



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 13](#).

Note. To downgrade a switch (e.g., 6.4.2 to 6.3.4), see [Upgrade/Downgrade Software Matrix on page 18](#).

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. If you are upgrading a 6855 Switch from 6.3.4.R01 to 6.4.2.R01, you do not have to upgrade the U-Boot and Miniboot files. The same U-Boot/Mimiboot files (6.3.4.265.R01) are compatible with the 6.4.2.R01 Release. However, if you are upgrading a 6855-U24X Switch, you must upgrade the Image files **and** the U-Boot and Miniboot Files (6.4.2.316.R01).

Note. 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.

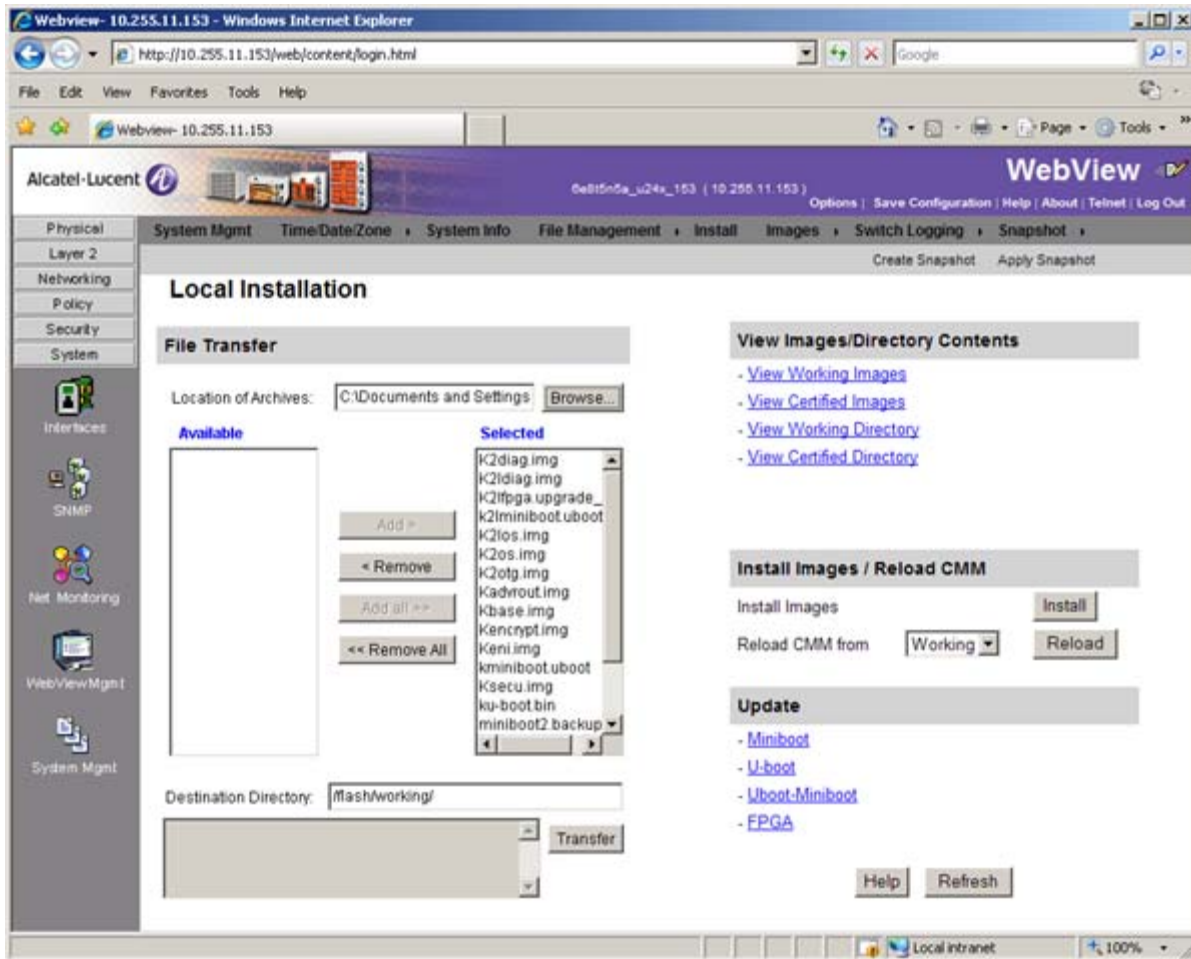
Upgrading the Image Files

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

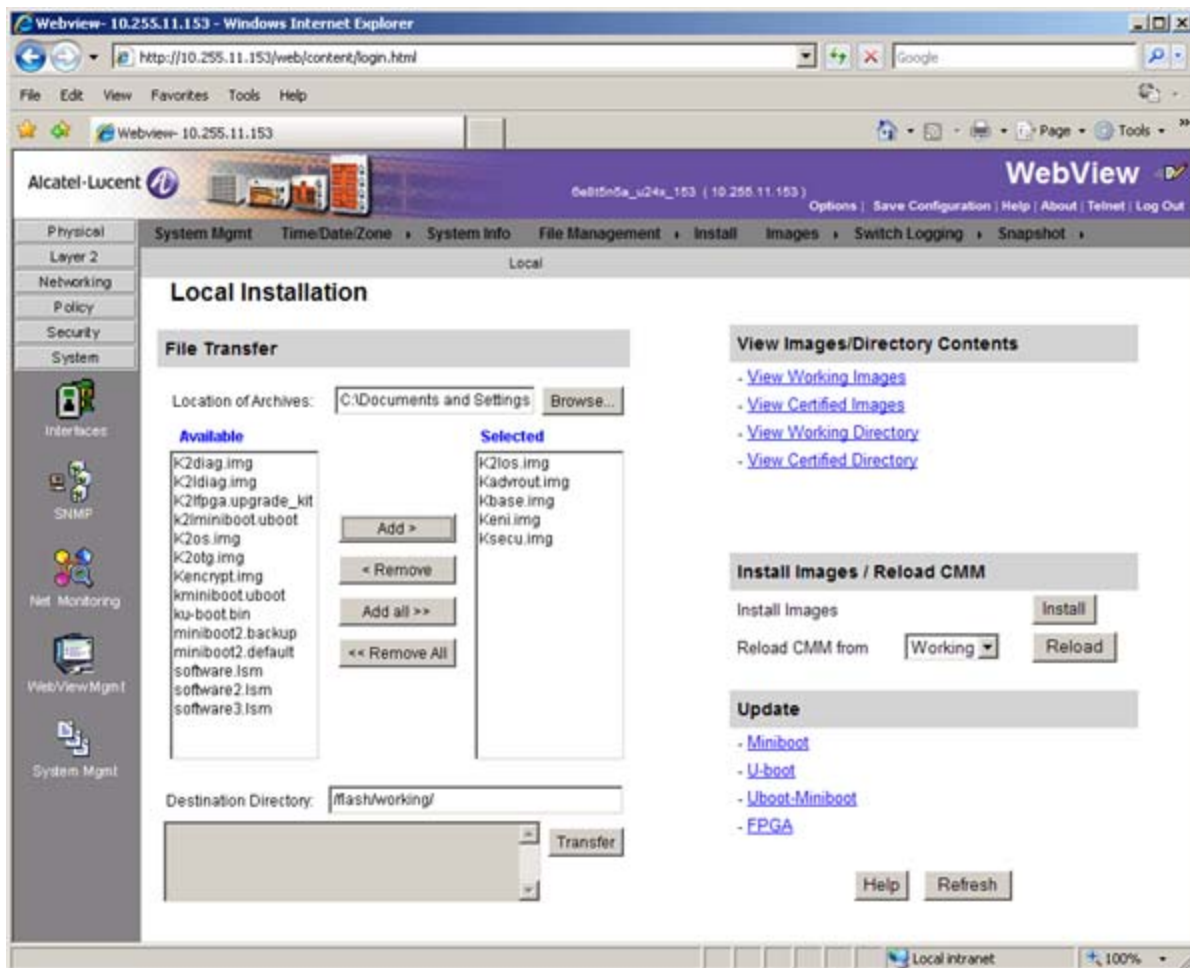
- 1 Download the 6.4.2.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
- 2 Log into the switch through WebView.

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**.

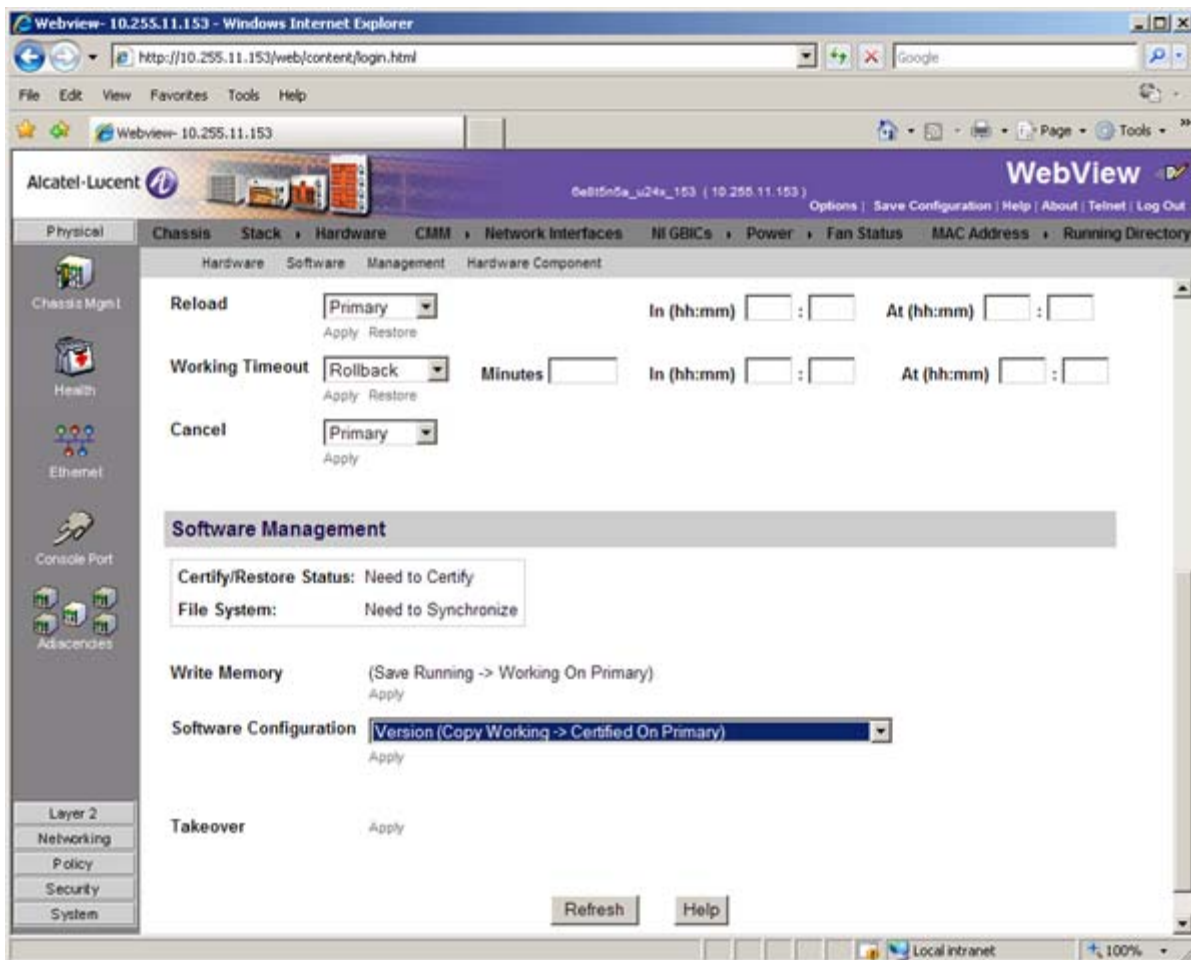
- 3 Select **System > System Mgmt > Install** to locate and FTP the 6.4.2.R01 image files that you downloaded in Step 1. Click on the **Browse** button to locate the files.
- 4 Select one of the files and click **Open**. All of the files will appear in the "Selected" area, as shown below.



- 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/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). 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

If you are upgrading a 6855 Switch from 6.3.4.R01 to 6.4.2.R01, you do not have to upgrade the U-Boot and Miniboot files. The same U-Boot/Miniboot files (6.3.4.265.R01) are compatible with the 6.4.2.R01 Release. However, if you are upgrading a 6855-U24X Switch, you must upgrade the Image files **and** the U-Boot and Miniboot U-Boot Files (6.4.2.316.R01).

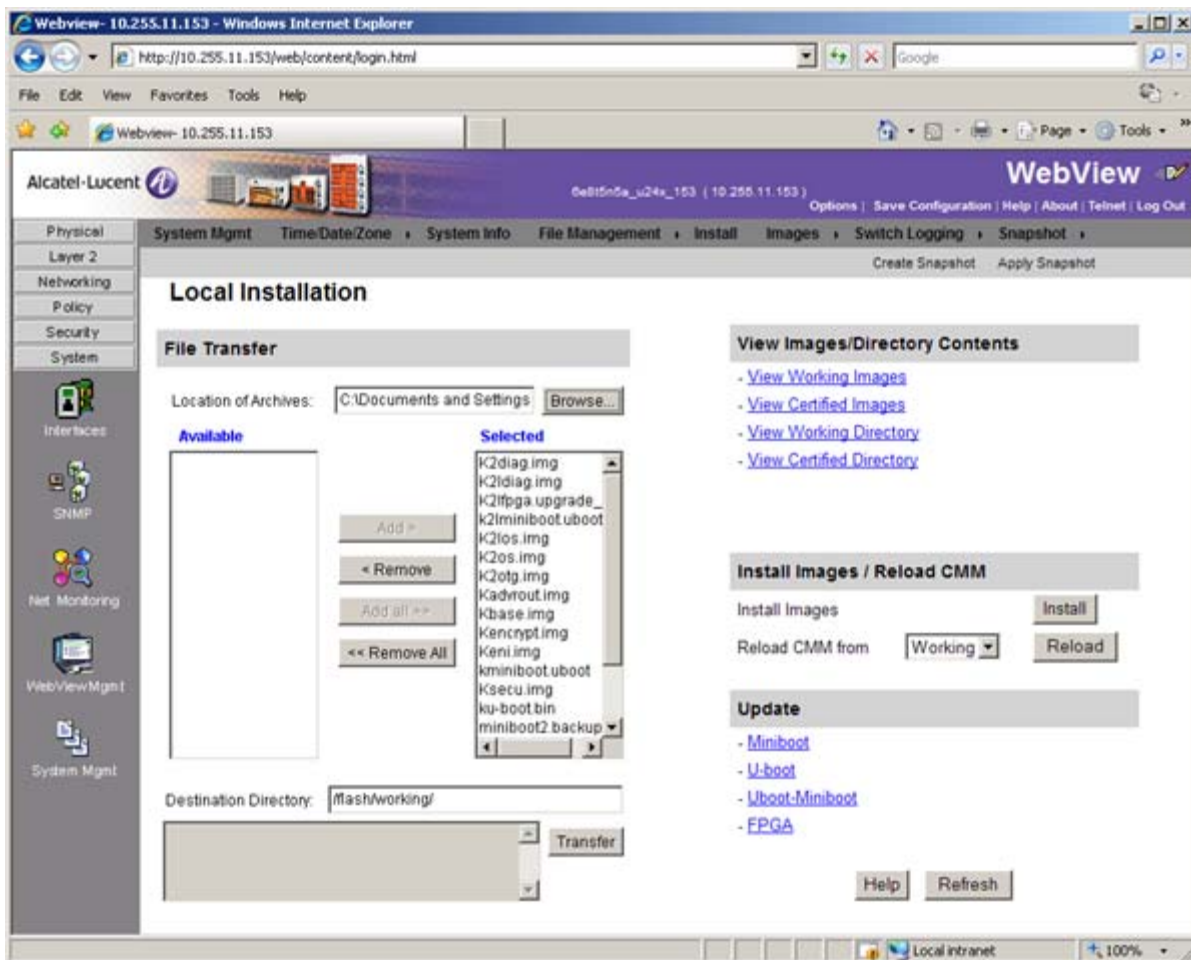
- 1 Download the applicable U-Boot/Miniboot files from the Alcatel-Lucent Service and Support web site to your PC (**ku-boot.bin** and **k2lminiboot.uboot**).

Note. The minimum U-Boot/Miniboot version for a 6855 Switch is 6.3.2.86.R01. However, the recommended version is 6.3.4.265.R01. For a 6855-U24X Switch, the minimum and recommended version is 6.4.2.316.R01.

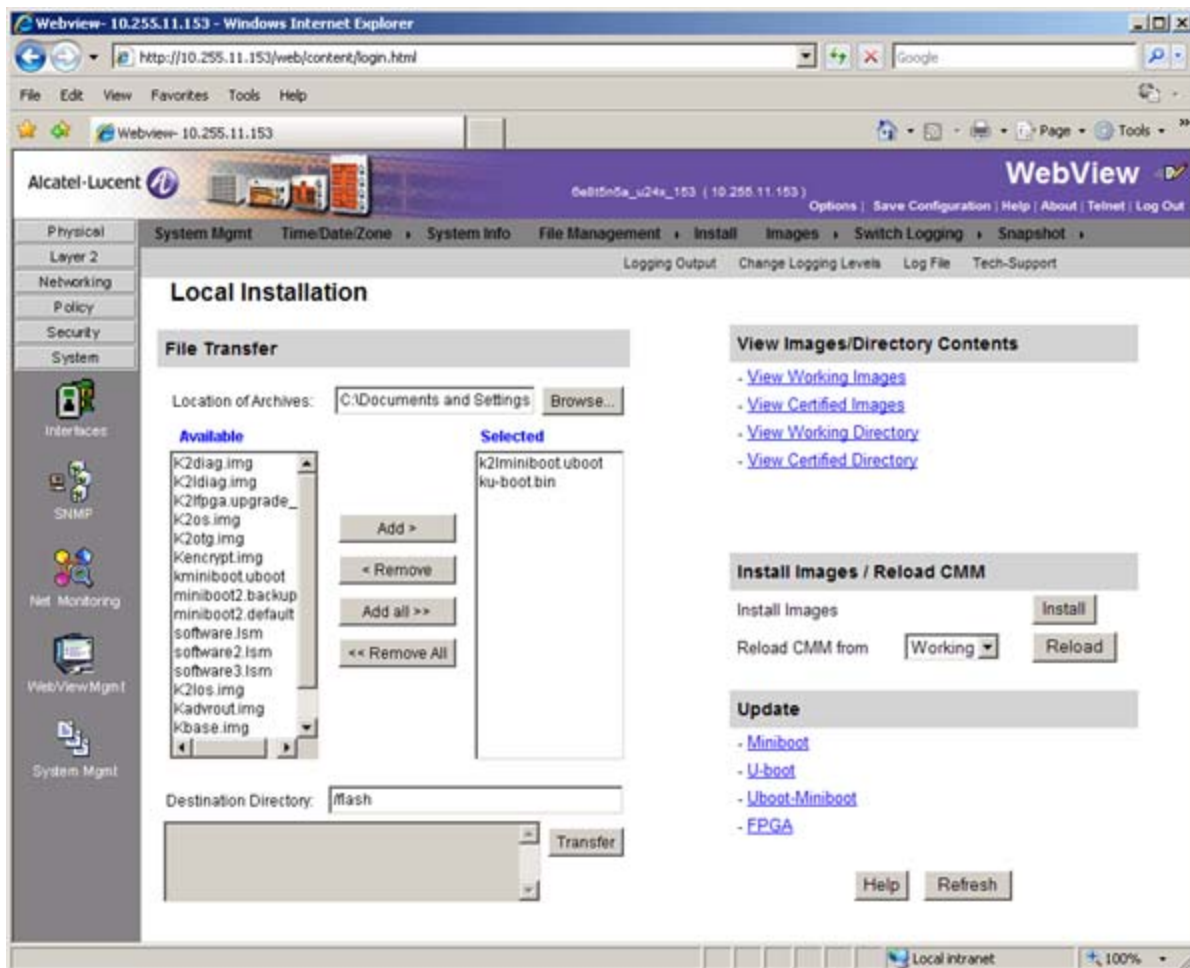
- 2 Log into the switch through WebView.

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 6.4.2.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 **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 10](#)), delete the **K2lminiboot.uboot** and **ku-boot.bin** files from the Flash Directory by selecting **System > System Mgmt > File Management > Local**, as shown below.

The screenshot shows the WebView interface for an Alcatel-Lucent switch. The main content area is titled "System File Management" and displays a file list for the "/flash" directory. The file list has columns for Name, Size, Access, Date, and a checkbox. The file "ku-boot.bin" is selected, and its checkbox is checked. To the right of the file list is a "File Operations" menu with various options. The "Delete" option is highlighted, and a mouse cursor is pointing at it. Below the file list are "Refresh" and "Help" buttons. At the bottom of the interface, there is a status bar showing "Free space: 60424192 bytes" and "Flash size: 134217728 bytes".

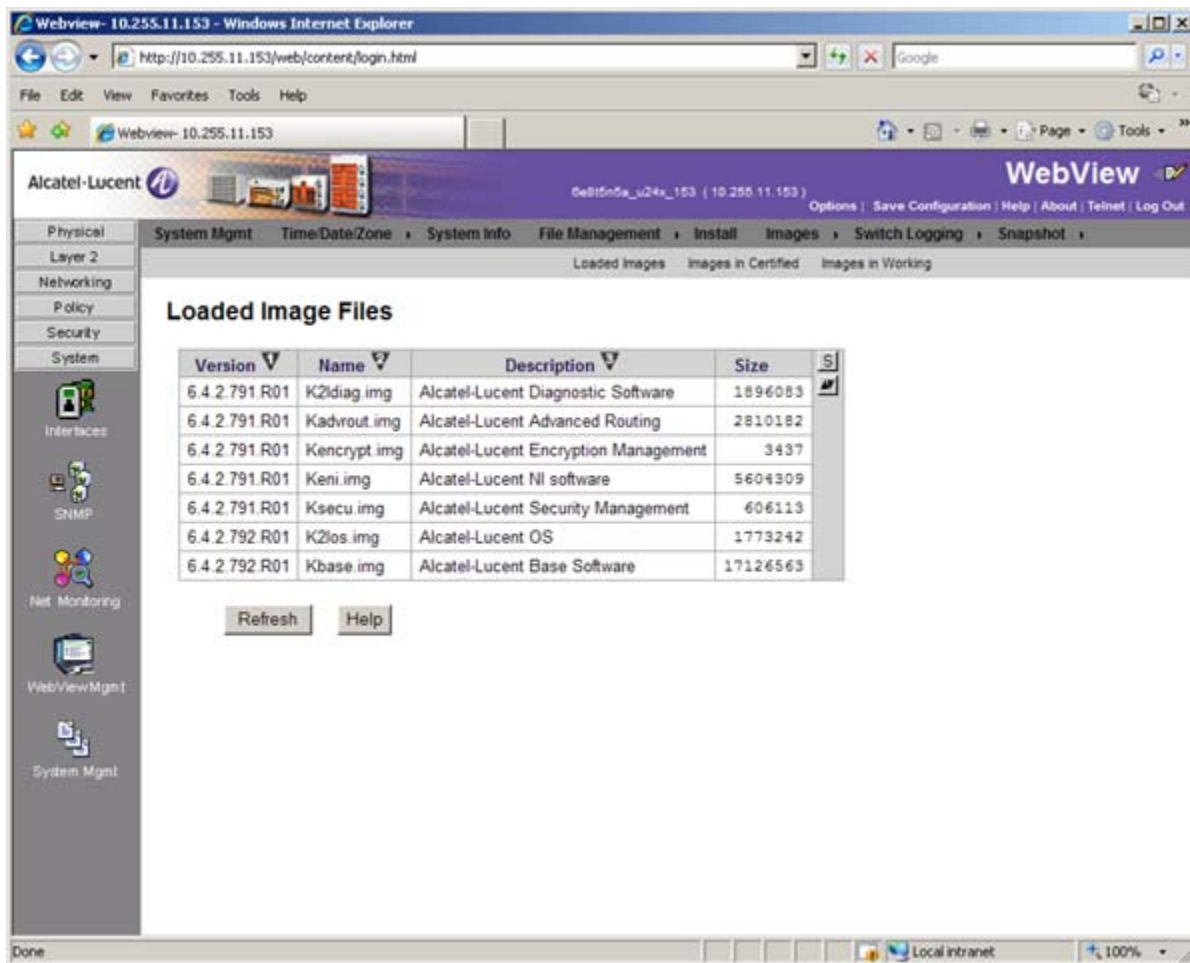
	Name	Size	Access	Date	S
<input type="checkbox"/>	certified	4096	Read/Write	Sep 2 20:37	
<input type="checkbox"/>	working	4096	Read/Write	Sep 2 23:46	
<input type="checkbox"/>	boot.params	340	Read/Write	Sep 2 22:27	
<input type="checkbox"/>	switch	4096	Read/Write	Sep 3 02:04	
<input type="checkbox"/>	swlog1.log	64000	Read/Write	Sep 3 02:03	
<input type="checkbox"/>	swlog2.log	64000	Read/Write	Sep 2 02:14	
<input type="checkbox"/>	network	4096	Read/Write	Feb 16 20:56	
<input type="checkbox"/>	boot.slot.cfg	25	Read/Write	Jul 15 2000	
<input type="checkbox"/>	installed	20	Read/Write	Sep 2 22:17	
<input type="checkbox"/>	random-seed	256	Read/Write	Jul 22 2000	
<input type="checkbox"/>	boot.cfg.1.err	356	Read/Write	Sep 1 18:49	
<input type="checkbox"/>	k2Iminiboot.uboot	820990	Read/Write	Sep 3 02:02	
<input checked="" type="checkbox"/>	ku-boot.bin	227860	Read/Write	Sep 3 02:02	

- 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.



The screenshot shows the Alcatel-Lucent WebView interface in a Windows Internet Explorer browser. The browser address bar shows the URL <http://10.255.11.153/web/content/login.html>. The page title is "Webview- 10.255.11.153". The main content area displays the "Loaded Image Files" page. The page has a navigation menu at the top with options like "System Mgmt", "Time/Date/Zone", "System Info", "File Management", "Install", "Images", "Switch Logging", and "Snapshot". Below the navigation menu, there are sub-menus for "Loaded Images", "Images in Certified", and "Images in Working". The main content area shows a table with the following data:

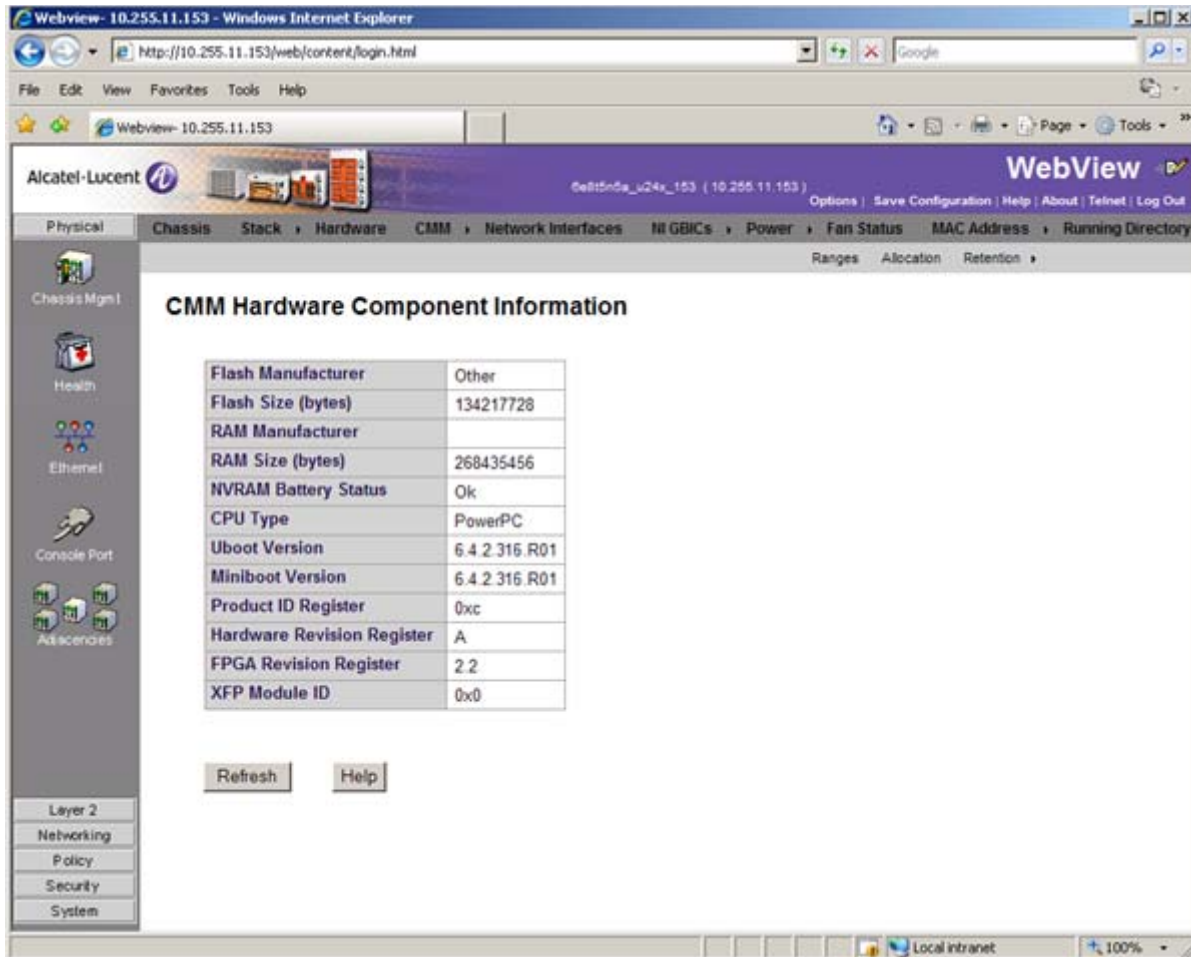
Version	Name	Description	Size
6.4.2.791.R01	K2ldiag.img	Alcatel-Lucent Diagnostic Software	1896083
6.4.2.791.R01	Kadvrout.img	Alcatel-Lucent Advanced Routing	2810182
6.4.2.791.R01	Kencrypt.img	Alcatel-Lucent Encryption Management	3437
6.4.2.791.R01	Keni.img	Alcatel-Lucent NI software	5604309
6.4.2.791.R01	Ksecu.img	Alcatel-Lucent Security Management	606113
6.4.2.792.R01	K2los.img	Alcatel-Lucent OS	1773242
6.4.2.792.R01	Kbase.img	Alcatel-Lucent Base Software	17126563

Below the table, there are two buttons: "Refresh" and "Help".

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 Hardware Component Information** page by selecting **Physical > Chassis Mgmt > CMM > Hardware Component**, as shown below.



The screenshot shows the WebView interface for an Alcatel-Lucent switch. The browser address bar shows the URL `http://10.255.11.153/web/content/login.html`. The page title is "CMM Hardware Component Information". The table below contains the following data:

Flash Manufacturer	Other
Flash Size (bytes)	134217728
RAM Manufacturer	
RAM Size (bytes)	268435456
NVRAM Battery Status	Ok
CPU Type	PowerPC
Uboot Version	6.4.2.316.R01
Miniboot Version	6.4.2.316.R01
Product ID Register	0xc
Hardware Revision Register	A
FPGA Revision Register	2.2
XFP Module ID	0x0

Below the table are two buttons: "Refresh" and "Help".

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.

The screenshot shows the WebView interface for an Alcatel-Lucent switch. The main content area is titled "Network Interfaces" and contains a table with the following data:

Slot Number	Model Type	Model Name	Part Number	Admin Status	Oper Status	Reload on Takeover	OK1 LED Status	Power	Description	ASIC Revision	CPLD Revision	Uboot Version
1	Module	OS6855-U24X	902757-90	Power On	Up	Enabled	Green On	o	24 SFP+2 RJ45+10G	BCM56512_A0	0034/00	6.4.2.316.R01
2	Module	OS6855-U24X	902757-90	Power On	Up	Enabled	Green On	o	24 SFP+2 RJ45+10G	BCM56512_A0	0034/00	6.4.2.316.R01

Below the table, there are buttons for "Reload NI", "Reload ALL NIs", "Refresh", and "Help". The left sidebar contains navigation options: Physical, Chassis Mgmt, Health, Ethernet, Console Port, and Alcatel-Lucent. The bottom of the page shows a status bar with "Local intranet" and "100%" zoom.

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. If you are upgrading a 6855 Switch from 6.3.4.R01 to 6.4.2.R01, you do not have to upgrade the U-Boot and Miniboot files. The same U-Boot/Mimiboot files (6.3.4.265.R01) are compatible with the 6.4.2.R01 Release. However, if you are upgrading a 6855-U24X Switch, you must upgrade the Image files **and** the U-Boot and Miniboot U-Boot Files (6.4.2.316.R01).

Note. 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.

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

If you are upgrading a 6855 Switch from 6.3.4.R01 to 6.4.2.R01, you do not have to upgrade the U-Boot and Miniboot files. The same U-Boot/Miniboot files (6.3.4.265.R01) are compatible with the 6.4.2.R01 Release. However, if you are upgrading a 6855-U24X Switch, you must upgrade the Image files **and** the U-Boot and Miniboot U-Boot Files (6.4.2.316.R01).

- 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**).

Note. The minimum U-Boot/Miniboot version for a 6855 Switch is 6.3.2.86.R01. However, the recommended version is 6.3.4.265.R01. For a 6855-U24X Switch, the minimum and recommended version is 6.4.2.316.R01.

- 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 checksumming 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, then reload the switch:

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

The upgrade is now complete. See [Verifying the Upgrade with the CLI on page 16](#) 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 = 6.3.4.265.R01 (F = 6.4.2.316.R01 for U24X)		
Build and Supported Software Versions for Each Upgrade		
	6.3.2 GA	6.3.4 GA
Model	I = 6.3.2.R01 F = 6.3.2.86.R01	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.



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