Upgrading OmniSwitch 6855 Series Switches to 6.4.2.R01

Overview

This instruction sheet documents how to upgrade OmniSwitch 6855 Series Switches to 6.4.2.R01 firmware and software. The upgrade can be performed using the CLI, WebView, or SNMP. 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., 6.4.2 to 6.3.4), 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 6855 Series Switches from 6.3.4.R01 to 6.4.2.R01 consists the following steps.

1 Upgrading the Image Files.

2 Upgrading the U-Boot and Miniboot Files (the required version is 6.4.2.316.R01).

Note. These steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

Upgrading the Image Files

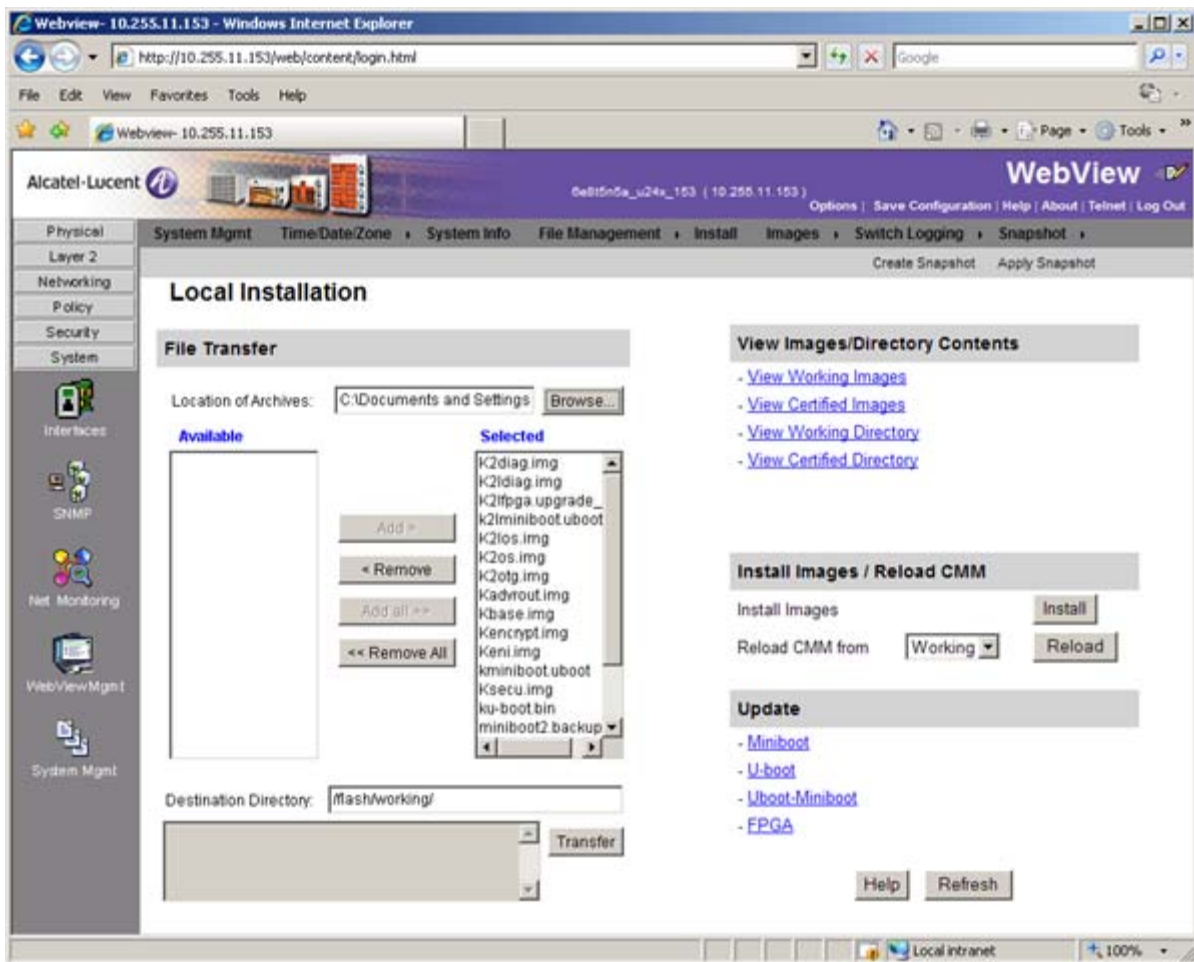Follow the steps below to upgrade the image files to 6.4.2.R01.

1 Download the 6.4.2.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.

2 Log into the switch through WebView.

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 6.4.2.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 to the "Selected" area as shown below: **K2Ios.img, Kadvrout.img, Kbase.img, Keni.img, Ksecu.img**.
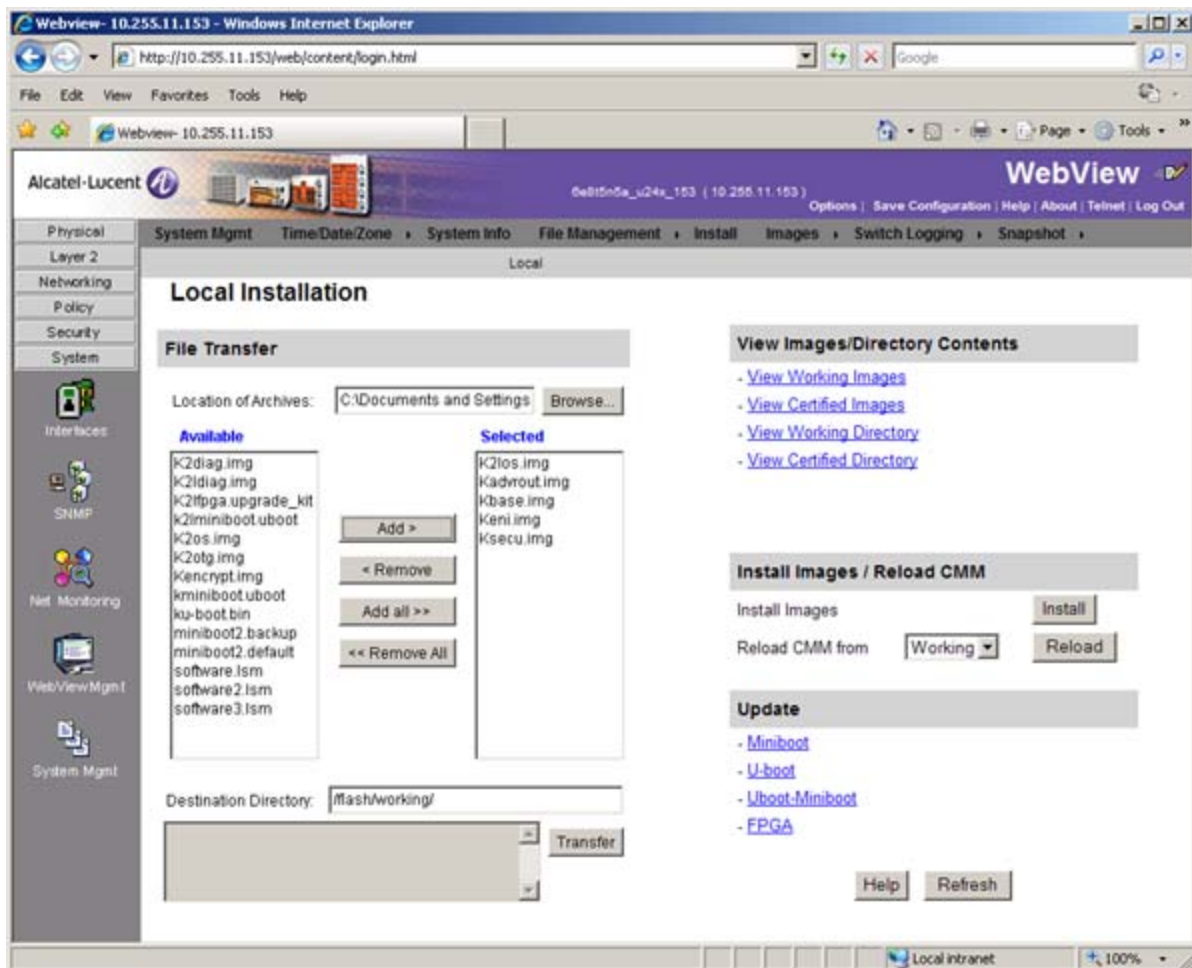
6   Transfer the files to the **flash/working** directory. Make sure the **Destination Directory** is **flash/work-ing**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").

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   Select **Physical** > **Chassis Mgmt** > **CMM** > **Management** as shown below.
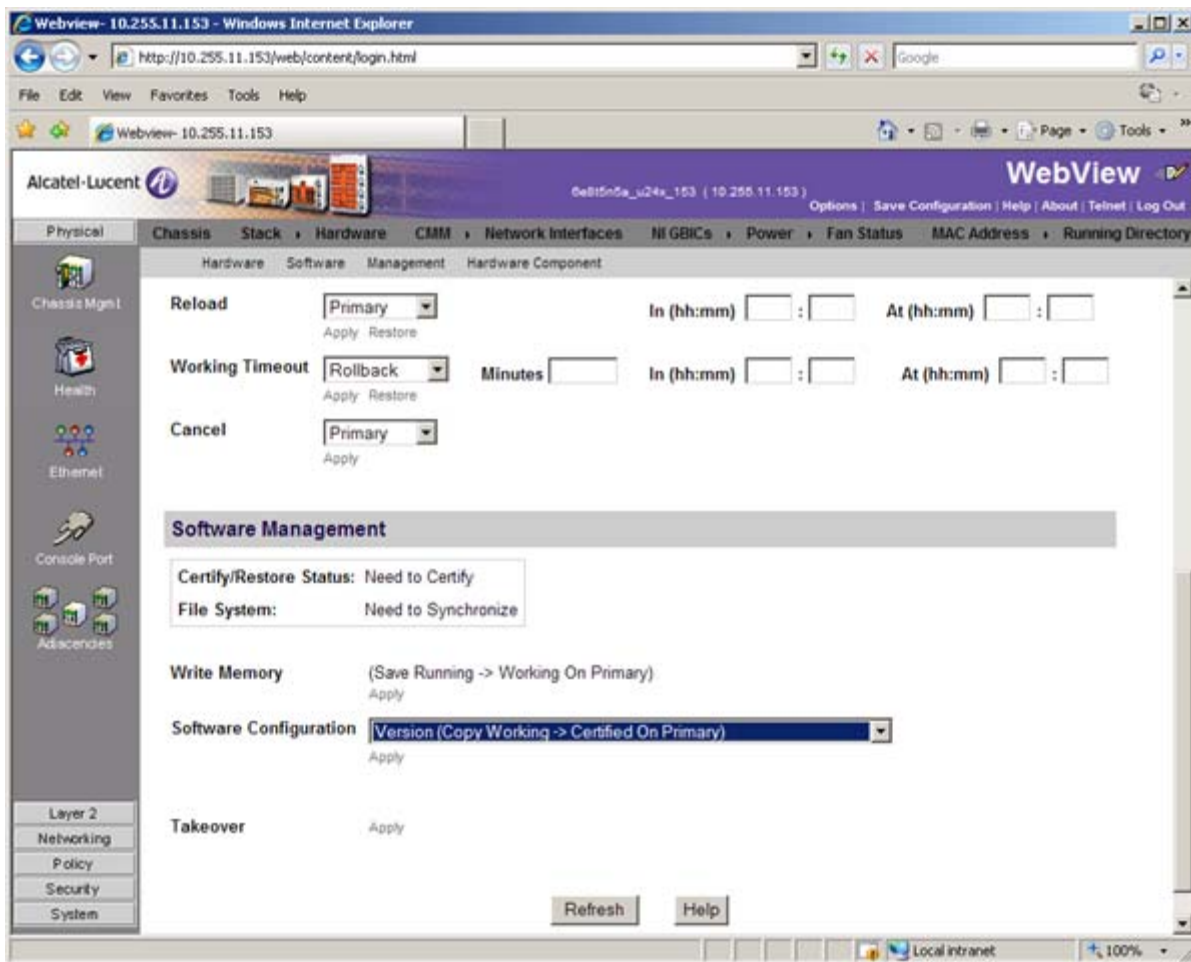
10 In the **Software Management** field, select **Copy Working -> Certified on Primary** for standalone switches. For a stack, select **Copy Working -> Certified & Synchronize with Secondary** and click **Apply**.

The switch will synchronize files from the working directory with all other stacks (if applicable). This command should not be interrupted. Wait for the synchronization process to complete on all switches before proceeding to the next step.

Upgrading the U-Boot and Miniboot Files

The required U-Boot/Miniboot version for Release 6.4.2.R01 is 6.4.2.316.R01. Follow the steps below to upgrade the U-Boot/Miniboot files.

1   Download the applicable U-Boot/Miniboot files from the Alcatel-Lucent Service and Support web site to your PC (**ku-boot.bin** and **k2Iminiboot.uboot**).

2   Log into the switch through WebView.

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 6.4.2.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.
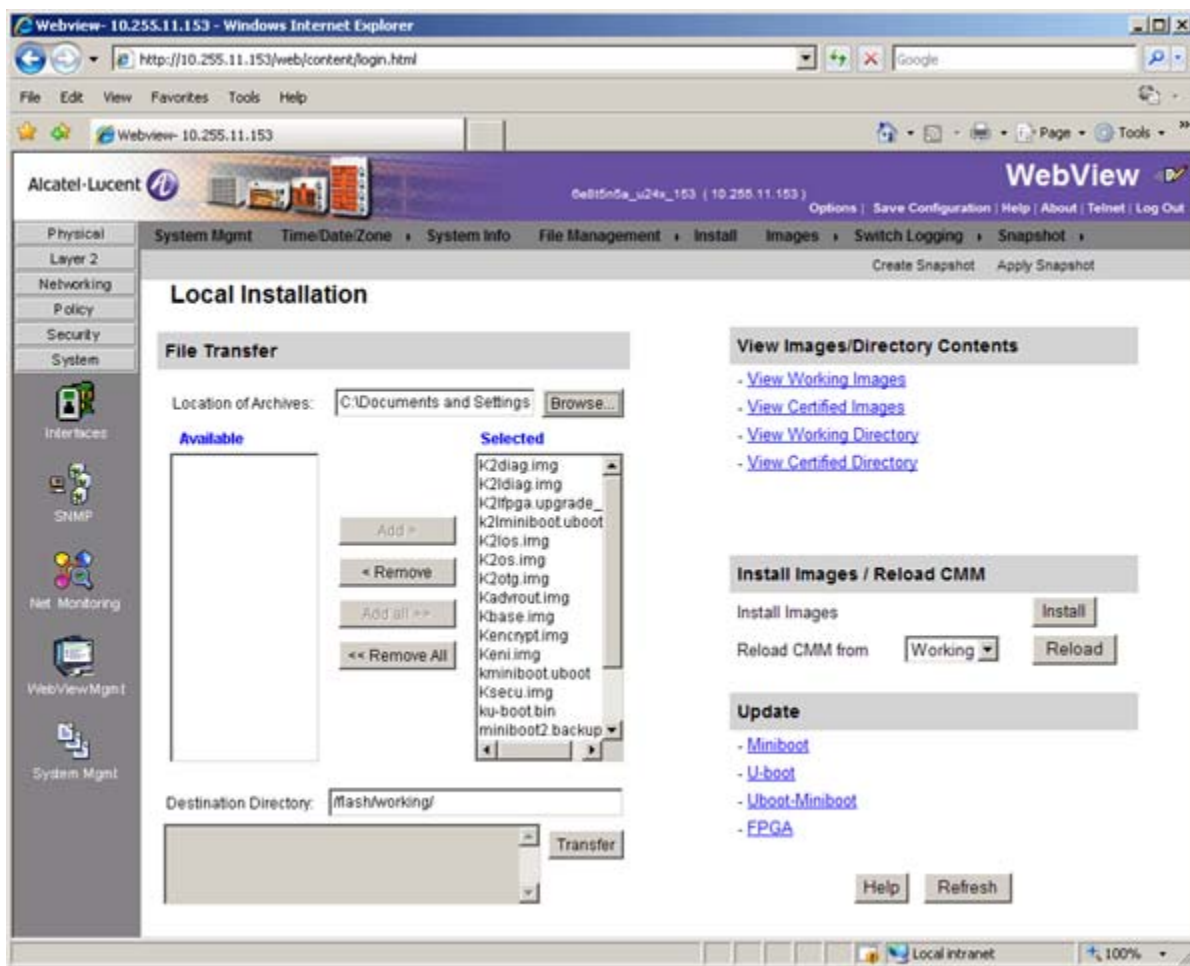
5   Click on the **Remove All** button to move all of the files to the "Available" area, then select the **ku-boot.bin** file and the **k2Iminiboot.uboot** file and click the **Add** button to move them to the "Selected" area as shown below.
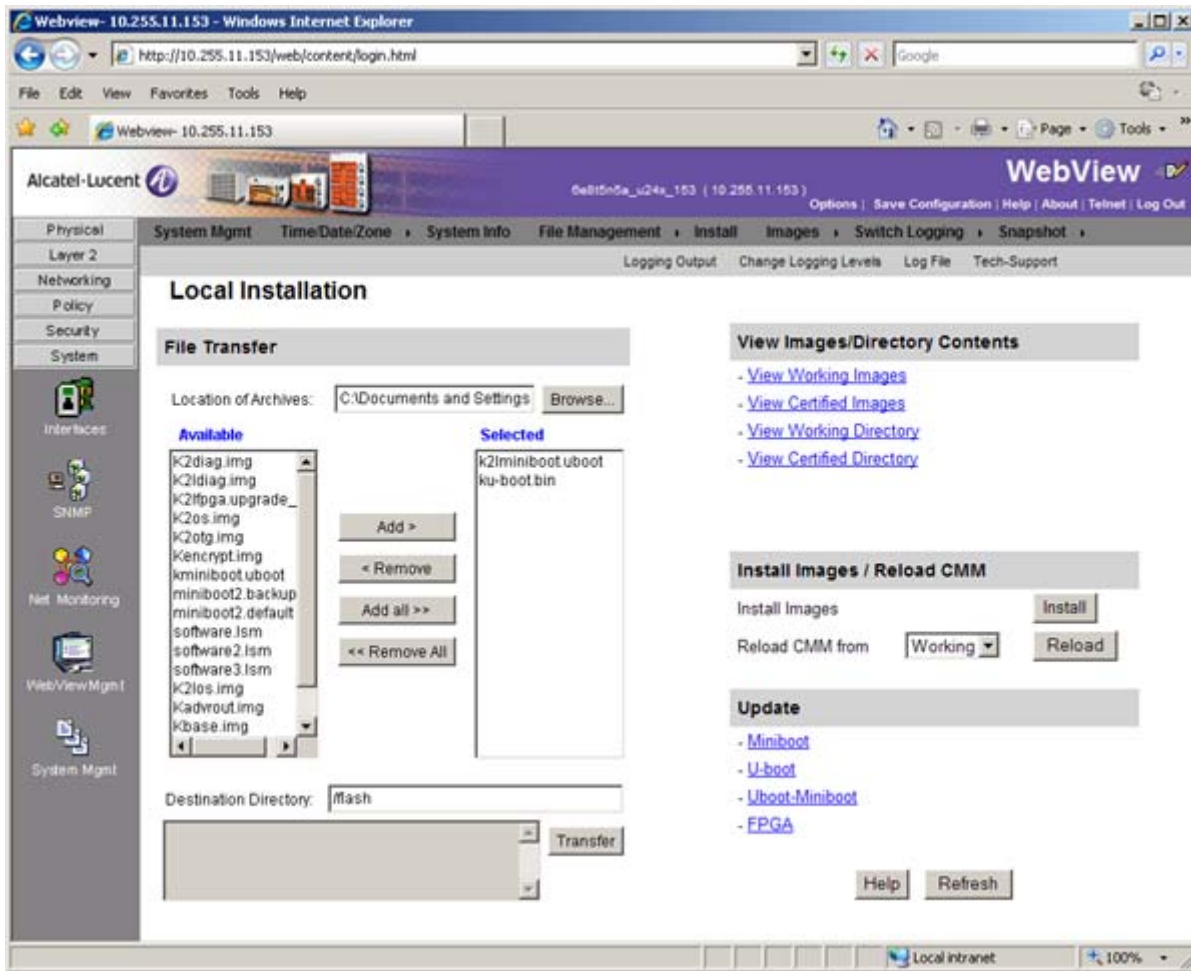
6   Make sure the **Destination Directory** is /**flash**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").

7   In the "Update" area, click on **Uboot-Miniboot**, then click **OK** at the confirmation prompt to upgrade the Uboot and Miniboot files. The upgrade progress is indicated in the upper right corner 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 9), delete the **K2Iminiboot.uboot** and **ku-boot.bin** files from the Flash Directory by selecting **System** > **System Mgmt** > **File Management** > **Local**, as shown below.
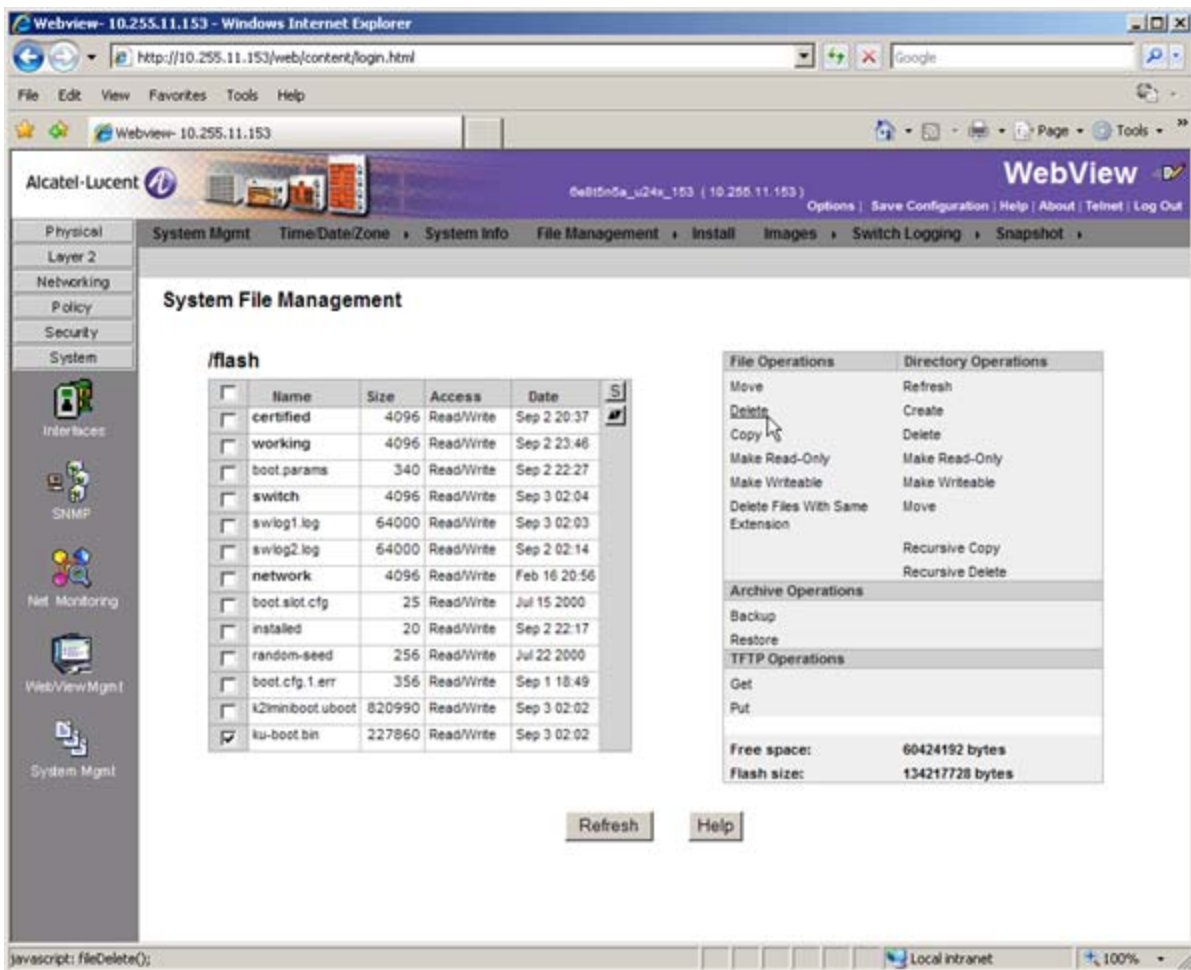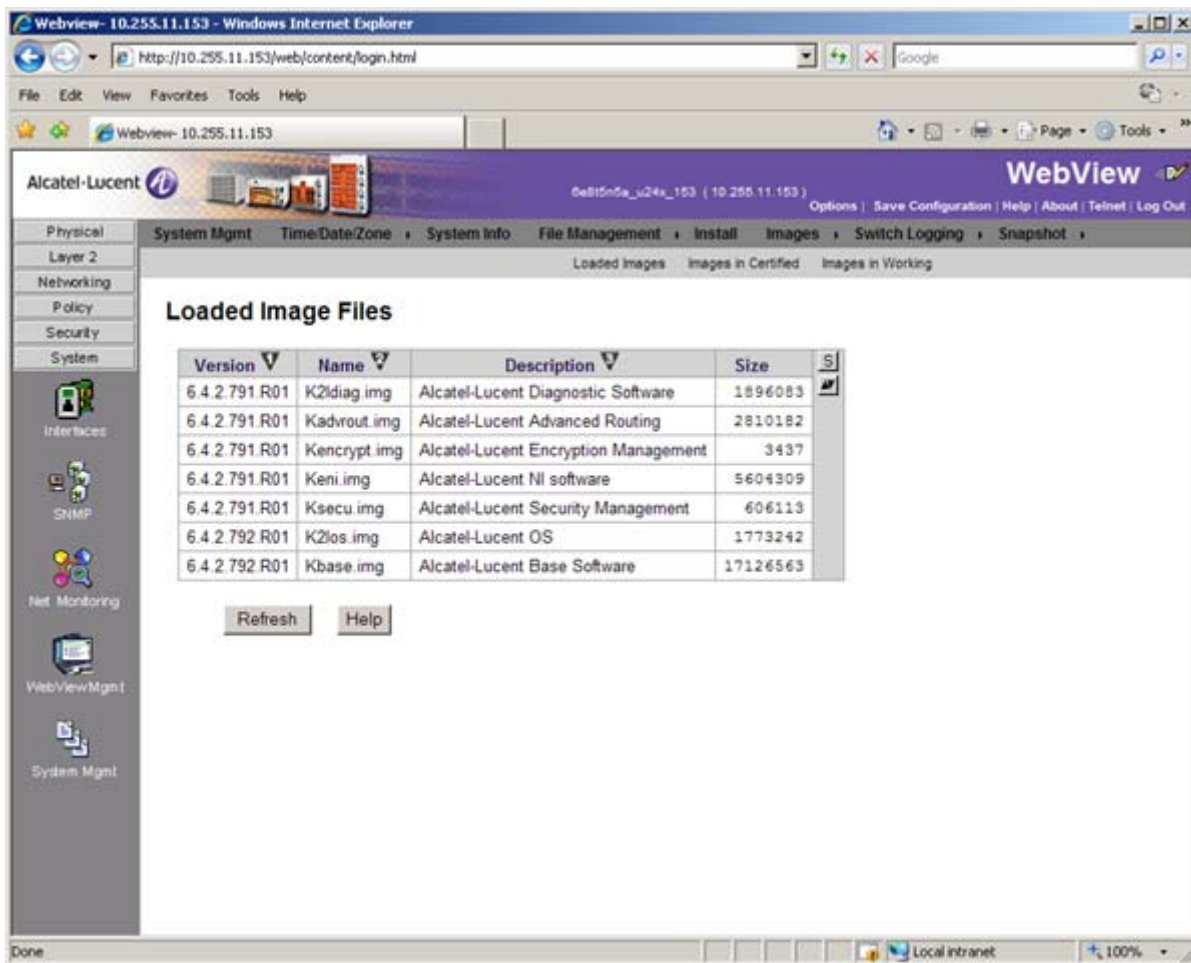
10 Check the box next to the ku-boot.bin file, select **Delete** in the **File Operations** box, then click **OK** at
the confirmation prompt. Repeat to delete the k2Iminiboot.uboot file.

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 U-Boot and Miniboot files were successfully upgraded on the CMM, go to the **CMM Hard-ware Component Information** page by selecting **Physical** > **Chassis Mgmt** > **CMM** > **Hardware Component**, as shown below.

To verify that the U-Boot and Miniboot files were successfully upgraded on the switch's NIs, go to the **Network Interfaces** page by selecting **Physical** > **Chassis Mgmt** > **Network Interfaces**, as shown below. Scroll right to the **Uboot Version** and **Miniboot Version** columns.

Upgrading with the CLI

Upgrading 6855 Series Switches from 6.3.4.R01 to 6.4.2.R01 consists the following steps.

1   Upgrading the Image Files.

2   Upgrading the U-Boot and Miniboot Files (the required version is 6.4.2.316.R01).

Note. These steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.4.2.R01.

1   Download the 6.4.2.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.

2   FTP the following 6.4.2.R01 image files to the **/flash/working** directory of the primary switch: **K2Ios.img, Kadvrout.img, Kbase.img, Keni.img, Ksecu.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

The required U-Boot/Miniboot version for Release 6.4.2.R01 is 6.4.2.316.R01. Follow the steps below to upgrade the U-Boot/Miniboot files.

1 Download the applicable U-Boot/Miniboot files from the Alcatel-Lucent Service and Support web site to your PC (**ku-boot.bin** and **k2Iminiboot.uboot**).

2 FTP the **ku-boot.bin** and **k2Iminiboot.uboot** files to the **/flash** directory on the primary switch.

3 Execute the following CLI commands to update the Miniboot and U-Boot files on the switch(es) (can be a standalone or stack).

```
-> update uboot-miniboot

THU AUG 20 14:19:34 : SYSTEM (75) info message:

+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT

THU AUG 20 14:19:34 : CSM-CHASSIS (103) info message:

+++ == CSM == Application & Watchdog Monitoring Stopped

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

+++ == CSM == sysUpdate begin

Allocating temporary buffer for bootrom image...

Reading bootrom image into temporary buffer...

Writing bootrom to boot sectors of flash...

Writing size 131072 bytes at 0xfff00000

Writing size 96740 bytes at 0xfff20000

Verifying bootrom sectors of flash...

Bootrom updated!!!

Allocating temporary buffer for checksuming miniboot image...

Reading miniboot image into temporary buffer...

Writing miniboot(828609 bytes) to boot sectors of flash...

Writing 131072 bytes at 0xff900000

Writing 131072 bytes at 0xff920000

Writing 131072 bytes at 0xff940000

Writing 131072 bytes at 0xff960000

Writing 131072 bytes at 0xff980000

Writing 131072 bytes at 0xff9a0000

Writing 42177 bytes at 0xff9c0000

Verifying miniboot sectors of flash...
```

```
Default miniboot updated!!!

sysStartWatchdog() Starting watchdog timer to INTERRUPT after 60 secs.

THU AUG 20 14:19:51 : CSM-CHASSIS (103) info message:

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

+++ == CSM == UPDATE COMPLETED

+++ == CSM == Application & Watchdog Monitoring Started
```

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

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

The upgrade is now complete. See **Verifying the Upgrade with the CLI** on page 15 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 6.4.2.R01, use the **show microcode** command as shown below. The display below shows a successful image file upgrade.

```
-> show microcode

   Package          Release       Size      Description

----------------+--------------+--------+--------------------------------

Kbase.img        6.4.2.792.R01   17126563 Alcatel-Lucent Base Software

Kadvrout.img     6.4.2.791.R01    2810182 Alcatel-Lucent Advanced Routing

K2Ios.img        6.4.2.792.R01    1773242 Alcatel-Lucent OS

Keni.img         6.4.2.791.R01    5604309 Alcatel-Lucent NI software

Ksecu.img        6.4.2.791.R01     606113 Alcatel-Lucent Security Management

Kencrypt.img     6.4.2.791.R01       3437 Alcatel-Lucent Encryption Management

K2Idiag.img      6.4.2.791.R01    1896083 Alcatel-Lucent Diagnostic Software
```

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                     : PowerPC 8247,

Flash Manufacturer           : Spansion, Inc.,

Flash size                   : 134217728 bytes (128 MB),

RAM Manufacturer             : Samsung,

RAM size                     : 268435456 bytes (256 MB),

NVRAM Battery OK ?           : YES,

Uboot Version                : 6.4.2.316.R01,

Miniboot Version             : 6.4.2.316.R01,

Product ID Register          : 0c

Hardware Revision Register   : A

FPGA1 Revision Register      : 2.2

FPGA2 Revision Register      : 1.0
```

To verify that the NI modules were successfully upgraded, use the **show ni** command as shown below. Information for each NI in a stack (if applicable) is displayed.

```
-> show ni

Module in slot 1

  Model Name:                  OS6855-U24X,

  Description:                 24 SFP+2 RJ45+10G,

  Current mode of 10G ports:   stacking,

  Mode of 10G ports at next boot:stacking,

  Part Number:                 902757-90,

  Hardware Revision:           A04,

  Serial Number:               K07Q0210,

  Manufacture Date:            FEB 23 2009,

  Firmware Version:            ,

  Admin Status:                POWER ON,

  Operational Status:          UP,

  Power Consumption:           0,

  Power Control Checksum:      0x8814,

  CPU Model Type   :           Freescale MPC8247 ADS,

  MAC Address:                 00:e0:b1:b6:7d:f7,

  ASIC - Physical 1:           BCM56512_A0,

  FPGA - Physical 1:           2.2,

  UBOOT Version :              6.4.2.316.R01,

  UBOOT-miniboot Version :     6.4.2.316.R01,

  POE SW Version :             n/a
```

Upgrade/Downgrade Software Matrix

Refer to the matrix below for software compatibility when upgrading/downgrading a 6855 Series Switch to/from Build 6.4.2.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.

Upgrade/Downgrade Matrix 6.4.2.R01 GA I = 6.4.2.R01 GA F = 6.4.2.316.R01		
Build and Supported Software Versions for Each Upgrade		
Model	6.3.2 GA I = 6.3.2.R01 F = 6.3.2.86.R01	6.3.4 GA I = 6.3.4.R01 F = 6.3.4.265.R01
6855	Yes	Yes

Note. Hardware is only backward compatible down to the software that originally supported it. Also, when downgrading, make sure to load the applicable U-Boot/Miniboot files. For more information, contact Customer Support.