



Downloading and Installing the Cisco Videoscape Voyager Vantage Client Instructions

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

Notices

Trademark Acknowledgments

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at www.cisco.com/go/trademarks.

Third party trademarks mentioned are the property of their respective owners.

The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1009R)

Publication Disclaimer

Cisco Systems, Inc. assumes no responsibility for errors or omissions that may appear in this publication. We reserve the right to change this publication at any time without notice. This document is not to be construed as conferring by implication, estoppel, or otherwise any license or right under any copyright or patent, whether or not the use of any information in this document employs an invention claimed in any existing or later issued patent.

Copyright

© 2012 Cisco and/or its affiliates. All rights reserved. Printed in the United States of America.

Information in this publication is subject to change without notice. No part of this publication may be reproduced or transmitted in any form, by photocopy, microfilm, xerography, or any other means, or incorporated into any information retrieval system, electronic or mechanical, for any purpose, without the express permission of Cisco Systems, Inc.

Contents

About This Guide	v
Chapter 1 Installation Process Overview	1
How is the Software Downloaded to Set-Tops?	2
What Do You Need?	6
Chapter 2 Phase One - Perform Pre-Upgrade Checks	9
Overview	10
Phase One Checks	11
Record Results	12
Delete Unused DHCT Types	14
Run listCVT Utility	15
Clean Up the ResApp Directory (Optional)	17
Verify the Download Directory	18
Clean Up the Download Directory	19
Obtain Software	20
Install the Client Application Software Release onto the DNCS	22
Install the Set-Top Resource File (settop.res)	25
Chapter 3 Phase Two - Test New Software	27
Overview	28
Phase Two CVT Checks	29
Create and Update CVT Test Groups	30
Load the New Image File	33
Download to the CVT Test Groups	35
Verify the Test Download	40
Chapter 4 Phase Three - Install New Software	41
Overview	42
Phase Three Installation Steps	46
CVT Download Method	47
Phase Three Completion Check	50
Chapter 5 Phase Four - Verification	51
Overview	52
Phase Four Checks	53

Appendix A Rollback Process **55**
What is the Rollback Process? 56

About This Guide

Introduction

This guide provides step-by-step instructions for installing the Cisco Videoscape™ Voyager Vantage (Vantage) client software onto set-tops using the Digital Network Control System (DNCS). This guide pertains to the following set-top models:

- Explorer 464X series
- Explorer 864X series

The Videoscape Voyager Vantage client application software consists of the following components:

- Bootloader software
- Linux operating system (OS)
- Software drivers
- Embedded software layer (SAIL 2.0) or later
- Videoscape Voyager Vantage

Audience

This document provides Cisco and headend personnel with procedures for downloading and installing the Vantage client code.

Read the Entire Guide

Please review this entire guide before using it. If you are uncomfortable with any of the information, contact Cisco® Services at 1 866 787-3866 for assistance.

Document Version

This is the first formal release of this document.

1

Installation Process Overview

Introduction

This chapter provides a brief overview of the following components of the client application software installation process:

- Installation prerequisites
- Four-phase installation process and the tasks associated with each phase
- Time requirements to complete each phase
- System performance impact involved in installing client application software on the set-tops

In This Chapter

- How is the Software Downloaded to Set-Tops? 2
- What Do You Need? 6

How is the Software Downloaded to Set-Tops?

The Code Version Table (CVT) is a table that contains download multicast information, as well as information to map application platform software versions to specific devices or groups of devices.

The CVT method is the only download method available for Vantage set-tops.

The Four Phases

We have developed a four-phase download process. When you follow this download process as described in this guide, you will achieve consistent results, avoid system downtime, minimize subscriber impact, and avoid many common mistakes that occur when downloading client application software to set-tops.

Phase One: Complete Pre-Upgrade Checks (See Chapter 2)

When? You can complete this phase during normal business hours.

- 1 Verify that the system is operating correctly by running the Doctor utility, reviewing the results, and correcting any issues found.
- 2 Delete unused DHCT types from the system.
- 3 Run the listCVT utility to identify unused files on the BFS. Then, remove the unused files from the BFS.
- 4 Install the following onto the DNCS:
 - Application Platform Release software
 - New version of DHCT Resource file (settop.res)
- 5 Correct any issues identified during Phase One.

Phase Two: Test New Software (See Chapter 3)

When? You can complete this phase during normal business hours.

- 1 Create or modify the CVT test group(s).
- 2 Load the new CVT image file(s) onto the image list.
- 3 Download the software to the CVT test group(s).
- 4 Verify that the test devices operate correctly.

Phase Three: Install New Software and Clean Up Files (See Chapter 4)

When? Unless you are loading software for a device that is not currently used in your network, we recommend that you complete this phase during a maintenance window.

- 1 Run the Doctor utility to verify that the system is operating correctly.
- 2 Download the software using the CVT method (either normal or immediate).
- 3 Verify the installation and clean up files.

Phase Four: Verification (See Chapter 5)

When? Before you begin Phase Four, you need to wait 24 hours after the download.

- 1 Create a new or modify an existing set-top checklist file.
- 2 Query the set-tops to collect software information.
- 3 Review the results.

Important: After downloading software, you need to confirm that all set-tops downloaded the correct software.

How Long Does Each Phase Take?

This section provides scheduling considerations, how the download affects the system, a table with a general description of the four installation phases and the approximate length of time required to complete each phase, and what you should do after completing each phase. The remaining chapters of this document provide more detail for each phase.

The installation process involves four phases, ideally performed across 7 days. The actual amount of time needed to complete the entire process varies depending on the size of the site, the complexity of the system, and the kinds of applications being deployed.

The following table provides a general description of the four phases and the approximate length of time needed to complete each phase.

Phase	Description	Timeframe	Approximate Time to Complete	Subscriber Impact
One	Complete pre-upgrade tasks and install the software on the DNCS	1 to 3 days before the start of Phase Two (during business hours)	3 hours	None
Two	Test load the new software	3 business days after starting Phase One (during business hours)	1 hour	None

Phase	Description	Timeframe	Approximate Time to Complete	Subscriber Impact
Three	Download the software	24 hours after completing Phase Two (during a maintenance window) Note: Phase 3 ends when you initiate the downloads to the set-tops.	See <i>How Long Does it Take?</i> (on page 42)	Service disruption affecting the subscriber varies depending on the download method used and the number of images on the carousel
Four	Verification	Wait 24 hours after the download	Varies depending on the size of your site and the complexity of your system	No impact

Scheduling Considerations

Consider the following scheduling guidelines:

- If you are installing the client application software for new set-tops on your system, you can complete the procedures in this guide at any time.
- If you are installing new client application software for *existing* set-tops, carefully plan and schedule the installation so that the impact is minimal to your subscribers.

Important: The impact is based on the download option you select, as follows:

- **Normal (CVT) download:** The set-tops can be on or off and they will download software immediately in the background. Then, the set-tops activate the software when the set-tops reboot.

Important: Normal download is used to download code to set-tops with the least amount of disruption to subscribers.

Note: When the download is complete, the set-top will reboot after 30 minutes when powered off and no recordings are occurring. However, 24 hours after the download has completed, the set-top will reboot and activate the new software regardless of the status of the set-top.

How is the Software Downloaded to Set-Tops?

- **Immediate** (CVT) download: The set-tops download software when powered off or rebooted. After the download, the set-top reboots and the new software is activated.

Important: Immediate download is used when there is a need to quickly download code to set-tops.

- **Emergency** (CVT) download: An emergency download begins instantaneously and no notification banner is displayed. This method interrupts watching TV and other services (unless the set-top is powered off). When the download is complete, the set-top reboots to activate the new software.

Important: Emergency download should be used when there is an extremely urgent need to download code to set-tops.

Note: We recommend that you use this method only in the early morning hours or late at night when viewership is lower. This method uses bootloader only.

Third-Party Applications

In many cases, changes to the application platform software require changes to third-party applications that you use. Check with the third-party application providers to determine if the applications need to change.

Your test results might be invalid or might show known issues that the new third-party application will correct. Therefore, you should be familiar with the changes to the application platform software so that you can accurately evaluate the test results.

What Do You Need?

Gather These Things First

Before you can install a client application software release onto your system, you must have the following items and information:

- 1 Release Note for the client application software release you are installing.
- 2 Scheduled date and time for the installation.
- 3 *DBDS Utilities Version 6.3 Installation Instructions and User Guide* (part number 4031374).
- 4 Set-tops that you can use for testing. These test devices should be authorized for the full suite of applications that your system supports. Make sure that you have your current purchase and parental control PINs available for these test set-tops.
- 5 Software on a CD or access to our public FTP site (details to access the FTP site are included in the software release notes)
- 6 You need the SW TOC Verification password (or secure GUI password) to complete the procedures in the following locations:
 - *Phase Two - Test New Software* (on page 27)
 - *Phase Three - Install New Software* (on page 41)

Note: If you are a site that supports subscribers, your system is configured to require a secure GUI password from Cisco Services. This provides Cisco Services the opportunity to communicate known issues about the software as well as other information that may be needed before loading the software onto your network.

Important: If you are a software developer, then you can have the secure GUI disabled. Contact Cisco Services for disabling the secure GUI.

System Requirements

Before you can install the client application platform software onto your system, your system must meet the following requirements:

- DNCS 4.3.2 or later

- DBDS Utilities 6.3

Note: To verify your DBDS Utilities version, in an xterm window, type the following command and press **Enter**.

```
pkginfo -l SAIdbdsutils
```

- dhctStatus tool (if available)

Note: To verify your dhctStatus tool, in an xterm window, type the following command and press **Enter**.

```
dhctStatus -v
```

- Doctor Report utility (packaged with DBDS Utilities 6.3)

- listCVT utility version 1.2 or later

Note: To verify your listCVT version, in an xterm window, type the following command and press **Enter**.

```
listCVT -v
```

If you do not have any of these utilities, or if you are unsure whether you have the latest version of these utilities, contact Cisco Services.

2

Phase One - Perform Pre-Upgrade Checks

Introduction

This chapter describes the steps you must complete to make sure that you have a healthy system and to correct any issues that might prevent a successful installation.

In This Chapter

■ Overview	10
■ Phase One Checks	11
■ Record Results	12
■ Delete Unused DHCT Types	14
■ Run listCVT Utility	15
■ Clean Up the ResApp Directory (Optional)	17
■ Verify the Download Directory	18
■ Clean Up the Download Directory	19
■ Obtain Software	20
■ Install the Client Application Software Release onto the DNCS ...	22
■ Install the Set-Top Resource File (settop.res)	25

Overview

Before you install an application platform software on your system, it is imperative that you have a healthy system. If you do not have a healthy system, the installation process could fail and disrupt service to your subscribers.

When Do You Begin Phase One?

Begin Phase One of the installation process 1 to 3 days before you plan to begin Phase Two. This phase takes approximately 3 hours to complete.

You can complete Phase One during business hours.

Important:

- If you are installing new client application software for new set-tops on your system, you can complete the procedures in this guide at any time.
- If you are installing new client application software for existing set-tops, begin the installation process outlined in this guide approximately one week before the actual installation date. Then, follow the procedures in this guide exactly as described.

What Do You Need?

Refer to *What Do You Need?* (on page 6) for the list of items you need.

What's Your First Step?

Before you begin Phase One, review the *Phase One Checks* (on page 11) for an overview of upcoming tasks to complete during this phase.

Also, contact Cisco Services to make sure that you have the latest version of the software and the software release note.

Phase One Checks

- 1 If you are upgrading existing set-tops, reboot, and then wait for the "loading screen" to finish loading. A small loading barker appears on the bottom of the screen. Once this appears, the box is ready to power on. Power on the test set-top, and verify that all channels and third-party applications (if applicable) are available and functioning as expected.
- 2 Run the **doctor -av** utility as described in the *DBDS Utilities Version 6.3 Installation Instructions and User Guide* (part number 4031374).
- 3 Record the results in *Key Doctor Results* (on page 12). If the results of the doctor utility show any unexpected errors, then you should correct these errors before proceeding with the download process.
- 4 Determine the set-top models supported on your system. We provide the listCVT script that lets you quickly determine which set-top models are supported on your network.
- 5 Delete unused DHCT types from the DHCT Type List window.
- 6 Run the **listCVT** utility. Delete the unused files from the Image List GUI.
- 7 If you are loading software to support a new set-top, load the inventory CD for the new devices. This step adds any new type, model, and revision information to the system.
- 8 Review the software release note and obtain the new software, and, if necessary, obtain the set-top resource file.
- 9 Delete all existing images and remove all existing associations.
- 10 Install the client application software release onto the DNCS, and, if necessary, also install the set-top resource file.
- 11 Manage the files on your system. When you upgrade, you should have both the old version of code and the new version loaded onto your system at the same time (while you test the new code). This is encouraged and does not pose a significant problem.

Note: To avoid confusion with the different versions of client code that may be installed in your system, we recommend that you keep only the currently active client code and the new version being tested loaded on your DNCS.

After you test a new release and configure all devices to use the new software, we recommend that you aggressively manage your system to keep unused and unneeded files off your system. Following the procedures for loading software that are included in this guide will help you keep unneeded files off of your system.

Record Results

Copy this page and use it to record the results of the Doctor utility. If you are not comfortable with any of the following results, you should address these issues before you proceed.

Key Doctor Results

- Does the DHCT type summary indicate there are unused DHCT types?

Example:

```

DHCT Type Summary
=====
=Type=      =Revision=   =OUI=      =Count=     =SW TOC=
802         12           00:02:de   106
803         10           00:02:de   54
4300        43           00:02:de   2
4600        24           00:02:de   4
4640        37           00:02:de   23
4642        30           00:02:de   6
4642        43           00:02:de   17
4642        47           00:02:de   118
4652        26           00:02:de   61
8300        23           00:02:de   1
8300        27           00:02:de   1
8300        63           00:02:de   1
8600        13           00:02:de   69
8640        10           00:02:de   6
8640        11           00:02:de   1
8642        10           00:02:de   207
8642        13           00:02:de   7
8642        15           00:02:de   22
8642        16           00:02:de   1
8642        17           00:02:de   1
8650        14           00:02:de   1
8652        13           00:02:de   4
8652        21           00:02:de   62
-----
Types:      23           DHCTs:      775

DHCT types in the database: 26 (3 with no DHCTs)

```

This report indicates that there are entries on the DHCT type list that should be removed. If you need to remove unused DHCT types, go to *Delete Unused DHCT Types* (on page 14).

- Is the bootloader carousel running (enabled)?

Example:

```

BFS Carousel and OSM Sessions Status
=====
=Datarate= =KBytes= =Intrvl= =Enabled= =ACCT=
OK: System_Carousel OOB s( 0) up .05 Mbps 21,081 200 Yes 0:03
OK: Out_of_Band OOB s( 1) up .02 Mbps 259,687 200 Yes 1:56
OK: In_Band IB s( 2) up 2,00 Mbps 12714,064 100 Yes 0:57
OK: CAM_OOB OOB s( 3) up .01 Mbps 1,422 200 Yes 0:01
OK: CAM_IB IB s( 4) up .50 Mbps 0 100 Yes 0:00
OK: IPG_OOB OOB s( 5) up .05 Mbps 333,608 200 Yes 1:00
OK: IPG1_IB IB s( 6) up 2,00 Mbps 166,192 100 Yes 0:00
OK: PPV_OOB OOB s( 7) up .01 Mbps 0,382 200 Yes 0:00
OK: PPV_IB IB s( 8) up 1,00 Mbps 6,016 100 Yes 0:00
OK: SAM OOB s( 9) up .15 Mbps 90,272 100 Yes 0:05
OK: IPG2_IB IB s( 10) up 2,00 Mbps 166,380 100 Yes 0:00
OK: POD_CHANNELS OOB s( 11) up .01 Mbps 178,941 100 Yes 2:41
OK: IPG3_IB IB s( 12) up 2,00 Mbps 165,816 100 Yes 0:00
OK: IPG4_IB IB s( 14) up 2,00 Mbps 167,696 100 Yes 0:00
OK: IPG5_IB IB s( 16) up 2,00 Mbps 169,388 100 Yes 0:00
OK: IPG6_IB IB s( 18) up 2,00 Mbps 163,748 100 Yes 0:00
OK: IPG7_IB IB s( 20) up 2,00 Mbps 164,876 100 Yes 0:00
OK: MMM_OOB OOB s( 21) up .01 Mbps 0 200 Yes 0:00
OK: PPV_IB2 IB s( 22) up 1,00 Mbps 43,052 100 Yes 0:00
OK: SGM_IB IB s( 24) up .50 Mbps 0,752 100 Yes 0:00
OK: SGM_IB1 IB s( 26) ---- .50 Mbps 0 100 No 0:00
OK: SGM_IB2 IB s( 28) ---- .50 Mbps 0 100 No 0:00
OK: SGM_IB3 IB s( 30) ---- .50 Mbps 0 100 No 0:00
OK: SGM_IB4 IB s( 32) ---- .50 Mbps 0 100 No 0:00
OK: bootloader IB s( 199) up 3,00 Mbps 324011,608 100 Yes 16:12
OK: AppsInBand IB s( 202) up 2,00 Mbps 3424,044 100 Yes 0:15
OK: bootloader1 IB s( 204) up 3,00 Mbps 190882,228 100 Yes 9:32
OK: VodlinkIB IB s( 206) up 1,00 Mbps 385,212 100 Yes 0:03
OK: VodlinkOOB OOB s( 207) up .05 Mbps 3,452 200 Yes 0:00
OK: VodlinkRS IB s( 208) up .50 Mbps 44,932 100 Yes 0:00
OK: assets-ib1 IB s(2016) up .50 Mbps 2945,020 100 Yes 0:53
OK: assets-oob1 OOB s(2017) up .01 Mbps 2,717 200 Yes 0:02
OK: assets-ib2 IB s(2018) up 1,00 Mbps 488,424 100 Yes 0:04
OK: assets-oob2 OOB s(2019) up .01 Mbps 753,574 200 Yes 11:18
OK: assets-ib3 IB s(2020) up 2,00 Mbps 750,308 100 Yes 0:03
OK: assets-oob3 OOB s(2021) up .01 Mbps 1010,819 200 Yes 15:09
OK: assets-ib4 IB s(2022) up .50 Mbps 412,660 100 Yes 0:07

Aggregate IB Carousel Datarate = 32,50 Mbps
OK: Aggregate OOB Carousel Datarate = .40 Mbps

```

Notes:

- This example indicates that the needed BFS processes (for example, bootloader) are running properly.
- Several lines of the preceding example have been removed for clarity.
- Your system configuration may differ from the example shown here.

Delete Unused DHCT Types

Complete the following steps to delete unused DHCT types from the DNCS database.

- 1 On the DNCS Administrative Console, select the **DNCS** tab; then, select the **Home Element Provisioning** tab.
- 2 Click **Type**. The DHCT Type List window opens, listing the DHCT type, revision, OUI, and name.
- 3 Look at each entry in the list and using the DHCT Type Summary report that you generated earlier, verify that the entry is used in your system. Is the DHCT type used in your system?
 - If **yes**, there is no need to delete this entry. Look at the next entry to see if that entry is used in your system.
 - If **no**, or if you are not certain, go to step 4.
- 4 From the drop-down menu at the top of the DHCT Type List window, click **File > Delete**. The following message appears:
Are you sure you want to delete the current item?
- 5 Click **Yes**.
- 6 Did an **Unspecified Error** message appear?
 - If **yes**, the selected DHCT type is used in your system and you cannot delete it.
 - If **no**, the selected DHCT type is not used in your system, and the DNCS deletes it from the database.
- 7 From the drop-down menu at the top of the DHCT Type List window, click **File** and then choose **Close**. The DHCT Type List closes.
- 8 Go to *Run the listCVT Utility* (on page 15).

Run listCVT Utility

The listCVT utility determines which set-top models are currently using the CVT download method and reports unused files on the image list.

Running the listCVT Utility and Removing Unneeded Files

- 1 Open an xterm window on the DNCS.
- 2 Log on to the DNCS as **dncs** user.
- 3 Type **listCVT -v** and press **Enter**. This command provides the version of listCVT utility that is currently on your network.
- 4 Compare the version number of the listCVT utility on your DNCS with the version number listed in the ROM to Model Matrix.
 - If the version number is equal to or greater than v2, go to step 5.
 - If the version number is less than the one listed in the matrix, contact Cisco Services to receive the latest utility.
- 5 Type **cd /export/home/dncs** and press **Enter**. The current directory is now the /export/home/dncs directory.

Note: Be sure to type a space between **cd** and **/**.
- 6 Type **listCVT > precvt** and press **Enter**.
- 7 Type **more precvt** and press **Enter**. This command enables you to view the file **precvt** and verify the current download configuration for each DHCT type that is active in the network.

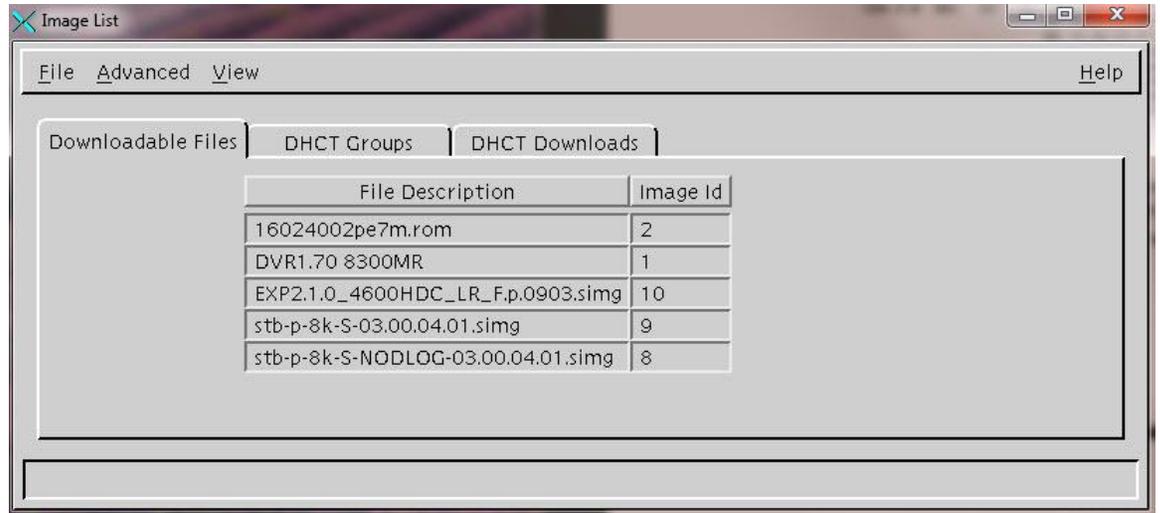
Example:

Model	Rev	OUI	Img#	Grp	Download Group	Image	Mode	DHCTs
8642	1.0	2DE	162	795	Hawaii	stb-p-8k-S-03.00.06.	Emerg	9
					48:44:87:BD:14:3E			
					48:44:87:33:8F:72			
					48:44:87:BD:10:4E			
					00:23:BE:9E:49:56			
					48:44:87:BD:12:4A			
					38:C8:5C:5C:76:58			
					38:C8:5C:5C:DD:DC			
					38:C8:5C:5C:D9:B8			
					38:C8:5C:5C:80:14			
8642	1.0	2DE	148	7777	phoenix	stb-p-8k-S-03.00.06.	Emerg	1
					48:44:87:BD:12:76			
8642	1.0	2DE	148	2324	Walt's Office	stb-p-8k-S-03.00.06.	Emerg	1
					48:44:87:BD:0E:92			

Note: In this example, you would remove any files that are not being used. Removing these files will improve your download performance.

Chapter 2 Phase One - Perform Pre-Upgrade Checks

- 8 Does the report indicate that there are unused files?
 - If **yes**, go to step 9.
 - If **no**, go to step 14.
- 9 On the DNCS Administrative Console, select the **DNCS** tab and then select the **Home Element Provisioning** tab.
- 10 Click **Image**. The Image List window opens.
- 11 Click the **Downloadable Files** tab.



- 12 Highlight a software file that is unused in the network. Click **File** and select **Delete**.
- 13 Repeat step 12 for each file that is unused in the network. After all of the unused software files are deleted, go to step 14.
- 14 Go to *Clean Up the ResApp Directory (Optional)* (on page 17).

Clean Up the ResApp Directory (Optional)

This section provides instructions to clean up the resapp directory.

Important: This procedure is optional, but we recommend that you clean up the directory. The fewer files that are in the directory, the easier are the remaining installation procedures.

Cleaning Up the ResApp Directory

- 1 Open an xterm window on the DNCS.
- 2 Log on to the DNCS as **root**.
- 3 Type **cd /dvs/resapp** and press **Enter**.
Note: Be sure to type a space between **cd** and **/**.
- 4 Type **ls** and press **Enter**.
- 5 Delete the software files for the previous versions of software.
Example: Type **rm *1.52*** and press **Enter**.
Important: The CVT download process makes copies of the files currently in use; therefore, deleting files from this directory has no system impact.
- 6 Go to *Verify the Download Directory* (on page 18).

Verify the Download Directory

Important: Only complete this procedure if you are obtaining the software from the FTP server. If you are installing the software from a CD, you can skip this procedure, and go to Installing the Software from a CD.

Before you download the client application software from the FTP server, you must verify that the `/export/home/dnscs/download` directory exists on your DNCS. If it does not, you need to create the directory.

Follow these instructions to verify the existence of the `/export/home/dnscs/download` directory on your DNCS and to create it if it does not exist.

- 1 Open an xterm window on the DNCS.
- 2 Log on to the window as **root**.
- 3 Type the following command and press **Enter**.
`cd /export/home/dnscs/download`
Note: Type a space between `cd` and `/`.
- 4 Does the `/export/home/dnscs/download` directory exist on your DNCS?
 - If **yes**, you are finished with this procedure. Go to *Clean Up the Download Directory* (on page 19).
 - If **no**, go to step 5.
- 5 Type the following command and press **Enter**.
`mkdir /export/home/dnscs/download`
Note: Type a space between `mkdir` and the `/`.
- 6 Type the following command and press **Enter**.
`cd /export/home/dnscs/download`
Note: Type a space between `cd` and `/`.
- 7 Go to *Obtain Software* (on page 20).

Clean Up the Download Directory

This section provides instructions to clean up the download directory (/export/home/dnscs/download).

Important: Perform the steps in this section so that the only files left in your directory after your FTP download are those you need for the software update.

Cleaning Up the Download Directory

- 1 Open an xterm window on the DNCS.
- 2 Log on to the window as **root**.
- 3 Type the following command and press **Enter**.
`cd /export/home/dnscs/download`
Note: Be sure to type a space between **cd** and **/**.
- 4 Type **ls** and press **Enter**.
- 5 Type the following command and press **Enter** for each file listed in the directory.
`rm -i [filename]`
Note: Do not type the brackets [] in the command.
- 6 Confirm the file deletion by typing **yes** and pressing **Enter**.
- 7 Repeat steps 5 and 6 for each file in the directory.
- 8 Go to *Obtain Software* (on page 20).

Obtain Software

There are two ways you can obtain our client application software:

- You can choose to order a software binder. Software binders are available for released software and include CDs and release notes. Contact Cisco Services for more information on receiving a software binder.
- You can download the software by connecting to an FTP server maintained by Cisco Services. BETA software, emergency patches, and released software are available through the FTP server.

The remainder of this section provides an outline for obtaining the software through the FTP server. If you have received a software binder, go to *Installing the Software from a CD* (on page 23) for instructions to load the software from a CD.

Download Software from the FTP Server

Access to the FTP server requires current FTP server site access information. This information is located in the software release note.

Important: BETA software is provided to labs which, in turn, provide a broader testing environment. BETA software releases are provided in their current state of development and are not covered under the same software license agreements as released software. BETA software releases should only be used on test units until the software is released by us and approved through your organization's software acceptance process.

The following procedure provides generic steps to directly download software from the FTP server onto the DNCS. For security reasons, many sites do not allow open Internet connections from the DNCS. As a result, your process might vary from the procedure provided.

The software release note provides additional information necessary to download software. If you have any questions about this process, contact Cisco Services.

Downloading the Client Application Software Release from the FTP Server

- 1 Log on to the DNCS as **root**.
- 2 Type the following command and press **Enter**.
`cd /export/home/dnCS/download`
- 3 Log on to our FTP server.

Note: The address of the server and login information are provided in the release note for the software release.

- 4 Go to the directory containing the software release you are installing.
Note: The location of the files on the FTP server are provided in the release note for the software release.
 - If you are *outside* our firewall, type the following command and press **Enter**.
`cd /pub/scicare/RELEASED/xxxxxxx`
 - If you are *inside* our firewall, type the following command and press **Enter**.
`cd/external_pub/scicare/RELEASED/xxxxxxx`
- 5 Type **bin** and press **Enter**. This command sets the ftp transfer mode to binary.
- 6 Type **hash** and press **Enter**. This command sets the display hash marks that show file-transfer progress.
- 7 Type **prompt** and press **Enter**. This command turns off the interactive mode of the FTP utility.
- 8 Type **mget *** and press **Enter**.
Note: This command starts the transfer of the files from the FTP server to the DNCS. A # symbol displays on the screen for each 8192 bytes transferred from the FTP server to the DNCS.
- 9 After the transfer completes (for example, the “#” symbols stop and the prompt returns), complete the following steps:
 - a Type the following command and press **Enter**.
`cd /pub/scicare/RELEASED/SettopResourceFile`
 - b Type **ls** and press **Enter**.
 - c Type the following command and press **Enter**, where **vxx** is the set-top resource file version.
`get settop.vxx`
Example: Type `get settop.v91`
Note: Contact Cisco Services to identify the correct set-top resource file version.
- 10 Type **bye** and press **Enter**. This command closes the connection from the FTP server.

Install the Client Application Software Release onto the DNCS

You can install the software from either our FTP Server or you can install the software from a CD.

Important: If you need to access our FTP Server, contact Cisco Services for details about accessing our FTP Server.

Note: If Cisco Services has already delivered the software to your DNCS, skip this section, and go to *Install the Set-Top Resource File (settop.res)* (on page 25).

Installing the Software from Files Downloaded from the FTP Server

Depending on the device types in your system, you might need to install multiple gzipped tar files for each device type. You must tar then install each gzipped tar file separately, because some files might overwrite existing files in the download directory.

Complete the following steps to install the client application software release onto the DNCS.

Notes:

- System components do not have to be shut down to install the software.
- This procedure assumes the `install_pkg` package installer is located in the `/usr/sbin/` directory.

- 1 Open an xterm window on the DNCS.
- 2 Log on to the DNCS as **root**.
- 3 Type `cd /export/home/dnCS/download` and press **Enter**.
- 4 Type `/usr/local/bin/gzip -d [gzipped file name]` and press **Enter**.

Example:

```
/usr/local/bin/gzip -d _15423.tar.gz
```

- 5 Repeat step 4 for each gz file you downloaded to your DNCS. Each of the files is uncompressed into a tar file.
- 6 Type `tar -xvf [filename.tar]` and press **Enter** for the tar files from steps 4 and 5. Each of the files is uncompressed.
- 7 Type `/usr/sbin/install_pkg SAiresapp` and press **Enter**.

Results:

- The system lists the packages that will be installed.
 - A confirmation message appears asking you to confirm that you want to proceed with the installation.
- 8 Type **y** and press **Enter** to start the installation.

Note: The installation should take less than 30 seconds.

Install the Client Application Software Release onto the DNCS

- 9 Did a message appear indicating that the installation was successful?
 - If **yes**, go to step 10.
 - If **no**, contact Cisco Services.
- 10 Use the UNIX **rm -ri** command to remove the following file and directory:
 - (file)
 - SAiresapp (directory)

Example: Type **rm -ri SAI*** and press **Enter**.

Result: A confirmation question message appears asking you to confirm the removal.
- 11 Type **Yes** and press **Enter**.
- 12 Are there additional tar files in the directory you need to install?
 - If **yes**, repeat steps 6 through 11.
 - If **no**, go to *Install the Set-Top Resource File* (on page 25).

Installing the Software from a CD

Complete the following steps to install the client application software release onto the DNCS.

Notes:

- System components do not have to be shut down to install the software.
 - This procedure assumes the `install_pkg` package installer is located in the `/usr/sbin/` directory.
- 1 Insert the CD into the CD-ROM drive on the DNCS. The system automatically mounts the CD to `/cdrom/cdrom0` within 30 seconds.
 - 2 Open an xterm window on the DNCS.
 - 3 Log on to the window as **root**.
 - 4 Type **df -n** and press **Enter**. A list of the mounted file systems appears. If `/cdrom` displays in the output, this confirms that the system correctly mounted the CD.
 - 5 Type **cd /cdrom/cdrom0** and press **Enter**.
 - 6 Type **/usr/sbin/install_pkg SAiresapp** and press **Enter**.

Results:

- The system lists the packages that will be installed.
 - A confirmation message appears asking you to confirm that you want to proceed with the installation.
- 7 Type **y** and press **Enter** to start the installation.

Note: The installation should take less than 30 seconds.
 - 8 Did a message appear indicating that the installation was successful?
 - If **yes**, go to step 9.
 - If **no**, contact Cisco Services.

Chapter 2 Phase One - Perform Pre-Upgrade Checks

- 9 In the xterm window, type **cd /** and then press **Enter**.
- 10 Type **eject cd** and then press **Enter**. The system ejects the CD.
- 11 Do you have other versions of software on another CD to install?
 - If **yes**, repeat steps 1 through 10 for each of the other software versions you need to install.
 - If **no**, go to *Install the Set-Top Resource File* (on page 25).

Install the Set-Top Resource File (settop.res)

For CVT downloads, you must install the set-top resource file (settop.res) that contains the device types installed in your network. The system refers to this data during the image file download assignment process to verify software compatibility with the selected device type.

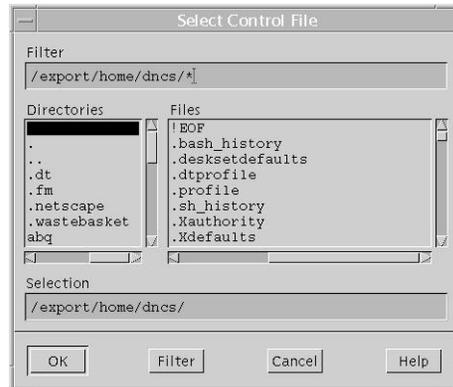
Loading the Set-Top Resource File

Complete the following steps to load the set-top resource file (settop.res) into the DNCS database.

- 1 Verify that you are logged on to the DNCS as **dncs** user.
- 2 On the DNCS Administrative Console, select the **DNCS** tab and then select the **Home Element Provisioning** tab.
- 3 Click **Image**. The Image List window opens.
- 4 Click **Advanced** and select **Load DHCT Resource File**. The Load DHCT Resource File window opens.



- 5 Click **Browse**. The Select Control File window opens.



- 6 Highlight the current entry in the Filter field and press **Backspace** to delete it.

Chapter 2 Phase One - Perform Pre-Upgrade Checks

- 7 Choose one of the following options:
 - If you are installing the set-top resource file from the FTP Server, type **/export/home/dnics/download/settop*** in the Filter field.
 - If you are installing the set-top resource file from a CD, complete the following steps.
 - a Insert the CD containing the settop.res file into the CD drive of the DNCS. The system automatically mounts the CD to **/cdrom/cdrom0** within 30 seconds.
 - b Type **/cdrom/cdrom0/settop*** in the Filter field.
- 8 Click **Filter**. The Selection field updates with the directory from which you selected the resource file.
- 9 Click **settop.vxx** in the Files column.

Important: This file is named **settop.v** followed by a version number (for example, **settop.v62**). Be sure that you select the latest version of this file.
- 10 Click **OK**. The DHCT Resource File field in the Load DHCT Resource File window updates to display the settop.res file path.
- 11 Click **Save**.

Results:

 - A **Loading Control...** message appears in the lower portion of the Load DHCT Resource File window.
 - A **Process Control file saved** message appears in the lower portion of the Image List window.
- 12 On the Image List window, click **File** and select **Close**.
- 13 If you installed the settop resource file from a CD, type **eject cdrom** (in either the CD window or in an xterm window) and press **Enter**.
- 14 Go to *Phase Two - Test New Software* (on page 27).

3

Phase Two - Test New Software

Introduction

This chapter describes the steps necessary to complete testing of the software download process.

In This Chapter

■ Overview	28
■ Phase Two CVT Checks	29
■ Create and Update CVT Test Groups	30
■ Load the New Image File.....	33
■ Download to the CVT Test Groups.....	35
■ Verify the Test Download.....	40

Overview

After you confirm that your system is healthy and you have downloaded software onto the DNCS, you must test the download process with your test devices. To do this, you must load the software onto the BFS carousel and send a directed download to the test devices.

Before You Begin

Before you begin Phase Two, you must complete *Phase One - Perform Pre-Upgrade Checks* (on page 9) and complete the activities in *Phase One Checks* (on page 11).

When Do You Begin Phase Two?

Begin Phase Two of the installation process on the day before the scheduled installation date. This phase takes up to 15 minutes for each device you are testing.

Note: Download time for a system-wide download will be faster due to having less data on the carousel when a system-wide download is performed.

You can complete Phase Two during regular business hours.

What Do You Need?

Refer to *What Do You Need?* (on page 6) for the list of items you need.

The test procedures in this chapter assume that you are testing one set-top hardware revision for every set of files.

You will need a secure GUI password. Use one of the following options to obtain the password:

- **If you are a site that supports subscribers**, then you can obtain a secure GUI password from Cisco Services. This provides Cisco Services with the opportunity to communicate known issues about the software as well as other information that may be needed before loading the software onto your network.
- **If you are a software developer**, Cisco Services can disable the secure GUI for you. Contact Cisco Services for more information on disabling the secure GUI.
Note: Set-tops are designed to use specific software files and versions. Even with the secure GUI password disabled, you cannot associate files with a set-top that it was not designed to use.

Phase Two CVT Checks

CVT Installation Steps

- 1 Create or update test group(s) for each DHCT type and revision that will be upgraded using the CVT download process.
Note: A test group can contain multiple types of set-tops so you can have a single test group for all of your test devices.
- 2 Load the new image files onto the BFS.
- 3 Download the new software to the test groups.
- 4 Verify that the test devices operate as expected by checking the following:
 - Verify that the IPG contains 7 days of data
 - Verify that all third-party applications are available and functioning as expected.
- 5 You have completed Phase Two. Save a copy of these Phase Two checks and the results from any tests that you completed during this phase. Go to *Phase Three - Install New Software* (on page 41).

Create and Update CVT Test Groups

To ensure a successful software download to all devices in the network, we recommend that you create a unique test group to test the CVT download process and the operation of the new software in your network.

Important: Groups should be isolated and narrowly focused for debugging and testing. These test groups are not for use throughout the system. Group downloads should only be used for test groups.

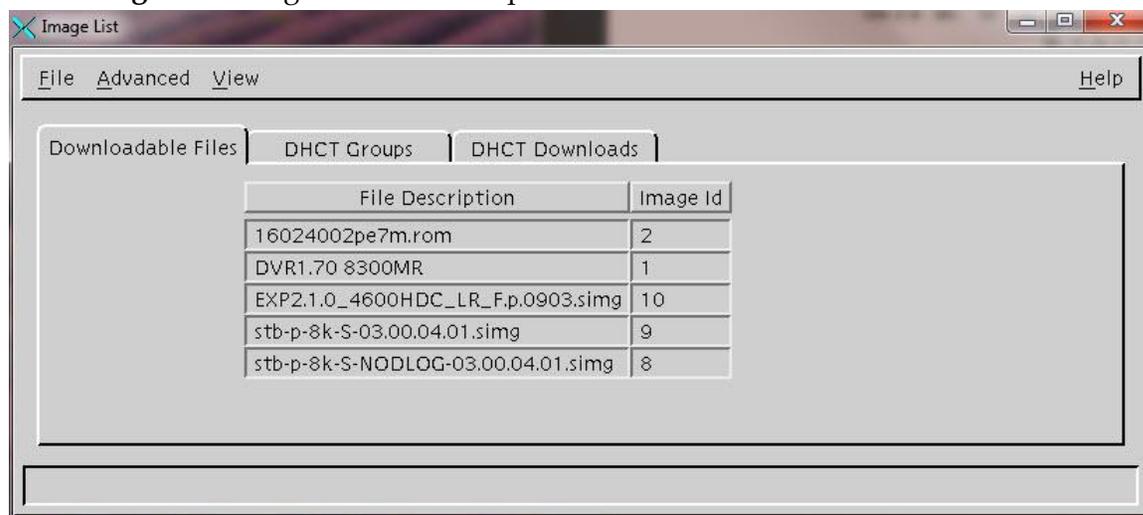
This section provides instructions to create test groups.

Creating CVT Test Groups

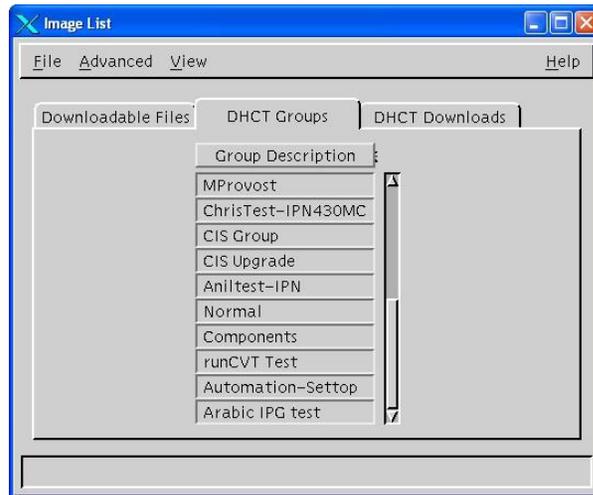
Note: If you already created CVT test groups, do not complete this procedure; go to *Updating CVT Test Groups* (on page 32).

Complete the following steps to create test groups for devices in the network.

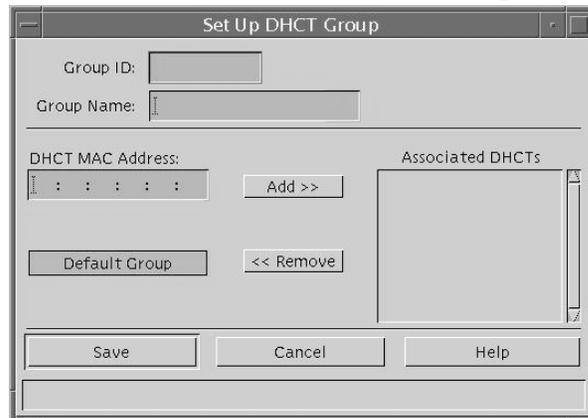
- 1 On the DNCS Administrative Console, select the **DNCS** tab and then select the **Home Element Provisioning** tab.
- 2 Click **Image**. The Image List window opens.



- 3 Click the **DHCT Groups** tab. The DHCT Groups tab opens.



- 4 Select **File** and choose **New**. The Set Up DHCT Group window opens.



- 5 Configure the fields on the Set Up DHCT Group window as follows:
 - **Group ID:** Type a unique group identification number (other than zero)
 - **Group Name:** Type a meaningful name for the group.
Example: CVT_Download_Test
 - **DHCT MAC Address:** Type the MAC address of a set-top you want to include in the new group. Make sure that the MAC address is not used by any of the other groups.
- 6 Click **Add**. The MAC Address of the set-top moves to the Associated DHCTs column.
- 7 Repeat adding the MAC Addresses for each set-top you want to add to the group.

- 8 Click **Save**. The new group appears in the list of group descriptions on the DHCT Groups tab.

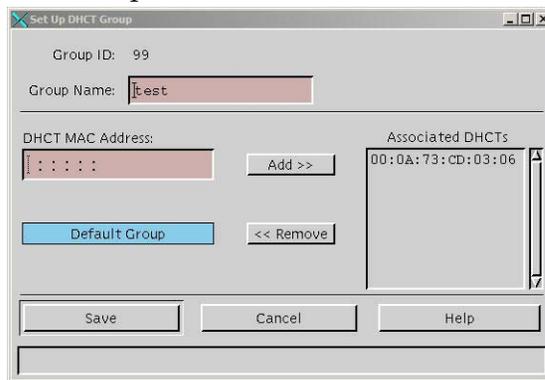
Note: A set-top should be connected to the network within 2 hours of creating or adding it to a test group. If the set-top is not connected within 2 hours, then the set-top will not receive a group assignment until the DNCS database cycles through all in-service set-tops at a rate of approximately one set-top per second. Depending on the number of set-tops in your system, this process could take a significant amount of time.

- 9 Go to *Updating CVT Test Groups* (on page 32).

Updating CVT Test Groups

Complete the following steps to update test groups for devices in the network.

- 1 From the DHCT Groups tab in the Image List window, select the group you want to update from the list.
- 2 Click **File** and select **Open**. The Set Up DHCT Group window for the group you selected opens.



- 3 Evaluate the list in the Associated DHCTs list. Are the Associated DHCTs listed correct?
 - If **yes**, click **Cancel**, and then go to *Load the New Image File* (on page 33).
 - If **no**, add or remove MAC addresses (as needed), then click **Save**.
- 4 Do you need to modify another group?
 - If **yes**, repeat steps 1 through 3.
 - If **no**, go to *Load the New Image File* (on page 33).

Load the New Image File

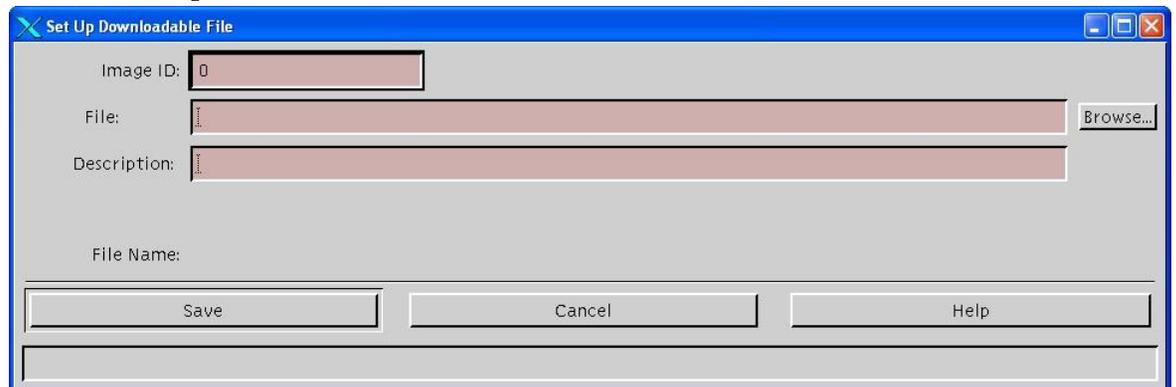
The next step is to load the image files onto the system. Load only the image files for the devices that you have in your system.

Important:

- If a file is used by more than one DHCT type or DHCT revision, you only need to add that file once.
- Unnecessary files will slow the software download. Be careful to load only those files currently required by your system.

Loading the Image File onto the BFS

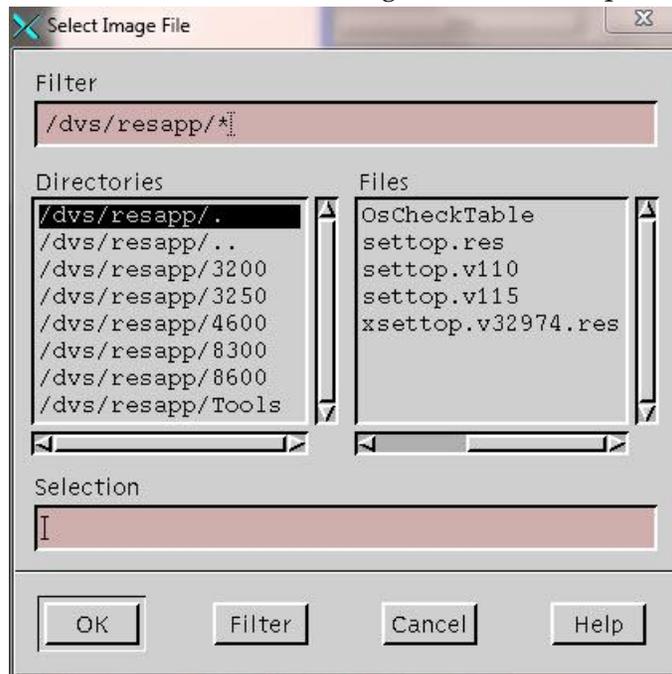
- 1 On the DNCS Administrative Console, select the **DNCS** tab and then select the **Home Element Provisioning** tab.
- 2 Click **Image**. The Image List window opens.
- 3 Click the **Downloadable Files** tab.
- 4 On the Image List window, click **File** and select **New**. The Set Up Downloadable File window opens.



The screenshot shows a dialog box titled "Set Up Downloadable File". It contains the following fields and controls:

- Image ID:** A text box containing the value "0".
- File:** A text box with a "Browse..." button to its right.
- Description:** A text box.
- File Name:** A text box.
- Buttons:** "Save", "Cancel", and "Help" buttons are located at the bottom of the dialog.

- 5 Click **Browse**. The Select Image File window opens.



- 6 Browse to the directory where you stored the image files.
- 7 In the **Files** column, select the signed image file that you want to add to the list of downloadable files.
- 8 Click **OK**. The file path for the signed image file appears in the Set Up Downloadable File window.

Note: The Image ID will initially show a value of 0 (zero). It can be changed manually by the system operator to a specific ID number. Or, when the file is saved, the DNCS will assign the ID number chronologically to the next number that is available.

- 9 In the Downloadable File window, if the file name is not filled in, copy or type the file name without the path in the **Description** field.

Example: 1419pe4a7.sao

- 10 Click **Save**. The new file appears in the Image List window.

Note: If the save fails, the file may already exist in the list.

- 11 Go to *Download to the CVT Test Groups* (on page 35).

Download to the CVT Test Groups

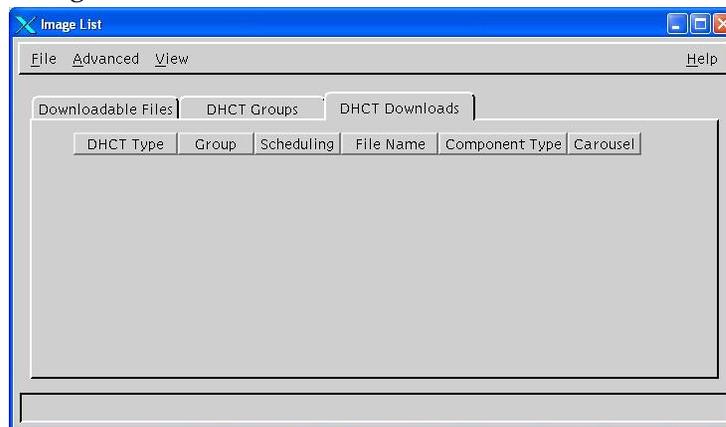
This section provides instructions for downloading the software to the test groups you have created.

Downloading Software to the CVT Test Groups

Using the Simple Download Method

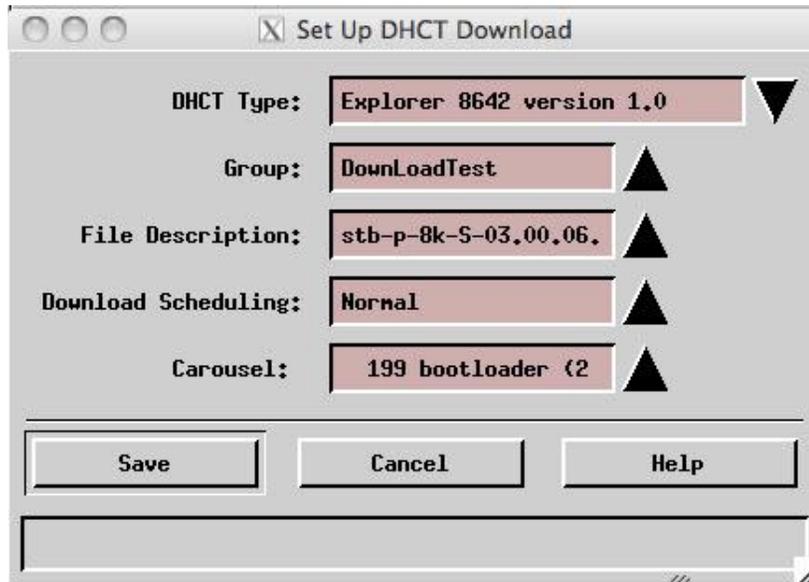
Important: You will need the SW TOC Verification password (or secure GUI password) that you requested in Gather These Things First to complete the following steps.

- 1 On the DNCS Administrative Console, select the **DNCS** tab and then select the **Home Element Provisioning** tab.
- 2 Click **Image**. The Image List window opens.
- 3 On the Image List window, click the **DHCT Downloads** tab. The Image List window updates to display the different devices that have already been configured for a CVT download.



- 4 Does the DHCT type, revision, and group that you are testing already exist?
 - If **yes**, go to *Using the Component Download Method* (on page 37).
 - If **no**, go to step 5.
- 5 Select **File** and click **New**. The Set Up DHCT Download window opens.
- 6 Complete the following steps to configure the Set Up DHCT Download window for the test download.
 - a Click the **DHCT Type** field arrow and select a device that needs to receive the new software.
 - b Click the **Group** field arrow and select the test group you created in *Create and Update CVT Test Groups* (on page 30).
 - c Click the **Carousel** field arrow and select a carousel from the list.

- d Click the **File Description** field arrow and select the file that corresponds to the new application platform release that you want to download.
Note: Unless you have old or test versions still posted, there should be only one choice.
- e Click the **Download Scheduling** field arrow and select **Immediate**.
Note: Unless you have old or test versions still posted, there should be only one choice.



- 7 On the Set Up DHCT Download window, click **Save**.

Notes:

- The image shown in the window may not match the image in this guide. The software versions and the DHCT types and revisions may differ.
- An emergency download begins instantaneously and no barker opens to the subscriber.

Result: The Association Verification window opens.



- 8 Verify that the DHCT Type, Group, and Image File versions shown on the Association Verification window are correct.

- 9 Configure the following fields on the Association Verification window:
 - **Are you SURE you want to do this?:** Type **yes**.
 - **Enter your name:** Type the name (in lowercase letters) you provided to Cisco Services when you requested the secure GUI password.
 - **Password:** Type the password you received from Cisco Services.
- 10 Click **OK**.

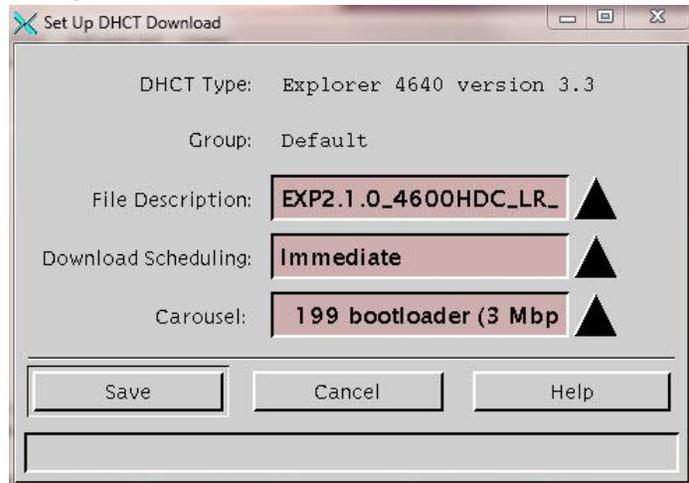
Results:

 - The Association Verification window closes.
 - The Image List window is updated with the newly defined test download schedule.
 - The software download to the set-top test groups begins.
- 11 Do you have more devices or groups to test?
 - If **yes**, repeat steps 3 through 10 for each group being tested.

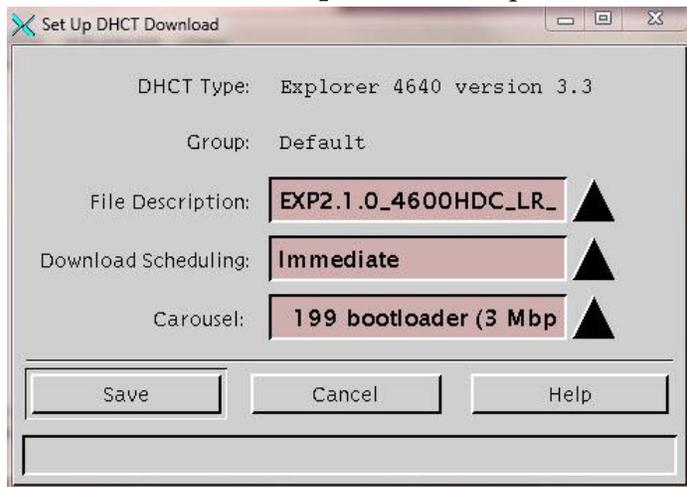
Note: Since a group can contain multiple DHCT types, you might have multiple downloads to the same DHCT group.
 - If **no**, in the Image List window, click **File** and select **Close** to return to the Admin Console window.
- 12 Your next step is to verify that the test device or devices downloaded software and operate as expected. Go to *Verify the Test Download* (on page 40).

Using the Component Download Method

- 1 On the DNCS Administrative Console, select the **DNCS** tab and then select the **Home Element Provisioning** tab.
- 2 Click **Image**. The Image List window opens.
- 3 On the Image List window, click the **DHCT Downloads** tab. The Image List window updates to display the different devices that have already been configured for a CVT download.



- 4 Select **File** and choose **Open**. The Set Up DHCT Download window opens.



- 5 In the Set Up DHCT Download window, complete the following steps.
- Select **Component**. The Set Up DHCT Download window refreshes showing the options available for component download.
 - Click the **Carousel** arrow and select the appropriate carousel.
 - Click the **Download Scheduling** arrow and select a download option from the list. The options are **Normal**, **Immediate**, or **Emergency**.
 - In the **Action** column, select **none** for the current software version and then select **download** for the new software version.
 - Click **Save**. The software is downloaded to the set-top. When the download is complete, a **Save complete** message appears. Then the Image List window comes to the forefront.
- 6 Click **Save**. The Association Verification window opens.



- 7 Verify that the DHCT Type, Group, and Image File versions shown on the Association Verification window are correct.

- 8 Configure the following fields on the Association Verification window:
 - **Are you SURE you want to do this?:** Type **yes**.
 - **Enter your name:** Type the name (in lowercase letters) you provided to Cisco Services when you requested the secure GUI password.
 - **Password:** Type the password you received from Cisco Services.
- 9 Click **OK**. The system schedules the software download according to the schedule you configured earlier in this section.
- 10 Repeat steps 4 through 9 for each set-top type that you want to receive the software using the CVT method.
- 11 In the Image List window, click **File** and then select **Close**.
- 12 Your next step is to verify that the test device or devices downloaded software and operate as expected. Go to *Verify the Test Download* (on page 40).

Verify the Test Download

After you have downloaded the new software to the test groups, you need to verify that the test devices operate as expected. To verify the download, check the following:

- Verify that the set-top has the correct code installed. Complete the following steps to view the software version installed on the set-top:
 - a **Power on** the set-top
 - b Press **Menu**
 - c Select **Settings**
 - d Select **Troubleshooting**
 - e Select **System Information**
- Verify that the IPG contains 7 days of data.
- Verify that all third-party applications are available and function as expected.
- Verify basic set-top functions, for example, correct display of channels.
- Verify that the image is on the BFS.
- If possible, confirm that the new features provided by the new code function as expected.

4

Phase Three - Install New Software

Introduction

This chapter contains procedures for downloading the software to your subscribers' set-tops.

In This Chapter

■ Overview	42
■ Phase Three Installation Steps	46
■ CVT Download Method.....	47
■ Phase Three Completion Check.....	50

Overview

At this stage, you are ready to download and install the software onto your system. Before you update your system software, review your system's health and take appropriate action to correct any problems.

When Do You Begin Phase Three?

Begin Phase Three of the installation process within 24 hours after completing Phase Two.

This phase takes approximately 5 minutes per device to initiate the download process. The time for the set-top to load software varies as it depends on the configuration at the site.

Important: You should complete Phase Three during a maintenance window.

What Do You Need?

Refer to *What Do You Need?* (on page 6) for the list of items you need.

You will need a secure GUI password. Use one of the following options to obtain the password:

- **If you are a site that supports subscribers**, then you can obtain a secure GUI password from Cisco Services. This provides Cisco Services with the opportunity to communicate known issues about the software as well as other information that may be needed before loading the software onto your network.
- **If you are a software developer**, Cisco Services can disable the secure GUI for you. Contact Cisco Services for more information on disabling the secure GUI.
Note: Set-tops are designed to use specific software files and versions. Even with the secure GUI password disabled, you cannot associate files with a set-top that it was not designed to use.

How Long Does it Take?

The download times for CVT downloads are directly related to the number of image files you have on your BFS (carousel). The number of files is determined by the following factors:

- The number of different DHCT types requiring unique files on your system
- The number of test releases and/or old releases still on your system

You should use the `listCVT` utility to identify unnecessary files that can be removed. See *Run listCVT Utility* (on page 15) for information on setting up and running this utility. You should also keep the number of test releases on your system to a minimum.

Important: These times are approximate and do not consider outside influences. For example, a set-top connected to a network with a poor signal might have to wait for the carousel to cycle multiple times to completely read the file due to a high number of bit errors. You should use these methods for estimating download times only to set expectations as you prepare to perform the download. You should not use them as absolute measures of download performance.

Run the Doctor Report

To help determine what the expected download times should be, you should run version 6.3 of the Doctor report. This report shows the ACCT (average or approximate carousel cycle time), which you can use to determine a reasonably accurate expected download time.

Note: Use the command **doctor -vb** to generate this report.

Example:

```

BFS Carousel and OSM Sessions Status
=====
=Date= =KBytes= =Intrvl= =Enabled= =ACCT=
OK: System_Carousel OOB s( 0) up .05 Mbps 21,081 200 Yes 0:03
OK: Out_of_Band OOB s( 1) up .02 Mbps 259,687 200 Yes 1:56
OK: In_Band IB s( 2) up 2,00 Mbps 12714,064 100 Yes 0:57
OK: CAM_OOB OOB s( 3) up .01 Mbps 1,422 200 Yes 0:01
OK: CAM_IB IB s( 4) up .50 Mbps 0 100 Yes 0:00
OK: IPG_OOB OOB s( 5) up .05 Mbps 333,608 200 Yes 1:00
OK: IPG1_IB IB s( 6) up 2,00 Mbps 166,192 100 Yes 0:00
OK: PPV_OOB OOB s( 7) up .01 Mbps 0,382 200 Yes 0:00
OK: PPV_IB IB s( 8) up 1,00 Mbps 6,016 100 Yes 0:00
OK: SAM OOB s( 9) up .15 Mbps 90,272 100 Yes 0:05
OK: IPG2_IB IB s( 10) up 2,00 Mbps 166,380 100 Yes 0:00
OK: POD_CHANNELS OOB s( 11) up .01 Mbps 178,941 100 Yes 2:41
OK: IPG3_IB IB s( 12) up 2,00 Mbps 165,816 100 Yes 0:00
OK: IPG4_IB IB s( 14) up 2,00 Mbps 167,696 100 Yes 0:00
OK: IPG5_IB IB s( 16) up 2,00 Mbps 169,388 100 Yes 0:00
OK: IPG6_IB IB s( 18) up 2,00 Mbps 163,748 100 Yes 0:00
OK: IPG7_IB IB s( 20) up 2,00 Mbps 164,876 100 Yes 0:00
OK: MMM_OOB OOB s( 21) up .01 Mbps 0 200 Yes 0:00
OK: PPV_IB2 IB s( 22) up 1,00 Mbps 43,052 100 Yes 0:00
OK: SGM_IB IB s( 24) up .50 Mbps 0,752 100 Yes 0:00
OK: SGM_IB1 IB s( 26) ---- .50 Mbps 0 100 No 0:00
OK: SGM_IB2 IB s( 28) ---- .50 Mbps 0 100 No 0:00
OK: SGM_IB3 IB s( 30) ---- .50 Mbps 0 100 No 0:00
OK: SGM_IB4 IB s( 32) ---- .50 Mbps 0 100 No 0:00
OK: bootloader IB s( 199) up 3,00 Mbps 324011,608 100 Yes 16:12
OK: AppsInBand IB s( 202) up 2,00 Mbps 3424,044 100 Yes 0:15
OK: bootloader1 IB s( 204) up 3,00 Mbps 190882,228 100 Yes 9:32
OK: VodlinkIB IB s( 206) up 1,00 Mbps 385,212 100 Yes 0:03
OK: VodlinkOOB OOB s( 207) up .05 Mbps 3,452 200 Yes 0:00
OK: VodlinkRS IB s( 208) up .50 Mbps 44,932 100 Yes 0:00
OK: assets-ib1 IB s(2016) up .50 Mbps 2945,020 100 Yes 0:53
OK: assets-ooB1 OOB s(2017) up .01 Mbps 2,717 200 Yes 0:02
OK: assets-ib2 IB s(2018) up 1,00 Mbps 488,424 100 Yes 0:04
OK: assets-ooB2 OOB s(2019) up .01 Mbps 753,574 200 Yes 11:18
OK: assets-ib3 IB s(2020) up 2,00 Mbps 750,308 100 Yes 0:03
OK: assets-ooB3 OOB s(2021) up .01 Mbps 1010,819 200 Yes 15:09
OK: assets-ib4 IB s(2022) up .50 Mbps 412,660 100 Yes 0:07

Aggregate IB Carousel Datarate = 32,50 Mbps
OK: Aggregate OOB Carousel Datarate = .40 Mbps

```

Notes:

- Several lines of the above report have been removed for clarity.
- Your system configuration may differ from the example shown here.

CVT Download Times

For CVT downloads, review the ACCT column for the bootloader carousel in the Doctor report results. This is your best-case download time.

Note: The time shown in the ACCT column for the bootloader carousel is the time it takes the carousel to cycle.

Based on the sample data shown in the previous example, you can expect a CVT download to take about 9 and a half minutes, based on the bootloader carousel ACCT number (the `OK: bootloader1` line in the example report). If the download misses a block and has to wait for the carousel to start again, it could take longer. Remember that some code files are significantly larger than others. As a result, some download times will be slower, while others will be closer to the predicted value.

Notes:

- The time indicated in the report is to read the file. The set-top needs additional time to verify that the file was received correctly and to load the code into memory. These steps can take up to 3 minutes.
- The more extraneous files you have in your system, the longer your download times will be. Be sure to clean up your system files, as described in *Clean Up the Download Directory* (on page 19).
- After the code is loaded, the set-top needs to perform a normal boot sequence. The time required to complete this sequence will vary based on the size and complexity of your system.

Note: The boot sequence time for the new code version should take approximately the same amount of time as the previous version. If the boot sequence for the new code version appears to take considerably longer than the previous version, contact Cisco Services for assistance.

Phase Three Installation Steps

Use the checks in this chapter to check off each task as you complete it. When you finish this phase, save a copy of the checks and all of the results from any tests that you run in the event that the installation process fails during a later phase.



CAUTION:

You must complete each task in this check before you can proceed to the next task. Otherwise, you risk a failed installation.

As you complete the steps in this section, you will interrupt the processes that allow the set-tops to load new software. You should suspend staging of set-tops while the procedures in this section are completed.

Where necessary, the remaining sections of this chapter provide further detail to help you complete each task in this check.

Phase Three Checks

- 1 Review installation process *overview* (on page 42). Contact Cisco Services if you have questions.
- 2 Run the **doctor -av** utility as described in the *DBDS Utilities Version 6.3 Installation Instructions and User Guide* (part number 4031374).
Important: If you believe your system is having problems, contact Cisco Services.
- 3 Follow the instructions in *CVT Download Method* (on page 47).
- 4 When you finish, save a copy of this checks and the results from your tests in case the installation process fails in a later phase.
Important: We recommend that you wait one week before proceeding to Phase Four.

CVT Download Method

The instructions in this section provide the steps to prepare and download the application platform software release to devices using the CVT method.

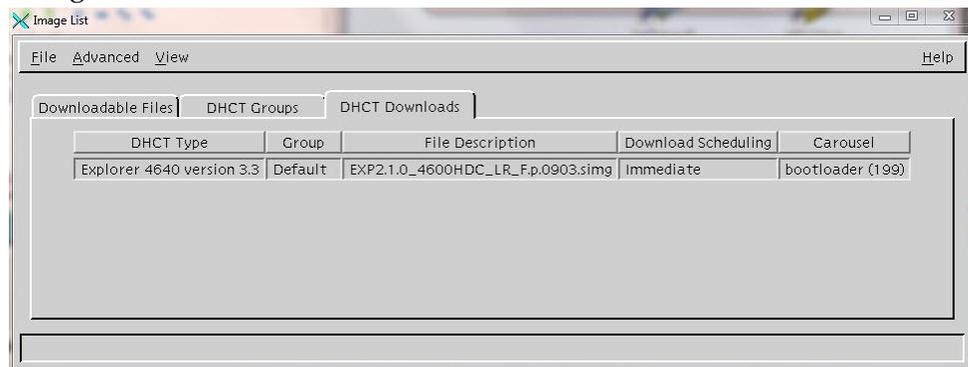
Examples of File Names and Version Numbers

The file names and version numbers provided as examples in this section might not match the file names and version numbers you see on your system.

Downloading Software to All Set-Tops

This section provides instructions for setting up and downloading the software to set-tops on your system that can use the CVT method.

- 1 On the DNCS Administrative Console, select the **DNCS** tab and then select the **Home Element Provisioning** tab.
- 2 Click **Image**. The Image List window opens.
- 3 On the Image List window, click the **DHCT Downloads** tab. The Image List window updates to display the different devices that have already been configured for a CVT download.



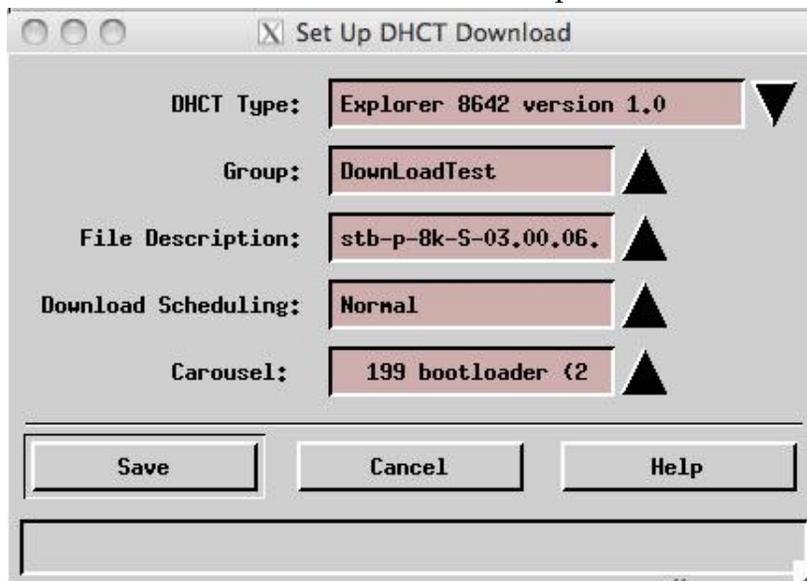
- 4 In the DHCT Type column, select the DHCT type that will receive the new software where the value in the Group column is labeled **Default**.
 - 5 Click **File** and then choose **Delete**.
 - 6 Repeat steps 4 and 5 for each DHCT type that will receive new software.
- Note:** Do *not* remove the download entries for your test groups. Leave the download entries for your test groups configured.

- In an xterm window, type **listCVT** and press **Enter**. The listCVT report displays. Look for unused files in the report.

Example:

Model	Rev	OUI	Img#	Grp	Download Group	Image	Mode	DHCTs
8642	1.0	2DE	162	795	Hawaii	stb-p-8k-S-03.00.06.	Emerg	9
					48:44:87:BD:14:3E			
					48:44:87:33:8F:72			
					48:44:87:BD:10:4E			
					00:23:BE:9E:49:56			
					48:44:87:BD:12:4A			
					38:C8:5C:5C:76:58			
					38:C8:5C:5C:DD:DC			
					38:C8:5C:5C:D9:B8			
					38:C8:5C:5C:80:14			
8642	1.0	2DE	148	7777	phoenix	stb-p-8k-S-03.00.06.	Emerg	1
					48:44:87:BD:12:76			
8642	1.0	2DE	148	2324	Walts Office	stb-p-8k-S-03.00.06.	Emerg	1
					48:44:87:BD:0E:92			

- Select the **Downloadable Files** tab on the Image List window.
- Select any unused file on the **Downloadable Files** tab.
Note: The new software should not be listed as unused because it is associated with a test group.
- Click **File** and then choose **Delete**.
Note: The DNCS will not allow you to delete a file that is already associated with a download.
- Repeat steps 9 and 10 until you have deleted all unused files.
- Select the **DHCT Downloads** tab.
- Click **File** and then choose **New**. The Set Up DHCT Download window opens.



- 14 Complete the following steps to configure the Set Up DHCT Download window.
 - a Click the **DHCT Type** field arrow and select a device that needs to receive the new software.
 - b Click the **Group** field arrow and select **Default**.
 - c Click the **Carousel** field arrow and select a carousel from the list.
 - d Click the **File Description** field arrow and select the file that corresponds to the new application platform release that you want to download.

Note: Unless you have old or test versions still posted, there should be only one choice.
 - e Click the **Download Scheduling** field arrow and select either **Normal** or **Immediate**.
- 15 Click **Save**. The Association Verification window opens.



- 16 Verify that the DHCT Type, Group, and Image File versions shown on the Association Verification window are correct.
- 17 Configure the following fields on the Association Verification window:
 - **Are you SURE you want to do this?:** Type **yes**.
 - **Enter your name:** Type the name (in lowercase letters) you provided to Cisco Services when you requested the secure GUI password.
 - **Password:** Type the password you received from Cisco Services.
- 18 Click **OK**. The system schedules the software download according to the schedule you configured earlier in this section.
- 19 Repeat steps 13 through 18 for each set-top type that you want to receive the software using the CVT method.
- 20 Go to *Phase Three Completion Check* (on page 50).

Phase Three Completion Check

The instructions in this section provide the steps to ensure that you have successfully completed the procedures for phase three of the installation process.

Verifying Phase Three Installation

Complete the following steps to verify that you have successfully completed the procedures for phase three of the installation process.

- 1 Open an xterm window on the DNCS.
- 2 Type **listCVT -b** and press **Enter**. The output displays a list similar to the following data.

Example:

```
bash-3.00$ listCVT -b
Model Rev  OUI  Img#  Grp  Download Group      Image                      Mode  DHCTs
-----
 8642 1.0  2DE   2    Default            stb-p-8k-S-03.00.06. Emerg  -
          1    .. (not being used)---> stb-p-8k-US-03.00.03
-----
Total image files being downloaded = 1
```

Important: You must correct each DHCT type that is not associated with an image.

- 3 After you have confirmed that all of the devices in your network have been associated to an image, go to *Phase Four - Verification* (on page 51).

5

Phase Four - Verification

Introduction

This chapter contains procedures to verify that set-tops active in the network received the new software.

In This Chapter

- Overview 52
- Phase Four Checks 53

Overview

During Phase Three, you downloaded and installed software to devices on your network. You are now ready to verify the download.

Before You Begin

Before you begin Phase Four, you must complete *Phase Three - Install New Software* (on page 41) and the *Phase Three Completion Check* (on page 50).

How Long Will It Take?

The time needed to complete the procedures in Phase Four varies depending on the size of your site and the complexity of your system.

Important: You can complete this phase during business hours.

Phase Four Checks

Use the procedure in this section to verify that the set-tops have received their correct version of code.

Software Verification Procedure

- 1 Using a UNIX-based text editor, create a file in the `/dvs/resapp/` directory (or a directory of your choice) that contains a list of sample set-tops for a range of locations and installation environments.

Example: If your system includes subscribers that are connected to an ONT as well as customers using a DSL gateway, you should select sample units from both populations.

Note: The `tellDhct` utility, already on the DNCS, used with the `-c` option, is a good way to generate a file containing IP addresses.

- 2 Assign a filename that is descriptive and easy-to-remember.

Examples: `OS_checklist` or `STB_checklist`

- 3 Based on the sample set-tops you have selected, create and save the file as a list of IP addresses in the following format:

```
10.10.32.32
10.10.32.33
10.10.32.34
```

- 4 After you have created and saved the file, verify that you are in the directory where you saved the file. If you followed our recommendation, type the following command and press **Enter**.

```
cd /dvs/resapp
```

- 5 To query the set-tops, type the following command and press **Enter**:

```
./cmd2000 [filename created in step 1] "osdiag DumpFile
/opt/sciatl/image_brand_text ascii" 2>&1 | grep ": version
name: "
```

Example: With a file named `ips.txt`, that contains the following lines:

```
10.1.0.31
10.1.0.32
10.1.0.33
```

the following output is produced.

```
05/13@14:43 - RESPONSE from 10.1.0.31 : 05/13@14:43 -
RESPONSE from 10.1.0.31 : version name: 3.0.6.265
05/13@14:43 - RESPONSE from 10.1.0.32 : 05/13@14:43 -
RESPONSE from 10.1.0.32 : version name: 3.0.6.265
05/13@14:43 - RESPONSE from 10.1.0.33 : 05/13@14:43 -
RESPONSE from 10.1.0.33 : version name: 3.0.6.265
```

- 6 View the output of your query with your preferred text viewer and confirm that all set-tops queried have the specified code loaded.

A

Rollback Process

Introduction

This appendix describes the rollback process. Use the rollback process if you are unable to successfully download software to either the test groups or to the device population.

In This Appendix

- What is the Rollback Process? 56

What is the Rollback Process?

The rollback process is to use the procedures in this document and download the previous software files to the device population.

Important: If your system appears unstable after downloading the application platform software release, you may need to roll back to the previous version of software. Please contact Cisco Services to ensure that there are no obvious errors with the system configuration before you download the previous versions of software.



Cisco Systems, Inc.
5030 Sugarloaf Parkway, Box 465447
Lawrenceville, GA 30042

678 277-1120
800 722-2009
www.cisco.com

This document includes various trademarks of Cisco Systems, Inc. Please see the Notices section of this document for a list of the Cisco Systems, Inc. trademarks used in this document.

Product and service availability are subject to change without notice.

© 2012 Cisco and/or its affiliates. All rights reserved.
February 2012 Printed in USA

Part Number OL-26412-01