# Release Notes for Cisco Catalyst IR1101 Rugged Series Router - (Cisco IOS XE 17.4.1)

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## Introduction

The Cisco Catalyst IR1101 Rugged Series Router is a next generation modular industrial router which has a base module with additional Pluggable Modules that can be added. The Pluggable Module provides the flexibility of adding different interfaces to the IR1101 platform, for example, a cellular module.

The IR1101 also has an Expansion Module that adds key capabilities to the IR1101, such as mSATA SSD FRU, Ethernet SFP port, and Digital GPIO connections. It also makes the IR1101 dual LTE capable, with one module in the base and the other in the expansion module.

**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.

**Note** The IR-1100-SP Expansion Module is the same as the IR-1100-SPMI module, without the Digital I/O and mSATA components.

## Interface Naming Conventions

| Port | Naming Convention |
|---|---|
| Gigabit Ethernet combo port | Gigabitethernet 0/0/0 |
| Gigabit Ethernet SFP port on Expansion Module | Gigabitethernet 0/0/5 |
| Fast Ethernet ports | Fastethernet 0/0/1-0/0/4 |
| Cellular Interface on IR1101 Base | Cellular 0/1/0 and Cellular 0/1/1 |
| Cellular Interface on Expansion Module | Cellular 0/3/0 and Cellular 0/3/1 |
| Asynchronous Serial Interface | Async 0/2/0 |

| Port | Naming Convention |
|---|---|
| USB | usbflash0: |
| mSATA | msata |
| IR1101 Base Unit Alarm input | alarm contact 0 |
| GPIO on Expansion Module | alarm contact 1-4 |

# Software Images for IoT Routers

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

*Table 1: Software Images 17.4.1*

| Router | Image Type | Filename |
|---|---|---|
| IR1101 | Universal | ir1101-universalk9.17.04.01.SPA.bin |
| | NPE | ir1101-universal9_npe.17.04.01.SPA.bin |

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

https://software.cisco.com/download/home/286319772/type

Click on the IR1101 link to take you to the specific software you are looking for.

# New Features in Cisco IOS XE 17.4.1

These are the new features for the IR1101.

### Smart Licensing Enhanced (SLE)

Smart Licensing Enhanced (SLE) is the default mode starting with IOS-XE release 17.3.2. SLE replaces Smart Software Licensing. The IR1101 only supports SLE. Some of the feature differences are:

- An Authorization Code is required only for export control requirement
- No more EVAL licenses. Authorized status has changed to In Use or Not In Use with an Enforcement Type class
- Cisco Smart Licensing Utility (CSLU) is a new tool interfacing between the devices and Cisco Smart Software Manager (CSSM) in specific customer topologies
- Throughput is defaulted and capped at 250MB.

**Note** Starting with Cisco IOS XE Amsterdam 17.3.2, 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).

This feature is covered in the IR1101 Configuration Guide here:

https://www.cisco.com/c/en/us/td/docs/routers/access/1101/software/configuration/guide/b_IR1101config/m-sle-license.html

### Cyber Vision Support

Cisco Cyber Vision Center (CVC) gives more visibility into Industrial IoT networks across Industrial Control Systems (ICS) with real-time monitoring of control and data networks. On IoT IOS-XE platforms beginning with release 17.4, integration of CVC is supported by deploying IOX Cyber Vision sensor. With this sensor deployed on IoT Routers, the platform can forward the traffic from IOX applications to Cyber Vision Center for real-time monitoring and we can forward any captured PCAP files to Vision center from IOX application. The minimum Cybervision release is 3.1.1 to work with the IR1101.

This feature is covered in the IR1101 Configuration Guide here:

https://www.cisco.com/c/en/us/td/docs/routers/access/1101/software/configuration/guide/b_IR1101config/m-new-features-17-4-1.html#con_1166351

Release Notes for Cisco Cyber Vision Release 3.1.1:

https://www.cisco.com/c/dam/en/us/td/docs/security/cyber_vision/Cisco-Cyber-Vision_Release-Note-3-1-1.pdf

### Cisco Edge Intelligence

Cisco Edge Intelligence allows for simplified data extraction from IoT sensors, transformation, governance and delivery to applications that need this data.

The release for the IR1101 is version 1.0.6, and is called:

ei_1.0.6_ir1101.K9.tar

Complete information is found at:

https://developer.cisco.com/edge-intelligence/

### Out Of Band Management

OOB offers a method for connecting two routers together with a USB cable for extra redundancy in case of 4G failure. This allows you to retain out-of-band connectivity by connecting the USB port for Router A to the USB console of Router B, as well as the ability to access Router B console port from Router A. This requires a USB 2.0 Type A to USB 2.0 mini USB Type B cable.

This feature will need to be implemented with IOS CLI. The user should be able to do a reverse telnet via tty line (/dev/ttyUSB) to another router's USB console.

This feature is covered in the IR1101 Configuration Guide here:

https://www.cisco.com/c/en/us/td/docs/routers/access/1101/software/configuration/guide/b_IR1101config/m-out-of-band-management.html

### DSL SFP

The IR1101 adds DSL capability by using a Small Form-factor Pluggable (SFP) network interface module. The IR1101 DSL solution will support ADSL2 (Annex A, L), ADSL2+ (Annex A), VDSL2+ (Annex A, B).

**Note** The DSL SFP configuration is different than the ISR 1100 IOS-XE. The IR1101 uses GI0/0/0, while the ISR 1100 uses controller VDSL0/0/0.

Installing the DSL SFP is covered in the IR1101 Hardware installation Guide, and feature information is in the IR1101 Software Configuration Guide here:

https://www.cisco.com/c/en/us/td/docs/routers/access/1101/software/configuration/guide/b_IR1101config/m_configuring_dsl.html

# Related Documentation

### Cisco Catalyst IR1101 Rugged Series Router

IR1101 documentation landing page.

### Product Independent Documentation

Cisco IOS XE 17.x

Cisco SD-WAN

# Known Limitations

Starting with Cisco IOS XE Amsterdam 17.3.2, 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).

# 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.

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

## Open Caveats in Cisco IOS XE 17.4.1

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.

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

| Identifier | Description |
|---|---|
| CSCvw67128 | SL Policy: Purchase information should be protected and shouldn't be able to be erased. |
| CSCvt95976 | dm-log generating dm-log file only once for the first time, modem power-cycle is needed. |
| CSCvw75627 | Over an established DSL line, if packet mtu is less than 64 bytes, ppp session will only establish if the interface configured with vlan 96. |

## Resolved Caveats in Cisco IOS XE 17.4.1

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

| Identifier | Description |
|---|---|
| CSCvu46609 | Cat18 LM960 Modem does not display FirstNet network name. |

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- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

## Cisco Bug Search Tool

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.

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