



Upgrading OmniSwitch 6400 Series Switches to 6.4.2.R01

Overview

This instruction sheet documents how to upgrade OmniSwitch 6400 Series Switches to 6.4.2.R01 firmware and software. The upgrade can be performed using the CLI, WebView, or SNMP. Alcatel-Lucent recommends using WebView to perform the upgrade. For upgrade instructions using the CLI, see [Upgrading with the CLI on page 12](#).

Note. To downgrade a switch (e.g., 6.4.2 to 6.3.4), see [Upgrade/Downgrade Software Matrix on page 17](#).

Prerequisites

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

- The person performing the upgrade must:
 - be the responsible party for maintaining the switch's configuration
 - be aware of any issues that may arise from a network outage caused by improperly loading this code
 - understand that the switch must be rebooted and network users will be affected by this procedure
 - have a working knowledge of the switch to configure it to accept an FTP connection through the EMP or Network Interface (NI) Ethernet port.
- If the CLI is used, all CLI commands must be executed via a Console Port connection, not through a Telnet session. If you are performing a remote upgrade, the console port must be connected through a terminal server (via Telnet, PuTTY, etc.) in the same location as the switch you are upgrading.

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

Upgrading with WebView

Upgrading the 6400 series switch to 6.4.2.R01 consists of the following steps:

- 1 Upgrading the Image Files.
- 2 Upgrading the U-Boot and Miniboot Files. The minimum U-Boot/Miniboot version required for Release 6.4.2.R01 is 6.3.3.277.R01. The recommended version is 6.3.4.265.R01. *Note that 6400 Series Switches were originally shipped new with U-Boot/Miniboot version 6.3.3.288.R01, which is compatible with Release 6.4.2.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.

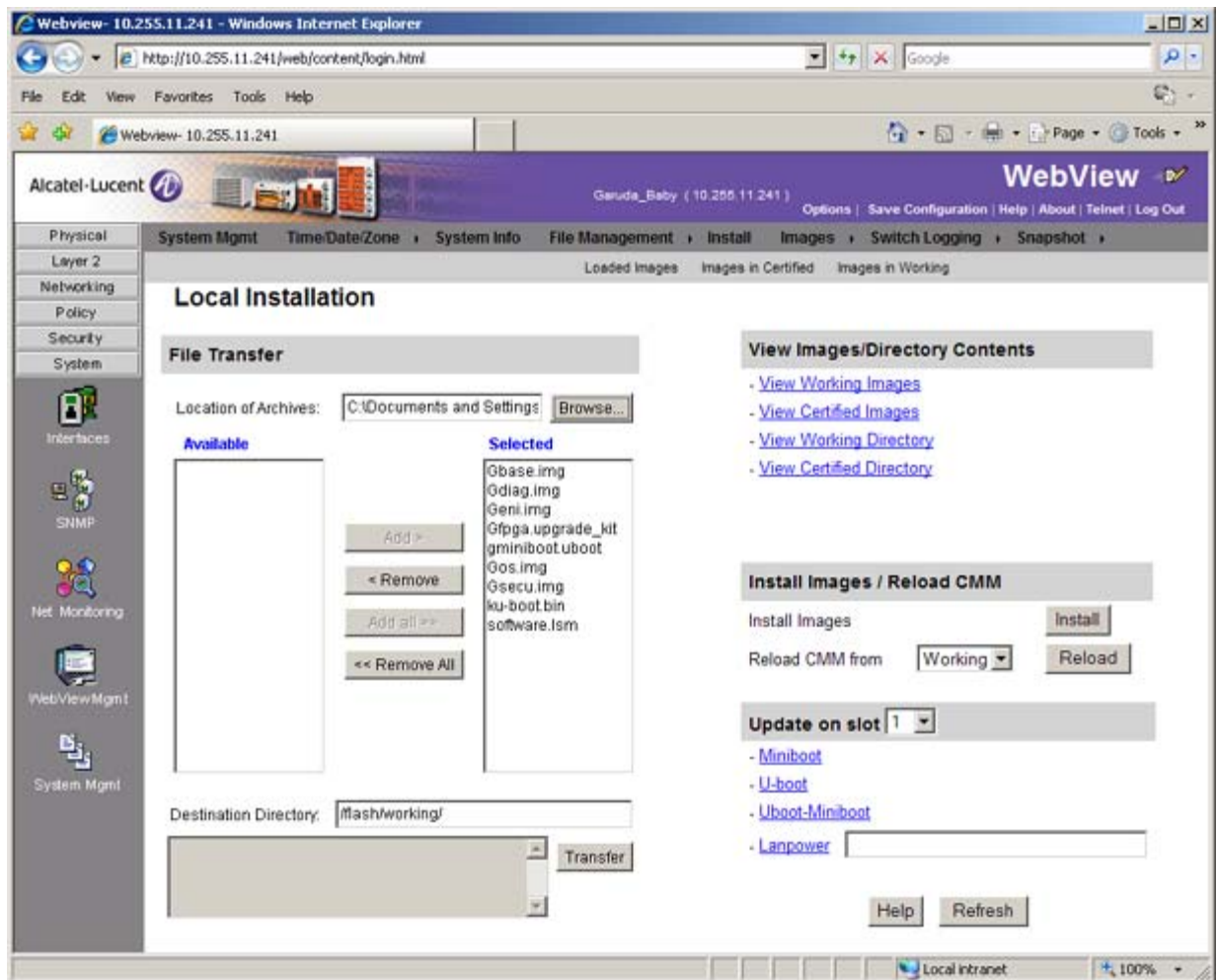
Upgrading the Image Files

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

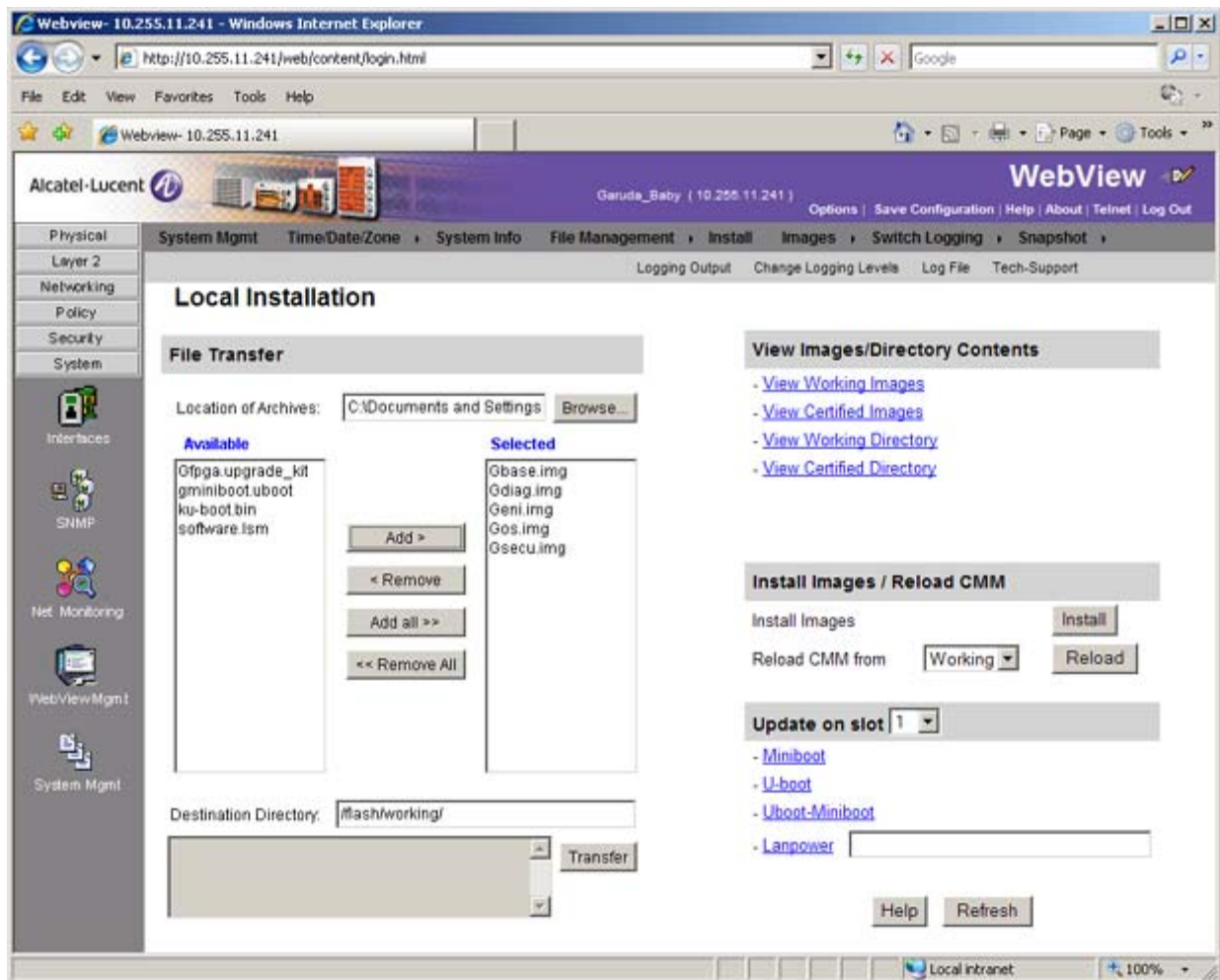
- 1 Download the 6.4.2.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
- 2 Log into the switch through WebView.

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**.

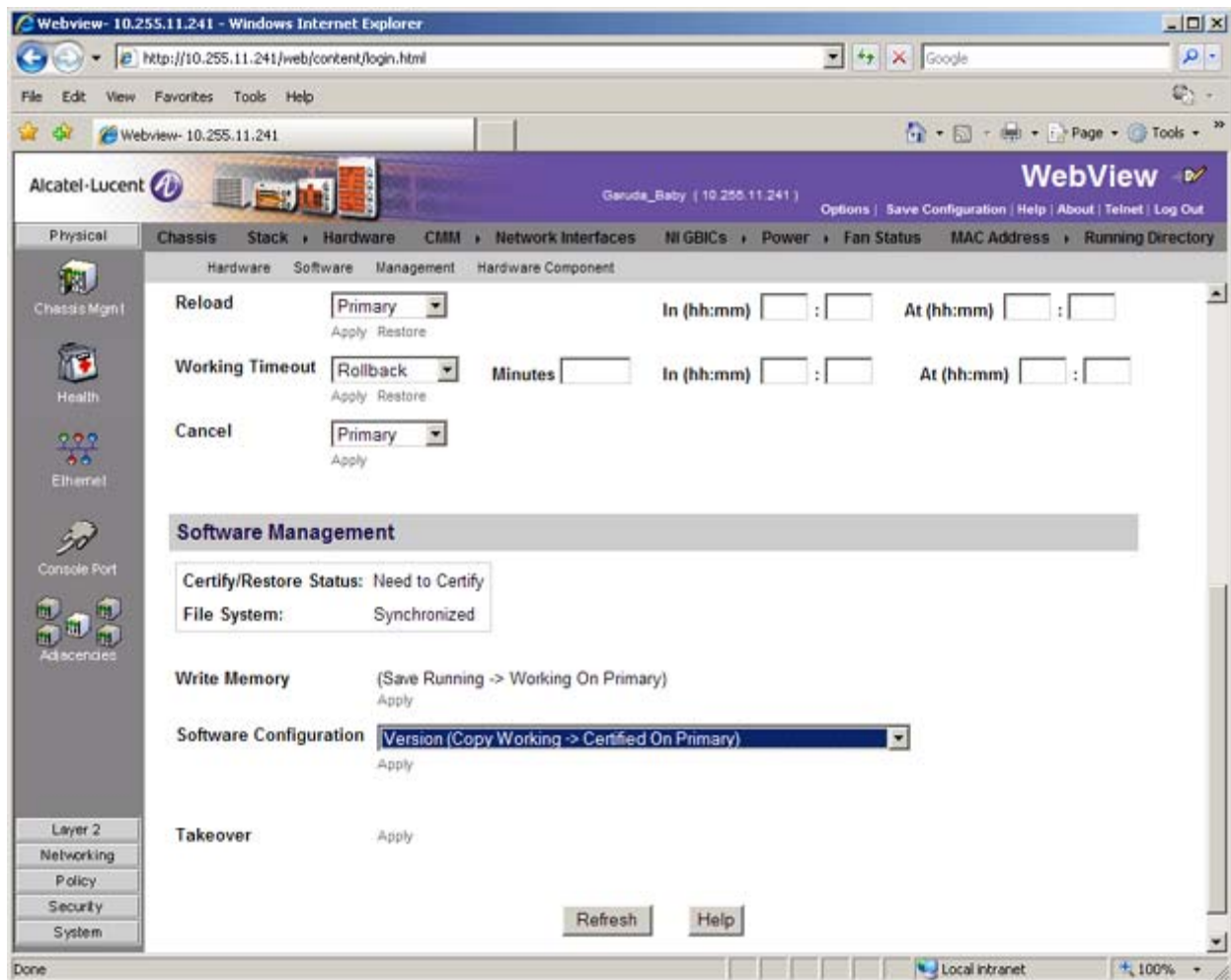
- 3 Select **System > System Mgmt > Install** to locate and FTP the 6.4.2.R01 image files that you downloaded in Step 1. Click on the **Browse** button to locate the files.
- 4 Select one of the files and click **Open**. All of the files will appear in the "Selected" area, as shown below.



- 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:
Gbase.img, Gdiag.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). This command should not be interrupted. Wait for the synchronization process to complete on all switches before proceeding to the next step.

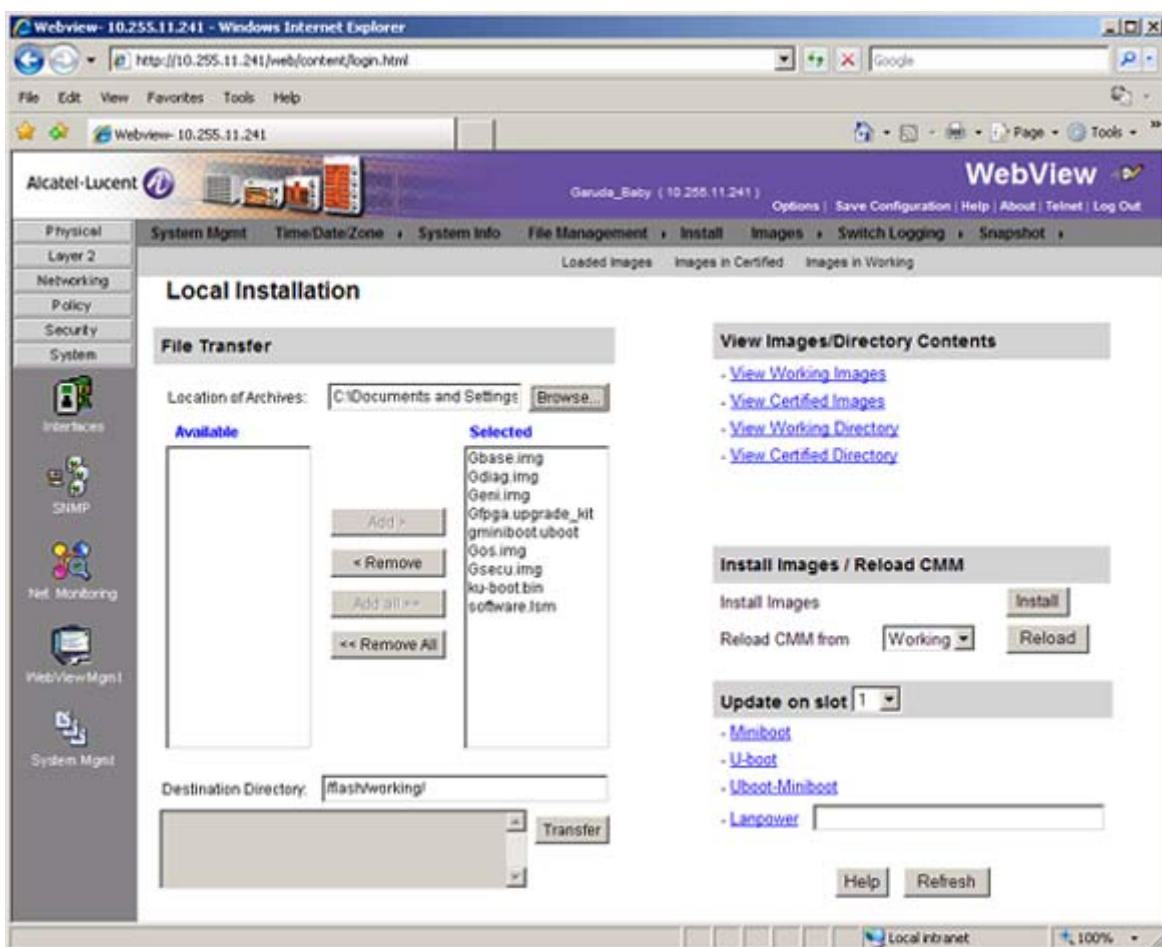
Upgrading the U-Boot and Miniboot Files

Upgrading the U-Boot and Miniboot Files. The minimum U-Boot/Miniboot version required for Release 6.4.2.R01 is 6.3.3.277.R01. The recommended version is 6.3.4.265.R01. *Note that 6400 Series Switches were originally shipped new with U-Boot/Miniboot version 6.3.3.288.R01, which is compatible with Release 6.4.2.R01.*

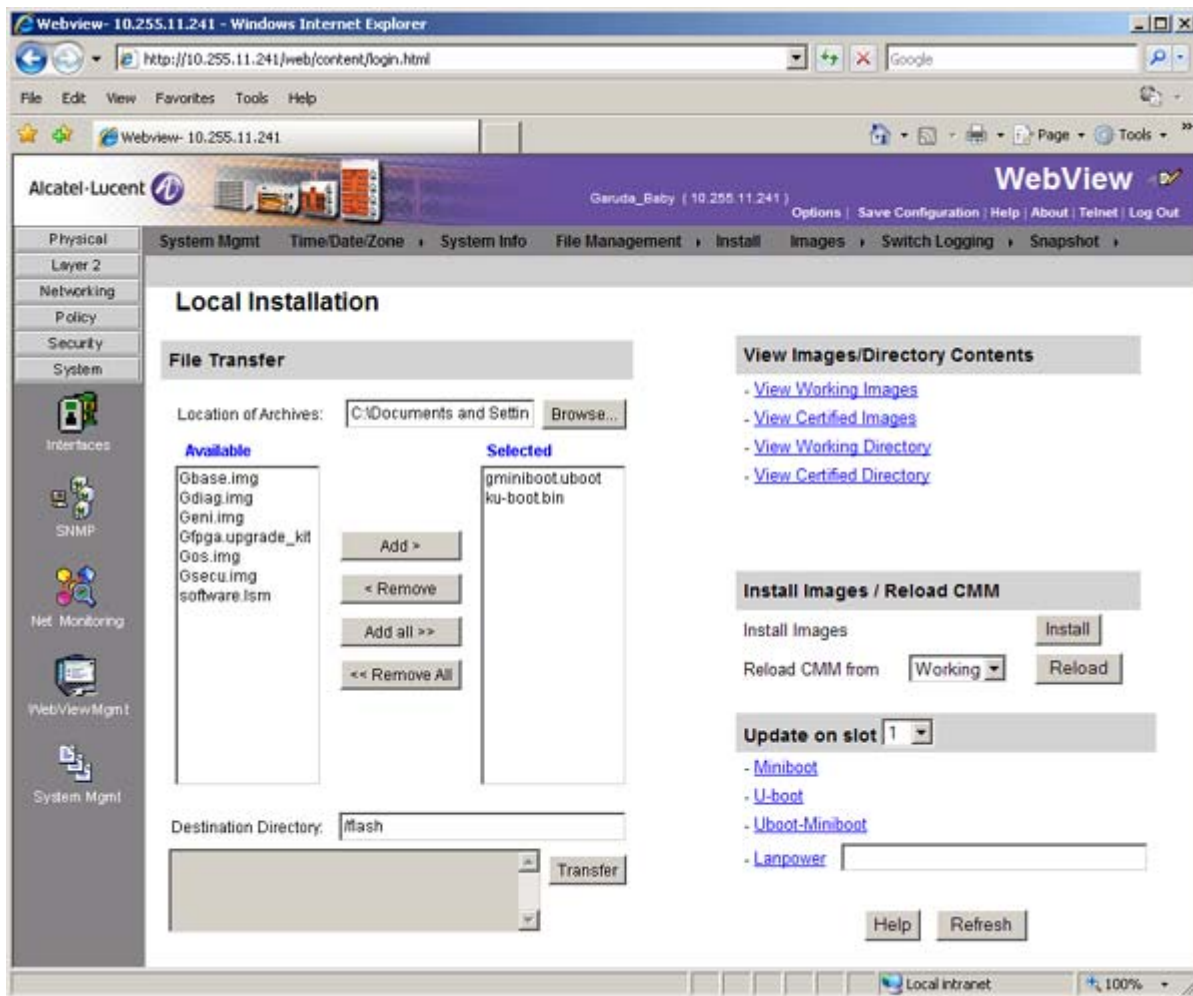
- 1 Download the applicable upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
- 2 Log into the switch through WebView.

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 6.4.2.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.



- Click on the **Remove All** button to move all of the files to the “Available” area, then select the **gmini-boot.uboot** file and the **ku-boot.bin** file and click the **Add** button to move them to the “Selected” area as shown below.



- 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”).
- 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.”
- 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.
- After verifying that the upgrade was successful (see [Verifying the Upgrade with WebView on page 9](#)), delete the **miniboot.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 Alcatel-Lucent WebView interface for a switch at IP 10.255.161.150. The main content area displays the 'System File Management' page for the '/flash' directory. A table lists files with columns for Name, Size, Access, and Date. The 'ku-boot.bin' and 'kminiboot.uboot' files are highlighted. To the right, a 'File Operations' panel is visible, containing options like Move, Delete, Copy, and Make Read-Only. The 'Delete' option is selected in the 'File Operations' panel.

Name	Size	Access	Date
certified	512	Read/Write	Dec 14 10:33
boot.params	340	Read/Write	Dec 15 10:27
working	512	Read/Write	Dec 14 10:32
boot.slot.cfg	11	Read/Write	Dec 18 2006
swlog1.log	64000	Read/Write	Dec 15 10:28
network	512	Read/Write	Oct 10 09:27
boot.cfg.1.err	687	Read/Write	Dec 15 10:27
kminiboot.uboot	796430	Read/Write	Dec 17 17:04
switch	512	Read/Write	Dec 17 17:02
swlog2.log	64000	Read/Write	Dec 17 17:04
ku-boot.bin	219516	Read/Write	Dec 17 17:04
installed	20	Read/Write	Dec 14 10:27
random-seed	256	Read/Write	Aug 7 17:29

File Operations: Move, Delete, Copy, Make Read-Only, Make Writable, Delete Files With Same Extension, Recursive Copy, Recursive Delete.

Directory Operations: Refresh, Create, Delete.

Archive Operations: Backup, Restore.

TFTP Operations: Get, Put.

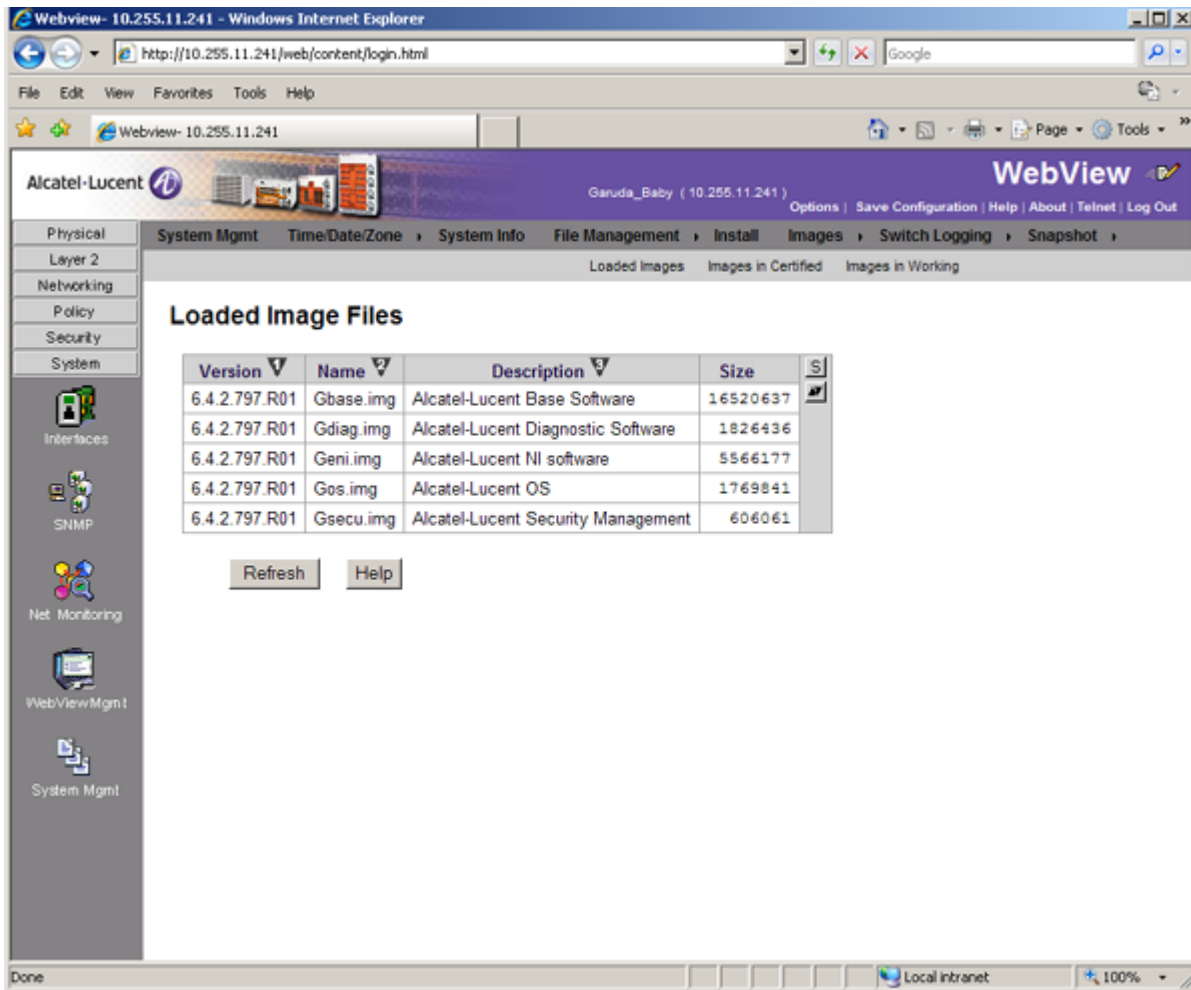
Free space: 64049960 bytes
Flash size: 134217728 bytes

- 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.



The screenshot shows the Alcatel-Lucent WebView interface. The breadcrumb trail at the top indicates the path: **System Mgmt > Time/Date/Zone > System Info > File Management > Install > Images > Switch Logging > Snapshot > Loaded Images**. The main content area is titled "Loaded Image Files" and contains a table with the following data:

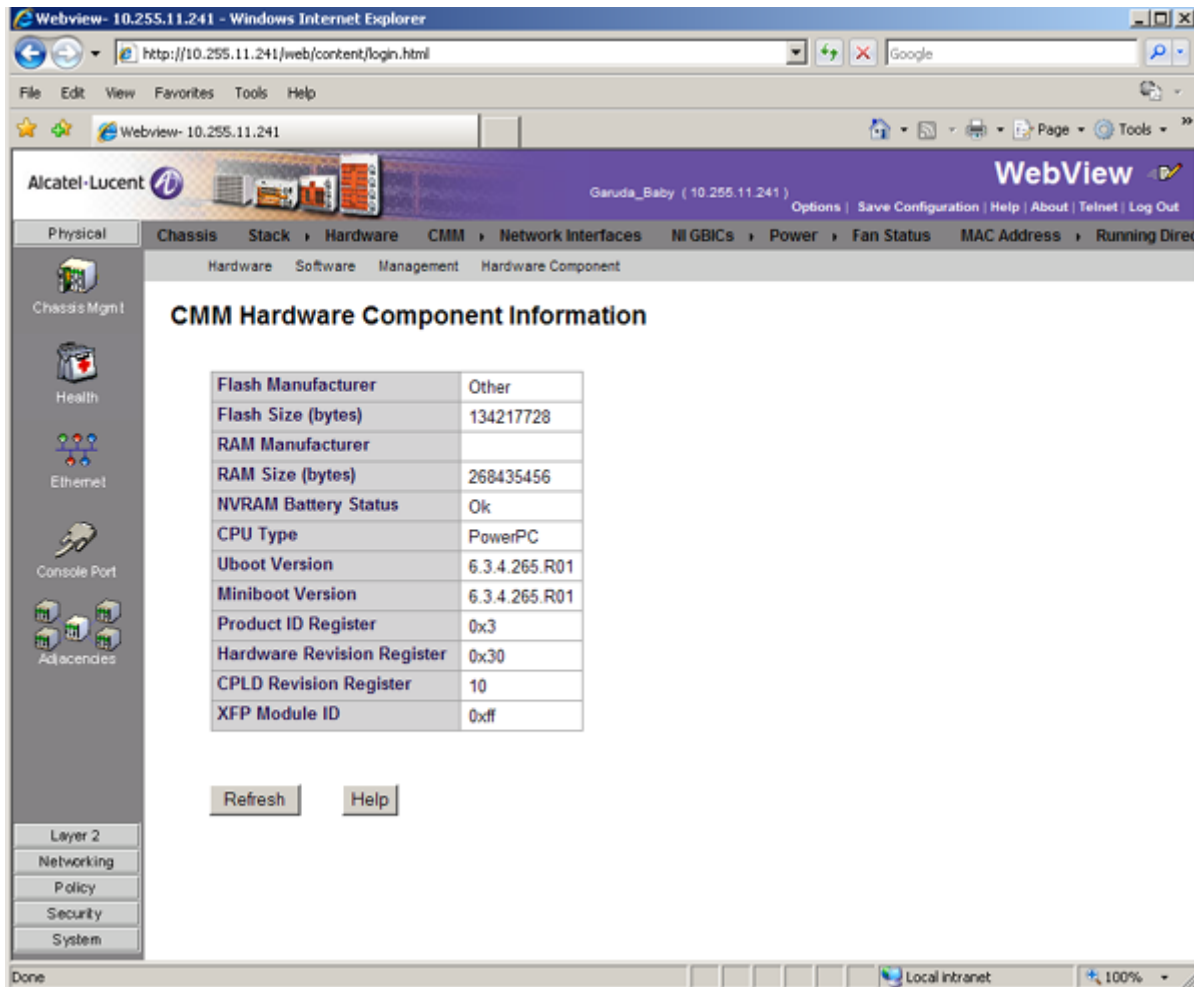
Version	Name	Description	Size
6.4.2.797.R01	Gbase.img	Alcatel-Lucent Base Software	16520637
6.4.2.797.R01	Gdiag.img	Alcatel-Lucent Diagnostic Software	1826436
6.4.2.797.R01	Geni.img	Alcatel-Lucent NI software	5566177
6.4.2.797.R01	Gos.img	Alcatel-Lucent OS	1769841
6.4.2.797.R01	Gsecu.img	Alcatel-Lucent Security Management	606061

Below the table are "Refresh" and "Help" buttons. The left sidebar shows navigation options: Physical, Layer 2, Networking, Policy, Security, System, Interfaces, SNMP, Net. Monitoring, WebViewMgmt, and System Mgmt. The status bar at the bottom shows "Done" and "Local intranet".

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 Alcatel-Lucent WebView interface. The browser address bar displays `http://10.255.11.241/web/content/login.html`. The page title is "CMM Hardware Component Information". The interface includes a navigation menu on the left with options like "Physical", "Chassis Mgmt", "Health", "Ethernet", "Console Port", and "Adjacencies". The main content area displays a table with 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	6.3.4.265.R01
Miniboot Version	6.3.4.265.R01
Product ID Register	0x3
Hardware Revision Register	0x30
CPLD Revision Register	10
XFP Module ID	0xff

Below the table are "Refresh" and "Help" buttons. The status bar at the bottom indicates "Local intranet" and "100%" zoom.

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 navigation menu on the left includes Physical, Chassis Mgmt, Health, Ethernet, Console Port, and Allocated. 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	6400 24 FIBER PORTS W/STK	902623-90	Power On	Up	Enabled	Green On	79	6400 24 FIBER PORTS W/STK	BCM56322_A0	0016/00	6.3.4.265.R01
2	Module	6400 24 COPPER PORTS W/STK	902621-90	Power On	Up	Enabled	Green On	69	6400 24 COPPER PORTS W/STK	BCM56322_A0	0019/00	6.3.4.265.R01

Below the table are buttons for "Reload NI", "Reload ALL NIs", "Refresh", and "Help".

Upgrading with the CLI

Upgrading the 6400 series switch to 6.4.2.R01 consists of the following steps:

- 1 Upgrading the Image Files.
- 2 Upgrading the U-Boot and Miniboot Files. The minimum U-Boot/Miniboot version required for Release 6.4.2.R01 is 6.3.3.277.R01. The recommended version is 6.3.4.265.R01. *Note that 6400 Series Switches were originally shipped new with U-Boot/Miniboot version 6.3.3.288.R01, which is compatible with Release 6.4.2.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: **Gbase.img**, **Gdiag.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 **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

Upgrading the U-Boot and Miniboot Files. The minimum U-Boot/Miniboot version required for Release 6.4.2.R01 is 6.3.3.277.R01. The recommended version is 6.3.4.265.R01. *Note that 6400 Series Switches were originally shipped new with U-Boot/Miniboot version 6.3.3.288.R01, which is compatible with Release 6.4.2.R01.*

- 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.
- 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

```
MON AUG 24 15:31:25 : SYSTEM (75) info message:
+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT

MON AUG 24 15:31:25 : CSM-CHASSIS (103) info message:
+++ == CSM == Application & Watchdog Monitoring Stopped
+++ == CSM == Update bootrom on all slots
+++ == CSM == sysUpdate begin

MON AUG 24 15:31:26 : SYSTEM (75) info message:
+++ NI 1 software update started
Erasing flash
Writing 131072 bytes at 0xffff00000
Erasing flash
Writing 131072 bytes at 0xffff20000
Verifying sectors of flash from (0xffff00000) to (0xffff40000)
Done

MON AUG 24 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

MON AUG 24 15:31:47 : SYSTEM (75) info message:
+++ NI 1 software update completed -- file /flash/gminiboot.uboot copied
+++ NI 2 software update started
```

```
MON AUG 24 15:31:51 : SYSTEM (75) info message:
+++ NI 2 software update completed -- file /flash/ku-boot.bin copied
+++ NI 2 software update started

MON AUG 24 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.

MON AUG 24 15:32:16 : 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 15](#) for information on verifying the upgrade.

Verifying the Upgrade with the CLI

Verifying the Software Upgrade

To verify that the software was successfully upgraded to 6.4.2.R01, use the **show microcode** command as shown below. The display below shows a successful image file upgrade.

```
Garuda-> show microcode
```

Package	Release	Size	Description
Gbase.img	6.4.2.797.R01	16520637	Alcatel-Lucent Base Software
Gos.img	6.4.2.797.R01	1769841	Alcatel-Lucent OS
Geni.img	6.4.2.797.R01	5566177	Alcatel-Lucent NI software
Gsecu.img	6.4.2.797.R01	606061	Alcatel-Lucent Security Management
Gdiag.img	6.4.2.797.R01	1826436	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.

```
Garuda-> 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:	0xelbc,
CPU Model Type :	Freescale MPC8248,
MAC Address:	00:e0:b1:8c:da:72,
ASIC - Physical 1:	BCM56322_A0,
FPGA - Physical 1:	0010/00,

```
UBOOT Version :                6.3.4.265.R01,
UBOOT-miniboot Version :       6.3.4.265.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:            0013/00,
  UBOOT Version :                6.3.4.265.R01,
  UBOOT-miniboot Version :       6.3.4.265.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 6.4.2.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		
Build and Supported Software Versions for Each Upgrade		
	6.3.3 GA I = 6.3.3.R01 GA F = 6.3.3.288.R01	6.3.4 GA I = 6.3.4.R01 GA F = 6.3.4.265.R01
Model		
6400	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.

Alcatel-Lucent
26801 West Agoura Road
Calabasas, CA 91301
(818) 880-3500 FAX (818) 880-3505

US Customer Support: (800) 995-2696
International Customer Support: (818) 878-4507
Internet: <http://eservice.ind.alcatel.com>