTE) cellular networks.

The IR1101 also has expansion modules that adds key capabilities to the IR1101. The expansion modules are:

SKU ID	Description
IRM-1100-SPMI	Expansion Module with 1 GE SFP, 1 Pluggable Module, 4 GPIO ports on 1 Digital I/O Connector, and 1 mSATA SSD Slot.
IRM-1100-SP	Expansion Module with 1 GE SFP and 1 Pluggable Module.
IRM-1100-4A2T	Expansion Module with an additional four asynchronous serial ports and two Ethernet RJ45 LAN interfaces.
Cellular pluggable modules	A number of pluggable modules are available for cellular connectivity.
IRM-SSD-100G	100 GB pluggable industrial SSD.

## Cisco Catalyst IR1800 Rugged Series Router



The Cisco Catalyst IR1800 Rugged Series Router is a modular industrial router. The IR1800 series has four base platforms with additional pluggable modules that can be added. The pluggable modules provide the flexibility of adding different interfaces to the base platform.

The IR1800 series consists of four base platforms:

- IR1821
- IR1831
- IR1833
- IR1835

The IR1800 series features a base platform with modularity, that includes:

SKU ID	Description
IRM-GNSS-ADR	GPS Module with automotive dead reckoning.
WP-WIFI6-x	Wi-Fi 6 Network Interface Module (NIM).
Cellular pluggable modules	A number of pluggable modules are available for cellular connectivity.
IRM-SSD-100G	100 GB pluggable industrial SSD.

**Table 1: Differences Between the IR1800 Series Routers' Features**

Feature	IR1821	IR1831	IR1833	IR1835
Processor Frequency	600 MHz	600 MHz	600 MHz	1200 MHz
DDR Memory	4 GB	4 GB	4 GB	8 GB
Flash Storage	4 GB	4 GB	4 GB	8 GB
PIM Slot	1	2	2	2
Wi-Fi NIM Module Slot	1	1	1	1

Feature	IR1821	IR1831	IR1833	IR1835
PoE	No	No	Yes	Yes
SSD Module Slot	No	No	Yes	Yes
GPS FRU Module Slot	No	No	Yes	Yes
Digital I/O	No	No	No	Yes
Asynchronous Serial Interface	(1) RS232 DTE	(1) RS232 DTE (1) RS232 DCE	(1) RS232 DTE (1) RS232 DCE	(1) RS232 DTE (1) RS232 DCE/RS485

## Cisco Catalyst IR8140 Heavy Duty Series Router



The Cisco Catalyst IR8140 Heavy Duty Series Router (IR8140H), is a next-generation modular IP 67 Industrial Router for outdoor use.

These are the two IR8140H models:

- IR8140H-P-K9 (with PoE PSE)
- IR8140H-K9 (without PoE PSE)

The IR8140H series features contains four external module slots plus two onboard WAN ports, and supports the following:

- 60-W PSU
- CPU 1.2 GHz
- 8GB RAM
- 8GB Flash Storage
- GPS onboard receiver
- 900-MHz WPAN – OFDM/FSK Module
- 4G/LTE and 5G IRMH modules
- mSATA module
- 1x 1-Gigabit Ethernet SFP WAN
- 1x 1-Gigabit Ethernet Cu WAN
- PoE (15 W) supported only in the IR8140H-P-K9 PID
- 12VDC\_OUT port (only available when PoE is not in use)
- Battery Backup Units (BBUs): Up to three
- 2x Alarm ports (Digital I/O)

## Cisco Catalyst IR8340 Rugged Series Router



The Cisco Catalyst IR8340 Rugged Series Router, is the first all-in-one industrial-grade, integrated routing, switching, and security platform.

The IR8340 router features two Pluggable Interface Module (PIM) slots, two single-wide IRM-NIM slots, plus 12 onboard LAN ports, and two WAN ports, and supports the following:

- 150W or 250W PSU, low-voltage DC and high-voltage AC/DC options
- PTP on LAN ports - Default, power and Dot1as profiles
- 5G and 4G LTE PIM
- T1/E1 Network Interface Modules (NIM)
- 8-port Asynchronous/Synchronous Network Interface Module (NIM) IRM-NIM-RS232
- mSATA module
- 2 x 1-G Combo WAN ports
- 4 x 1-G Copper LAN ports
- 4 x 1-G Combo LAN ports
- 4 x 1-G SFP LAN ports
- PoE PoE+ UPoE (up to 60 W) support on LAN ports 1-4
- 2 x IN and 1 x OUT Alarm ports (RJ45)

## Interface Naming Conventions

### Cisco Catalyst IR1101 Rugged Series Router

The following section shows the names of the interfaces on each of the IoT routers.

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	FastEthernet0/0/1-0/0/4
Cellular Interface on IR1101 Base	Cellular 0/1/0 and Cellular 0/1/1
Cellular Interface on IRM-1100 mounted on the top (EM) side.	Cellular 0/3/0 and Cellular 0/3/1
Cellular Interface on IRM-1100 mounted on the bottom (CM) side.	Cellular 0/4/0 and Cellular 0/4/1
Asynchronous Serial Interface Base	Async0/2/0

Port	Naming Convention
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

#### Cisco Catalyst IR1800 Rugged Series Router

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

<b>Port</b>	<b>Naming Convention</b>
Gigabit Ethernet ports	GigabitEthernet0/0/0 GigabitEthernet0/0/1
Cellular Interface	Cellular 0/2/0 OR Cellular 0/3/0
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**

<b>Port</b>	<b>Naming Convention</b>
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



Port	Naming Convention
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 1-2
USB Port	usb0:
Console Port	Line console 0

## Software Images for Cisco IOS XE Release 17.9.5



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

Cisco IOS XE Release 17.9.5 includes the following Cisco images.

**Table 2: Software Images for Cisco IOS-XE, Release 17.9.5**

Router	Image Type	Filename
IR1101	Universal	ir1101-universalk9.17.09.05.SPA.bin
	NPE	ir1101-universal9_npe.17.09.05.SPA.bin
IR1800	Universal	IR1800-universalk9.17.09.05.SPA.bin
	NPE	IR1800-universal9_npe.17.09.05.SPA.bin
IR8140	Universal	IR8100-universalk9.17.09.05.SPA.bin
	NPE	IR8100-universal9_npe.17.09.05.SPA.bin
IR8340	Universal	IR8340-universalk9.17.09.05.SPA.bin
	NPE	IR8340-universalk9_npe.17.09.05.SPA.bin

The latest software downloads for the routers can be found at:

<https://software.cisco.com/download/home/286323433>

Click the link corresponding to your device to take you to the specific software you are looking for.

## New Features in Cisco IOS XE 17.9.5

The following sections describe the major enhancements available in Cisco IOS XE 17.9.5 on each of the routers.



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**Note** There are no new features for this software release.

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## 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](#)

## 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).

#### Config register change issue with service password recovery update

When service password recovery is disabled, then the config register cannot be changed and will be stuck at 0x01. This issue was found on the IR1101 Router. For additional information see the tech note [Understand Configuration Register Usage on all Routers](#).

#### Expansion Module on the IR1101

The expansion module IR1101 does not support +1500 MT size on LAN interfaces. See this [Caveat](#) for details.

## Standalone MAC Authentication Bypass (MAB) 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.

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 IR1101 due to a hardware limitation. dACL is supported on the IR1800 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.

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 17.9.5

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

Identifier	Description	Platform
<a href="#">CSCwf43158</a>	Console access slow, truncated outputs	IR1101
<a href="#">CSCwe12652</a>	Incorrect return MIB for ciscoWanCellExtMIB and ciscoWan3gMIB	All IoT Routers

## Resolved Caveats in Cisco IOS XE 17.9.5

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

Identifier	Description	Platform
<a href="#">CSCwf75697</a>	IR8340 HSR Ring traffic fails on reload with GLC-FE-100FX-RGD SFP	IR8340
<a href="#">CSCwf75697</a>	IR8340 HSR Ring traffic fails on reload with GLC-FE-100FX-RGD SFP	IR8340
<a href="#">CSCwh10876</a>	IR1101 : Ping is not successful after reload the device with switchport config in gi0/0/0	IR1101
<a href="#">CSCwh31936</a>	SCADA Monitoring Crash with DNP3 on multiple ports of IR1101	IR1101
<a href="#">CSCwh77749</a>	IR1101: internal USB hub fails to enumerate resulting in Cellular 0/3/0 not functioning	IR1101
<a href="#">CSCwi02277</a>	Router crashing because of TDL mem leaks	All IoT routers
<a href="#">CSCwi29218</a>	IR8340:Traffic is impacted when HSR link goes down with 100mbps speed.	IR8340
<a href="#">CSCwi04881</a>	Async DNP3 port keeps flapping in 1101 devices	IR1101
<a href="#">CSCwi52138</a>	IR1835 Insufficient Power for PoE	IR1835

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