Release Notes for Cisco IOS Release 15.2(7)E1a

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Cisco IOS Release 15.2(7)E1a runs on these platforms:

- Cisco 2500 Series Connected Grid Switches (CGS2520)

- Cisco Connected Grid Ethernet Switch Module (CGR2010 ESM)

- Cisco Embedded Service 2020 Series Switches (ESS2020)

- Cisco Industrial Ethernet 2000 Series Switches (IE2000)

- Cisco Industrial Ethernet 2000U Series Switches (IE2000U)

- Cisco Industrial Ethernet 3000 Series Switches (IE3000)

- Cisco Industrial Ethernet 3010 Series Switches (IE3010)

- Cisco Industrial Ethernet 4000 Series Switches (IE4000)

- Cisco Industrial Ethernet 4010 Series Switches (IE4010)

- Cisco Industrial Ethernet 5000 Series Switches (IE5000)

These release notes include important information about Cisco IOS Release 15.2(7)E1a and any limitations, restrictions, and caveats that apply to the release. Verify that these release notes are correct for your switch:

- If you are installing a new switch, see the Cisco IOS release label on the rear panel of your switch.

- If your switch is on, use the **show version** command. See Finding the Software Version and Feature Set, page 6.

- If you are upgrading to a new release, see the software upgrade filename for the software version. See Deciding Which Files to Use, page 7.

For a complete list of documentation for the platforms associated with this release, see Related Documentation, page 16.

You can download the switch software from this site (registered Cisco.com users with a login password):

http://software.cisco.com/download/navigator.html

Organization

This document includes the following sections:

Conventions

This document uses the following conventions.

Conventions	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x	y	z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x	y	z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
courier font	Terminal sessions and information the system displays appear in `courier` font.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note: Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.

Caution: Means *reader be careful.* In this situation, you might perform an action that could result in equipment damage or loss of data.

Warning: IMPORTANT SAFETY INSTRUCTIONS

Means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use

the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Regulatory: Provided for additional information and to comply with regulatory and customer requirements.

New Features in Cisco IOS Release 15.2(7)E1a

Table 1 lists new features added in Cisco IOS Release 15.2(7)E1a

Table 1   New Feature Summary for Cisco IOS Release 15.2(7)E1a

Feature	Platform	Description	Related Documentation
Horizontal Stack Enhancement	IE5000	Port channel support increased to 48.	Horizontal Stacking Software Configuration Guide for IE 5000 Switches
HSR to HSR Quadbox	IE4000	When operating in Quadbox mode, the IE 4000 will connect two High-Availability Seamless Redundancy (HSR) rings to aid in scaling and segregating of traffic between related devices.	High-Availability Seamless Redundancy (HSR) for IE 4000, IE 4010, and IE 5000 Device Manager Online Help

SSH HMAC-SHA2 feature enhancement	IE4010, IE5000	Two new CLI command options are added to the **ip server ssh server algorithm mac command** to support SSH HMAC-SHA2.
		
		The new CLI command options are shown in **bold** type below:
		
		`user1(config)#ip ssh server algorithm mac ?`
		
		`hmac-sha1 HMAC-SHA1 (digest length = key length = 160 bits)`
		
		`hmac-sha1-96   HMAC-SHA1-96 (digest length = 96 bits, key length = 160 bits)`
		
		`hmac-sha2-256  HMAC-SHA2-256 (digest length = 256 bits, key length = 256 bits)`
		
		`hmac-sha2-512  HMAC-SHA2-512 (digest length = 512 bits, key length = 512 bits)`
		`user1(config)#`
			Cisco Industrial Ethernet 4000, 4010 and 5000 Switch Software Configuration Guide
			
			Refer to the Software Authentication chapter in the guide above.

Table 1   New Feature Summary for Cisco IOS Release 15.2(7)E1a (continued)

Feature	Platform	Description	Related Documentation

PSK MKA-based MACSec feature enhancement	IE4000, IE4010, IE5000	Two new CLI command options for IE interfaces (network-link, pre-shared-key) are added to support the PSK MKA-based MACSec feature.
		
		The two new CLI command options are shown in **bold** type below:
		
		`user1#conf t`
		`user(config)#interface GigabitEthernet1/3`
		`user1(config-if)#macsec ?`
		
		network-link Enable macsec on switch connected interface
		
		 pre-shared-key Configure MKA Pre-Shared-Key
			Cisco Industrial Ethernet 4000, 4010 and 5000 Switch Software Configuration Guide

LLDP configuration	IE2000, IE2000U, IE4000, IE4010, IE5000	Allows you to configure LLDP for switches using Device Manager.	Device Manager Online Help
Native VLAN for Trunk Ports	IE2000, IE2000U, IE4000, IE4010, IE5000	A Native VLAN column is now available on the Port Settings Physical Port table in the Device Manager. The Native VLAN value displays as a blank for ports with access and routed modes. Network > Port Settings	Device Manager Online Help
Device Manager files signed for increased security	IE2000, IE2000U, IE3000, IE4000, IE4010, IE5000	To increase file security, the Device Manager files are signed. Note: The tar file of the IE device manager is not signed.	Device Manager Online Help
SNMP MIB to monitor Alarm Contacts	IE2000, IE2000U, IE4000, IE4010, IE5000	Gets status information for dry contacts IN1 and IN2 on an IE switch.	Device Manager Online Help

Table 1   New Feature Summary for Cisco IOS Release 15.2(7)E1a (continued)

Feature	Platform	Description	Related Documentation
Precision Time Protocol (PTP) over HSR	IE4000, IE4010, IE5000	Provides clock synchronization over HSR rings for Power profile.	High–Availability Seamless Redundancy (HSR) for IE 4000, IE 4010, and IE 5000
Precision Time Protocol (PTP) Serviceability	CGS2520 IE2000, IE2000U, IE3000 IE4000, IE4010, IE5000	Provides statistics and information for PTP including: ■ Counter information for PTP messages sent and received ■ Errors: Displays counter information for PTP errors the occurred on various ports ■ Offset: Displays the historical maximum and minimum values for the offset from master and mean path delay for the last 5 seconds from mean and master delay for various periods such as 5 and 15 seconds, in increments up to 15 days and greater than 15 days ■ Histogram: Displays a visual representation of the historical maximum and minimum values for the mean path delay and offset from master. **Clear Counter** button to reset counters to zero (bottom of page) Monitor > Statistics > PTP Serviceability	Device Manager Online Help PTP reference guides: Precision Time Protocol Software Configuration Guide for IE 4000, IE 4010, and IE 5000 Switches Precision Time Protocol Software Configuration Guide for IE 2000U and Connected Grid Switches
Spanned Traffic Timestamping	IE5000	Provides timestamping for all received packets (ingress traffic) for single SPAN/RSPAN sessions. A new FPGA profile STT is now supported. To activate the new STT FPGA profile, you enter the following CLI command: **license right–to–use activate stt** The following new CLI command are supported for STT: **monitor session <session number> t**	Cisco Industrial Ethernet 4000, 4010 and 5000 Switch Software Configuration Guide See Timestamping section in the Configuring SPAN and RSPAN

Device Manager Localization

Online help for the Device Manager is available in the following languages for the IE 2000, IE 2000U, IE 3000, IE 4000 (IOS), IE 4000, IE 4010 and IE 5000 switches:

■ Chinese (Traditional) (code: 2052)

■ Chinese (Simplified) (code: 1028)

■ (Default): English (code: 1033)

■ French (code: 1036)

- German (code: 1031)

- Japanese (code: 1041)

- Spanish (LATAM) (code: 9226)

Express Setup Requirements

This section summarizes the hardware and software requirements for the Windows platform.

For a listing of Express Setup documentation, see Table 4 Methods for Assigning IP Information, page 12.

Hardware

- 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor

- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)

- 16 GB available hard disk space (32-bit) or 20 GB (64-bit)

Software

- PC with Windows 7, Windows 10, or Mac OS 10.6.x

- Web browser (Internet Explorer 10.0 or 11.0, or Firefox 48.x and above) with JavaScript enabled

- Straight-through or crossover Category 5 or 6 cable

Express Setup verifies the browser version when starting a session, and it does not require a plug-in.

Upgrading the Switch Software

These are the procedures for downloading software. Before downloading software, read these sections for important information:

- Finding the Software Version and Feature Set, page 6

- Deciding Which Files to Use, page 7

- Archiving Software Images, page 7

- Archiving Software Images, page 7

- Upgrading a Switch by Using the CLI, page 8

- Installation Notes, page 12

Finding the Software Version and Feature Set

The Cisco IOS image is stored as a bin file in a directory that is named with the Cisco IOS release. A subdirectory contains the files needed for web management. The image is stored on the compact flash memory card.

You can use the **show version** privileged EXEC command to see the software version that is running on your switch. The second line of the display shows the version.

You can also use the **dir** *filesystem***:** privileged EXEC command to see the directory names of other software images stored in flash memory. For example, use the **dir flash:** command to display the images in the flash memory.

Deciding Which Files to Use

The upgrade procedures in these release notes describe how to perform the upgrade by using a combined tar file. This file contains the Cisco IOS image file and the files needed for the embedded device manager. You must use the combined tar file to upgrade the switch through Express Setup. To upgrade the switch through the command-line interface (CLI), use the tar file and the **archive download-sw** privileged EXEC command.

Table 2 lists the filenames for this software release.

Note: If you download the IP services image and plan to use Layer 3 functionality, you must use the Switch Database Management (SDM) routing template. To determine the currently active template, enter the **show sdm prefer** privileged EXEC command. If necessary, enter the **sdm prefer** global configuration command to change the SDM template to a specific template. For example, if the switch uses Layer 3 routing, change the SDM template from the default to the routing template. You must reload the switch for the new template to take effect.

Note: Beginning with Cisco IOS Release 15.2(5)E, we **no longer release** the IE 3000 IP services image. The latest release for the IP services image on the IE 3000 is 15.2(4)EA1.

Table 2   Cisco IOS Software Image Files

File Name	Description
cgs2520-ipserviceslmk9-tar.152-7.E1a.tar	CGS 2520 IP services image file
cgs2520-lanbaselmk9-tar.152-7.E1a.tar	CGS 2520 LAN base image file
c2020-universalk9-tar.152-7.E1a.tar	ESS 2020 universal image file
ie2000-universalk9-tar.152-7.E1a.tar	IE 2000 universal image file
ie2000u-ipserviceslmk9-tar.152-7.E1a.tar	IE 2000U IP services image file
ie2000u-lanbaselmk9-tar.152-7.E1a.tar	IE 2000U LAN base image file
ie3010-ipservicesk9-tar.152-7.E1a.tar	IE 3010 IP services image file
ie3010-lanbasek9-tar.152-7.E1a.tar	IE 3010 LAN base image file
ies-lanbasek9-tar.152-7.E1a.tar	IE 3000 LAN base image file
grwicdes-ipserviceslmk9-tar.152-7.E1a.tar	ESM IP services image file
grwicdes-lanbaselmk9-tar.152-7.E1a.tar	ESM LAN base image file
ie4000-universalk9-tar.152-7.E1a.tar	IE 4000 Universal image file (Cisco IOS only)
ie4010-universalk9-tar.152-7.E1a.tar	IE 4010 Universal image file
ie5000-universalk9-tar.152-7.E1a.tar	IE 5000 Universal image file

Archiving Software Images

Before upgrading your switch software, make sure that you archive copies of both your current Cisco IOS release and the Cisco IOS release to which you are upgrading. Keep these archived images until you have upgraded all devices in the network to the new Cisco IOS image and verified that the new Cisco IOS image works properly in your network.

Cisco routinely removes old Cisco IOS versions from Cisco.com. See *Product Bulletin 2863* for information: http://www.cisco.com/en/US/prod/collateral/iosswrel/ps8802/ps6969/ps1835/prod_bulletin0900aecd80281c0e.html

You can copy the bin software image file on the flash memory to the appropriate TFTP directory on a host by using the **copy flash: tftp:** privileged EXEC command.

Note: Although you can copy any file on the flash memory to the TFTP server, it is time consuming to copy all of the HTML files in the tar file. We recommend that you download the tar file from Cisco.com and archive it on an internal host in your network.

You can also configure the switch as a TFTP server to copy files from one switch to another without using an external TFTP server by using the **tftp-server** global configuration command.

Upgrading a Switch by Using the CLI

This procedure is for copying the combined tar file to the switch. You copy the file to the switch from a TFTP server and extract the files. You can download an image file and replace or keep the current image.

Note: Make sure that the compact flash card is in the switch before downloading the software.

To download software, follow these steps:

1. Use Table 2 on page 7 to identify the file that you want to download.

2. Download the software image file. If you have a SMARTnet support contract, go to this URL, and log in to download the appropriate files:

   http://software.cisco.com/download/navigator.html

   For example, to download the image for an IE 2000 switch, select Products > Switches > Industrial Ethernet Switches > Cisco Industrial Ethernet 2000 Series Switches, then select your switch model. Select IOS Software for Software Type, then select the image you want to download.

3. Copy the image to the appropriate TFTP directory on the workstation, and make sure that the TFTP server is properly configured.

   For more information, see the "Assigning the Switch IP Address and Default Gateway" chapter in the applicable document for your switch as listed in Table 4.

4. Log into the switch through the console port or a Telnet session.

5. (Optional) Ensure that you have IP connectivity to the TFTP server by entering this privileged EXEC command:

   ```
   Switch# ping tftp-server-address
   ```

   For more information about assigning an IP address and default gateway to the switch, see Table 4.

6. Download the image file from the TFTP server to the switch.

   If you are installing the same version of software that currently exists on the switch, overwrite the current image by entering this privileged EXEC command:

   ```
   Switch# archive download-sw /overwrite /reload tftp://location /directory /image-name.tar
   ```

   The command above untars/unzips the file.The system prompts you when it completes successfully.

   – The **/overwrite** option overwrites the software image in flash memory with the downloaded one.

   If you specify the command without the **/overwrite** option, the download algorithm verifies that the new image is not the same as the one on the switch Flash device. If the images are the same, the download does not occur. If the images are different, the old image is deleted, and the new one is downloaded. If there is not enough space to install the new image and keep the current running image, the download process stops, and an error message displays.

   – The **/reload** option reloads the system after downloading the image unless the configuration has been changed and not saved.

   – For **//** *location*, specify the IP address of the TFTP server. or hostname.

- For /*directory*/*image-name*.**tar**, specify the directory and the image to download. Directory and image names are case sensitive. The directory is for file organization and it is generally a *tftpboot/user-ID* path.

This example shows how to download an image from a TFTP server at 198.30.20.19 and to overwrite the image on the switch:

```
Switch# archive download-sw /overwrite tftp://198.30.20.19/image-name.tar
```

You can also download the image file from the TFTP server to the switch and keep the current image by replacing the **/overwrite** option with the **/leave-old-sw** option. If there is not enough space to install the new image and keep the current running image, the download process stops, and an error message displays.

Image Upgrade from Device Manager for Platforms IE2000 and IE5000 Using Flash

Note: Software upgrades on IE2000 and IE5000 devices will be **unsuccessful when upgrading from Cisco IOS 15.2(7)E0s and older releases to Cisco IOS 15.2(7)E1a from the Device Manager (DM)** when you use the localized image bundle (*-tar.152-7.E1a.tar) and an internal flash as the destination drive. This failure was caused due to the increased image size not fitting into the limited flash.

Device Manager displayed the following pop-up message in such cases:

"Device does not have enough free space on flash: memory. Please remove some files to create space for the new image."

Click **OK** to close the pop-up message.

Note: The behavior above did not occur when you did one of the following when upgrading from Device Manager:

- Upgrade from a non-localized image to a localized image -or-

- Upgrade from a localized image to a non-localized image upgrade

Note: An Upgrade from console CLI worked successfully

Note: The issue above is fixed in this release, 15.2(7)E1a.

When Upgrading From Cisco IOS 15.2(7)E0s Release or Earlier Non-English Images

Option 1: Two-step Upgrade - Use this approach when you are running non-en images of Cisco IOS 15.2(6)E2a or 15.2(7)E0a and want to move to a higher version of software:

1. Upgrade to the latest (_en image) of 15.2(7)E1a release.

2. After successful completion of Step 1, then upgrade to the relevant localized image (*-tar.152-7.E1a.tar) of 15.2(7)E1a.

3. Delete the HTML/help files, EDS* and *.rbf, from the current IOS directory of the flash as summarized in the example below **before** starting the upgrade from the Device Manager.

   From the device console, issue the below commands for your device (IE2000 or IE5000). The device on which these commands are run is loaded with the 152-7.E version.

   IE2000:

   delete /force /recursive flash:ie2000-universalk9-mz.152-7.E/html/help

   delete /force /recursive flash:ie2000-universalk9-mz.152-7.E/EDScisco

   delete /force /recursive flash:ie2000-universalk9-mz.152-7.E/**jeevesfpga.rbf**

delete /force /recursive flash:ie2000-universalk9-mz.152-7.E.bin

show flash:

Ensure the free space is 50 MB.

IE5000:

delete /force /recursive flash:ie5000-universalk9-mz.152-7.E/html/help

delete /force /recursive flash:ie5000-universalk9-mz.152-7.E/elsinorefpga_time_ci.rbf

delete /force /recursive flash:ie5000-universalk9-mz.152-7.E/EDScisco

delete /force /recursive flash:ie5000-universalk9-mz.152-7.E.bin

show flash:

Ensure the free space is 68 MB.

Current flash size available for IE2000 is around 58MB and image size for 15.2(7)E1a is 46MB.

Current flash size available for IE5000 is around 122MB and image size for 15.2(7)E1a is 62MB.

Note: The archive download does not trigger the Device Manager and the following pop up messages appear for the following Cisco IOS Releases upgrades:

Table 3   Cisco IOS Non-English (non-en) Software Upgrade Failure Messages

From Release	To Release	Result
15.2(4)EA9	15.2(7)E1a (non-en)	Not enough space warning found
15.2(6)E(x)	15.2(7)E1a (non-en)	Not enough space warning found
15.2(5)E(x)	15.2(7)E1a (non-en)	Not enough space warning found

Upgrading IOS and FPGA on the Ethernet Switch Module (ESM)

This procedure is for copying the combined tar file to the switch. You copy the file to the switch from a TFTP server and extract the files. You can download an image file and replace or keep the current image.

To download software, follow these steps:

1. Refer to Deciding Which Files to Use, page 7 to identify the file that you want to download.

2. Download the software image file. If you have a SMARTnet support contract, go to the URL below and log in to download the appropriate files.

   http://software.cisco.com/download/navigator.html

   For example, to download the image for a Connected Grid 10-Port Ethernet Switch Module Interface Card, select Products > Cisco Interfaces and Modules > Connected Grid Modules > Connected Grid 10-Port Ethernet Switch Module Interface Card. Select IOS Software for Software Type, then select the image you want to download.

   Copy the image to the appropriate TFTP directory on the workstation, and make sure that the TFTP server is properly configured. For more information, see the "Assigning the Switch IP Address and Default Gateway" chapter in the applicable document listed in Table 4 Methods for Assigning IP Information, page 12.

3. Copy the image to the appropriate TFTP directory on the workstation, and make sure that the TFTP server is properly configured.

4. Log in to the switch through the console port or a Telnet session.

5. (Optional) Ensure that you IP connectivity to the TFTP server by entering this privileged EXEC command:

   `Switch# ping` *tftp-server-address*

6. Download the image file from the TFTP server to the switch.

   If you are installing the same version of software that currently exists on the switch, overwrite the current image by entering this privileged EXEC command:

   `Switch# archive download-sw /overwrite tftp: //`*location* `/`*directory* `/`*image-name*`.tar`

   The command above untars/unzips the file.The system prompts you when it completes successfully.

   – The **/overwrite** option overwrites the software image in flash memory with the downloaded one.

   If you specify the command without the **/overwrite** option, the download algorithm verifies that the new image is not the same as the one on the switch Flash device. If the images are the same, the download does not occur. If the images are different, the old image is deleted, and the new one is downloaded. If there is not enough space to install the new image and keep the current running image, the download process stops, and an error message displays.

   – The **/reload** option reloads the system after downloading the image unless the configuration has been changed and not saved.

   – For **//** *location*, specify the IP address of the TFTP server. or hostname.

   – For **/***directory***/***image-name***.tar**, specify the directory and the image to download. Directory and image names are case sensitive. The directory is for file organization and it is generally a *tftpboot/user-ID* path.

   This example shows how to download an image from a TFTP server at 198.30.20.19 and to overwrite the image on the switch:

   Switch# **archive download-sw /overwrite tftp://198.30.20.19/***image-name***.tar**

   You can also download the image file from the TFTP server to the switch and keep the current image by replacing the **/overwrite** option with the **/leave-old-sw** option. If there is not enough space to install the new image and keep the current running image, the download process stops, and an error message displays.

7. After the download and the untar are complete, power cycle the CGR2010.

Installation Notes

You can assign IP information to your switch using the methods shown in Table 4

Table 4   Methods for Assigning IP Information

Method	Platform	Document
Express setup program	IE2000	Cisco IE 2000 Switch Hardware Installation Guide
	IE3000	*Cisco IE 3000 Switch Getting Started Guide,* Device Manager Online Help
	ESM	*Connected Grid Ethernet Switch Module Interface Card Getting Started Guide*
	IE4000	Cisco IE 4000 Switch Hardware Installation Guide
	IE4010	Cisco IE 4010 Switch Hardware Installation Guide
	IE5000	Cisco IE 5000 Hardened Aggregator Hardware Installation Guide
CLI-based setup program	ESS2020	Cisco Embedded Service 2020 Series Software Configuration Guide
	IE2000	*Cisco IE 2000 Switch Hardware Installation Guide*
	IE2000U	*Cisco IE 2000U Switch Hardware Installation Guide*
	IE3000	*Cisco IE 3000 Series Switch Hardware Installation Guide*
	IE3010	*Cisco IE 3010 Switch Hardware Installation Guide*
	CGS2520	*Cisco CGS 2520 Hardware Installation Guide*
	ESM	*Cisco CGS 2520 Hardware Installation Guide* **Note:** The *Cisco CGS 2520 Hardware Installation Guide* serves as CLI-based Setup reference for the ESM.
	IE4000	Cisco IE 4000 Switch Hardware Installation Guide
	IE4010	Cisco Industrial Ethernet 4000, 4010 and 5000 Switch Software Configuration Guide
	IE5000	Cisco IE 5000 Hardened Aggregator Hardware Installation Guide

Table 4   Methods for Assigning IP Information (continued)

Method	Platform	Document
DHCP-based autoconfiguration	ESS2020	Cisco Embedded Service 2020 Series Software Configuration Guide
	IE2000	*Cisco IE 2000 Series Switch Software Configuration Guide*
	IE2000U	*System Management Software Configuration Guide for Cisco IE 2000U and Connected Grid Switches*
	IE3000	*Cisco IE 3000 Series Switch Software Configuration Guide*
	IE3010	*Cisco IE 3010 Series Switch Software Configuration Guide*
	CGS2520	*CGS 2520 Switch Software Configuration Guide*
	ESM	*Cisco Connected Grid Ethernet Switch Module Interface Card Software Configuration Guide*
	IE4000	Cisco Industrial Ethernet 4000 Series Switch Software Configuration Guide
	IE4010	Cisco Industrial Ethernet 4000, 4010 and 5000 Switch Software Configuration Guide
	IE5000	Cisco IE 5000 Hardened Aggregator Hardware Installation Guide
Manually assigning an IP address	IE2000	*Cisco IE 2000 Series Switch Software Configuration Guide*
	IE2000U	*System Management Software Configuration Guide for Cisco IE 2000U and Connected Grid Switches*
	IE3000	*Cisco IE 3000 Series Switch Software Configuration Guide*
	IE3010	*Cisco IE 3010 Series Switch Software Configuration Guide*
	CGS2520	*CGS 2520 Switch Software Configuration Guide*
	ESM	*Cisco Connected Grid Ethernet Switch Module Interface Card Software Configuration Guide*
	IE4000	Cisco Industrial Ethernet 4000 Series Switch Software Configuration Guide
	IE4010	Cisco Industrial Ethernet 4000, 4010 and 5000 Switch Software Configuration Guide
	IE5000	Cisco IE 5000 Hardened Aggregator Hardware Installation Guide

Caveats

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Cisco Bug Search Tool

The Bug Search Tool (BST), which is the online successor to Bug Toolkit, is designed to improve the effectiveness in network risk management and device troubleshooting. The BST allows partners and customers to search for software bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. The tool has a provision to filter bugs based on credentials to provide external and internal bug views for the search input.

To view the details of a caveat listed in this document:

1. Access the BST (use your Cisco user ID and password) at https://tools.cisco.com/bugsearch/.

2. Enter the bug ID in the Search For: field.

Open Caveats

Table 5   Open Caveats in Cisco IOS Release 15.2(7)E1a

Bug ID	Headline
CSCvs10217	Shut down of dot1x with NEAT authenticated Interface is shown as trunk mode in show run
CSCvr13984	IE-5000-12S12P-10G only: DNAC on-boarding fails with 1Gig SFP in uplink
CSCvs30049	IE5000: PTP over SAP macsec not working on default boundary mode on uplink ports
CSCvs31988	IE5000: "show macsec interface" incorrectly increments Encrypted packet counts
CSCvs36043	MKA-MACSEC: C9300 key server, 10Gig intf between IE5000 & 9300: traffic loss after shut / no shut
CSCvs41335	IE-5000-12S12P-10G :MACSEC doesn't work when one gig SFP is inserted in 10 Gig port
CSCvs44048	Activating RSPAN on REP ring requires an interface flap (shut /no shut) (IE2000, IE3000, IE4000, IE4010, IE5000)
CSCvs44057	PTP port state shows "MASTER" on REP ALT port (IE2000, IE3000, IE4000, IE4010, IE5000, CGS2520)
CSCvs44292	MACSEC incompatibility between Uplink ports of IE5000-1Gig and downlinks ports of IE5K -10gig and IE4000

Resolved Caveats

Table 6   Resolved Caveats in Cisco IOS Release 15.2(7)E1a

Bug ID	Headline
CSCvo17827	CIP: EtherNet/IP Register Session needs a connection limit to avoid DOS (All IE platforms)
CSCvo60732	Power supplies are not reporting the correct status on the SNMP (IE3000)
CSCvo93073	CRC errors on GigE port with speed 10 Mbps/half-duplex (IE4000, IE4010, IE5000)
CSCvp81137	The modbus registers for ports are throwing exception in morenolite devices. (IE4010)
CSCvr46742	Input ACL blocks all Traffic even with only 'permit any any' (IE4000, IE4010 and IE5000)
CSCvr55890	IE5000: MACsec on 10G uplinks is not successful
CSCvr89146	Duplicate Sync Messages cause switch PTP to get stuck in listening when using Power Profile
CSCvs26342	IE5000: Image upgrade from device manager on IE-5000-12S12P-10G not working
CSCvs46080	Self-signed certificates expire on 00:00 1 Jan 2020 UT (IE2000, IE3000, IE4000, IE4010, IE5000)

Closed Caveats

Table 7   Closed Caveats in Cisco IOS Release 15.2(7)E1a

Bug ID	Headline
CSCVr81772	MAC flaps and Ping failures observed with SPAN/RSPAN over HSR ring (IE4000, IE4010, IE5000)

Documentation Updates

The Resilient Ethernet Protocol (REP) Negotiated feature is not supported on IE4000 and IE4010 platforms for this release. Please ignore references to REP Negotiated in the Device Manager Online Help (OLH) for IE4000 and IE4010 in this release and Release 15.2(7)E and Release 15.2(7)E0s and for (CSCuv46039).

Do not change the REP Link Status Layer (LSL) age timer values (interface configuration command: **rep lsl-age-timer** *value*) to any values other than the default for your switch platform. Configuring an aggressive rep lsl-age-timer value can result in an unstable REP ring and will jeopardize stability and performance of the system.

Related Documentation

Table 8   Related Documentation

Device or Feature	Related Documents
Cisco 2500 Series Connected Grid Switches	http://www.cisco.com/go/cgs2520
Cisco Embedded Service 2020 Series Switches (ESS 2020)	http://www.cisco.com/c/en/us/support/switches/embedded-service-2020-series-switches/tsd-products-support-series-home.html
Cisco Ethernet Switch Module (ESM) for CGR 2010	http://www.cisco.com/go/cgr2000
Cisco Industrial Ethernet 2000 Series Switches	http://www.cisco.com/go/ie2000
Cisco Industrial Ethernet 2000U Series Switches	http://www.cisco.com/go/ie2000u
Cisco Industrial Ethernet 3000 Series Switches	http://www.cisco.com/go/ie3000
Cisco Industrial Ethernet 3010 Series Switches	http://www.cisco.com/go/ie3010
Cisco Industrial Ethernet 4000 Series Switches	http://www.cisco.com/go/ie4000
Cisco Industrial Ethernet 4010 Series Switches	http://www.cisco.com/go/ie4010
Cisco Industrial Ethernet 5000 Series Switches	http://www.cisco.com/go/ie5000

No combinations are authorized or intended under this document.