

Extreme X770 Configuration

Cloud Execution Environment

INSTALLATION INSTRUCTIONS

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1 Introduction

This document describes procedures for how to install Extreme X770 Switches to be used as Traffic and Storage Switches, as part of the *CEE Installation*.

This document supports the reference CEE configuration as described in document *BOM for Certified HW Configurations*, Reference [1], Cloud Execution Environment (1.1 HP c7000), and only that configuration.

1.1 Prerequisites

This section describes the prerequisites which must be fulfilled before the Extreme switch can be configured.

1.1.1 Installation Data

Required site-specific data:

- ☐ A customer-specific IP and VLAN plan, based on the document *IP and VLAN Plan*, Reference [2].
- ☐ CEE Region name.
- ☐ A password for Extreme admin user. Default setting is blank for a new switch.

The address variables used in the document *IP and VLAN Plan*, Reference [2] will be used throughout this document, and are summarized in the table below. The IP address *<TFTP Server Address>* is that of the kickstart or LCT server, obtained during the preparation process described in the *Preparation of Kickstart Server*.

Network/VLAN	IPv4 Address Variable
fuel_ctrl_sp (admin)	<i><TFTP Server Address></i>
cee_ctrl_sp	<i><Traffic_switch_A (static)></i>
cee_ctrl_sp	<i><Traffic_switch_B (static)></i>
cee_ctrl_sp	<i><Storage_switch_A (static)></i>
cee_ctrl_sp	<i><Storage_switch_B (static)></i>

1.1.2 Hardware and Software Required

Required hardware:



- ☐ Two pairs of Extreme X770 switches

Required software:

- ☐ EXOS firmware, refer to *BOM for Certified HW Configurations*, Reference [1].

1.1.3

Tools

The following tools are required:

A kickstart server or LCT (kickstart vs LCT table), prepared with:

- ☐ Software to enable console port access
- ☐ TFTP server accessible, with EXOS firmware

Required cables:

Cable	Use
adapter USB-to-RS-232	Console connection
adapter RJ45-to-RS-232	Console connection
Two cat6 Ethernet cables	One cable is connected directly to the management port during installation to download SW to switch if needed. The other cable is connected to USB-to-RS-232 and RJ45-to-RS-232 for connection to console port

Note: The switches have one native management port (Ethernet) and one console port on the front panel. Both use RJ45.

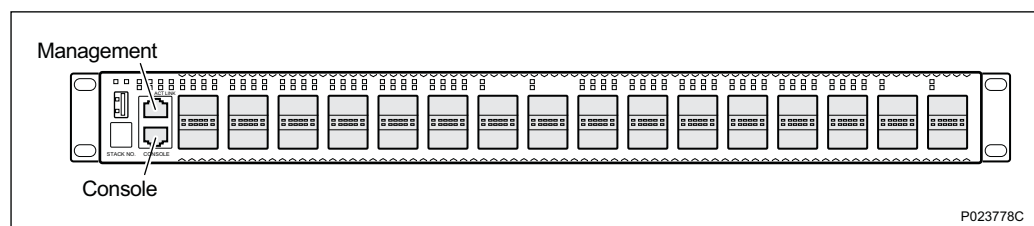


Figure 1 Extreme X770 Switch, Front

1.1.4

Conditions

Before the installation can be performed, the following conditions must apply:

Software packages, see download instructions in Section 2 on page 4.



- ☐ Upgrade package for Extreme firmware. Refer to *BOM for Certified HW Configurations*, Reference [1].

- ☐ Installation package for Extreme firmware SSH module.

Other equipment

- ☐ Serial number for at least one of the Extreme Switches. This is used when downloading software, if the firmware is not already available.



2 Prepare to Configure Extreme X770 Switches

This section describes the preparations needed before Extreme switches are configured.

To prepare for the installation, perform the following:

1. Download the needed software packages from <http://www.extremenetworks.com/partners/partners-hub.aspx>.

Note: Serial number of Extreme Switch is required to download the software.

2. Create a folder for Extreme software on for the TFTP server:

Folder for Extreme software used in this document is *<TFTP Boot server directory>/Extreme/*

3. Copy the extracted software to the folder created, make sure that the software is accessible.



3 Configuration of Extreme X770 Switches

The Extreme switch configuration covered in this section is a manual procedure, taking each switch in turn:

1. Follow Step 1 to Step 31 in Section 3.1 on page 5, for Traffic Switch A
2. Follow Step 2 to Step 32 in Section 3.1 on page 5, for Traffic Switch B
3. Follow Step 1 to Step 31 in Section 3.2 on page 12, for Storage Switch A
4. Follow Step 2 to Step 30 in Section 3.2 on page 12, for Storage Switch B

Note: Configuration must be done as described in this document in steps, to avoid a loop in the network.

3.1 Configuration of Traffic Switch

Configure the switch:

1. Identify the switch having a tag name attached to it (one of the alternatives below):

Switch	Tag Name
A	<CEE Region Name>_TRAFFIC_SWA_X770
B	<CEE Region Name>_TRAFFIC_SWB_X770

2. Connect USB-to-RS-232 and RJ45-to-RS-232 to console port.

Note: See Figure 1 for location of port.

3. Remove the cable from the management port if the cable was already connected. Connect the kickstart server to the Extreme switch using the Ethernet cable.

Note: See Figure 1 for location of port.

4. Access the switch from console port.
5. If username and password are requested, continue with Step 6, otherwise go to Step 8.
6. Check if file `default.xsf` exists.

```
ls default.xsf
```

If output contains `ls: default.xsf: No such file or directory` continue with Step 7 .



Rename default.xsf.

```
mv default.xsf default.xsf.old
```

Rename file default.xsf to file default.xsf.old on switch? (y/N)

Enter **Yes**.

7. Unconfigure switch:

```
unconfigure switch all
```

Restore all factory defaults and reboot? (y/N)

Enter **Yes**

Reboot can take about five minutes.

After reboot , when the authentication service text Authentication Service (AAA) on the master node is now available for login. is displayed:

Enter **admin** as user.

Enter no password.

8. Set default configuration

This switch currently has all management methods enabled for convenience reasons. Please answer these questions about the security settings you would like to use.

Telnet is enabled by default. Telnet is unencrypted and has been the target of security exploits in the past.

Would you like to disable Telnet? [y/N]:

Enter **Yes**

SNMP access is enabled by default. SNMP uses no encryption, SNMPv3 can be configured to eliminate this problem.

Would you like to disable SNMP? [y/N]:

Enter **No**

All ports are enabled by default. In some secure applications, it maybe more desirable for the ports to be turned off.



Would you like unconfigured ports to be turned off by default? [y/N]:

Enter Yes

Changing the default failsafe account username and password is highly recommended. If you choose to do so, please remember the username and password as this information cannot be recovered. Would you like to change the failsafe account username and password now? [y/N]:

Enter No

Would you like to permit failsafe account access via the management port? [y/N]:

Enter No

The following text will be shown for firmware later than EXOS version 15.4.2.8:

The switch can proactively attempt to send basic configuration and operational switch information for the purpose of assisting technical support to resolve customer-reported issues. Uploaded data is encrypted if the ssh.xmod is installed. Otherwise, a reduced switch data set is sent in clear text that contains no customer-specific information.

Would you like to disable the automatic switch reporting service? [Y/n]:

Enter Yes

Since you have chosen less secure management methods, please remember to increase the security of your network by taking the following actions:

- * change your admin password
- * change your failsafe account username and password
- * change your SNMP public and private strings
- * consider using SNMPv3 to secure network management traffic



Note: Do not change the admin password, later steps expects empty password.

9. List installed versions.

The following printout is an example that shows the OS and modules installed with version. Check the version on the actual printout against the *BOM for Certified HW Configurations*, Reference [1]. If this version is correct, go to Step 20

show version images

```
Card Partition Installation Date Version Name Branch
-----
Switch primary Fri Jan 23 14:04:50 UTC 2015 15.6.1.4
summitX-15.6.1.4.xos v1561b4
Switch primary Fri Jan 23 14:06:05 UTC 2015 15.6.1.4
summitX-15.6.1.4-ssh.xmod v1561b4
Switch secondary Fri Jan 23 14:09:42 UTC 2015 15.6.1.4
summitX-15.6.1.4.xos v1561b4
Switch secondary Fri Jan 23 14:10:56 UTC 2015 15.6.1.4
summitX-15.6.1.4-ssh.xmod v1561b4
```

10. Configure temporary management IP address. Perform one of the following commands, depending on which switch is being configured:

Switch	Command
A	<code>configure vlan mgmt ipaddress <Traffic_switch_A (static)> <Netmask fuel_ctrl_sp</code>
B	<code>configure vlan mgmt ipaddress <Traffic_switch_B (static)> <Netmask fuel_ctrl_sp</code>

For example, type the following:

```
configure vlan mgmt ipaddress 192.168.2.2 255.255.255.0
```

11. Install OS.

Transfer the image from TFTP server to Extreme X770 switch:

```
download image <TFTP Server Address> Extreme/summitX-<Ver  
sion Name>.xos VR-mgmt
```

Do you want to install image after downloading?

Enter **Yes**.

12. Install SSH module.

Transfer the image from kickstart server to the Extreme X770 switch:



```
download image <TFTP Server Address> Extreme/summitX-<Version Name>-ssh.xmod VR-mgmt
```

Do you want to install image after downloading?

Enter **yes**.

13. Save configuration.

```
save configuration primary
```

No default configuration database has been selected to boot up the system.

Save configuration will set the new configuration as the default database.

The configuration file primary.cfg already exists.

Do you want to save configuration to primary.cfg and overwrite it? (y/N)

Enter **yes**.

14. Reboot switch.

Reboot the switch to use the new OS:

```
reboot
```

Are you sure you want to reboot the switch? (Y/N)

Enter **yes**.

Reboot can take about five minutes.

15. Log on by console.

After reboot , when the authentication service text Authentication Service (AAA) on the master node is now available for login. is displayed:

Enter **admin** as user.

Enter no password.

16. Install OS on second partition.

Transfer the image from TFTP server to Extreme X770 switch:

```
download image <TFTP Server Address> Extreme/summitX-<Version Name> .xos VR-mgmt secondary
```

Do you want to install image after downloading?

Enter **yes**.



17. Install SSH module on second partition.

Transfer the image from kickstart server to the Extreme X770 switch:

```
download image <TFTP Server Address> Extreme/summitX-<Version Name>-ssh.xmod VR-mgmt secondary
```

Do you want to install image after downloading?

Enter **Yes**.

18. Change used partition.

```
use image primary
```

19. Remove temporary management IP address configured in Step 10

```
unconfigure vlan mgmt ipaddress
```

20. Partition ports

```
configure ports 52 partition 1x10G
```

Warning: Configuration will be lost on ports 52
No configuration changes should be made on these ports
until after
the next reboot.
This command will only take effect after save
configuration and reboot.

Are you sure you want to continue? (y/N)

Enter **Yes**

21. Configure default VLAN:

```
configure vlan default delete ports all
```

22. Create CEE administration VLAN

```
create vlan cee_ctrl_sp tag 2
```

Perform one of the following commands, depending on which switch is
being configured:

Switch	Command
A	<pre>configure vlan cee_ctrl_sp ipaddress <Traffic_switch_A (static)> <netmask for cee_ctrl_sp></pre>
B	<pre>configure vlan cee_ctrl_sp ipaddress <Traffic_switch_B (static)> <netmask for cee_ctrl_sp></pre>

```
configure vlan cee_ctrl_sp add ports 52 tagged
```



23. Enable port.

```
enable ports 52
```

24. Set system name. Perform one of the following commands, depending on which switch is being configured:

Switch	Command
A	<code>configure snmp sysName <CEE Region name>_TRAFFIC_SWA_X770</code>
B	<code>configure snmp sysName <CEE Region name>_TRAFFIC_SWB_X770</code>

25. Enable HTTP.

```
enable web http
```

26. Save configuration.

```
save configuration primary
```

Do you want to save configuration to primary.cfg and overwrite it? (y/N)

Enter **Yes**.

```
save configuration secondary
```

The configuration file secondary.cfg already exists.
Do you want to save configuration to secondary.cfg and overwrite it? (y/N)

Enter **Yes**.

Saving configuration on master done!
Configuration saved to secondary.cfg successfully.

The current selected default configuration database to boot up the system
(primary.cfg) is different than the one just saved
(secondary.cfg).
Do you want to make secondary.cfg the default database?
(y/N)

Enter **No**.

27. Reboot the switch.

```
reboot
```

Are you sure you want to reboot the switch? (Y/N)

Enter **Yes**.



Reboot can take about five minutes.

28. End console port session
29. Remove console port cable inserted in Step 2.
30. Remove Ethernet cable and reinsert cable that was removed in Step 3.
31. If you have followed the steps for Switch A, go to Step 2 for Switch B.
32. Go to Section 3.2 on page 12

3.2 Configuration of Storage Switch

Configure the switch:

1. Identify the switch having a tag name (one of the alternatives below):

Switch	Tag Name
A	<CEE Region Name>_STORAGE_SWA_X770
B	<CEE Region Name>_STORAGE_SWB_X770

2. Connect USB-to-RS-232 and RJ45-to-RS-232 to console port.

Note: See Figure 1 for location of port.

3. Remove cable from management port (if already connected) and connect Ethernet cable.

Note: See Figure 1 for location of port.

4. Access the switch from console port.
5. If username and password are requested, continue with Step 6, otherwise continue with Step 8.
6. Check if file `default.xsf` exists.

```
ls default.xsf
```

If output contains `ls: default.xsf: No such file or directory` continue with Step 6.

Rename `default.xsf`.

```
mv default.xsf default.xsf.old
```

Rename file `default.xsf` to file `default.xsf.old` on switch? (y/N)

Enter **Yes**.



7. Unconfigure switch:

```
unconfigure switch all
```

Restore all factory defaults and reboot? (y/N)

Enter **Yes**

Reboot can take about five minutes.

After reboot , when the authentication service text Authentication Service (AAA) on the master node is now available for login. is displayed:

Enter **admin** as user.

Enter no password.

8. Set default configuration

This switch currently has all management methods enabled for convenience reasons.

Please answer these questions about the security settings you would like to use.

Telnet is enabled by default. Telnet is unencrypted and has been the target of security exploits in the past.

Would you like to disable Telnet? [y/N]:

Enter **Yes**

SNMP access is enabled by default. SNMP uses no encryption, SNMPv3 can be configured to eliminate this problem.

Would you like to disable SNMP? [y/N]:

Enter **No**

All ports are enabled by default. In some secure applications, it maybe more desirable for the ports to be turned off.

Would you like unconfigured ports to be turned off by default? [y/N]:

Enter **Yes**

Changing the default failsafe account username and password is highly



recommended. If you choose to do so, please remember the username and password as this information cannot be recovered. Would you like to change the failsafe account username and password now? [y/N]:

Enter **No**

Would you like to permit failsafe account access via the management port? [y/N]:

Enter **No**

The following text will be shown for firmware later than EXOS version 15.4.2.8:

The switch can proactively attempt to send basic configuration and operational switch information for the purpose of assisting technical support to resolve customer-reported issues. Uploaded data is encrypted if the ssh.xmod is installed. Otherwise, a reduced switch data set is sent in clear text that contains no customer-specific information.

Would you like to disable the automatic switch reporting service? [Y/n]:

Enter **Yes**

Since you have chosen less secure management methods, please remember to increase the security of your network by taking the following actions:

- * change your admin password
- * change your failsafe account username and password
- * change your SNMP public and private strings
- * consider using SNMPv3 to secure network management traffic

Note: Do not change the admin password, later steps expect empty password.

9. List installed versions

The following example of a printout shows the OS and modules installed with version. Check the version on the actual printout against that in *BOM for Certified HW Configurations*, Reference [1]. If the version is correct, go to Step 20.



show version images

```
Card Partition Installation Date Version Name Branch
-----
Switch primary Fri Jan 23 14:04:50 UTC 2015 15.6.1.4
summitX-15.6.1.4.xos v1561b4
Switch primary Fri Jan 23 14:06:05 UTC 2015 15.6.1.4
summitX-15.6.1.4-ssh.xmod v1561b4
Switch secondary Fri Jan 23 14:09:42 UTC 2015 15.6.1.4
summitX-15.6.1.4.xos v1561b4
Switch secondary Fri Jan 23 14:10:56 UTC 2015 15.6.1.4
summitX-15.6.1.4-ssh.xmod v1561b4
```

10. Configure temporary management IP address

Switch	Command
A	configure vlan mgmt ipaddress <Storage_switch_A (static)> <Netmask fuel_ctrl_sp
B	configure vlan mgmt ipaddress <Storage_switch_B (static)> <Netmask fuel_ctrl_sp

11. Install OS.

Transfer the image from TFTP server to Extreme X770 switch:

```
download image <TFTP Server Address> Extreme/summitX-<Ver  
sion Name>.xos VR-mgmt
```

Do you want to install image after downloading?

Enter **yes**.

12. Install SSH module.

Transfer the image from kickstart server to the Extreme X770 switch:

```
download image <TFTP Server Address> Extreme/summitX-<Ver  
sion Name>-ssh.xmod VR-mgmt
```

Do you want to install image after downloading?

Enter **yes**.

13. Save configuration.

```
save configuration primary
```

No default configuration database has been selected to boot up the system.



Save configuration will set the new configuration as the default database.
The configuration file `primary.cfg` already exists.
Do you want to save configuration to `primary.cfg` and overwrite it? (y/N)

Enter **Yes**.

14. Reboot switch.

Reboot the switch to use the new OS:

reboot

Are you sure you want to reboot the switch? (Y/N)

Enter **Yes**.

Reboot can take about five minutes.

15. Log on by console.

Wait for Authentication Service (AAA) on the master node is now available for login.

Enter **admin** as user.

Enter no password.

16. Install OS on second partition.

Transfer the image from TFTP server to Extreme X770 switch:

download image <TFTP Server Address> Extreme/summitX-<Version Name>.xos VR-mgmt secondary

Do you want to install image after downloading?

Enter **Yes**.

17. Install SSH module on second partition.

Transfer the image from kickstart server to the Extreme X770 switch:

download image <TFTP Server Address> Extreme/summitX-<Version Name>-ssh.xmod VR-mgmt secondary

Do you want to install image after downloading?

Enter **Yes**.

18. Change used partition.



```
use image primary
```

19. Remove temporary management IP address configured in Step 10.

```
unconfigure vlan mgmt ipaddress
```

20. Partition ports

```
configure ports 52 partition 1x10G
```

Warning: Configuration will be lost on ports 52
No configuration changes should be made on these ports
until after
the next reboot.
This command will only take effect after save
configuration and reboot.

Are you sure you want to continue? (y/N)

Enter **yes**

21. Configure Virtual Router:

```
configure vlan default delete ports all
```

22. Create CEE administration VLAN

```
create vlan cee_ctrl_sp tag 2
```

Switch	Command
A	<code>configure vlan cee_ctrl_sp ipaddress <Storage_switch_A (static)> <Netmask cee_ctrl_sp</code>
B	<code>configure vlan cee_ctrl_sp ipaddress <Storage_switch_B (static)> <Netmask cee_ctrl_sp</code>

```
configure vlan cee_ctrl_sp add ports 52 tagged
```

23. Enable port.

```
enable ports 52
```

24. Set system name.

Switch	Command
A	<code>configure snmp sysName <CEE Region name>_STORAGE_SWA_X770</code>
B	<code>configure snmp sysName <CEE Region name>_STORAGE_SWB_X770</code>

25. Enable HTTP.

```
enable web http
```



26. Save configuration.

save configuration primary

Do you want to save configuration to primary.cfg and overwrite it? (y/N)

Enter **Yes**.

save configuration secondary

The configuration file secondary.cfg already exists.
Do you want to save configuration to secondary.cfg and overwrite it? (y/N)

Enter **Yes**.

Saving configuration on master done!
Configuration saved to secondary.cfg successfully.

The current selected default configuration database to boot up the system (primary.cfg) is different than the one just saved (secondary.cfg).
Do you want to make secondary.cfg the default database? (y/N)

Enter **No**.

27. Reboot the switch.

reboot

Are you sure you want to reboot the switch? (Y/N)

Enter **Yes**.

Reboot can take about five minutes.

28. End console port session.

29. Remove console port cable inserted in Step 2.

30. Remove Ethernet cable and reinsert cable that was removed in Step 3.

31. If you have followed the steps for Switch A, go to Step 2 for Switch B.



Reference List

- [1] *BOM for Certified HW Configurations*, 1/006 51-CSA 113 125/5 Uen
- [2] *IP and VLAN Plan*, 2/102 62-CRA 119 1862/5 Uen