Release Notes for Cisco ESR6300 Embedded Series Router – Release 17.6.1

Revised September 21, 2021

The following release notes support the Cisco ESR6300 router. These release notes are updated to describe new features, limitations, troubleshooting, recommended configurations, caveats, and provide information on how to obtain support and documentation.

Table 1 provides the hardware product IDs and brief descriptions for the boards.

Table 1 Cisco ESR 6300 SKUs

SKU	Description	Ports/Module Interfaces
ESR-6300-NCP-K9	Embedded Router Board without a cooling plate. (NCP = No Cooling Plate)	4 GE LAN ports 2 combo GE WAN ports 1 USB 3.0 port 1 mSATA module interface
ESR-6300-CON-K9	Embedded Router Board with cooling plate. (CON = Conduction cooled).	4 GE LAN ports 2 combo GE WAN ports 1 USB 3.0 port 1 mSATA module interface

Contents

This publication consists of the following sections:

- General Description, page 2
- Image Information and Supported Platforms, page 2
- Interface Naming Conventions, page 2
- Known Limitations, page 3
- Major Enhancements, page 4
- Related Documentation, page 5
- Caveats, page 5
- Communications, Services, and Additional Information, page 6

General Description

The ESR6300 is a small form factor embedded router module with a board size of 3.0" x 3.775" (76.2mm x 95.885mm). The more compact design simplifies integration and offers system integrators the ability to use the Cisco ESR 6300 in a wide variety of embedded applications. The ESR card is available with a Cisco-designed cooling plate customized to the ESR, as well as without the cooling plate for system integrators who want to design their own custom thermal solution.

Image Information and Supported Platforms

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

Cisco IOS-XE Release 17.6.1 includes the following Cisco image:

- c6300-universalk9.17.06.01.SPA.bin

The latest software downloads for the ESR6300 can be found at:

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

Click on the ESR6300 link to take you to the specific software you are looking for.

Interface Naming Conventions

The following table shows the naming conventions.

Table 2 Hardware Interface Naming Convention

Port	Naming Convention
Gigabit Ethernet combo port WAN/Layer3	gigabitEthernet 0/0/0 gigabitEthernet 0/0/1
Gigabit Ethernet LAN/Layer 2 ports	gigabitEthernet 0/1/0 gigabitEthernet 0/1/1 gigabitEthernet 0/1/2 gigabitEthernet 0/1/3
USB Port	usbflash0: (IOS and rommon)
Console Port	Line console 0

Known Limitations

The following features are not supported on the ESR6300 with software release 17.6.1:

- No support for MacSec or DLEP in this release. (MQC: modular quality of service command line).
- Layer 2 COS to DSCP mapping does not work due to no ASIC chipset support for the feature.
- Copper FE SFPs are not supported on the ESR6300.
- Copper GE SFPs are only supported in config terminal > service internal > service unsupported-transceiver mode.
- Cisco does not claim IP Mobility for Ethernet support on the ESR6300.
- Auto-negotiation for 10Mbps, 100Mbps, 1000Mbps in full-duplex mode is supported. For half duplex, support is only on 10Mbps and 100Mbps.
- Refer to the Cisco Approved Vendor List (AVL]) for Cisco USBs. Kingston USB 3.0 works as well. Ensure the USB has a single partition and ext2, Fat16, or Fat32 format only.
- Cellular functionality is not supported.
- Radio Aware Routing is not supported.
- For Security: No support for TLS, TrustSec, MacSec , CWS [Cloud Web Security], IDS/IPS.

This release has the following limitations or deviations for expected behavior:

- The WebUI Licensing Page is unsupported for release 17.6.1. For all licensing configuration, please use CLI mode or CSSM.
- In the Web User Interface (WebUI), there are two known issues where erroneous information is displayed. In both of these cases, the information is present in the WebUI even though the functionality is **NOT** supported on the ESR6300.
  - Under **Configuration > Security > Threat Defense > snort** there is a RAM and DISK size prerequisite check that fails.

  - Under **Configuration > Security >** there is a category for Trustsec.

These are both cosmetic issues due to the features being unavailable in the 17.6.1 release.

- The IOS boot system setting allows users to specify any flash-based storage URL for IOS image booting.

  The rommon on the ESR6300 does not expose the non-IOX msata partition, therefore auto-booting from mSATA will not work even if it is configured in IOS.

  Example: Users must not configure a boot system setting as follows:

  ```
  (config)#boot system flash msata:ios-image
  ```

- Receive a message 'unable to open bootflash:golden.bin (14)' during bootup.

  Example: Pushing the reset button displays the unable to open message.

  ```
  ESR-6300-CON-K9 platform with 4194304 Kbytes of main memory

  MCU Version - Bootloader: 4, App: 10

  MCU is in application mode.

  Reset button push detected

  unable to open bootflash:golden.bin (14)
  ```

  This message is intended by design to inform the user they have not setup a golden.bin config file.

Major Enhancements

The following features are included in the Cisco IOS-XE release 17.6.1:

Additional SFF Support

Small Form Factor (SFF) transceiver is an optical transceiver that is soldered onto the PCB. It tends to be smaller in size than traditional SFPs.

The specific use case that is being addressed here is that some customers want the ESR6300 to support SFFs in order to meet high vibration and shock requirements that can't be met with traditional SFPs.

Support was added in 17.6.1 for the Finisar FTE8501K1LTN. Since this is not a Cisco transceiver, the end-user will need to use the **service unsupported-transceiver** CLI in order to get the router to accept and initialize the SFF.

In terms of functionality, an SFF should function in the same way as an SFP.

RC4884 ICMPv4 and MPLSv4

RFC 4884 redefines selected ICMP error messages to support multi-part operation, and was introduced in IOS release 17.5.1. RFC4884 ICMP v4 and MPLS v4 extensions are now supported with release 17.6.1.

VXLAN Support

VXLAN functions the same as it did for the IR1101 running 17.5.1. See the section in the IR1101 Software Configuration Guide for information.

Note: VXLAN requires Network Advantage licensing.

Related Documentation

The following documentation is available:

- All of the Cisco ESR6300 documentation can be found here:

  https://www.cisco.com/c/en/us/support/routers/6300-series-embedded-service-routers/tsd-products-support-series-home.html

Caveats

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

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.

For more information about the Cisco Bug Search Tool, see the Bug Search Tool Help & FAQ.

Open Caveats

- **CSCvy13817**

  In release 17.6.1, CME works only in Network-Advantage, not in Network-Essential.

  Symptom: Up through release 17.4.1, CME worked with both Network-Advantage and Network-Essential license levels.

  Workaround: In the upcoming release 17.6.1 and beyond, CME will be supported on both license levels.

- **CSCvx62866**

  CAN bus baudrate set fails message seen during bootup in 17.6.1.

  Workaround: This message is benign and has zero functional impact. The message will be suppressed/hidden in the upcoming release 17.6.1.

- **CSCvx52273**

  Smart license registration through proxy server fails.

  Symptoms: The router is not able to register to the Smart Account when using a proxy server.

  Conditions: The proxy server returns something different as a response to CONNECT request from the HTTP inside IOS from the following list:

  - HTTP/1.0 200 OK
  - HTTP/1.1 200 OK
  - HTTP/1.0 200 Connection Established
  - HTTP/1.1 200 Connection Established

  Workaround: The response from the proxy can be modified to match one of the supported values.

Resolved Caveats

None at this time.

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.
- To get the business impact you're looking for with the technologies that matter, visit Cisco Services.
- To submit a service request, visit Cisco Support.
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit Cisco Marketplace.
- 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.

Modifications to this product not authorized by Cisco could void the FCC approval and negate your authority to operate the product.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco website at www.cisco.com/go/offices.

© 2021 Cisco Systems, Inc. All rights reserved.