

Upgrading IOS Software on Cisco AS5800 Access Servers – Practical Example

Document ID: 6195

Introduction

Prerequisites

- Requirements

- Components Used

- Conventions

Software Images for the AS5800

How to Upgrade the Software Image

- Upgrade the DSC Software

- Upgrade the Router Shelf Software

Boot the Dial Shelf and Router Shelf

Verify

NetPro Discussion Forums – Featured Conversations

Related Information

Introduction

This document provides an example that shows how to upgrade the Cisco IOS® software release on a Cisco AS5800 access server dial shelf (DS) and router shelf (RS).

The Cisco AS5800 is a high-end access server based on distributed processor architecture. It utilizes dial shelf technology that provides line and call termination, and allows the router shelf to devote full attention to terminating protocols and other management duties. It is necessary to run similar versions of Cisco IOS software on both the dial shelf and the router shelf. If your system supports redundancy, you have two dial shelf controllers, and hence need to upgrade both of them

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to the Cisco Technical Tips Conventions for more information on document conventions.

Software Images for the AS5800

The AS5800 has two different images associated with it. The images, their names and their appropriate locations are detailed in this table:

Image Name	Image Location
AS5800 system image	c5800-p4-mz.XXX Router Shelf slot0-slot1-disk0
Dial shelf controller (DSC) image	dsc-c5800-mz.XXX. DSC(s) slot0-slot1-disk0

How to Upgrade the Software Image

In order to upgrade the Cisco IOS software, you need to copy two images from Cisco.com into your Trivial File Transfer Protocol (TFTP) or File Transfer Protocol (FTP) server.

You need to perform this procedure in two stages:

- Upgrade the DSC Software.
- Upgrade the Router Shelf Software.

Upgrade the DSC Software

Complete these steps:

1. Log in to the router shelf, and enter the **show dial-shelf** command to see where the DSC is located. In this example, the DSC is in slot 12.

```
routershelf#show dial-shelf
Slot    Board      CPU      DRAM      I/O Memory  State  Elapsed
      Type      Util    Total (free)  Total (free)
0       CE1        0%/0%   14075584( 50%) 12582912( 62%) Up     21:24:39
2       CE1        0%/0%   14075584( 50%) 12582912( 62%) Up     21:24:40
3       CE1        0%/0%   14075584( 50%) 12582912( 62%) Up     21:24:40
4 Modem(DMM) 20%/20% 29579552( 67%) 33554432( 79%) Up     21:24:40
5 Modem(DMM) 20%/20% 29579552( 67%) 33554432( 79%) Up     21:24:40
6 Modem(DMM) 20%/20% 29579552( 67%) 33554432( 79%) Up     21:24:40
7 Modem(DMM) 20%/20% 29579552( 67%) 33554432( 79%) Up     21:24:40
8 Modem(DMM) 20%/20% 29579552( 67%) 33554432( 79%) Up     21:24:40
9 Modem(DMM) 20%/20% 29579552( 67%) 33554432( 79%) Up     21:24:39
10 Modem(DMM) 0%/0%   29579552( 67%) 33554432( 79%) Up     21:24:39
11 Modem(DMM) 18%/18% 29579552( 67%) 33554432( 79%) Up     21:24:39
12      DSC       0%/0%   26182944( 76%) 33554432( 90%) Up     21:27:13
Dial shelf set for auto boot
```

2. Issue the **execute-on slot 12 show version** command to see the current version of Cisco IOS software.

In order to check the current images stored in the flash, issue the **execute-on slot 12 show flash** command.

Note: A DSC image requires about two to three MB of space. So, check the available space.

Here is an example:

```
dialshelf#
#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1 .. image CE650F8D 29F4AC 22 2618412 Oct 03 2001 08:12:48
dsc-c5800-mz.121-5.XM5
2 .. image E66E7E75 512D8C 37 2570336 Oct 03 2001 09:34:17
dsc-c5800-mz-122-5

2806388 bytes available (5189004 bytes used)
```

3. In order

t

o delete a software image, issue the **dsip console slave 12** command. This takes you from the router shelf to the DSC.

```
routershelf#dsip console slave 12
Trying Dial shelf slot 12 ...
Entering CONSOLE for slot 12
```

4. Press CTRL + C thrice (^C^C^C), to end this session.

Note: If you use authentication on the DSC, you need to use a local password. The DSC does not support authentication, authorization, and accounting (AAA).

5. Next, you need to delete and "squeeze" images from the DSC.

```
dialshelf#show flash
#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1 .. image CE650F8D 29F4AC 22 2618412 Oct 03 2001 08:12:48
dsc-c5800-mz.121-5.XM5
2 .. image E66E7E75 512D8C 37 2570336 Oct 03 2001 09:34:17
dsc-c5800-mz-122-5

2806388 bytes available (5189004 bytes used)
```

```
ds-dynamite#delete dsc-c5800-mz.121-5.XM5
Delete filename [dsc-c5800-mz.121-5.XM5]?
```

Note: If the file is deleted, you can squeeze the file.

Note: If you have Ethernet connectivity on the DSC, you can use the **copy tftp flash** command to upload the new image.

6. After you have uploaded the new image, and you have more than one image in flash, issue the **boot system flash** command.

7. If you do not have Ethernet connectivity, you need to return to the router shelf. In order to do so:

Press CTRL + C thrice (^C^C^C), to end this session. Alternatively, type **exit**.

```
dialshelf#
Terminate NIP IO session? [confirm]
[Connection to Dial shelf slot 12 closed by local host]
routershelf#
```

8. Now execute the **copy tftp dsc12-slot0** command to copy an image from the router shelf to the DSC.

```
routershelf#copy tftp: ?
bootflash: Copy to bootflash: file system
disk0: Copy to disk0: file system
disk1: Copy to disk1: file system
dsc12-bootflash: Copy to dsc12-bootflash: file system
dsc12-nvram: Copy to dsc12-nvram: file system
*dsc12-slot0: Copy to dsc12-slot0: file system
```

```

*dsc12-slot1:      Copy to dsc12-slot1: file system
flash:             Copy to flash: file system
ftp:               Copy to ftp: file system
lex:               Copy to lex: file system
null:              Copy to null: file system
nvram:             Copy to nvram: file system
pram:              Copy to pram: file system
rcp:               Copy to rcp: file system
running-config    Update (merge with) current system configuration
slot0:             Copy to slot0: file system
slot1:             Copy to slot1: file system
startup-config    Copy to startup configuration
system:            Copy to system: file system
tftp:              Copy to tftp: file system

```

Here is an example:

```

routershelf#copy tftp: dsc12-slot0:
Address or name of remote host []? 192.1.1.1 -> IP address tftp-server
Source filename []? dsc-c5800-mz.121-6 -> Image you want to upload
Destination filename [dsc-c5800-mz.121-6]?
Accessing tftp://192.1.1.1/dsc-c5800-mz.121-6...
Loading dsc-c5800-mz.121-6 from 192.1.1.1 (via Ethernet0/1/0)

!!!!!!!!!!!!!!
[OK - 2390676/4781056 bytes]

2390676 bytes copied in 132.32 secs (18111 bytes/sec)
routershelf#

```

9. In order to verify the image, use the **execute-on-slot 12 show flash** command.

```

dialshelf#
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1  .. image    CE650F8D  29F4AC   22  2618412 Oct 03 2001 08:12:48
dsc-c5800-mz.121-5.XM5
2  .. image    E66E7E75  512D8C   37  2570336 Oct 03 2001 09:34:17
dsc-c5800-mz-122-5
3  .. image    052C60F8  75A8A0   18  2390676 Oct 09 2001 11:00:30
dsc-c5800-mz.121-6

415584 bytes available (7579808 bytes used)

```

10. Return to the dial shelf. In order to do so, issue the **dsip console slave 12** command, and apply the correct **boot system** command. Remember to save the configuration.
11. Return to the router shelf. In order to do so, type **exit**, or press CTRL + C thrice (^C^C^C).
12. Repeat this procedure if you have a second DSC card, to ensure that both run the same Cisco IOS Software Release. In order to do this, you can use the same commands. The only change is that the slot number changes from 12 to 13.

Note: While the DSC(s) and router shelf do not run the same IOS image, you probably can not communicate with the DSC through the router shelf.

Upgrade the Router Shelf Software

The procedure to upgrade a Cisco 7200 router is exactly the same as that described here for the AS5800.

1. First, check which Cisco IOS software images are in flash:

```

routershelf#show flash
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1  .. image    CD880075  CAEA6C   36  13167084 Oct 03 2001 09:35:14
c5800-p4-mz-122-5

```

7411092 bytes available (13167212 bytes used)

2. Delete any images or files that are no longer required. You must have a sufficient number of bytes available to accommodate the new image.

```
routershelf#delete slot0
```

Note: It is recommended that you keep a backup copy of the software image from which you are currently upgrading, or a previously preferred image, in case there are any problems with the new image.

3. Squeeze the flash. In order to do so, issue the **squeeze slot0:** command.

```
routershelf#squeeze slot0:
```

4. Download the new image to flash. For example, in order to download from a TFTP server, use this command:

```
routershelf#copy tftp: slot0 or copy tftp slot1:
```

If you use a 4MB disk, you need to use the **copy tftp disk0** command. For example:

```
routershelf#copy tftp: flash
Address or name of remote host [192.1.1.1]?
Source filename [dsc-c5800-mz.121-6]? c5800-p4-mz.121-5.XM5
Destination filename [192.1.1.1]?
Accessing tftp://192.1.1.1/c5800-p4-mz.121-5.XM5...
Loading c5800-p4-mz.121-5.XM5 from 192.1.1.1 (via Ethernet0/1/0): !
```

Note: Remember to apply the **boot system flash** command if you have multiple images.

Boot the Dial Shelf and Router Shelf

This section describes the procedure to boot the Dial Shelf, and the Router Shelf.

Complete these steps:

1. Use one of these startup procedures:

- ◆ **Cool start:** If you have saved both configurations on the router and dial shelf, power off the dial shelf and router shelf, then power them on again.
- ◆ **Warm start:** Login into the DSC with **dsip console slave 12** command, as shown here:

```
routershelf#dsip console slave 12
Trying Dial shelf slot 12 ...
Entering CONSOLE for slot 12
Type "^C^C^C" to end this session

dialshelf#enable
dialshelf#write
Warning: Attempting to overwrite an NVRAM configuration previously
written by a different version of the system image.
Overwrite the previous NVRAM configuration?[confirm]
Building configuration...
[OK]

dialshelf#reload
Proceed with reload? [confirm]
```

2. The keyboard freezes while the DSC reloads. You cannot use **exit** in this case.

- Press CTRL + C thrice (^C^C^C) to exit the dial shelf.
3. If you are back on the router shelf, write the config and reload the box.

```
routershelf#reload
Proceed with reload? [confirm]
```

Verify

This section enables you to verify the process used to boot the Dial Shelf and the Router Shelf.

When you reload the router shelf, this message appears on the console after a few minutes. Press **Return** to get started.

```
*Oct 9 09:26:46.763: %SYS-6-BOOTTIME: Time taken to reboot after
reload = 123 seconds
*Oct 9 09:26:55.507: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 12
Succeeded
```

Now you can use the **execute-on slot 12 show version** command to verify if the router shelf and dial shelf run the same Cisco IOS software version. If they do, wait for a few minutes until all Feature Boards boot.

```
*Oct 9 09:29:28.515: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 2
Succeeded
*Oct 9 09:29:28.615: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 3
Succeeded
*Oct 9 09:29:28.807: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 4
Succeeded
*Oct 9 09:29:28.887: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 5
Succeeded
*Oct 9 09:29:29.915: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 0
Succeeded
*Oct 9 09:29:30.587: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 6
Succeeded
*Oct 9 09:29:30.699: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 7
Succeeded
*Oct 9 09:29:30.823: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 8
Succeeded
*Oct 9 09:29:30.887: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 9
Succeeded
*Oct 9 09:29:30.991: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 10
Succeeded
*Oct 9 09:29:31.115: %DSIPPF-5-DS_HELLO: DSIP Hello from shelf 1 slot 11
Succeeded
```

Note: If you have fewer cards in the chassis, the bootup time is much faster.

NetPro Discussion Forums – Featured Conversations

Networking Professionals Connection is a forum for networking professionals to share questions, suggestions, and information about networking solutions, products, and technologies. The featured links are some of the most recent conversations available in this technology.

NetPro Discussion Forums – Featured Conversations for Access
--

Network Infrastructure: Remote Access

Related Information

- [Access Technology Support Pages](#)
 - [Technical Support – Cisco Systems](#)
-

[Contacts & Feedback](#) | [Help](#) | [Site Map](#)

© 2008 – 2009 Cisco Systems, Inc. All rights reserved. [Terms & Conditions](#) | [Privacy Statement](#) | [Cookie Policy](#) | [Trademarks of Cisco Systems, Inc.](#)

Updated: Mar 30, 2005

Document ID: 6195
