Upgrading OmniSwitch 6250 Metro Switches to 6.6.2.R01

Overview

This instruction sheet documents how to upgrade OmniSwitch 6250 Metro Switches to 6.6.2.R01 firmware and software. The upgrade is performed using the CLI.

Note. Release 6.6.2.R01 is only supported on OmniSwitch 6250 Metro models.

Prerequisites

WARNING: you **MUST** complete the image file upgrade **BEFORE** upgrading the FPGA. Please verify that the switch has been properly upgraded to 6.6.2.R01 before upgrading the FPGA.

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 Network Interface (NI) Ethernet port.

- Read the 6.6.2 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.

Upgrade Steps

Upgrading OS6250 Metro Switches to 6.6.2.R01 consists of the following steps. The steps must be performed in order. You must complete the image file upgrade **before** upgrading the FPGA.

1   Upgrading the Image Files.

2   Upgrading the FPGA.

Note that you do **not** have to upgrade the U-Boot/Miniboot file. The U-Boot/Miniboot file from 6.6.1.R.01 is compatible with Build 6.6.2.R01.

WARNING: You **MUST** complete the image file upgrade **BEFORE** upgrading the FPGA. Please verify that the switch has been properly upgraded to 6.6.2.R01 before upgrading the FPGA.

Upgrading the Image Files

Follow the steps below to upgrade the image files to 6.6.2.R01.

1   Download and unzip the 6.6.2.R01 upgrade files from the Alcatel-Lucent Service and Support web site to your PC.

2   FTP (Binary) the following 6.6.2.R01 image files to the **/flash/working** directory: **KFbase.img**, **KFdiag.img**, **KFeni.img**, **KFos.img**, **KFsecu.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). 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 FPGA

Follow the steps below to upgrade the FPGA to version 11 on OmniSwitch 6250 Metro Switches. The switch must be running Build 6.6.2.R01 **before** upgrading the FPGA. If necessary, upgrade the switch to 6.6.2.R01 before proceeding.

Note. If you are upgrading a stack, the CMMs **must** have the same FPGA version number. Do not attempt to run a stack with CMMs with different FPGA versions. Also, the CMMs, must be certified and synchronized before beginning. In addition, the switch must be running in the Working directory.

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1   Download the latest FPGA upgrade kit (**KFfpga.upgrade_kit**) from the Alcatel-Lucent Service and Support web site to your PC.

2   FTP (Binary) the FPGA upgrade kit file (**KFfpga.upgrade_kit**) to the **/flash** directory on the CMM. (If you are upgrading a stack, FTP the file to the Primary CMM)

   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. Also, when the transfer is complete, verify that the FPGA Upgrade Kit file size in the /flash directory is the same as the file on your PC.

3   Log into the CMM.

4   Enter:

```
-> update fpga cmm
```

   The switch will upgrade the FPGA and reboot.

WARNING: During FPGA upgrade, the switch will stop passing traffic. When the upgrade is complete, the switch will automatically reboot. This process can take up to 5 minutes to complete. **Do not proceed to the next step until this process is complete.**

If you are **upgrading a <u>single switch</u>, continue to Step 5**. If you are **upgrading a <u>stack</u>, go to Step 6** to upgrade the second CMM.

5   After the FPGA upgrade is successfully completed, enter the following command to delete the **KFfpga.upgrade_kit** file from the CMM:

```
-> rm KFfpga.upgrade_kit
```

Note. Use the **ls** command to confirm that the upgrade kit file has been deleted.The **single switch upgrade** is now complete.

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6   FTP (Binary) the FPGA upgrade kit file (**KFfpga.upgrade_kit**) to the **/flash** directory on the other CMM (which is now the Primary).

   Make sure the path of the destination directory is the root **/flash** directory before transferring the upgrade kit. Also, when the transfer is complete, verify that the FPGA Upgrade Kit file size in the /flash directory is the same as the file on your PC.

7   Log into the CMM.

8   Enter:

```
-> update fpga cmm
```

The switch will upgrade the FPGA and reboot.

WARNING: During FPGA upgrade the switch will stop passing traffic. When the upgrade is complete, the switch will automatically reboot. This process can take up to 5 minutes to complete. **Do not proceed to the next step until this process is complete.**

9   After the FPGA upgrade is successfully completed, enter the following command to delete the **KFfpga.upgrade_kit** file from the CMM:

```
-> rm KFfpga.upgrade_kit
```

Note. Use the **ls** command to confirm that the upgrade kit file has been deleted.The upgrade s now complete.

Verifying the Upgrade

Verifying the Software Upgrade

To verify that the software was successfully upgraded to 6.6.2.R01, use the **show microcode** command as shown below. The display below shows a successful image file upgrade.

```
-> show microcode

   Package          Release      Size      Description
----------------+--------------+--------+--------------------------------
 KFbase.img       6.6.2.242.R01  14605498 Alcatel-Lucent Base Software

 KFos.img         6.6.2.242.R01   2179565 Alcatel-Lucent OS

 KFeni.img        6.6.2.242.R01   4687325 Alcatel-Lucent NI software

 KFsecu.img       6.6.2.242.R01    531254 Alcatel-Lucent Security Management

 KFdiag.img       6.6.2.242.R01   2144900 Alcatel-Lucent Diagnostic Software
```

Verifying the FPGA Upgrade

To verify that the FPGA was successfully upgraded on a CMM, use the **show hardware info** command as shown below.

```
-> show hardware info

CPU Type                        : Marvell Feroceon,

Flash Manufacturer              : Numonyx, Inc.,

Flash size                      : 134217728 bytes (128 MB),

RAM Manufacturer                : Samsung,

RAM size                        : 268435456 bytes (256 MB),

Miniboot Version                : 6.6.1.636.R01,

Product ID Register             : 05

Hardware Revision Register      : 30

FPGA Revision Register          : 011
```

You can also view information for each switch in a stack (if applicable) using the **show ni** command as shown below.

```
-> show ni

Module in slot 1

  Model Name:              6250 24 PORT COPPER FE METRO,

  Description:             6250 24 PORT COPPER FE METRO,

  Part Number:            902736-90,

  Hardware Revision:      05,

  Serial Number:          K2980167,

  Manufacture Date:       JUL 30 2009,

  Firmware Version:       ,

  Admin Status:           POWER ON,

  Operational Status:     UP,

  Power Consumption:      30,

  Power Control Checksum: 0xed73,

  CPU Model Type   :      ARM926 (Rev 1),

  MAC Address:            00:e0:b1:c6:b9:e7,

  ASIC - Physical 1:      MV88F6281 Rev 2,

  FPGA - Physical 1:      0011/00,

  UBOOT Version :         n/a,
```

```
UBOOT-miniboot Version :        6.6.1.636.R01,

POE SW Version :                n/a

GBIC   25

        Model Name:                     PICOLIGHT        ,

        Description:                    PICOLIGHT        ,

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

        Hardware Revision:                       ,

        Serial Number:                  411HA02S         ,

        Manufacture Date:               040312   ,

        Laser Wave Length:               850nm,

        Admin Status:                   POWER ON,

        Operational Status:             UP
```

Upgrade/Downgrade Software Matrix

Refer to the matrix below for software compatibility when upgrading/downgrading a 6250 Metro Switch to/from Build 6.6.2.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 6.6.2.R01 GA I = 6.6.2.R01 GA F = 6.6.1.636.R01		
Build and Supported Software Versions For Each Upgrade		
Model	**6.6.1 GA** I = 6.6.1.R01 F = 6.6.1.636.R01	**6.6.2 GA** I = 6.6.2.R01 F = 6.6.1.636.R01
6250 Metro	Yes	Yes

Note. Hardware is only backward compatible down to the software that originally supported it (e.g., 6.6.1.R01 for the 6250 Metro). For more information, contact Customer Support.