Upgrading an OmniSwitch to 6.4.4.R01

Overview

These instructions documents how to upgrade the following OmniSwitch products to 6.4.4.R01 software and firmware. The upgrade can be performed using the CLI or WebView. Alcatel-Lucent recommends using WebView to perform the upgrade. Release 6.4.4.R01 is supported on the following switches. Click on the link to go to instructions for a specific switch.

- "OmniSwitch 9000E" on page -4
- "OmniSwitch 6855" on page -19
- "OmniSwitch 6850" on page -32
- "OmniSwitch 6400" on page -46.

Note. Release 6.4.4.R01 is **not** supported on the **OS 9600, 9700,** or **9800**. Also note that the OS6850E ships with the latest software and does not require any upgrades.

Prerequisites

WARNING: For all switch models, you **MUST** complete the Image File upgrade **BEFORE** upgrading the U-Boot and Miniboot Files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

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.
- **Read the 6.4.4.R01 GA Release Notes prior to performing any upgrade for information specific to this release.**

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.

UBoot, FPGA, Miniboot, BootROM, Upgrade Requirements

The software versions listed below are the minimum required, except where otherwise noted. Switches running the minimum versions, as listed below, do not require any Uboot, Miniboot, or FPGA upgrades when upgrading to AOS 6.4.4.R01.

Switches not running the minimum version required should upgrade to the latest Uboot, Miniboot, FPGA that is available with the 6.4.4.R01 AOS software available from Service & Support.

OmniSwitch 9000E

Release	Miniboot.uboot CMM	UBoot CMM	UBoot NI	FPGA CMM
6.4.4.R01	6.4.3.479.R01	6.4.3.479.R01	6.4.3.479.R01	Major Revision: 2 Minor Revision: 25 (displays as 0x19; recommended)

Note: The 'S01' build is required for ISSU support. Also note that Release 6.4.4.R01 is **not** supported on the OS 9600, 9700, or 9800.

OmniSwitch 6850

Release	Miniboot.uboot	UBoot	FPGA
6.4.4.R01	6.4.3.479.R01	6.4.3.479.R01 - (Minimum) **6.4.4.213.R01** - (Recommended for OS6850/OS6850E **mixed stack**)	No minimum required

Note. For more information on upgrading in a mixed stack environment (6850/6850E), see “OmniSwitch 6850” on page -32.

OmniSwitch 6850E

Release	Miniboot.uboot	UBoot	CPLD
6.4.4.R01	6.4.4.213.R01	6.4.4.213.R01	No minimum required

OmniSwitch 6855/OmniSwitch 6855-U24X

Release	Miniboot.uboot	UBoot	FPGA
6.4.4.R01	6.4.3.479.R01	6.4.3.479.R01	No minimum required

OmniSwitch 6400

Release	Miniboot	UBoot	FPGA
6.4.4.R01	6.4.3.565.R01	6.4.3.565.R01	OS6400-C24/P24 (v16) OS6400-C48/P48 (v11) OS6400-U24 (v10)

OmniSwitch 9000E

Upgrading With WebView

Upgrading OS9000E Series Switches to 6.4.4.R01 using WebView 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 Miniboot Files.

1. Upgrading the Image Files.
2. Upgrading the U-Boot and Miniboot Files, if necessary.

Note. Release 6.4.4.R01 is **not** supported on the **OS 9600, 9700,** or **9800**.

WARNING: You **MUST** complete the Image File upgrade **BEFORE** upgrading the U-Boot and Miniboot Files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

Upgrading the Image Files

Follow the steps below to upgrade the Image Files to 6.4.4.R01.

1. Download the 6.4.4.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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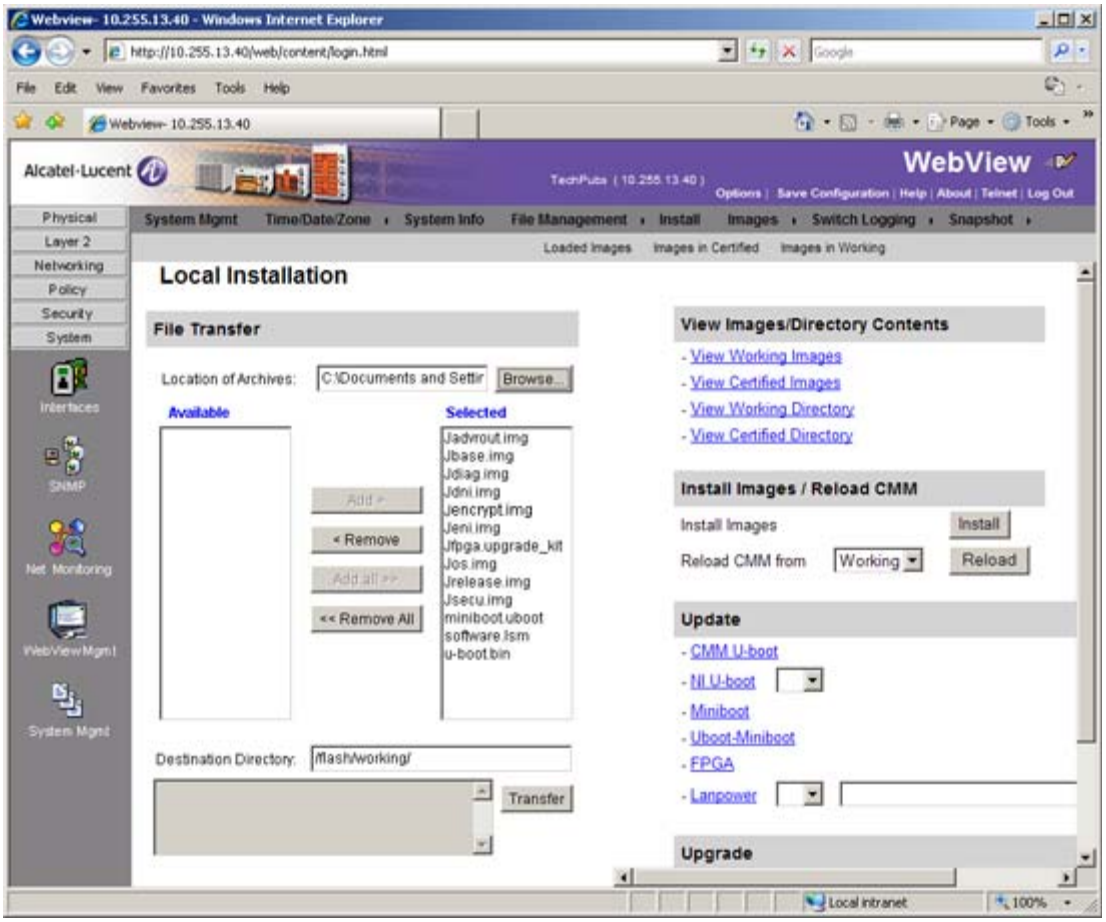
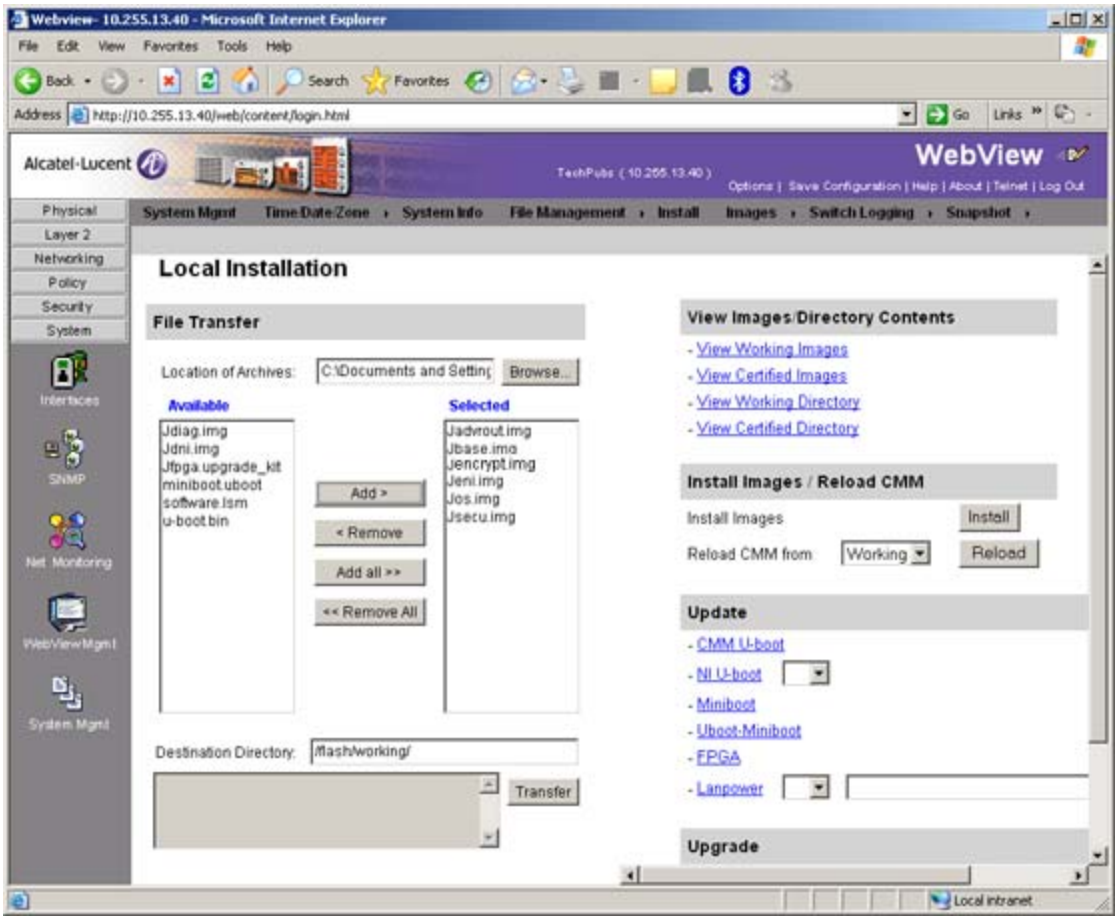
3. Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.R01 Image Files that you downloaded in Step 1. Click on the **Browse** button to locate the files.
4. Select one of the files and click **Open**. All of the files will appear in the "Selected" area as shown below.



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**, **Jencrypt.img**, **Jeni.img**, **Jos.img**, **Jsecu.img**.

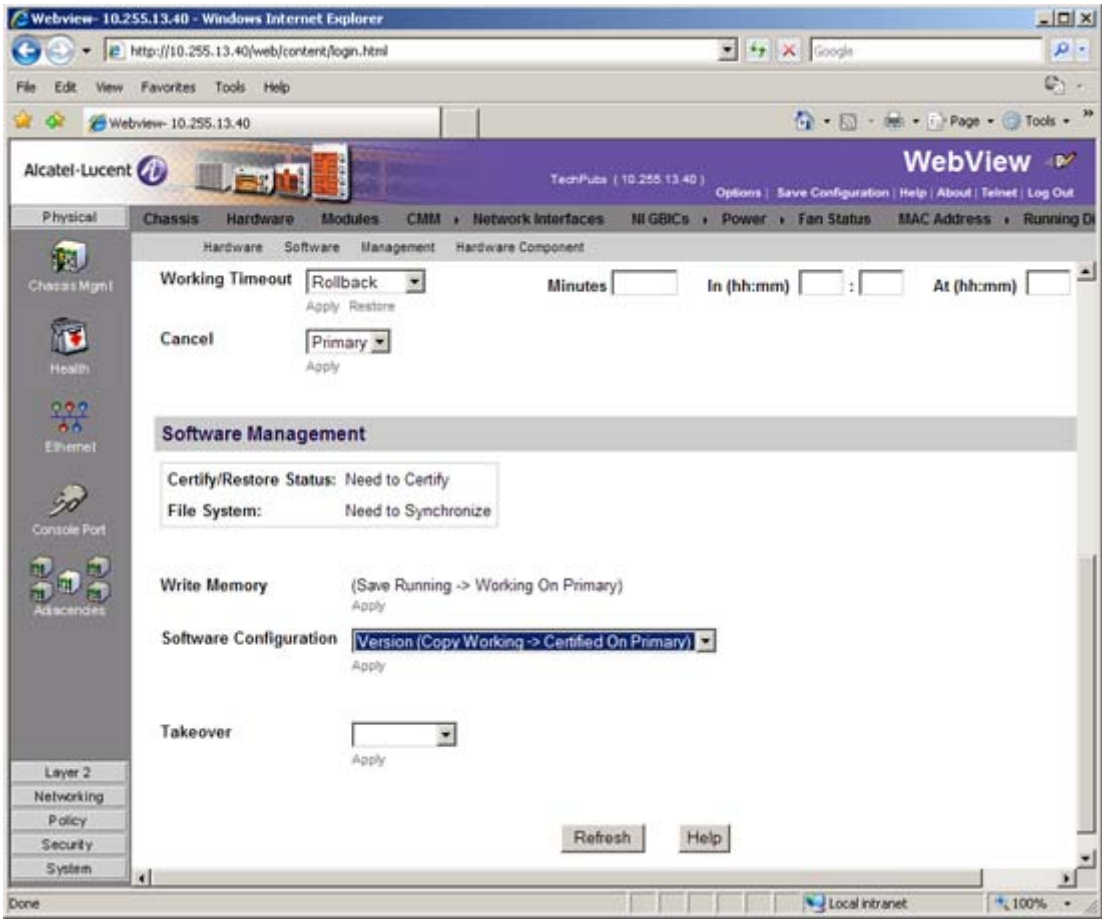


6 Transfer the files to the **flash/working** directory. Make sure the **Destination Directory** is **flash/working**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").

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). Wait for the process to complete.

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files, if necessary. U-Boot and Miniboot version **6.4.3.479.R01** is **required** for the 6.4.4.R01 upgrade.

WARNING: You **MUST** complete the Image File upgrade **BEFORE** upgrading the U-Boot and Miniboot Files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

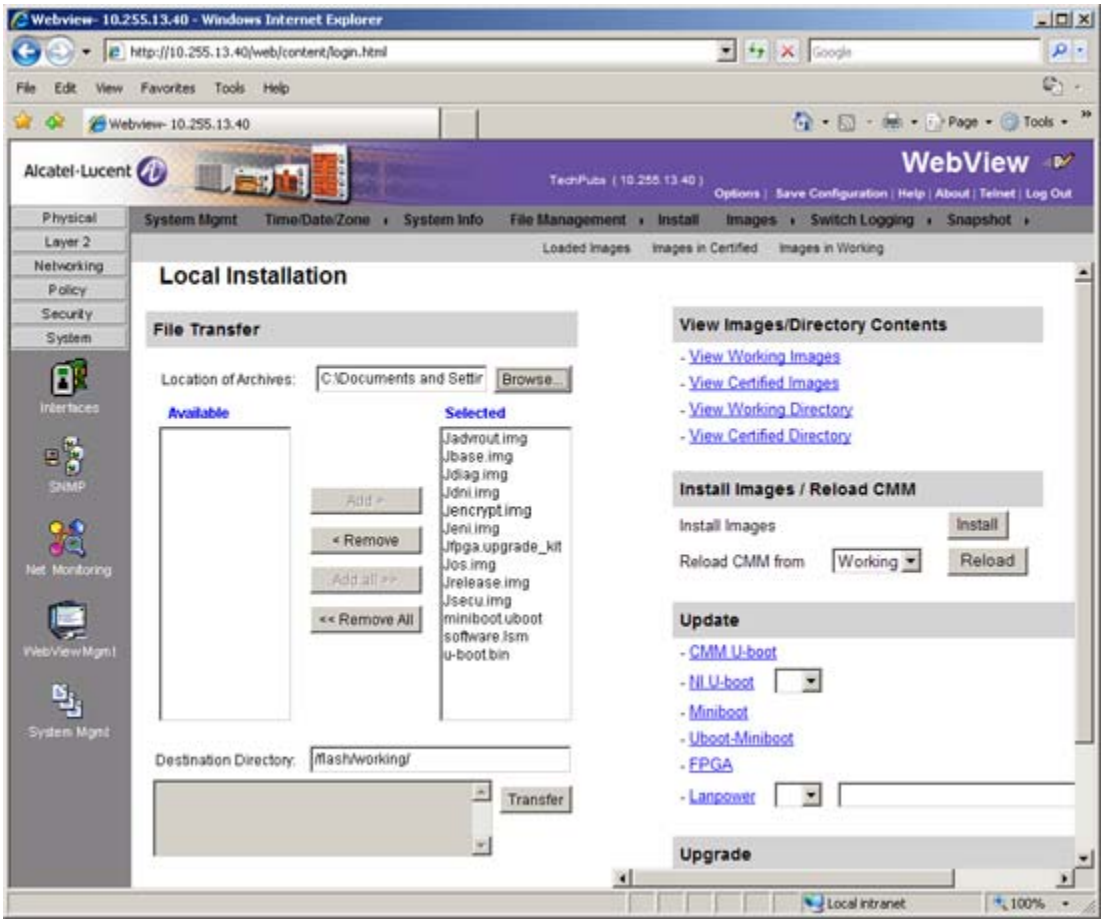
1 Download the applicable upgrade files from the Alcatel-Lucent Service and Support website to your PC.

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

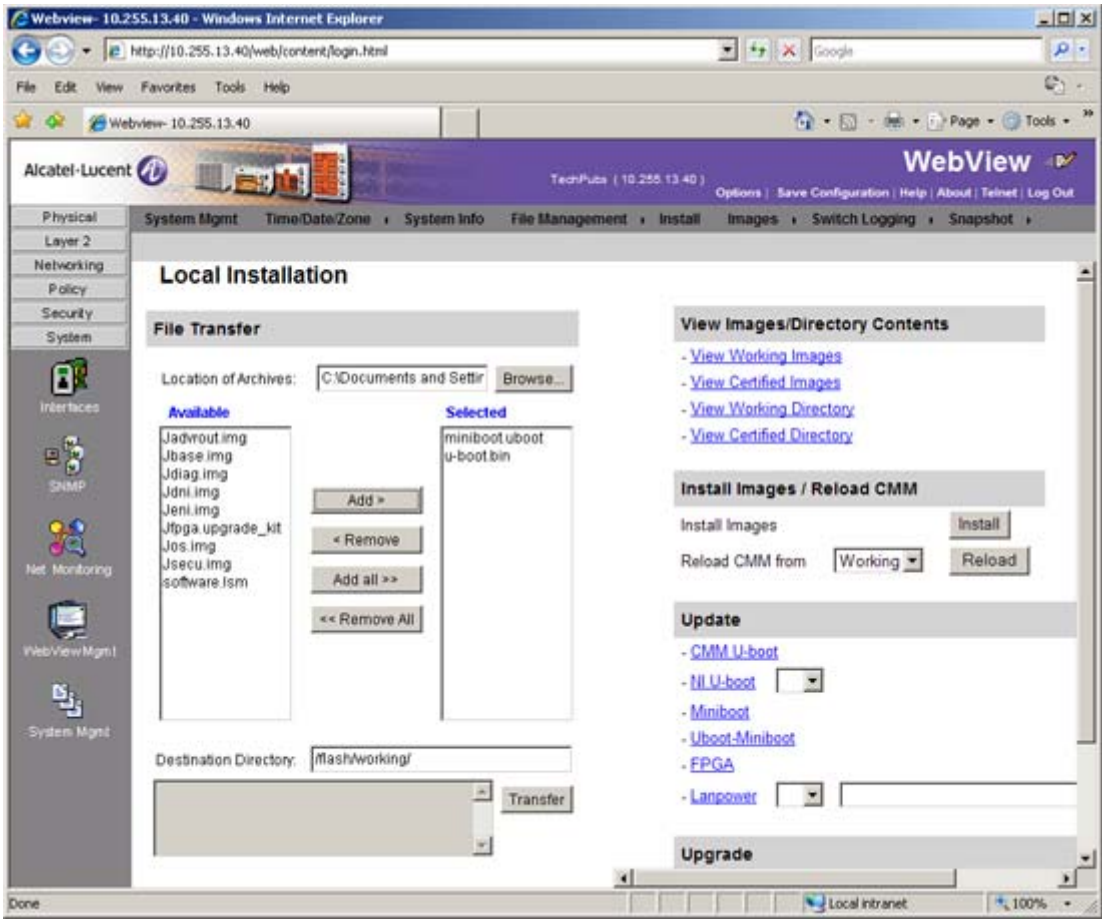
Note. If you have not already done so, make sure that the switch's Web Management Inactivity Timer is set to at least 10 minutes (default setting is 4 minutes). To view and change the setting, go to the **Session Type Parameters** page by selecting **Security** > **ASA** > **Sessions** > **Configuration**.

3 Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.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 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").

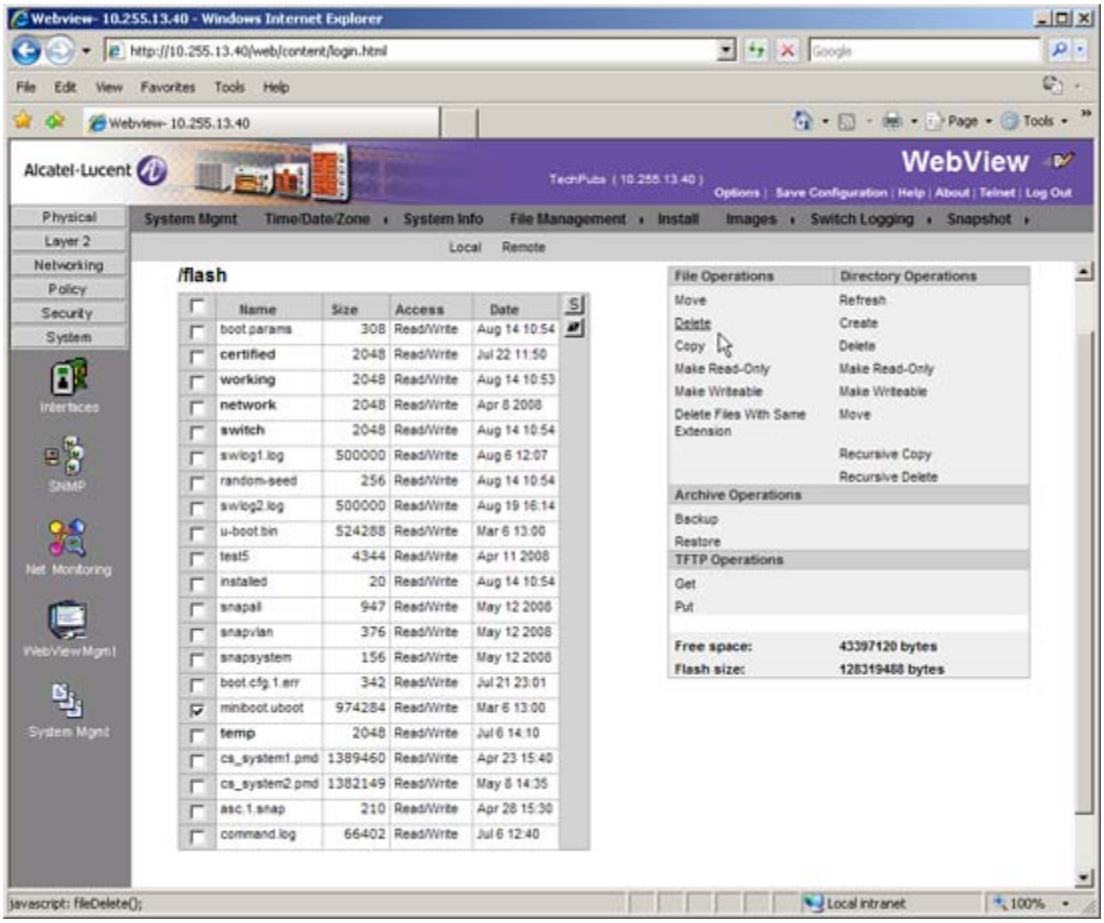
STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.

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."

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

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, delete the **miniboot.uboot** and **uboot.bin** files from the Flash Directory by selecting **System** > **System Mgmt** > **File Management** > **Local**, as shown below.

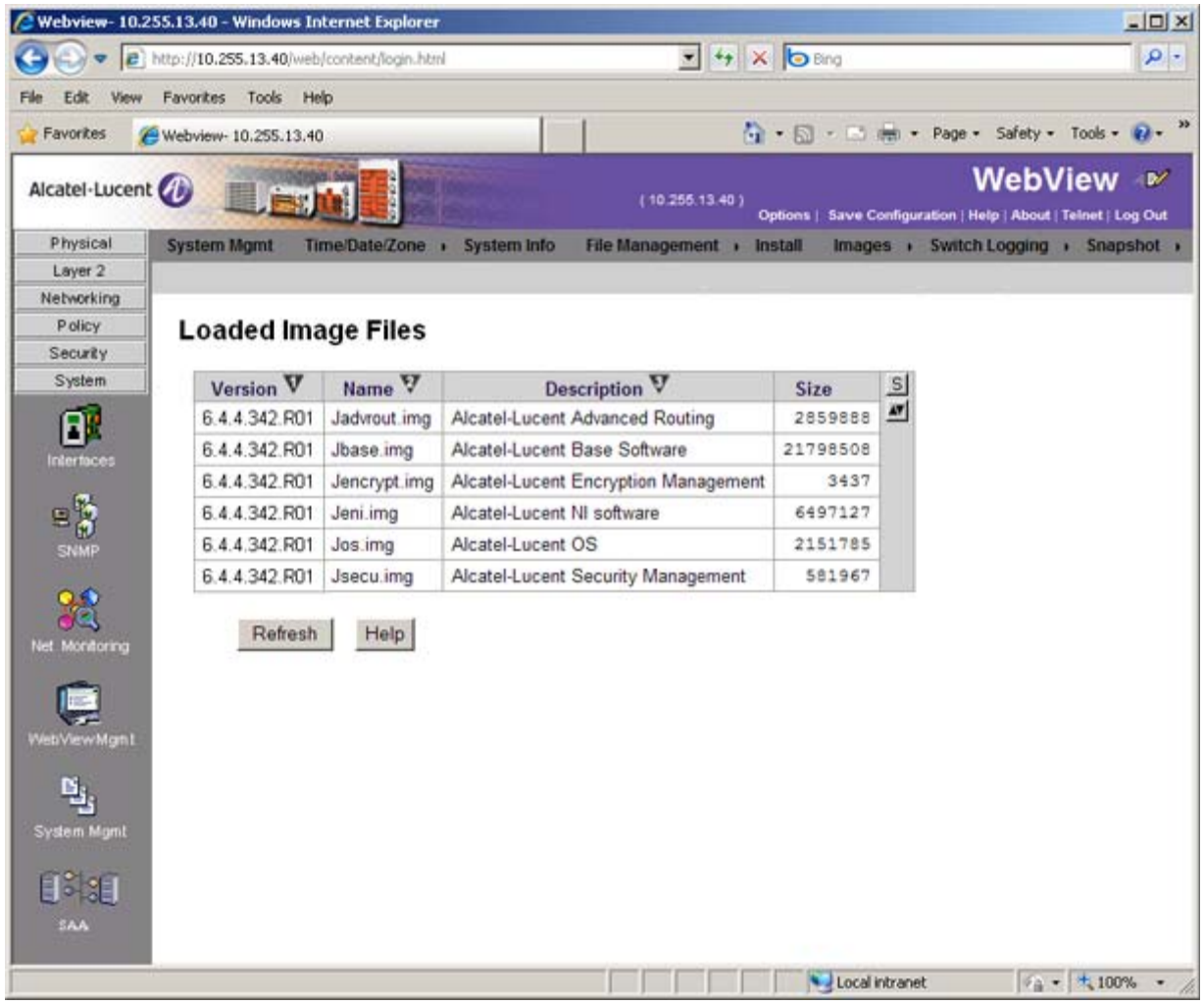


10 Check the box next to the **miniboot.uboot** file, select **Delete** in the **File Operations** box, then click **OK** at the confirmation prompt. Repeat to delete the **u-boot.bin** file.

Verifying the Upgrade

Verifying the Software Upgrade

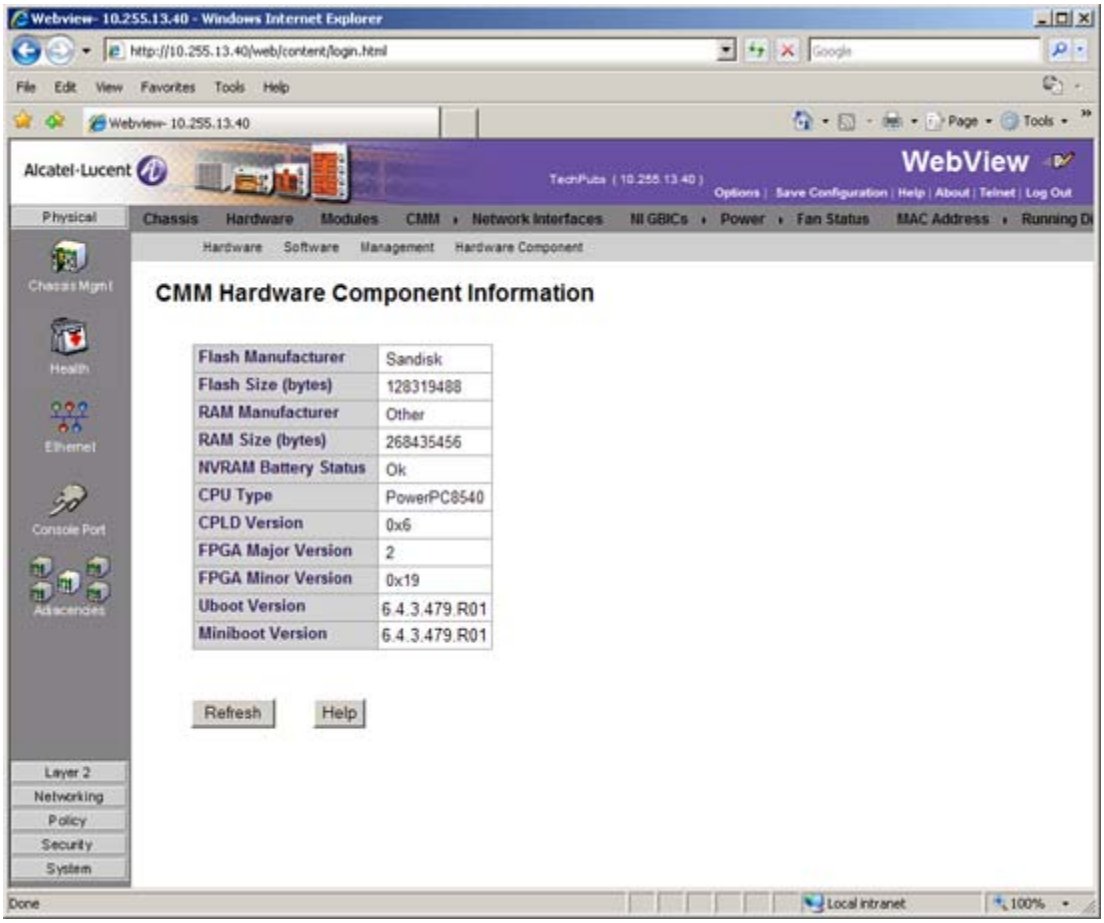
To verify that the software was successfully upgraded, go to the **Loaded Image Files** page by selecting **System** > **System Mgmt** > **Images** > **Loaded Images** as shown below.



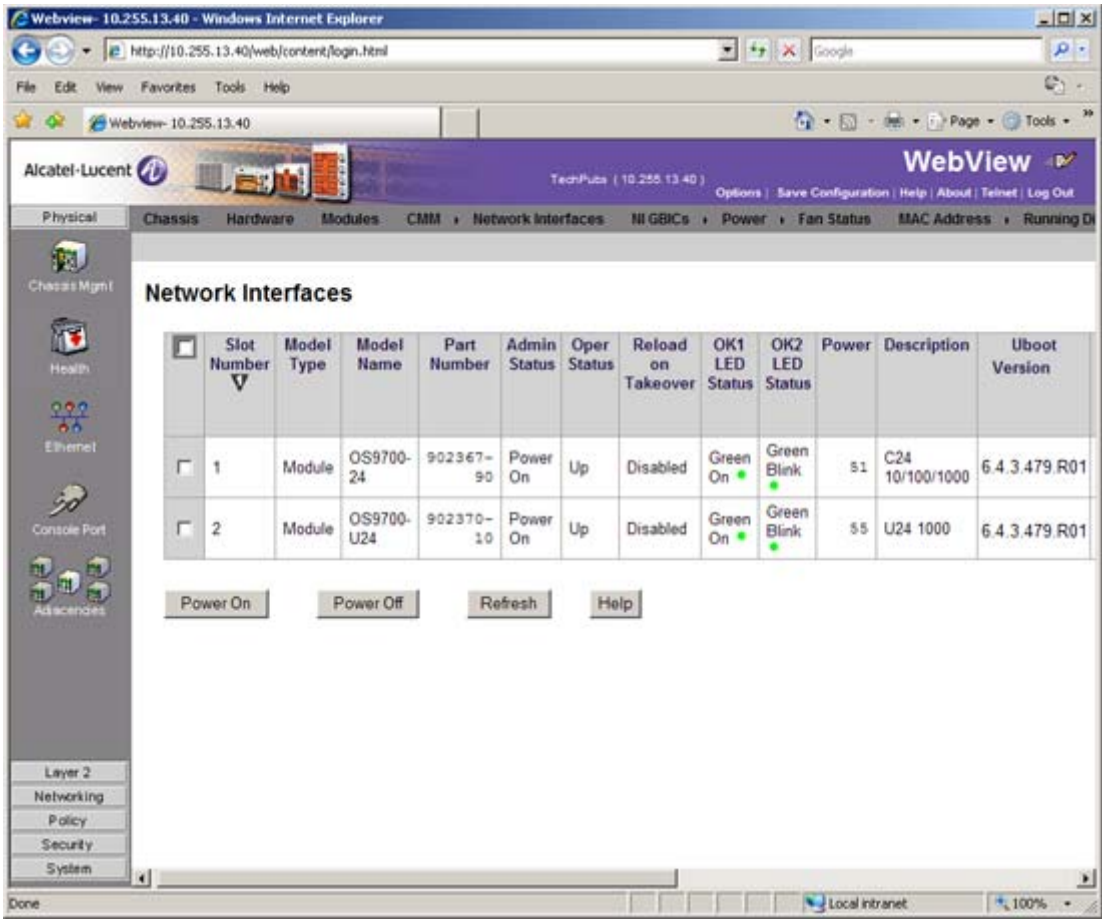
In addition, you should also select **System** > **System Mgmt** > **Images** > **Images in Certified** and **System** > **System Mgmt** > **Images** > **Images in Working** to verify that Certified and Working directories were successfully upgraded.

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 Interfaces** page by selecting **Physical** > **Chassis Mgmt** > **Network Interfaces**, as shown below.



Upgrading With The CLI

Upgrading OS9000E Series Switches to 6.4.4.R01 using the CLI 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 Miniboot Files.

1. Upgrading the Image Files.
2. Upgrading the U-Boot and Miniboot Files, if necessary.

WARNING: You **MUST** complete the Image File upgrade **BEFORE** upgrading the U-Boot and Miniboot Files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

Upgrading the Image Files

Follow the steps below to upgrade the Image Files to 6.4.4.R01.

1. Download the 6.4.4.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
2. FTP the following 6.4.4.R01 Image Files to the **/flash/working** directory of the primary CMM: **Jadvrout.img**, **Jbase.img**, **Jencrypt.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). Wait for the process to complete.

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files, if necessary. U-Boot and Miniboot version **6.4.3.479.R01** is **required** for the 6.4.4.R01 upgrade.

WARNING: You **MUST** complete the Image File upgrade **BEFORE** upgrading the U-Boot and Miniboot Files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

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.

STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.

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 20 17:29:09 : SYSTEM (75) info message:
+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT
WED APR 20 17:29:09 : CSM-CHASSIS (103) info message:
+++ == CSM == Update bootrom on all slots
+++ == CSM == sysUpdate begin
WED APR 20 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 20 17:29:13 : SYSTEM (75) info message:
+++ NI 1 software update started
WED APR 20 17:29:20 : SYSTEM (75) info message:
+++ NI 1 software update completed -- file /flash/u-boot.bin copied
WED APR 20 17:29:26 : SYSTEM (75) info message:
+++ NI 4 software update started
WED APR 20 17:29:37 : SYSTEM (75) info message:
+++ NI 4 software update completed -- file /flash/u-boot.bin copied
WED APR 20 17:30:44 : CSM-CHASSIS (103) info message:
+++ == CSM == sysUpdate end
+++ == CSM == timer_r:duplex---- session end ----
+++ == CSM == UPDATE COMPLETED
```

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

4 When the “UPDATE COMPLETED" message appears, delete the U-Boot and Miniboot 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 6.4.4.R01, use the **show microcode** command as shown below.

```
-> show microcode
   Package           Release       Size     Description
-----------------+--------------+--------+----------------------------------
Jbase.img         6.4.4.342.R01   21798508 Alcatel-Lucent Base Software
Jadvrout.img      6.4.4.342.R01    2859888 Alcatel-Lucent Advanced Routing
Jos.img           6.4.4.342.R01    2151785 Alcatel-Lucent OS
Jeni.img          6.4.4.342.R01    6497127 Alcatel-Lucent NI software
Jsecu.img         6.4.4.342.R01     581967 Alcatel-Lucent Security Management
Jencrypt.img      6.4.4.342.R01       3437 Alcatel-Lucent Encryption 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            : 6.4.4.479.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.R01,
    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 6.4.4.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 6.4.4.R01 GA I = 6.4.4.R01 GA F = 6.4.3.479.R01			
Build and Supported Software Versions For Each Upgrade			
	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	**6.4.3 GA** I = 6.4.3.R01 F = 6.4.3.479.R01
Model			
9000E	Yes	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.

OmniSwitch 6855

Upgrading with WebView

Upgrading OS6855 Series Switches to 6.4.4.R01 using WebView consists of the following steps. If you are performing a U-Boot/Miniboot upgrade, the steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

1 Upgrading the Image Files.

2 Upgrading the U-Boot and Miniboot Files, if necessary.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.4.4.R01.

1 Download the 6.4.4.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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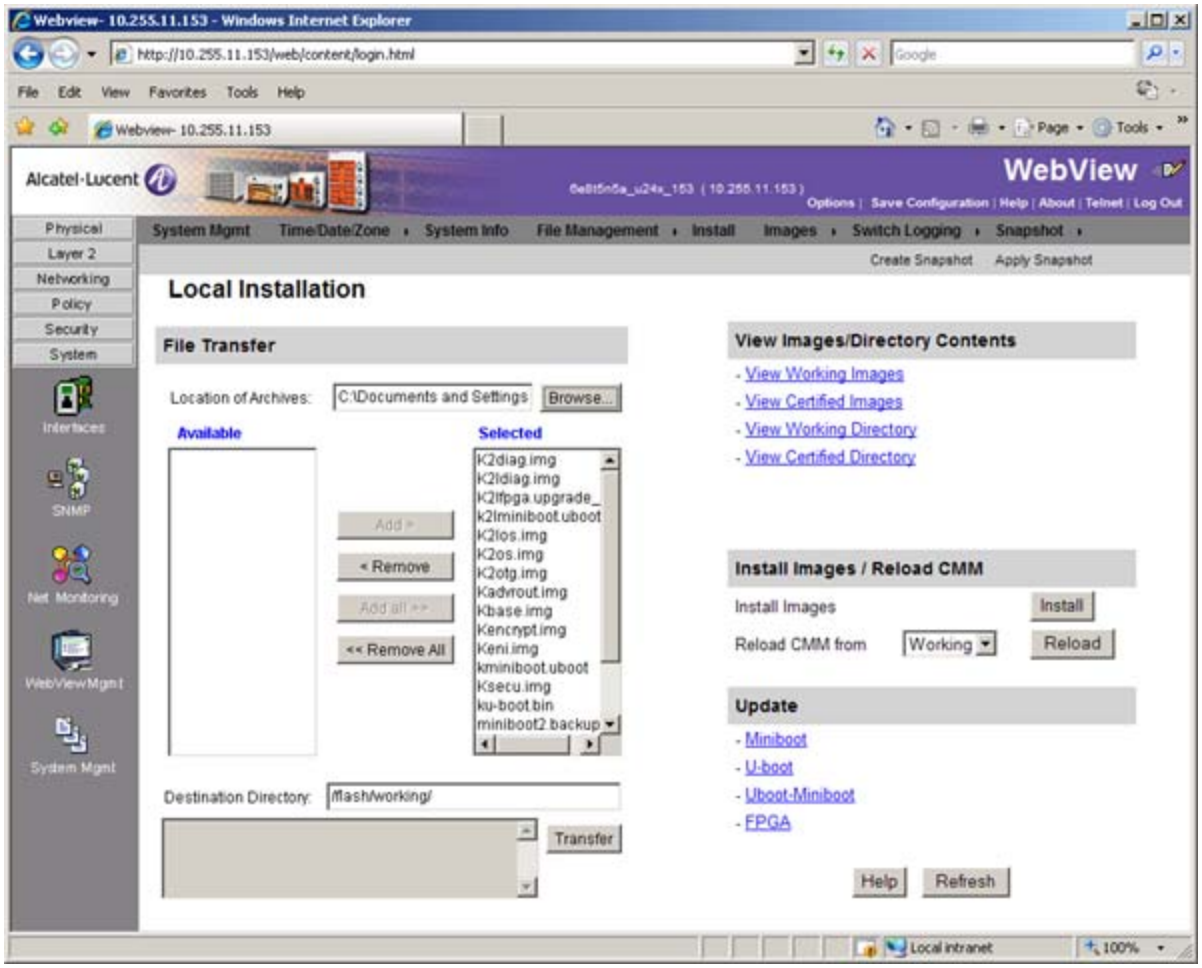
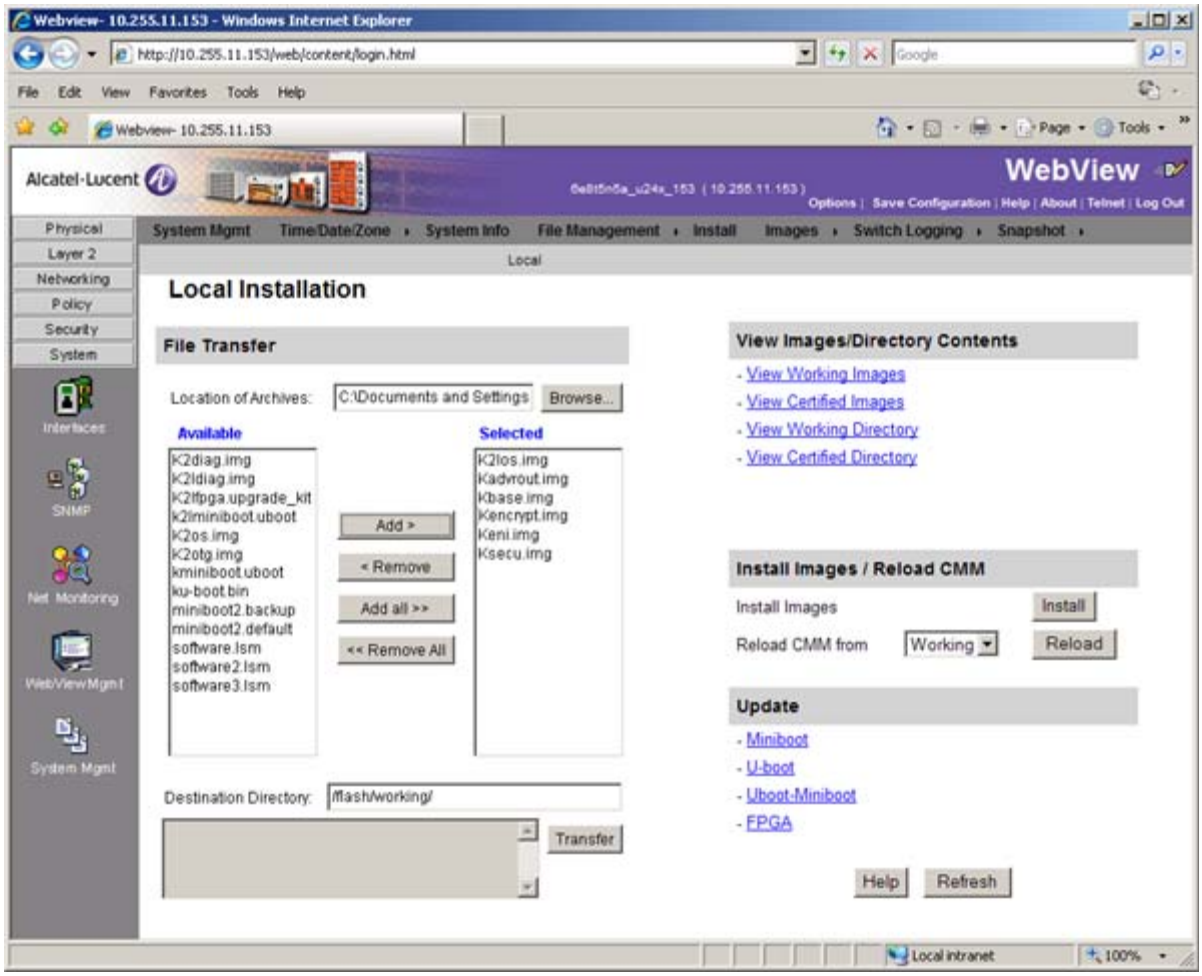
3 Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.R01 image files that you downloaded in Step 1. Click on the **Browse** button to locate the files.

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**, **Kencrypt.img**, **Keni.img**, **Ksecu.img**.

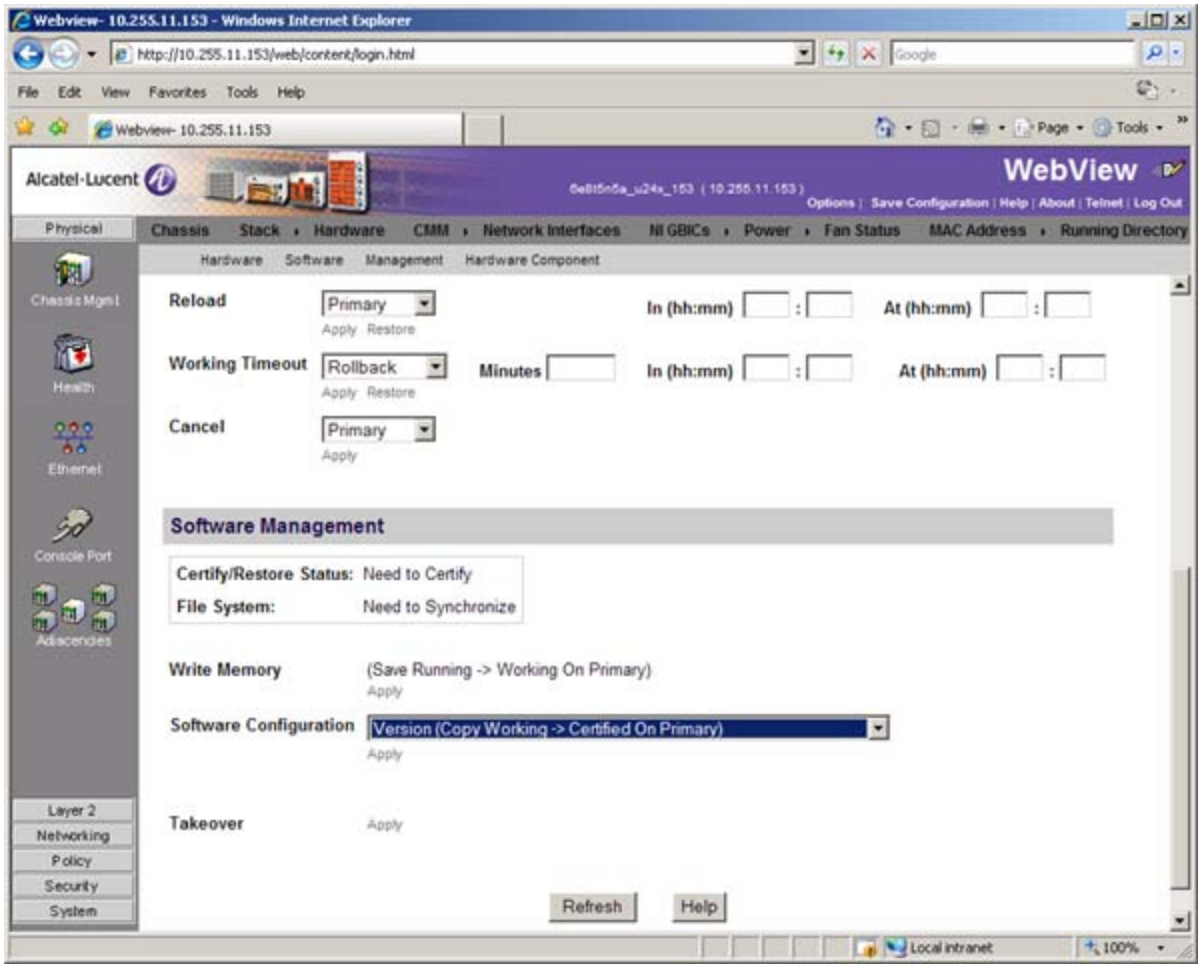


6 Transfer the files to the **flash/working** directory. Make sure the **Destination Directory** is **flash/working**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").

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 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). Wait for the synchronization process to complete on all switches before proceeding to the next step.

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files, if necessary. U-Boot and Miniboot version **6.4.3.479.R01** is **required** for the 6.4.4.R01 upgrade.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

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**).

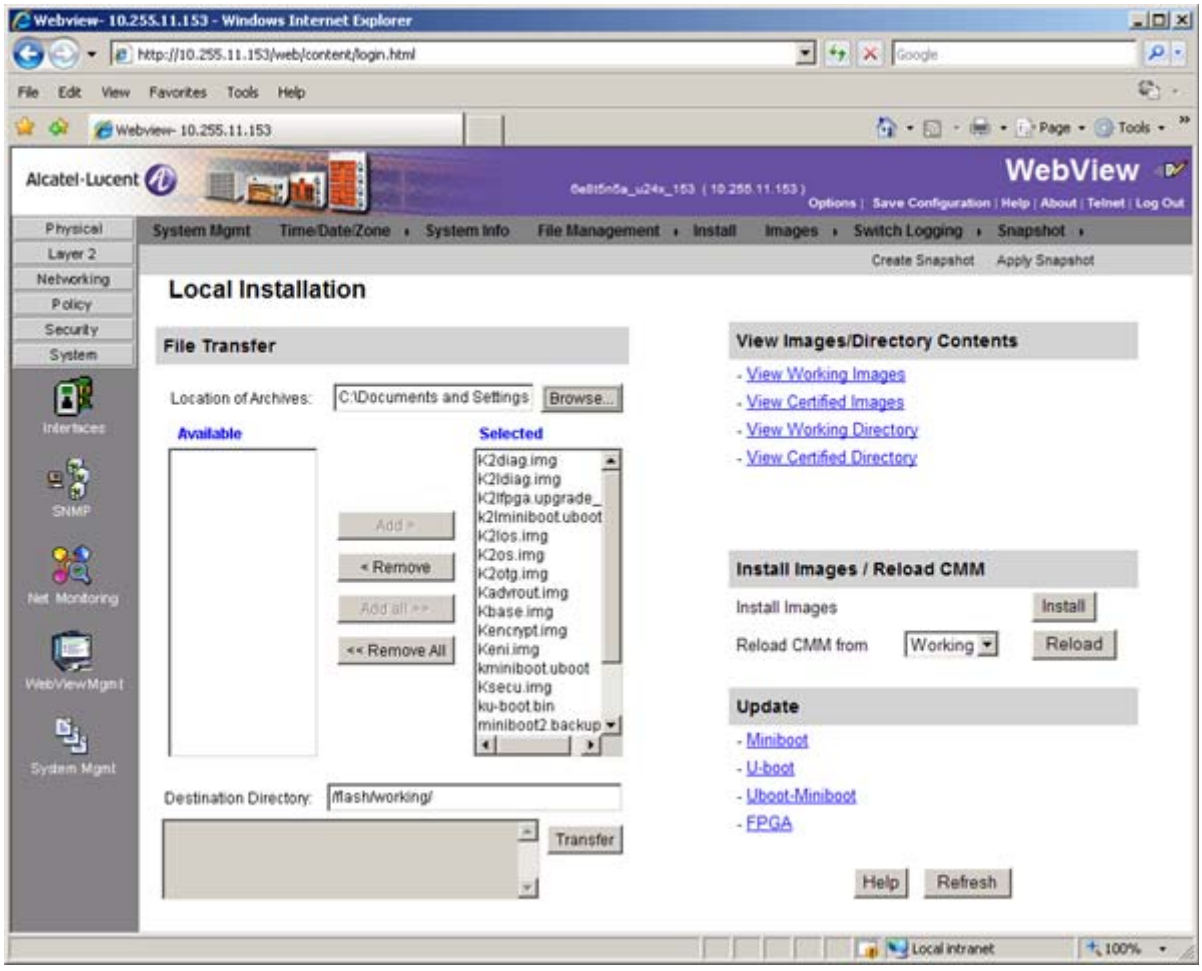
2 Log into the switch through WebView.

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**.

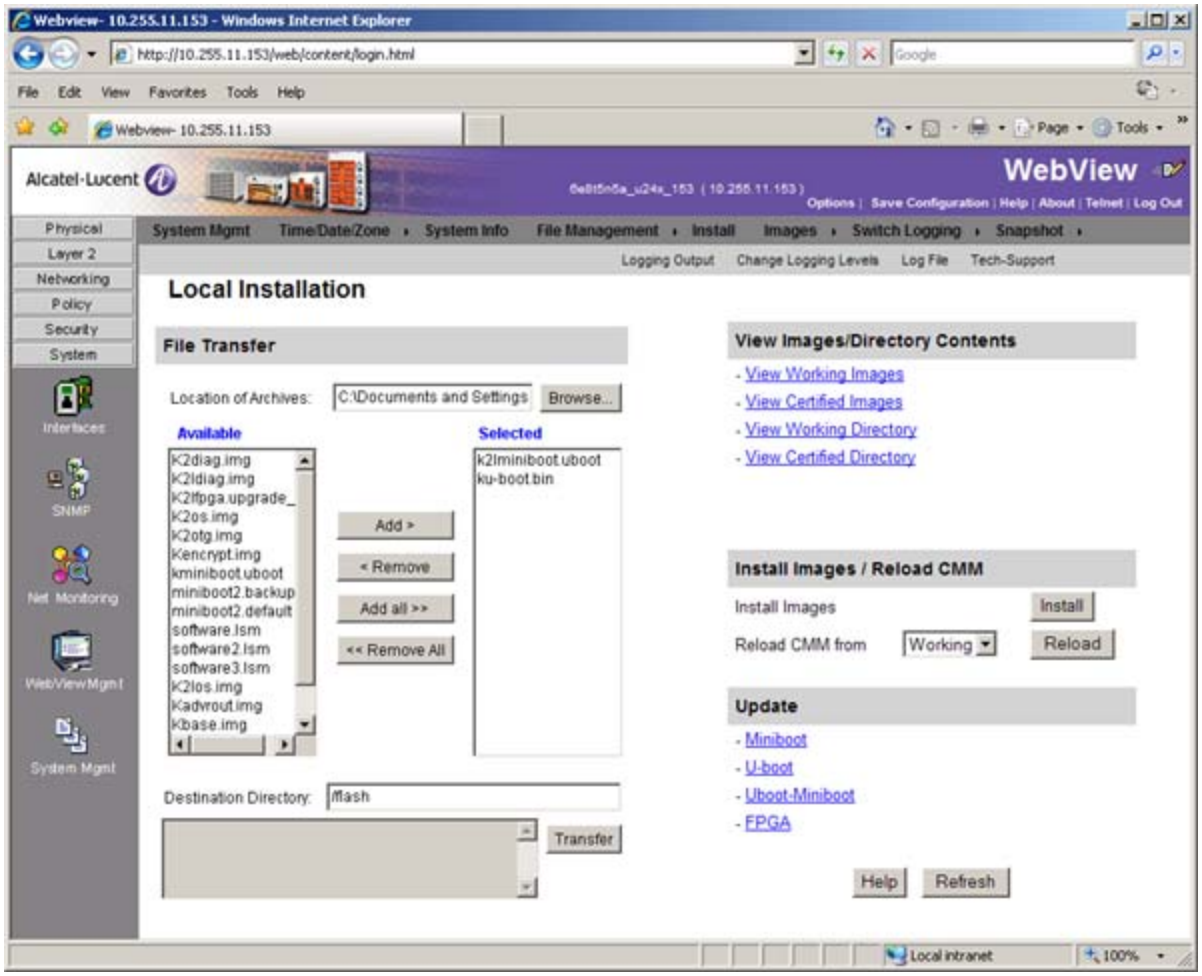
---

3 Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.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 **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").

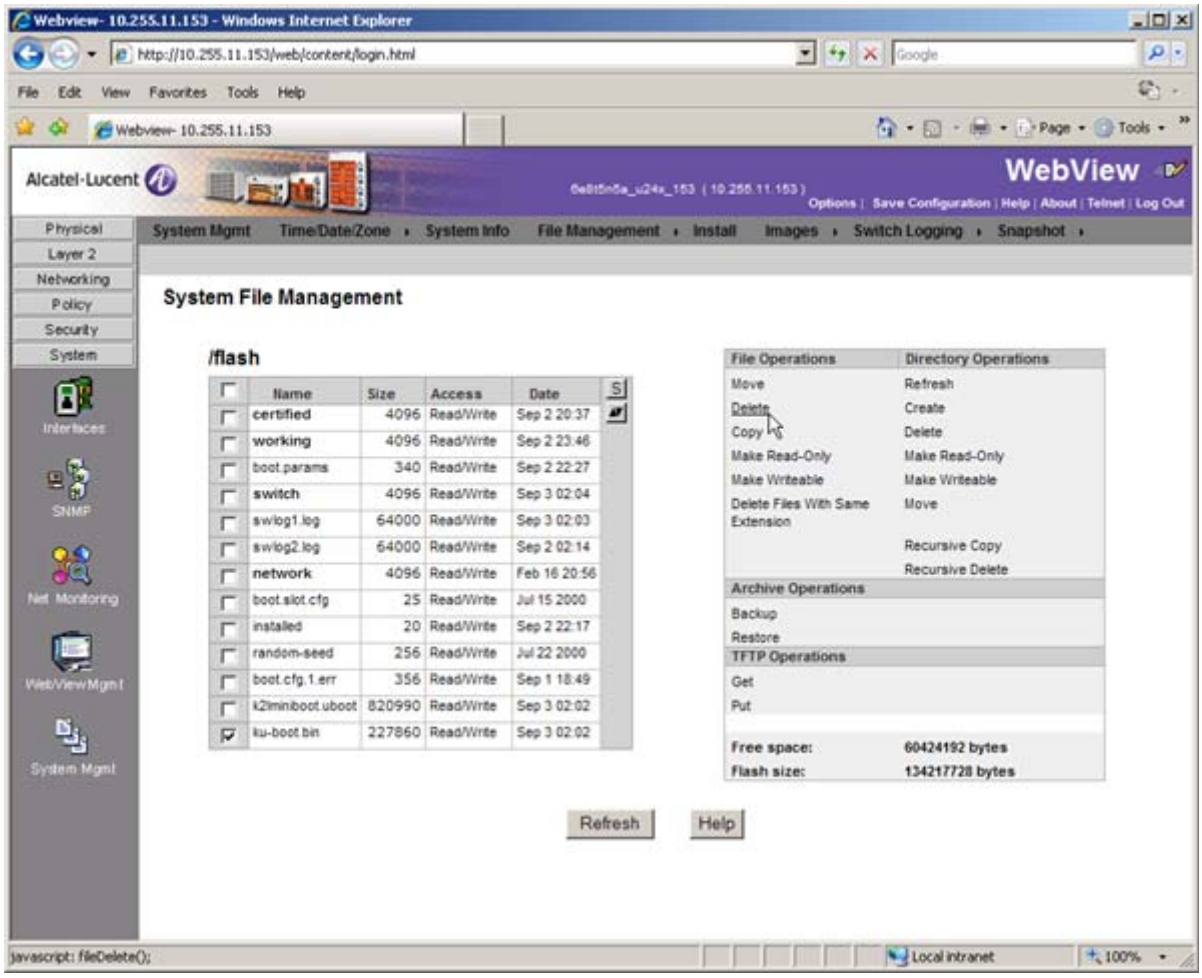
STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.

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."

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

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, delete the **K2Iminiboot.uboot** and **ku-boot.bin** files from the Flash Directory by selecting **System** > **System Mgmt** > **File Management** > **Local**, as shown below.

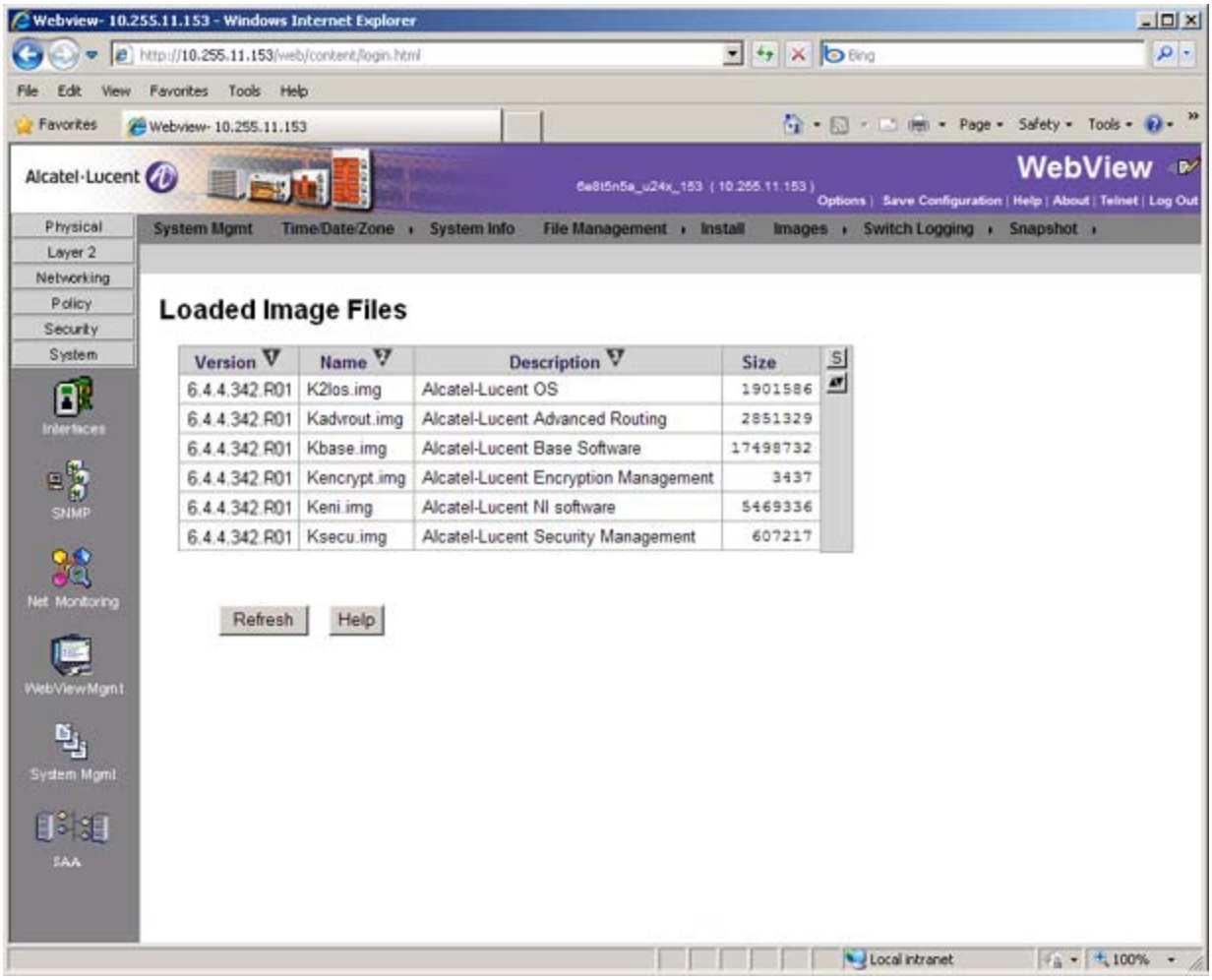


10 Check the box next to the ku-boot.bin file, select **Delete** in the **File Operations** box, then click **OK** at the confirmation prompt. Repeat to delete the k2Iminiboot.uboot file.

Verifying the Upgrade

Verifying the Software Upgrade

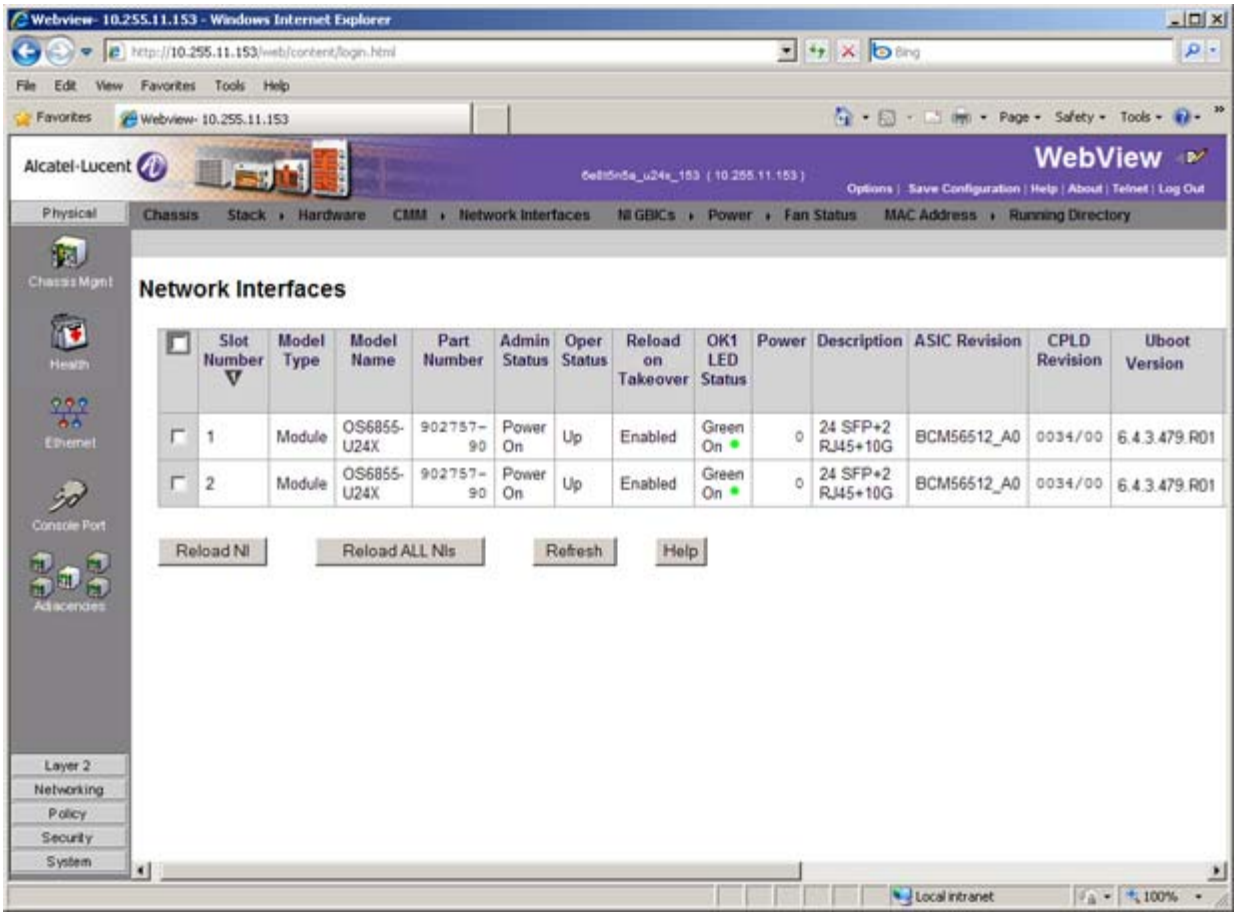
To verify that the software was successfully upgraded, go to the **Loaded Image Files** page by selecting **System** > **System Mgmt** > **Images** > **Loaded Images** as shown below.



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, 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 for the switch(es). Information for each switch in a stack (if applicable) is displayed.



Upgrading with the CLI

Upgrading OS6855 Series Switches to 6.4.4.R01 using the CLI consists of the following steps. If you are performing a U-Boot/Miniboot upgrade, the steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

1. Upgrading the Image Files.
2. Upgrading the U-Boot and Miniboot Files, if necessary.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.4.4.R01.

1. Download the 6.4.4.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
2. FTP the following 6.4.4.R01 image files to the **/flash/working** directory of the primary switch: **K2Ios.img**, **Kadvrout.img**, **Kbase.img**, **Kencrypt.ing**, **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 **standalone** switch enter:

```
-> copy working certified
```

- If you have **a stack** 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). Wait for the process to complete.

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files, if necessary. U-Boot and Miniboot version **6.4.3.479.R01** is **required** for the 6.4.4.R01 upgrade.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

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.

STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.

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

WED APR 20 14:19:34 : SYSTEM (75) info message:

+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT

WED APR 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.
WED APR 20 14:19:51 : CSM-CHASSIS (103) info message:
+++ == CSM == timer_r:simplex---- session end ----
+++ == CSM == UPDATE COMPLETED
+++ == CSM == Application & Watchdog Monitoring Started
```

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

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, 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 6.4.4.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         6.4.4.342.R01   17126563 Alcatel-Lucent Base Software

Kadvrout.img      6.4.4.342.R01    2810182 Alcatel-Lucent Advanced Routing

K2Ios.img         6.4.4.342.R01    1773242 Alcatel-Lucent OS

Keni.img          6.4.4.342.R01    5604309 Alcatel-Lucent NI software

Ksecu.img         6.4.4.342.R01     606113 Alcatel-Lucent Security Management

Kencrypt.img      6.4.4.342.R01       3437 Alcatel-Lucent Encryption Management
```

Verifying the U-Boot and Miniboot Upgrade

To verify that the U-Boot and Miniboot files were successfully upgraded, use the **show ni** command as shown below. Information for each switch 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:               FED 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 :                 6.4.3.479.R01,
UBOOT-miniboot Version :        6.4.3.479.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 6.4.4.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 6.4.4.R01 GA I = 6.4.4.R01 GA F = 6.4.3.479.R01				
Build and Supported Software Versions For Each Upgrade				
	6.3.2 GA	**6.3.4 GA**	**6.4.2 GA**	**6.4.3 GA**
	I = 6.3.2.R01	I = 6.3.4.R01	I = 6.4.2.R01	I = 6.4.3.R01
Model	F = 6.3.2.86.R01	F = 6.3.4.265.R01	F = 6.4.2.316.R01	F = 6.4.3.265.R01
6855	Yes	Yes	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 6855 Series Switch is 6.3.2.R01. Also, when downgrading, make sure to load the applicable U-Boot/Miniboot files. For more information, contact Customer Support.

OmniSwitch 6850

Upgrading with WebView

Upgrading OS6850 Series Switches to 6.4.4.R01 consists of the following steps. If you are performing a U-Boot/Miniboot upgrade, the steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

1. Upgrading the Image Files.
2. Upgrading the U-Boot and Miniboot Files, if necessary.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

WARNING: If you intend to run in a mixed OS6850/OS6850E stacked evironment you must first upgrade the existing OS6850 switches **before** adding the OS6850E to the stack. Additionally, it's recommended that the OS6850 switches be upgraded to U-Boot/Miniboot version **6.4.4.213.R01** to match the OS6850E switches.

WARNING: In a mixed OS6850/OS6850E stack environment with an OS6850 as the primary element, do not attempt to upgrade the miniboot/uboot for all elements at the same time by using the 'all' parameter of the 'update' command unless the Primary OS6850 miniboot/uboot has been upgraded to **6.4.4.213.R01** which is the minimum supported on the OS6850E switches.

WARNING: In a mixed OS6850/OS6850E stack environment never attempt an FPGA upgrade for all devices at the same time by using the 'all' parameter of the 'update' command. This will cause all stack elements to use the FPGA version of the Primary device, which is not compatible between models.

Upgrading the Image Files

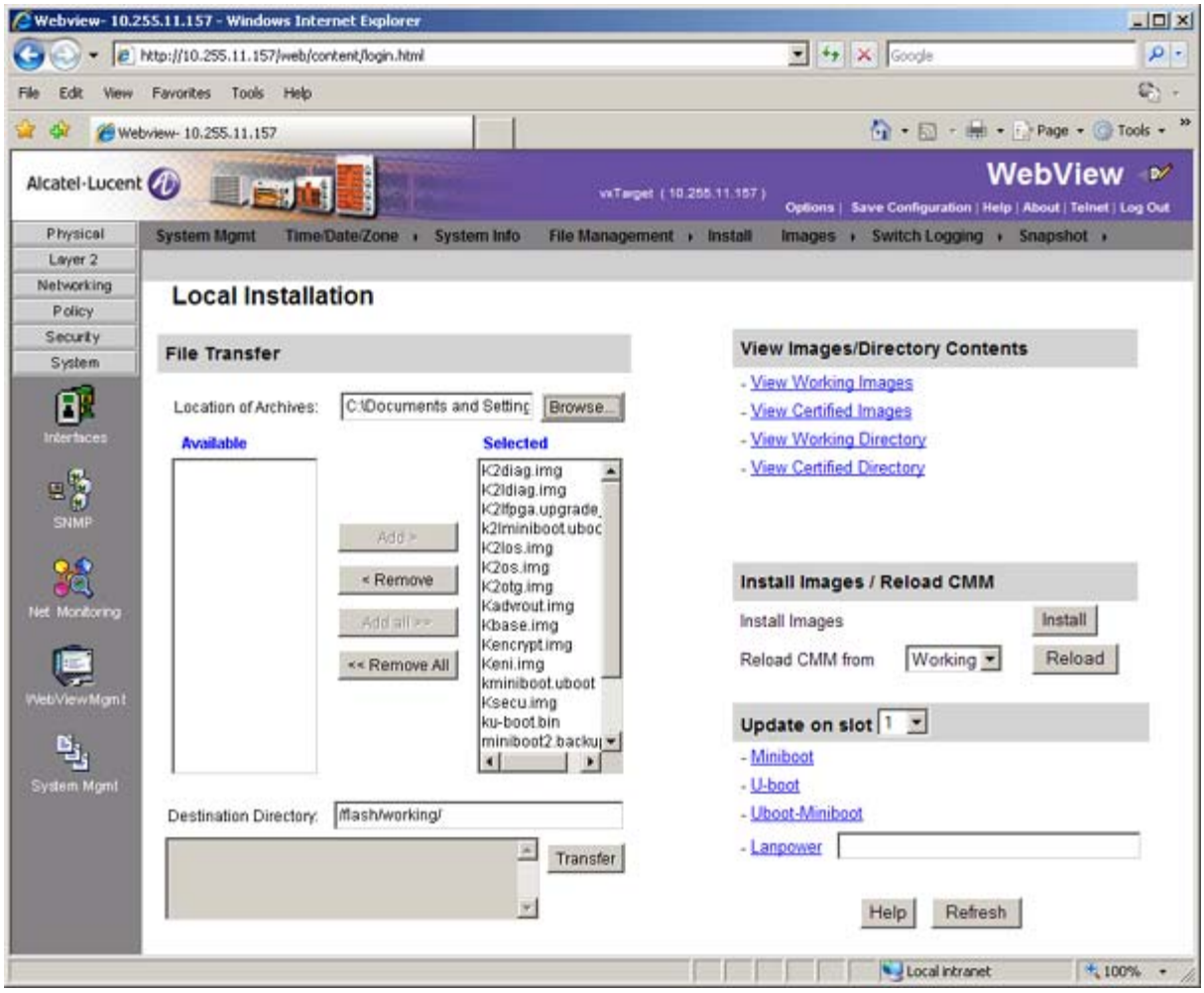
Follow the steps below to upgrade the image files to 6.4.4.R01.

1. Download the 6.4.4.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 switch).

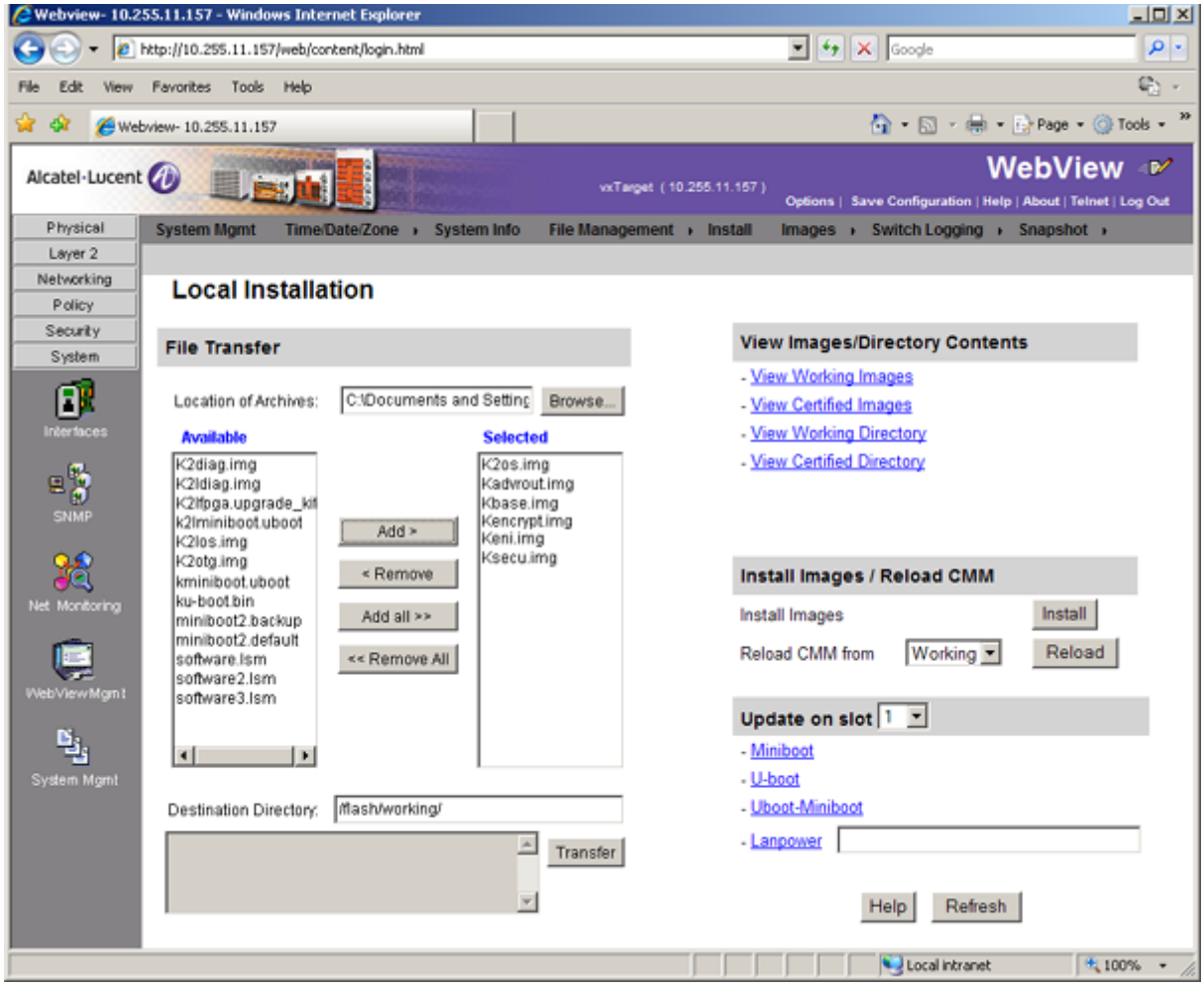
Note. Before proceeding with the remaining steps, make sure that the switch's Web Management Inactivity Timer is set to at least 10 minutes (default setting is 4 minutes). To view and change the setting, go to the **Session Type Parameters** page by selecting **Security** > **ASA** > **Sessions** > **Configuration**.

---

3. Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.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: **K2os.img**, **Kadvrout.img**, **Kbase.img**, **Kencrypt.img**, **Keni.img**, **Ksecu.img**.

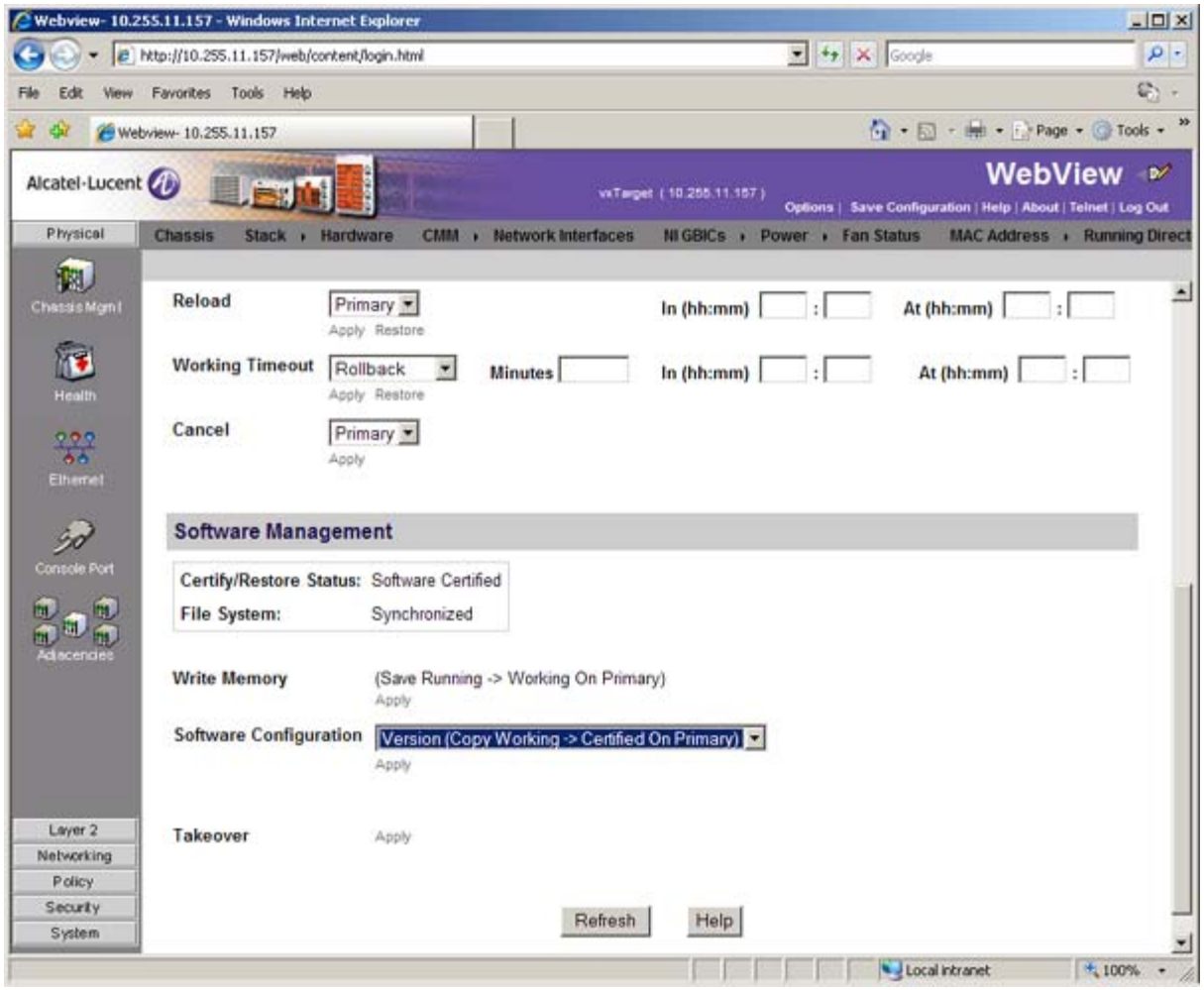


6 Transfer the files to the **flash/working** directory. Make sure the **Destination Directory** is **flash/working**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - “All files have been transferred successfully”).

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 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). Wait for the synchronization process to complete on all switches before proceeding to the next step.

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files, if necessary. U-Boot and Miniboot version **6.4.3.479.R01** is **required** for the 6.4.4.R01 upgrade and version **6.4.4.213.R01** is **recommended** in a mixed OS6850/OS6850E stacked environment.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

WARNING: If you intend to run in a mixed OS6850/OS6850E stacked evironment you must first upgrade the existing OS6850 switches **before** adding the 6850E to the stack. Additionally, it's recommended that the OS6850 switches be upgraded to U-Boot/Miniboot version **6.4.4.213.R01** to match the OS6850E switches.

WARNING: In a mixed OS6850/OS6850E stack environment with an OS6850 as the primary element, do not attempt to upgrade the miniboot/uboot for all elements at the same time by using the 'all' parameter of the 'update' command unless the Primary OS6850 miniboot/uboot has been upgraded to **6.4.4.213.R01** which is the minimum supported on the OS6850E switches.

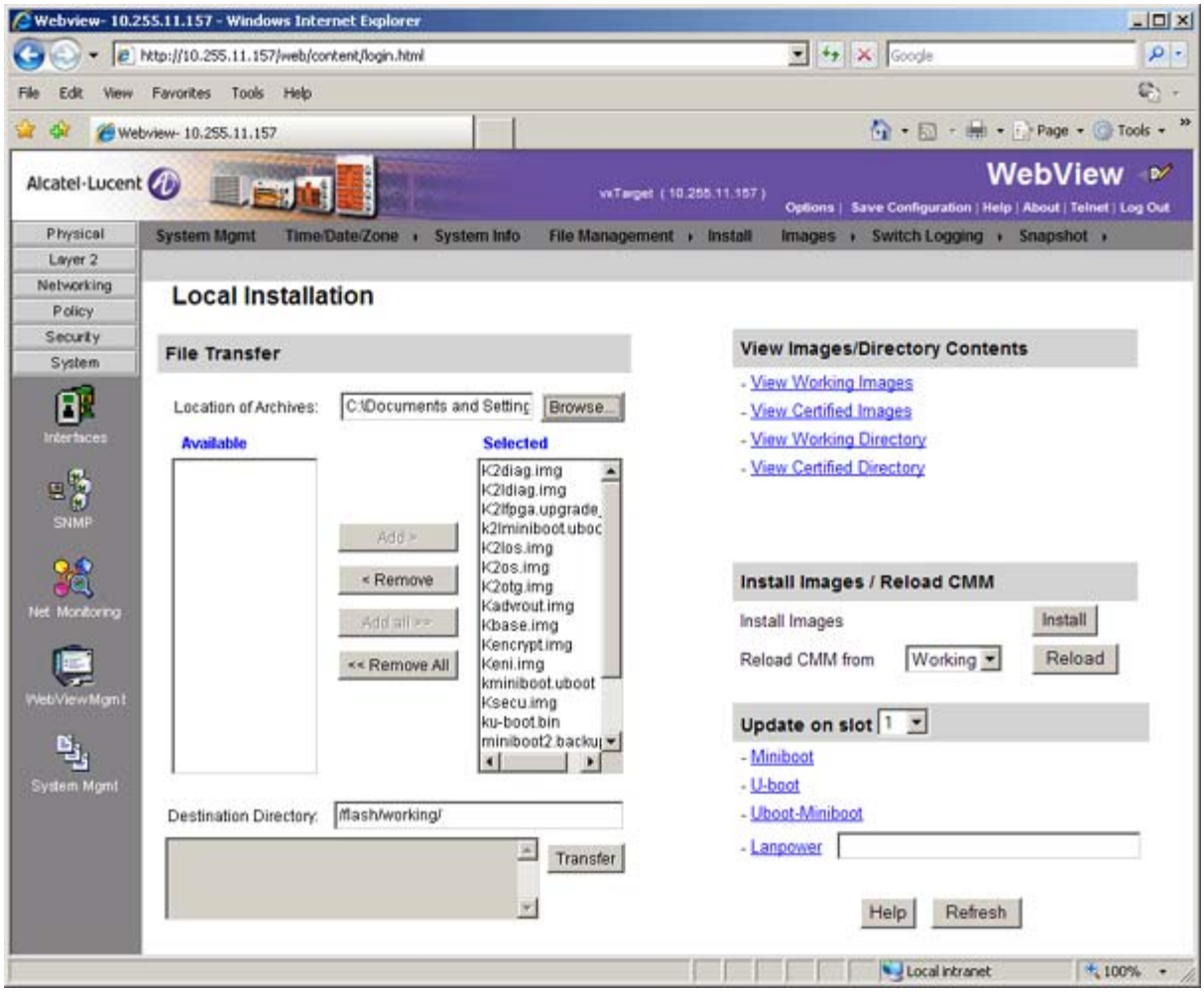
WARNING: In a mixed OS6850/OS6850E stack environment never attempt an FPGA upgrade for all devices at the same time by using the 'all' parameter of the 'update' command. This will cause all stack devices to use the FPGA version of the Primary device, which is not compatible with both models.

1. Download the applicable 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 switch).

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**.

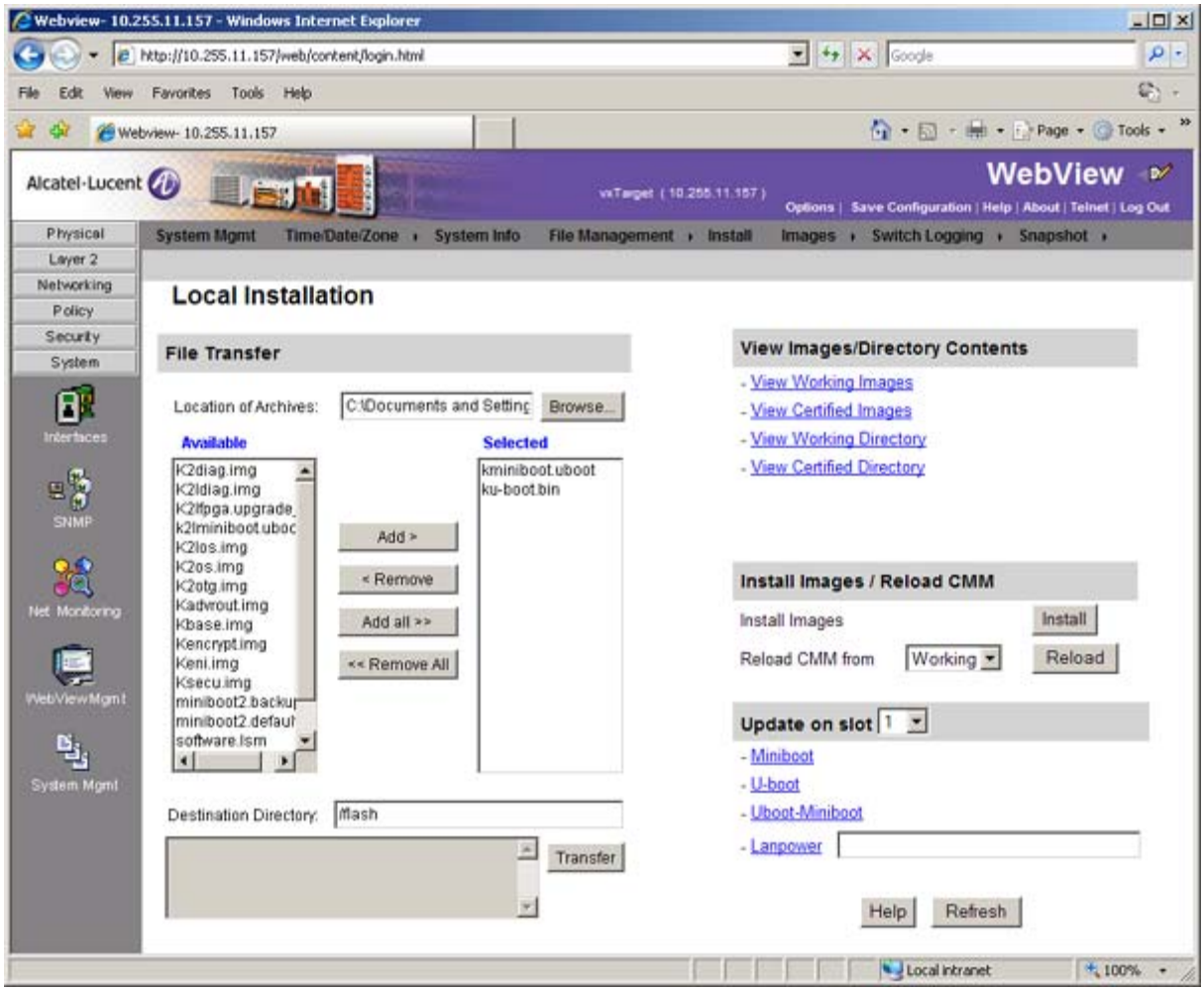
---

3. Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.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 **ku-boot.bin** file and the **kminiboot.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").

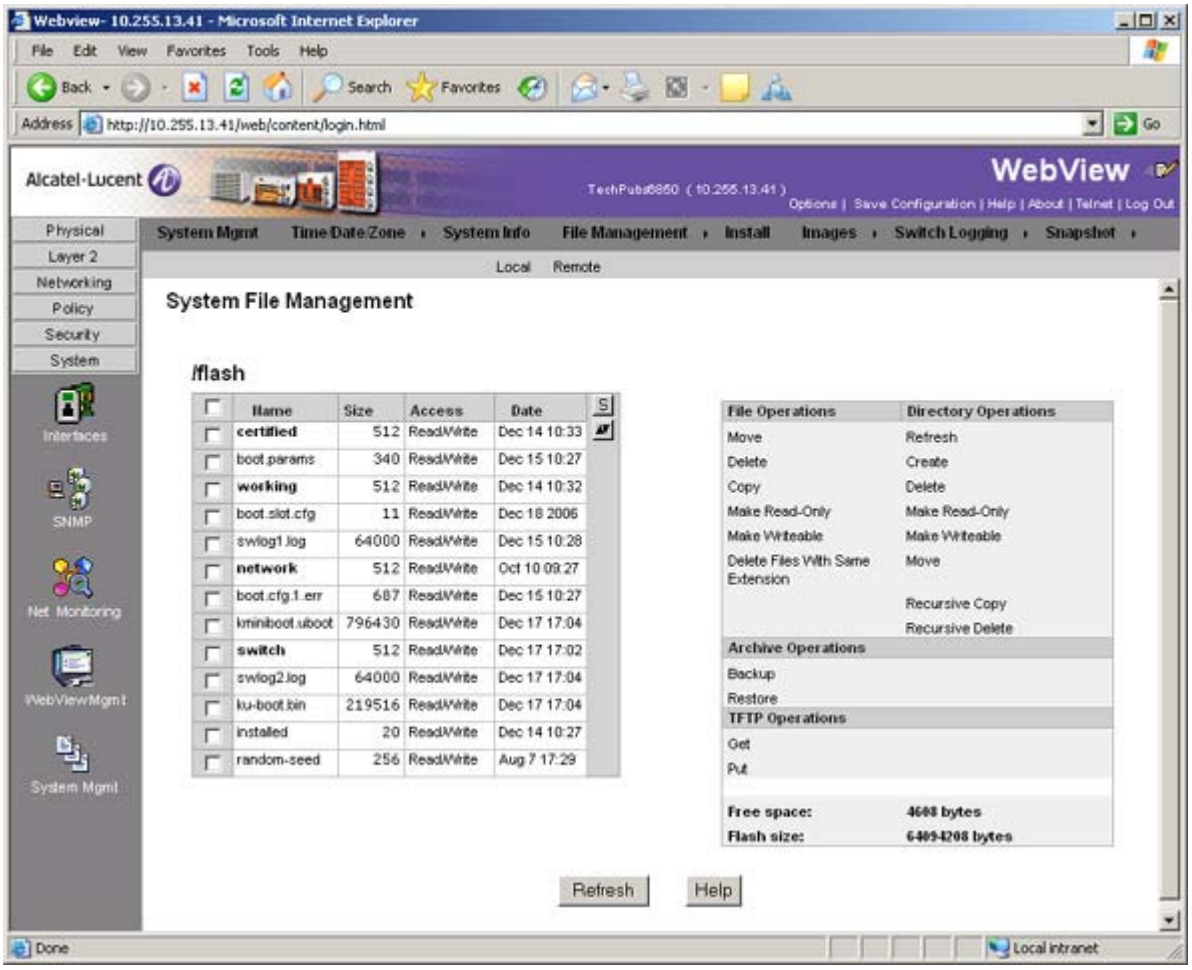
STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.

7 In the "Update on slot" area, select the slot number of the switch you want to update (or select "All" to update all switches in the stack), click on **Uboot-Miniboot**, then click **OK** at the confirmation prompt. 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."

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

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, delete the **miniboot.uboot** and **ku-boot.bin** files from the Flash Directory by selecting **System** > **System Mgmt** > **File Management** > **Local**, as shown below.

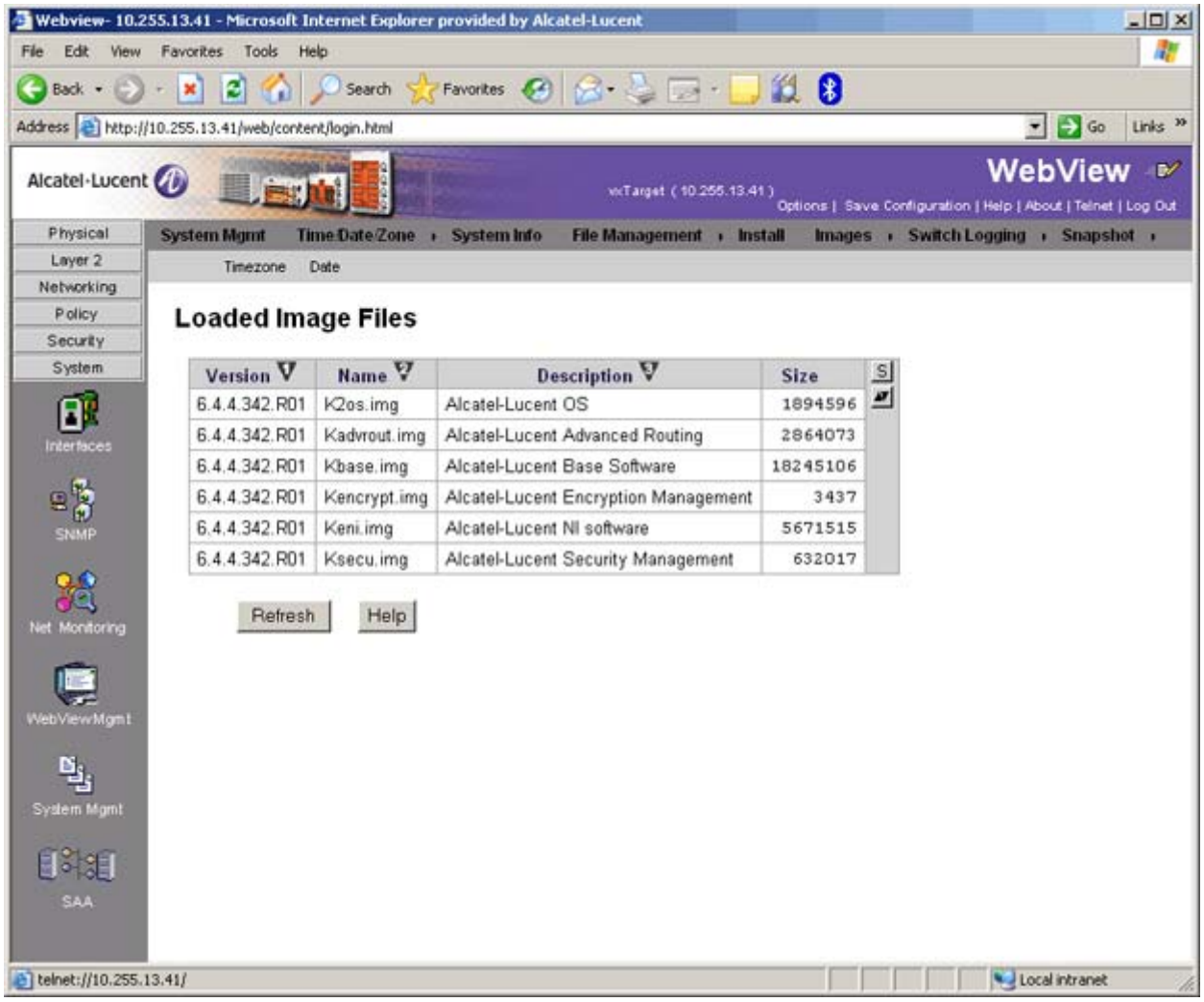


10 Check the box next to the ku-boot.bin file, select **Delete** in the **File Operations** box, then click **OK** at the confirmation prompt. Repeat to delete the kminiboot.uboot file.

Verifying the Upgrade with WebView

Verifying the Software Upgrade

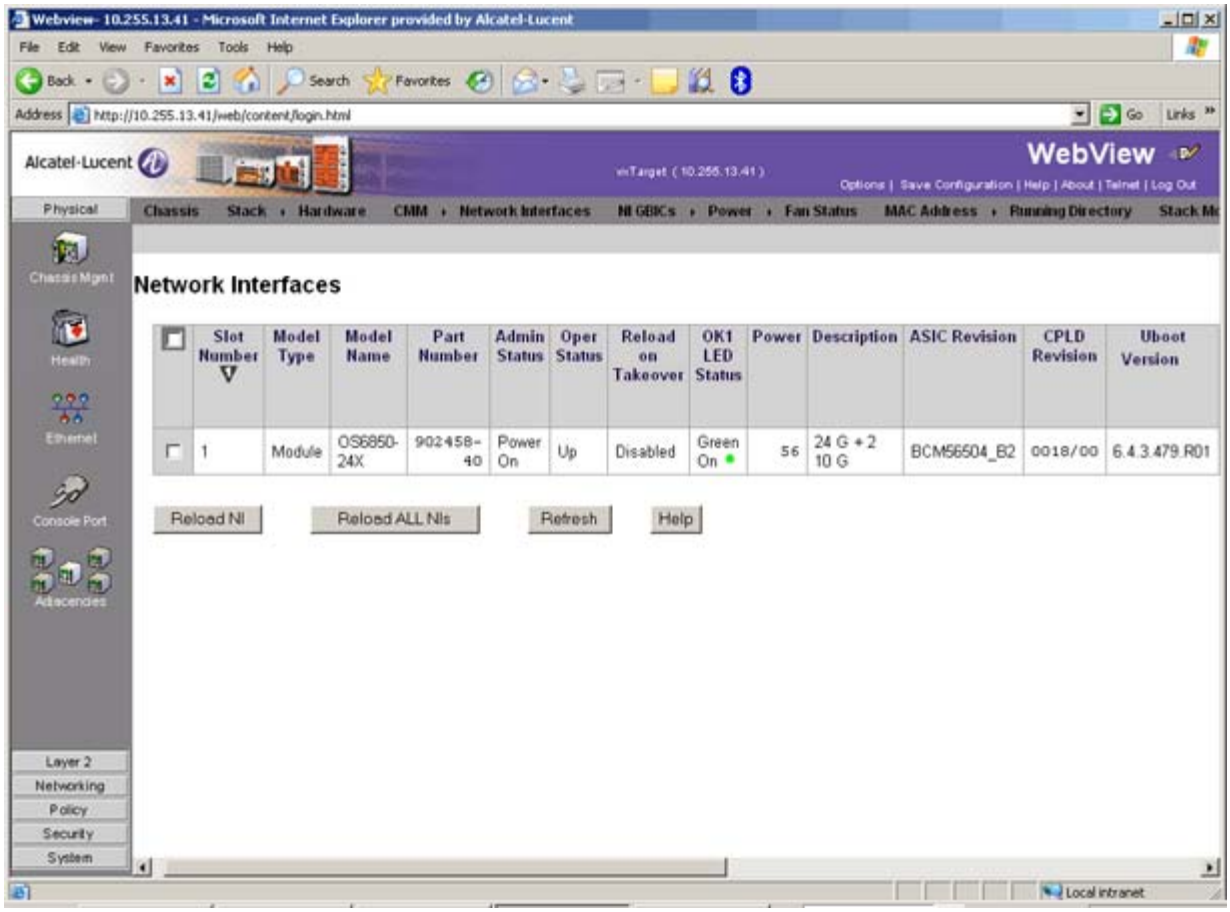
To verify that the software was successfully upgraded, go to the **Loaded Image Files** page by selecting **System** > **System Mgmt** > **Images** > **Loaded Images** as shown below.



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 the U-Boot and Miniboot files were successfully upgraded, 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 for the switch(es). Information for each switch in a stack (if applicable) is displayed.



Upgrading with the CLI

Upgrading OS6850 Series Switches to 6.4.4.R01 consists of the following steps. If you are performing a U-Boot/Miniboot upgrade, the steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

1. Upgrading the Image Files.
2. Upgrading the U-Boot and Miniboot Files, if necessary.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

WARNING: If you intend to run in a mixed OS6850/OS6850E stacked evironment you must first upgrade the existing OS6850 switches **before** adding the 6850E to the stack. Additionally, it's recommended that the OS6850 switches be upgraded to U-Boot/Miniboot version **6.4.4.213** to match the OS6850E switches.

WARNING: In a mixed OS6850/OS6850E stack environment with an OS6850 as the primary element, do not attempt to upgrade the miniboot/uboot for all elements at the same time by using the 'all' parameter of the 'update' command unless the Primary OS6850 miniboot/uboot has been upgraded to **6.4.4.213** which is the minimum supported on the OS6850E switches.

WARNING: In a mixed OS6850/OS6850E stack environment never attempt an FPGA upgrade for all devices at the same time by using the 'all' parameter of the 'update' command. This will cause all stack devices to use the FPGA version of the Primary device, which is not compatible with both models.

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.4.4.R01.

1. Download the 6.4.4.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
2. FTP the following 6.4.4.R01 image files to the **/flash/working** directory of the primary switch: **K2os.img**, **Kadvrout.img**, **Kbase.img**, **Kencrypt.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 **standalone** switch enter:

```
-> copy working certified
```

   - If you have **a stack** 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). Wait for the process to complete.

   WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files, if necessary. U-Boot and Miniboot version **6.4.3.479.R01** is **required** for the 6.4.4.R01 upgrade and version **6.4.4.213.R01** is **recommended** in a mixed OS6850/OS6850E stacked environment.

WARNING: If you are upgrading the U-boot and Miniboot, you **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot.

WARNING: If you intend to run in a mixed OS6850/OS6850E stacked evironment you must first upgrade the existing OS6850 switches **before** adding the 6850E to the stack. Additionally, it's recommended that the OS6850 switches be upgraded to U-Boot/Miniboot version **6.4.4.213** to match the OS6850E switches.

WARNING: In a mixed OS6850/OS6850E stack environment with an OS6850 as the primary element, do not attempt to upgrade the miniboot/uboot for all elements at the same time by using the 'all' parameter of the 'update' command unless the Primary OS6850 miniboot/uboot has been upgraded to **6.4.4.213** which is the minimum supported on the OS6850E switches.

WARNING: In a mixed OS6850/OS6850E stack environment never attempt an FPGA upgrade for all devices at the same time by using the 'all' parameter of the 'update' command. This will cause all stack devices to use the FPGA version of the Primary device, which is not compatible with both models.

1. Download the applicable upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
2. FTP the **ku-boot.bin** and **kminiboot.uboot** files to the **/flash** directory on the primary switch.

   STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.
3. Execute the following CLI command to update the Miniboot and U-Boot files on the switch(es) (can be a standalone or stack).

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

Sample output for "update uboot-miniboot" for a stack of 2

```
WED APR 20 10:58:52 : SYSTEM (75) info message:

+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT

WED APR 20 10:58:52 : CSM-CHASSIS (103) info message:

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

+++ == CSM == sysUpdate begin

WED APR 20 10:58:54 : SYSTEM (75) info message:

+++ NI 1 software update started

Erasing flash..

Writing flash..

Done

WED APR 20 10:58:59 : SYSTEM (75) info message:

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

+++ NI 1 software update started

Erasing flash......

Writing flash......

Done

WED APR 20 10:59:14 : SYSTEM (75) info message:

+++ NI 1 software update completed -- file /flash/kminiboot.uboot copied

+++ NI 2 software update started

WED APR 20 10:59:19 : SYSTEM (75) info message:

+++ NI 2 software update completed -- file /flash/ku-boot.bin copied
```

```
WED APR 20 11:01:23 : CSM-CHASSIS (103) info message:

+++ == CSM == sysUpdate end

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

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

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

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.

Verifying the Upgrade with the CLI

Verifying the Software Upgrade

To verify that the software was successfully upgraded to 6.4.4.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         6.4.4.342.R01   17129458 Alcatel-Lucent Base Software
Kadvrout.img      6.4.4.342.R01    2810592 Alcatel-Lucent Advanced Routing
K2os.img          6.4.4.342.R01    1744629 Alcatel-Lucent OS
Keni.img          6.4.4.342.R01    5604310 Alcatel-Lucent NI software
Ksecu.img         6.4.4.342.R01     606099 Alcatel-Lucent Security Management
Kencrypt.img      6.4.4.342.R01       3437 Alcatel-Lucent Encryption Management
```

Verifying the U-Boot and Miniboot Upgrade

To verify that the U-Boot and Miniboot files were successfully upgraded, use the **show ni** command as shown below. Information for each switch in a stack (if applicable) is displayed.

```
-> show ni

Module in slot 1

  Model Name:                     OS6850-P48,

  Description:                    48 G POE,

  Part Number:                    902463-10,

  Hardware Revision:              04,

  Serial Number:                  G0650243,

  Manufacture Date:               FEB 21 2006,
```

```
Firmware Version:              ,
Admin Status:                  POWER ON,
Operational Status:            UP,
Power Consumption:             95,
Power Control Checksum:        0x23a5,
CPU Model Type   :             Motorola MPC8248,
MAC Address:                   00:d0:95:e2:6d:24,
ASIC - Physical 1:             BCM56502_B2,
ASIC - Physical 2:             BCM56504_B2,
FPGA - Physical 1:             0018/00,
UBOOT Version :                6.4.3.479.R01,
UBOOT-miniboot Version :       6.4.3.479.R01,
POE SW Version :               n/a
```

Upgrade/Downgrade Software Matrix

Refer to the matrix below for software compatibility when upgrading/downgrading a 6850 Series Switch to/from Build 6.4.4.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 6.4.4.R01 GA I = 6.4.4.R01 GA F = 6.4.3.479.R01				
Build and Supported Software Versions For Each Upgrade				
Model	6.1.2 Through 6.3.1	6.3.4 GA I = 6.3.4.R01 GA F = 6.3.4.265.R01	6.4.2 GA I = 6.4.2.R01 GA F = 6.3.4.265.R01	6.4.2 GA I = 6.4.2.R01 GA F = 6.3.4.265.R01
6850	Contact Support	Yes	Yes	Yes

Note. Hardware is only backward compatible down to the software that originally supported it (e.g., 6.1.2.R01 for the 6850). Also, when downgrading, make sure to load the applicable U-Boot/Miniboot files. For more information, contact Customer Support.

OmniSwitch 6400

Upgrading with WebView

Upgrading OS6400 Series Switches to 6.4.4.R01 consists of the following steps. If you are performing a U-Boot/Miniboot upgrade, the steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

1. Upgrading the Image Files.
2. Upgrading the U-Boot and Miniboot Files.
3. Upgrading the FPGA (OS6400-C24 and OS6400-P24 models only).

WARNING: The steps MUST be performed in order. You must complete the image file upgrade first, followed by the U-Boot/Miniboot upgrade, and finally, the FPGA upgrade, if applicable.

Upgrading the Image Files

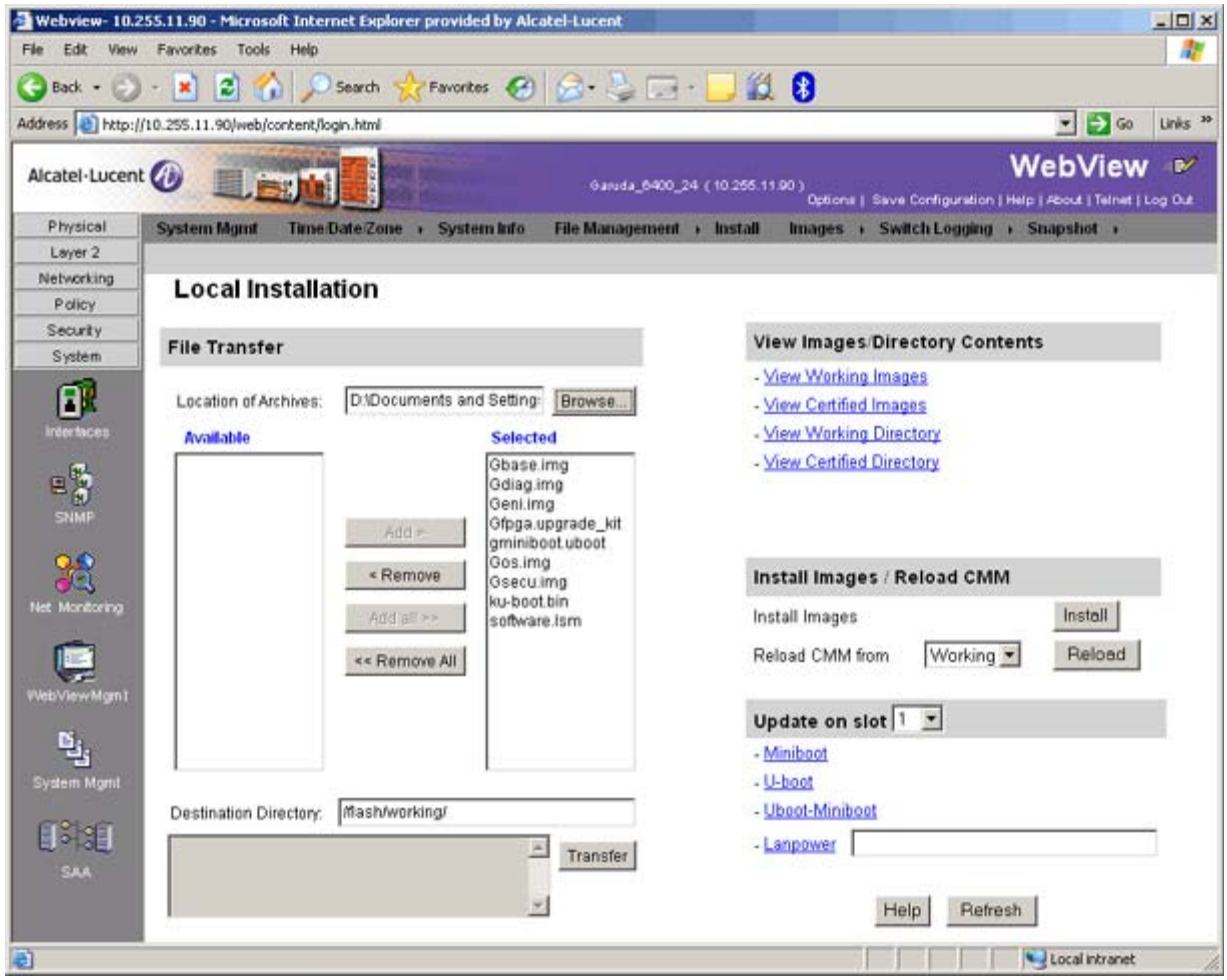
Follow the steps below to upgrade the image files to 6.4.4.R01.

1. Download the 6.4.4.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
2. Log into the switch through WebView.

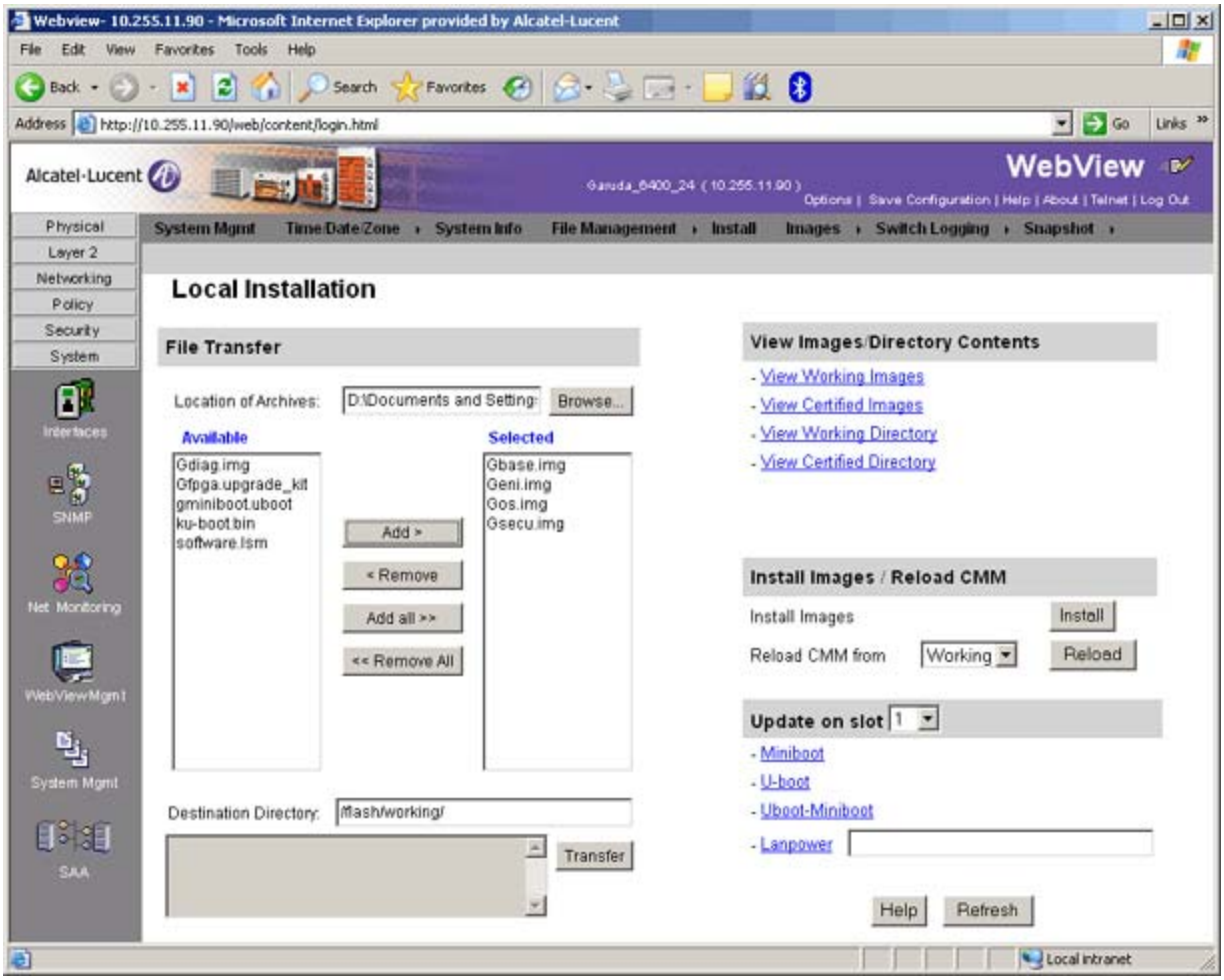
Note. Before proceeding with the remaining steps, make sure that the switch's Web Management Inactivity Timer is set to at least 10 minutes (default setting is 4 minutes). To view and change the setting, go to the **Session Type Parameters** page by selecting **Security** > **ASA** > **Sessions** > **Configuration**.

---

3. Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.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: **Gbase.img**, **Geni.img**, **Gos.img**, **Gsecu.img**.

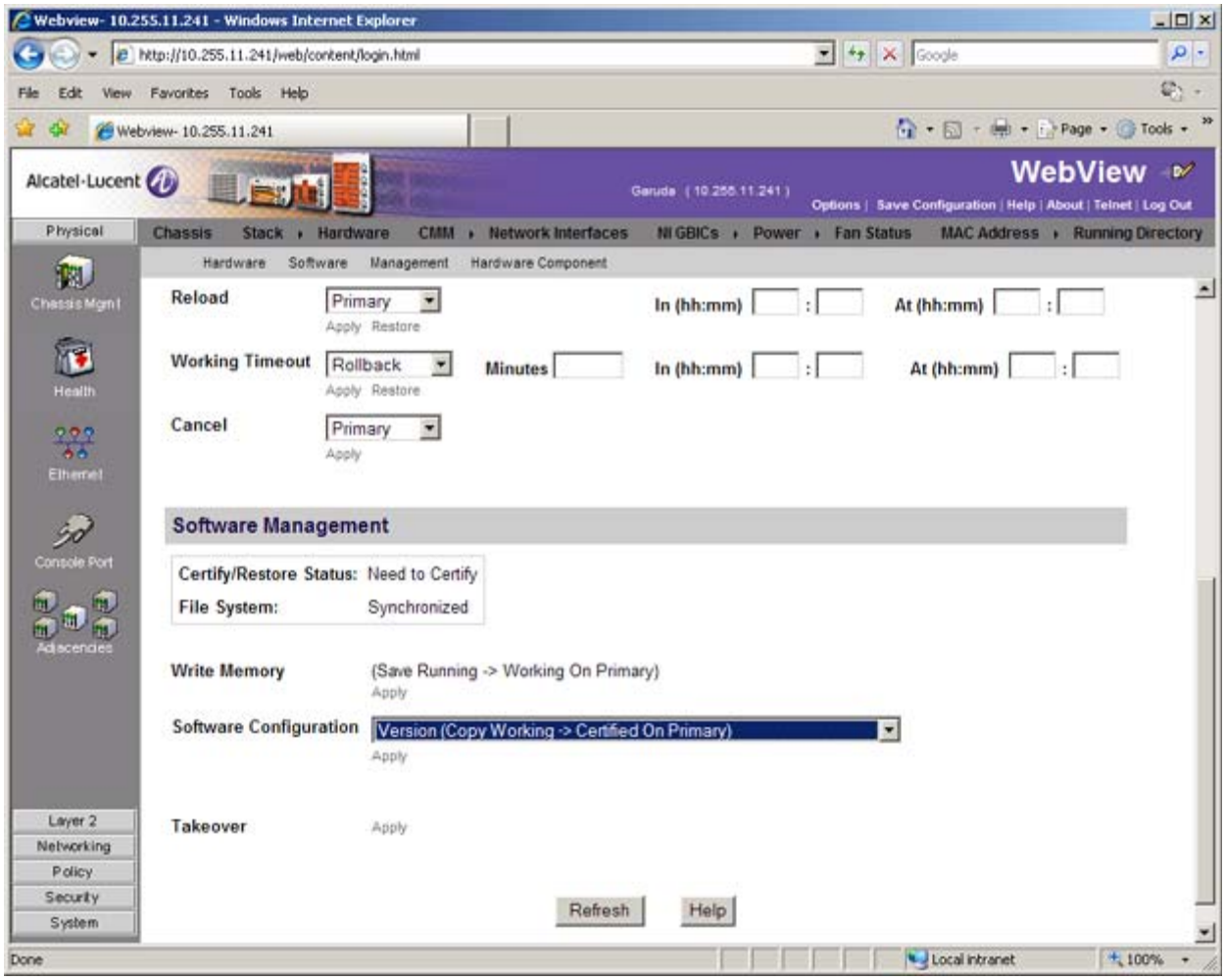


6 Transfer the files to the **flash/working** directory. Make sure the **Destination Directory** is **flash/working**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").

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 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). Wait for the synchronization process to complete on all switches before proceeding to the next step.

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files. U-Boot and Miniboot version **6.4.3.565.R01** is **required** for the 6.4.4.R01 upgrade.

WARNING: You **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot files.

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

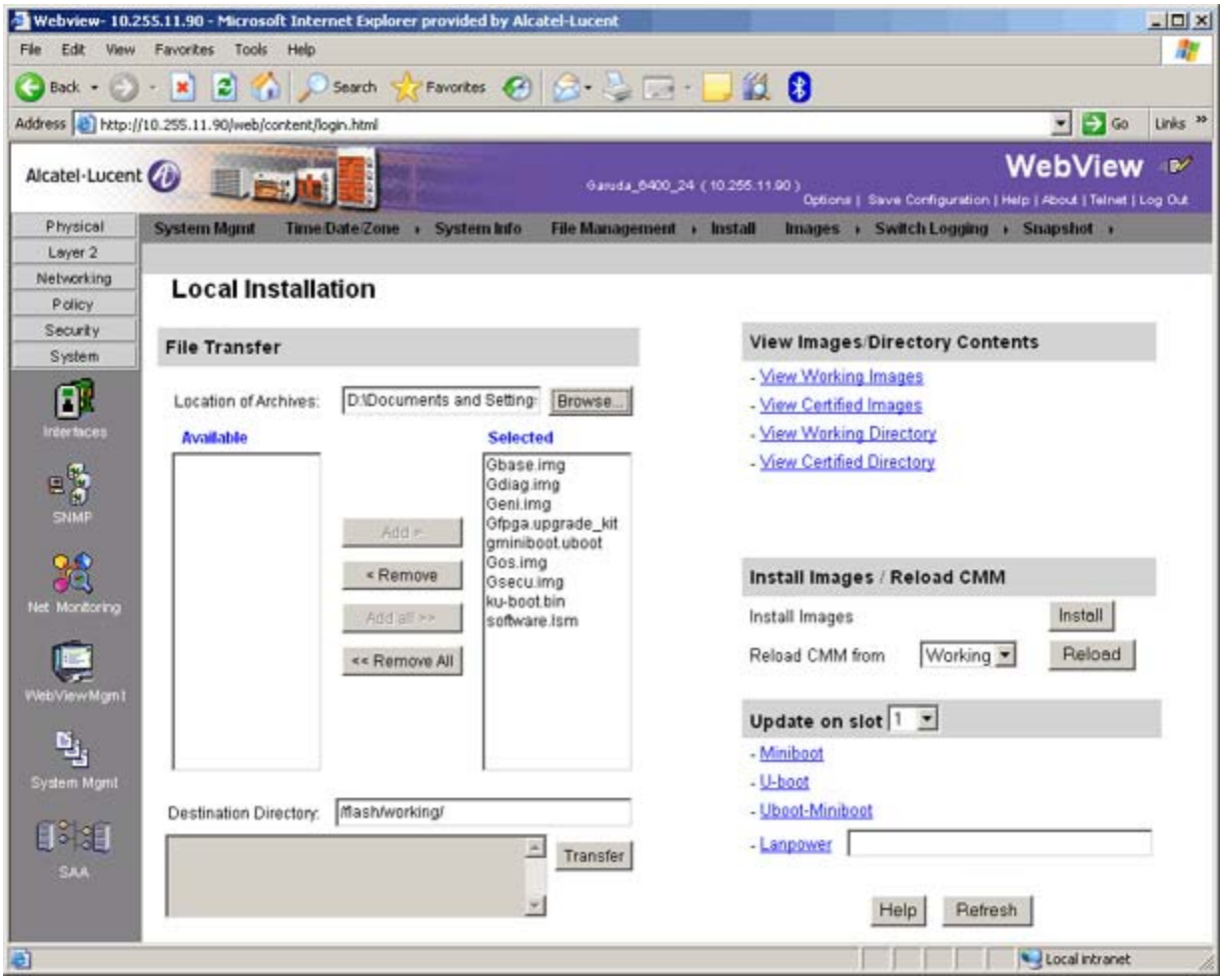
2 Log into the switch through WebView.

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**.

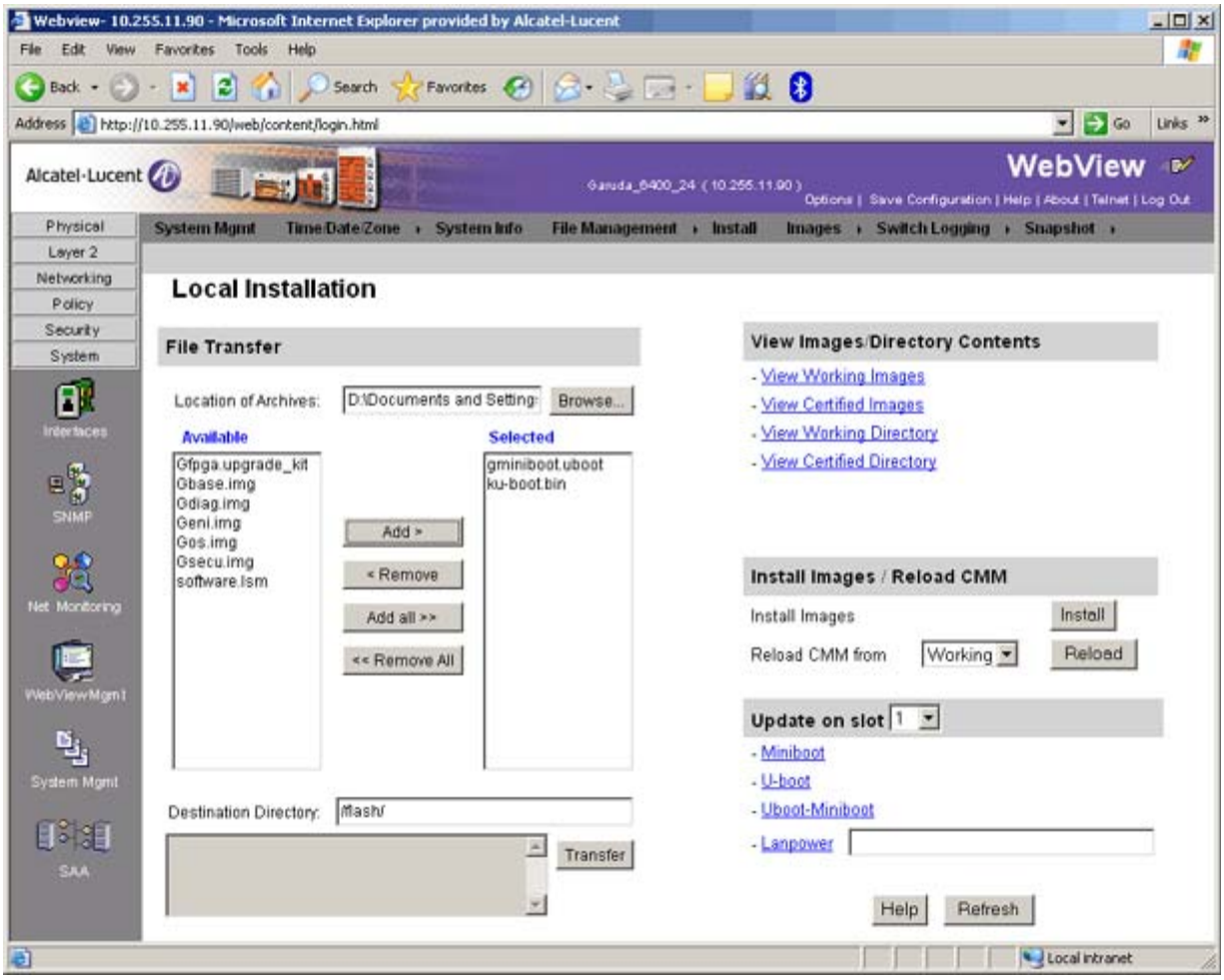
---

3 Select **System** > **System Mgmt** > **Install** to locate and FTP the 6.4.4.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 **gminiboot.uboot** file and the **ku-boot.bin** 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").

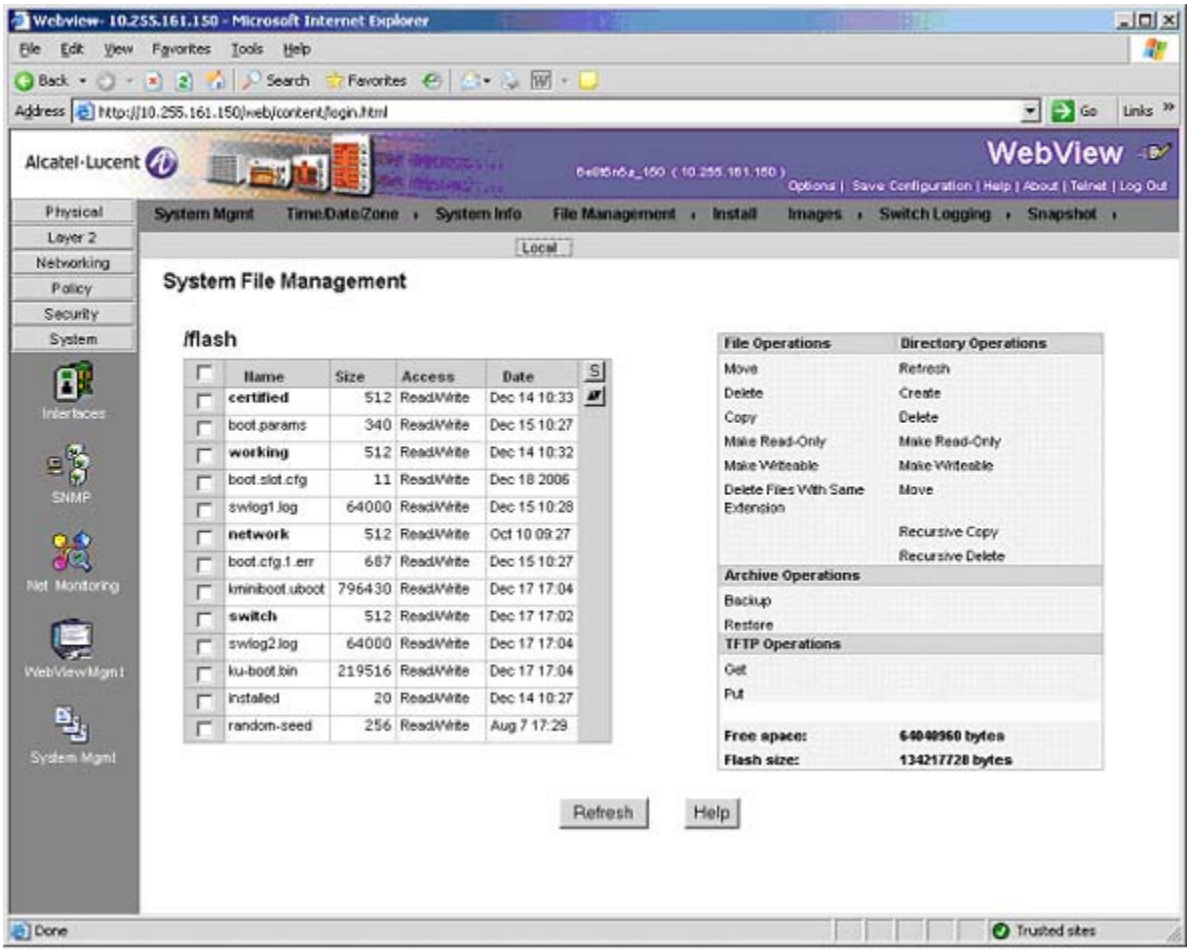
STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.

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 switches in the stack. 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."

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

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, delete the **miniboot.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 kminiboot.uboot file.

Upgrading the FPGA

The FPGA cannot be upgraded on the OS6400 using WebView. Refer to the CLI instructions "Upgrading the FPGA" on page -55.

Upgrading with the CLI

Upgrading OS6400 Series Switches to 6.4.4.R01 consists of the following steps. If you are performing a U-Boot/Miniboot upgrade, the steps must be performed in order. You must complete the image file upgrade **before** upgrading the U-Boot and Miniboot files.

1 Upgrading the Image Files.

2 Upgrading the U-Boot and Miniboot Files.

3 Upgrading the FPGA (OS6400-C24 and OS6400-P24 models only).

WARNING: The steps MUST be performed in order. You must complete the image file upgrade first, followed by the U-Boot/Miniboot upgrade, and finally, the FPGA upgrade, if applicable..

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.4.4.R01.

1 Download the 6.4.4.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.

2 FTP the following 6.4.4.R01 image files to the **/flash/working** directory: **Gbase.img**, **Geni.img**, **Gos.img**, **Gsecu.img**.

3 Log into the switch and reload the switch from the working directory.

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

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

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

- If you have a **standalone** switch enter:

```
-> copy working certified
```

- If you have **a stack** 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). Wait for the process to complete.

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot Files. U-Boot and Miniboot version **6.4.3.565.R01** is **required** for the 6.4.4.R01 upgrade.

WARNING: You **MUST** complete the image file upgrade **BEFORE** upgrading the U-Boot and Miniboot files. Please verify that the switch has been properly upgraded to 6.4.4.R01 before upgrading the U-boot and Miniboot files.

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

2 FTP the **gminiboot.uboot** and **ku-boot.bin** files to the **/flash** directory.

STOP: If you have **not** already completed the Upgrade Image section, **DO NOT CONTINUE.** Complete the Image File upgrade before returning to this section to complete the Uboot/Miniboot upgrade.

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
```

Sample output for "update uboot-miniboot" for a stack of 2

```
WED APR 20 15:31:25 : SYSTEM (75) info message:
+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT

WED APR 20 15:31:25 : CSM-CHASSIS (103) info message:
+++ == CSM == Application & Watchdog Monitoring Stopped
+++ == CSM == Update bootrom on all slots
+++ == CSM == sysUpdate begin

WED APR 20 15:31:26 : SYSTEM (75) info message:
+++ NI 1 software update started
Erasing flash
Writing 131072 bytes at 0xfff00000
Erasing flash
Writing 131072 bytes at 0xfff20000
Verifying sectors of flash from (0xfff00000) to (0xfff40000)
Done

WED APR 20 15:31:31 : SYSTEM (75) info message:
+++ NI 1 software update completed -- file /flash/ku-boot.bin copied
+++ NI 1 software update started
Erasing flash
Writing 131072 bytes at 0xff900000
Erasing flash
Writing 131072 bytes at 0xff920000
Erasing flash
Writing 131072 bytes at 0xff940000
Erasing flash
Writing 131072 bytes at 0xff960000
Erasing flash
Writing 131072 bytes at 0xff980000
Erasing flash
Writing 131072 bytes at 0xff9a0000
Erasing flash
Writing 131072 bytes at 0xff9c0000
Verifying sectors of flash from (0xff900000) to (0xff9e0000)
Done

WED APR 20 15:31:47 : SYSTEM (75) info message:
+++ NI 1 software update completed -- file /flash/gminiboot.uboot copied
+++ NI 2 software update started

WED APR 20 15:31:51 : SYSTEM (75) info message:
+++ NI 2 software update completed -- file /flash/ku-boot.bin copied
+++ NI 2 software update started

WED APR 20 15:32:08 : SYSTEM (75) info message:
+++ NI 2 software update completed -- file /flash/gminiboot.uboot copied
sysStartWatchdog() Starting watchdog timer to INTERRUPT after 60 secs.

WED APR 20 15:32:16 : CSM-CHASSIS (103) info message:
+++ == CSM == timer_r:simplex---- session end ----

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

WARNING: DO NOT INTERRUPT the upgrade process until it is complete. Interruption of the process will result in an unrecoverable failure condition.

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

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

Upgrading the FPGA

Follow the steps below to upgrade the FPGA to FPGA 16 on OS6400-C24 and OS6400-P24 switches.

WARNING: You **MUST** complete the image file and U-Boot/Miniboot upgrade **BEFORE** upgrading the FPGA.

1 Download the latest FPGA build from the Alcatel-Lucent Service and Support web site to your PC.

2 FTP the FPGA upgrade kit file (**Gfpga.upgrade_kit**) to the **/flash** directory on the primary switch. Make sure you change the path of the destination directory from **/flash/working** (the default) to the root **/flash** directory before transferring the upgrade kit.

3 Log into the primary switch.

4 Enter:

```
-> update fpga ni all
```

The FPGA will be updated on the primary switch (and, if present, all switches in a stack). When the update is complete, the following message will be displayed:

+++ == CSM == UPDATE COMPLETED

The switch will automatically reboot.

5 After the FPGA upgrade has been successfully completed, delete the **Gfpga.upgrade_kit** file from the /flash directory. CMM. Enter the following to delete the **Gfpga.upgrade_kit** file on the primary CMM:

```
-> rm Gfpga.upgrade_kit
```

Verifying the Upgrade with the CLI

Verifying the Software Upgrade

To verify that the software was successfully upgraded to 6.4.4.R01, use the **show microcode** command as shown below. The display below shows a successful image file upgrade.

```
-> show microcode

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

Gbase.img         6.4.4.342.R01   16520637 Alcatel-Lucent Base Software

Gos.img           6.4.4.342.R01    1769841 Alcatel-Lucent OS

Geni.img          6.4.4.342.R01    5566177 Alcatel-Lucent NI software

Gsecu.img         6.4.4.342.R01     606061 Alcatel-Lucent Security Management
```

Verifying the U-Boot and Miniboot Upgrade

To verify that the U-Boot and Miniboot files were successfully upgraded, use the **show ni** command as shown below. Information for each switch in a stack (if applicable) is displayed.

```
-> show ni

Module in slot 1

  Model Name:                     6400 24 FIBER PORTS W/STK,

  Description:                    6400 24 FIBER PORTS W/STK,

  Part Number:                    902623-90,

  Hardware Revision:              001,

  Serial Number:                  J0480060,

  Manufacture Date:               JAN 26 2008,

  Firmware Version:               ,

  Admin Status:                   POWER ON,

  Operational Status:             UP,

  Power Consumption:              79,

  Power Control Checksum:         0xe1bc,

  CPU Model Type   :              Freescale MPC8248,

  MAC Address:                    00:e0:b1:8c:da:72,

  ASIC - Physical 1:              BCM56322_A0,

  FPGA - Physical 1:              0016/00,

  UBOOT Version :                 6.4.3.565.R01,

  UBOOT-miniboot Version :        6.4.3.565.R01,

  POE SW Version :                n/a

  GBIC  2

        Manufacturer Name:              PICOLIGHT       ,

        Part Number:                    PL-XPL-VC-S13-11,

        Hardware Revision:                  ,

        Serial Number:                  C615HA02V       ,

        Manufacture Date:               060403  ,

        Laser Wave Length:               850nm,

        Admin Status:                   POWER ON,

        Operational Status:             UP

Module in slot 2
```

```
Model Name:                     6400 24 COPPER PORTS W/STK,
Description:                    6400 24 COPPER PORTS W/STK,
Part Number:                    902621-90,
Hardware Revision:              02,
Serial Number:                  J1480014,
Manufacture Date:               APR 08 2008,
Firmware Version:               ,
Admin Status:                   POWER ON,
Operational Status:             UP,
Power Consumption:              69,
Power Control Checksum:         0xc09f,
CPU Model Type   :              Freescale MPC8248,
MAC Address:                    00:e0:b1:99:a4:54,
ASIC - Physical 1:              BCM56322_A0,
FPGA - Physical 1:              0016/00,
UBOOT Version :                 6.4.3.565.R01,
UBOOT-miniboot Version :        6.4.3.565.R01,
POE SW Version :                n/a
```

Upgrade/Downgrade Software Matrix

Refer to the matrix below for software compatibility when upgrading/downgrading a 6400 Series Switch to/from Build 6.4.4.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 6.4.4.R01 GA I = 6.4.4.R01 GA F = 6.4.3.565.R01			
Build and Supported Software Versions For Each Upgrade			
Model	**6.3.3 GA** I = 6.3.3.R01 F = 6.3.3.288.R01	**6.3.4 GA** I = 6.3.4.R01 F = 6.3.4.265.R01	**6.4.3 GA** I = 6.4.3.R01 F = 6.3.4.265.R01
6400	Contact Support	Yes	Yes

Note. Hardware is only backward compatible down to the software that originally supported it (e.g., 6.3.3.R01 for the 6400). Also, when downgrading, make sure to load the applicable U-Boot/Miniboot files. For more information, contact Customer Support.

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