



# Software Upgrade and Downgrade Procedures

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If you purchased a new Content Engine, Content Distribution Manager, or Content Router, Cisco Application and Content Networking System (ACNS) software is already installed on your system. If you have an existing system, you can install ACNS software by performing a software upgrade. This chapter explains how to install ACNS software whether you are upgrading one device or your entire Content Delivery Network (CDN). It also includes the downgrade procedures for each software platform.

This chapter contains the following sections:

- [Upgrading from ACNS 4.x Software to ACNS 4.x Software, page 3-2](#)
- [Upgrading from Cache 2.x Software to ACNS 4.x Software, page 3-5](#)
- [Upgrading from Cache 3.1.x Software to ACNS 4.x Software, page 3-23](#)
- [Upgrading from CDN Enterprise 2.x Software or E-CDN 3.0.x Software to ACNS 4.x Software, page 3-28](#)

# Upgrading from ACNS 4.x Software to ACNS 4.x Software

To upgrade or downgrade from one ACNS 4.x software release to another ACNS 4.x software release, you can choose between one of two methods: you can use the Content Distribution Manager graphical user interface (GUI) or you can use the command-line interface (CLI).

## Upgrading or Downgrading Using the Content Distribution Manager GUI

If you chose to use the Content Distribution Manager GUI to perform the upgrade or downgrade, you must use the following file set:

- ACNS-4.x.x-K9.upg
- ACNS-4.x.x-K9.meta

To upgrade or downgrade your software, follow these steps:

- 
- Step 1** Use an Internet browser that is connected to your Content Distribution Manager to administer the software upgrade or downgrade. Choose **Channels > Channel Console**, and follow these steps:
- a. Click the **Add Channel** button at the top of the window.
  - b. Click the **Edit** button next to the channel that you added.
  - c. Create a channel named “MANUAL\_UPGRADE” by entering **MANUAL\_UPGRADE** in the Name field.
  - d. Check the **Auto-Replicate** check box.
  - e. Click the **Save Changes** button at the top of the window.
- Step 2** Choose **Devices > Bandwidth** to make sure that the replication bandwidth has been set correctly for each device that you are going to upgrade or downgrade. Make the settings as high as your available bandwidth allows.
- Step 3** Choose **Channels > Subscriber** to subscribe your devices to the **MANUAL\_UPGRADE** channel.

- Step 4** Choose **Channels > Channel Editor > Media Importer** to import the upgrade or downgrade package files.
- Import the upgrade or downgrade package files to the MANUAL\_UPGRADE channel.
  - Choose **Channels > Channel Editor > Import Progress** to make sure that the Import Progress status field shows 100 percent completion.
  - Wait an additional 20 minutes or so for the channel replication to finish.
  - Choose **Channels > Channel Console**, and verify that the Replication Status field shows 100 percent completion for the MANUAL\_UPGRADE channel.
- Step 5** Choose **Devices > Software Update** to execute the upgrade or downgrade for Content Engines and Content Routers. (The Content Distribution Manager is upgraded or downgraded in another step later on.)
- Choose the upgrade or downgrade package version, and then choose all the device names of the devices that you want upgraded or downgraded. Click the **Start Update** button.
  - Wait approximately 30 minutes for the upgrade or downgrade to be completed.
- Step 6** Verify that the upgrade or downgrade was successful by checking the Version field in the Software Update window. If the upgrade or downgrade was successful, the Version field for the chosen device is updated with the new software version.
- Step 7** After the upgrade or downgrade is complete for all your Content Engines and Content Routers, you need to upgrade or downgrade your Content Distribution Manager.
- Choose **Devices > Software Update**. Choose the upgrade or downgrade package version, and then choose your Content Distribution Manager. Click the **Start Update** button at the top of the page.
  - Wait for the upgrade or downgrade to be completed.
-

## Upgrading or Downgrading Using the CLI

If you chose to use the CLI to perform an upgrade from a device that is running ACNS software, you need the following:

- FTP server with the upgrade package files
- Network connectivity between the device to be upgraded and the server hosting the upgrade files
- Appropriate .bin upgrade or downgrade package file from the ACNS 4.1 Cryptographic Software directory:

Files in ACNS 4.1.1 and 4.1.3 Software	Hardware Platform	Files in ACNS 4.2.1 Software
ACNS-4.1.x-K9.bin	CDM-4650, CDM-4630, and CR-4430	ACNS-4.2.1-K9.bin
ce507-ACNS-4.1.x-K9.bin	CE-507	
ce560-ACNS-4.1.x-K9.bin	CE-560	
ce590-ACNS-4.1.x-K9.bin	CE-590	
ce7320-ACNS-4.1.x-K9.bin	CE-7320	

To install the upgrade or downgrade package file using the CLI, follow these steps:

- 
- Step 1** Install the upgrade or downgrade package file by using the **copy ftp install** command:

```
ContentEngine# copy ftp install ftp-server package-file-path  
package-file-name
```

- Step 2** After the package files are copied to your system, use the **reload** command to reboot.

```
ContentEngine# reload
```

The installation process continues automatically after the reboot. No further work is required.

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# Upgrading from Cache 2.x Software to ACNS 4.x Software

This section describes how to perform a manual upgrade from Cache 2.x software to ACNS 4.x software and also how to accomplish an automated software upgrade of multiple Content Engines using a software script designed to automate the upgrade process. The manual upgrade process is discussed first because you need to use this procedure on at least one Content Engine before you can perform an automated upgrade.

## Performing a Manual Upgrade

Manually upgrading your system from a Cache 2.x software release to ACNS 4.x software requires the use of an intermediate “UPGRADE” software image. This section describes how to install the UPGRADE image and how to execute an upgrade.

You can install the 2.x UPGRADE image on a Content Engine running Cache 2.x software either by booting from a network server or by writing the image to Flash memory. Both methods are described in this section. Read the requirements section of each method to determine which method is suitable for you.

The upgrade from a Cache 2.x software image to an ACNS 4.x software image is a three-part process as follows:

1. Install a special UPGRADE image.
2. Reboot with the UPGRADE image and load a Flash memory-only image into Flash memory.
3. Reboot the Content Engine.

Before beginning your Cache 2.x software to ACNS 4.x software upgrade, ensure that the desired Flash memory-only file (the file with the .flash extension) resides on an FTP server that is accessible to the Content Engine to be upgraded.

Also, if the Content Engine is booted from the network, you need to place the 2.x UPGRADE file onto an appropriate netboot FTP or TFTP server. We strongly recommend using FTP rather than TFTP to avoid TFTP timeouts.

If you prefer to install an image on Flash memory, you must copy the 2.x UPGRADE file to the Content Engine using the **copy tftp flash** command and then reboot the Content Engine to begin running the upgrade image. Make sure that the Content Engine is configured to boot from Flash memory. (See the [“Installing the UPGRADE Image by Writing to Flash Memory”](#) section on page 3-9.)

**Note**

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The FTP server must support passive mode FTP transfers. Verify this by doing a manual passive FTP transfer before starting the software conversion process.

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**Images Required for the Upgrade**

Select the image file for ACNS 4.1.1, 4.1.3, or 4.2.1 software that is appropriate to the model of the Content Engine.

- One of the following upgrade image files:
  - ACNS-4.x.x-ce507-2.x-UPGRADE-K9.bin
  - ACNS-4.x.x-ce560-2.x-UPGRADE-K9.bin
  - ACNS-4.x.x-ce590-2.x-UPGRADE-K9.bin
- Flash memory-only image file for ACNS software:
  - ce507-ACNS-4.x.x-K9.flash
  - ce560-ACNS-4.x.x-K9.flash
  - ce590-ACNS-4.x.x-K9.flash
- Full-release image file for ACNS software:
  - ce507-ACNS-4.x.x-K9.bin
  - ce560-ACNS-4.x.x-K9.bin
  - ce590-ACNS-4.x.x-K9.bin

## Installing the UPGRADE Image Using Netboot

This section describes how to install the 2.x UPGRADE image by booting from a network FTP server (that is, using netboot).

## Requirements

Requirements for netbooting the 2.x UPGRADE image are:

- You have console access to the Content Engine.
- The 2.x UPGRADE image is available on a separate computer running an FTP server. The FTP server must support passive mode FTP transfers.
- The FTP server is accessible from the Content Engine being upgraded.

## Procedure

If the Content Engine is configured to boot from Flash memory (the default boot configuration), and if an FTP or TFTP server is visible to your system on the network, you can change the boot configuration to netboot. The steps that follow explain how to change the boot configuration.

Follow these steps to run the 2.x UPGRADE image using netboot:

---

**Step 1** Reboot the Content Engine using the **reload** command.

**Step 2** Press any key to stop the boot process when you see the following prompt:

```
Press any key to stop auto-boot...
```

At this point, you should see a prompt such as [500 Series] or a similar prompt.

**Step 3** At the prompt, enter **p**, and then press **Enter** to see the boot configuration.

```
[500 Series]:p
boot device (flash,net) [ flash]:
file name [/users2/ftp/ce40-programfix.bin]:
cache IP address [ 10.1.202.152]:
IP network mask [ 255.255.255.0]:
server IP address [ 172.25.193.244]:
gateway IP address [ 10.1.202.1]:
protocol (rcp,ftp,tftp) [ ftp]:
username [ johndoe]:
password [ MypswWrd]:
flags [ 0]:
```

For netboot you need to set the boot device to “net” and provide the connectivity information about the FTP server in the appropriate fields. The next step explains this.

- Step 4** At the prompt, enter **c**, and then press **Enter** to enter the new configuration. Enter information pertaining to your FTP server setup.

```
[500 Series]:c

'.' = clear field; '-' = go to previous field; ^D = quit

boot device (flash,net) [                flash]:net
      file name
[/users2/ftp/ce40-programfix.bin]:/dir1/ACNS-4.2.1-ce507-2.x-UPGRADE-
K9.bin
      cache IP address [          10.1.202.152]:10.1.2.3
      IP network mask [          255.255.255.0]:255.255.255.0
      server IP address [          172.25.193.244]:172.25.193.244
      gateway IP address [          10.1.202.1]:10.1.2.1
protocol (rcp,ftp,tftp) [                ftp]:ftp
      username [                  user4]:homer
      password [                  MypsWrđ]:duffbeer
      flags [                      0]:0
```

- Step 5** Type “@” at the [500 Series] prompt to start the netboot.

```
[CE500 Series]:@

boot device (flash,net) [                net]:
      file name [/dir1/ACNS-4.2.1-ce507-2.x-UPGRADE-K9.bin]:
      cache IP address [          10.1.2.3]:
      IP network mask [          255.255.255.0]:
      server IP address [          172.25.193.244]:
      gateway IP address [          10.1.2.1]:
protocol (rcp,ftp,tftp) [                ftp]:
      username [                  homer]:
      password [                  duffbeer]:
      flags [                      0]:

Loading from the network
Attaching network interface fei0... done.
```

If the netboot is successful, the Content Engine boots and begins running the 2.x UPGRADE image.

- Step 6** To verify that the 2.x UPGRADE image is running on your Content Engine, log in and enter the **show version** command.

```
ce-homer# show version
Cisco Content Engine
Copyright (c) 1986-2001 by Cisco Systems, Inc.
Software Release:CE ver 2.51 (Build:#6 09/17/01)
Compiled:14:17:18 Sep 17 2001 by biff
Image text-base 0x108000, data_base 0x44380c
```

```
System restarted by Power Up
The system has been up for 1 minute, 14 seconds.
System booted from Network - Host:172.30.26.37
File:/images/CE/ACNS-4.2.1-ce560-2.x-UPGRADE-K9.bin
```

The output shows that the 2.x UPGRADE image is running on the Content Engine.

If the output does not show that the 2.x UPGRADE image is running, you can power cycle the device and repeat the netboot procedure.

The most common problems are:

- Incorrect FTP addresses
  - Unreachable FTP server
  - Incorrect configuration of the FTP server
- 

## Installing the UPGRADE Image by Writing to Flash Memory

This section explains how to install the 2.x UPGRADE image by writing it to Flash memory.

### Requirements

The requirements for writing the 2.x UPGRADE image to Flash memory are:

- You have Telnet or console access to the Content Engine.
- The Content Engine is configured to boot from Flash memory (generally the default setting).
- The 2.x UPGRADE image is available on a separate computer running a TFTP server.
- The TFTP server is accessible from the Content Engine being upgraded.

## Procedure

To run the 2.x UPGRADE image by writing to Flash memory, follow these steps:

**Step 1** Log in to the Content Engine using Telnet or through the console port.

**Step 2** Change directory to /local.

```
ContentEngine# cd /local
```

**Step 3** Use the **copy tftp flash** command and provide the FTP server address and filenames, for example,

```
ContentEngine# copy tftp flash
TFTP Server IP Address:172.25.193.244
Remote Filename:ACNS-4.2.1-ce560-2.x-UPGRADE-K9.bin
Copying 172.25.193.244:ACNS-4.2.1-ce560-2.x-UPGRADE.bin to flash
Step 1, copy tftp to disk
1656260 bytes transferred...
Step 2, copy disk to flash
The flash image is about to get re-programmed. Continue?[no]:YES
Warning!! Don't power-cycle the box while FLASH is being programmed
File size = 1656260
Erasing program-image sectors in flash:
. . . . .
Programming program-image sectors in flash:
100% complete...
Checking to see that the file was copied correctly... OK
```

**Step 4** After the write to Flash memory is complete, reboot the Content Engine using the **reload** command.

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

**Step 5** To verify that the 2.x UPGRADE image is running on your Content Engine, log in and enter the **show version** command.

```
ContentEngine# show version
Cisco Content Engine
  Copyright (c) 1986-2001 by Cisco Systems, Inc.
  Software Release:CE ver 2.51 (Build:#5 08/28/01)
  Compiled:13:18:48 Aug 29 2001 by bbalagot
  Image text-base 0x108000, data_base 0x44378c

System restarted by Reload
The system has been up for 1 minute, 25 seconds.
System booted from "flash"
```

The output shows that your system has booted from Flash memory; therefore, the write to Flash memory has been successful, and the 2.x UPGRADE image is running on the Content Engine.

---

## Executing the Upgrade

After you have booted the 2.x UPGRADE image, you need to issue the Content Engine Tool Command Language (TCL) **upgrade** command and then perform a cold reboot. The **upgrade** command saves the Cache 2.x bootloader to Flash memory so that you can downgrade at a future time, if needed. The **upgrade** command also writes the ACNS 4.x Flash memory-only image to Flash memory.



### Caution

Do *not* use the **copy tftp flash** and **copy disk flash** commands in the middle of the procedure for executing the 2.x UPGRADE image. This could cause corruption of the Flash image. This image is only for upgrade purposes and only the TCL **upgrade** command should be used.

---

To continue with the upgrade procedure, follow these steps:

---

### Step 1

With the upgrade image installed, use the **show running-config EXEC** command to ensure that the interface ethernet 0 field and the ip default-gateway field have the correct IP parameters.

```
ContentEngine# show running-config

Building configuration...
Current configuration:
!
. . .
hostname ContentEngine
!
interface ethernet 0
 ip address 172.16.193.250 255.255.255.224
 ip broadcast-address 172.16.193.255
exit
!
!
interface ethernet 1
exit
!
```

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```
ip default-gateway 172.16.193.225
ip name-server 172.16.2.133
ip domain-name cisco.com
ip route 0.0.0.0 0.0.0.0 172.16.193.225
. . .
```

If the IP parameters need to be modified, use the **ip** command in interface configuration mode and the **ip** command in global configuration mode. For instance, the basic IP parameters of IP address, default gateway, and netmask can be configured as follows:

```
ContentEngine# config
ContentEngine(config)# ip default-gateway ipaddress
ContentEngine(config)# interface ethernet 0
ContentEngine(config-if)# ip address ipaddress netmask
ContentEngine(config-if)# exit
ContentEngine(config)# exit
ContentEngine# write memory

Building configuration..... [OK]
ContentEngine#
```




---

**Note** The Content Engine must be rebooted for changed IP parameters to take effect. The **write memory** EXEC command saves the configuration to Flash memory.

---

**Step 2** Access the TCL shell and enter **upgrade** to execute the TCL upgrade feature.

```
ContentEngine# tcl
% upgrade
```

**Step 3** Enter the following information when prompted:

- Server host name or IP address of the FTP server on which the ACNS 4.x software Flash memory-only image resides
- Filename and path to the ACNS 4.x software Flash memory-only image on the FTP server
- Username on the FTP server
- Password on the FTP server
- Confirmation of the FTP configuration (enter **yes**)

- Confirmation of the startup configuration parameters (enter **yes**)  
If you do not confirm the startup parameters, you must perform a startup configuration when the Content Engine boots with the Flash memory-only image.
- Password
- Confirmation to begin writing the Flash memory-only image to Flash memory (enter **yes**)

```

CE-507# tcl
% upgrade
Please select from one of following actions:
(1) Upgrade to ACNS 4.2
(2) Upgrade to Cache Software Release 3.x
(3) Downgrade to Cache Software Release 2.x
(4) quit

Please input 1, 2, 3 or 4: 1
Please provide information for downloading new flash image.
FTP Server IP Address (containing new flash image): 172.25.193.244
Remote Filename for new flash image:
/nfs/acns/centralbuild/target/acns_latest/ce507-ACNS-4.2.1-K9.flash
Remote username: johndoe
Remote password:

Please also provide information for downloading ACNS4.2 release
software.
FTP Server IP Address (for downloading ce507-ACNS-4.2.1-K9.bin):
ce507-ACNS-4.2.1-K9.bin 172.25.193.244
Remote directory for ACNS4.2 release software:
/nfs/acns/centralbuild/target/acns_latest/
ACNS4.2 release software file name: ce507-ACNS-4.2.1-K9.bin
Remote username: johndoe
Remote password:
Are you sure you want to do this?
Type YES if you are: YES
upgrade: checking integrity of cookie...
cookie is valid.
upgrade: allocating memory for new image...
upgrade: saving old bootrom (boot by hitting 'D')...
. . . . . BootROM length is 304397

Current Network parameters for this box are:

using eth-port-0

Ip address = 10.10.0.231

```

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```

Ip mask = 255.255.255.0
Ip gateway = 10.10.0.100
Host name = CE-507
Those parameters may be saved so that the new version software will
automatically pick them up. If you choose not to save them now,
you'll need to input them manually later during upgrade process.
Want to save those network parameters now? Save?[yes]: yes
upgrade: Please specify password for admin so that upgraded software
will be safer after it comes up. Valid password would be alphanumerics
containing 3 to 8 characters.
Note: Your password WON'T BE SHOWN on the screen when you type it.
Enter password:
Re-enter password:
Password is accepted.

upgrade: save network parameters...
. upgrade: initiating FTP download...
upgrade: 11272192 bytes transferred
About to write to flash! Your old software will
no longer exist on flash. Are you sure you
want to do this? Type YES if you are: YES
Ok, initiating flash write
FlashUpgrade: invoked
FlashUpgrade[0]: erasing: . - programming:
FlashUpgrade[1]: erasing: . - programming:
FlashUpgrade[2]: erasing: . - programming:
FlashUpgrade[3]: erasing: . - programming:
FlashUpgrade[4]: erasing: . - programming:
FlashUpgrade[5]: erasing: . - programming:
.
.
.
FlashUpgrade[83]:erasing:. - programming:
FlashUpgrade[84]:erasing:. - programming:
FlashUpgrade[85]:erasing:. - programming:

```

Flash memory is now updated with the ACNS 4.x software Flash memory-only image.

**Step 4** Perform a cold reboot using the following command:

```
% reboot cold
```



---

**Note** The tcl session might timeout if left unattended for a while. This is normal. Return to the tcl shell and enter the cold reboot command:

```
ce507# tcl
% cold reboot
```

---

The Content Engine reboots from Flash memory, running the ACNS 4.x software Flash memory-only system image. This software downloads and installs the .bin file according to the information you entered in [Step 3](#). Bootup messages begin streaming on the console for approximately 10 minutes (or more, depending on the location of the FTP server). After 10 minutes or so, look for the Username prompt.

If the upgrade was performed during a Telnet session, the session terminates after you issue the **reboot cold** command. You must wait approximately 10 minutes and then reopen a Telnet session to the Content Engine. If the upgrade was successful, you should see the Username prompt.



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**Note** If the connection between your Content Engine and the FTP server is slow, the upgrade could take longer than 10 minutes.

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## Performing an Automated Upgrade for Multiple Devices

Cisco Content Engines running Cache 2.x software are often deployed in large numbers. Upgrading each of these Content Engines individually to ACNS 4.x software could be time-consuming.

The following upgrade process allows you to upgrade Content Engines in groups. The results of each upgrade are logged.

This upgrade process involves installing an upgrade/downgrade manager image on one Content Engine (CE1) and providing CE1 with a list of other Content Engines (CE2, CE3... CE $n$ ) to be converted. The upgrade/downgrade manager is then responsible for communicating with each listed Content Engine and upgrading it.

## Requirements

This upgrade process requires the following main components:

1. Upgrade/downgrade manager images:

The upgrade/downgrade manager (.flash and .bin) images have all the necessary files required to upgrade an entire list of Content Engines.

Files in ACNS 4.1.1 and 4.1.3 Software	Files in ACNS 4.2.1 Software
ce507-UpgDngManager-Cache2.x-TO-ACNS-4.2.1.flash	ce5xx-UpgDngManager-Cache2.x-TO-ACNS-4.2.1.flash
ce560-UpgDngManager-Cache2.x-TO-ACNS-4.2.1.flash	
ce590-UpgDngManager-Cache2.x-TO-ACNS-4.2.1.flash	
ce507-UpgDngManager-Cache2.x-TO-ACNS-4.2.1.bin	ce5xx-UpgDngManager-Cache2.x-TO-ACNS-4.2.1.bin
ce560-UpgDngManager-Cache2.x-TO-ACNS- 4.2.1.bin	
ce590-UpgDngManager-Cache2.x-TO-ACNS-4.2.1.bin	

2. List of Content Engines to be upgraded

This list must include the following:

- Content Engine parameters for each unit being upgraded
  - IP address that the manager Content Engine uses to access the target Content Engine (CEIP)  
(This IP address is often the same as the Content Engine IP address, but can be different, for example, in firewall environments.)
  - IP address to assign to the Content Engine Fast Ethernet 0 interface (CACHEIP)
  - Netmask (NETMASK)
  - Gateway IP address (GATEWAY)

- Passwords to log in to the unit to be upgraded
  - USERNAME **admin**
  - PASSWORD **default**
- 3. Target upgrade images for your Content Engine model (ce507, ce560, or ce590)
  - ACNS-4.x.x-ce5xx-2.x-UPGRADE-K9.bin
  - ce5xx-ACNS-4.x.x-K9.flash
  - ce5xx-ACNS-4.x.x-K9.bin

**Note**

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If you are using the automated upgrade procedure, use the *ce5xx-UpgDngManager-Cache2.x-TO-ACNS-4.x.x.flash* image instead of the *ce507-ACNS-4.x.x-K9.flash* image used in the manual upgrade procedure. Use the *ce5xx-UpgDngManager-Cache2.x-TO-ACNS-4.x.x.bin* image instead of the *ce507-ACNS-4.x.x-K9.bin* image used in the manual upgrade procedure. These images install the upgrade/downgrade manager on the Content Engine being upgraded. If a Content Engine running ACNS 4.x software needs to be used as an upgrade/downgrade manager, the *ce5xx-UpgDngManager-Cache2.x-TO-ACNS-4.x.x.bin* file can be installed by using the **copy ftp install** command. (See the [“Upgrading from ACNS 4.x Software to ACNS 4.x Software”](#) section on page 3-2.)

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**Sample Content Engine List File**

The following is a sample Content Engine list file. In this example, the CEIP field shows the IP address of the Content Engine as seen by the manager Content Engine from outside the network firewall; the CACHEIP field shows the IP address that is assigned to the Content Engine’s Fast Ethernet 0 interface. If there were no firewall, these two fields could have the same IP address.

## ■ Upgrading from Cache 2.x Software to ACNS 4.x Software

```
# Upgrade Manager Content Engine list file
# This file lists of configuration information for the upgrade manager
# to carry out a mass upgrade of several CEs.
#
.
.
.
# The following lines list the individual CEs and their config info Format:

# CE = <CEIP>          <USERNAME> <PASSWORD> <CACHEIP>      <NETMASK>          <GATEWAY>

CE = 172.25.192.148 admin      default    10.1.1.21   255.255.255.0    10.1.1.1
CE = 172.25.192.149 admin      default    10.1.1.22   255.255.255.0    10.1.1.1
CE = 172.25.192.150 admin      default    10.1.1.23   255.255.255.0    10.1.1.1
CE = 172.25.192.151 admin      default    10.1.1.24   255.255.255.0    10.1.1.1
```

## Procedure

To perform an automated upgrade, follow these steps:

- 
- Step 1** Prepare a list of Content Engines to be upgraded. Use the list format shown in the [“Sample Content Engine List File”](#) section on page 3-17.
- Step 2** Install the upgrade/downgrade manager images on one of the Content Engines, which then becomes the manager Content Engine. The following two images are required:
- ce5xx-UpgDngManager-Cache2.x-TO-ACNS-4.x.x.flash
  - ce5xx-UpgDngManager-Cache2.x-TO-ACNS-4.x.x.bin
- Step 3** Log in as **admin**.
- Step 4** Configure the sysfs storage.
- ```
ContentEngine# disk config sysfs 1GB
```
- Step 5** Reboot the Content Engine for the sysfs configuration to take effect. The sysfs storage space is automatically mounted in the local1 directory.
- Step 6** Log in as **admin** and change directory to /local1.
- ```
ContentEngine# cd /local1
```
- Step 7** Download the list of Content Engines to be upgraded to the manager Content Engine, as follows:

```
ContentEngine# copy ftp disk server_holding_ce_list remote_path
remote_ce_list_filename local_ce_list_filename
```

- Step 8** Download the Cache 2.x software upgrade image (ce5xx-2.x-UPGRADE-K9.bin), the ce5xx-ACNS-4.x.x-K9.flash image, and the ce5xx-ACNS-4.x.x-K9.bin image to the Content Engine local1 directory.

```
ContentEngine# copy ftp disk server_holding_images remote_path
ce560-2.x-UPGRADE-K9.bin ce560-2.x-UPGRADE-K9.bin
```

```
ContentEngine# copy ftp disk server_holding_images remote_path
ce560-ACNS-4.2.1-K9.flash ce560-ACNS-4.2.1-K9.flash
```

```
ContentEngine# copy ftp disk server_holding_images remote_path
ce560-ACNS-4.2.1-K9.bin ce560-ACNS-4.2.1-K9.bin
```

- Step 9** Invoke the upgrade/downgrade feature to perform the upgrade.

```
ContentEngine# upgrade local_ce_list_filename
```

**Caution**

---

Do *not* use the **copy tftp flash** and **copy disk flash** commands on the Content Engines being upgraded in the middle of the procedure for executing the 2.x UPGRADE image. This could cause corruption of the Flash image.

---

- Step 10** Check the log files and verify that the software on the listed Content Engines was successfully upgraded.

To retrieve the log files, use the **copy disk ftp** command. In the following example, the **copy disk ftp** command retrieves the upgrade.log file for the Content Engine with the IP address 172.16.10.10.

```
ContentEngine# copy disk ftp 10.1.1.1 / 172.16.10.10.upgrade.log
172.16.10.10.upgrade.log
```

where:

10.1.1.1 is the remote server where the file is going to be stored.

172.16.10.10.upgrade.log (the first one) is the filename that is stored on the remote machine.

172.16.10.10.upgrade.log (the second one) is the local copy to be sent.

---

## Downgrading from ACNS 4.x Software to Cache 2.x.x Software

This downgrade procedure allows you to restore your system to Cache 2.x.x software from ACNS 4.x software.

**Caution**

---

Do not downgrade a system running ACNS software to Cache 2.x.x software if the system originally had CDN Enterprise 2.1 software or E-CDN 3.0.2 software installed. If you do this, the system may become nonoperational.

---

**Note**

---

This downgrade procedure is a manual procedure.

---

Downgrading from an ACNS 4.x software image to a Cache 2.x.x software image involves the following tasks:

1. Loading a Cache 2.3.1 software Flash memory-only image into Flash memory and rebooting with the Flash memory-only image
2. Reformatting the disk drives and reconfiguring network settings
3. Installing a full-release Cache 2.x.x software .pax file (for the Cache 2.x.x release that you want)

## Requirements

This downgrade procedure requires the following items:

- Serial console access on the Content Engine to be downgraded
- Network connectivity from the Content Engine to an FTP server that has the required images
- One of the following downgrade image files:
  - ce507-ACNS-4.x.x-TO-CE-Cache-231.bin
  - ce560-ACNS-4.x.x-TO-CE-Cache-231.bin
  - ce590-ACNS-4.x.x-TO-CE-Cache-231.bin

- One of the following full-release Cache 2.x.x software files:
  - ce507-2.x.x\_FCS.pax
  - ce560-2.x.x\_FCS.pax
  - ce590-2.x.x\_FCS.pax

## Procedure

Before beginning your ACNS 4.x software to Cache 2.x.x software downgrade, ensure that the Cache 2.3.1 software target Flash memory-only image and the full-release Cache 2.x.x software file reside on an FTP server that is accessible to the Content Engine being downgraded.



### Note

First you downgrade to Cache 2.3.1 software using the Flash memory-only image; you then install a Cache 2.x.x software release of your choice.

To downgrade from ACNS 4.x software to Cache 2.x.x software, follow these steps:

- Step 1** Log in to the Content Engine CLI through the console port.
- Step 2** Install the Flash memory-only image by using the **copy ftp install** command as follows:

```
ContentEngine# copy ftp install ftp_server_ip directory_name  
ce5xx-ACNS-4.2.1-TO-CE-Cache-231.bin
```

You should receive a message stating that the new software is installed after you enter the **reload** command.

- Step 3** Reboot the Content Engine by using the **reload** command.

After you enter the **reload** command, the Cache 2.3.1 software Flash memory-only image is written to Flash memory and the Content Engine reboots again, this time automatically.

- Step 4** After the second reboot, the Content Engine network configuration is lost. Log in to the Content Engine as **admin** and reconfigure your network settings by using the **interface** command and the **ip** command in global configuration mode.

For example:

```
Console(config)# interface FastEthernet 0/0 ip address A.B.C.D M.N.O.P
Console(config)# ip default-gateway G.H.I.J
```

- Step 5** Perform the following substeps to partition and format the disk drives of the Content Engine for Cache 2.x.x software. The disk drives are currently configured for ACNS 4.x software. Cache 2.x.x software cannot read or write ACNS 4.x software disk configurations.

- a.** List all the disk drives available to the Content Engine with the **show disks EXEC** command:

```
ContentEngine# show disks
/c0t0d0 (scsi bus 0, unit 0, lun 0)
/c0t1d0 (scsi bus 0, unit 1, lun 0)
```

- b.** For each disk listed, enter the **disk manufacture EXEC** command:

```
ContentEngine# disk manufacture disk_name
```

The Cache 2.x.x software **disk manufacture** command partitions and formats the drives named.

- Step 6** Download the Cache 2.x.x software .pax file of your choice from the FTP server by using the **copy ftp disk** command. When prompted, enter the following information:

- FTP server host name or IP address
- Filename for the .pax file on the server
- Local filename for the downloaded file

- Step 7** Install the downloaded Cache 2.x.x software .pax file by issuing the **install filename** command. Supply the local filename that you entered in [Step 6](#).

- Step 8** Reboot the Content Engine by using the **reload** command. The Content Engine reboots with the selected Cache 2.x.x software running.
-

To use Cache 2.x.x software, refer to the following publications:

- *Cisco Cache Engine User Guide, Version 2.x.x* (2.0.0, 2.1.0)
- *Cisco Cache Software Configuration Guide, Release 2.x* (2.3, 2.5)
- *Cisco Cache Software Command Reference, Release 2.x* (2.3, 2.5)
- *Release Notes for Cisco Cache Software, Release 2.x.x* (2.0.1, 2.0.3, 2.1.0, 2.1.3, 2.2.0, 2.3.0, 2.3.1, 2.4.0, 2.5, 2.5.1)

## Upgrading from Cache 3.1.x Software to ACNS 4.x Software

This section describes how to upgrade your system from Cache 3.1.x software to ACNS 4.x software.



---

**Note**

To upgrade your system from Cache 3.0 software, you must first upgrade to Cache 3.1 software by using the **copy ftp flash** command with a Cache 3.2 software .sysimg file, and then follow the upgrade procedure in this section.

---



---

**Note**

To upgrade Cache 3.1.x software to ACNS 4.x software, you must be logged in as **admin** with privilege 15.

---

## Requirements

To complete the upgrade procedure, you need to download the upgrade installation file from the server to your local Content Engine hard disk drive. Before you can download the upgrade installation file, you need the following:

- sysfs partition mounted on /local1 or /local2 of your hard disk drive
- FTP server that can be accessed from the Content Engine
- Appropriate upgrade installation file from the ACNS 4.1 Cryptographic Software directory:

Files in ACNS 4.1.1 and 4.1.3 Software	Files in ACNS 4.2.1 Software
ce507-CE-Cache-3.1.x-TO-ACNS-4.1.x-K9.addon	CE-Cache-3.1.x-TO-ACNS-4.2.1-K9.addon
ce560-CE-Cache-3.1.x-TO-ACNS-4.1.x-K9.addon	
ce590-CE-Cache-3.1.x-TO-ACNS-4.1.x-K9.addon	
ce7320-CE-Cache-3.1.x-TO-ACNS-4.1.x-K9.addon	

## Procedure

To copy the upgrade installation file to your local hard disk drive, follow these steps:

- Step 1** Connect to the Content Engine through the console port, or open a Telnet session and log in as **admin**.



**Note** A console port connection is required if you are changing the basic startup configuration. The Telnet session is disconnected when the Content Engine reboots.



**Note** You must log in as **admin** before attempting the upgrade.

**Step 2** Save the current system configuration to Flash memory.

```
ContentEngine# copy running-config startup-config
```

**Step 3** Verify that the present working directory is /local1 or /local2.

```
ContentEngine# cd /local1
ContentEngine# pwd
/local1
```

**Step 4** Download the upgrade installation file from an FTP server to the Content Engine /local1 or /local2 directory.

In the following example, the image file CE-Cache-3.1.x-TO-ACNS-4.x.x-K9.addon is downloaded from the /images directory of FTP server 176.16.8.9.

```
ContentEngine# copy ftp disk 176.16.8.9 /images
CE-Cache-3.1.x-TO-ACNS-4.2.1-K9.addon
```

```
Enter username for remote ftp server: my_ftpserver_username
Enter password for remote ftp server:
```

**Step 5** Verify that the file has been successfully downloaded by checking the directory list for the upgrade installation file, as shown in the following example:

```
ContentEngine# dir
```

size	time of last change	name
4096	Sun Aug 12 08:49:26 2001	<DIR> core_dir
4096	Fri Aug 17 00:41:51 2001	<DIR> errorlog
4096	Fri Aug 17 20:22:49 2001	<DIR> logs
16384	Sun Aug 12 08:49:12 2001	<DIR> lost+found
4096	Thu Aug 16 00:12:15 2001	<DIR> service_logs
93429580	Fri Aug 17 20:45:54 2001	CE-Cache-3.1.x-TO-ACNS-4.2.1-K9.addon

To verify that the file was downloaded successfully, confirm that the file size of the upgrade installation file in the directory list is the same size as the upgrade installation file on the server.



**Note** The file size shown in this example might be different from the actual size of the file that you are downloading.

**Step 6** Install ACNS 4.x software with the **install** EXEC command.

a. Change directory to /.

```
ContentEngine# cd /
```

b. Enter the **install** command.

```
# install /local1/CE-Cache-3.1.x-TO-ACNS-4.2.1-K9.addon
```

The **install** command copies a new system image to Flash memory and then reboots the system. Your system should reboot with ACNS 4.x software running.



**Note**

Because of a bug in Cache 3.1 software (CSCdu83567), if the upgrade process is interrupted by the user, an error message similar to the following might be presented:

```
Cannot create directory /sw/installdir/upg_diamond_to_acns/_tmp.
Install addon "Cisco Cache 3.x to ACNS 4.2 Upgrade Bundle" failed (256)
```

To fix this problem, install the **deltmppatch.addon** patch file as you would install any other .addon file:

```
ContentEngine# copy ftp disk 1.2.3.4 /foldername/ deltmppatch.addon
deltmppatch.addon
ContentEngine# install deltmppatch.addon
```

Installing the patch file cleans up the directory, and you can attempt the upgrade again.

## Downgrading from ACNS 4.x Software to Cache 3.1 Software

This downgrade procedure allows you to restore your system to Cache 3.1 software from ACNS 4.x software.

## Requirements

To downgrade your system from ACNS 4.x software to Cache 3.1 software, you need to download the downgrade installation file from an FTP server to your local hard disk drive and install Cache 3.1 software.

Before you can download the file, you need the following:

- FTP server that can be accessed from the Content Engine
- Appropriate downgrade installation file from the ACNS 4.1 Cryptographic Software directory:

Files in ACNS 4.1.1 and 4.1.3 Software	Files in ACNS 4.2 Software
ce507-ACNS-4.x.x-TO-CE-Cache-311.bin	ACNS-4.x.x-TO-CE-Cache-311.bin
ce560-ACNS-4.x.x-TO-CE-Cache-311.bin	
ce590-ACNS-4.x.x-TO-CE-Cache-311.bin	
ce7320-ACNS-4.x.x-TO-CE-Cache-311.bin	

## Procedure

To complete the software downgrade, follow these steps:

**Step 1** Configure a static address on the device. For example:

```
ce# config
ce(config)# interface FastEthernet 0/0
ce(config-if)# ip address 10.1.202.151 255.255.255.0
ce(config-if)# exit
ce(config)# ip default-gateway 10.1.202.1
ce(config)# exit
ce# write memory
```



**Note** If no static address is assigned to the device before downgrading, the device loses connectivity after the downgrade.

**Step 2** Download the downgrade installation file, for example:

```
ContentEngine# copy ftp install ip-addr_of_server dir-name
ACNS-4.2.1-TO-CE-Cache-311.bin
```

**Step 3** Enter the **reload** command:

```
ContentEngine# reload
```

The system reboots and then automatically installs Cache 3.1 software. It then automatically reboots a second time and comes up with the Cache 3.1 software running.

---

To use Cache 3.1 software, refer to the following publications:

- *Cisco Cache Software Configuration Guide, Release 3.1*
- *Cisco Cache Software Command Reference, Release 3.1.1*
- *Release Notes for Cisco Cache Software, Release 3.1.0*

## Upgrading from CDN Enterprise 2.x Software or E-CDN 3.0.x Software to ACNS 4.x Software

To upgrade your system from any CDN Enterprise 2.x software release or E-CDN 3.0.x software release to ACNS 4.x software, you need the following:

- Sufficient disk space to download the ACNS software to your system or Content Delivery Network
- Content Distribution Manager to administer the upgrade

## Freeing Required Disk Space for the Upgrade

Before you begin the upgrade procedure, make sure that you have enough free hard disk space available.

ACNS software internal functions use approximately 4 GB of disk space, and by default, the upgrade procedure allocates 1 GB of disk space for cfs functions and 1 GB of disk space for mediafs functions for each hard disk drive installed (Content Engines only). Therefore, depending on the hardware platform and the number of hard disk drives installed in the chassis, a certain amount of free disk space is required for the upgrade procedure.

**Note**

To change the Content Engine default disk space allocations for cfs and mediafs functions, open the upgrade package text file with the extension .meta in any text editor and modify the CFS-SIZE and MEDIAFS-SIZE fields in the file. The values for these fields are assumed to be in gigabytes. The default value for each is 1 GB. The CFS-SIZE field can have a value of 0, 1, or 2; however, because of a software limitation, the CFS-SIZE value cannot exceed 2 GB. For example, if you enter the following modification, **CFS-SIZE 2 MEDIAFS-SIZE 2**, you allocate 2 GB of disk space for cfs functions and 2 GB of disk space for mediafs functions.

Table 3-1 lists the amount of free disk space required for a successful software upgrade.

**Table 3-1 Free Disk Space Required for Software Upgrade**

Hardware Platform	CDN Enterprise 2.x Software	E-CDN 3.0.x Software <sup>1</sup>
Content Distribution Manager or Content Router	5 GB	
Content Engine (1 hard disk drive)	7 GB	8.2 GB
Content Engine (2 hard disk drives)	10 GB	11.2
Content Engine ( $n$ hard disk drives)	$7 + ((n - 1) * 3)$ GB	$8.2 + ((n - 1) * 3)$ GB

1. E-CDN 3.x software has VMWare and Win2k installed, which requires an additional 1.2 GB of space on the first hard disk drive. If a Content Engine with a single disk is running V2.1 software, the free space must be at least 7 GB, but if the Content Engine is running V3.x software, you need to add an additional 1.2 GB.

**Note**

To view the amount of storage space that is available on your Content Engine, choose **Devices > Device Editor > System** and click the **Update Storage Capacity** button.

If the Content Distribution Manager or Content Engine does not have enough free disk space, the upgrade operation aborts. No content is lost; however, you need to unsubscribe channels or manually remove content to create disk space to

successfully complete the software upgrade operation. The following sections describe how to free up some disk space on a Content Engine and on a Content Distribution Manager.

## Removing a Content Engine from a Subscribed Devices List

In a Content Distribution Network, the content resides on the Content Distribution Manager and is assigned to one or more channels. Content Engines are subscribed to Content Distribution Manager channels so that subscribers can access the content on that channel. When you unsubscribe a Content Engine from a channel, the disk space that was used by the content in that channel is cleared. To unsubscribe a Content Engine from a channel, you use the Content Distribution Manager GUI to remove the device from the list of subscribed devices.

To remove a Content Engine from the subscribed devices list, follow these steps.



---

**Note**

The maximum size of all subscribed channels should be the total hard disk size minus the required free space size.

---

**Step 1** Choose **Channels > Subscriber**.

The Subscriber window appears.

**Step 2** Make sure that the correct channel is displayed in the Channel Selector list. If it is not, choose the correct channel from the drop-down list.**Step 3** Under the heading Subscribed Devices, check the check box next to each Content Engine that you want to remove, or click **All** to choose all Content Engines on the list; click **None** to clear your selections.**Step 4** Click **Unsubscribe**.

The Content Engine is removed from the list of Content Engines subscribed to the selected channel and moved back to the Unsubscribed Devices list.

For more information, refer to the “Removing a Content Engine from a Subscribed Devices List” section in Chapter 3 of the *Cisco ACNS Software E-CDN Administrator’s Guide*.

---

When you have cleared the required amount of disk space, you are ready to upgrade your system software.

## Removing Content from a Content Distribution Manager

Another way to clear disk space for the software upgrade procedure is to physically remove the content from the Content Distribution Manager on which the content resides.

To remove content from a Content Distribution Manager, follow these steps:

---

**Step 1** Choose **Channels > Media Editor**.

The Media Editor window appears.

**Step 2** Make sure that the correct channel is displayed in the appropriate drop-down list. If it is not, choose the correct channel from the list.

**Step 3** Check the check box next to each file that you want to remove. Click **All** to select all of the files or **None** to clear your selections.

**Step 4** Click **Remove**. You are prompted to confirm that you want to remove the selected files.

For more information, refer to the “Removing Media from a Channel” section in Chapter 3 of the *Cisco ACNS Software E-CDN Administrator’s Guide*.

---

When you have cleared the required amount of free disk space, you are ready to install the upgrade monitoring package and then upgrade your system software.

## Monitoring the Upgrade Status

Use the system log in the Content Distribution Manager GUI to monitor the upgrade status. The system log window displays messages about the devices in the Content Distribution Manager administrative domain. The message format is *timestamp device-identifier:message code*.

In the following example, the message indicates that the device identified as “ashishcn-acns” is aborting the software update.

```
2001-11-26 16:47:14      ashishcn-acns:Aborting software update
(STATUS_Error " `494210005376056.CCNS-4.0.0.upg.9.00055e3b79f6.sn' has
not arrived") 1702
```

**Note**


---

If the upgrade is successful, the system log does not display any messages.

---

## Performing an Automated Upgrade for Multiple Devices

This upgrade procedure allows you to upgrade software on all your networked devices.

To upgrade your multiple networked devices from CDN Enterprise 2.x software or E-CDN 3.0.x software to ACNS 4.x software, you need to perform the following tasks:

1. Create a manual upgrade channel (“MANUAL\_UPGRADE”) to distribute the upgrade package files, if you have not already done so.
2. Subscribe any E-CDN devices (Content Engines and Content Routers) requiring a software upgrade to the “MANUAL\_UPGRADE” channel.
3. Import software upgrade files to the “MANUAL\_UPGRADE” channel on your Content Distribution Manager.
4. Distribute software upgrade files to all devices marked for upgrade.
5. Upgrade your Content Engines and Content Routers.
6. Upgrade your Content Distribution Manager.

(Review the [“Configuration Notes for Upgrading the Content Distribution Manager 4650”](#) section on page 3-34 before upgrading your Content distribution Manager.)

## Requirements

Choose the upgrade package, which contains the following two files:

- ECDN-TO-ACNS-4.x.x-K9.meta
- ECDN-TO-ACNS-4.x.x-K9.upg

## Procedure

To upgrade the software on your multiple networked devices, follow these steps:

- 
- Step 1** Use an Internet browser that is connected to your Content Distribution Manager to administer the software upgrade. Choose **Channels > Channel Console**, and follow these steps:
- Click the **Add Channel** button at the top of the window.
  - Click the **Edit** button next to the channel that you added.
  - Create a channel named “MANUAL\_UPGRADE” by entering **MANUAL\_UPGRADE** in the Name field.
  - Check the **Auto-Replicate** check box.
  - Click the **Save Changes** button at the top of the window.
- Step 2** Choose **Devices > Bandwidth** to make sure that the replication bandwidth has been set correctly for each device that you are going to upgrade. Make the settings as high as your available bandwidth allows.
- Step 3** Choose **Channels > Subscriber** to subscribe your devices to the MANUAL\_UPGRADE channel.
- Step 4** Choose **Channels > Channel Editor > Media Importer** to import the upgrade package files.
- Import the upgrade package files to the MANUAL\_UPGRADE channel.
  - Choose **Channels > Channel Editor > Import Progress** to make sure that the Import Progress status field shows 100 percent completion.
  - Wait an additional 20 minutes or so for the channel replication to finish.
  - Choose **Channels > Channel Console**, and verify that the Replication Status field shows 100 percent completion for the MANUAL\_UPGRADE channel.
- Step 5** Choose **Devices > Software Update** to execute the upgrade for Content Engines and Content Routers. (The Content Distribution Manager is upgraded in another step later on.)
- Choose the upgrade package version, and then choose all the device names of the devices that you want upgraded. Click the **Start Update** button.
  - Wait approximately 30 minutes for the upgrade to be completed.

- Step 6** Verify that the upgrade was successful by checking the Version field in the Software Update window. If the upgrade was successful, the Version field for the chosen device is updated with the new software version.
- Step 7** After the upgrade is complete for all your Content Engines and Content Routers, you need to upgrade your Content Distribution Manager.



---

**Note** See the [“Configuration Notes for Upgrading the Content Distribution Manager 4650”](#) section on page 3-34 before you proceed with this step.

---

- a. Choose **Devices > Software Update**. Choose the upgrade package version, and then choose your Content Distribution Manager. Click the **Start Update** button at the top of the window.
  - b. Wait for the upgrade to be completed.
- 

## Configuration Notes for Upgrading the Content Distribution Manager 4650

### Port Recognition

For the Content Distribution Manager 4650 (CDM-4650), the E-CDN software recognizes only port FastEthernet 0/0, whereas ACNS software does *not* recognize port FastEthernet 0/0. Therefore, if you are upgrading a CDM-4650 to ACNS software, we recommend that you maintain two physical network connections, one through port FastEthernet 0/0 and another through port FastEthernet 3/0, 3/1, 3/2, or 3/3.

If you have only one cable, you need to switch the network cable from port FastEthernet 0/0 to one of the other Fast Ethernet ports after the upgrade operation is completed (about 30 minutes after the operation starts). You then must reboot the CDM-4650.

For more information on connecting network cables for the CDM-4650, refer to the *Cisco Content Networking Hardware Installation Guide for the Seven-Rack Unit Chassis*.

### Configuring the Primary Interface

When you switch the network cable from port FastEthernet 0/0 to another Fast Ethernet port, you must configure the new Fast Ethernet port as the primary interface by using the **primary-interface** command.

For example:

```
cdm4650# configure
cdm4650(config)# primary-interface FastEthernet 3/0
cdm4650(config)# exit
cdm4650# reload
```

A primary interface must be configured for the E-CDN application to start and for the CDM GUI to appear.

To verify that the primary interface is configured, use the **show running-config** command and look for the *primary-interface* line in the **show** command output. For example:

```
cdm4650# show running-config
hostname cdm4650
!
<--text omitted-->
!
interface FastEthernet 3/0
 ip address 10.89.0.179 255.255.240.0
 exit
interface FastEthernet 3/1
 shutdown
 exit
interface FastEthernet 3/2
 shutdown
 exit
interface FastEthernet 3/3
 shutdown
 exit
!
!
ip default-gateway 10.89.0.1
!
primary-interface FastEthernet 3/0
!
```

## Enabling the Windows Media Technologies Server

The Windows Media Technologies (WMT) server used by the E-CDN application in ACNS 4.x software is under license key control. When you upgrade from a CDN Enterprise 2.x software release or an E-CDN 3.0.x software release to ACNS 4.x software, you must specify the new license key number that you purchased from Cisco, accept the license agreement, and then enable WMT before the WMT server can serve WMT requests. These commands must be entered through the ACNS software CLI.



### Note

You must enable WMT using the CLI. Previously, before this WMT license key management function was implemented in ACNS 4.1 software, E-CDN software automatically started and stopped the WMT server. In ACNS software, the WMT server operation is decoupled from the E-CDN application.

The following commands in global configuration mode are used to enable WMT:

- **wmt accept-license-agreement**
- **wmt license-key** *key*
- **wmt enable**

The **wmt license-key** *key* command specifies the WMT license key. Although the **no** form of the command is available from the CLI, it simply prints an error message that the license key cannot be removed. There is no default value for the license key.

```
ContentEngine(config)# [no] wmt license-key key
```

The **wmt accept-license-agreement** command allows you to accept the WMT end user license agreement (EULA). Although the **no** form of the command is available from the CLI, it simply prints an error message that the EULA acceptance cannot be revoked. The default value is that the EULA is not accepted.

```
ContentEngine(config)# [no] wmt accept-license-agreement
```

The **wmt enable** command enables the WMT server. The **no** form of the command disables the WMT server. The default value is that WMT is disabled.

```
ContentEngine(config)# [no] wmt enable
```

If you do not enable WMT using these three commands, any request for a WMT file using the Microsoft Media Services (MMS) protocol is served using the HTTP protocol, and you cannot use the control features of the WMT player that are available only through MMS.

The following **show** commands display WMT status and licensing:

- **show wmt**—Displays the status of the WMT configuration
- **show wmt license-agreement**—Displays the end user license agreement

To enable WMT, follow these steps:

---

**Step 1** Access the CLI and view the WMT license agreement by using the **show wmt license-agreement** command in EXEC mode.

```
ContentEngine# show wmt license-agreement
```

**Step 2** After reading the license agreement, enter global configuration mode and accept the license agreement.

```
ContentEngine# configure
ContentEngine(config)# wmt accept-license-agreement
```

**Step 3** Enter your Cisco license key.

```
ContentEngine(config)# wmt license-key licensekey
```

Alternatively, accept an evaluation license by using the **wmt evaluation** command.

```
ContentEngine(config)# wmt evaluation
```

**Step 4** Enable the WMT software program.

```
ContentEngine(config)# wmt enable
```

Now access the E-CDN Content Distribution Manager user interface, and choose **Devices > Bandwidth**. The Bandwidth window appears. Adjust the WMT server bandwidth value as required. Otherwise, the default bandwidth is set to 100 kbps.

---

## Downgrading from ACNS 4.x Software to CDN Enterprise 2.1 Software or E-CDN 3.0.2 Software

If you want to restore your system to an earlier CDN software release, you can do that by downgrading the software.

**Note**

You can downgrade from ACNS software to CDN Enterprise software on all models except for the Content Engine 7320, which is not supported by CDN Enterprise software, and the Content Distribution Manager 4650 using the RAID controller V3.

In some cases, not all content is preserved. The downgrade process automatically detects potential content loss and issues a warning. In this case, you must agree to these terms before proceeding.

To downgrade your system from ACNS 4.x software to CDN Enterprise 2.1 software or E-CDN 3.0.2 software, you need to perform the following tasks:

1. Create a “MANUAL\_UPGRADE” channel.
2. Subscribe any E-CDN devices requiring a software downgrade to the MANUAL\_UPGRADE channel.
3. Import software downgrade files to the MANUAL\_UPGRADE channel on your Content Distribution Manager.
4. Distribute the software downgrade files to all devices marked for downgrade.
5. Execute the downgrade.

### Requirements

If you are downgrading from ACNS 4.x software to CDN Enterprise 2.1 software, import the following package files:

- ACNS-4.x.x-TO-ECDN-2.1.meta
- ACNS-4.x.x-TO-ECDN-2.1.upg

If you are downgrading from ACNS 4.x software to E-CDN 3.0.2 software, import the following package files:

- ACNS-4.x.x-TO-ECDN-3.0.2.meta
- ACNS-4.x.x-TO-ECDN-3.0.2.upg

## Procedure



### Caution

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You can downgrade from ACNS software to CDN Enterprise software after having made changes to disk allocation using the **disk configure** command; however, some content might not be preserved.

If you downgrade from ACNS software to CDN Enterprise software on a Content Engine that never previously had CDN Enterprise software on it, the content is automatically replicated; however, for a Content Distribution Manager, the content needs to be reimported.

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### Note

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For the CDM-4650, the E-CDN software only recognizes port FastEthernet 0/0, whereas ACNS software does *not* recognize port FastEthernet 0/0. Therefore, when downgrading a CDM-4650 from ACNS software to E-CDN software, we recommend that you maintain two physical network connections, one through port FastEthernet 0/0 and another through port FastEthernet 3/0 3/1, 3/2, or 3/3.

If you have only one cable, you need to switch the network cable from port FastEthernet 0/0 to one of the other Fast Ethernet ports after the downgrade operation is completed (about 30 minutes after the operation starts). You must then reboot the CDM-4650.

For more information on connecting network cables for the CDM-4650, refer to the *Cisco Content Networking Hardware Installation Guide for the Seven-Rack Unit Chassis*.

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**Note**

If your device is physically connected to a console server through a serial cable, you *must* have an open Telnet session running in order for this downgrade procedure to be completed.

Without an open Telnet session, the console output that is generated during the downgrade fills the console buffer. Once the console buffer is filled, any application that generates console output is blocked. An open Telnet session keeps the console buffer cleared.

To recover from an incomplete downgrade caused by a full console buffer, open a Telnet session to the console server or remove the serial cable from the device. If these steps do not resolve the problem, you might need to reboot the device.

## Downgrading Using the Content Distribution Manager GUI

To downgrade your system from ACNS 4.x software to CDN Enterprise 2.1 software or E-CDN 3.0.2 software using the Content Distribution Manager GUI, follow these steps:

- 
- Step 1** Use an Internet browser that is connected to your Content Distribution Manager to administer the software downgrade. Choose **Channels > Channel Console** and do the following steps:
- Click the **Add Channel** button at the top of the window.
  - Click the **Edit** button next to the channel that you added.
  - Create a channel named “MANUAL\_UPGRADE” by entering **MANUAL\_UPGRADE** in the Name field.
  - Check the **Auto-Replicate** check box.
  - Click the **Save Changes** button at the top of the window.
- Step 2** Choose **Devices > Bandwidth** to make sure that the replication bandwidth has been set correctly for each device. Make the settings as high as your available bandwidth allows.
- Step 3** Choose **Channels > Subscriber** to subscribe your devices to the **MANUAL\_UPGRADE** channel.

- Step 4** Choose **Channels > Channel Editor > Media Importer** to import the downgrade package files.
- Import the downgrade package files to the `MANUAL_UPGRADE` channel.
  - Choose **Channels > Channel Editor > Import Progress** to make sure that the Import Progress status shows 100 percent completion.
  - Wait an additional 20 minutes for the channel replication to finish.
  - Choose **Channels > Channel Console** and verify that the replication status field shows 100 percent completion for the `MANUAL_UPGRADE` channel.
- Step 5** Choose **Devices > Software Update** to execute the downgrade.
- Choose the downgrade package version, and then choose all the device names of the devices that you want downgraded. Click the **Start Update** button at the top of the window.
  - Wait approximately 30 minutes for the downgrade to be completed.
- Step 6** Verify that the downgrade was successful by checking the Version field in the Software Update window. If the downgrade was successful, the Version field for the chosen device is updated with the new software version.
- Step 7** If some of the devices still show ACNS 4.x.x for the version information, choose **System Log** to display the system messages; otherwise, proceed to [Step 10](#).
- If the device is in danger of losing content, the downgrade process fails and an error is generated in the system log.
- Step 8** If you want to force the downgrade and lose content, choose one of the following methods:
- Use Telnet to access the device, and run the **ecdn force-downgrade** command.
  - Navigate to the following URL in a browser, where *device-ip-address* is the IP address of the device:  
`http://device-ip-address/cgi-bin/force-downgrade`
- Step 9** Choose **Devices > Software Update** to execute the downgrade.
- Choose the downgrade package version, and then choose all the device names of the devices that you want downgraded. Click the **Start Update** button at the top of the window.
  - Wait approximately 30 minutes for the downgrade to be completed.

- Step 10** After the downgrade is complete for all of your devices, then downgrade your Content Distribution Manager.
- a. Choose **Devices > Software Update**. Choose the downgrade package version, and then choose your Content Distribution Manager. Click the **Start Update** button at the top of the window.
  - b. Wait for the downgrade to be completed.
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## Downgrading Using the CLI

To downgrade your device from ACNS 4.x software to CDN Enterprise 2.1 software or E-CDN 3.0.2 software using the CLI, follow these steps:

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- Step 1** Use the **copy ftp install** command, with the applicable file:
- For downgrade to CDN Enterprise 2.1: ACNS-4.x.x-TO-ECDN-2.1.upg  
ContentEngine# **copy ftp install ACNS-4.2.1-TO-ECDN-2.1.upg**
  - For downgrade to CDN Enterprise 3.0.2: ACNS-4.x.x-TO-ECDN-3.0.2.upg  
ContentEngine# **copy ftp install ACNS-4.2.1-TO-ECDN-3.0.2.upg**



**Note** If the software cannot be downgraded without losing Enterprise CDN content, the CLI command will fail and prompt the user to agree to a partial or entire loss of content.

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- Step 2** To force a downgrade, use the **ecdn force-downgrade** command and then run the **copy ftp install** command again. For example:

```
ContentEngine# ecdn force-downgrade
ContentEngine# copy ftp install ACNS-4.2.1-TO-ECDN-3.0.2.upg
```

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To use the CDN Enterprise 2.x software, refer to the following publications:

- *Cisco CDN Software Enterprise Solution Configuration Guide Version 2.1*
- *Cisco CDN Software Enterprise Solution User Guide Version 2.1*

- *Release Notes for Content Distribution Network Software Enterprise Solution Version 2.0*
- *Release Notes for the Cisco CDN Software Enterprise Edition Version 2.1*

To use the E-CDN 3.0.x software, refer to the following publications:

- *Cisco Enterprise CDN Software Configuration Guide Version 3.0*
- *Cisco Enterprise CDN Software User Guide Version 3.0*
- *Release Notes for Cisco Enterprise CDN Software Version 3.0*
- *Release Notes for Cisco Enterprise CDN Software Version 3.0.2*

