



# Upgrading OmniSwitch 9000 Series Switches to 6.4.2.R01

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## Overview

This instruction sheet documents how to upgrade OmniSwitch 9000 Series Switches to 6.4.2.R01 software and firmware. 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](#).

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**Note.** To downgrade a switch (e.g., 6.4.2 to 6.3.4), see [Upgrade/Downgrade Software Matrix on page 19](#).

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## Prerequisites

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

- The switch FPGA minor revision should be 25 (0x19). If not, please perform the steps in the ‘Upgrading OmniSwitch 9000 Series Switches to 6.1.3’ to upgrade the FPGA to version 25 prior to upgrading to 6.4.2.
- 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.

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**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.

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## Upgrading with WebView

Upgrading OS9000 Series Switches to 6.4.2.R01 consists of the following steps.

- 1 Upgrading the Image Files.
- 2 Upgrading the U-Boot and Miniboot Files. If you are upgrading a 9000 Series Switch from Release 6.3.1.R01 or 6.3.4.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.

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**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.

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### Upgrading the Image Files

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

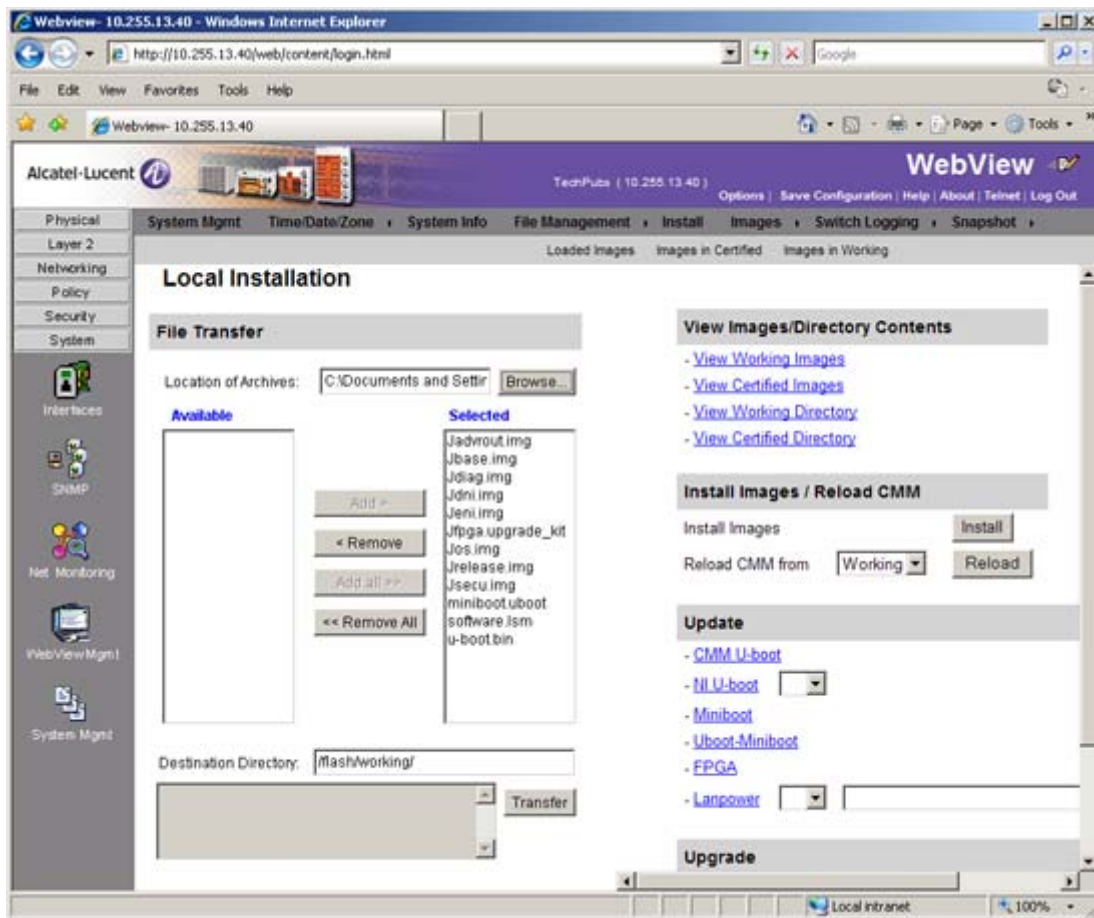
- 1 Download the 6.4.2.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.
- 2 Log into the switch through WebView. (In dual redundant configurations you must log into the primary CMM).

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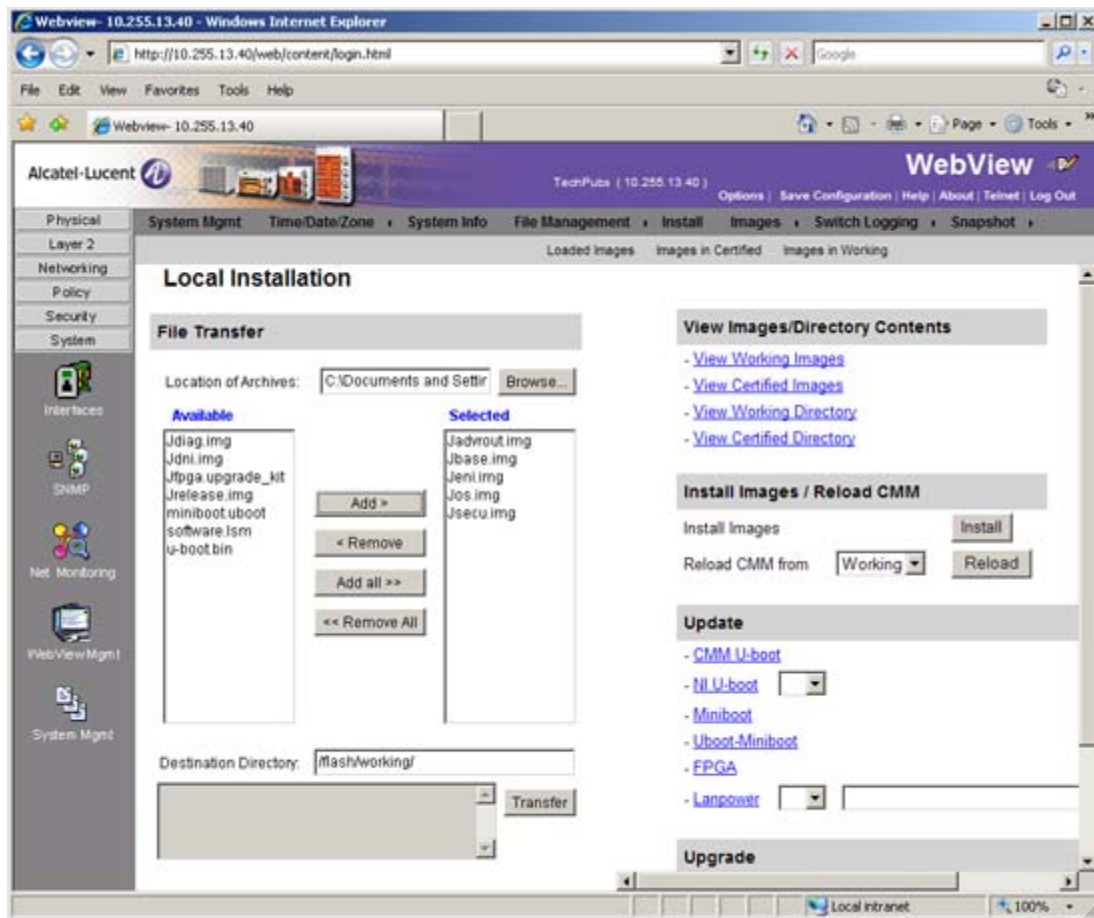
**Note.** Before proceeding with the remaining steps, make sure that the switch's Web Management Inactivity Timer is set to at least 10 minutes (default setting is 4 minutes). To view and change the setting, go to the **Session Type Parameters** page by selecting **Security > ASA > Sessions > Configuration**.

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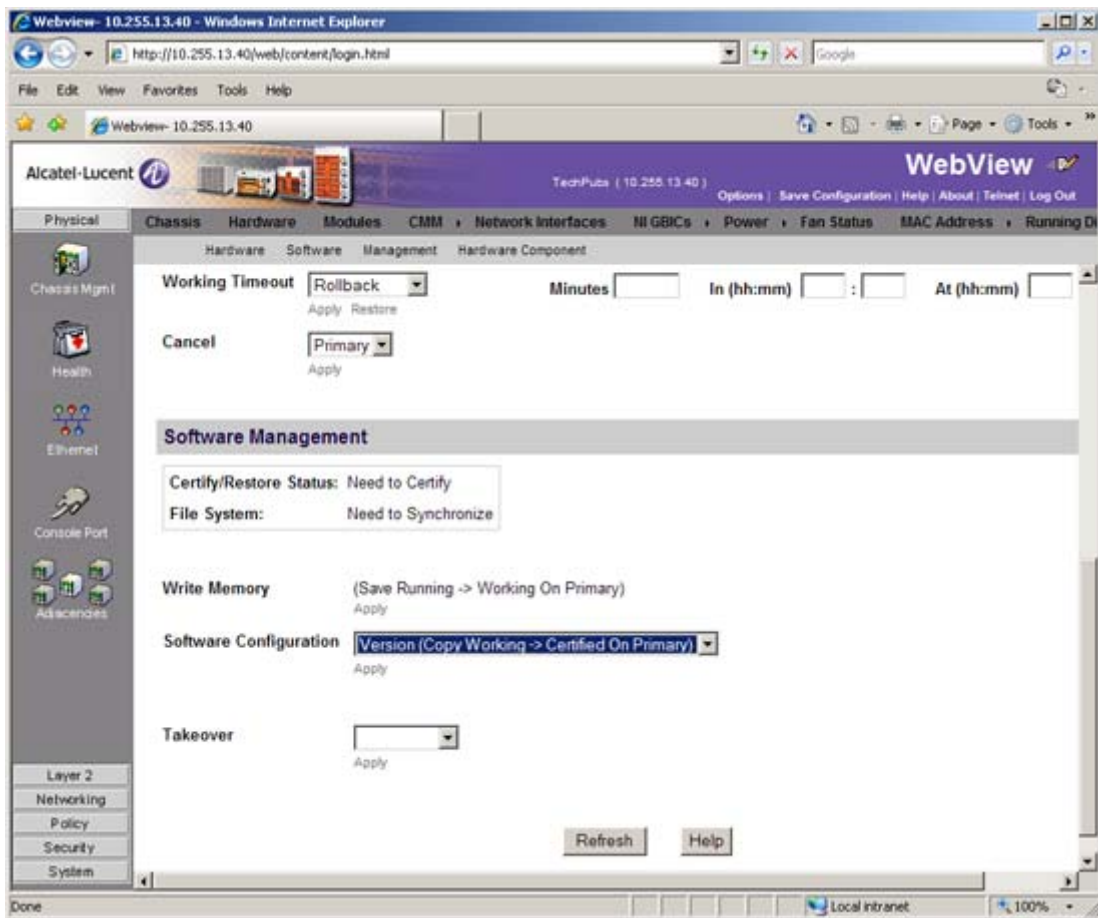
- 3 Select **System > System Mgmt > Install** to locate and FTP the 6.4.2.R01 image files that you downloaded in Step 1. Click on the **Browse** button to locate the files.
- 4 Select one of the files and click **Open**. All of the files will appear in the "Selected" area as shown below.



- 5 Click on the **Remove All** button to move all of the files to the “Available” area; then select the following image files and click the **Add** button to move them back to the “Selected” area as shown below: **Jadvrout.img**, **Jbase.img**, **Jeni.img**, **Jos.img**, **Jsecu.img**.



- 6 Transfer the files to the **flash/working** directory. Make sure the **Destination Directory** is **flash/working**, then click the **Transfer** button. Wait until the process is complete (indicated in the area next to the **Transfer** button - "All files have been transferred successfully").
- 7 Reload the switch from the Working Directory. In the "Install Images/Reload CMM" area, select **Working** in the **Reload CMM From** field, then click the **Reload** button. Click **OK** at the warning prompt. Wait until the process is complete.
- 8 After the CMM finishes rebooting, log into WebView.
- 9 Copy the files to the Certified Directory and sync the Primary and Secondary CMMs (if applicable). Select **Physical > Chassis Mgmt > CMM > Management** as shown below.



- 10** In the **Software Configuration** field, select **Copy Working -> Certified on Primary** for switches with a single CMM, or **Copy Working -> Certified & Synchronize with Secondary** for switches with a secondary CMM, then click **Apply**.

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

## Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot files, if necessary. If you are upgrading from Release 6.4.1.R01, you do **not** have to upgrade the U-Boot and Miniboot files. The same U-Boot/Mini-Boot files are compatible with 6.4.2.R01 Release.

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

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**Note.** A minimum U-Boot and Miniboot version of **6.3.4.265.R01** is supported for the 6.4.2.R01 upgrade. If you are upgrading a 9000 Series Switch from Release 6.3.1.R01 or 6.3.4.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.

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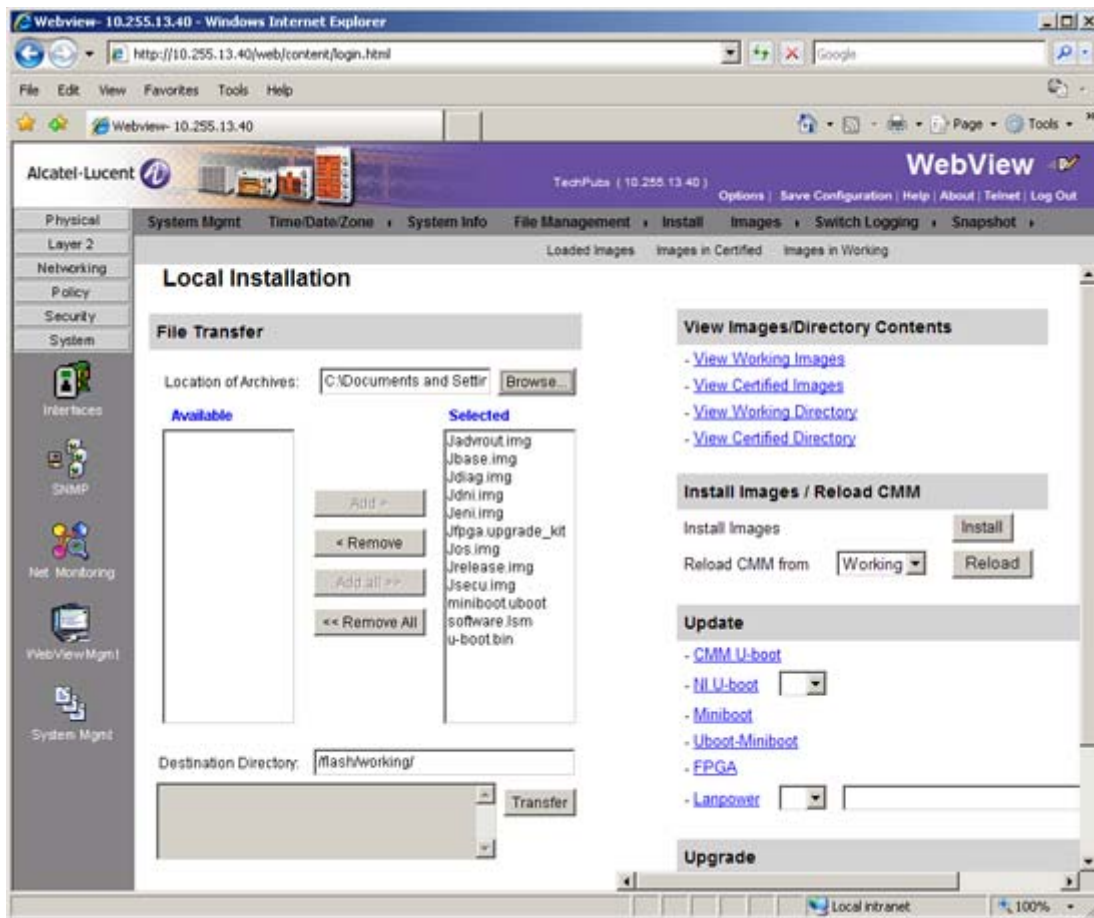
- 2** Log into the switch through WebView. (In dual redundant configurations you must log into the primary CMM.)

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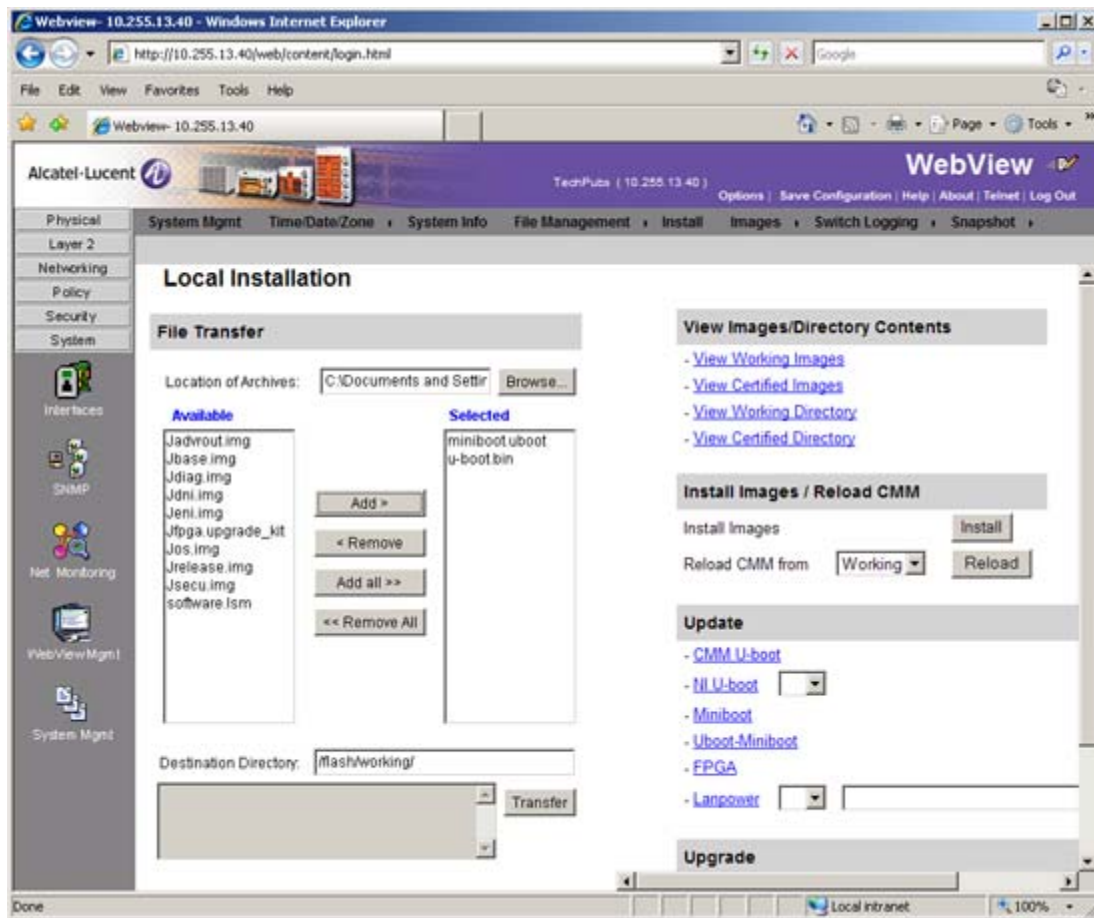
**Note.** If you have not already done so, make sure that the switch's Web Management Inactivity Timer is set to at least 10 minutes (default setting is 4 minutes). To view and change the setting, go to the **Session Type Parameters** page by selecting **Security > ASA > Sessions > Configuration**.

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- 3** Select **System > System Mgmt > Install** to locate and FTP the 6.4.2.R01 image files that you 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").
- 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 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 **miniboot.uboot** and **u-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 displays a file list for the /flash directory. The 'miniboot.uboot' file is selected, and the 'Delete' option is highlighted in the File Operations menu.

Name	Size	Access	Date
boot.params	308	Read/Write	Aug 14 10:54
certified	2048	Read/Write	Jul 22 11:50
working	2048	Read/Write	Aug 14 10:53
network	2048	Read/Write	Apr 8 2008
switch	2048	Read/Write	Aug 14 10:54
swlog1.log	500000	Read/Write	Aug 6 12:07
random.seed	256	Read/Write	Aug 14 10:54
swlog2.log	500000	Read/Write	Aug 19 16:14
u-boot.bin	524288	Read/Write	Mar 6 13:00
test5	4344	Read/Write	Apr 11 2008
installed	20	Read/Write	Aug 14 10:54
snapi1	947	Read/Write	May 12 2008
snapi1an	376	Read/Write	May 12 2008
snapsystem	156	Read/Write	May 12 2008
boot.cfg.1.err	342	Read/Write	Jul 21 23:01
miniboot.uboot	974284	Read/Write	Mar 6 13:00
temp	2048	Read/Write	Jul 6 14:10
cs_system1.pmd	1389460	Read/Write	Apr 23 15:40
cs_system2.pmd	1382149	Read/Write	May 6 14:35
asc.1.snap	210	Read/Write	Apr 28 15:30
command.log	66402	Read/Write	Jul 6 12:40

File Operations:

- Move
- Refresh
- Delete
- Create
- Copy
- Delete
- Make Read-Only
- Make Read-Only
- Make Writeable
- Make Writeable
- Delete Files With Same Extension
- Move
- Recursive Copy
- Recursive Delete

Archive Operations:

- Backup
- Restore

TFTP Operations:

- Get
- Put

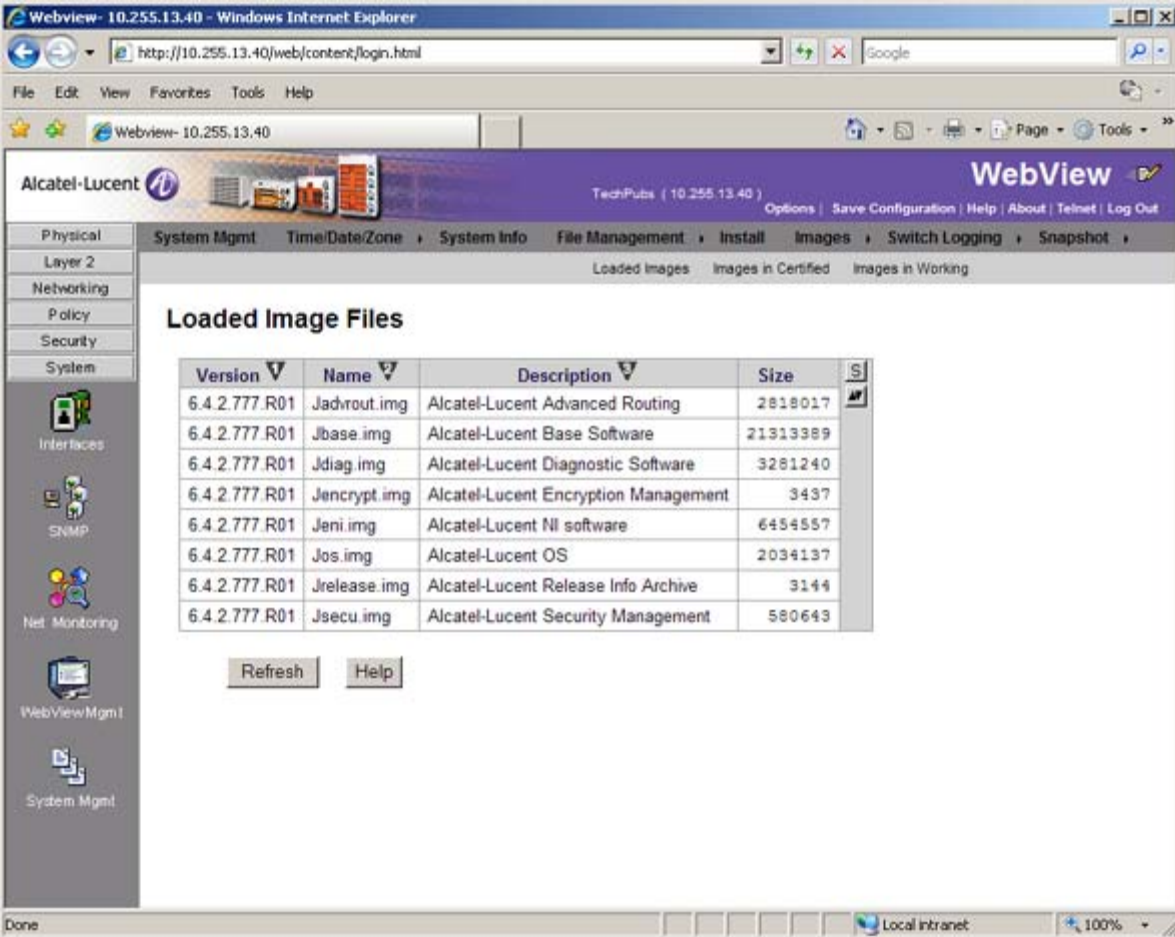
Free space: 43397120 bytes  
Flash size: 128319488 bytes

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

# Verifying the Upgrade with Web View

## 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://10.255.13.40/web/content/login.html>. The page title is "Webview- 10.255.13.40 - Windows Internet Explorer". 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". The "Images" menu is expanded, showing "Loaded Images", "Images in Certified", and "Images in Working". The "Loaded Images" sub-menu is selected. The main content area shows a table of loaded image files.

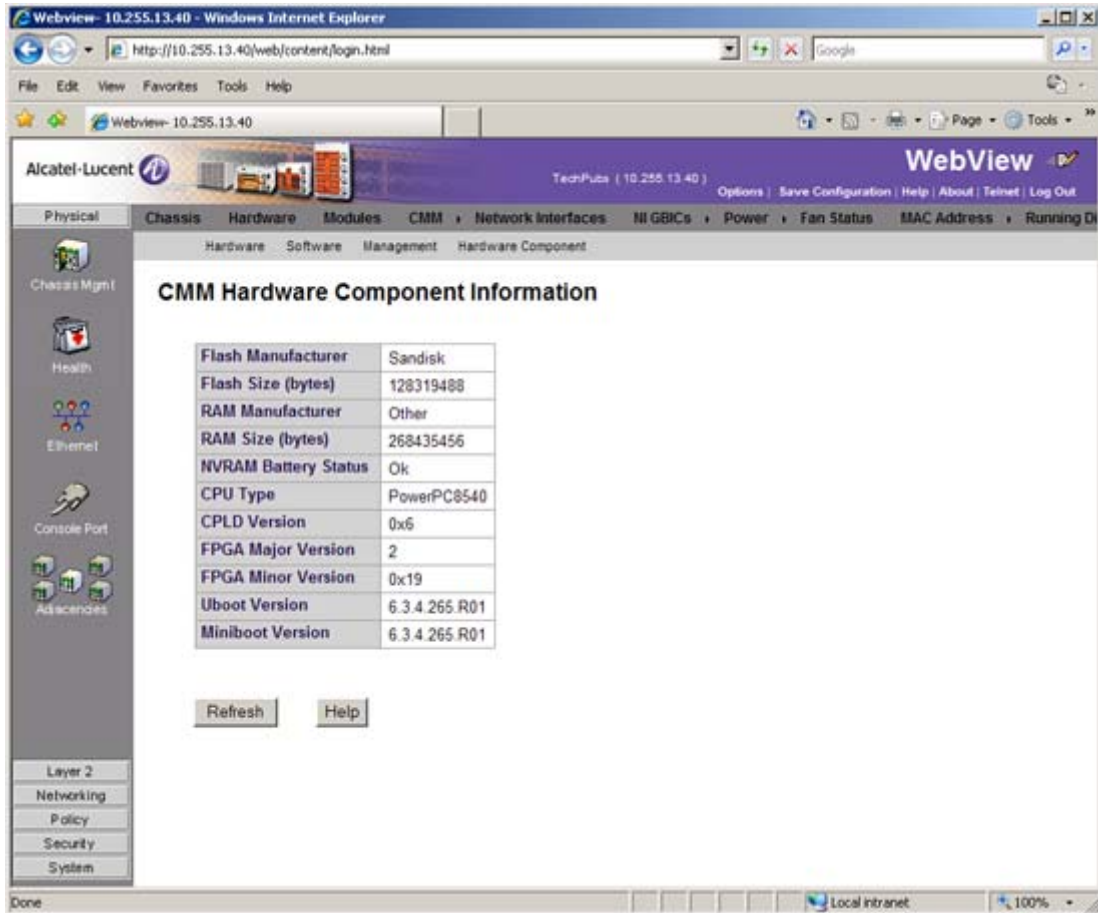
Version	Name	Description	Size
6.4.2.777.R01	Jadvrout.img	Alcatel-Lucent Advanced Routing	2818017
6.4.2.777.R01	Jbase.img	Alcatel-Lucent Base Software	21313389
6.4.2.777.R01	Jdiag.img	Alcatel-Lucent Diagnostic Software	3281240
6.4.2.777.R01	Jencrypt.img	Alcatel-Lucent Encryption Management	3437
6.4.2.777.R01	Jeni.img	Alcatel-Lucent NI software	6454557
6.4.2.777.R01	Jos.img	Alcatel-Lucent OS	2034137
6.4.2.777.R01	Jrelease.img	Alcatel-Lucent Release Info Archive	3144
6.4.2.777.R01	Jsecu.img	Alcatel-Lucent Security Management	580643

Below the table 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 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.



The screenshot shows the Alcatel-Lucent WebView interface for a switch. The browser address bar shows the URL `http://10.255.13.40/web/content/login.html`. The page title is "CMM Hardware Component Information". The main content area displays a table with the following data:

Flash Manufacturer	Sandisk
Flash Size (bytes)	128319488
RAM Manufacturer	Other
RAM Size (bytes)	268435456
NVRAM Battery Status	Ok
CPU Type	PowerPC6540
CPLD Version	0x6
FPGA Major Version	2
FPGA Minor Version	0x19
Uboot Version	6.3.4.265.R01
Miniboot Version	6.3.4.265.R01

Below the table are two buttons: "Refresh" and "Help". The left sidebar contains navigation options: Physical, Chassis Mgmt, Health, Ethernet, Console Port, and Adapters. The bottom status bar shows "Done" and "Local intranet".

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.

The screenshot shows the Alcatel-Lucent WebView interface for a 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	OK2 LED Status	Power	Description	Uboot Version
1	Module	OS9700-24	902367-90	Power On	Up	Disabled	Green On	Green Blink	S1	C24 10/100/1000	6.3.4.265.R01
2	Module	OS9700-U24	902370-10	Power On	Up	Disabled	Green On	Green Blink	S5	U24 1000	6.3.4.265.R01

Below the table, there are four buttons: "Power On", "Power Off", "Refresh", and "Help".

## Upgrading with the CLI

Upgrading OS9000 Series Switches to 6.4.2.R01 consists of the following steps.

- 1 Upgrading the Image Files.
- 2 Upgrading the U-Boot and Miniboot Files. If you are upgrading a 9000 Series Switch from Release 6.3.1.R01 or 6.3.4.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.

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**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.

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### 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 CMM:  
**Jadvrout.img, Jbase.img, Jeni.img, Jos.img, Jsecu.img.**
- 3 Log into the switch. In dual redundant configurations, you must log into the primary switch.
- 4 Reload the switch from the working directory.  

```
-> reload working no rollback-timeout
```
- 5 After the switch finishes rebooting, log into the switch.
- 6 Copy the image files from the Working Directory to the Certified Directory.
  - If you have a **single CMM** switch enter:  

```
-> copy working certified
```
  - If you have **redundant CMMs** enter:  

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

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

## Upgrading the U-Boot and Miniboot Files

Follow the steps below to upgrade the U-Boot and Miniboot files, if necessary. If you are upgrading a 9000 Series Switch from Release 6.3.1.R01 or 6.3.4.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.

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

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**Note.** A minimum U-Boot and Miniboot version of **6.3.4.265.R01** is supported for the 6.4.2.R01 upgrade. If you are upgrading a 9000 Series Switch from Release 6.3.1.R01 or 6.3.4.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.

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- 2 FTP the **miniboot.uboot** and **u-boot.bin** files to the **/flash** directory on the primary CMM.
- 3 Execute the following CLI command to update the U-Boot and Miniboot files on the switch.

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

**Sample output for "update uboot-miniboot" ->**

```
WED AUG 19 17:29:09 : SYSTEM (75) info message:
+++ ---->SSACTION_UPDATE_UBOOT_MINIBOOT
WED AUG 19 17:29:09 : CSM-CHASSIS (103) info message:
+++ == CSM == Update bootrom on all slots
+++ == CSM == sysUpdate begin
WED AUG 19 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 AUG 19 17:29:13 : SYSTEM (75) info message:
+++ NI 1 software update started
WED AUG 19 17:29:20 : SYSTEM (75) info message:
+++ NI 1 software update completed -- file /flash/u-boot.bin copied
WED AUG 19 17:29:26 : SYSTEM (75) info message:
+++ NI 4 software update started
WED AUG 19 17:29:37 : SYSTEM (75) info message:
+++ NI 4 software update completed -- file /flash/u-boot.bin copied
WED AUG 19 17:30:44 : CSM-CHASSIS (103) info message:
+++ == CSM == sysUpdate end
```

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

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

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

```
-> 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.

```
-> show microcode
```

Package	Release	Size	Description
Jbase.img	6.4.2.777.R01	21313389	Alcatel-Lucent Base Software
Jadvrout.img	6.4.2.777.R01	2818017	Alcatel-Lucent Advanced Routing
Jos.img	6.4.2.777.R01	2034137	Alcatel-Lucent OS
Jeni.img	6.4.2.777.R01	6454557	Alcatel-Lucent NI software
Jsecu.img	6.4.2.777.R01	580643	Alcatel-Lucent Security Management
Jencrypt.img	6.4.2.777.R01	3437	Alcatel-Lucent Encryption Management
Jdiag.img	6.4.2.777.R01	3281240	Alcatel-Lucent Diagnostic Software
Jrelease.img	6.4.2.777.R01	3144	Alcatel-Lucent Release Info Archive

### 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,
<b>uboot Version</b>	<b>: 6.3.4.265.R01,</b>
<b>uboot-miniboot Version</b>	<b>: 6.3.4.265.R01,</b>
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 :          6.3.4.265.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 :         6.3.4.265.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 9000 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. Build not supported on the model.

<b>Upgrade/Downgrade Matrix</b> <b>6.4.2.R01 GA</b> I = 6.4.2.R01 GA F = 6.3.4.265.R01				
<b>Build and Supported Software Versions for Each Upgrade</b>				
<b>Model</b>	<b>6.1.3 GA</b> I = 6.1.3.R01 GA F = 6.1.3.167.R02	<b>6.1.5 GA</b> I = 6.1.5.R01 GA F = 6.1.5.354.R02	<b>6.3.1.R01 GA</b> I = 6.3.1.R01 GA F = 6.1.5.479.R01	<b>6.3.4.R01 GA</b> I = 6.3.4.R01 GA F = 6.3.4.265.R01
<b>9600</b>	No	Yes	Yes	Yes
<b>9700</b>	Yes	Yes	Yes	Yes
<b>9800</b>	No	Yes	Yes	Yes

**Note.** Hardware is only backward compatible down to the software that originally supported it. For example, you cannot run a 9800 Series Switch with 6.1.1.R01 software; however, you could run it with 6.1.3.R01 software. Also, when downgrading, make sure to load the applicable U-Boot/Miniboot files. For more information, contact Customer Support.



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