Release Notes for Cisco Catalyst IE9300 Rugged Series Switches, Release 17.18.x

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Cisco Catalyst IE9300 Rugged Series Switches, Release 17.18.x

This document provides release information for the following Cisco Catalyst IE switches.

- Cisco Catalyst IE9310 GE Fiber switch
- Cisco Catalyst IE9320 GE Fiber switch
- Cisco Catalyst IE9320 Fiber switch with 10 GE uplinks
- Cisco Catalyst IE9320 10 GE Copper Data switch
- Cisco Catalyst IE9320 10 GE PoE switch
- Cisco Catalyst IE9320 10 G mGig 4PPoE switch
- Cisco Catalyst IE9320 GE PoE switch
- Cisco Catalyst IE9310 GE mixed port switch

Cisco Catalyst IE9300 Rugged Series Switch

Cisco Catalyst IE9300 Rugged Series Switches provide rugged and secure switching infrastructure for harsh environments. They are suitable for industrial Ethernet applications, including manufacturing, utility substations, intelligent transportation systems (ITSs), rail transportation, and other similar deployments.

The switch fulfills the need for a high-density SFP, RJ-45, and Power over Ethernet (PoE) rack-, or wall-mount switch that can function as a software-defined (SD)-Access fabric edge. It provides end-to-end architectural uniformity in the Cisco Catalyst Center for Internet of Things (IoT) connected communities and extended enterprises.

In industrial environments, the switch can be connected to any Ethernet-enabled industrial communication devices. These devices include programmable logic controllers (PLCs), human-machine interfaces (HMIs), drives, sensors, and input and output (I/O) devices.

All Cisco Catalyst IE9300 Rugged Series Switches have 4 GB of DRAM, four alarm inputs, and one alarm output. Other I/O interfaces include the following:

- SD cards slot
- Power input
- RJ-45 (RS-232) console
- Micro-USB console
- USB-A host port

New software features

This section provides a brief description of the new software features introduced in this release.

IOS XE 17.18.4

There are no new software features in this release.

IOS XE 17.18.3

There are no new software features in this release.

IOS XE 17.18.2

There are no new software features in this release.

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IOS XE 17.18.1

Table 1. New software features in release 17.18.1

Product Impact	Feature	Description
Ease of Use	PTP over MRP	This feature achieves precise time synchronization with hardware timestamping, while MRP ensures fast network recovery—enabling reliable and consistent operations.
	Mixed Ports	PRP, PoE, and PROFINET are supported on mixed ports IE-9310-16P8S4X-E and IE-9310-16P8S4X-A.
	VLAN 0 priority tagging	This feature enables prioritization of critical traffic using 802.1Q frames with a VLAN ID of zero, ensuring higher processing priority without VLAN assignment.
	Product Analytics	Cisco IOS XE Product Analytics collects device Systems Information for the purposes of understanding product usage, enabling product improvements and product development, and assisting in product adoption and sales support. Only summarized data of feature usage and statistical counters of configuration are collected. No personally identifiable information, such as MAC/IP addresses, usernames, custom configuration names, or user-provided strings, are collected as part of Cisco IOS XE Product Analytics. Cisco processes this data following the General Terms, the Cisco Privacy Statement, and any other applicable agreement with Cisco. See Cisco Enterprise Networking Product Analytics Frequently Asked Questions.
	BGP EVPN over VXLAN	This feature allows you to simplify network management and scale easily with VXLAN overlays on your existing infrastructure. BGP EVPN as the control plane ensures efficient MAC and IP distribution.
	Enhanced ring convergence profiles for standalone IE9300 switches	From Cisco IOS XE 17.18.1 onwards, 12 rings of 30 ms is also supported on a standalone IE9300 switch.

New hardware features

IOS XE 17.18.4

There are no new hardware features in this release.

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IOS XE 17.18.3

There are no new hardware features in this release.

IOS XE 17.18.2

There are no new hardware features in this release.

IOS XE 17.18.1

There are no new hardware features in this release.

Change in behavior

Notice of upcoming changes in the Cisco IOS XE 17.18.2 release and beyond

Cisco is committed to safeguarding our products and customer networks against increasingly sophisticated threat actors. As computing power and the threat landscape have evolved, some features and protocols currently in use have become vulnerable to attack. While more secure alternatives are now available, legacy protocols may still be in use in some environments.

To improve network security, reduce the attack surface, and protect sensitive data, Cisco will begin phasing out legacy and insecure features and protocols, encouraging customers to transition to more secure alternatives. This process will be gradual and designed to minimize operational impact. The first phase begins with the Cisco IOS XE 17.18 release train. This is part of a broader initiative to make Cisco products more secure by default and secure by design.

Starting with the Cisco IOS XE 17.18.2 release and in future releases, Cisco software displays warning messages when configuring features or protocols that do not provide sufficient security such as those transmitting sensitive data without encryption or using outdated encryption mechanisms. Warnings also appear when security best practices are not followed, along with suggestions for secure alternatives.

This list is subject to change, but the following is a list of features and protocols that generate warnings in releases beyond the version Cisco IOS XE 17.18.1. The release notes for each release describes the exact changes for that release.

- **Plain-text and weak credential storage:** Type 0 (plain text), 5 (MD5), or 7 (Vigenère cipher) in configuration files.
  *Recommendation***:** Use Type 6 (AES) for reversible credentials, and Type 8 (PBKDF2-SHA-256) or Type 9 (Scrypt) for non-reversible credentials.
- **SSHv1**
  Recommendation: Use SSHv2.
- **SNMPv1 and SNMPv2, or SNMPv3 without authentication and encryption**
  Recommendation: Use SNMPv3 with authentication and encryption (authPriv).
- **MD5 (authentication) and 3DES (encryption) in SNMPv3**
  Recommendation: Use SHA1 or, preferably, SHA2 for authentication, and AES for encryption.
- **IP source routing based on IP header options**
  Recommendation: Do not use this legacy feature.
- **TLS 1.0 and TLS 1.1**
  Recommendation: Use TLS 1.2 or later.
- **TLS ciphers using SHA1 for digital signatures**
  Recommendation: Use ciphers with SHA256 or stronger digital signatures.

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- **HTTP**
  Recommendation: Use HTTPS.
- **Telnet**
  Recommendation: Use SSH for remote access.
- **FTP and TFTP**
  Recommendation: Use SFTP or HTTPS for file transfers.
- **On-Demand Routing (ODR)**
  Recommendation: Use a standard routing protocol in place of CDP-based routing information exchange.
- **BootP server**
  Recommendation: Use DHCP or secure boot features such as Secure ZTP.
- **TCP and UDP small servers (echo, chargen, discard, daytime)**
  Recommendation: Do not use these services on network devices.
- **IP finger**
  Recommendation: Do not use this protocol on network devices.
- **NTP control messages**
  Recommendation: Do not use this feature.
- **TACACS+ using pre-shared keys and MD5**
  Recommendation: Use TACACS+ over TLS 1.3, introduced in Cisco IOS XE 17.18.1.

Cisco is committed to supporting customers through this transition. Subsequent releases in the Cisco IOS XE 17.18 train continue to support these features but display warnings if they are used. Future release trains may impose additional restrictions on these features which will be communicated through release notes. For more information, see Resilient Infrastructure IOS XE Security Warnings Reference.

Alarm relay polarity changes

Starting with Cisco IOS XE Release 17.18.1, the **alarm relay-mode** command aligns the positive and negative relay states with the polarity of the physical alarm output pins. This behavior differs from earlier releases. After an upgrade, verify the alarm relay configuration and external wiring to ensure that alarm and no-alarm conditions operate as expected.

Example: Switch# **show alarm settings | in alarm relay mode**

Alarm relay mode: Positive

Resolved issues

This section lists the resolved issues for this release.

IOS XE 17.18.4

No customer-impacting bugs were fixed in this release.

IOS XE 17.18.3

Table 2. Resolved issues in release 17.18.3

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Bug ID	Description
CSCws05823	Port VlanID is missing from show ptp lan port on changing native vlan configuration
CSCws48556	Follow-up meessage stops transmitting from IE93xx
CSCws18675	IE-9310-26S2C: Express setup LED glows amber
CSCwt30970	Interfaces on C9300-24S with GLC-GE-100FX fail to come up after power failure.
CSCwr78633	100mb SFP not in sync with 1g SFP
CSCwj74266	Sonic advance SKU: Alarm relay-mode states not consistent with output alarm pins' polarity

IOS XE 17.18.2

Table 3. Resolved issues in release 17.18.2

Bug ID	Description
CSCwq85911	REP Interface broadcast unicast traffic to all the interface in the same vlan.
CSCwr60436	On IE9k switches, the Dying-Gasp SNMP trap is not sent over loopback interface after a reboot.
CSCwr72487	SFP status behaviour change from SNMP_ADMIN_NOT_PRESENT to SNMP_ADMIN_DOWN when Profinet disabled.

IOS XE 17.18.1

Table 4. Resolved issues in release 17.18.1

Bug ID	Description
CSCwo25497	Two GM Follow_Up messages is not sending properly from IE9300.
CSCwj74266	IE9K/IE3500: Alarm relay-mode states not consistent with output alarm pins' polarity

Open issues

This section lists the open issues in this specific software release.

Note: This software release may contain open bugs first identified in other releases. To see additional information, click the bug ID to access the Cisco Bug Search Tool.

IOS XE 17.18.4

Table 5. Open issues in release 17.18.4

Bug ID	Description
CSCwt45804	Mem leaks in timingd, followed by crash with unsupported PTP over Port channel configured on ie9k
CSCwu78398	%ILPOWER-5-IEEE_DISCONNECT: Interface Gi1/0/23: PD removed

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Bug ID	Description
CSCwu29126	IE9300 - ALT port failing to block traffic, causing network loops in REP ring
CSCwt64311	IE9K/IE3505: Padding is not working correctly with vlan tag when PRP is enabled

IOS XE 17.18.3

There are no open issues in this release.

IOS XE 17.18.2

Table 6. Open issues in release 17.18.2

Bug ID	Description
CSCwr78651	IE93xx PTP: SYNC Messages Sent Without Corresponding FOLLOWUP messages.

IOS XE 17.18.1

Table 7. Open issues in release 17.18.1

Bug ID	Description
CSCwp65194	Incomplete SNMPWALK of entSensorValue data retrieval for SFP modules on IE-9320-26S2C-A switches
CSCwr78633	100mb SFP not in sync with 1g SFP
CSCws18675	IE-9310-26S2C: Express setup LED glows amber

Known issues

There are no known issues in this release.

Compatibility

Refer to the Cisco IOS XE Migration Guide for IIoT Switches for the latest information about upgrading and downgrading switch software for Cisco Catalyst IE9300 Series Switches, Release 17.18.x

SSH Algorithms for Common Criteria Certification Limitation

Starting from Cisco IOS XE Release 17.10, the following Key Exchange and MAC algorithms are removed from the default list:

- Key Exchange algorithm:
  - diffie-hellman-group14-sha1
- MAC algorithms:
  - hmac-sha1
  - hmac-sha2-256
  - hmac-sha2-512

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You can use the **ip ssh server algorithm kex** command to configure the Key Exchange algorithm and the **ip ssh server algorithm mac** command to configure the MAC algorithms.

Supported hardware

This section lists the hardware support information.

This table lists the supported Cisco Catalyst IE9300 Rugged Series Switches hardware models and the default license levels that they are delivered with.

Table 8. Supported IE9300 hardware

Model Number	Default License Level	Stacking Support	Description
IE-9310-26S2C-A	Network Advantage	No	• Total ports: 28 • SFP uplinks: 4x 1 Gb SFP • SFP downlinks: 22x 100M/1000M SFP, 2x 100M/1000M dual-media • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9310-26S2C-E	Network Essentials	No	• Total ports: 28 • SFP uplinks: 4x 1 Gb SFP • SFP downlinks: 22x 100M/1000M SFP, 2x 100M/1000M dual-media • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9310-16P8S4X-E	Network Essentials	No	• Total ports: 28 • PoE+ ports: 16 ports 10/100/1000M • SFP downlinks: 8 ports 100/1000M • SFP uplinks: 4 ports 1/10G • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9310-16P8S4X-A	Network Advantage	No	• Total ports: 28 • PoE+ ports: 16 ports 10/100/1000M • SFP downlinks: 8 ports 100/1000M • SFP uplinks: 4 ports 1/10G • Power supplies: Support for field-replaceable, redundant AC or DC power supplies

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Model Number	Default License Level	Stacking Support	Description
IE-9320-26S2C-A	Network Advantage	Yes	• Total ports: 28 • SFP uplinks: 4x 1 Gb SFP • SFP downlinks: 22x 100M/1000M SFP, 2x 100M/1000M dual-media • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-26S2C-E	Network Essentials	Yes	• Total ports: 28 • SFP uplinks: 4x 1 Gb SFP • SFP downlinks: 22x 100M/1000M SFP, 2x 100M/1000M dual-media • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-22S2C4X-A	Network Advantage	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP+ • SFP downlinks: • 22x 1 Gb SFP, 2x 1-Gb Dual-media ports • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-22S2C4X-E	Network Essentials	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP+ • SFP downlinks: • 22x 1 Gb SFP, 2x 1-Gb Dual-media ports • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-24T4X-A	Network Advantage	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP+ • Copper downlinks: 24x 1 Gb RJ45 • Power supplies: Support for field-replaceable, redundant AC or DC power supplies.
IE-9320-24T4X-E	Network Essentials	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP+ • Copper downlinks: 24x 1 Gb RJ45 • Power supplies: Support for field-

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Model Number	Default License Level	Stacking Support	Description
			replaceable, redundant AC or DC power supplies.
IE-9320-24P4X-A	Network Advantage	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP+ • Copper downlinks: 24x 1 Gb RJ45 PoE+ • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-24P4X-E	Network Essentials	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP+ • Copper downlinks: 24x 1 Gb RJ45 PoE+ • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-16P8U4X-A	Network Advantage	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP • Copper downlinks: 16 ports 1 Gb RJ45 PoE+, 8 ports 2.5 Gb RJ45 4PPoE (90W/port) • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-16P8U4X-E	Network Essentials	Yes	• Total ports: 28 • SFP uplinks: 4x 10 Gb SFP • Copper downlinks: 16 ports 1 Gb RJ45 PoE+, 8 ports 2.5 Gb RJ45 4PPoE (90W/port) • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-24P4S-A	Network Advantage	Yes	• Total ports: 28 • SFP uplinks: 4x 1Gb SFP • Copper downlinks: 24 ports 1 Gb RJ45 PoE+ • Power supplies: Support for field-replaceable, redundant AC or DC power supplies
IE-9320-24P4S-E	Network Essentials	Yes	• Total ports: 28 • SFP uplinks: 4x 1Gb SFP

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Model Number	Default License Level	Stacking Support	Description
			• Copper downlinks: 24 ports 1 Gb RJ45 PoE+ • Power supplies: Support for field-replaceable, redundant AC or DC power supplies

Note: Documentation sometimes uses these terms:

- IE9310 GE Fiber switch when referring to both IE-9310-26S2C-A and IE-9310-26S2C-E switches
- IE9320 GE Fiber switch when referring to both IE-9320-26S2C-A and IE-9320-26S2C-E switches
- IE9320 Fiber switch with 10 GE uplinks when referring to both IE-9320-22S2C4X-A and IE-9320-22S2C4X-E switches
- IE9320 10 GE Copper Data switch when referring to both IE-9320-24T4X-A and IE-9320-24T4X-E switches
- IE9320 10 GE PoE switch when referring to both IE-9320-24P4X-A and IE-9320-24P4X-E
- IE9320 10 G mGig 4PPoE switch when referring to both IE-9320-16P8U4X-A and IE-9320-16P8U4X-E
- IE9320 GE PoE switch when referring to both IE-9320-24P4S-A and IE-9320-24P4S-E
- IE9300 GE mixed port when referring to 9310-16P8S4x

Network Essentials and Network Advantage license are available for Cisco Catalyst IE9300 Rugged Series Switch starting with release 17.10.1. The features available in the two licenses follow the IE9300 series, except for MACsec-256.

Network advantage license	Description
Security	MACsec-256
Routing	Layer 3 routing support.

Supported software packages

This section provides information about the release packages associated with Cisco Catalyst IE9300 Rugged Series Switches.

Finding the software version

- The package files for Cisco IOS XE software can be found on the system board's internal flash memory device (flash:) or an external USB, depending on the device configuration.
- You can use the show version privileged EXEC command to see the software version that is running on your switch.

Note: Although the show version output always shows the software image running on the switch, the model name shown at the end of this display is the factory configuration and does not change if you upgrade the software license.

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You can also use the dir filesystem: privileged EXEC command to see the names and versions of other software images that you might have stored in flash memory.

This table provides the filename for the IOS XE 17.18.x software image for Cisco Catalyst IE9300 Rugged Series Switches.

Table 9. Software packages for Cisco Catalyst IE9300 Rugged Series Switches, Release 17.18.x

Release	Image type	Filename	Switch Models
Cisco IOS XE.17.18.1	Universal	ie9k_iosxe.17.18.01.SPA.bin	Cisco Catalyst IE9300 Rugged Series Switches
Cisco IOS XE.17.18.2	Universal	ie9k_iosxe.17.18.02.SPA.bin	Cisco Catalyst IE9300 Rugged Series Switches
Cisco IOS XE.17.18.3	Universal	ie9k_iosxe.17.18.03.SPA.bin	Cisco Catalyst IE9300 Rugged Series Switches
Cisco IOS XE.17.18.4	Universal	ie9k_iosxe.17.18.04.SPA.bin	Cisco Catalyst IE9300 Rugged Series Switches

Software Installation Options

To install and activate the specified file, and to commit changes to be persistent across reloads, enter the command: **install add file filename [activate commit]**

This table lists the options for the **install** command for the Cisco Catalyst IE9300 Rugged Series Switches.

Table 10. Summary of software installation commands for install mode

Command	Description
abort	Abort the current install operation.
activate	Activate an installed package.
add	Install a package file to the system.
auto-abort-timer	Install auto-abort-timer.
auto-upgrade	Initiate software auto-upgrade on all incompatible switches.
commit	Commit the changes to the load path.
deactivate	Deactivate an install package.
label	Add a label name to any installation point.
remove	Remove installed packages.
rollback	Rollback to a previous installation point.

Related resources

Table 11. Additional content for Cisco Catalyst IE9300 Rugged Series Switch, Release 17.18.x

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Document	Description
Cisco IOS XE	Provides information about Cisco IOS XE.
Cisco Catalyst IE9300 Rugged Series Switches	Provides information about Cisco Catalyst IE9300 Rugged Series Switches.
Cisco Validated Design documents	Provides Cisco-validated designs for deploying reliable and tested solutions.
Cisco MIB Locator	Provides tools for locating and downloading MIBs.
Cisco Profile Manager	To receive timely, relevant information from Cisco, sign up here.
Cisco Services	Provides services that help you deploy, manage, optimize, and secure Cisco technologies to achieve your business outcomes.
Cisco Support	You can submit a service request here.
Cisco DevNet	Enables you to discover and browse secure, validated, enterprise-class applications, products, solutions, and services.
Cisco Press	Provides Cisco-authorized books, e-books, and digital learning resources for Cisco products and technologies.
Cisco Warranty Finder	Provides warranty information for a specific product or product family.
Cisco support community	You can ask and answer questions, share suggestions, and collaborate with your peers.
Cisco Feature Navigator	Provides platform support details and license level information for features.
Cisco TAC	Provides the most up-to-date, detailed troubleshooting information. Go to Product Support and select your product from the list or enter the name of your product. Look under Troubleshoot and Alerts, to find information for the problem that you are experiencing.
Documentation Feedback	To provide feedback about Cisco technical documentation, use the feedback form available in the right pane of every online document.
Licenses	You can find information about the licensing packages for features here.

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