About This Guide

This booklet explains how to use the following upgrade kits to upgrade software for the Catalyst 2900 series XL and the 3500 series XL switches:

- The Catalyst 2900 Series XL Enterprise Edition Software, Cisco IOS Release 11.2(8)SA6 (single switch and ten-pack), adds Enterprise Edition Software features to 2900 XL switches running standard edition software.
- The Catalyst 2900 Series XL Command Switch Software, Cisco IOS Release 11.2(8)SA6, adds command switch capabilities to 2900 XL switches running standard edition or Enterprise Edition Software.
- The Catalyst 3500 Series XL Enterprise Edition Software, Cisco IOS Release 11.2(8)SA6 (single switch and ten-pack), adds Enterprise Edition Software features to 3500 XL switches running standard edition software.

Catalyst 2900 Series XL Enterprise Edition Software Upgrades

Use the Catalyst 2900 Series XL Enterprise Edition Software upgrade kit (single switch and ten-pack) to make the following changes to switch software:

- Replace standard edition (A) software with Enterprise Edition (EN) Software
- Replace standard edition command (AC) switch software with Enterprise Edition Command (ENC) Switch Software

Note This license does not permit you to upgrade your 2900 XL switch from standard edition software (A) to Enterprise Edition Command (ENC) Switch Software. You must first purchase the Catalyst 2900 XL Enterprise Edition Software upgrade kit and upgrade your switch to Enterprise Edition (EN) Software. Then you can use the Catalyst 2900 XL Command Switch Software upgrade kit to upgrade to Enterprise Edition Command (ENC) Switch Software.

Table 1 shows the upgrade path. It lists the current image in Flash memory and the directory and filename of the new image on the upgrade CD.

Table 1 2900 XL Enterprise Edition Software Upgrade

Current Image in Flash Memory	New Image on Upgrade CD
Standard edition (A) software: c2900XL-h2-mz.11.2.8-SA6.bin or c2900XL-h-mz-112.8-SAx.bin	Enterprise Edition (EN) Software: /c2900XL_Enterprise/c2900XL-h2s-mz-112.8-SA6.tar
Standard edition command (AC) switch software: c2900XL-c3h2-mz-112.8-SA6.bin	Enterprise Edition Command (ENC) Switch Software: /c2900XL_Enterprise_Command/c2900XL-c3h2s-mz-112.8-SA6.tar

Catalyst 2900 Series XL Command Switch Upgrades

Use the Catalyst 2900 Series XL Command Switch Software upgrade kit to make the following changes to switch software:

- Replace standard edition (A) software with standard edition command (AC) switch software
- Replace Enterprise Edition (EN) Software with Enterprise Edition Command (ENC) Switch Software

Table 2 shows the upgrade path. It lists the current image in Flash memory and the directory and filename of the new image on the upgrade CD.

Table 2 2900 XL Command Switch Software Upgrade

Current Image in Flash Memory	New Image on Upgrade CD
Standard edition (A) software: c2900XL-h2-mz-112.8-SA6.bin or c2900XL-h-mz-112.8-SAx.bin	Standard edition command (AC) switch software: /c2900XL_Standard_Command/c2900XL-c3h2-mz-112.8-SA6.tar
Enterprise Edition (EN) Software: c2900XL-h2s-mz-112.8-SA6.bin or c290XL-hs-mz-112.8-SAx.bin	Enterprise Edition Command (ENC) Switch Software: /c2900XL_Enterprise_Command/c2900XL-c3h2s-mz-112.8-SA6.tar

Catalyst 3500 Series XL Enterprise Edition Software Upgrades

Use the Catalyst 3500 Series XL Enterprise Edition Software upgrade kit (single switch and ten-pack) to make the following change to switch software:

- Replace standard edition (A) software with Enterprise Edition (EN) Software

Table 3 shows the upgrade path. It lists the current image in Flash memory and the directory and filename of the new image on the upgrade CD.

Table 3 3500 XL Enterprise Edition Software Upgrade

Current Image in Flash Memory	New Image on Upgrade CD
Standard edition (AC) software: c3500XL-c3h2-mz-112.8-SA6.bin	Enterprise Edition Command (ENC) Switch Software: /c3500XL_Enterprise/c3500XL-c3h2s-mz-112.8-SA6.tar

Related Documentation

For additional information about the 2900 XL and 3500 XL switches and the features included in IOS Release 11.2(8) SA6, refer to the following documents:

- The *Cisco IOS Desktop Switching Software Configuration Guide: Catalyst 2900 Series XL and Catalyst 3500 Series XL, Cisco IOS Release 11.2(8)SA6,* describes configuration tasks for standard edition features. It describes how to use the command-line interface (CLI), the Cisco Visual Switch Manager (CVSM), and the Cluster Management software to perform these tasks.
- The *Cisco IOS Desktop Switching Enterprise Edition Software Configuration Guide: Catalyst 2900 Series XL and Catalyst 3500 Series XL, Cisco IOS Release 11.2(8)SA6,* describes the features that are available only with the Enterprise Edition Software.
- The *Catalyst 2900 Series XL Installation Guide* contains hardware installation instructions.
- The *Catalyst 3500 Series XL Installation Guide* contains hardware installation instructions.

- The *Cisco IOS Desktop Switching Command Reference: Catalyst 2900 Series XL and Catalyst 3500 Series XL, Cisco IOS Release 11.2(8)SA6,* describes the IOS commands that control the switching features.
- The *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL, Cisco IOS Release 11.2(8)SA6,* documents caveats and last-minute changes to the software.

Installation Procedures

You install upgrade software by using a TFTP server to download the new image from the upgrade CD to the switch. The procedures that follow explain how to install the Cisco TFTP server and use it to download the software image. The upgrade CD contains the Cisco TFTP server for your convenience.

For these procedures, you must have IP connectivity between the TFTP server and the switch. You must also have a management station (such as a PC) with a CD-ROM drive.

Installing the Cisco TFTP Server

The Cisco TFTP server is located on the CD with the upgrade images. You can use this server on Windows 95, Windows 98, or Windows NT 4.0. To prepare for using the TFTP server, follow these steps:

1 Install the Cisco TFTP server.

   Copy the self-extracting executable file to your desktop, click it, and follow the installation instructions.

2 Start the Cisco TFTP server.

Double-click the server icon on the desktop, or from the **Start** menu, select **Programs>Cisco TFTP Server**.

3 Disable TFTP server options for group upgrades.

Note This step is not required for single-switch upgrades.

If you purchased the ten-pack upgrade kit and you already have clustering configured on your switches, you can use Cluster Management software to perform a group upgrade from the command switch. However, your TFTP server must be capable of handling multiple requests and sessions at the same time.

The Cisco TFTP server application can handle multiple requests and sessions, but you must first disable the **Show File Transfer Progress** and the **Enable Logging** options to avoid TFTP server failures.

To disable these options, select **View>Options** from the Cisco TFTP server menu bar to display the Options window. Then deselect these options and click **OK**.

4 Create a root directory on the TFTP server to store the upgrade image.

From the TFTP server menu bar, select **View>Options**. In the TFTP Server Root Directory field, click **Browse**. The Browse for TFTP Server Root Directory window appears. Select a root directory, and click **OK**. When the Options window appears, click **OK**.

Note You can also enter the path to the root directory in the TFTP Server Root Directory field in the Options window. Then click **OK**.

Click **Help** on the menu bar if you need more information.

Upgrading Catalyst 2900 Series XL Switches

Use this procedure with the Catalyst 2900 Series XL Enterprise Edition Software upgrade kit or the Catalyst 2900 Series XL Command Switch Software upgrade kit. The procedure adds the features described on page 2 or on page 4 to 2900 XL switches with 8 MB of DRAM.

Caution Do not use this procedure if your switch contains only 4 MB of DRAM. If you are unsure whether your switch has 4 MB or 8 MB of DRAM, see Step 6 for instructions on determining DRAM size.

The upgrade procedure comprises four general steps:

- Preparing the TFTP server and accessing the switch
- Renaming the current image to the new image name
- Removing old HTML and Snmp files
- Downloading the new image onto the switch

If you purchased the ten-pack upgrade kit and you already have clustering configured on your switches, you can use the Cluster Management software to perform a group upgrade from the command switch. For more information, click **Help** in Cluster Manager.

Caution You cannot use the images on the upgrade CD to upgrade a 2900 XL switch with 4 MB of DRAM. To determine the image that 4-MB switches support, see the *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL, Cisco IOS Release 11.2(8)SA6*.

Follow these steps to upgrade the 2900 XL switch image:

1. Insert the Enterprise Edition or Command Switch software CD into the CD-ROM drive of the management station.
2. Copy the image file (tar file) to the root directory of the TFTP server.

   See Table 1 on page 3 and Table 2 on page 5 for the name of the image file for the upgrade that you want to perform.

   For instructions on how to define the root directory of the TFTP server, see the "Installing the Cisco TFTP Server" section on page 9.
3. Power up the switch and wait for the power-on self-test (POST) to execute.

   For information about POST, see the *Catalyst 2900 Series XL Installation Guide*.

4 Access the switch CLI.

If an IP address is assigned to the switch and the switch is configured for Telnet (for configuration instructions, see the *Cisco IOS Desktop Switching Software Configuration Guide*), start a Telnet session to access the CLI.

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

```
server% telnet switch_ip_address
```

Enter the password if prompted to do so.

If the switch is not configured for Telnet, connect to the console port using the RS-232 connector. For more information, see the *Catalyst 2900 Series XL Installation Guide*.

5 At the command prompt, enter privileged EXEC mode:

```
switch> enable
Password:
switch#
```

6 Confirm that the switch has 8 MB of DRAM.

In the following example, DRAM size (shown in bold) is 8192K.

```
switch# show version
Copyright (c) 1986-1999 by cisco Systems, Inc.
Compiled Wed 07-Apr-99 11:46 by jbadmin
Image text-base: 0x00003000, data-base: 0x00258164

ROM: Bootstrap program is C2900XL boot loader

Switch202 uptime is 19 hours, 23 minutes
System restarted by power-on
System image file is "flash:boot", booted via -
cisco WS-C2912-XL (PowerPC403GA) processor (revision
0x11) with 8192K/1024K bytes of memory.
```

Caution If the display shows 4 MB of DRAM on the switch, do not continue. You cannot use the images on the upgrade CD to upgrade 4-MB switches. To determine the image your switch supports, see the *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL, Cisco IOS Release 11.2(8)SA6*.

7 Display the name of the image file that the switch is using.

The following example shows the location (in italics) of the image filename:

```
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: 32748
```

If no file is defined in the BOOT path-list, enter **dir flash:** to display the contents of Flash memory. The displayed filename looks similar to this: c2900XL-h-mz_*current_version*.

8 Rename the current image file.

Renaming the current image does not affect the operation of the switch.

Use the name of the tar file that you copied in Step 2 to rename the current image. See Table 1 on page 3 and Table 2 on page 5 for the filename of the specific upgrade you want to perform.

Caution Image filenames are case sensitive. Make sure to rename the current image to exactly the same name as the tar file. Substitute the *.bin* extension for the *.tar* extension in the new name. For example, if you copied the file *new_image.tar* in Step 2, rename your current image *new_image.bin*.

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

9 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.bin
-rwx 80971   Sep 14 1998 03:10:38
c2900XL-diag-mz-112.0.0.11-SA4
-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
```

10 Enter global configuration mode:

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

11 Disable access to the switch HTML pages to prevent users from accessing CVSM pages during the upgrade.

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

12 Set the boot path to the new image, if needed.

If you previously entered the **BOOT path-list** command to specify an image filename to the boot loader, enter this command to change the current boot filename to the new name.

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

Note If you did not previously set the boot path, this step is not required; the switch automatically finds the correct image when it resets.

13 Exit global configuration mode:

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

14 Remove the CVSM HTML files:

```
switch# delete flash:html/*
```

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

15 Remove the files in the Snmp directory:

```
switch# delete flash:html/Snmp/*
```

Note Make sure that the “S” in Snmp is uppercase.

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

16 Copy the image from the TFTP server to the switch Flash memory:

See Table 1 on page 3 and Table 2 on page 5 for the filename of the specific upgrade you want to perform.

Note Use only one line to enter the complete **tar** command (insert a single space after **tar**, after **/x**, and before **flash:**). Enter a single slash (/) after the server_ip_address if your TFTP server requires it.

```
switch# tar /x
tftp://server_ip_address//path/filename.tar flash:
Loading /path/filename.tar from server_ip_address (via
VLAN1):!)
extracting info (110 bytes)
extracting c2900XL-c3h2s-mz-112.8-SA6.bin (1271095
bytes)!!!!!!!!!!!!!!!!!!!
html/ (directory)
extracting html/Detective.html.gz (1134 bytes)!
extracting html/ieGraph.html.gz (553 bytes)
extracting html/DrawGraph.html.gz (760 bytes)!
. . .
```

17 Enter global configuration mode:

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

18 Re-enable access to the switch HTTP pages:

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

19 Exit global configuration mode:

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

20 Reload the new image:

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

21 Press **Return** to confirm the reload.

Your Telnet session ends when the switch resets.

Upgrading Catalyst 3500 Series XL Switches

Use this procedure with the Catalyst 3500 Series XL Enterprise Edition Software upgrade kit. The procedure upgrades 3500 XL switches from standard edition software to Enterprise Edition Software.

The upgrade procedure comprises four general steps:

- Preparing the TFTP server and accessing the switch
- Renaming the current image to the new image name
- Removing old HTML and Snmp files
- Downloading the new image onto the switch

If you purchased the ten-pack upgrade kit and you already have clustering configured on your switches, you can use the Cluster Management software to perform a group upgrade from the command switch. For more information, click **Help** in Cluster Manager.

Follow these steps to upgrade the 3500 XL switch image:

1. Insert the Enterprise Edition Software CD into the CD-ROM drive of the management station.
2. Copy the image file (tar file) to the root directory of the TFTP server.

   See Table 3 on page 6 for the name of the image file for the upgrade that you want to perform.

   For instructions on how to define the root directory of the TFTP server, see the "Installing the Cisco TFTP Server" section on page 9.
3. Power up the switch and wait for it to execute the power-on self-test (POST).

   For information about POST, see the *Catalyst 3500 Series XL Installation Guide*.

4 Access the switch CLI.

If an IP address is assigned to the switch and the switch is configured for Telnet (for configuration instructions, see the *Cisco IOS Desktop Switching Software Configuration Guide*), start a Telnet session to access the CLI.

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

```
server% telnet switch_ip_address
```

Enter the password if prompted to do so.

If the switch is not configured for Telnet, connect to the console port using the RS-232 connector. For more information, see the *Catalyst 3500 Series XL Installation Guide*.

5 At the command prompt, enter privileged EXEC mode:

```
switch> enable
Password:
switch#
```

6 Display the name of the image file that the switch is using.

The following example shows the location (in italics) of the image filename:

```
switch# show version
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: 32748
```

If no file is defined in the BOOT path-list, enter **dir flash:** to display the contents of Flash memory. The displayed filename looks similar to this: c3500XL-c3h2-mz_*current_version*.

7 Rename the current image file.

Renaming the current image does not affect the operation of the switch.

See Table 3 on page 6 for the filename of the specific upgrade you want to perform.

Caution Image filenames are case sensitive. Make sure to rename the current image to exactly the same name as the tar file. Substitute the *.bin* extension for the *.tar* extension in the new name. For example, if you copied the file *new_image.tar* in Step 2, rename your current image *new_image.bin*.

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

8 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.bin
-rwx 80971   Sep 14 1998 03:10:38
c3500XL-diag-mz-112.0.0.11-SA6
-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
```

9 Enter global configuration mode:

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

10 Disable access to the switch HTML pages to prevent users from accessing CVSM pages during the upgrade.

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

11 Set the boot path to the new image, if needed.

If you previously entered the **BOOT path-list** command to specify the image filename to the boot loader, enter this command to change it to the new name.

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

Note If you did not previously set the boot path, this step is not required; the switch automatically finds the correct file to use when it resets.

12 Exit global configuration mode:

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

13 Remove the CVSM HTML files:

```
switch# delete flash:html/*
```

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

14 Remove the files in the Snmp directory:

```
switch# delete flash:html/Snmp/*
```

Note Make sure that the “S” in Snmp is uppercase.

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

15 Copy the image from the TFTP server to the switch Flash memory:

See Table 3 on page 6 for the filename of the specific upgrade you want to perform.

Note Use only one line to enter the complete **tar** command (insert a single space after **tar**, after **/x**, and before **flash:**). Enter a single slash (/) after the server_ip_address if your TFTP server requires it.

```
switch# tar /x
tftp://server_ip_address//path/filename.tar flash:
Loading /path/filename.tar from server_ip_address (via
VLAN1):!)
extracting info (110 bytes)
extracting c3500XL-c3h2s-mz-112.8-SA6.bin (1271095
bytes)!!!!!!!!!!!!!!!!!!!
html/ (directory)
extracting html/Detective.html.gz (1134 bytes)!
extracting html/ieGraph.html.gz (553 bytes)
extracting html/DrawGraph.html.gz (760 bytes)
extracting html/GraphFrame.html.gz (774 bytes)!
. . .
```

16 Enter global configuration mode:

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

17 Re-enable access to the switch HTTP pages:

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

18 Exit global configuration mode:

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

19 Reload the new image:

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

20 Press **Return** to confirm the reload.

Your Telnet session ends when the switch resets.

Troubleshooting

The *Cisco IOS Desktop Switching Software Configuration Guide* contains procedures for recovering from corrupted software and forgotten passwords. For your convenience, the upgrade CD contains a copy of this guide in PDF format. You can also access this guide online as described in the “Cisco Connection Online” section on page 33.

Each image directory on the upgrade CD (such as */c2900XL_Standard_Command*) contains a */Recovery* directory. The */Recovery* directory contains the new image in *.bin* format. If necessary, you can download the .bin file to replace a corrupted image. For recovery instructions, see the *Cisco IOS Desktop Switching Software Configuration Guide*.

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: http://www.cisco.com
- WWW: http://www-europe.cisco.com
- WWW: http://www-china.cisco.com
- Telnet: 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; data bits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

Additional Documentation

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 up to date 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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