Using the Cisco Software Recovery CD-ROM

This document contains instructions for using the software recovery CD-ROM to install your application software. It contains the following sections:

Introduction

The recovery CD-ROM contains an .ISO rescue file with the system software for a single software release and a single application software. The .ISO rescue file is also available for download from Cisco.com.

The recovery CD-ROM can be used to recover the system software that for some reason must be completely reimaged. The recovery CD-ROM is also the mechanism for changing the application software (WAFS, ACNS, or WAAS) that is running on a Wide Area Application Engine (WAE) appliance. A software recovery CD-ROM is available for each major manufacturing-released software release.

This section contains instructions for using the software recovery CD-ROM to reinstall your system software, if for some reason the software that is installed has failed. It also discusses the procedure for changing the application software.

Caution If you upgraded your software after you received your software recovery CD-ROM, using the CD-ROM software files may downgrade your system.

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About the System Software Components

Your system software consists of three basic components:

- Disk-based software
- Flash-based software
- Hardware platform cookie (stored in flash memory)

All of these components must be correctly installed for software to work properly.

The software is contained in two types of software files provided by Cisco Systems:

- A .bin file containing disk and flash memory components

  An installation containing only the flash memory-based software (without the corresponding disk-based software) boots and operates in a limited mode, allowing for further disk configuration before completing a full installation.

- A .sysimg file containing a flash memory component only

  The .sysimg component is provided for recovery purposes, and allows for repair of flash memory only, without modifying the disk contents.

The recovery CD-ROM and the CD-ROM rescue file contain all the necessary software files and components for your system to operate.

Obtaining a Software Recovery CD-ROM

This section explains how to order a recovery CD-ROM. It also explains how to download a Cisco .ISO CD-ROM rescue file from Cisco.com and create your own recovery CD-ROM.

Ordering a Recovery CD-ROM

A software recovery CD-ROM is orderable through e-library for all manufacturing-released software versions. Recovery CD-ROM orders are shipped for next business day delivery only.

Note The following procedure starts at the "Part Selection" section within the RMA/SVO ordering tool and assumes that you know how to get to this point in the ordering process. If you are not familiar with this ordering tool, please contact Cisco TAC for assistance in placing an order.

Note The SVO ordering tool only allows you to create service orders for contracts identified in your CCO profile and limits the selection of shipping locations and replacement hardware parts to those entitled sites and products that are based on the contract number referenced on the service order.

To place an order, follow these steps:

Step 1 In the Part Select Criteria section under the Orderability Rules "Configure a Product by Product Family" section, choose **Cisco Cache Content Series Products** from the drop-down menu, and then click **Continue**.

The available application accessory kit software configurators are displayed.

Step 2 Click the hyperlink for the accessory kit software configurator for the software application that you need (such as ACNS or WAFS).

When the Accessory Kit Software Configurator window appears, you are presented with the software versions that are available for that application type.

Step 3 Click the software version that you are running in your network.

Note If the version of software is not listed, it might be a maintenance release that was not shipped from manufacturing. If this is the case, click on the software version that is closest to the version running on your appliance. You can install the correct version after your software recovery is complete. If the version of software you are looking for was shipped through manufacturing and is still not listed, your TAC engineer should contact the Product Supportability Engineer who is supporting this product. It might take a few days for the software to be posted to the website.

Step 4 From the drop down menu, choose the recovery CD-ROM.

Step 5 Confirm that your choice has been added to the service order detail. Your recovery CD-ROM is now ordered.

Obtaining a Software Rescue File from Cisco.com

A software rescue file is available for download from Cisco.com (CCO) for every major and minor software release. To download a software rescue file from Cisco.com, follow these steps:

Step 1 From the Cisco.com Home page, click **Log In** in the taskbar and enter your user ID and password. You are logged in when the taskbar changes to Logged In.

Step 2 Under the Direct Access heading, choose **Content Networking Software** from the Downloads drop-down menu. The Software Center downloads window for Content Networking Software appears.

Note If you are not logged in, the Content Networking Software selection does not appear in the list.

Step 3 Choose the software application and version that you are running on your network (for example, click Cisco ACNS 5.4 Software or Cisco WAFS 3.0.1 Software). The Software Download window appears.

Step 4 Click the **Download ACNS** [or **WAFS**] **Software images (contains strong encryption)** link.

Step 5 Under Select a File to Download, choose the rescue CD-ROM .ISO file and follow the download instructions to download the rescue file to a local device.

Step 6 Create a bootable recovery CD-ROM with the rescue file, so that you can install the application software using the procedures in this document. To create a bootable CD, follow the procedure in the next section

Creating a Recovery CD-ROM

To create a software recovery CD-ROM, you need the following items and equipment:

- Blank writable CD (purchased from any retail store)
- CD recording device (must be compatible with the purchased CDs)
- CD recording software that supports .ISO files (such as Ahead's Nero Burning ROM)

Using the CD-burning software and a CD burner, open the .ISO file and burn the file to a writeable CD. For example, with Ahead Nero 6.6.0.1, use the **File > Open** command, choose the .ISO file, and then choose **Burn** in the dialog box that opens.

Installing the Application Software Using the CD-ROM

This procedure erases all content on the hard disk drives. Use this procedure if you are installing the application software on a new unit or on a replacement unit that is using brand new disks. If you want to preserve content and reuse your disk drives in a replacement unit, see the "Installing Application Software on a Replacement Appliance While Preserving Existing Hard Disk Drives and Content" section on page 4.

To install the application software by using the recovery CD-ROM, follow these steps:

Step 1 Insert the recovery CD-ROM into the CD-ROM drive, and boot the device.

Step 2 When the installer menu appears, choose Option 7: Wipe Out Disks and Install .bin Image. (See the "Installer Menu Option Reference" section on page 8.)

Step 3 Wait for the process to complete.

Step 4 Before you reboot the device, remove the recovery CD-ROM from the CD-ROM drive so that the device boots from flash memory.

Step 5 Reboot the device by choosing Option 8: Exit and Reboot.

Installing Application Software on a Replacement Appliance While Preserving Existing Hard Disk Drives and Content

If you want to preserve content and reuse your hard disk drives in a replacement unit, follow the procedures in this section.

In this section, your old, original appliance is referred to as WAE1 and your new, replacement appliance is referred to as WAE2 for illustration purposes.

Caution Read this entire section before making any changes to your WAE appliance.

This section explains how to perform the following tasks:

- Save a Copy of the Running Configuration, page 5
- Install the Application Software on the Replacement Appliance, page 6

Save a Copy of the Running Configuration

Before you return your original appliance for replacement, save a copy of your running configuration by using one of the three methods described in this section.

Method 1—Saving the Running Configuration Using FTP

To save the running configuration using FTP, follow these steps:

Step 1 Copy the running configuration of the original appliance (WAE1) from the system disk by using the **copy running-config disk** EXEC command.

wae1# **copy running-config disk** *original.config.txt*

Step 2 Enable FTP services on the appliance by using the **inetd enable ftp** global configuration command.

wae1(config)# **inetd enable ftp**

Step 3 Using an FTP client, transfer the running configuration file (*original.config.txt*) from the original appliance to an external FTP server, making a copy of it.

Step 4 Make sure that the copy is identical to the original running configuration.

You can compare the configurations visually, or you can use a utility such as diff.

Method 2—Saving the Running Configuration Using TFTP

If a TFTP server is available, save a copy of the running configuration to your TFTP server by using the **copy running-config tftp** EXEC command.

wae1# **copy running-config tftp** *TFTP_Server_IPaddr original.config.txt*

Method 3—Saving the Running Configuration Manually

To manually make a copy of the running configuration, follow these steps:

Step 1 Enter the **show running-config** EXEC command.

Step 2 Copy the configuration, paste it into a text editor, and save it as a text file.

Step 3 Make sure that all configuration items have been copied over.

After you have saved the running configuration of your old original appliance (WAE1), proceed to the next section and install the application software on your new replacement appliance (WAE2).

Install the Application Software on the Replacement Appliance

Note You must install the identical version and build number of software that you had running on your original appliance (WAE1).

To install the application software on the replacement appliance, follow these steps:

Step 1 Obtain the software rescue file from Cisco.com. (See the "Obtaining a Software Rescue File from Cisco.com" section on page 3.)

Step 2 Copy the software rescue file onto a CD, and install the rescue software on the replacement appliance (See the "Creating a Recovery CD-ROM" section on page 4 and the "Installing the Application Software Using the CD-ROM" section on page 4.)

Alternatively, use the **copy ftp install** EXEC command to install the software rescue file on your replacement appliance.

Step 3 After the application software is installed, proceed to the next section and configure the replacement appliance.

Write the Configuration to Flash Memory in the Replacement Appliance

To write the configuration to flash memory in the replacement appliance, follow these steps:

Step 1 To use FTP to write the configuration to flash memory in the replacement appliance, follow these steps:

a. Enable the FTP server on the replacement appliance (WAE2).

wae2(config)# **inetd enable ftp**

b. Using your FTP client, transfer the copy of the original running configuration (*original.config.txt*) from the FTP server to WAE2.

c. Write the configuration to flash memory using the **copy disk startup-config** EXEC command.

wae2# **copy disk startup-config** *original.config.txt*

Step 2 Alternatively, if a TFTP server is available, you can write the *original.config.txt* file to flash on WAE2 by using the **copy tftp startup-config** EXEC command.

wae2# **copy tftp startup-config** *TFTP_Server_IPaddr original.config.txt*

Step 3 Confirm that the configuration written to flash is identical to the original running configuration by using the **show startup-config** EXEC command.

wae2# **show startup-config**

Transfer Existing Disks to the Replacement Appliance

To transfer your existing hard disk drives to the replacement appliance, follow these steps:

Step 1 Use the **shutdown** EXEC command to exit gracefully, and then power off both the original appliance (WAE1) and the replacement appliance (WAE2).

Caution Abruptly powering off an appliance can lead to disk corruption and loss of content. Always use the **shutdown** EXEC command to exit cleanly and gracefully before you power off the appliance.

Step 2 Remove the first hard disk from WAE1, and reinstall it in WAE2.

Note You must install each hard disk drive into the same bay on the replacement appliance (WAE2) as it was installed in the original appliance (WAE1).

Step 3 If your appliance has more than one hard disk drive, install it in the same manner as the first one.

Step 4 Power on WAE2 and make sure that the disks are detected by using the **show disk details** EXEC command. The content on the disks should be preserved and available for use.

Changing the Application Software Using the Recovery CD-ROM

To change the application software on a WAE appliance, you must first obtain the recovery CD-ROM that contains the application software that you want to install. Alternatively you can download the software rescue file from Cisco.com and burn it to a CD using software, such as "Nero Burning ROM," and a CD burner. (See the "Obtaining a Software Recovery CD-ROM" section on page 2.)

To change the application software, follow these steps:

Step 1 Connect a serial console to the appliance to be upgraded and use this console connection for subsequent steps.

Step 2 Insert the recovery CD into the CD-ROM drive and reboot the appliance.

After the appliance reboots, you see the following menu:

```
Installer Main Menu
1. Configure Network
2. Manufacture Flash
3. Install Flash cookie
4. Install Flash image from network
5. Install Flash image from cdrom
6. Install Flash image from disk
7. Wipe out disks and install .bin image
8. Exit (and reboot)
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Step 3 To prepare the Flash, choose Option 2.

This option verifies the flash memory and, if invalid, automatically reformats it. If reformatting is required, a new cookie is automatically prepared.

Step 4 To install the Flash cookie, choose Option 3.

This option installs the Flash cookie that you prepared in the previous step.

Step 5 To install the Flash image from the CD-ROM, choose Option 5.

Step 6 To wipe the disks and install the binary image, choose Option 7.

This option prepares the disks by erasing all previous code and data from the disks. The new software is then installed.

Note We recommend that you run Option 7 twice, because sometimes the first attempt to erase the disks is incomplete. Running Option 7 twice ensures that all previous code and data has been removed from the disks.

Step 7 Before rebooting the appliance, manually remove the CD-ROM from the drive.

Step 8 To reboot, choose Option 8.

Installer Menu Option Reference

The options described in the following sections are available from the software recovery CD-ROM installer menu.

In most situations, after booting from the recovery CD-ROM you will only need to choose Option 7: Wipe Out Disks and Install .bin Image from the installer menu, wait for it to complete, and then choose Option 8: Exit and Reboot to reboot your system.

Option 1: Configure Network

If the .bin image you need to install is located on the network instead of the recovery CD-ROM (which may be the case when an older recovery CD-ROM is used to install new software), then you must choose the Configure Network option to configure the network before attempting to install the .bin image.

The Configure Network option is automatically performed if you install a .sysimg file from the network.

Option 2: Manufacture Flash

The Manufacture Flash option verifies the flash memory and, if invalid, automatically reformats it to contain a Cisco standard layout. If reformatting is required, a new cookie is automatically installed from the recovery CD-ROM.

The Manufacture Flash option is automatically performed as part of a .bin or .sysimg installation.

Option 3: Install Flash Cookie

The Install Flash Cookie option generates a hardware-specific platform cookie and installs it in flash memory. The Install Flash Cookie option only needs to be performed if there has been a change in the hardware components, such as replacing the motherboard, adding a flash memory card, or moving a flash memory card between systems.

The Install Flash Cookie option is automatically performed during the Manufacture Flash option, if needed, as part of a .bin or .sysimg installation.

Option 4: Install Flash Image from Network and Option 5: Install Flash Image from CD-ROM

The Install Flash Image from Network and the Install Flash Image from CD-ROM options allow installation of the flash memory .sysimg only, and do not modify disk contents. They may be used when a new chassis has been provided and populated with the customer's old disks, which need to be preserved.

These options automatically perform flash verification and hardware cookie installation, if required. When installing from the network, you are prompted to configure the network if you have not already done so.

Option 6: Install Flash Image from Disk

This option is reserved for future expansion and is not available.

Option 7: Wipe Out Disks and Install .bin Image

Caution Option 7 erases the content from all disk drives in your device.

The Wipe Out Disks and Install .bin Image option is the preferred procedure for installing the Cisco ACNS or WAFS software. The Wipe Out Disks and Install .bin Image option performs the following steps:

1. Checks that flash memory is formatted to Cisco specifications.

   If yes, continues to number 2.

   If no, the following takes place:

   a. Reformats the flash memory, which installs the Cisco file system.

   b. Generates and installs a platform-specific cookie for the hardware.
2. Erases data from all drives.
3. Remanufactures the default Cisco file system layout on the disk.
4. Installs the flash memory component from the .bin image.
5. Installs the disk component from the .bin image.

Option 8: Exit and Reboot

The Exit and Reboot option reboots the device. To have the device boot from flash memory, remove the recovery CD-ROM before rebooting.