Upgrading OmniSwitch 9000E Series Switches to 6.4.3.R01

Overview

This instruction sheet documents how to upgrade OmniSwitch 9000E Series Switches to 6.4.3.R01 software and firmware. The upgrade can be performed using the CLI or WebView. Alcatel-Lucent recommends using WebView to perform the upgrade. For upgrade instructions using the CLI, see **Upgrading with the CLI** on page 12.

Note. To downgrade a switch (e.g., 6.4.3 to 6.4.2), see **Upgrade/Downgrade Software Matrix** on page 17.

Prerequisites

This instruction sheet requires that the following conditions exist, or are performed, before upgrading:

- The person performing the upgrade must:

    - be the responsible party for maintaining the switch's configuration

    - be aware of any issues that may arise from a network outage caused by improperly loading this code

    - understand that the switch must be rebooted and network users will be affected by this procedure

    - have a working knowledge of the switch to configure it to accept an FTP connection through the EMP or Network Interface (NI) Ethernet port.

- If the CLI is used, all CLI commands must be executed via a Console Port connection, not through a Telnet session. If you are performing a remote upgrade, the console port must be connected through a terminal server (via Telnet, PuTTY, etc.) in the same location as the switch you are upgrading.

Note. Do not proceed until all the above prerequisites have been met. Any deviation from these upgrade procedures will result in the malfunctioning of the switch. All steps in these procedures should be reviewed before beginning.

Upgrading with WebView

Upgrading OS9000E Series Switches to 6.4.3.R01 consists of the following steps. The steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Mini-boot files.

1   Upgrading the Image Files.

**2**   Upgrading the U-Boot and Miniboot Files.

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.4.3.R01.

1   Download the 6.4.3.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.

2   Log into the switch through WebView. (In dual redundant configurations you must log into the primary CMM).

Note. Before proceeding with the remaining steps, make sure that the switch's Web Management Inactivity Timer is set to at least 10 minutes (default setting is 4 minutes). To view and change the setting, go to the **Session Type Parameters** page by selecting **Security** > **ASA** > **Sessions** > **Configuration**.

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3   Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.3.R01 image files that you downloaded in Step 1. Click on the **Browse** button to locate the files.

4   Select one of the files and click **Open**. All of the files will appear in the "Selected" area as shown below.
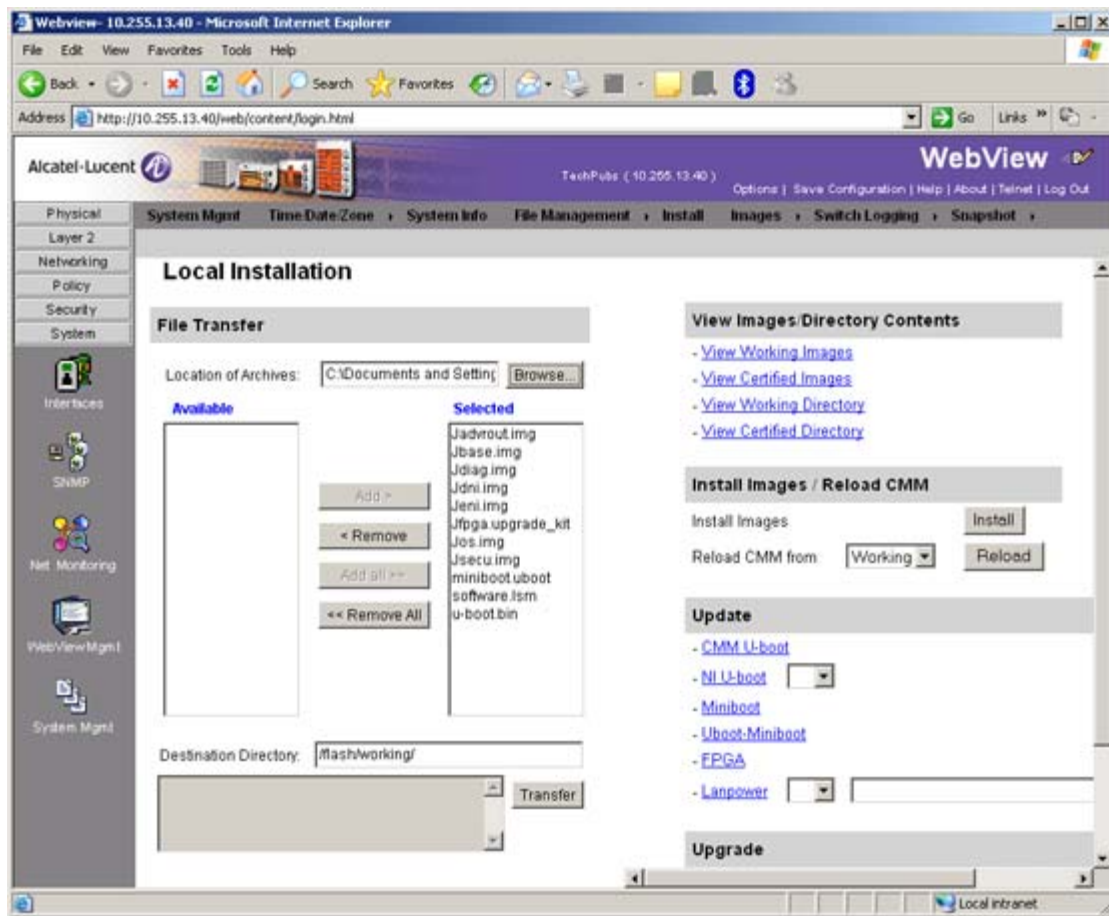
5 Click on the **Remove All** button to move all of the files to the "Available" area; then select the following image files and click the **Add** button to move them back to the "Selected" area as shown below: **Jadvrout.img**, **Jbase.img**, **Jeni.img**, **Jos.img**, **Jsecu.img**.
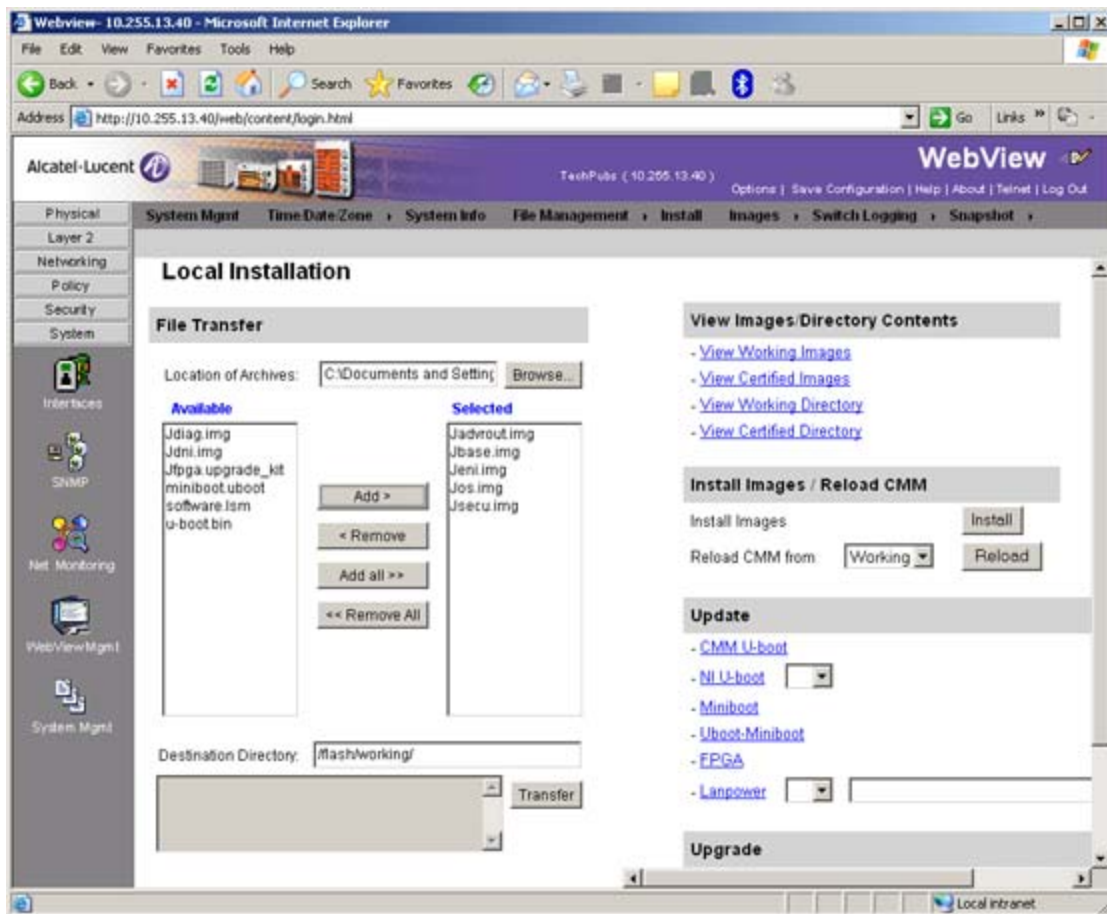
6 Transfer the files to the **flash/working** directory. Make sure the **Destination Directory** is **flash/working**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").

7 Reload the switch from the Working Directory. In the "Install Images/Reload CMM" area, select **Working** in the **Reload CMM From** field, then click the **Reload** button. Click **OK** at the warning prompt. Wait until the process is complete.

8 After the CMM finishes rebooting, log into WebView.

9 Copy the files to the Certified Directory and sync the Primary and Secondary CMMs (if applicable). Select **Physical** > **Chassis Mgmt** > **CMM** > **Management** as shown below.
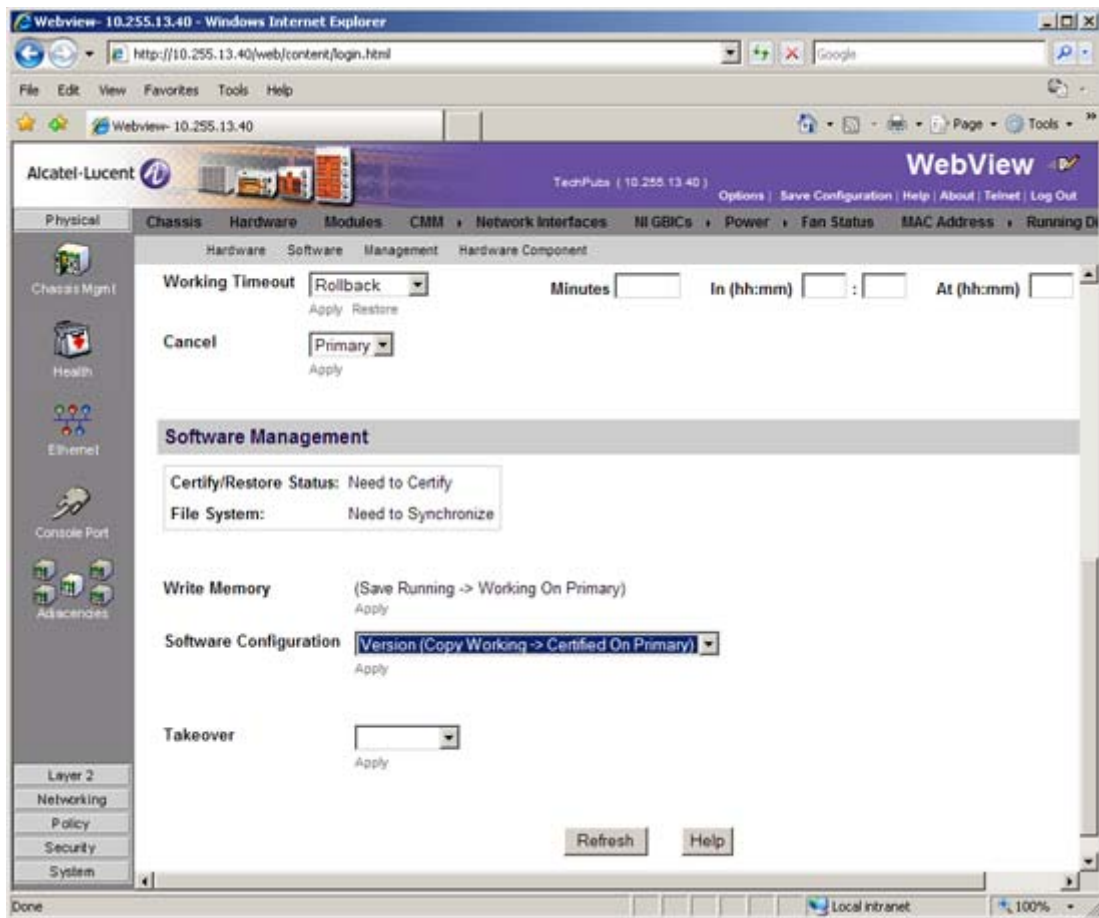
10 In the **Software Configuration** field, select **Copy Working -> Certified on Primary** for switches with a single CMM, or **Copy Working -> Certified & Synchronize with Secondary** for switches with a secondary CMM, then click **Apply**.
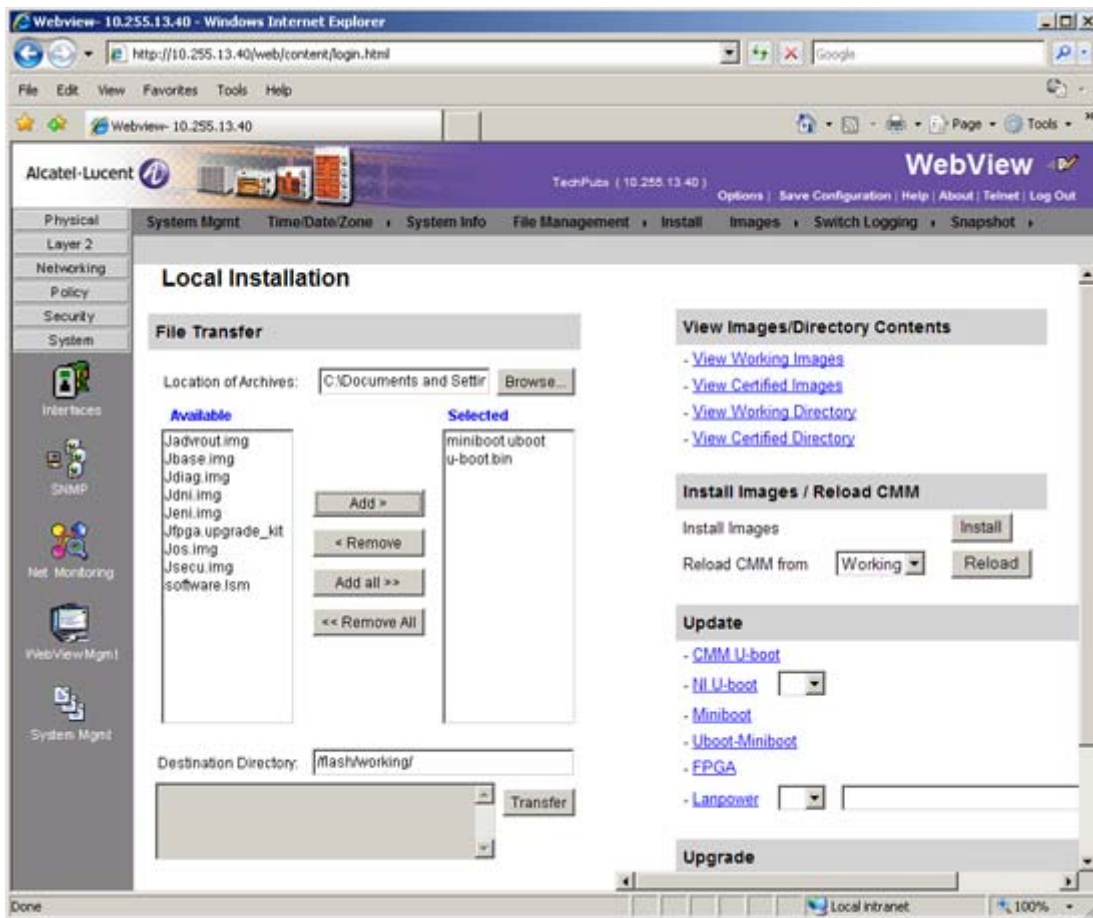
The switch will copy the files from the Working to the Certified Directory and synchronize the CMMs (if applicable). This command should **not** be interrupted.

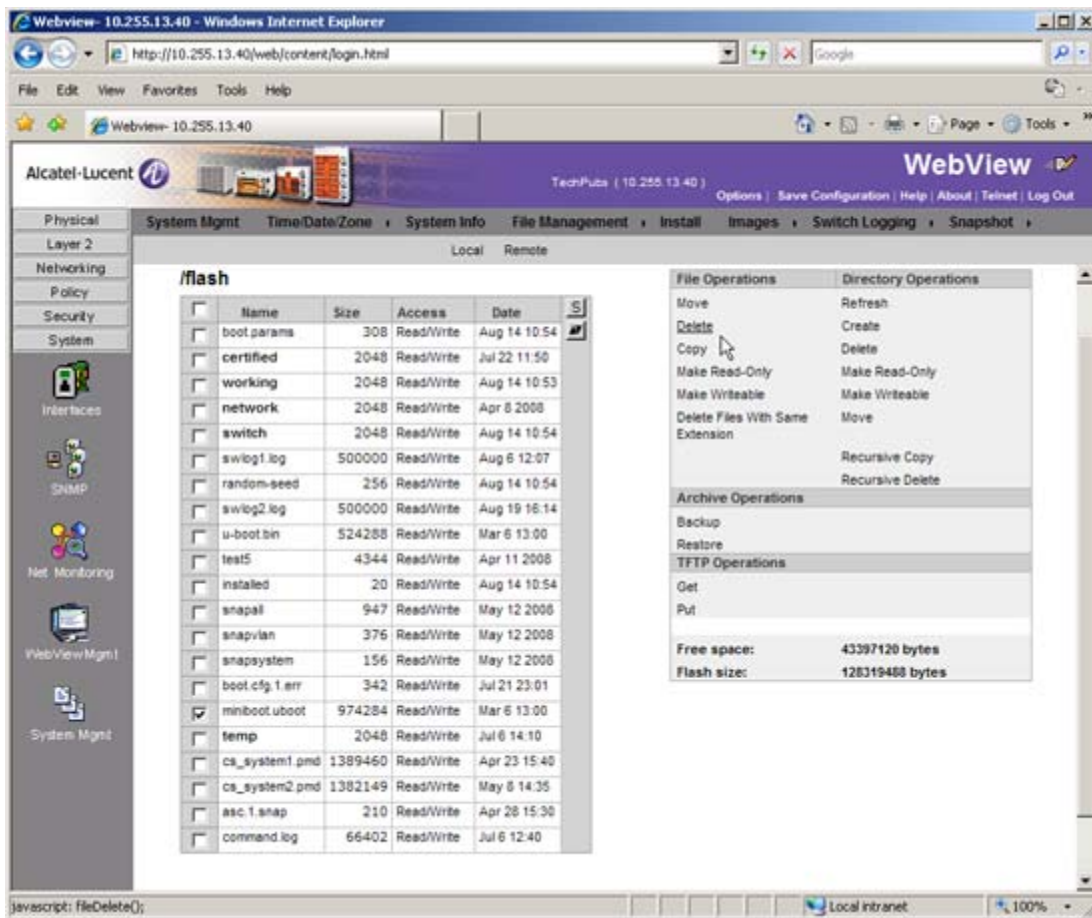## Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot files. U-Boot and Miniboot version **6.4.3.479.R01** is **required** for the 6.4.3.R01 upgrade.

1 Download the applicable upgrade files from the Alcatel-Lucent Service and Support website to your PC.

2 Log into the switch through WebView. (In dual redundant configurations you must log into the primary CMM.)

Note. If you have not already done so, make sure that the switch's Web Management Inactivity Timer is set to at least 10 minutes (default setting is 4 minutes). To view and change the setting, go to the **Session Type Parameters** page by selecting **Security** > **ASA** > **Sessions** > **Configuration**.

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3   Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.3.R01 image files that you down-
loaded in Step 1. Click on the **Browse** button to locate the files.

4   Select one of the files and click **Open**. All of the files will appear in the "Selected" area as shown
below.

5   Click on the **Remove All** button to move all of the files to the "Available" area; then select both the
miniboot.uboot and **u-boot.bin** files and click the **Add** button to move them to the "Selected" area as
shown below.

6 Transfer the files to the **/flash** Directory. Make sure the **Destination Directory** is /**flash**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").

7 In the "Update" area, click on **Uboot-Miniboot**, then click **OK** at the confirmation prompt. This will upgrade the Uboot and Miniboot files on all of the CMMs and the NIs. The upgrade progress is indicated in the upper right cornet of the screen. When the upgrade is complete, the following message appears: "set operation finished successfully."

8 Reload the switch from the Working Directory. In the "Install Images/Reload CMM" area, select **Working** from the **Reload CMM From** field, then click the **Reload** button. Click **OK** at the warning prompt. Wait until the process is complete.

9 After verifying that the upgrade was successful (see **Verifying the Upgrade with WebView** on page 8), delete the **miniboot.uboot** and **uboot.bin** files from the Flash Directory by selecting **System** > **System Mgmt** > **File Management** > **Local**, as shown below.

10 Check the box next to the **miniboot.uboot** file, select **Delete** in the **File Operations** box, then click
OK at the confirmation prompt. Repeat to delete the **u-boot.bin** file.

Verifying the Upgrade with WebView
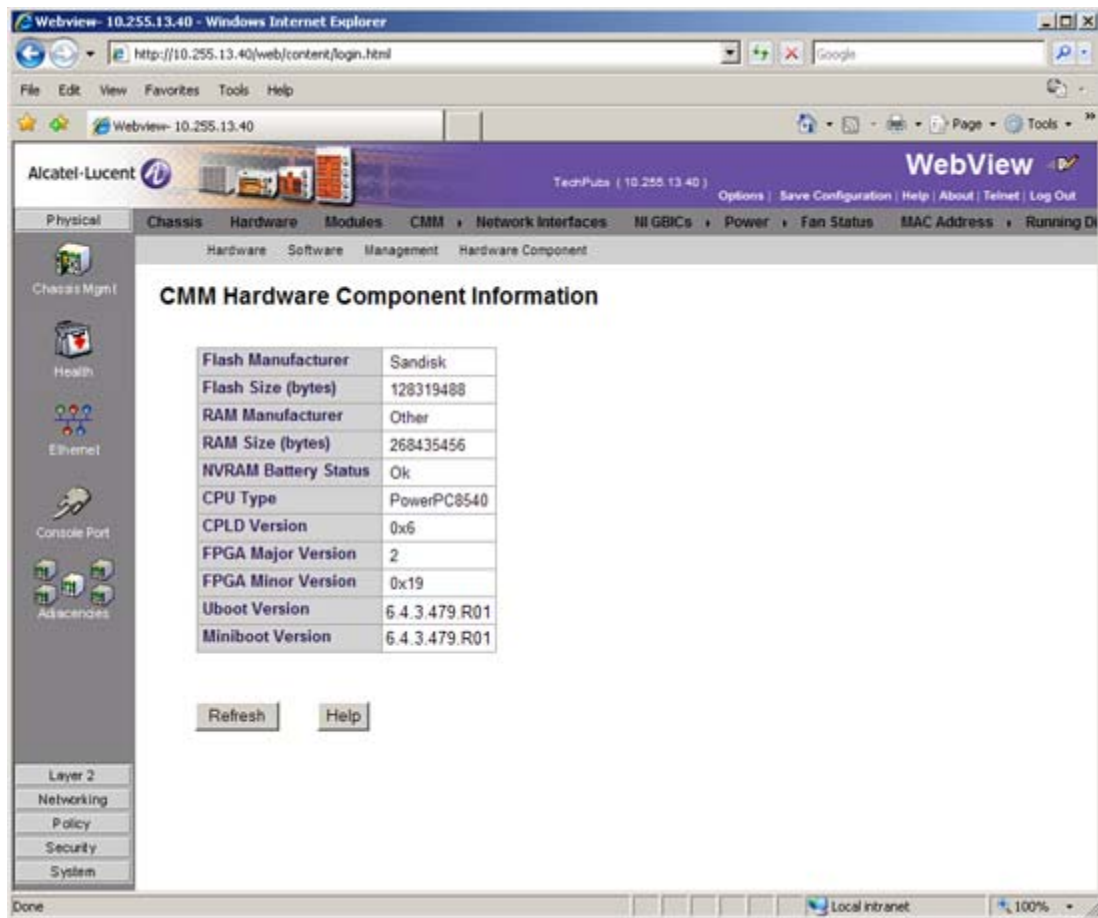
Verifying the Software Upgrade

To verify that the software was successfully upgraded, go to the **Loaded Image Files** page by selecting
System > **System Mgmt** > **Images** > **Loaded Images** as shown below.
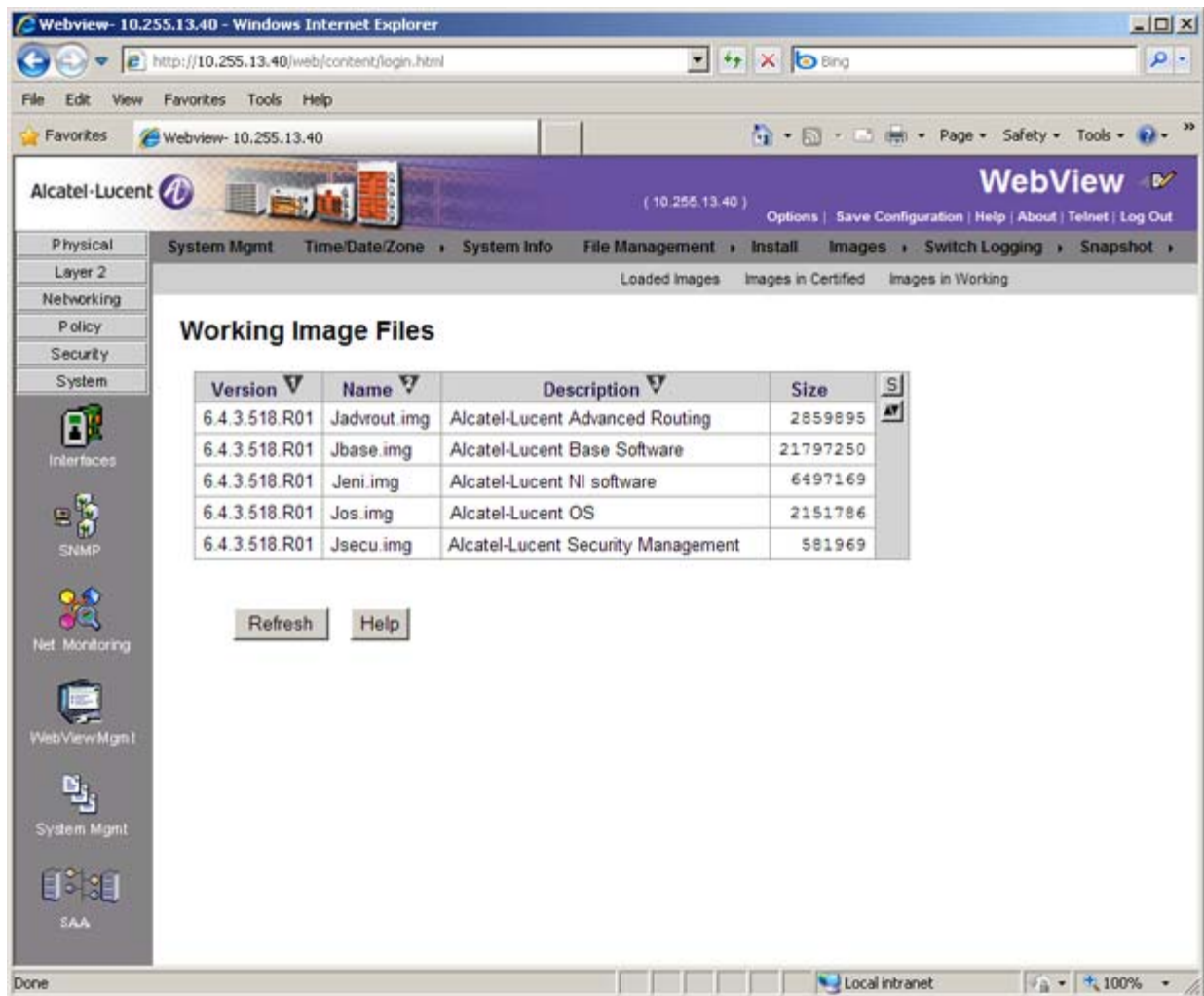
In addition, you should also select **System** > **System Mgmt** > **Images** > **Images in Certified** and **System** > **System Mgmt** > **Images** > **Images in Working** to verify that Certified and Working directories were successfully upgraded.

Verifying the U-Boot and Miniboot Upgrade

To verify that the U-Boot and Miniboot files were successfully upgraded on the CMM, go to the **CMM Hardware Component Information** page by selecting **Physical** > **Chassis Mgmt** > **CMM** > **Hardware Component**, as shown below.
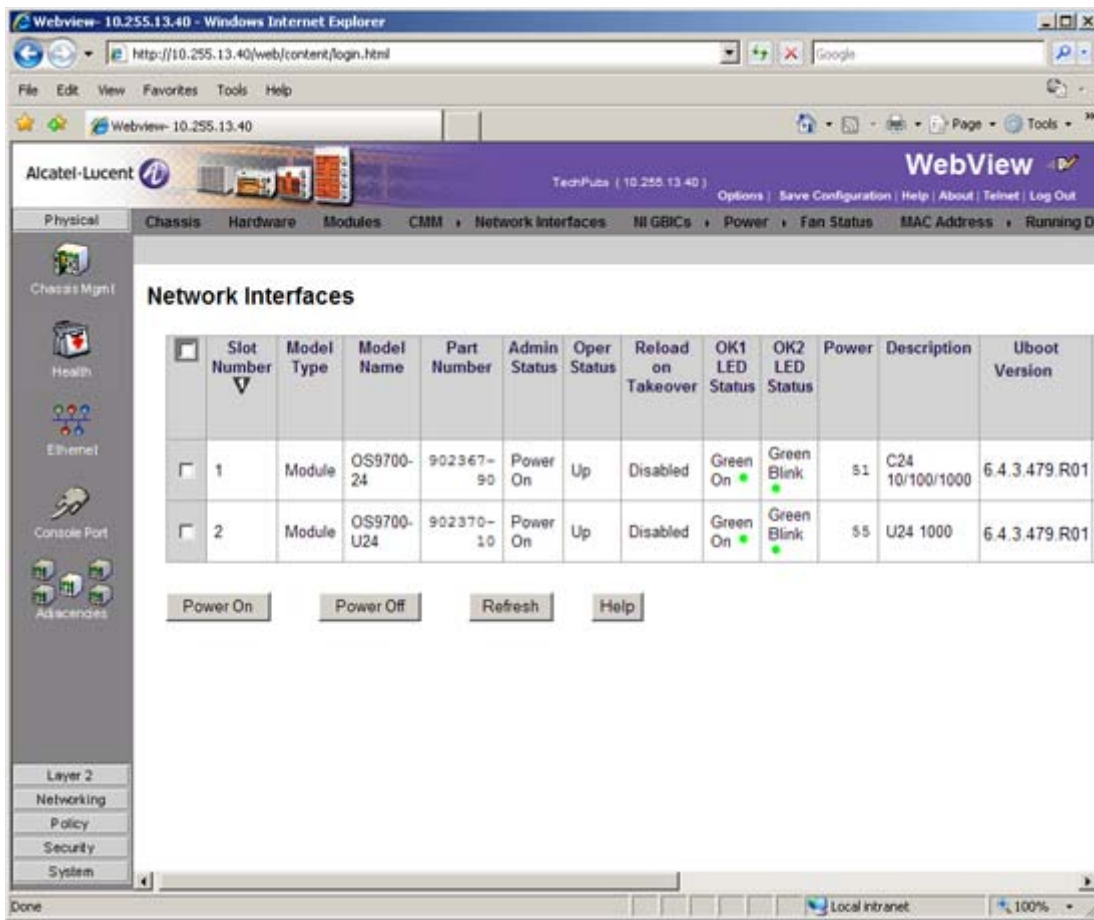
To verify that the U-Boot file was successfully upgraded on the switch's NIs, go to the **Network Inter-faces** page by selecting **Physical** > **Chassis Mgmt** > **Network Interfaces**, as shown below.

Upgrading with the CLI

Upgrading OS9000E Series Switches to 6.4.3.R01 consists of the following steps. The steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Mini-boot files.

1   Upgrading the Image Files.

2   Upgrading the U-Boot and Miniboot Files.

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.4.3.R01.

1   Download the 6.4.3.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.

2   FTP the following 6.4.3.R01 image files to the **/flash/working** directory of the primary CMM: **Jadvrout.img**, **Jbase.img**, **Jeni.img**, **Jos.img**, **Jsecu.img**.

3   Log into the switch. In dual redundant configurations, you must log into the primary switch.

4   Reload the switch from the working directory.

```
-> reload working no rollback-timeout
```

5   After the switch finishes rebooting, log into the switch.

6   Copy the image files from the Working Directory to the Certified Directory.

- If you have a **single CMM** switch enter:

```
-> copy working certified
```

- If you have **redundant CMMs** enter:

```
-> copy working certified flash-synchro
```

The switch will copy the files from the Working to the Certified Directory and synchronize the CMMs (if applicable). This command should not be interrupted.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot files. U-Boot and Miniboot version
6.4.3.479.R01 is **required** for the 6.4.3.R01 upgrade.

1 Download the applicable upgrade files from the Alcatel-Lucent Service and Support web site to your
PC.

2 FTP the **miniboot.uboot** and **u-boot.bin** files to the **/flash** directory on the primary CMM.

3 Execute the following CLI command to update the U-Boot and Miniboot files on the switch.

```
-> update uboot-miniboot
```

Sample output for "update uboot-miniboot" ->

```
WED APR 7 17:29:09 : SYSTEM (75) info message:

+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT

WED APR 7 17:29:09 : CSM-CHASSIS (103) info message:

+++ == CSM == Update bootrom on all slots

+++ == CSM == sysUpdate begin

WED APR 7 17:29:10 : FTP (82) info message:

+++ Session 0 New Connection, Client Address 127.2.66.1

+++ Get /flash/u-boot.bin!

+++ Session 0 Ending

WED APR 7 17:29:13 : SYSTEM (75) info message:

+++ NI 1 software update started

WED APR 7 17:29:20 : SYSTEM (75) info message:

+++ NI 1 software update completed -- file /flash/u-boot.bin copied

WED APR 7 17:29:26 : SYSTEM (75) info message:

+++ NI 4 software update started

WED APR 7 17:29:37 : SYSTEM (75) info message:

+++ NI 4 software update completed -- file /flash/u-boot.bin copied

WED APR 7 17:30:44 : CSM-CHASSIS (103) info message:

+++ == CSM == sysUpdate end

+++ == CSM == timer_r:duplex---- session end ----

+++ == CSM == UPDATE COMPLETED
```

4 When the "UPDATE COMPLETED" message appears, delete the miniboot and u-boot files from the **/
flash** directory, and the reload the switch from the **working** directory:

```
-> reload working no rollback-timeout
```

The upgrade is now complete. See Verifying the Upgrade with the CLI below for information on verifying the upgrade.

Verifying the Upgrade with the CLI

Verifying the Software Upgrade

To verify that the software was successfully upgraded to 6.4.3.R01, use the **show microcode** command as shown below.

```
-> show microcode

   Package          Release       Size     Description
----------------+--------------+--------+--------------------------------

Jbase.img        6.4.3.518.R01   18216628 Alcatel-Lucent Base Software

Jadvrout.img     6.4.3.518.R01    2745699 Alcatel-Lucent Advanced Routing

Jos.img          6.4.3.518.R01    2049916 Alcatel-Lucent OS

Jeni.img         6.4.3.518.R01    5417699 Alcatel-Lucent NI software

Jsecu.img        6.4.3.518.R01     564947 Alcatel-Lucent Security Management
```

Verifying the U-Boot and Miniboot Upgrade

To verify that the U-Boot and Miniboot files were successfully upgraded on the CMM, use the **show hardware info** command as shown below.

```
-> show hardware info

CPU Type                      : Motorola MPC8540 ADS,

Flash Manufacturer            : SanDisk SDCFJ-128                        ,

Flash size                    : 128319488 bytes (122 MB),

RAM Manufacturer              : 0x00000040 - Other,

RAM size                      : 268435456 bytes (256 MB),

NVRAM Battery OK ?            : YES,

CPLD rev                      : 0x6,

FPGA major rev                : 0x2,

FPGA minor rev                : 0x19,

uboot Version                 : 6.4.3.479.R01,

uboot-miniboot Version        : 6.4.3.479.R01,

Backplane type                : Regular mode,
```

To verify that the NI modules were successfully upgraded, use the **show ni** command as shown below.

```
-> show ni

Module in slot 1

  Model Name:                OS9700-24,

  Description:               C24 10/100/1000,

  Part Number:               902367-90,

  Hardware Revision:         C15,

  Serial Number:             G25Q0772,

  Manufacture Date:          JUN 28 2006,

  Firmware Version:          ,

  Admin Status:              POWER ON,

  Operational Status:        UP,

  Power Consumption:         51,

  Power Control Checksum:    0xd872,

  CPU Model Type   :         Motorola MPC8540 ADS,

  MAC Address:               00:d0:95:ec:d1:c8,

  ASIC - Physical 1:         BCM56504_A1,

  FPGA - Physical 1:         0005/00,

  UBOOT Version :            6.4.3.479.R0,

  UBOOT-miniboot Version :   No Miniboot,

  POE SW Version :           n/a

Module in slot 2

  Model Name:                OS9700-U24,

  Description:               U24 1000,

  Part Number:               902370-10,

  Hardware Revision:         C13,

  Serial Number:             G0410042,

  Manufacture Date:          FEB 23 2006,

  Firmware Version:          ,

  Admin Status:              POWER ON,

  Operational Status:        UP,

  Power Consumption:         55,
```

```
Power Control Checksum:          0xb156,

CPU Model Type    :              Motorola MPC8540 ADS,

MAC Address:                     00:d0:95:e1:6e:7a,

ASIC - Physical 1:               BCM56504_A1,

FPGA - Physical 1:               0005/B9,

UBOOT Version :                  6.4.3.479.R01,

UBOOT-miniboot Version :         No Miniboot,

POE SW Version :                 n/a
```

Upgrade/Downgrade Software Matrix

Refer to the matrix below for software compatibility when upgrading/downgrading a 9000E Series Switch to/from Build 6.4.3.R01. For more information, contact Customer Support.

I = Image Files
F= U-Boot/Miniboot
Yes = You can upgrade/downgrade to the next build.
No = You cannot upgrade/downgrade to the next build.
N/A = Not applicable. Build not supported on the model.

Upgrade/Downgrade Matrix 6.4.3.R01 GA I = 6.4.3.R01 GA F = 6.4.3.479.R01		
Build and Supported Software Versions For Each Upgrade		
Model	**6.4.1 GA** I = 6.4.1.R01 F = 6.4.1.149.R01	**6.4.2 GA** I = 6.4.2.R01 F = 6.4.1.149.R01
9000E	Yes	Yes

Note. Hardware is only backward compatible down to the software that originally supported it. For example, the lowest software version that you can run on a 9000E Series Switch is 6.4.1.R01. Also, when downgrading, make sure to load the applicable U-Boot/Miniboot files. For more information, contact Customer Support.

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