

HP c7000 HW Installation

Cloud Execution Environment

INSTALLATION INSTRUCTIONS

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1 Introduction

This document provides instructions on how to install the Certified HW for Cloud Execution Environment (CEE).

1.1 Scope

This document describes installation of the CEE, version 1.1 HP c7000, with three enclosures and a total of 48 blades.

2 Prerequisites

This section describes the prerequisites which must be fulfilled before installation work begins.

2.1 Safety

Ericsson safety instruction *Personal Health and Safety Information* and *System Safety Information* must be studied thoroughly and practiced throughout the installation.

For safety practices used when working with power equipment, see *Safety Rules for Work with Power, Climate and Energy-Supervision Equipment*, Reference [1].

2.2 Documents

Before starting this procedure, ensure that the following documents have been read and understood:

- *Personal Health and Safety Information*
- *System Safety Information*



Before starting this procedure, ensure that the following information or documents are available:

- Information about product name, platform, Bill of Material (BOM), work order, and part list.
- Site Information Documentation, with information about:
 - Floor layout including the position of the cabinet to be installed.
 - Floor plan specification.
 - Grounding Information.
 - Cabinet allocation specification.
 - Cabinet allocation drawing determining each units location in the cabinet with front, back, and side views.
 - Cabling Information providing information about all connections needed.

2.3 Tools

The following tools are needed:

- Tools in accordance with cabinet supplier instructions
- Torx screwdriver, T25 × 75 - 200 mm
- Torx screwdriver, T30 × 75 - 200 mm
- Torque wrench 1/4 inch, 10 Nm with T25 × 75 mm and T30 × 75 mm Torx bits
- Tools for tie-wraps
- Equipment for handling pallets and cabinets

2.4 Equipment

Lifting equipment for HP enclosure, with a lifting capacity of at least 250 kg.

2.5 Conditions

The site and location is prepared and the installation space is marked.

Keys and access are available.



All work related to transport, installation, commissioning, and maintenance must be carried out by qualified personnel according to IEC 60364, European standard HD 384 and national work safety regulations.

2.6 Site Requirements

This section lists the space requirements for the site where the cabinet is to be installed.



Caution!

The equipment is heavy. Lifting the equipment without the aid of a lifting device can cause injury.

Note: The equipment is heavy. Consider if the floor needs to be reinforced to be able to carry the heavy equipment.

Cabinet Requirements

Standard 19-inch equipment rack, following IEC 60 297 or IEC 60 917, for example, Ericsson BYB504.

- Width: 48.3 cm (19 inches)
- Minimum Depth: 106.5 cm (41.9 inches)
- Height: at least space for 15 U

Floor Planning Requirements.

To enable efficient servicing, the recommended clearance around the cabinet is 120 cm (47.2 inches).

To enable normal servicing and to ensure adequate airflow, observe the following **minimum** spatial requirements when deciding where to install a cabinet:

- Leave a minimum clearance of 120 cm (47.2 inches) in **front** of the cabinet.
- Leave a minimum clearance of 80 cm (31.5 inches) in **back** of the cabinet.
- Leave a minimum clearance of 120 cm (47.2 inches) from the **back of the cabinet to the rear of another cabinet** or row of cabinets.
- **Room height** from top of floor to ceiling: 310 cm (122 inches or 10 feet, and 2 inches).



Power Requirements

The AC power must be protected from surges, dips, and interruptions. The protection can be implemented by using a Uninterrupted Power Supply (UPS) and a Surge Protector. If a UPS is used, the battery capacity must be sufficient to sustain system operation during short AC power failures and until the servers have been shut down properly to minimize the risk of system faults or data corruption.

Power is best managed within the rack by the use of one or more rack-mounted Power Distribution Units (PDUs). Depending on the configuration, it can be necessary to use multiple PDUs to connect all devices inside the rack. If possible, supply power from different sources and phases for a redundant power supply.

Site power distribution design and installation are not covered in document. Factors related to power distribution and installation must be considered in the site preparation process.

An example of AC power distribution is shown in the following table.

Table 1 Example of AC Power Distribution, Three Phases and Two Groups

Supply	Fuse	Unit	Port	Power Cord and Connector Type
AC, Phase 1, Group A	16 A	HP C7000 Enclosure 0	Power Supply Bay 1	IEC 320 C19-C20
AC, Phase 2, Group A	16 A	HP C7000 Enclosure 0	Power Supply Bay 2	IEC 320 C19-C20
AC, Phase 3, Group A	16 A	HP C7000 Enclosure 0	Power Supply Bay 3	IEC 320 C19-C20
AC, Phase 1, Group B	16 A	HP C7000 Enclosure 0	Power Supply Bay 4	IEC 320 C19-C20
AC, Phase 2, Group B	16 A	HP C7000 Enclosure 0	Power Supply Bay 5	IEC 320 C19-C20
AC, Phase 3, Group B	16 A	HP C7000 Enclosure 0	Power Supply Bay 6	IEC 320 C19-C20
AC, Phase 2, Group A	16 A	HP C7000 Enclosure 1	Power Supply Bay 1	IEC 320 C19-C20
AC, Phase 3, Group A	16 A	HP C7000 Enclosure 1	Power Supply Bay 2	IEC 320 C19-C20
AC, Phase 1, Group A	16 A	HP C7000 Enclosure 1	Power Supply Bay 3	IEC 320 C19-C20



Supply	Fuse	Unit	Port	Power Cord and Connector Type
AC, Phase 2, Group B	16 A	HP C7000 Enclosure 1	Power Supply Bay 4	IEC 320 C19-C20
AC, Phase 3, Group B	16 A	HP C7000 Enclosure 1	Power Supply Bay 5	IEC 320 C19-C20
AC, Phase 1, Group B	16 A	HP C7000 Enclosure 1	Power Supply Bay 6	IEC 320 C19-C20
AC, Phase 3, Group A	16 A	HP C7000 Enclosure 2	Power Supply Bay 1	IEC 320 C19-C20
AC, Phase 1, Group A	16 A	HP C7000 Enclosure 2	Power Supply Bay 2	IEC 320 C19-C20
AC, Phase 2, Group A	16 A	HP C7000 Enclosure 2	Power Supply Bay 3	IEC 320 C19-C20
AC, Phase 3, Group B	16 A	HP C7000 Enclosure 2	Power Supply Bay 4	IEC 320 C19-C20
AC, Phase 1, Group B	16 A	HP C7000 Enclosure 2	Power Supply Bay 5	IEC 320 C19-C20
AC, Phase 2, Group B	16 A	HP C7000 Enclosure 2	Power Supply Bay 6	IEC 320 C19-C20
AC, Phase 1, Group A	10 A	EMC VNX5400	PS A	IEC 320 C13
AC, Phase 1, Group B	10 A	EMC VNX5400	PS B	IEC 320 C13
AC, Phase 2, Group A	10 A	Extreme 770 Switch Tra Sw A Left	PSU A	IEC 320 C13
AC, Phase 2, Group B	10 A	Extreme 770 Switch Tra Sw A Right	PSU B	IEC 320 C13
AC, Phase 3, Group A	10 A	Extreme 770 Switch Tra Sw B Left	PSU A	IEC 320 C13
AC, Phase 3, Group B	10 A	Extreme 770 Switch Tra Sw B Right	PSU B	IEC 320 C13
AC, Phase 1, Group A	10 A	Extreme 770 Switch Sto Sw A Left	PSU A	IEC 320 C13



Supply	Fuse	Unit	Port	Power Cord and Connector Type
AC, Phase 1, Group B	10 A	Extreme 770 Switch Sto Sw A Right	PSU B	IEC 320 C13
AC, Phase 2, Group A	10 A	Extreme 770 Switch Sto Sw B Left	PSU A	IEC 320 C13
AC, Phase 2, Group B	10 A	Extreme 770 Switch Sto Sw B Right	PSU B	IEC 320 C13
AC, Phase 3, Group A	10 A	Extreme 460 Ctl Sw A Left	PSU A	IEC 320 C13
AC, Phase 3, Group B	10 A	Extreme 460 Ctl Sw A Right	PSU B	IEC 320 C13
AC, Phase 1, Group A	10 A	Extreme 460 Ctl Sw B Left	PSU A	IEC 320 C13
AC, Phase 1, Group B	10 A	Extreme 460 Ctl Sw B Right	PSU B	IEC 320 C13

Note: The relevant National regulations apply to all work carried out. Electrical installation must be carried out according to the relevant regulations with regards to cable cross sections, fuse, and Protective grounding.

3 Overview

This section provides an overview of the installation process and the hardware configuration

3.1 Concept for Installing CEE HW

This section describes the concept and process of installing the HP c7000 hardware for Cloud Execution Environment HW.

The system is modular and built up by using one or several enclosures, hosting a number of HP BL460 Gen9 blades. The maximum number of blades in each enclosure is 16. This instruction describes how to assemble the enclosures and



units in each cabinet and how to interconnect the units. Each enclosure is built in similar ways while the number of units and the interconnections depends on the configuration. In this document, the configurations described contain fully equipped enclosures, while the product structure can contain variations down to the number of blades used.

The flow of installation contains the following steps on a high level:

1. Install Cabinets
2. Install HP enclosures, storage units, and switch units
3. Install small form-factor pluggable units
4. Connect power cables
5. Connect control cables
6. Connect traffic and storage cables
7. Connect the Northbound Interfaces to Border Gateway (BGW), Firewall (FW), and external cables

3.2 Certified Configuration

The certified configuration is shown in the following table:

Table 2 Certified Configuration

Certified Configuration Components:	Quantity
Enclosures (HP c7000)	3
Blades (HP BL 460)	48
Extreme X460 switches.	2
Extreme X770 switches.	4
EMC VNX5400	1

4 Preparing the Installation

4.1 Unpacking and Checking the Material

Follow the instructions from the suppliers on how to unpack the equipment.



Verify that:

- The delivery is complete according to documentation.
- All boxes are free from damages.
- The content of the boxes, the delivered equipment, is undamaged and complete according to documentation of parts.

Report all deviations to the implementation project.

Note: Handle the optical cables with care to prevent damage. Never bend the optical cables sharper than the manufacturer's specified minimum bend radius. Never bend the optical cables near a connector strain relief boot, nor over a sharp edge. Bundle the optical cables loosely using cable straps.

5 Installing Cabinets

5.1 Moving and Handling the Cabinet

See applicable section in cabinet installation Instructions.

At least two persons are required.



Caution!

The equipment is heavy. Lifting the equipment without the aid of a lifting device can cause injury.

5.2 Mechanical Installation

See applicable section in cabinet installation Instructions.

Install tip protection.

Attach cabinets together.

Secure the cabinets in earthquake areas.



5.3 Grounding the Cabinet

See applicable section in cabinet installation instructions.

Connect a grounding cable between cabinets, if necessary.

5.4 Connecting Power



Danger!

Improper electrical installation may cause fire or electric shock that is likely to be fatal. Only a qualified and authorized electrician is permitted to install or modify electrical installations.

5.4.1 AC

Install AC PDUs and cables in the cabinet in accordance with supplier instructions, for instance Rittal or Eaton.

The following AC power outlets are required:

- 2 × 3 C19 outlets for each HP enclosure
- 2 × 1 C13 outlets for each Extreme switch
- 2 × 1 C13 outlets for the EMC storage system

Make sure that the AC power source is switched off.

Connect AC power cables to the cabinet.

6 Installing Units

This section describes how to install units in the cabinet.

The location of units in the cabinet is subject to local site design and therefore not included in this document. The recommendation is to start equipping units from the bottom of the cabinet.



Be aware that all equipment will probably not fit into one cabinet, because of restrictions on weight per square meter and power consumption on the site.

6.1 Installing HP c7000 Enclosure

6.1.1 Preparing the Cabinet

Install the support hardware in the cabinet. See Site Installation documentation for information on where the units are to be installed.

Install the following components:

- Four cage nuts for the front of each enclosure. Use the cabinet template shipped with the cabinet rail kit to find the correct locations for the cage nuts.
- Cabinet rails. The left rail is marked L and the right one is marked R. The rail installs over the cabinet rack columns and locks in place without screws.

For more detailed information, refer to the installation Instructions from HP, supplied with the Enclosure.

6.1.2 Removing Units from the HP c7000 Enclosure

A fully populated enclosure can weigh up to 217.7 kg (480 lb). To make it easier to move and install the equipment, Ericsson recommends that all heavy units are removed from the HP enclosure before installation.

Note: The following units do not need to be removed:

- Blanking plates and dummy units
- Insight Display

Prepare an area for the units to be removed by reusing the packing material of the enclosure.

While still keeping the enclosure on the pallet, remove components from the front and back of the enclosure.

When all components have been removed, the empty enclosure weighs about 60 kg (130 lb) and still must be handled by 2 people.



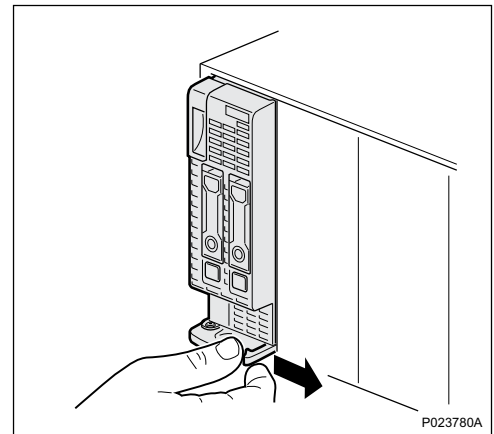
Do!

This product contains components sensitive to ESD. Use an approved ESD wrist strap, connected to the product grounding point, to avoid damaging these components.

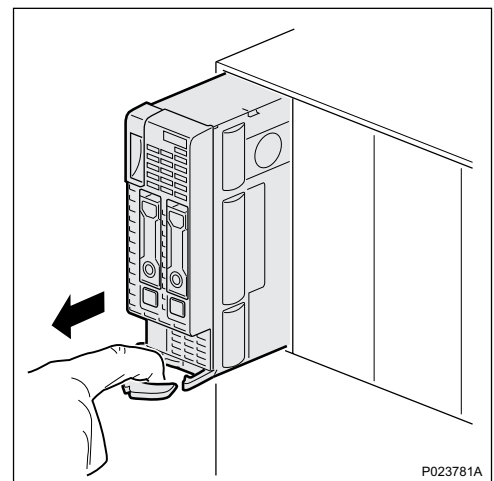
Do the following:

1. Remove the compute blades from the enclosure:

- a Open the latch by moving the latch to the right.



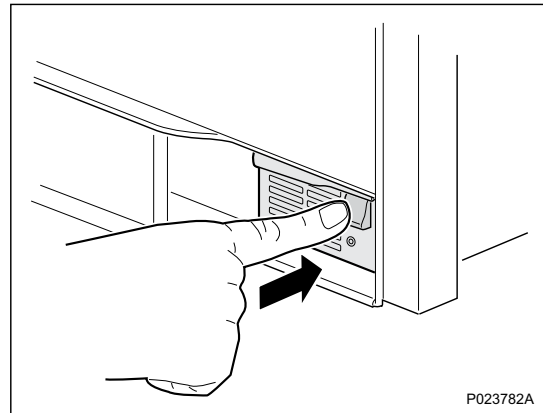
- b Pull out the unit by using the handle.



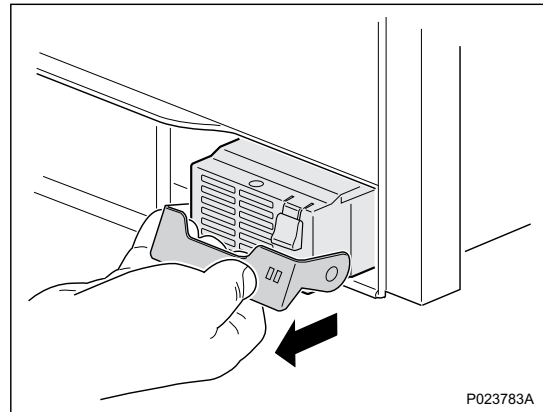
2. Remove the power supply units (PSUs) located in the bottom of the enclosure.



- a Press the purple button.

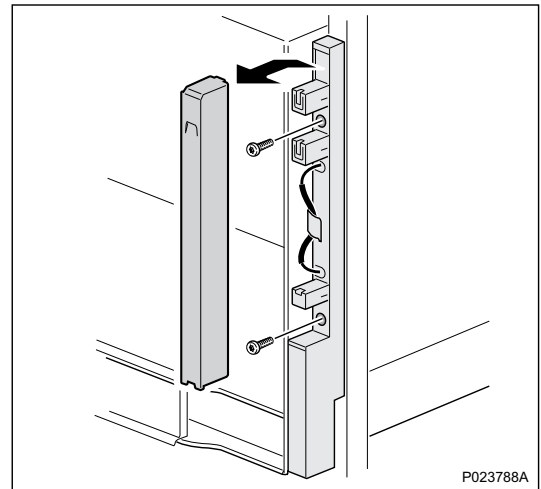


- b Pull out the unit using the metal handle.



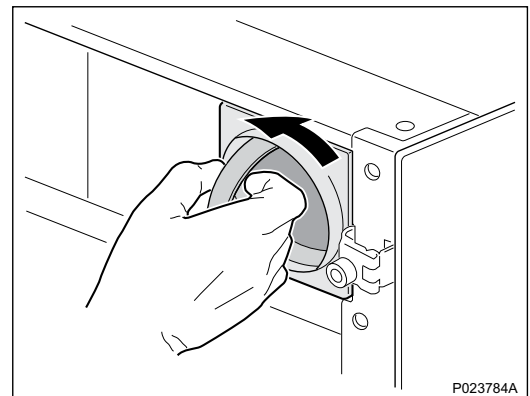
Move the Insight Display to the right when removing PSU 3 and to the left when removing PSU 4.

3. Remove the front plastic covers by pulling them straight up and out. This exposes the four screws that are to be used for attaching the enclosure to the cabinet.

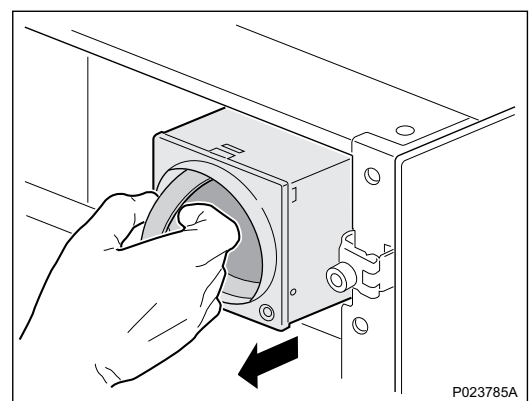


4. Remove the ten fans from the rear of the enclosure:

- a Twist the purple handle counterclockwise.



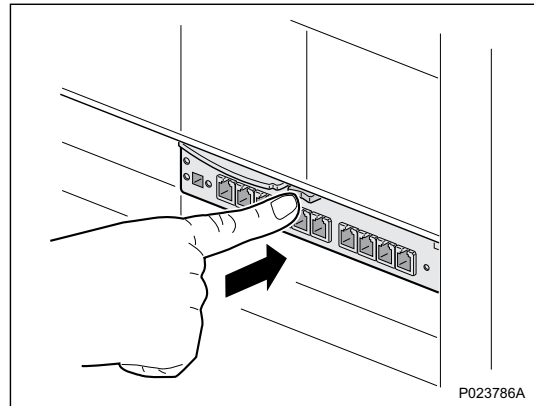
- b Pull out the fan unit by pulling the purple handle.



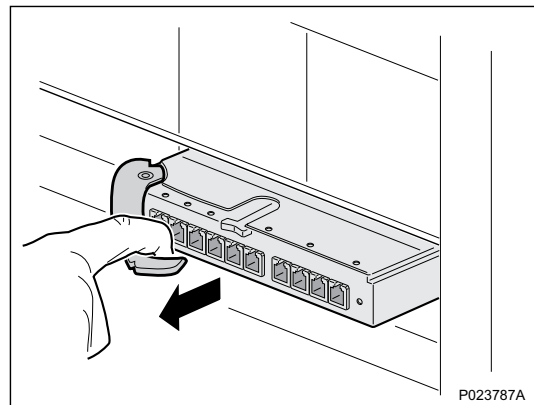
5. Remove the units in interconnect bay 1 through 8:



- a Press the purple ejector button and slide it to the right to release the latch handle.⁽¹⁾



- b Pull the latch handle to remove the unit.⁽¹⁾

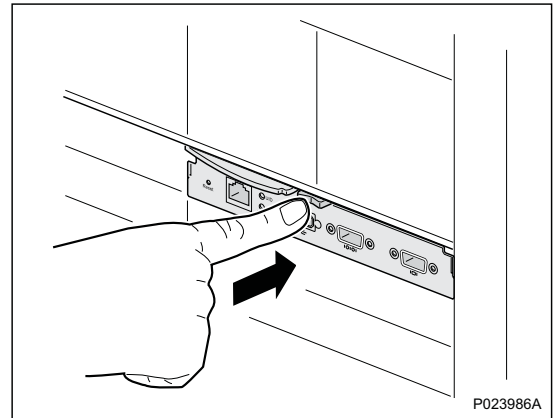


(1) The graphics illustrate the removal of a VC Flex module.

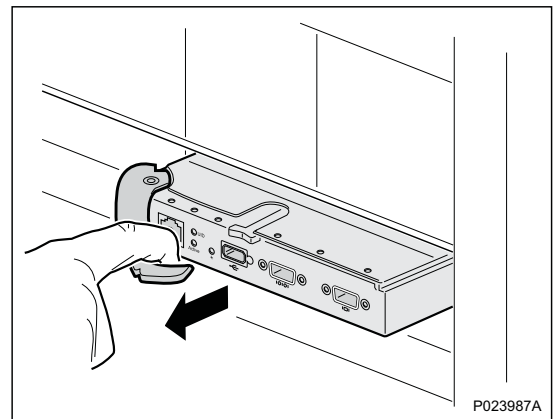
6. Remove both Onboard Administrator (OA) modules:



- a Press the purple ejector button and slide it to the right to release the latch handle.

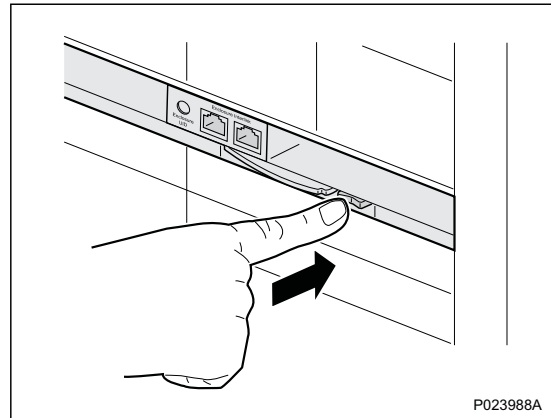


- b Pull the latch handle to remove the unit.

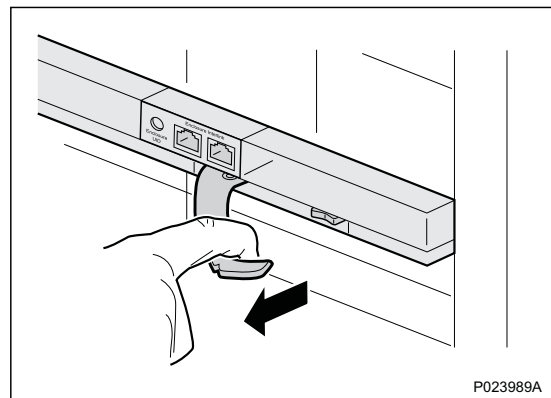


7. Remove the OA tray:

- a Press the purple ejector button and slide it to the right to release the latch handle.



- b Pull the latch handle to remove the unit.



6.1.3 Installing the Enclosure

This section describes how to install the enclosure in the cabinet.

At least two people are required for this operation.

An empty enclosure weighs about 60 kg.



Caution!

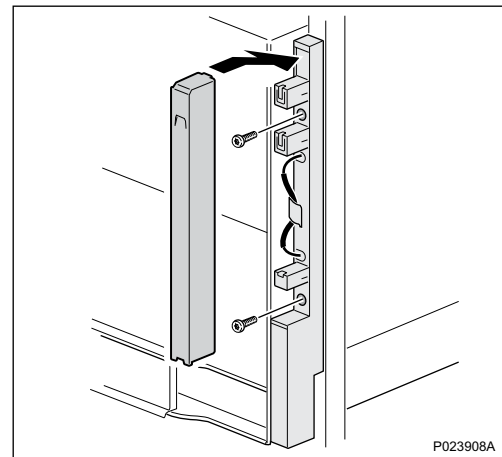
The equipment is heavy. Lifting the equipment without the aid of a lifting device can cause injury.

Do the following:

1. Using both hands, slide the enclosure from the pallet to the lifting device.



2. Using the lifting device, move and lift the enclosure to the position in front of the cabinet where it is to be installed.
3. Slide the enclosure from the lifting device into the cabinet and onto the support brackets.
4. Fasten the four front screws and tighten them according to cabinet supplier recommendations, using a torque wrench with a T25 bit.
5. Reinstall the front plastic covers which snap into place.



6.1.4 Reinstalling Units

6.1.4.1 Reinstalling Rear HP Units

For more information and for the identification of the HP units, see Section 11.1 on page 43.



Do!

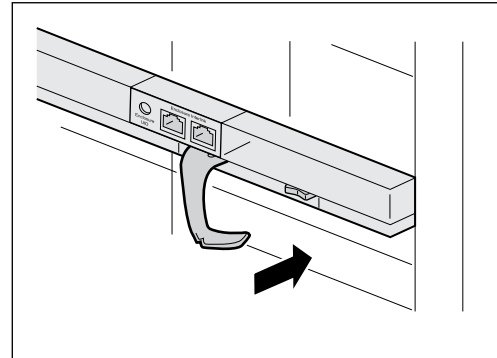
This product contains components sensitive to ESD. Use an approved ESD wrist strap, connected to the product grounding point, to avoid damaging these components.

Install the HP enclosure units previously removed. Do the following:

1. Reinstall the OA tray:



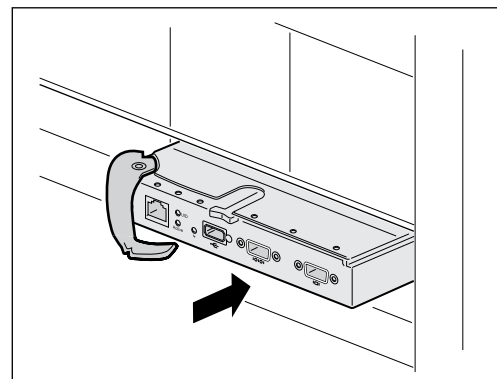
- a Insert and push the tray into the slot, making sure that the latch handle is open.



- b Shut the handle to fix the tray in the slot. Ensure that the latch is closed.

2. Reinstall the OA modules:

- a Insert and push the module into the OA bay, making sure that the latch handle is open.



- b Shut the handle to fix the module in the bay. Ensure that the latch is closed.

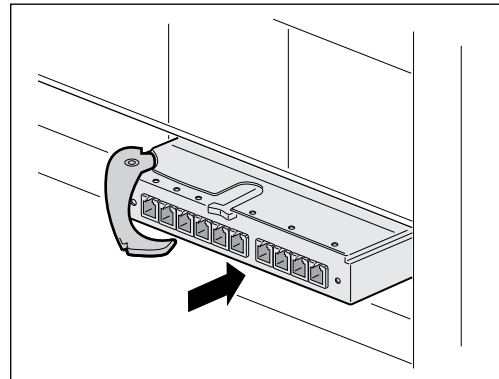
3. Reinstall modules in bays 8 through 1, starting with bay 8 and ending with bay 1, in the following layout:

Location /Bay	Units		Location/ Bay
1	HP Virtual Connect (VC) Flex	HP VC Flex	2
3	HP 10Gb/s Pass-Thru	HP 10Gb/s Pass-Thru	4
5	HP 10Gb/s Pass-Thru	HP 10Gb/s Pass-Thru	6

7	Interconnect Blank	Interconnect Blank	8
	OA Module	OA Tray	OA Module

Reinstall the modules:

- a Without touching the front connectors, press in the units firmly with the latches open, then close the latches.⁽¹⁾



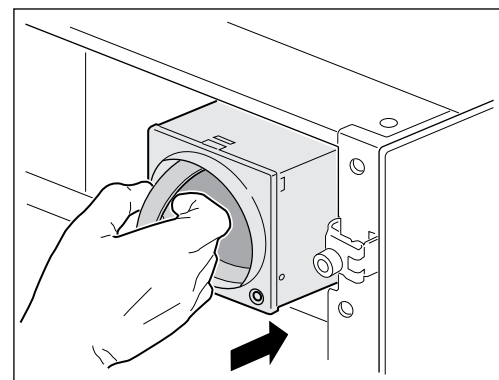
- b Make sure that all latches are closed and secured.

(1) The graphics illustrate the reinstallation of a VC Flex module.

4. Reinstall the fan units:

Note: When installing a fan in the top row of fan slots, orient the fan so that the indicator is in the lower right corner. When installing a fan in the bottom row of fan slots, orient the fan so that the indicator is in the upper left corner.

Insert and push the fan unit into the slot, making sure that the orientation of the unit is correct.⁽¹⁾



(1) The graphics illustrate the installation of a fan in the top row of fan slots.

6.1.4.2

Reinstalling Front Units

Note: Make sure that all rear units have been reinstalled before reinstalling the front units.

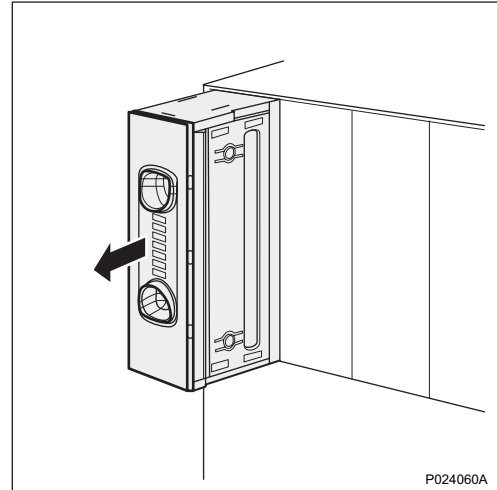


This section describes how to reinstall the front units for the Certified Configuration with three enclosures. This configuration contains 48 blades.

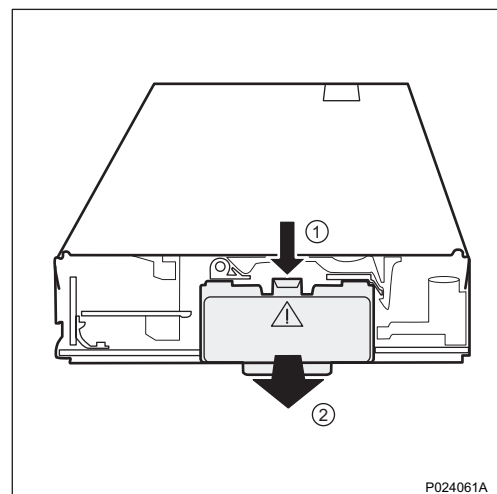
Do the following:

1. Install the first compute blade to the top left bay of enclosure 0:

- a If applicable, remove the server blank from the slot.

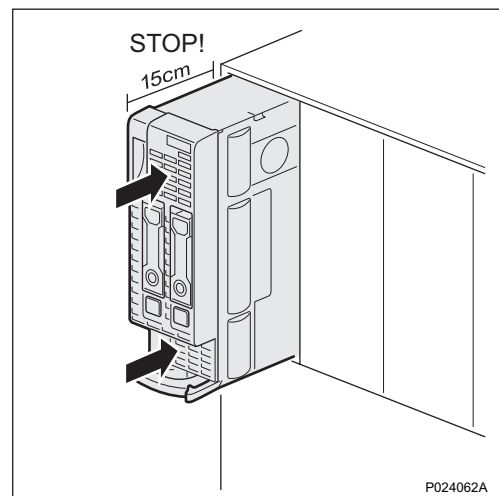


- b If applicable, remove the back connector cover from the server by pushing the release latch and pulling the cover.

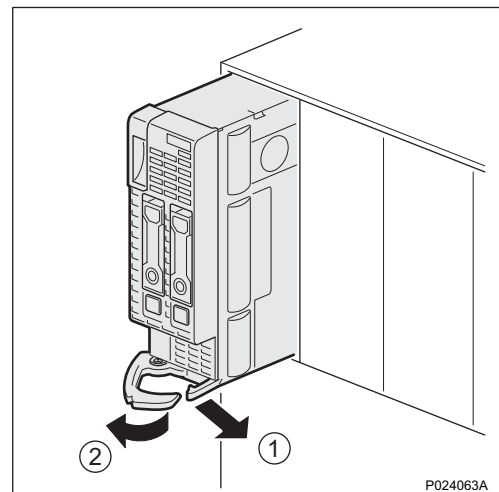




- c Insert and push the server into the slot carefully but stop before the server reaches the backplane.

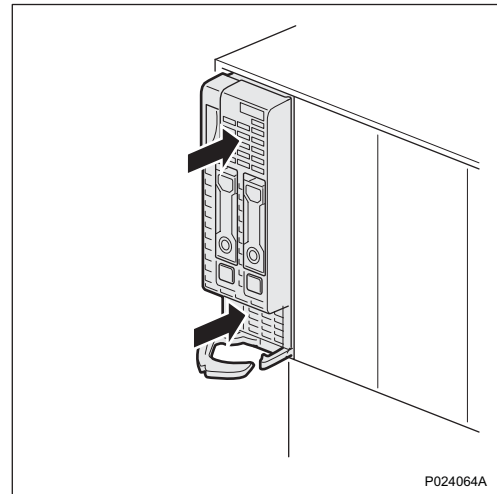


- d Open the latch by moving it to the right and open the handle.

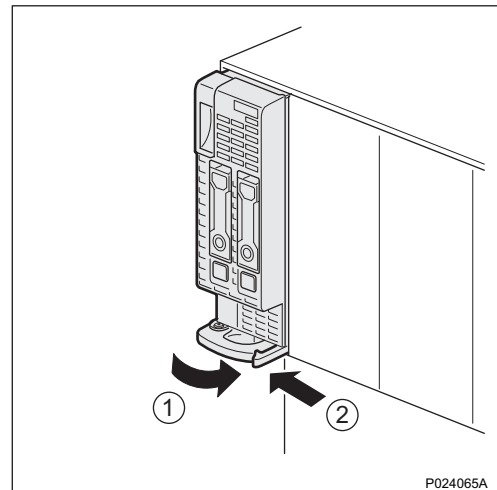




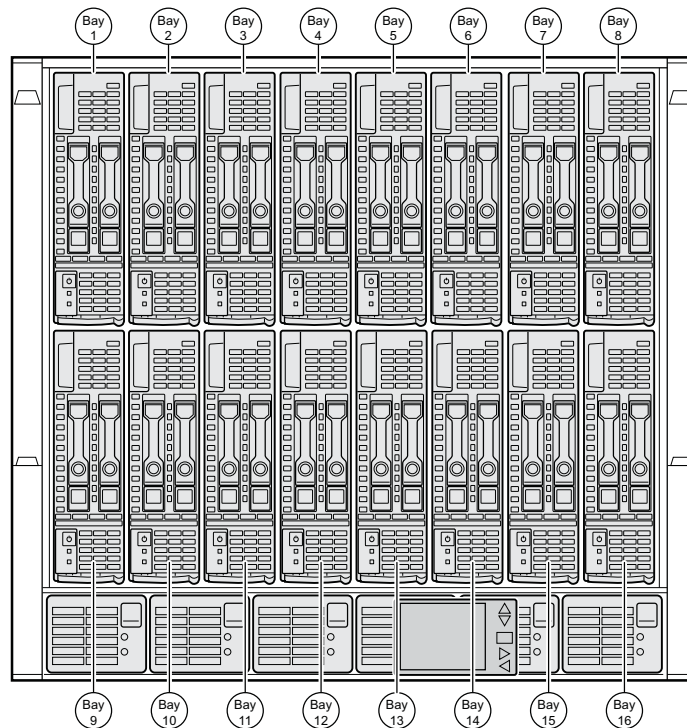
- e Push the server carefully to connect the backplane connector.



- f Shut the handle to fix the server in the slot. Ensure that the latch is closed.



2. Install the remaining compute blades to all enclosures as described in Step 1, beginning with bay 1, and ending with bay 16 in each enclosure. The blade layout is the following:



P023906B

Install compute blades into subracks in the following layout:

Enclosure 0:

Location / Bay	1	2	3	4	5	6	7	8
First row of blades	Blade 1	Blade 2	Blade 3	Blade 4	Blade 5	Blade 6	Blade 7	Blade 8
Second row of blades	Blade 9	Blade 10	Blade 11	Blade 12	Blade 13	Blade 14	Blade 15	Blade 16
Location / Bay	9	10	11	12	13	14	15	16

Enclosure 1:

Location / Bay	1	2	3	4	5	6	7	8
First row of blades	Blade 17	Blade 18	Blade 19	Blade 20	Blade 21	Blade 22	Blade 23	Blade 24
Second row of blades	Blade 25	Blade 26	Blade 27	Blade 28	Blade 29	Blade 30	Blade 31	Blade 32
Location / Bay	9	10	11	12	13	14	15	16



Enclosure 2:

Location / Bay	1	2	3	4	5	6	7	8
First row of blades	Blade 33	Blade 34	Blade 35	Blade 36	Blade 37	Blade 38	Blade 39	Blade 40
Second row of blades	Blade 41	Blade 42	Blade 43	Blade 44	Blade 45	Blade 46	Blade 47	Blade 48
Location / Bay	9	10	11	12	13	14	15	16

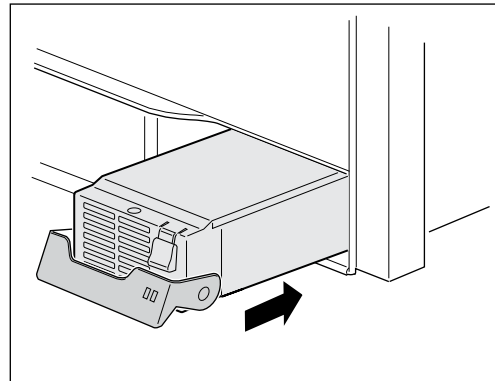
3. Install all six PSUs at the bottom of each HP enclosure.

Location	1	2	3	4	5	6
Power Units	PSU 1	PSU 2	PSU 3	PSU 4	PSU 5	PSU 6

Note: Move the Insight display to the right when reinstalling PSU 3 and to the left when reinstalling PSU 4.

To reinstall the PSUs:

- a Insert and push the PSU into the slot carefully with the latch handle open to connect the backplane connector.



- b Shut the handle to fix the module in the slot. Ensure that the latch is closed.

6.2 Installing EMC VNX Units

This section describes how to install the EMC VNX unit. This unit is installed from the front of the cabinet.

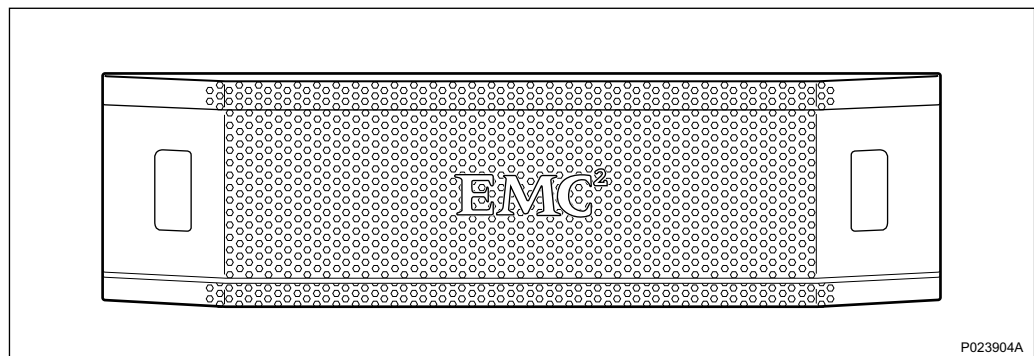


Figure 1 VNX5400, Front

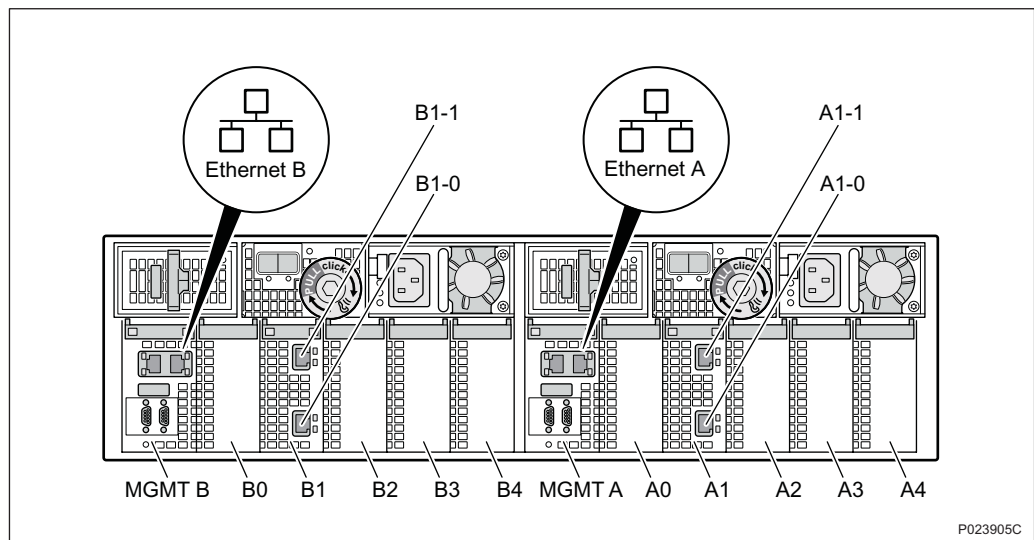


Figure 2 VNX5400, Rear

1. Prepare the location in the cabinet by installing the following:
 - Cage nuts
 - Shelves, if needed
2. Install the storage unit from the front.
3. Tighten the screws according to cabinet manufacturer recommendations, using a torque wrench and a T30 Torx bit.

Store the serial port adapters delivered with the unit, in the cabinet. They are used when configuring the VNX.

For more information about how to install the EMC VNX unit, refer to the installation guide (P/N 300-999-781), supplied with the unit.

6.3 Installing Extreme Switches

This section describes how to install the X460V and X770 switches.

Note: This unit is installed from the rear of the cabinet.

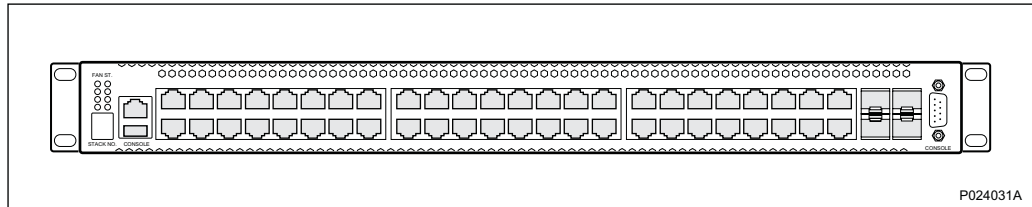


Figure 3 Switch X460, Front

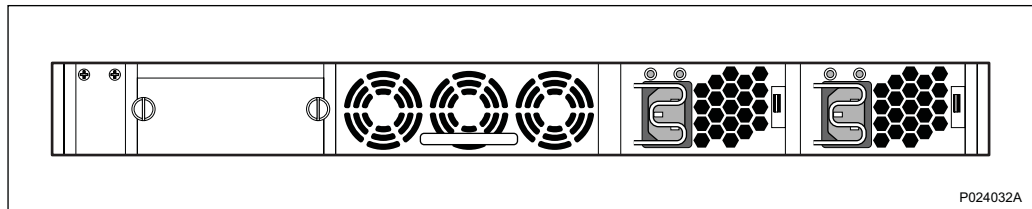


Figure 4 Switch X460, Rear

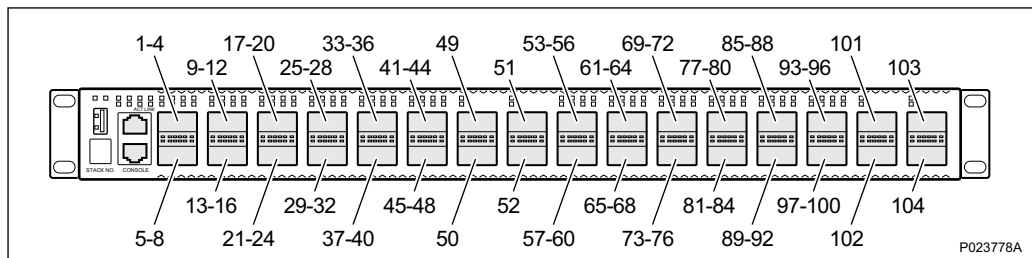


Figure 5 Switch X770, Front

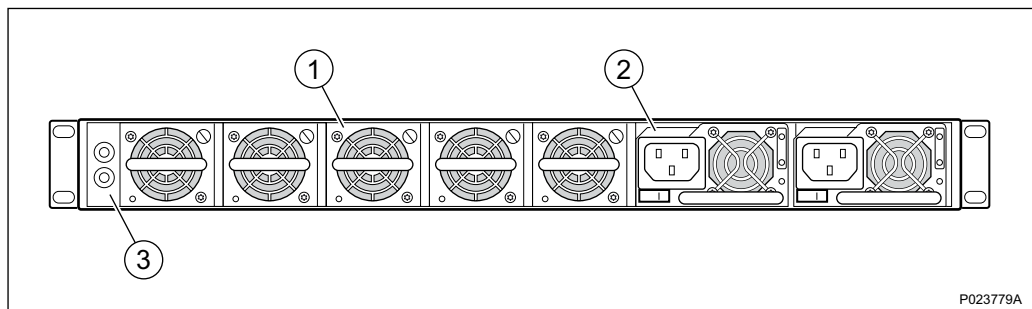


Figure 6 Switch X770, Rear

1. Unpack the switch and check that it is undamaged and that all parts are included.
2. Prepare the location in the cabinet. Install the following:
 - Four cage nuts in the front



- Four cage nuts in the rear
3. Prepare the units by installing the front cabinet mounting brackets.
 4. Install the unit from the rear of the cabinet.

The front panel with most of the connectors is to be facing backward on the same side as the HP enclosure rear units with all the connectors. The reason for this is to have all cabling at the same side of the cabinet. The units have fans marked AIR IN.

5. Tighten the screws according to cabinet manufacturer recommendations, using a torque wrench and a T30 Torx bit.
6. Install the extreme switch rear mounting brackets from the front of the cabinet and secure them to the cabinet using the supplied screws. Tighten the screws according to cabinet manufacturer recommendations, using a torque wrench and a T30 Torx bit.

For more information about installing the switches, see the documentation supplied with the unit.

7 Equipping Units with Small Form-Factor Pluggable Units

This section describes installation and location of Small Form-Factor Pluggable (SFP+) and Quad Small Form-Factor Pluggable (QSFP+) modules in the Ericsson Cloud System units.

To install an SFP+ module, do the following:

1. Unpack the SFP+ module and verify that it is of the correct type (see specifications in the following tables) and that it is undamaged.
2. Remove the protective plug from the port in the unit.
3. Install the SFP+ module, observing correct orientation, and push it into the port until the connector mates.
4. Only remove the protective plug or plugs installed on the SFP+ module when an optical fiber cable is ready to be connected.

See Section 11 on page 43 for more information about the units, boards, and connectors.



7.1 HP Units

7.1.1 VC Flex Modules

This section describes how the ports in the VC Flex modules must be equipped. The ports are marked X1 to X10 as shown in Figure 7.

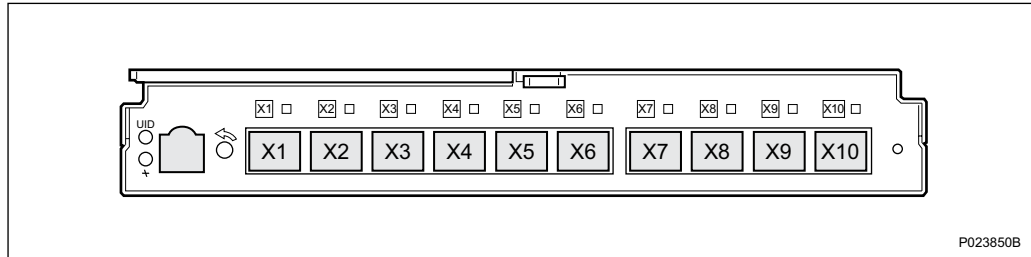


Figure 7 VC Flex 10/10D Module

Table 3 SFP+ Modules Used in VC Flex Ports, Certified Configuration with Three Enclosures

	Enclosure 0		Enclosure 1		Enclosure 2	
	Bay 1	Bay 2	Bay 1	Bay 2	Bay 1	Bay 2
X1	HP BLc VC 1G SFP RJ45 Transceiver	HP BLc VC 1G SFP RJ45 Transceiver	HP BLc VC 1G SFP RJ45 Transceiver	HP BLc VC 1G SFP RJ45 Transceiver	HP BLc VC 1G SFP RJ45 Transceiver	HP BLc VC 1G SFP RJ45 Transceiver

7.1.2 Pass-Thru Modules in Bay 3, 4, 5, and 6

This section describes how the ports 1 - 16 must be equipped in the pass-thru modules in Bay 3 - 6.

Table 4 HP Pass-Thru SFP+ Configuration

Port Location in HP Rear Units	Type of SFP+ Module
Bay 3, 4, 5, and 6: Ports 1-16 ⁽¹⁾	HP BLc10Gb SR SFP+ (455883)

(1) Only equip ports connected to blades equipped in the enclosure, see Table 5 for cross reference.

The internal connection in the HP enclosure is shown in Table 5.

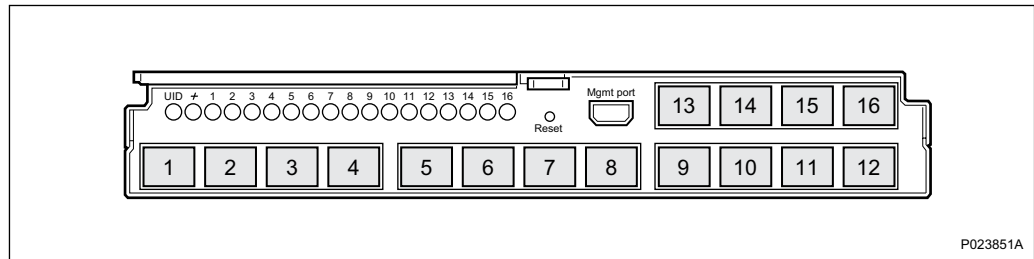


Figure 8 HP 10Gbit/s Pass-Thru Module for LAN/SAN

Table 5 Blade to Port Cross Reference

Blade in Front Bay No per Enclosure	Connected to Pass-Thru Module in Bay 3 Port No	Connected to Pass-Thru Module in Bay 4 Port No	Connected to Pass-Thru Module in Bay 5 Port No	Connected to Pass-Thru Module in Bay 6 Port No
1 (17,33)	1	1	1	1
2 (18,34)	2	2	2	2
3 (19,35)	3	3	3	3
4 (20,36)	4	4	4	4
5 (21,37)	5	5	5	5
6 (22,38)	6	6	6	6
7 (23,39)	7	7	7	7
8 (24,40)	8	8	8	8
9 (25,41)	9	9	9	9
10 (26,42)	10	10	10	10
11 (27,43)	11	11	11	11
12 (28,44)	12	12	12	12
13 (29,45)	13	13	13	13
14 (30,46)	14	14	14	14
15 (31,47)	15	15	15	15
16 (32,48)	16	16	16	16

7.2 Switch Units

This section describes how to equip ports in Extreme Switches.

Table 6 QSFP+ Modules for Extreme Switch X770 Traffic

Ports	Type of QSFP+ Module
Ports 1–48	40GBASE-SR4 QSFP+ (10319)



Ports	Type of QSFP+ Module
Port 52	40GBASE-SR4 QSFP+ (10319)
Ports 85–92 ⁽¹⁾	40GBASE-SR4 QSFP+ (10319)

(1) Use 85–92 for 48 blades with 80 GB bandwidth to BGw. For 80 blades or 120 GB, use 85–100 (add 93–100).

Table 7 QSFP+ Modules for Extreme Switch X770 Storage

Ports	Type of QSFP+ Module
Ports 1–48	40GBASE-SR4 QSFP+ (10319)
Port 52	40GBASE-SR4 QSFP+ (10319)
Ports 93–100	40GBASE-SR4 QSFP+ (10319)

Table 8 SFP+ Modules for Extreme Switch X460 Control

Ports	Type of SFP+ Module
Ports 49–50	SR SFP+ module (10301)

8 Installing Internal Cables

This section describes how to connect internal cables. Mark the cables according to local requirements before connecting them.

8.1 Connecting Power Cables

Connect AC power cables from the distribution power outlets in the cabinet to the power inlet connectors on the units:



Danger!

Improper electrical installation may cause fire or electric shock that is likely to be fatal. Only a qualified and authorized electrician is permitted to install or modify electrical installations.



- HP Enclosure (six cables) to the cabinet AC power distribution bar. The supplied cables have three flat pins in the AC power distribution bar end, use the appropriate cables for this.
C19 cables are to be used.
- Storage units (two cables)
C13 cables are to be used.
- Extreme switches (two per switch, six switches) to the AC distribution units. Use two cables for each Extreme switch unit, one to side A, and one to side B.
C13 cables are to be used.

See also Table 1 and 2 to secure redundancy when connecting the power cables.

8.2 Connecting Control Cables

This section describes how to connect the subrack management control cables.

The tables in this document include subrack management connections to the local control switch. Subrack management connections can also be connected to a separate site-specific HW management system, depending on customer solution.

Connect cables for control network between the units according to information found in the following tables.

8.2.1 Control Switch A

This section describes how to connect the control cables to control switch A.

Table 9 Control Switch A Cabling

From Port	Connector	Cable Type	Connector	To Enclosure	To Unit	To Port
1	RJ45	RJ45 - RJ45	RJ45	E0	VC Flex B1	X1
9	RJ45	RJ45 - RJ45	RJ45	E1	VC Flex B1	X1
17	RJ45	RJ45 - RJ45	RJ45	E2	VC Flex B1	X1
41	RJ45	RJ45 - RJ45	RJ45	EMC	SC	A
42	RJ45	RJ45 - RJ45	RJ45	E0	OA	left
43	RJ45	RJ45 - RJ45	RJ45	E1	OA	left
44	RJ45	RJ45 - RJ45	RJ45	E2	OA	left
49	LC/LC A1/B1	8f OM3 MPO-LC	MPO	Traffic Switch A		52
50	LC/LC A1/B1	8f OM3 MPO-LC	MPO	Storage Switch A		52



From Port	Connector	Cable Type	Connector	To Enclosure	To Unit	To Port
51		DAC		Control Switch B		51
52		DAC		Control Switch B		52

8.2.2 Control Switch B

This section describes how to connect the control cables to control switch B.

Table 10 Control Switch B Cabling

From Port	Connector	Cable Type	Connector	To Enclosure	To Unit	To Port
1	RJ45	RJ45 - RJ45	RJ45	E0	VC Flex B2	X1
9	RJ45	RJ45 - RJ45	RJ45	E1	VC Flex B2	X1
17	RJ45	RJ45 - RJ45	RJ45	E2	VC Flex B2	X1
41	RJ45	RJ45 - RJ45	RJ45	EMC	SC	B
42	RJ45	RJ45 - RJ45	RJ45	E0	OA	right
43	RJ45	RJ45 - RJ45	RJ45	E1	OA	right
44	RJ45	RJ45 - RJ45	RJ45	E2	OA	right
49	LC/LC A1/B1	8f OM3 MPO-LC	MPO	Traffic Switch B		52
50	LC/LC A1/B1	8f OM3 MPO-LC	MPO	Storage Switch B		52
51	Info only, cable shown in table for Switch A. Inter Switch Link			Control Switch A		51
52				Control Switch A		52

8.3 Connecting Traffic and Storage Cables

This section describes how to connect optical cables for the Ericsson Cloud System.



Danger!

Equipment that transmits laser light can cause permanent eye damage. Never look directly into the end of a fiber optic cable or other laser source. Switch off the laser before starting work on laser equipment.



- Note:** Exercise care when handling optical cables:
- Optical cables must not be bent in a radius smaller than 50 mm.
 - Do not touch the connector ends.
 - Remove the protective caps in SFP+ and cable connectors before connecting them.
 - Do not leave SFP+ modules and Optical connectors without the protective caps, remove caps only when they are to be connected.

Connect the optical cables as shown in the following tables.

8.3.1 Three Enclosures Using X770

The traffic and storage switch cabling for three enclosures using Extreme switch X770 and VNX5400 are shown in this section:

- **Traffic switch A** connections are shown in Table 11.
- **Traffic switch B** connections are shown in Table 12.
- **Storage switch A** connections are shown in Table 13.
- **Storage switch B** connections are shown in Table 14.

8.3.1.1 Traffic Switch A

Table 11 Traffic Switch A Cables

From Traffic Switch A Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
1–4	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 3	E0
			LC/LC A2/B2	2	Pass-Thru, Bay 3	
			LC/LC A3/B3	3	Pass-Thru, Bay 3	
			LC/LC A4/B4	4	Pass-Thru, Bay 3	
5–8	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 3	
			LC/LC A2/B2	6	Pass-Thru, Bay 3	
			LC/LC A3/B3	7	Pass-Thru, Bay 3	
			LC/LC A4/B4	8	Pass-Thru, Bay 3	
9–12	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 3	
			LC/LC A2/B2	10	Pass-Thru, Bay 3	
			LC/LC A3/B3	11	Pass-Thru, Bay 3	
			LC/LC A4/B4	12	Pass-Thru, Bay 3	
13–16	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 3	
			LC/LC A2/B2	14	Pass-Thru, Bay 3	
			LC/LC A3/B3	15	Pass-Thru, Bay 3	
			LC/LC A4/B4	16	Pass-Thru, Bay 3	



From Traffic Switch A Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
17–20	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 3	E1
			LC/LC A2/B2	2	Pass-Thru, Bay 3	
			LC/LC A3/B3	3	Pass-Thru, Bay 3	
			LC/LC A4/B4	4	Pass-Thru, Bay 3	
21–24	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 3	
			LC/LC A2/B2	6	Pass-Thru, Bay 3	
			LC/LC A3/B3	7	Pass-Thru, Bay 3	
			LC/LC A4/B4	8	Pass-Thru, Bay 3	
25–28	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 3	
			LC/LC A2/B2	10	Pass-Thru, Bay 3	
			LC/LC A3/B3	11	Pass-Thru, Bay 3	
			LC/LC A4/B4	12	Pass-Thru, Bay 3	
29–32	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 3	
			LC/LC A2/B2	14	Pass-Thru, Bay 3	
			LC/LC A3/B3	15	Pass-Thru, Bay 3	
			LC/LC A4/B4	16	Pass-Thru, Bay 3	
33–36	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 3	E2
			LC/LC A2/B2	2	Pass-Thru, Bay 3	
			LC/LC A3/B3	3	Pass-Thru, Bay 3	
			LC/LC A4/B4	4	Pass-Thru, Bay 3	
37–40	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 3	
			LC/LC A2/B2	6	Pass-Thru, Bay 3	
			LC/LC A3/B3	7	Pass-Thru, Bay 3	
			LC/LC A4/B4	8	Pass-Thru, Bay 3	
41–44	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 3	
			LC/LC A2/B2	10	Pass-Thru, Bay 3	
			LC/LC A3/B3	11	Pass-Thru, Bay 3	
			LC/LC A4/B4	12	Pass-Thru, Bay 3	
45–48	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 3	
			LC/LC A2/B2	14	Pass-Thru, Bay 3	
			LC/LC A3/B3	15	Pass-Thru, Bay 3	
			LC/LC A4/B4	16	Pass-Thru, Bay 3	
85–88	MPO	8f OM3 MPO-LC	LC/LC A1/B1		BGw A 4 × 10GE	
			LC/LC A2/B2		BGw A 4 × 10GE	
			LC/LC A3/B3		BGw A 4 × 10GE	
			LC/LC A4/B4		BGw A 4 × 10GE	



From Traffic Switch A Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
89–92	MPO	8f OM3 MPO-LC	LC/LC A1/B1		BGw A 4 × 10GE	
			LC/LC A2/B2		BGw A 4 × 10GE	
			LC/LC A3/B3		BGw A 4 × 10GE	
			LC/LC A4/B4		BGw A 4 × 10GE	
101	DAC			101	Traffic Switch B	
102	DAC			102	Traffic Switch B	

8.3.1.2 Traffic Switch B

Table 12 Traffic Switch B Cables

From Traffic Switch B Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
1–4	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 4	E0
			LC/LC A2/B2	2	Pass-Thru, Bay 4	
			LC/LC A3/B3	3	Pass-Thru, Bay 4	
			LC/LC A4/B4	4	Pass-Thru, Bay 4	
5–8	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 4	
			LC/LC A2/B2	6	Pass-Thru, Bay 4	
			LC/LC A3/B3	7	Pass-Thru, Bay 4	
			LC/LC A4/B4	8	Pass-Thru, Bay 4	
9–12	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 4	
			LC/LC A2/B2	10	Pass-Thru, Bay 4	
			LC/LC A3/B3	11	Pass-Thru, Bay 4	
			LC/LC A4/B4	12	Pass-Thru, Bay 4	
13–16	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 4	
			LC/LC A2/B2	14	Pass-Thru, Bay 4	
			LC/LC A3/B3	15	Pass-Thru, Bay 4	
			LC/LC A4/B4	16	Pass-Thru, Bay 4	



From Traffic Switch B Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
17–20	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 4	E1
			LC/LC A2/B2	2	Pass-Thru, Bay 4	
			LC/LC A3/B3	3	Pass-Thru, Bay 4	
			LC/LC A4/B4	4	Pass-Thru, Bay 4	
21–24	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 4	
			LC/LC A2/B2	6	Pass-Thru, Bay 4	
			LC/LC A3/B3	7	Pass-Thru, Bay 4	
			LC/LC A4/B4	8	Pass-Thru, Bay 4	
25–28	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 4	
			LC/LC A2/B2	10	Pass-Thru, Bay 4	
			LC/LC A3/B3	11	Pass-Thru, Bay 4	
			LC/LC A4/B4	12	Pass-Thru, Bay 4	
29–32	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 4	
			LC/LC A2/B2	14	Pass-Thru, Bay 4	
			LC/LC A3/B3	15	Pass-Thru, Bay 4	
			LC/LC A4/B4	16	Pass-Thru, Bay 4	
33–36	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 4	E2
			LC/LC A2/B2	2	Pass-Thru, Bay 4	
			LC/LC A3/B3	3	Pass-Thru, Bay 4	
			LC/LC A4/B4	4	Pass-Thru, Bay 4	
37–40	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 4	
			LC/LC A2/B2	6	Pass-Thru, Bay 4	
			LC/LC A3/B3	7	Pass-Thru, Bay 4	
			LC/LC A4/B4	8	Pass-Thru, Bay 4	
41–44	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 4	
			LC/LC A2/B2	10	Pass-Thru, Bay 4	
			LC/LC A3/B3	11	Pass-Thru, Bay 4	
			LC/LC A4/B4	12	Pass-Thru, Bay 4	
45–48	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 4	
			LC/LC A2/B2	14	Pass-Thru, Bay 4	
			LC/LC A3/B3	15	Pass-Thru, Bay 4	
			LC/LC A4/B4	16	Pass-Thru, Bay 4	
85–88	MPO	8f OM3 MPO-LC	LC/LC A1/B1		BGw B 4 × 10GE	
			LC/LC A2/B2		BGw B 4 × 10GE	
			LC/LC A3/B3		BGw B 4 × 10GE	
			LC/LC A4/B4		BGw B 4 × 10GE	



From Traffic Switch B Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
89–92	MPO	8f OM3 MPO-LC	LC/LC A1/B1		BGw B 4 × 10GE	
			LC/LC A2/B2		BGw B 4 × 10GE	
			LC/LC A3/B3		BGw B 4 × 10GE	
			LC/LC A4/B4		BGw B 4 × 10GE	
101	Info only, cable shown in table for Traffic Switch A			101	Traffic Switch A	
102				102	Traffic Switch A	

8.3.1.3 Storage Switch A

Table 13 Storage Switch A Cables

From Storage Switch A Port	Connector	Cable Type	Connector	To Port	To Unit	To Enclosure
1–4	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 5	E0
			LC/LC A2/B2	2	Pass-Thru, Bay 5	
			LC/LC A3/B3	3	Pass-Thru, Bay 5	
			LC/LC A4/B4	4	Pass-Thru, Bay 5	
5–8	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 5	
			LC/LC A2/B2	6	Pass-Thru, Bay 5	
			LC/LC A3/B3	7	Pass-Thru, Bay 5	
			LC/LC A4/B4	8	Pass-Thru, Bay 5	
9–12	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 5	
			LC/LC A2/B2	10	Pass-Thru, Bay 5	
			LC/LC A3/B3	11	Pass-Thru, Bay 5	
			LC/LC A4/B4	12	Pass-Thru, Bay 5	
13–16	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 5	
			LC/LC A2/B2	14	Pass-Thru, Bay 5	
			LC/LC A3/B3	15	Pass-Thru, Bay 5	
			LC/LC A4/B4	16	Pass-Thru, Bay 5	



From Storage Switch A Port	Connector	Cable Type	Connector	To Port	To Unit	To Enclosure
17–20	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 5	E1
			LC/LC A2/B2	2	Pass-Thru, Bay 5	
			LC/LC A3/B3	3	Pass-Thru, Bay 5	
			LC/LC A4/B4	4	Pass-Thru, Bay 5	
21–24	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 5	
			LC/LC A2/B2	6	Pass-Thru, Bay 5	
			LC/LC A3/B3	7	Pass-Thru, Bay 5	
			LC/LC A4/B4	8	Pass-Thru, Bay 5	
25–28	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 5	
			LC/LC A2/B2	10	Pass-Thru, Bay 5	
			LC/LC A3/B3	11	Pass-Thru, Bay 5	
			LC/LC A4/B4	12	Pass-Thru, Bay 5	
29–32	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 5	
			LC/LC A2/B2	14	Pass-Thru, Bay 5	
			LC/LC A3/B3	15	Pass-Thru, Bay 5	
			LC/LC A4/B4	16	Pass-Thru, Bay 5	
33–36	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 5	E2
			LC/LC A2/B2	2	Pass-Thru, Bay 5	
			LC/LC A3/B3	3	Pass-Thru, Bay 5	
			LC/LC A4/B4	4	Pass-Thru, Bay 5	
37–40	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 5	
			LC/LC A2/B2	6	Pass-Thru, Bay 5	
			LC/LC A3/B3	7	Pass-Thru, Bay 5	
			LC/LC A4/B4	8	Pass-Thru, Bay 5	
41–44	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 5	
			LC/LC A2/B2	10	Pass-Thru, Bay 5	
			LC/LC A3/B3	11	Pass-Thru, Bay 5	
			LC/LC A4/B4	12	Pass-Thru, Bay 5	
45–48	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 5	
			LC/LC A2/B2	14	Pass-Thru, Bay 5	
			LC/LC A3/B3	15	Pass-Thru, Bay 5	
			LC/LC A4/B4	16	Pass-Thru, Bay 5	



From Storage Switch A Port	Connector	Cable Type	Connector	To Port	To Unit	To Enclosure
93–96	MPO	8f OM3 MPO-LC	LC/LC A1/B1	LC/LC A1 - 0	Storage Processor A	
			LC/LC A2/B2	LC/LC A2 - 0	Storage Processor A	
			LC/LC A3/B3	Not connected		
			LC/LC A4/B4	Not connected		
97–100	MPO	8f OM3 MPO-LC	LC/LC A1/B1	B1 - 0	Storage Processor B	
			LC/LC A2/B2	B2 - 0	Storage Processor B	
			LC/LC A3/B3	Not connected		
			LC/LC A4/B4	Not connected		
101	DAC			101	Storage Switch B	
102	DAC			102	Storage Switch B	

8.3.1.4 Storage Switch B

Table 14 Storage Switch B Cables

From Storage Switch B Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
1–4	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 6	E0
			LC/LC A2/B2	2	Pass-Thru, Bay 6	
			LC/LC A3/B3	3	Pass-Thru, Bay 6	
			LC/LC A4/B4	4	Pass-Thru, Bay 6	
5–8	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 6	
			LC/LC A2/B2	6	Pass-Thru, Bay 6	
			LC/LC A3/B3	7	Pass-Thru, Bay 6	
			LC/LC A4/B4	8	Pass-Thru, Bay 6	
9–12	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 6	
			LC/LC A2/B2	10	Pass-Thru, Bay 6	
			LC/LC A3/B3	11	Pass-Thru, Bay 6	
			LC/LC A4/B4	12	Pass-Thru, Bay 6	
13–16	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 6	
			LC/LC A2/B2	14	Pass-Thru, Bay 6	
			LC/LC A3/B3	15	Pass-Thru, Bay 6	
			LC/LC A4/B4	16	Pass-Thru, Bay 6	



From Storage Switch B Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
17–20	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 6	E1
			LC/LC A2/B2	2	Pass-Thru, Bay 6	
			LC/LC A3/B3	3	Pass-Thru, Bay 6	
			LC/LC A4/B4	4	Pass-Thru, Bay 6	
21–24	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 6	
			LC/LC A2/B2	6	Pass-Thru, Bay 6	
			LC/LC A3/B3	7	Pass-Thru, Bay 6	
			LC/LC A4/B4	8	Pass-Thru, Bay 6	
25–28	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 6	
			LC/LC A2/B2	10	Pass-Thru, Bay 6	
			LC/LC A3/B3	11	Pass-Thru, Bay 6	
			LC/LC A4/B4	12	Pass-Thru, Bay 6	
29–32	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 6	
			LC/LC A2/B2	14	Pass-Thru, Bay 6	
			LC/LC A3/B3	15	Pass-Thru, Bay 6	
			LC/LC A4/B4	16	Pass-Thru, Bay 6	
33–36	MPO	8f OM3 MPO-LC	LC/LC A1/B1	1	Pass-Thru, Bay 6	E2
			LC/LC A2/B2	2	Pass-Thru, Bay 6	
			LC/LC A3/B3	3	Pass-Thru, Bay 6	
			LC/LC A4/B4	4	Pass-Thru, Bay 6	
37–40	MPO	8f OM3 MPO-LC	LC/LC A1/B1	5	Pass-Thru, Bay 6	
			LC/LC A2/B2	6	Pass-Thru, Bay 6	
			LC/LC A3/B3	7	Pass-Thru, Bay 6	
			LC/LC A4/B4	8	Pass-Thru, Bay 6	
41–44	MPO	8f OM3 MPO-LC	LC/LC A1/B1	9	Pass-Thru, Bay 6	
			LC/LC A2/B2	10	Pass-Thru, Bay 6	
			LC/LC A3/B3	11	Pass-Thru, Bay 6	
			LC/LC A4/B4	12	Pass-Thru, Bay 6	
45–48	MPO	8f OM3 MPO-LC	LC/LC A1/B1	13	Pass-Thru, Bay 6	
			LC/LC A2/B2	14	Pass-Thru, Bay 6	
			LC/LC A3/B3	15	Pass-Thru, Bay 6	
			LC/LC A4/B4	16	Pass-Thru, Bay 6	



From Storage Switch B Port	Connector	Cable Type	Connector	To Port	To Unit	Enclosure
93–96	MPO	8f OM3 MPO-LC	LC/LC A1/B1	LC/LC A1 - 1	Storage Processor A	
			LC/LC A2/B2	LC/LC A2 - 1	Storage Processor A	
			LC/LC A3/B3	Not connected		
			LC/LC A4/B4	Not connected		
97–100	MPO	8f OM3 MPO-LC	LC/LC A1/B1	B1 - 1	Storage Processor B	
			LC/LC A2/B2	B2 - 1	Storage Processor B	
			LC/LC A3/B3	Not connected		
			LC/LC A4/B4	Not connected		
101	Info only, cable shown in table for Storage Switch A			101	Storage Switch A	
102				102	Storage Switch A	

8.3.1.5 Enclosure Cables

Table 15 Inter-enclosure Cabling

From		Cable	To	
Enclosure	Port		Port	Enclosure
E0	Link up	RJ45	Link down	E1
E1	Link up	RJ45	Link down	E2

9 Powering On

This section describes how to power on the Ericsson Cloud System.

Do the following:

1. Make sure that all units and fuses on the PDUs are switched off.
2. Switch on the AC power outside the cabinet.
3. Switch on the fuses for the storage system on the PDU and switch on the storage system main switch.



4. Switch on the fuses for the control switches on the PDU and switch on the AC power switch on the control switches.
5. Switch on the fuses for the storage and traffic switches on the PDU and switch on the AC power switch on the storage and traffic switches.
6. Switch on the fuses for the HP enclosures and switch on the AC power switch on the HP systems.
7. Verify that the indicators are on for all units in the cabinet. Refer to instructions supplied with each unit for information about the interpretation of the indicators.
8. Report any findings to the implementation project.

10 Post Installation Activities

10.1 Concluding Routines

Before leaving the site, perform the following procedure:

1. Clean the site and remove objects such as wrapping paper and cable clippings.
2. Dispose of waste in accordance with local regulations.
3. Fill in the verification checklist in the *Site Installation Documentation*.
4. Report any faults according to local requirements.
5. Lock Cabinets (if applicable).
6. Hand over the Site Installation Documentation to the person responsible for the site.
7. Lock all doors and gates to the site.

Ericsson strongly recommends that installers pay particular attention to the environment when cleaning the site after installation. In particular, recycle all waste that can be recycled, and sort the rest so that they can be disposed of in accordance with local regulations. Use the checklist in Table 16 to recycle and sort waste after the procedures in this instruction have been completed.



Table 16 Waste Recycling and Sorting Checklist

Recycle or Sort As	Item	YES	N/A
Metals	Nuts, bolts, washers, and screws		
	Pieces of cable with high metallic content		
	Waste metal from cable ladders		
Paper	Paper		
Plastics	Bubble plastic		
	Cable insulation from crimping, brazing, or welding		
	Cable tie clippings		
	Foam		
	Packing chips		
	Pieces of cable with low metallic content		
	Polystyrene		
Wood	Wood		
Notes:			

- Report to the implementation project that the hardware installation is complete and that the system is ready for software installation.

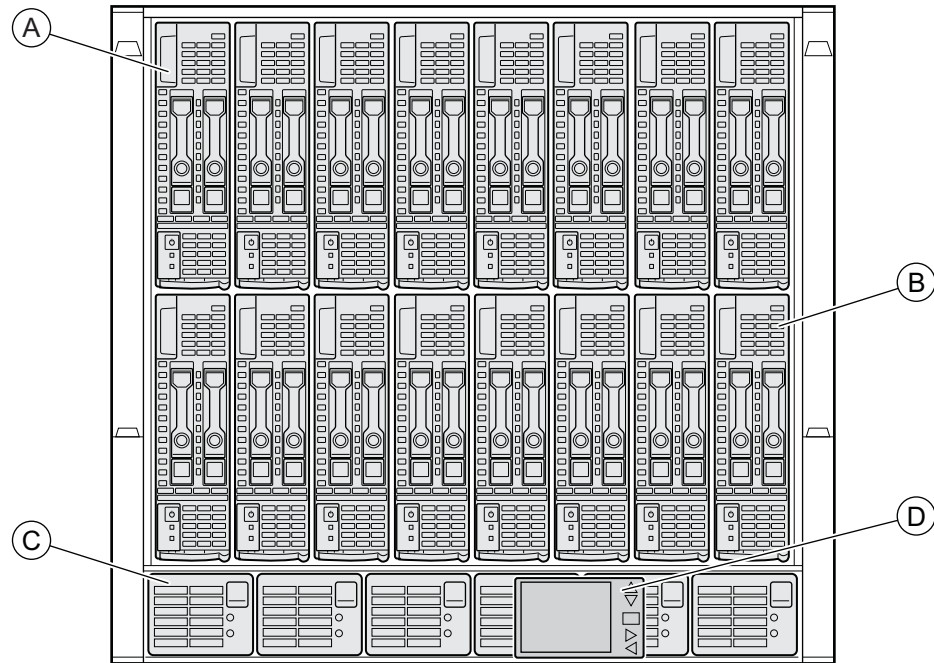
11 Reference Information

This section contains drawings showing the connectors on the related units.

Note: All illustrations in this document are examples. The actual appearance can differ depending on the hardware ordered.

11.1 HP Enclosure and Units

The HP c7000 Enclosure and the contained units are explained by the figures and tables of this section.

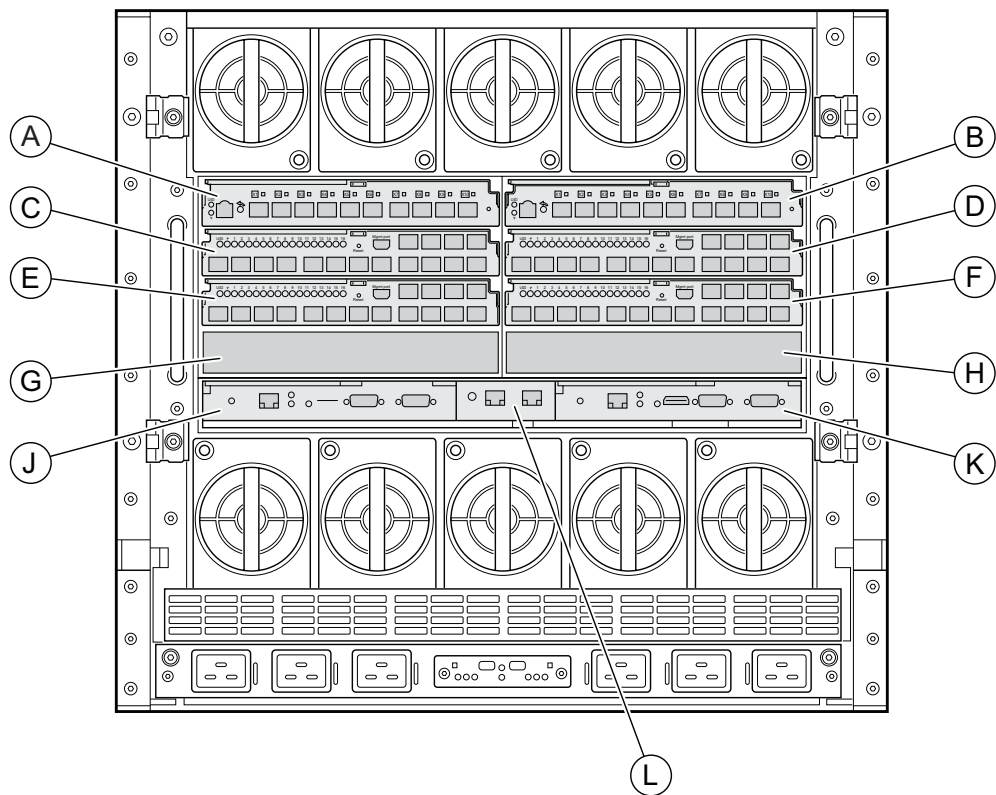


P023906B

Figure 9 HP c7000 Enclosure, Front Side

Table 17 HP Front Units

Item	Description
A	HP Blade, bay 1
B	Space for HP Blade, bay 8
C	PSU, one of six
D	Insight display



P023854B

Figure 10 HP Enclosure Rear Side

Table 18 Administrator Modules

Position	Bay	Description
A and B	1 and 2	VC Flex 10/10D Modules for control switching, see Figure 11
C, D, E, and F	3, 4, 5, and 6	HP 10Gbit/s Pass-Thru Modules for LAN/SAN, see Figure 12
G and H	7 and 8	Not used, interconnect blanks
J	Left	OA Module, Left, Bay 1, see Figure 13
K	Right	OA Module, Right, Bay 2, see Figure 13
L	Enclosure control	OA tray. Enclosure link-down and link-up ports

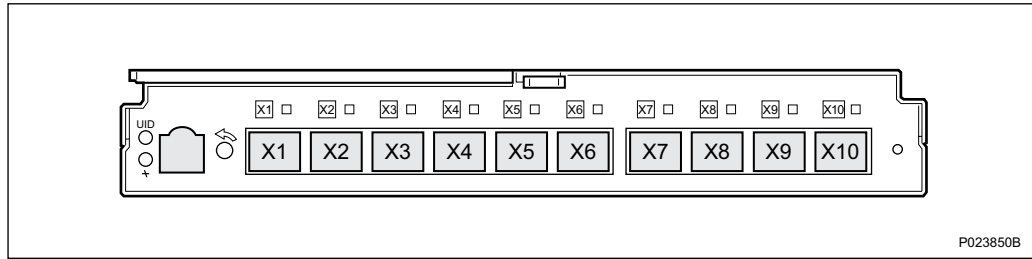


Figure 11 VC Flex 10/10D Module

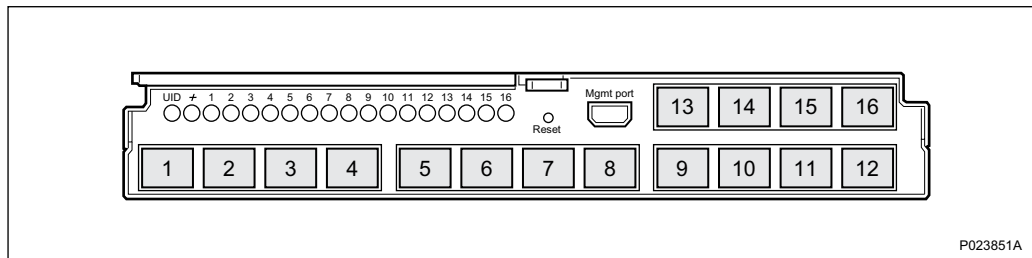


Figure 12 HP 10Gbit/s Pass-Thru Module for LAN/SAN

Ports 1 - 16 must be equipped with the applicable SPF+ modules.

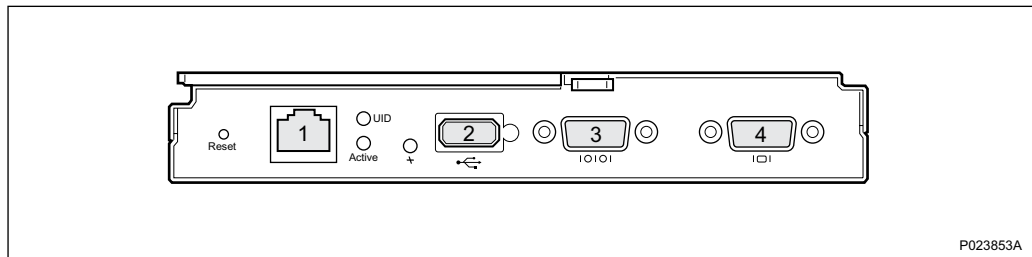


Figure 13 OA Module

11.2 Switches

11.2.1 Extreme Switch X460

The X460 switch front contains 48 RJ-45 ports and 4 SFP+ cages which can be equipped with SFP+ modules.

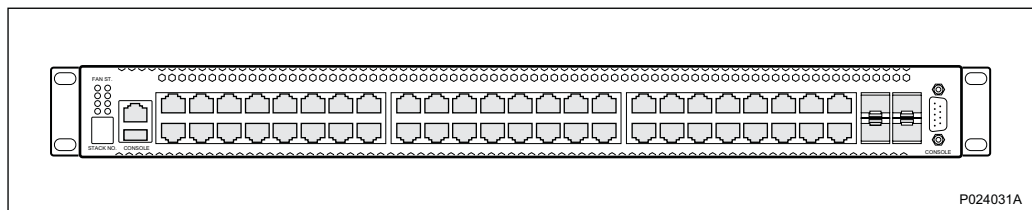


Figure 14 Switch X460, Front

The rear of the X460 switch has air intakes for the fans and AC power inlets.

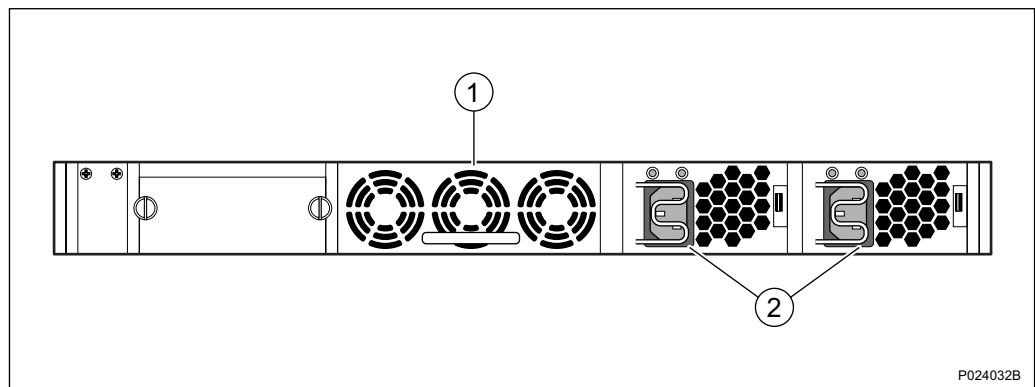


Figure 15 Switch X460, Rear

Table 19 Switch X460 Rear Items

Pos	Description
1	Fans, three are used for redundancy.
2	Power Units (AC shown). Two power units are used for redundancy.

11.2.2

Extreme Switch X770

The X770 switch has 32 QSFP+ cages in the front panel. Each QSFP+ has four LC connectors or one MPO-8f connector. In this application, the switch is equipped with QSPF modules in a configuration with connectors 1 through 104 as shown in Figure 16.

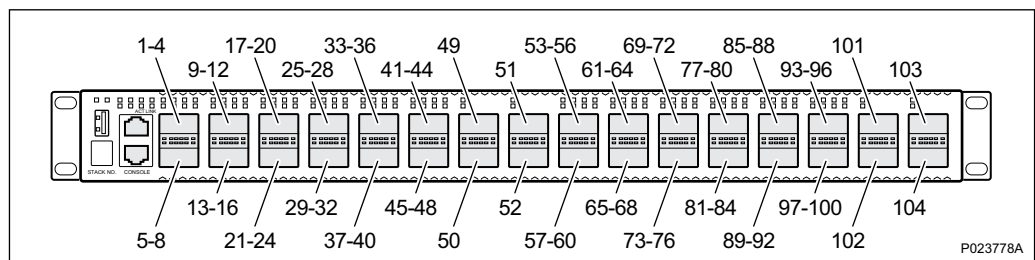


Figure 16 Switch X770, Front

The rear of the X770 switch has air intakes for the fans and AC power or DC power inlets.

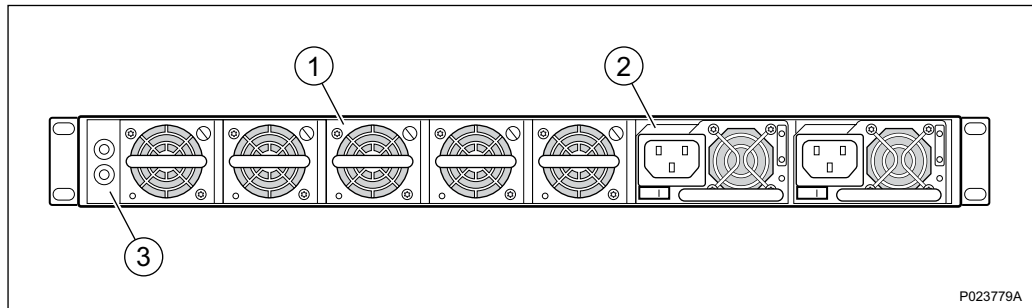


Figure 17 Switch X770, Rear

Table 20 Switch X770 Rear Items

Pos	Description
1	FAN units, up to five are used for redundancy.
2	Power Units (AC shown). Two power units are used for redundancy.

11.3 Storage Units

EMC VNX5400

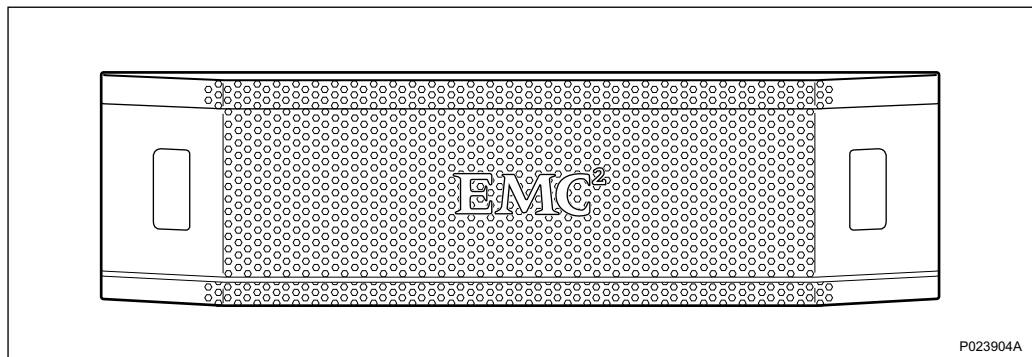


Figure 18 VNX5400, Front

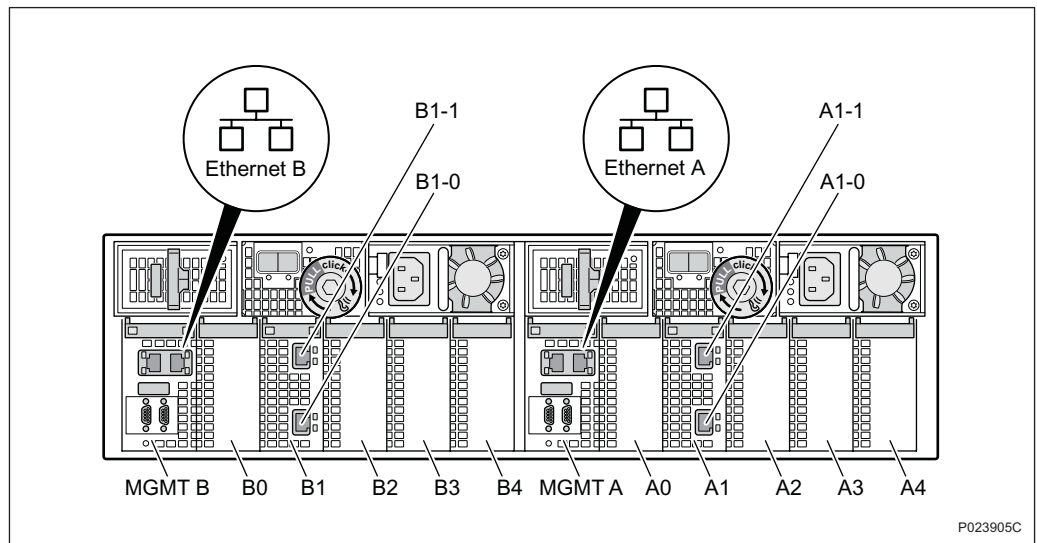


Figure 19 VN5400, Rear



Reference List

- [1] *Safety Rules for Work with Power, Climate and Energy-Supervision Equipment*, 2/1550-CNH 10803 Uen, available at Ericsson support