



Gateways and Gatekeepers Upgrade

This chapter describes procedures for upgrading software on Cisco voice gateways and gatekeepers. It contains the following sections:

- [Determining Memory and Software Requirements](#)
- [Upgrading the Gateways'](#)
- [Verification of Gateway Upgrade](#)
- [Fallback](#)
- [Upgrading the Gatekeepers](#)
- [Verification of Gatekeeper Upgrade](#)
- [Fallback](#)

Upgrade the voice gateways cautiously and methodically, completing each type of gateway before moving on to another. For example, start with the Cisco AS5300s in your network. For the first machine, perform the upgrade, then verify that it was successful. If it was, move on to the second Cisco AS5300 and repeat the upgrade and verification. After finishing all of the Cisco AS5300s, start and test them all to make sure that there are no alarms or errors.

If you are confident that the Cisco AS5300s were upgraded successfully, move on to the next type of gateway.



Note

Monitor system output frequently for error messages during the upgrade process. Correct any error messages before continuing with the upgrade.

If your solution uses Cisco Media Gateway Controller Node Manager (Cisco MNM), perform this upgrade first. Refer to the instructions in [Chapter 3, “Network Management Components Upgrade.”](#)

You also must ensure the latest Cisco MNM patches are installed before you upgrade voice gateways. Go to the [Cisco Media Gateway Controller Software Center](#) to check for new patches:

<http://www.cisco.com/cgi-bin/tablebuild.pl/mgc-nm>

Determining Memory and Software Requirements

The amount of memory and appropriate Cisco IOS image depend on the platform and the Cisco SS7 Interconnect solution that the voice gateway supports. To determine the latest memory and software requirements see the [Solution Release Notes for Cisco SS7 Interconnect for Voice Gateways Release 2.1](#).

Upgrading the Gateways

You must acquire the IP address of the TFTP server from your system administrator.

The gateways that are supported in the Cisco SS7 Interconnect for Voice Gateways 2.1 solution are the Cisco AS5300, Cisco AS5350, Cisco AS5400, Cisco AS5800, and the Cisco AS5850.

Backing Up

Cisco recommends backing up all existing Cisco IOS images and configurations from privileged EXEC mode.

Step 1 Save your running-configuration to your startup configuration in NVRAM:

```
AS5xx0# copy running-config startup-config
```

Step 2 Back up your existing startup configuration. Use a distinct file name for the startup configuration. This makes it easy to distinguish from other startup configurations previously saved on your TFTP server.

```
AS5xx0# copy startup-config tftp
```

```
Address or name of remote host []? 171.71.219.167
Destination filename [startup-config]? AS5xx0-startup
!!
3449 bytes copied in 0.136 secs
```



Note Do not modify your running configuration during the Cisco IOS upgrade process.

Step 3 Determine the current Flash image and make sure there is enough memory:

```
AS5xx0# show flash
```

```
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1 .. image AAD4004B 719C50 25 7314384 May 02 2000 13:55:04
c5xx0-p4-mz_120-4_XL1.bin
```

Step 4 Back up the current router-shelf Cisco IOS image stored in flash memory. Use the file name obtained in Step 2.

```
AS5xx0# copy flash tftp
Source filename []? c5xx0-p4-mz_120-4_XL1.bin
Address or name of remote host []? 171.71.219.167
Destination filename [c5xx0-p4-mz_120-4_XL1.bin]?
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
7314384 bytes copied in 218.684 secs (33552 bytes/sec)
```

Step 5 On your TFTP server, verify that files were copied (backed up).

Upgrading the Cisco AS5300

Cisco VCWare

Cisco VCware is a software image that runs only on voice cards used in the Cisco AS5300. Because Cisco VCWare is a separate image from Cisco IOS software, it must be loaded and upgraded separately from Cisco IOS software. For all other Cisco voice gateways using C54x series DSPs, the DSPware is embedded in the Cisco IOS software image, so in those systems, Cisco VCware is not used.

Use the following command in case you need to fall back to the previous version of VCWare:

```
AS5300# sh vfc 1 version vcware

Voice Feature Card in Slot 1:
  VCware Version      : 7.32
  ROM Monitor Version: 1.3
  DSPware Version     : 3.4.431
  Technology          : C549
```

The output shows the current VCWare version number and density. These match the Cisco IOS image that you will download. Note the information in case you need to fall back.



Note

The Cisco AS5300 will not allow the Flash to be overwritten during normal operation. You need to configure the voice gateway to boot up from boot Flash (or ROM) so you can copy the upgraded version of Cisco IOS Software into the regular system Flash.

Blocking Call Traffic Towards the Gateway

You must block the appropriate circuits on the Cisco PGW 2200 and wait for in-progress calls to disconnect on the affected gateway. Doing so will cause the gateway to send a “resource unavailable” message to the local H.323 gatekeeper, which will then route calls only to the remaining Cisco AS5300s.



Note

The Cisco PGW 2200 PSTN Gateway (Cisco PGW 2200) was formerly called the Cisco SC2200.

Complete the following steps:

-
- Step 1** Disable the gateway register:
- ```
AS5300# config t
AS5300(config)# no gateway
AS5300(config)# exit
AS5300(config)# copy running-config startup-config
```
- Step 2** On the Cisco PGW 2200, identify the destination for the gateway:
- ```
mm1> rtrv-dest: all
```
- Step 3** Put the NASPATH towards the gateway out of service:
- ```
mm1> set-dest-state:nassrv1: oos
```
- Step 4** Verify that all of the channels associated with this gateway are blocked:
- ```
mm1> rtrv-tc: all
```

Upgrading the Cisco IOS Software

Complete the following steps to upgrade the Cisco IOS software on a Cisco gateway:

Step 1 Verify the config register is set to 2102:

```
AS5300# show version
```

If it is set to 2102, proceed to [Step 4](#). If it is not, go to [Step 2](#).

Step 2 Change the configuration register from its current setting to 0x2102 so that the Cisco AS5300 boots from boot Flash memory:

```
AS5300(boot)# conf term
AS5300(config)# config-reg 0x2102
AS5300(config)# exit
AS5300# copy running-config startup-config
```

Step 3 Determine the total amount of Flash memory available. Check the existing Cisco IOS and new Cisco IOS versions to make sure there is enough:

```
AS5300# sh flash
```

Step 4 Copy the Cisco IOS software to Flash memory:

```
AS5300# copy tftp flash

Address or name of remote host []? 171.71.219.167
Source filename []? c5xx0-p4-mz_120-4_XL1.bin
Erase flash: before copying? [confirm] no
```



Caution

Replying **no** will keep both Cisco IOS images in Flash memory, and you would only do this if there is enough memory for both. If there is not enough Flash memory and you reply **yes**, fall back procedures will be different.

```
Continue? y
Destination filename [c5xx0-p4-mz_120-4_XL1.bin]?
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
7314384 bytes copied in 218.684 secs (33552 bytes/sec)
```

Step 5 If you erased the old Cisco IOS image, make sure that the **boot system flash oldiosname.bin** command is not enabled and pointing to the old image file name; otherwise, the gateway gets stuck trying to reload the old image over and over again:

```
AS5300# sh run
```

Step 6 Reload the router.

```
AS5300# reload
Proceed with reload? [confirm]

System Bootstrap, Version 12.0(20000106:234457) [tombnyg-rommon_1_6 106],
SOFTWARE REV 1.6
Copyright (c) 1994-2000 by cisco Systems, Inc.
AS5300 platform with 131072 Kbytes of main memory
```

```

Self decompressing the image : #####
##### [OK]
Self decompressing the image : #####
#####
#####
#####
#####
#####
##### [OK]
Press RETURN to get started!

```

Step 7 Confirm the software upgrade:

```
AS5300# show version
```

Cisco VCWare

For instructions on upgrading Cisco VCWare, refer to *Combined Version Release Notes for Cisco VCWare on Cisco AS5300 Universal Access Servers/Voice Gateways* at the following location:

http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/5300/sw_conf/vcw_rn/index.htm

Upgrading the Cisco AS5350 or Cisco AS5400 Universal Gateway

Blocking Call Traffic Towards the Gateway

Complete the following steps before placing the Cisco AS5350 or Cisco AS5400 out of service:

Step 1 Disable the gateway register:

```

AS5xx0# config t
AS5xx0(config)# no gateway
AS5xx0(config)# exit
AS5xx0# copy running-config startup-config

```

Step 2 On the Cisco PGW 2200, identify the destination for the gateway:

```
mm1> rtrv-dest: all
```

Step 3 Put the NASPATH towards the gateway out of service:

```
mm1> set-dest-state:nassrv1:oos
```

Step 4 Verify that all of the channels associated with this gateway are blocked:

```
mm1> rtrv-tc: all
```

Cisco IOS Software



Note

Make sure you have backed up the configuration according to the “Backing Up” section of this chapter.


```
2 -rw-      9775616   Jan 01 2000 00:59:10  c5350-js-mz.121-3.T.bin
```

```
32768000 bytes total (13041600 bytes free)
```

For more information on deleting the image, refer to the document *Cisco IOS File System*, available online at

http://www.cisco.com/univercd/cc/td/doc/product/software/ios113ed/113aa/113aa_2/allplats/ifs.htm



Note The Cisco AS5350 and Cisco AS5400, unlike the Cisco AS5200 and Cisco AS5300, use a Class A Flash File System.

- Step 4** To specify the alternate image that is to be used during the boot sequence use the **boot system flash newiosname.bin** command to specify the location (device) and name of the image to be used:

```
Router(config)# boot system flash c5350-js-mz.121-3.T.bin
Router(config)# ^Z
Router# copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

To verify that this command is in effect, use the **show running-configuration** command. Save your running configuration before the reload so that the gateway loads the correct image.

- Step 5** Reload the Cisco AS5350 or Cisco AS5400 to run the new image. If you erased the old Cisco IOS image, make sure that the **boot system flash oldiosname.bin** command is not enabled and pointing to the old image file name; otherwise, the gateway gets stuck trying to reload the old image over and over again.

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

System Bootstrap, Version 12.0(20000106:234457) [tombnyg-rommon_1_6 106],
SOFTWARE REV 1.6
Copyright (c) 1994-2000 by cisco Systems, Inc.
AS5400 platform with 131072 Kbytes of main memory
```

```
Self decompressing the image : #####
##### [OK]
Self decompressing the image : #####
#####
#####
#####
#####
##### [OK]
Press RETURN to get started!
```



Note Most sections of the boot sequence have been omitted from the example.



Tip

On system reload, if the console session freezes or displays unusual characters on the screen, you may have a console session mismatch between the Cisco IOS console line speed and the terminal server speed. This mismatch may occur because of the program settings of your console or your terminal server speed.

Upgrading the Cisco AS5800 or AS5850 Universal Access Server

Cisco IOS Software

A Cisco AS5800 Cisco IOS upgrade requires a compatible Cisco IOS image upgrade on both the Dial Shelf Controller (DSC) cards and Router Shelf (RS) components of the system. Two distinct upgrade procedures are necessary, one for each component.


Note

Cisco recommends upgrading the dial-shelf controller(s) first, since all upgrades are performed through the router shelf. Once DSC(s) are upgraded, the router shelf will not be able to communicate with the DSC(s) until a compatible IOS image is installed on the RS.


Note

Do not modify your running configuration during the IOS upgrade process.


Note

Upgrade verifications are performed after all necessary upgrades are complete, and all system components are reloaded.


Note

Make sure you have backed up the configuration according to the procedures in the “[Backing Up](#)” section of this chapter.

Upgrading the DSC Software

The following procedure outlines commands used to perform a Cisco 5814 Dial Shelf Controller (DSC) software upgrade from the Router Shelf.

Step 1 Login to the AS5800 Router Shelf and enter Enable (privileged exec) mode.

Step 2 Identify IOS images in the DSC bootflash:

```
AS5800# execute-on slot 12 sh bootflash:
DA-Slot12#
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1  .. image   BC8CA85F 251C60  26  2169824 Nov 18 1999 22:12:15
dsc-c5800-mz.120-4.XL1.bin
```

Step 3 Delete the current IOS image(s) from bootflash:

```
AS5800# execute-on slot 12 del bootflash:dsc-c5800-mz.120-4.XL1.bin
DA-Slot12#
Delete filename [dsc-c5800-mz.120-4.XL1.bin]?
Delete bootflash:dsc-c5800-mz.120-4.XL1.bin? [confirm]
AS5800#
```

Step 4 Squeeze the DSC bootflash:

```
AS5800# execute-on slot 12 squeeze bootflash

DA-Slot12#
All deleted files will be removed. Continue? [confirm]
Squeeze operation may take a while. Continue? [confirm]
```

```
Squeeze of bootflash complete
```

Step 5 Identify IOS images in the DSC flash:

```
AS5800# execute-on slot 12 sh flash

DA-Slot12#
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1  .. image   BC8CA85F  231C60   26  2169824 Sep 16 1999 18:10:32
dsc-c5800-mz.120-4.XL1.bin
2  .D image   8FDE1F61  45FEC8   18  2286056 Jan 25 2000 18:28:57 dsc-c5800-mz.Jan21
```

Step 6 Delete images or files no longer required:

```
AS5800# execute-on slot 12 delete flash:dsc-c5800-mz.120-4.XL1.bin
DA-Slot12#
Delete filename [dsc-c5800-mz.120-4.XL1.bin]?
Delete slot0:dsc-c5800-mz.120-4.XL1.bin? [confirm]
AS5800#
```

Step 7 Squeeze the DSC flash to remove deleted files:

```
AS5800# execute-on slot 12 squeeze flash:
DA-Slot12#
All deleted files will be removed. Continue? [confirm]
Squeeze operation may take a while. Continue? [confirm]
Writing sector: 1
Squeeze of slot0 complete
```

Step 8 Download the new DSC image from your TFTP server to the DSC flash:



Note By default, files are copied to and from the Cisco TFTP root directory.

```
AS5800# copy tftp:dsc-c5800-mz.120-7.T.bin dsc12-slot0
Address or name of remote host [171.71.219.167]?
Source filename [dsc-c5800-mz.120-7.T.bin ]?
Destination filename [dsc12-slot0]?
Accessing tftp://171.71.219.167/dsc-c5800-mz.120-7.T.bin ...
%Warning: File not a valid executable for this system
Abort Copy? [confirm]n
Loading dsc-c5800-mz.120-7.T.bin from 171.71.219.167 (via FastEthernet0/0/0):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

The following Warning message appears:

```
%Warning: File not a valid executable for this system
Abort Copy? [confirm]
```



Note **Do not abort the copy process.** This message implies that the file being downloaded is not router shelf compatible, which is true. However, the router assumes the file being downloaded will be executed on the router shelf, when, in fact, the file is a dial shelf controller file, being downloaded to the dial shelf through the router, that will ultimately be executed on the dial shelf.

Step 9 Enter “n” to proceed with the download.

Step 10 Copy the new DSC image to the DSC bootflash:

```
AS5800# execute-on slot 12 copy slot0:dsc-c5800-mz.120-7.T.bin
bootflash:
DA-Slot12#
```

```
Destination filename [dsc-c5800-mz.120-7.T.bin ]?
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
2169824 bytes copied in 24.464 secs (90409 bytes/sec)
```

Step 11 Reload the DSC to load the new image:

```
Router# execute-on slot 12 reload
```

Step 12 Repeat this procedure if you have a second DSC card to ensure both cards are running the same software release. The only change to the commands will be the slot number (“13” instead of “12”).



Note At this juncture, the DSC(s) and Router Shelf are not running the same IOS image, so you will not be able to communicate with the DSC through the Router Shelf.

Upgrading the Router Shelf Software

The following procedure outlines commands used to perform a Cisco 7206 router shelf (RS) software upgrade from the Router Shelf.



Note Unless you installed new port adapters in the router shelf, do not upgrade the boot image. See [“Upgrading the Router Shelf Boot Image”](#).

Step 1 Identify IOS images in the RS flash:

```
AS5800# sh flash
-#- ED --type-- --crc--- -seek-- nlen -length- -date/time----- name
1 .. image AAD4004B 719C50 25 7314384 May 02 2000 13:55:04
c5800-p4-mz_120-4_XL1.bin
9069488 bytes available (7314512 bytes used)
```



Note If you are using a larger disk storage device instead of a flash storage device, use `sh disk 0` instead of `sh flash` to identify the IOS images in the RS flash.

Step 2 Delete images or files no longer required:

```
AS5800# delete slot0:c5800-p4-mz_120-4_XL1.bin
Delete filename [c5800-p4-mz_120-4_XL1.bin]?
Delete slot0:c5800-p4-mz_120-4_XL1.bin? [confirm]
```

Step 3 Squeeze the flash to remove all deleted files:

```
AS5800# squeeze slot0:
All deleted files will be removed. Continue? [confirm]
Squeeze operation may take a while. Continue? [confirm]
Squeeze of slot0 complete
```

Step 4 Download the new image from a TFTP server to the RS flash:



Note By default, files are copied to and from the Cisco TFTP root directory.

```
AS5800# copy tftp:c5800-p4-mz.120-7.T.bin slot0:
Address or name of remote host [171.71.219.167]?
Source filename [c5800-p4-mz.120-7.T.bin ]?
```

```

Destination filename [c5800-p4-mz.120-7.T.bin ]?
Accessing tftp://171.71.219.167/c5800-p4-mz.120-7.T.bin ...
Loading c5800-p4-mz.120-7.T.bin from 171.71.219.167 (via
FastEthernet0/0/0):!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

```

Step 5 Upgrade the bootflash, if applicable. See “Upgrading the Router Shelf Boot Image”.



Note Unless you are installing new port adapters in the router shelf, do not upgrade the boot image. See “Upgrading the Router Shelf Boot Image”.

Step 6 Reload the router shelf to load the new image:

```
Router# reload
```

Upgrading the Router Shelf Boot Image

The following procedure outlines commands used to perform a Cisco 7206 router shelf (RS) boot image software upgrade from the router shelf.



Note Unless you installed new port adapters in the router shelf, do not upgrade the boot image.

Step 1 Identify the current bootflash image:

```

AS5800# sh bootflash
#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1 .. image AC05EDDF 37A6B8 22 3384888 Dec 31 1999 18:08:09 c7200-boot-mz.120-4.XE

1 bytes available (3407872 bytes used)

```

Step 2 Delete the current boot image from bootflash:

```

AS5800# del bootflash:
Delete filename []? c7200-boot-mz.120-4.XE
Delete bootflash:c7200-boot-mz.120-4.XE? [confirm]

```

Step 3 Squeeze the bootflash to remove all deleted files:

```

AS5800# squeeze bootflash:
All deleted files will be removed. Continue? [confirm]
Squeeze operation may take a while. Continue? [confirm]

Squeeze of bootflash complete

```

Step 4 Copy the boot image from the TFTP server (c7200-boot-mz.XXX) to bootflash:

```

AS5800# copy tftp bootflash:
Address or name of remote host []? 171.71.219.167
Source filename []? c7200-boot-mz.120-7.T.bin
Destination filename [c7200-boot-mz.120-7.T.bin]?
Accessing tftp://171.71.219.167/c7200-boot-mz.120-7.T.bin...
Loading c7200-boot-mz.120-7.T.bin from 171.71.219.167 (via FastEthernet0/0/0):!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 3384888/6769664 bytes]

3384888 bytes copied in 65.112 secs (52075 bytes/sec)

```

Resume the Traffic Towards the Gateway

Step 1 On the Cisco PGW 2200, put the connection back in service:

```
mml> set-dest-state:"NASPATH":is
```

Step 2 Do the same on the gateway:

```
AS5800# config t
AS5800(config)# gateway
AS5800(config)# exit
AS5800# copy running-config startup-config
```

Migrating to IUA Interfaces

To migrate the RLM interfaces on your gateway to support IUA, perform the [Migrating from RLM to IUA with SCTP](#) procedures in the [Support for IUA with SCTP for Access Servers](#) feature module.

Verification of Gateway Upgrade

Perform the following steps to verify the Router Shelf and DSC(s) are running new IOS images, and the Bootflash is running a new boot image.

Step 1 Check the Dial Shelf Controller(s) for a new IOS image:

```
AS5xx0# execute-on slot 12 show version

DA-Slot12>
Cisco Internetwork Operating System Software
IOS (tm) 5800 Software (C5800-DSC-M), Version 12.0(7)T
TAC:Home:SW:IOS:Specials for info
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Thu 12-Aug-01 18:48
Image text-base: 0x600088F0, data-base: 0x60520000

ROM: System Bootstrap, Version 12.1(4)AA, ROM: 5800 Software (C5800-DSC-M),Version
12.1(5)T

DA-Slot12 uptime is 41 minutes
System returned to ROM by reload
System image file is "slot0:dsc-c5800-mz.121-5.T.bin "

AS5xx0# execute-on slot 13 show version (IF APPLICABLE)
```

Step 2 Check the Router Shelf for a new IOS image:

```
AS5xx0# sh version
Cisco Internetwork Operating System Software
IOS (tm) 5800 Software (C5800-P4-M), Version 12.1(5)T, TAC:Home:SW:IOS:Specials for info
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Thu 12-Aug-01 13:16
Image text-base: 0x60008900, data-base: 0x611A6000

ROM: System Bootstrap, Version 12.0(19990210:195103) [12.7T 105], DEVELOPMENT SOFTWARE
BOOTFLASH: 7200 Software (C7200-BOOT-M), Version 12.1(5)T
```

```
doc-rtr58-01 uptime is 9 minutes
System returned to ROM by reload at 16:04:24 CST Fri Jun 9 2000
System restarted at 16:05:39 CST Oct 9 2001
System image file is "slot0:c5800-p4-mz.121-5.T.bin"
```

Step 3 Verify that the Redundant Link Manager (RLM) is operational:

```
AS5xx0# show rlm group interface number status
```

Step 4 Verify that all ISDN channels on the voice gateway show “idle:”

```
AS5xx0# show isdn service
```

Step 5 Verify the gateway is registered with the gatekeeper:

```
AS5xx0# show gateway
```

Step 6 On the Cisco PGW 2200, verify all associated CICs are in service with BLK=NONE:

```
mm1> rtrv-tc
```

Fallback

To fall back to the previous version of Cisco IOS, use the following commands:

```
c5xx0# sh flash
c5xx0# config t
c5xx0(config)# boot system flash old Cisco IOS image name from backup
c5xx0(config)# copy run start
c5xx0(config)# reload
```

Upgrading the Gatekeepers

Backing Up

Cisco 3640, Cisco 3660, and Cisco 7200 Series Configuration

Cisco recommends backing up all existing Cisco IOS images and configurations from privileged EXEC mode.



Note

Back up current Cisco IOS images (boot, router-shelf, dial-shelf) and configurations to a TFTP server before upgrading. By default, files are copied to and from the Cisco TFTP root directory.

Step 1 Save your running-configuration to your startup configuration in NVRAM:

```
Router# copy running-configuration start-up configuration
```

**Note**

Do not modify your running configuration during the Cisco IOS upgrade process.

- Step 2** Back up your existing running configuration. Use a distinct file name for the running configuration. This makes it easy to distinguish from other running configurations previously saved on your TFTP server:

```
Router# copy running-config tftp

Address or name of remote host []? 171.71.219.167
Destination filename [running-config]? 36x0-running-config
!!
3312 bytes copied in 0.140 secs
```

- Step 3** Determine the contents of the Flash memory:

```
Router# show flash

-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1 .. image AAD4004B 719C50 25 7314384 May 02 2000 13:55:04
c36x0-p4-mz_120-4_XL1.bin
```

Back up the Cisco IOS image stored in flash memory. Use the file name obtained in Step 2. Repeat this step for every image.

```
c36x0# copy flash tftp

Source filename []? c3640-p4-mz_120-4_XL1.bin
Address or name of remote host []? 171.71.219.167
Destination filename [c3640-p4-mz_120-4_XL1.bin]?
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
7314384 bytes copied in 218.684 secs (33552 bytes/sec)
```

Upgrading the Cisco IOS Software

Complete the following steps to upgrade the Cisco IOS software on a Cisco gatekeeper.

**Note**

If there is only one gatekeeper in your network, the entire network will be out of service while you perform the upgrade. If you have two gatekeepers in your network, make sure their priority is configured on the gateways so that when you bring down a gatekeeper, network traffic will still be in service.

- Step 1** Determine the total amount of Flash memory available. Check the existing Cisco IOS and new Cisco IOS versions to make sure there is enough:

```
Router# sh flash
```

- Step 2** Copy the Cisco IOS software to Flash memory:

```
Router# copy tftp flash

Address or name of remote host []? 171.71.219.167
Source filename []? c7xx0-p4-mz_120-4_XL1.bin
Erase flash: before copying? [confirm] no
```

**Caution**

Replying **no** will keep both Cisco IOS images in Flash memory, and you would only do this if there is enough memory for both. If there is not enough Flash memory and you reply **yes**, fall back procedures will be difficult.

```
Continue? y
Destination filename [c7xx0-p4-mz_120-4_XL1.bin]?
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
7314384 bytes copied in 218.684 secs (33552 bytes/sec)
```

- Step 3** If you erased the old Cisco IOS image, make sure that the **boot system flash oldiosname.bin** command is not enabled and pointing to the old image file name; otherwise, the gateway gets stuck trying to reload the old image over and over again:

```
Router# sh run
```

- Step 4** Reload the router:

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

System Bootstrap, Version 12.0(20000106:234457) [tombnyg-rommon_1_6 106],
SOFTWARE REV 1.6
Copyright (c) 1994-2000 by cisco Systems, Inc.
7200 platform with 131072 Kbytes of main memory
```

```
Self decompressing the image : #####
##### [OK]
Self decompressing the image : #####
#####
#####
#####
##### [OK]
Press RETURN to get started!
```

- Step 5** Change the configuration register back to its original setting so that the gatekeeper boots from Flash. In this example, the original setting was 0x2102.

```
Router(boot)# configure terminal
Router(config)# config-reg 0x2102
Router(config)# exit
Router(boot)#
```

- Step 6** Type **no** when the gatekeeper asks if you want to save the system configuration:

- Step 7** Confirm the software upgrade:

```
Router# show version
```

Verification of Gatekeeper Upgrade

- Step 1** Check the Router Shelf for a new IOS image:

```
AS7200# sh version
```

```

Cisco Internetwork Operating System Software
IOS (tm) 7200 Software (C7200-P4-M), Version 12.0(7)T, TAC:Home:SW:IOS:Specials for info
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Thu 12-Aug-01 13:16
Image text-base: 0x60008900, data-base: 0x611A6000

ROM: System Bootstrap, Version 12.0(19990210:195103) [12.7T 105], DEVELOPMENT SOFTWARE
BOOTFLASH: 7200 Software (C7200-BOOT-M), Version 12.0(7)T

doc-rtr58-01 uptime is 9 minutes
System returned to ROM by reload at 16:04:24 CST Fri Jun 9 2000
System restarted at 16:05:39 CST Fri Jun 9 2000
System image file is "slot0:c5800-p4-mz.120-7.T.bin"

```

Step 2 On the Cisco SC2200, unblock the circuits that terminate on the voice gateway:

```
SC2200 mml> unblk-cic:point code:CIC=circuit identification code,RNG=CIC+range
```

Fallback

Cisco IOS

To fall back to the previous version of Cisco IOS, use the following commands:

```

c36x0# sh flash
c36x0# config t
c36x0(config)# boot system flash old Cisco IOS image name from backup
c36x0(config)# copy run start
c36x0(config)# wr
c36x0(config)# reload

```