

# Extreme Switch Firmware Upgrade

Cloud Execution Environment

OPERATING INSTRUCTIONS

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# 1 Introduction

This Operational Instruction describes how to upgrade the firmware for an Extreme switch.

Switches are upgraded in pairs, and this document describes procedures for one pair of switches. In case of 2 pairs of switches, repeat the procedures for the second pair.

The upgrade involves the following steps:

- Identifying the switch role
- Identifying the switch status
- Checking that the switch is functional
- Performing the upgrade
- Rebooting and activating the switch

## 1.1 Concepts

Before starting the procedure, ensure that the terminology is understood:

Switch	Status
Selected switch	The switch selected for upgrade
Upgraded switch	The switch after its upgrade
Other switch	The switch within the pair that is not yet selected for upgrade

## 1.2 Prerequisites

This section provides information on the documents, tools, and conditions that apply to the procedure.

### 1.2.1 Documents

Before starting the upgrade procedure, ensure that the following documents are available, read and understood:

- The address variables are summarized in the table below. For more information, refer to the IP and VLAN plan, Reference [1].



	Network/VLAN	IPv4 Address Variable
	fuel_ctrl_sp (admin)	<fuel_static_ip>
	fuel_ctrl_sp (admin)	<vcic_dynamic_ip_"static pool">
Traffic	cee_ctrl_sp	<traffic_switch_a_static_ip>
Traffic	cee_ctrl_sp	<traffic_switch_b_static_ip>
Storage	cee_ctrl_sp	<storage_switch_a_static_ip>
Storage	cee_ctrl_sp	<storage_switch_b_static_ip>
Control	cee_ctrl_sp	<control_switch_a_static_ip>
Control	cee_ctrl_sp	<control_switch_b_static_ip>

- Security User Guide
- System Hardening Guideline
- Extreme X460 Configuration for X460 switches

**Note:** The procedure depends on the role of the switch.

If there are two X460 switches, they are **control** switches.

If there are only two X670V switches, then both are **mixed** switches, with both traffic and storage switch functions.

If there are four X670V switches, or four X770 switches, then there are two **traffic** switches combined with two **storage** switches.

**Traffic** switches and **mixed** switches are operated using Neutron, but **storage** switches are not. As such, the steps for Neutron do not apply in case of pure **storage** switches.

Variables used in the commands are listed below:

Variable	Value
<user_name>	Example: admin



Variable	Value
<switch_name>	<cee_region_name>_TRAFFIC_SWA_X770
	<cee_region_name>_TRAFFIC_SWB_X770
	<cee_region_name>_TRAFFIC_SWA_X670V
	<cee_region_name>_TRAFFIC_SWB_X670V
	<cee_region_name>_STORAGE_SWA_X770
	<cee_region_name>_STORAGE_SWB_X770
	<cee_region_name>_STORAGE_SWA_X670V
	<cee_region_name>_STORAGE_SWB_X670V
	<cee_region_name>_CONTROL_SWA_X460
	<cee_region_name>_CONTROL_SWB_X460
<switch_ip>	<traffic_switch_a_static_ip>
	<traffic_switch_b_static_ip>
	<storage_switch_a_static_ip>
	<storage_switch_b_static_ip>
	<control_switch_a_static_ip>
	<control_switch_b_static_ip>
	Example: 192.168.2.2

## 1.2.2

### Conditions

Before starting the upgrade procedure, ensure that the following conditions are met:

- The new version of the Extreme switch image has been uploaded or copied to either the vFuel master, a terminal server, or maintenance laptop.
- The pair(s) of Extreme switches to be upgraded are fully functional and alarm-free.
- Check the Release Notes of the new firmware to confirm that the new firmware supports the switch model.



## 2 Procedure

This section describes the firmware upgrade procedure for one pair of switches.

In case of 2 or more pairs of switches, repeat the procedures for the second pair.

### 2.1 Identify Switch and Switch Status

If there are two X460 switches, then they are control switches, go to Section 2.2 on page 4.

If the switch is a **storage** switch, go to Section 2.2 on page 4.

Identify the switch status:

1. Check that the switch status is ACTIVE. Perform this step for both switches.

```
root@node-6: neutron device-show <switch_name>
```

Field	Value
admin_state_up	True
device_type	TOR_SWITCH
firmware_version	15.4.1
id	3757da15-7942-4db9-98d5-c05ecfefc5b8
management_ip_address	192.168.6.1
model	SummitXX70V
name	DC154_SWA_XX70V
password	NetworkAdmin
status	ACTIVE
user_name	network_admin
vendor	extreme
vr_total	63

#### Example 1 Switch Details

For more information, refer to the [Data Collection Guideline](#).

### 2.2 Log on to the Selected Switch

1. Log on to the switch by either of the following ways:
  - Log on to the switch from a terminal server, vFuel, or a maintenance laptop through SSH. Use the following command with a valid username and the management IP address of the switch from VLAN cee\_ctrl\_sp:

```
ssh <user_name>@<switch_ip>
```
  - Log on to the switch using a serial connection.
2. Check for warnings, errors, and critical statements in the switch log.





```
<switch_name>.1 # show log severity =>
[critical | error | warning ] chronological
```

**Note:** If the switch log shows errors or critical statements, contact the next level of maintenance support.

3. Log out of the selected switch.

```
<switch_name>.2 # logout
```

4. If the switch is a storage switch, go to Section 2.4 on page 5.
5. If the switch is a control switch, continue with section Configuration of Switch of the *Extreme X460 Configuration* document.

## 2.3 Set Switch to Maintenance Mode

Perform the following steps for the selected switch:

1. Switch the device status to maintenance in Neutron. Use the following command:

```
neutron device-update <switch_name> --status=MAINTENANCE
```

```
neutron device-update <cee_region_name>_TRAFFIC_SWB_X670V --status=MAINTENANCE
```

Example 2 Switch Device Status to Maintenance

2. Verify that the device status has changed to maintenance. Contact the next level of maintenance support if the device status does not change.
3. Continue with Section 2.4 on page 5.

## 2.4 Select Download Partition

1. Use the `management_ip_address` on the VLAN `cee_ctrl_sp` to log on to the selected switch.

```
ssh network_admin@<management_ip_address_of_the_selected_switch>
```

Select the partition to use when downloading the image:

1. Use the `show switch` command to determine the selected and booted images.

**Note:** The selected image partition indicates which image is to be used at the next reboot. The booted image partition indicates the image used at the last reboot.

2. Check if the selected and booted images are in the primary or secondary partition.
3. Select the partition for installing the new firmware image. **Do not** select the partition from where the current image is booted.



## 2.5 Install EXOS Core Image

To install the image, do the following steps:

1. Download and validate the new image to the switch using SCP/SCP2:

```
scp2 {vr vr_name} user =>
[hostname | ipaddress]:remote_file local_file
```

```
scp2 vr "VR-Default" root@<fuel_static_ip>:/var/lib/tftpboot=>
/summitX-15.6.1.4.xos summitX-15.6.1.4.xos
```

Example 3 Validate Image Using SCP/SCP2

2. Install the image:

```
install image local_file {partition}
```

```
install image summitX-15.6.1.4.xos secondary
```

Example 4 Install Image Command

**Note:** In the above example, the current image is booted from the primary partition, therefore, the secondary partition is selected.

## 2.6 Install Modular Software Package

To add the SSH module to the switch, perform the following steps:

1. Download the new image to the switch using SCP/SCP2:

```
scp2 {vr vr_name} user =>
[hostname | ipaddress]:remote_file local_file
```

```
scp2 vr "VR-Default" root@<fuel_static_ip>:/var/lib/tftpboot=>
/summitX-15.6.1.4-ssh.xmod summitX-15.6.1.4-ssh.xmod
```

Example 5 Download Image Using SCP/SCP2

2. Install the software module:

```
install image local_file {partition}
```

**Note:** The version of the SSH module must be the same as the version for the EXOS core image.

```
install image summitX-15.6.1.4-ssh.xmod secondary
```

Example 6 Install Image Command

**Note:** In the above example, the current image is booted from the primary partition, therefore, the secondary partition is selected.



## 2.7 Use the Newly Installed Partition

Select the newly installed partition to use after the reboot:

```
use image {partition} <partition>
```

```
use image partition secondary
```

Example 7 Use Image Command

## 2.8 Reboot and Activate the New Packages

Reboot and activate the new packages:

1. Reboot the system:

```
reboot
```

**Result:**

The following options are available:

```
y                Save and reboot
```

```
n                Reboot without save
```

```
cr              Cancel command
```

2. Choose **n** from the available options.

## 2.9 Check the Status of the Upgraded Switch

Check the status of the upgraded switch:

1. Log on to the upgraded Extreme switch, and issue the following command:

```
show switch
```

For an output example, see Example 8.

```
Current State:      OPERATIONAL
Image Selected:     secondary
Image Booted:       secondary
Primary ver:        15.6.1.4
Secondary ver:      15.4.1.3
Config Selected:    ericsson_default.cfg
Config Booted:      ericsson_default_backup.cfg
```

Example 8 Switch Status

2. Check that the switch state is **OPERATIONAL**, and the new EXOS image is installed. Ensure that the upgrade procedure was successful.
3. Log out of the upgraded switch.



```
<switch_name>.1 # logout
```

4. If the selected switch is traffic or mixed and accessible through Neutron, continue with Section 2.10 on page 8.
5. If the selected switch is a control or storage switch, continue with the other switch. Continue with Section 2.2 on page 4.
6. If both control or storage switches are upgraded, continue with Section 2.11 on page 8.

## 2.10 Recover Traffic Switch from vCIC

Perform the following steps on the upgraded traffic switch:

1. Recover the switch from the vCIC:

```
neutron device-recover <switch_name>
```

**Note:** Neutron does not save the active configuration to the switch, and uses SOAP to recover VLAN and additional information instead of using the saved backup configuration. When rebooting or exiting from the switch, never save the configuration: select No when prompted. The switch status changes are available in `neutron-server.log` as “Change device status”.

```
neutron device-recover <cee_region_name>_TRAFFIC_SWB_X770
```

Example 9 Recover Switch from vCIC

**Note:** The switch reboots as part of the recovery process.

2. Confirm that the upgraded switch operates properly when booted from the vCIC:

```
neutron device-show <switch_name>
```

```
neutron device-show <cee_region_name>_TRAFFIC_SWA_X670V
```

Example 10 Neutron Device Show

**Note:** The status of the switch must be ACTIVE. It can take about five minutes to have the status displayed.

3. If both traffic switches are upgraded, continue with Section 2.11 on page 8.
4. Otherwise, continue with the other switch. Go to Section 2.2 on page 4.

## 2.11 Log Out of the Switch

1. Log out of the switch.

```
# logout
```



2. The procedure is complete.



## Reference List

- [1] IP and VLAN plan, 2/102 62-CRA 119 1862/5 Uen