

# Release Notes for Cisco Catalyst IE3x00 Rugged, IE3400 Heavy Duty, and ESS3300 Series Switches, Cisco IOS XE Cupertino 17.7.x

---

**First Published:** 2021-12-06

**Last Modified:** 2024-04-04

## Introduction

This document provides release information for the following Catalyst IE and Cisco ESS switches:

- Cisco Catalyst Rugged Series Switches (IE3200 and IE3300)
- Cisco Catalyst IE3400 Rugged Series (IE3400)
- Cisco Catalyst IE3400 Heavy-Duty Series (IE3400H)
- Cisco Embedded Services 3300 Series (ESS3300)

Cisco Catalyst IE3x00 Rugged Series Switches feature advanced, full Gigabit Ethernet speed for rich real-time data - and a modular, optimized design. These Cisco rugged switches bring simplicity, flexibility and security to the network edge, and are optimized for size, power, and performance.

From their end-to-end security architecture to delivering centralized automation and scale with Cisco intent-based networking, the Cisco Catalyst IE3x00 family is the perfect solution to your switching needs in almost any use case.

Cisco Embedded Services 3300 Series Switches (ESS3300) revolutionize Cisco's embedded networking portfolio with 1G/10G capabilities. ESS3300 switches are optimized to meet specialized form-factor, ruggedization, port density, and power needs of many applications requiring customization. They complement Cisco's off-the-shelf Industrial Ethernet switching portfolio.

On ESS3300, the small form factor, board configuration options, and optimized power consumption provide Cisco partners and integrators the flexibility to design custom solutions for defense, oil and gas, transportation, mining, and other verticals. The ESS3300 runs the trusted and feature-rich Cisco IOS XE Software, allowing Cisco partners and integrators to offer their customers the familiar Cisco IOS CLI and management experience on their ESS3300 solutions.



---

### 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.

---

## New Features for Cisco Catalyst IE and ESS Switches in Cisco IOS XE 17.7.x

The following features apply to both the IE3x00 and ESS3300 switches unless mentioned.

Feature Name	License Level	Description	Supported Platforms
MRP License removal	Network Essentials	Use of MRP in Cisco IOS XE 17.7.1 and later does not require a feature license, only the Network Essentials Base license.	<ul style="list-style-type: none"> <li>• IE32000/IE3300</li> <li>• IE3400/IE3400H</li> </ul>

### Enhancements Common to all IoT Switches

#### Factory-installed trust code

For new hardware and software orders, a trust code is now installed at the time of manufacturing.




---

**Note** You cannot use a factory-installed trust code to communicate with CSSM.

---

#### Support for trust code in additional topologies

A trust code is automatically obtained in topologies where the product instance initiates the sending of data to Cisco Smart License Utility (CSLU) and in topologies where the product instance is in an air-gapped network.

If a trust code is not available on the product instance, the product instance detects and automatically includes a request for one, as part of the RUM report. The ACK from CSSM includes the trust code.

#### Ability to save authorization code request and return in a file and simpler upload in the CSSM WebUI

If a product instance is in an air-gapped network, you can now save a SLAC request in a file on the product instance by configuring the **license smart authorization request {add|replace} *feature\_name* {all|local}**, followed by the **license smart authorization request save [*path*]** commands.

The SLAC request file must be uploaded to the CSSM Web UI. You can then download the file containing the SLAC code and install it on the product instance. You can also upload a return request file in a similar manner. With this new method you do not have to gather and enter the required details on the CSSM Web UI to generate a SLAC. You also do not have to locate the product instance in the CSSM Web UI to return an authorization code.

In the CSSM Web UI, you must upload the SLAC request or return file in the same way as you upload a RUM report. In the required Smart Account, navigate to **Reports** → **Usage Data Files**.

### RUM Report optimization and availability of statistics

RUM report generation and related processes have been optimized. This includes a reduction in the time it takes to process RUM reports, better memory and disk space utilization, and visibility into the RUM reports on the product instance (how many there are, the processing state each one is in, if there are errors in any of them, and so on).

The new **show license rum** privileged EXEC command displays information about Resource Utilization Measurement reports (RUM report) available on the product instance, including report IDs, the current processing state of a report, error information (if any), and to save the detailed or summarized view that is displayed.

The output of the **show license tech** and **show license all** commands were enhanced to display RUM report information.

### Support to collect software version in a RUM report

If version privacy is disabled (**no license smart privacy version** global configuration command), the Cisco IOS-XE software version running on the product instance and the Smart Agent version is included in the RUM report.

### Account information included in the ACK and show command outputs

A RUM report acknowledgement (ACK) includes the Smart Account and Virtual Account that was reported to, in CSSM. Once the ACK is installed on the product instance, you can display account information in the **show license summary**, **show license status**, **show license all** and **show license tech** commands. The account information that is displayed is always as per the latest available ACK on the product instance.

### CSLU support for Linux

CSLU can now be deployed on a machine (laptop or desktop) running Linux.

For release notes and to download the latest version, click *Smart Licensing Utility* on the [Software Download](#) page.

## Important Notes

### IE3400: Hardware Changes may Require Action

Some hardware components on the Cisco Catalyst IE3400 Rugged Series and Cisco Catalyst IE3400 Heavy Duty Series switches have changed. The changes, which are automatically handled by the IOS-XE software, do not affect switch functionality or the ordering process.

However, you may need to upgrade the software, depending on which base switch and expansion module you have, as shown in the following table.



---

**Note** For detailed information about affected hardware versions, supported software releases, and instructions for different scenarios, see [FN72400 - New Hardware Versions of Cisco Catalyst IE3400 Rugged/IE3400H Heavy Duty Series Will Be Supported with Minimum Software Release - Software Upgrade Recommended](#) on Cisco.com.

---

If you have...	Then...
Older versions of the base switch and expansion module	No action is required.
Newer versions of the base switch and expansion module	Deploy one of the supported releases of IOS-XE. Otherwise, you see an error message telling you that the release that you are using is not supported.
Newer version of the base switch with an older version of the expansion module	The supported releases are 17.7.1 and later. Do not downgrade to earlier releases.
Older version of the base switch with a newer version of the expansion module	Deploy one of the supported releases of IOS-XE. Refer to <i>Field Notice Title</i> on <a href="http://Cisco.com">Cisco.com</a> for details that are appropriate to your deployment.

### Accessing Hidden Commands

Hidden commands have always been present in Cisco IOS XE, but were not equipped with CLI help. This means that entering enter a question mark (?) at the system prompt did not display the list of available commands. Such hidden commands are only meant to assist Cisco TAC in advanced troubleshooting and are therefore not documented. For more information about CLI help, see the *Using the Command-Line Interface* → *Understanding the Help System* chapter of the Command Reference document.

This section provides information about hidden commands in Cisco IOS XE and the security measures in place, when they are accessed. Hidden commands are meant to assist Cisco TAC in advanced troubleshooting and are therefore not documented. For more information about CLI help, see the *Using the Command-Line Interface* → *Understanding the Help System* chapter of the Command Reference document.

Hidden commands are available under:

- Category 1: Hidden commands in privileged or User EXEC mode. Begin by entering the **service internal** command to access these commands.
- Category 2: Hidden commands in one of the configuration modes (global, interface and so on). These commands do not require the **service internal** command.

Further, the following applies to hidden commands under Category 1 and 2:

- The commands have CLI help. Entering enter a question mark (?) at the system prompt displays the list of available commands.




---

**Note** For Category 1, enter the **service internal** command before you enter the question mark; you do not have to do this for Category 2.

---

- The system generates a %PARSER-5-HIDDEN syslog message when the command is used. For example:
 

```
*Feb 14 10:44:37.917: %PARSER-5-HIDDEN: Warning!!! 'show processes memory old-header '
  is a hidden command.
Use of this command is not recommended/supported and will be removed in future.
```

Apart from category 1 and 2, there remain internal commands displayed on the CLI, for which the system does NOT generate the %PARSER-5-HIDDEN syslog message.



**Important** We recommend that you use *any* hidden command only under TAC supervision. If you find that you are using a hidden command, open a TAC case for help with finding another way of collecting the same information as the hidden command (for a hidden EXEC mode command), or to configure the same functionality (for a hidden configuration mode command) using non-hidden commands.

### PoE Limitation on IE3x00

Even when using power supplies that can provide up to a supported maximum (for example, 170W, 240W, or 480W) for the PoE budget, the PoE budget for the IE3x00 defaults to 125W regardless of the power supplies used. You can configure the power budget to use the maximum.



**Note** Before changing the power budget, the minimum power requirements for the switch need to be considered as well. Please refer to the datasheet for your switch for more details.

To use the power supply's maximum supported wattage for the PoE budget, configure the power supply max wattage in global configuration mode as follows:

1. Verify the maximum amount that the power supplies support for the PoE budget.
2. Enter **power inline max** *max-wattage* to increase the PoE budget based on the power supplies used.  
*max-wattage* is the maximum available PoE power.

### IE3300 with 10Mbps speed in Half-Duplex Mode

CRC errors were observed on the IE3300 platform when the switch is configured with 10Mbps speed in half-duplex mode.

As a workaround, configure **no ptp enable** on the half-duplex interface. This improves ingress and egress latencies considerably and ensures that there are no late collisions (and therefore, no CRC errors).

The issue and workaround apply to Cisco IOS XE releases 17.3.5 and greater.

## Cisco Catalyst IE and ESS Switches: Model Numbers (17.7.x)

The following table lists the supported hardware models and the default license levels they are delivered with. For information about the available license levels, see section *License Levels*.

Model Number	Default License Level	Description
ESS-3300-NCP-E	Network Essentials	Main Board without a cooling plate. 2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports. Terminal Power: 16W

Model Number	Default License Level	Description
ESS-3300-NCP-A	Network Advantage	Main Board without a cooling plate. 2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports. Terminal Power: 16W
ESS-3300-CON-E	Network Essentials	Main Board conduction cooled 2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports Terminal Power: 16W
ESS-3300-CON-A	Network Advantage	Main Board conduction cooled 2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports Terminal Power: 16W
ESS-3300-24T-NCP-E	Network Essentials	Main Board with a 16p Expansion Board without a cooling plate 2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board Terminal Power: 24W
ESS-3300-24T-NCP-A	Network Advantage	Main Board with a 16p Expansion Board without a cooling plate 2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board Terminal Power: 24W
ESS-3300-24T-CON-E	Network Essentials	Main Board with a 16p Expansion Board conduction cooled 2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board Terminal Power: 24W

Model Number	Default License Level	Description
ESS-3300-24T-CON-A	Network Advantage	Main Board with a 16p Expansion Board conduction cooled 2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board Terminal Power: 24W
IE-3200-8T2S-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 100/1000 SFP-based ports, non-PoE
IE-3200-8P2S-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 PoE/PoE+ ports, 2 fiber 100/1000 SFP-based ports; PoE power budget of 240W
IE-3300-8T2S-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 100/1000 SFP-based ports, non-PoE
IE-3300-8P2S-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 PoE/PoE+ ports, 2 fiber 100/1000 SFP-based ports; PoE power budget of 360W (including expansion module)
IE-3300-8T2S-A	Network Advantage	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 100/1000 SFP-based ports, non-PoE
IE-3300-8P2S-A	Network Advantage	8 Gigabit Ethernet 10/100/1000 PoE/PoE+ ports, 2 fiber 100/1000 SFP-based ports; PoE power budget of 360W (including expansion module)
IE-3300-8T2X-A	Network Advantage	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 1/10 Gigabit Ethernet SFP-based ports, non-PoE
IE-3300-8T2X-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 1/10 Gigabit Ethernet SFP-based ports, non-PoE
IE-3300-8U2X-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 4PPoE (802.3bt type 3) ports, 2 fiber 1/10 Gigabit Ethernet SFP-based ports; PoE power budget of 480W
IE-3300-8U2X-A	Network Advantage	8 Gigabit Ethernet 10/100/1000 4PPoE (802.3bt type 3) ports, 2 fiber 1/10 Gigabit Ethernet SFP-based ports; PoE power budget of 480W
IE-3400-8T2S-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 100/1000 SFP-based ports, non-PoE

Model Number	Default License Level	Description
IE-3400-8T2S-A	Network Advantage	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 100/1000 SFP-based ports, non-PoE
IE-3400-8P2S-E	Network Essentials	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 100/1000 SFP-based ports with PoE
IE-3400-8P2S-A	Network Advantage	8 Gigabit Ethernet 10/100/1000 RJ45 ports, 2 fiber 100/1000 SFP-based ports with PoE
IE-3400H-8T-E	Network Essentials	8x1-Gbps X-Coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, mini-change input for Single power source
IE-3400H-8T-A	Network Advantage	8x1-Gbps X-Coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, mini-change input for Single power source
IE-3400H-8FT-E	Network Essentials	8 100-Mbps D-coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, Mini-change input for Single Power Source .
IE-3400H-8FT-A	Network Advantage	8 100-Mbps D-coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, Mini-change input for Single Power Source .
IE-3400H-16T-E	Network Essentials	16x1-Gbps X-Coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, mini-change input for Single power source
IE-3400H-16T-A	Network Advantage	16x1-Gbps X-Coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, mini-change input for Single power source
IE-3400H-16FT-E	Network Essentials	16 100-Mbps D-coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, Mini-change input for Single Power Source .
IE-3400H-16FT-A	Network Advantage	16 100-Mbps D-coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, Mini-change input for Single Power Source .
IE-3400H-24T-E	Network Essentials	24x1-Gbps X-Coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, mini-change input for Single power source
IE-3400H-24T-A	Network Advantage	24x1-Gbps X-Coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, mini-change input for Single power source
IE-3400H-24FT-E	Network Essentials	24 100-Mbps D-coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, Mini-change input for Single Power Source .



Model Number	Default License Level	Description
IE-3400H-24FT-A	Network Advantage	24 100-Mbps D-coded ports, 1 Alarm input and 1 Alarm output, 1 Console port, Mini-change input for Single Power Source .

## Expansion Modules

The following table lists the optional expansion modules for the IE3300 and IE3400 base systems. Modules with IEM-3400-xx are only supported on IE3400 base systems. IEM expansion modules that support PoE are only supported on Base systems that support PoE.

Expansion Module	Description
IEM-3300-4MU	4 copper 2.5Gigabit Ethernet ports. With IEEE 802.3bt type 4 PoE.
IEM-3300-8T	8 copper Gigabit Ethernet ports. Non PoE.
IEM-3300-8P	8 copper Gigabit Ethernet ports. With PoE
IEM-3300-8S	8 SFP Gigabit Ethernet ports. Non PoE.
IEM-3300-16T	16 copper Gigabit Ethernet ports. Non PoE.
IEM-3300-16P	16 copper Gigabit Ethernet ports. With PoE.
IEM-3300-6T2S	6 copper Gigabit Ethernet ports and 2 SFP Gigabit ports. Non PoE.
IEM-3300-14T2S	14 copper Gigabit Ethernet ports, and 2 SFP Gigabit ports. Non PoE.
IEM-3400-8T	8 copper Gigabit Ethernet ports with Advanced features. Non PoE.
IEM-3400-8S	8 SFP Gigabit Ethernet ports with Advanced features. Non PoE.
IEM-3400-8P	8 copper Gigabit Ethernet ports with Advanced features with PoE.

## Optics Modules

Cisco Catalyst Series Switches support a wide range of optics and the list of supported optics is updated on a regular basis. Use the [Transceiver Module Group \(TMG\) Compatibility Matrix](#) tool, or consult the tables at this URL for the latest transceiver module compatibility information: [https://www.cisco.com/en/US/products/hw/modules/ps5455/products\\_device\\_support\\_tables\\_list.html](https://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html)

The Cisco Catalyst IE3x00 Rugged, IE3400 Heavy Duty and ESS3300 Series Switches datasheets contain the current list of supported SFP and optics.

## WebUI System Requirements

The WebUI is a web browser-based switch management tool that runs on the switch. The following subsections list the hardware and software required to access the WebUI.

### Minimum Hardware Requirements

Processor Speed	DRAM	Number of Colors	Resolution	Font Size
233 MHz minimum <sup>1</sup>	512 MB <sup>2</sup>	256	1280 x 800 or higher	Small

<sup>1</sup> We recommend 1 GHz

<sup>2</sup> We recommend 1 GB DRAM

### Software Requirements

#### Operating Systems

- Windows 10 or later
- Mac OS X 10.9.5 or later

#### Browsers

- Google Chrome: Version 59 or later (On Windows and Mac)
- Microsoft Edge
- Mozilla Firefox: Version 54 or later (On Windows and Mac)
- Safari: Version 10 or later (On Mac)

## Upgrading the Switch Software

This section covers the various aspects of upgrading or downgrading the device software.




---

**Note** See the [Cisco IOS XE Migration Guide for IloT Switches](#) for the latest information about upgrading and downgrading switch software.

---

### Finding the Software Version

The package files for the Cisco IOS XE software can be found on the system board flash device flash (flash:) or external SDFlash (sdflash:).

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.

---

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.

## Software Images 17.7.x

The following table provides the filenames for the IOS XE 17.7.x software image for Cisco Catalyst IE3x00 Rugged, IE3400 Heavy Duty, and ESS3300 Series Switches.

Release	Image Type	Filename
Cisco IOS XE.17.7.1	Universal	ie3x00-universalk9.17.07.01.SPA.bin
		ess3x00-universalk9.17.07.01.SPA.bin
	NPE	ie3x00-universalk9_npe.17.07.01.SPA.bin

## Automatic Boot Loader Upgrade

When you upgrade from the existing release on your switch to a later or newer release for the first time, the boot loader may be automatically upgraded, based on the hardware version of the switch. If the boot loader is automatically upgraded, it will take effect on the next reload.

For subsequent Cisco IOS XE releases, if there is a new bootloader in that release, it may be automatically upgraded based on the hardware version of the switch when you boot up your switch with the new image for the first time.



**Caution** Do not power cycle your switch during the upgrade.

Scenario	Automatic Boot Loader Response
If you boot Cisco IOS XE the first time	Boot loader may be upgraded to version "8.1.2" for IE3x00 and ESS-3300.  Checking Bootloader upgrade... ... Bootloader upgrade successful

## Software Installation Commands



**Note** For the **install** command to be successful, it is recommended to have a minimum of free space that is twice the size of the image in flash. If there is not enough space available in flash, you are advised to free up space in flash either by issuing the **install remove inactive** command or to manually clean up the flash by removing unwanted core files or any other files that occupy a large amount of space in flash.

Summary of Software Installation Commands for Install Mode	
To install and activate the specified file, and to commit changes to be persistent across reloads— <b>install add file</b> <i>filename</i> [ <b>activate commit</b> ]	
<b>add file tftp:</b> <i>filename</i>	Copies the install file package from a remote location to the device and performs a compatibility check for the platform and image versions.

Summary of Software Installation Commands for Install Mode	
<b>activate</b> [ <b>auto-abort-timer</b> ]	Activates the file, and reloads the device. The <b>auto-abort-timer</b> keyword automatically rolls back image activation.
<b>commit</b>	Makes changes persistent over reloads.
<b>remove</b>	Deletes all unused and inactive software installation files.

## Licensing

This section provides information about the licensing packages for features available on Cisco Catalyst IE9300 Rugged Series Switches.

### License Types

The following license types are available:

- Permanent: for a license level, and without an expiration date.
- Evaluation: a license that is not registered.




---

**Note** Evaluation licenses are only used in Cisco IOS XE Release 17.3.1. Starting with Cisco IOS XE Release 17.3.2, Evaluation licenses are no longer used by Smart Licensing.

---

- Term: a time-based license for a three, five, or seven year period.

### License Levels - Usage Guidelines

- Base licenses (Network Advantage) are ordered and fulfilled only with a permanent license type.
- Add-on licenses (DNA Essentials, DNA Advantage) are ordered and fulfilled only with a term license type.
- An add-on license level is included when you choose a network license level. If you use DNA features, renew the license before term expiry, to continue using it, or deactivate the add-on license and then reload the switch to continue operating with the base license capabilities.
- Evaluation licenses cannot be ordered. They are not tracked via Cisco Smart Software Manager and expire after a 90-day period. Evaluation licenses can be used only once on the switch and cannot be regenerated. Warning system messages about an evaluation license expiry are generated only 275 days after expiration and every week thereafter. An expired evaluation license cannot be reactivated after reload.



---

**Note** Evaluation licenses are only used in Cisco IOS XE Release 17.3.1. Starting with Cisco IOS XE Release 17.3.2, Evaluation licenses are no longer used by Smart Licensing.

---

- Network Essentials license is the default license. It is permanent. A connection to the Smart Licensing server is not required if the IE switch will be deployed with a Network Essentials license.

## Smart Licensing

Cisco Smart Licensing is a unified license management system that manages all the software licenses across Cisco products.

It enables you to purchase, deploy, manage, track, and renew Cisco Software. It provides information about license ownership and consumption through a single user interface.

The solution is composed of Smart Accounts and Cisco Smart Software Manager. The former is an online account of your Cisco software assets and is required to use the latter. Cisco Smart Software Manager is where you can perform all your licensing management-related tasks such as establishing trust, checking license usage, transferring licenses, removing devices, and so forth. Users can be added and given access and permissions to the smart account and specific virtual accounts.



---

**Important** Cisco Smart Licensing is the default and the only available method to manage licenses on IE3x00 products.

---

## Deploying Smart Licensing

The following provides a process overview of a day 0 to day *N* deployment directly initiated from a device. Links to the configuration guide provide detailed information to help you complete each one of the smaller tasks.

### Procedure

---

- Step 1** Begin by establishing a connection from your network to Cisco Smart Software Manager on [cisco.com](https://cisco.com).
- Step 2** Create and activate your Smart Account, or login if you already have one.
- To create and activate Smart Account, go to Cisco Software Central → [Create Smart Accounts](#). Only authorized users can activate the Smart Account.
- Step 3** Complete the Cisco Smart Software Manager set up.
- Accept the Smart Software Licensing Agreement.
  - Set up the required number of Virtual Accounts, users and access rights for the virtual account users.
- Virtual accounts help you organize licenses by business unit, product type, IT group, and so on.
- 

With this,

- The device is now in an authorized state and ready to use.
- The licenses that you have purchased are displayed in your Smart Account.

### What to do next

Register and convert traditional licenses to Smart Licenses.

## Using Smart Licensing on an Out-of-the-Box Device

If an out-of-the-box device has the software version factory-provisioned, all licenses on such a device remain in evaluation mode until registered in Cisco Smart Software Manager.

## How Upgrading or Downgrading Software Affects Smart Licensing

Note how upgrading to a release that supports Smart Licensing or moving to a release that does not support Smart Licensing affects licenses on a device:

- **When you upgrade from an earlier release to one that supports Smart Licensing**—all existing licenses remain in evaluation mode until registered in Cisco Smart Software Manager. After registration, they are made available in your Smart Account.
- **When you downgrade to a release where Smart Licensing is not supported**—all smart licenses on the device are converted to traditional licenses and all smart licensing information on the device is removed.

## Smart Licensing Using Policy

An enhanced version of Smart Licensing is available, with the overarching objective of providing a licensing solution that does not interrupt the operations of your network, rather, one that enables a compliance relationship to account for the hardware and software licenses you purchase and use.

With this licensing model, you do not have to complete any licensing-specific operations, such as registering or generating keys before you start using the software and the licenses that are tied to it. Only export-controlled and enforced licenses require Cisco authorization *before* use. License usage is recorded on your device with timestamps, and the required workflows can be completed at a later date.

Multiple options are available for license usage reporting – this depends on the topology you implement. You can use the Cisco Smart Licensing Utility (CSLU) Windows application, or report usage information directly to Cisco Smart Software Manager (CSSM). A provision for offline reporting for air-gapped networks, where you download usage information and upload to CSSM, is also available.

Starting with this release, Smart Licensing Using Policy is automatically enabled on the device. This is also the case when you upgrade to this release.

By default, your Smart Account and Virtual Account in CSSM is enabled for Smart Licensing Using Policy.



**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).

## Important Note

Multicast traffic not registered with the switch will be distributed to every port.

## 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

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

Click the link for the caveat in the sections below to view details for the caveat in Bug Search Tool.

### Open Caveats in Cisco IOS XE Cupertino 17.7.1

Identifier	Description
<a href="#">CSCvw53326</a>	IE3400 and IE3300 10Gig only: Docker Apps gets less throughput on Appgig when SSS enabled.
<a href="#">CSCvw89264</a>	Radius pac request always sent via non default vrf.
<a href="#">CSCwa20262</a>	QoS policy-map with just the class-default does not apply its marking action

### Resolved Caveats in Cisco IOS XE Cupertino 17.7.1

Identifier	Description
<a href="#">CSCvv58266</a>	IE3300 Switch + 17.02.01 unable to communicate with the radius server if not using server-private
<a href="#">CSCvy34521</a>	Memory leak in IOSd
<a href="#">CSCvy40801</a>	IE3400: Ping fails for newly created VLAN with HSR
<a href="#">CSCvy42555</a>	DHCP: Enabling DH CP snooping causes DHCP offer on voice-vlan port to be untagged
<a href="#">CSCvy51154</a>	CRC errors observed in IE3300 with auto speed and duplex settings
<a href="#">CSCvz63447</a>	EIGRP Hello counter increased by 2 for each received Hello packet

## Troubleshooting

For the most up-to-date, detailed troubleshooting information, see the Cisco TAC website at this URL:

<https://www.cisco.com/en/US/support/index.html>

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.

## Related Documentation

Information about Cisco IOS XE at this URL: <https://www.cisco.com/c/en/us/products/ios-nx-os-software/ios-xe/index.html>

All support documentation for Cisco Catalyst IE3100 Rugged Series Switches is at this URL: <https://www.cisco.com/c/en/us/support/switches/catalyst-ie3100-rugged-series/series.html>

All support documentation for Cisco Catalyst IE3200 Rugged Series Switches is at this URL: <https://www.cisco.com/c/en/us/support/switches/catalyst-ie3200-rugged-series/tsd-products-support-series-home.html>

All support documentation for Cisco Catalyst IE3300 Rugged Series Switches is at this URL: <https://www.cisco.com/c/en/us/support/switches/catalyst-ie3300-rugged-series/tsd-products-support-series-home.html>

All support documentation for Cisco Catalyst IE3400 Rugged Series Switches is at this URL: <https://www.cisco.com/c/en/us/support/switches/catalyst-ie3400-rugged-series/tsd-products-support-series-home.html>

All support documentation for Cisco Catalyst IE3400H Heavy Duty Series Switches is at this URL: <https://www.cisco.com/c/en/us/support/switches/catalyst-ie3400-heavy-duty-series/tsd-products-support-series-home.html>

All support documentation for Cisco ESS3300 Series Switches is at this URL: <https://www.cisco.com/c/en/us/support/switches/embedded-service-3000-series-switches/tsd-products-support-series-home.html>

Cisco Validated Designs documents at this URL: <https://www.cisco.com/go/designzone>



To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <http://www.cisco.com/go/mibs>

## 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 Customer Experience](#).
- To submit a service request, visit [Cisco Support](#).
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit [Cisco Solution Partner Program](#).
- 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](#).