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# Release Notes for Catalyst 2900 Series XL for Cisco IOS Release 11.2(8)SA4

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**December 30, 1998**

These release notes describe the limitations, restrictions and caveats of Cisco IOS Release 11.2(8)SA4.

Catalyst 2900 series XL switches are supported by a special release of Cisco IOS software that is not released on the same eight-week maintenance cycle that is used for other platforms. As maintenance releases and future Cisco IOS releases become available, they will be posted to CCO in the Cisco IOS software area.

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**Note** These release notes apply to the Cisco IOS Release 11.2(8)SA4 Enterprise Edition Software (-EN) and standard edition software (-A). Those sections that make no reference to the Enterprise Edition Software or the standard edition software apply to both editions.

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## Cisco IOS Software and Hardware Supported

Table 1 lists the Catalyst 2900 series XL switches and modules and the Cisco IOS software that they support.

**Table 1 Catalyst 2900 Series XL Switches and Modules**

Model Number	Description	Cisco IOS 11.2(8)SA4 (-A)	Cisco IOS 11.2(8)SA4 (-EN)	Trunking Ports?
<b>Switches</b>				
WS-C 2912-XL-A WS-C2912-XL-EN	12 fixed autosensing 10/100 ports	Yes	Yes	Yes (-EN)
WS-C2924M-XL-A WS-C2924M-XL-EN	24 fixed autosensing 10/100 ports and 2 high-speed expansion slots	Yes	Yes	Yes (-EN)
WS-C2924-XL-A WS-C2924-XL-EN	24 fixed autosensing 10/100 ports	Yes	Yes	Yes (-EN)
WS-C2924C-XL-A WS-C2924C-XL-EN	22 fixed autosensing 10/100 ports and 2 fixed 100BaseFX ports	Yes	Yes	Yes (-EN)
WS-C2912MF-XL	12 100BaseFX ports and 2 high-speed expansion slots	No	Yes	Yes
WS-C2908-XL	8 fixed autosensing 10/100 ports	No	Yes	No
WS-C2924-XL	24 fixed autosensing 10/100 ports	No	Yes	No
WS-C2924C-XL	22 fixed autosensing 10/100 ports	No	Yes	No
WS-C2916M-XL	16 fixed autosensing 10/100 ports and 2 high-speed expansion slots	No	Yes	No <sup>1</sup>
<b>Modules</b>				
WS-X2914-XL-V	4 autosensing 10/100 UTP ports	Yes	Yes	Yes
WS-X2922-XL-V	2 100BaseFX ports	Yes	Yes	Yes
WS-X2924-XL-V	4 100BaseFX ports	Yes	Yes	Yes
WS-X2914-XL	4 autosensing 10/100 UTP ports	Yes	Yes	No
WS-X2922-XL	2 100BaseFX ports	Yes	Yes	No

<sup>1</sup> Module ports that support trunking can be installed in this switch if the switch is running Cisco IOS Release 11.2(8)SA4 Enterprise Edition Software.

## Upgrading to a New Release

This section describes the procedure for upgrading your switch software by using the Cisco IOS command-line interface (CLI). If you are running Cisco IOS Release 11.2(8)SA3, we recommend that you upgrade the switch by using the web-based Cisco Visual Switch Manager Software.

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**Note** You cannot use the web-based interface to upgrade a switch running Cisco IOS 11.2(8)SA2 or earlier. Use the CLI to perform the upgrade in such cases.

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The upgrade procedure consists of the following major steps:

- Step 1** Downloading the Cisco IOS image and Switch Manager HTML files from CCO to your workstation.
- Step 2** If necessary, downloading the TFTP server application to copy the switch software from your PC to the switch.
- Step 3** Using the CLI to upgrade your switch to the new image and HTML files.

## Downloading Files from CCO

Follow these steps to download a new version of Catalyst 2900 series XL software and the TFTP server application.

- Step 1** Enter the following URL in your browser Go To or Location field:  
**<http://www.cisco.com/cgi-bin/tablebuild.pl/cat2900XL>**
- Step 2** Login to Software Center if prompted.
- Step 3** Download the Cisco IOS image. The file names for the Cisco IOS image files follow these conventions:
  - Enterprise Edition Software: c2900XL-hs-mz
  - Standard edition software: c2900XL-h-mz
- Step 4** Download the HTML tar file: c2900XL-html.tar.

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**Note** You can also download the supplied TFTP server from this URL. The readme.txt file describes how to download the TFTP server.

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## Upgrading Switch Software by Using the CLI

After you have downloaded the new files to your PC or workstation, you can use the CLI to perform a TFTP transfer of the files to the switch.

The procedure that follows includes the commands to address the following issues:

- Because the switch Flash memory can hold only one software image file, you need to change the name of the *current* image file to the name of the *new* file you are copying. You then replace the old file with the new file when you copy it into Flash memory.
- To avoid a conflict with users accessing the manager software pages during the software upgrade, you need to delete the existing HTML files and disable access to the HTML pages before you upgrade the software.

Follow these steps to upgrade the switch software by using a TFTP transfer:

**Step 1** If your PC or workstation cannot act as a TFTP server, copy the files to a TFTP server to which you have access.

**Step 2** You can access the CLI by starting a Telnet session or by connecting to the console port via the RS-232 connector.

To start a Telnet session on your PC or workstation, enter the following command:

```
server% telnet switch_ip_address
```

**Step 3** Enter privileged EXEC mode:

```
switch> enable  
switch#
```

**Step 4** Display the name of the current (default) image file. The following example shows the current name in *italic*:

```
switch# show boot  
BOOT path-list:   flash:current_image  
Config file:     flash:config.text  
Enable Break:    1  
Manual Boot:     no  
HELPER path-list:  
NVRAM/Config file  
buffer size: 32768
```

**Step 5** If there is no file defined in the BOOT path-list, enter **dir flash:** to display the contents of Flash memory. The file named *c2900XL-h-mz\_current\_version* is your current image file.

**Step 6** Rename the current image file to the name of the new image. This does not affect the operation of the switch.

```
switch# rename flash:current_image flash:new_image  
Source filename [current_image]?  
Destination filename [new_image]?
```

**Step 7** Display the contents of Flash memory to verify the renaming of the file:

```
switch# dir flash:  
Directory of flash:  
-rwx      910426 Mar 06 1993 23:47:28 new_image  
-rwx       80971 Sep 14 1998 03:10:38 c2900XL-diag-mz-112.0.0.11-SA2  
-rwx        4800 Mar 01 1993 00:04:14 html  
-rwx         159 Jan 01 1970 00:00:34 env_vars  
-rwx        1121 Mar 01 1993 18:46:01 config.text
```

**Step 8** If you are upgrading a WS-C2908-XL, WS-C2924-XL, WS-C2924C-XL, or WS-C2916M-XL, you need to delete the diagnostics file to make room for the new image.

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**Note** If you are not upgrading one of the listed model numbers, you do not need to delete this file.

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The diagnostics file has a name in the following format:  
*c2900XL-diag-mz-version\_name*. The string *version\_name* depends on the switch and software you are running.

Display the diagnostics file:

```
switch# dir flash:c2900XL-diag-mz*
Directory of flash:
-rwx          80971   Sep 14 1998 03:10:38  c2900XL-diag-mz-112.0.0.11-SA2
```

Delete the diagnostics file:

```
Switch# del flash:c2900XL-diag-mz-112.0.0.11-SA2
Delete filename [c2900XL-diag-mz-112.0.0.11-SA2]?
Delete flash:c2900XL-diag-mz-112.0.0.11-SA2? [confirm]
Switch#
```

**Step 9** Enter terminal configuration mode:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
```

**Step 10** Disable access to the switch HTML pages:

```
switch(config)# no IP http server
```

**Step 11** Change the name of the default image file:

```
switch(config)# boot system flash:new_image
```

**Step 12** Return to privileged EXEC mode:

```
switch(config)# end
```

**Step 13** Verify that the name of the default image file is correct:

```
switch# show boot
BOOT path-list:      flash:new_image
Config file:         flash:config.text
Enable Break:        1
Manual Boot:         no
HELPER path-list:
NVRAM/Config file
buffer size: 32768
```

**Step 14** Use the name of the new image file when you copy it from the TFTP server to the Flash memory:

```
switch# copy tftp://server_ip_address//path/new_image flash:new_image
Source IP address or hostname [server_ip_address]?
Source filename [path/filename]?
Destination filename [flash:new_image]?
Loading /path/filename.bin from server_ip_address (via!)
[OK - 843975 bytes]
```

**Step 15** Remove the manager software HTML files:

```
switch# del flash:html/*.*
```

Press **Enter** to confirm the deletion of each file. Do not press any other keys during this process.

**Step 16** If you are running Cisco IOS Release 11.2(8)SA3 or later, remove the files in the Snmp directory:

```
switch# del flash:html/Snmp/*.*
```

Press **Enter** to confirm the deletion of each file. Do not press any other keys during this process.

- Step 17** If you are running Cisco IOS Release 11.2(8)SA2 or earlier, create a directory on the switch Flash memory to be used for the HTML files:

```
switch# mkdir flash:html/Snmp
```

Make sure the "S" in "Snmp" is uppercase.

- Step 18** Enter the following command to copy the HTML file from the TFTP server to the switch Flash memory:

```
switch# tar /x tftp://server_ip_address//path/filename.tar flash:html
Loading /path/filename.tar from server_ip_address (via!)
extracting advanced.gif (2648 bytes)
extracting amber.gif (530 bytes)!
extracting bar.gif (4156 bytes)!
extracting cool.gif (530 bytes)
extracting daytona.gif (1470 bytes)
extracting duplgnd.gif (639 bytes)!
. . .
```

Depending on the TFTP server being used, you might need to enter only one slash (/) after the *server\_ip\_address* in the **tar** command.

- Step 19** Enter terminal configuration mode:

```
switch(config)# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
```

- Step 20** Reenable access to the switch HTTP pages:

```
switch(config)# IP http server
```

- Step 21** Return to privileged EXEC mode:

```
switch(config)# end
```

- Step 22** Reload the new software with the following command:

```
switch# reload
System configuration has been modified. Save? [yes/no]:y
Proceed with reload? [confirm]
```

- Step 23** Press **Return** to confirm the reload.

Your Telnet session ends when the switch resets.

## Limitations and Restrictions

This section should be reviewed before you begin working with the Catalyst 2900 series XL switches or Catalyst 2900 series XL modules. Some features might not work as documented, and some features could be affected by recent changes to the switch hardware or software.

## Multi-VLAN Port Functionality

The multi-VLAN port functionality is currently not supported by Cisco IOS Release 11.2(8)SA4 on the following devices:

- Catalyst 2924-XL-A
- Catalyst 2924-XL-EN
- Catalyst 2924C-XL-A
- Catalyst 2924C-XL-EN
- Catalyst 2912-XL-A
- Catalyst 2912-XL-EN
- Catalyst 2912MF-XL
- Catalyst 2924M-XL-A
- Catalyst 2924M-XL-EN
- WS-X2914-XL (4-port, 10TX/100TX module)
- WS-X2922-XL (2-port, 100BaseFX module)
- WS-X2924-XL (4-port, 100 BaseFX module)

This functionality will be supported in a future release of the switch software.

## Support for Five Devices in Switch Network View

The Switch Network View application can display up to five Catalyst 2900 series XL switches in a stack under the following conditions:

- The primary switch must be a Catalyst 2916M-XL series.
- The remaining switches must be Catalyst 2924-XL or Catalyst 2924C-XL switches.
- The primary switch must be running Cisco IOS Release 11.2(8)SA4.



**Caution** If you use the network view to display more than four switches and they are not configured according to these guidelines, the fifth switch might not display properly.

## Gigabit Ethernet Connectivity

The Catalyst 2900 series XL does not support Gigabit Ethernet with this software release. Gigabit Ethernet connectivity will be available in the future.

## IEEE 802.1Q Tagging

The Catalyst 2900 series XL Cisco IOS 11.2(8)SA4 release does not support IEEE 802.1Q trunking. This feature will be enabled with a future software release.

## ISL Trunking Interoperability

ISL connectivity between a Catalyst 2900 series XL switch and the WS-X5225R or WS-X5201R line cards requires a minimum hardware revision of 1.3 on the WS-X5225R or WS-X5201R line cards. Revision 1.3 hardware will be available by Dec 31, 1998. (CSCdk28747)

## Spanning-Tree Maximum Age Command

The range of seconds for the **span-tree max-age** command is now 6 to 200 seconds. If you use this command to set a value greater than this new range in a previous release and upgrade your software to version Cisco IOS 11.2(8)SA4, the switch sets this value to the default: 20 seconds for IEEE STP, 15 seconds for DEC STP, and 10 seconds for IBM STP.

## Current Caveats

This section describes possibly unexpected behavior by Cisco IOS Release 11.2(8)SA4.

- If VTP pruning is enabled and a trunk port is shut down or has no link, the VTP pruning join-transmitted counter might increase erroneously.

Ignore this counter value when the trunk port is shut down or has no link. (CSCdk45332)

- If your switch is configured with close to the maximum number of supported VLANs (64), multiple trunks, or trunk port groups, the following behavior can occur:

— Sluggishness in the user interface during system startup and when the configuration changes.

— CPUHOG message on the CLI interface such as the following:

```
Mar  1 00:04:12: %SYS-3-CPUHOG: Task ran for 2099 msec (60/52),
Process = xxxxxx, PC = 12CA64
-Traceback= 12C89C 12CA68 1C8C94 1D0ECC 1D1EDC 1C7600 1C78F0
```

This does not affect normal switch operation and performance. (CSCdk57517)

- When a Catalyst 2900 series XL trunk is connected to a VTP v1-only device, such as a Catalyst 1900 or 2820, you might see the VTP revision error count increase erroneously on both switches. This does not affect VTP functionality.

Ignore this counter value in this situation. (CSCdk58875)

- VTP traps specified in the CISCO-VTP-MIB are not supported in Release 11.2(8)SA4.

You can use the CLI or SNMP to monitor VTP error counters. (CSCdk61632)

- Cisco IOS Release 11.2(8)SA4 allows secure addresses to be defined without checking to see if the port is defined as a dynamic access port.

To work around this problem, do not define secure addresses on dynamic access ports, and remove any secure addresses from a port before reconfiguring it as a dynamic access port. (CSCdk61650)

- If there is a change in configuration or link status on a port while incoming broadcast traffic is blocked by broadcast storm control, forwarding of broadcast packets to the port remains blocked even after the normal forwarding of broadcast packets resumes.

If this problem occurs, disconnect and reconnect the cable plugged into the port to restart broadcast forwarding. (CSCdk67149)

- When the configuration of VTP pruning mode changes (via CLI or SNMP or received VTP advertisements), the following message can display.

```
Error message %SW_VLAN-4-BAD_VLAN_TIMER_ACTIVE_VALUE: encountered
```

No workaround is necessary. This message does not affect switch operation. (CSCdk70408)

- The **no vmps retry** and **no vmps reconfirm** configuration commands do not work as expected in Cisco IOS Release 11.2(8)SA4.

To work around this, use the commands without the **no** prefix and explicitly enter the default values (**vmps retry 3** and **vmps reconfirm 60**) to get the default settings. (CSCdk72786)

- Frames received and dropped on a trunk port that is blocked by Spanning-Tree Protocol are sometimes incorrectly counted as FCS errors.

Ignore this counter value when a trunk port is blocked by STP. (CSCdk61602)

## Cisco IOS 11.2(8)SA3 Caveats/Release 11.2(8)SA4 Modifications

This section describes Cisco IOS Release 11.2(8)SA3 caveats that were resolved with Cisco IOS Release 11.2(8)SA4.

- When the switch receives a STP topology change notification, the Cisco Group Management Protocol (CGMP) tables should be purged for the virtual LAN (VLAN) in which it was received.

If an incorrect topology is maintained in the CGMP tables, the entry or entries can be cleared with the command **clear cgmp [vlan *vlan-id*] group [group-mac-address]**. This will cause CGMP to relearn the latest topology. To view the CGMP tables, use the **show cgmp** command. [CSCdk31459]

- If you use Visual Switch Manager to change the STP protocol setting to IBM or DEC, the protocol setting does not take effect. To change the STP protocol setting to IBM or DEC, use the CLI. [CSCdk42398]
- If SNMP is used to change an STP parameter, the change takes effect but is lost when the system is rebooted. The workaround is to use the command line interface to change STP parameters. [CSCdk42666]

## Related Documentation

The product documentation for the Catalyst 2900 series XL switches and the Catalyst 2900 series XL modules is as follows:

*Catalyst 2900 Series XL Installation and Configuration Guide*

*Catalyst 2900 Series XL Enterprise Edition Software Configuration Guide*

*Catalyst 2900 Series XL Modules Installation Guide*

*Catalyst 2900 Series XL Command Reference* (online only)

*Quick Start: Catalyst 2900 Series XL Cabling and Setup*

*Release Notes for the Catalyst 2900 Series XL Cisco IOS 11.2(8)SA*

*Release Notes for the Catalyst 2900 Series XL Cisco IOS 11.2(8)SA1*

*Release Notes for the Catalyst 2900 Series XL Cisco IOS 11.2(8)SA2*

*Release Notes for the Catalyst 2900 Series XL Cisco IOS 11.2(8)SA3*

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- WWW: <http://www-europe.cisco.com>
- WWW: <http://www-china.cisco.com>
- Telnet: [cco.cisco.com](http://cco.cisco.com)
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

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## Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

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