Connecting the Cisco UCS 6300 Series Fabric Interconnect

Preparing for Network Connections

The Cisco UCS 6300 Series Fabric Interconnect provides the following types of ports:

- RS-232 port to create a local management connection.
- Ethernet ports, encrypted and unencrypted, to connect to a LAN.
- Fibre Channel ports to connect to a SAN.

When preparing your site for network connections to the Cisco UCS 6300 Series Fabric Interconnect, consider the following for each type of interface, and gather all the required equipment before connecting the ports:

- Cabling required for each interface type
- Distance limitations for each signal type
- Additional interface equipment required

Tip You can save time and confusion when making cabling changes if you make a copy of the Chassis and Module Information and keep it accurate for your current configuration.

Connecting to the Console Port

Caution You can connect the console port to a modem. If you do not connect it to a modem, connect it either before powering on the system or after the system has completed the boot process.

The console port on a Cisco UCS fabric interconnect provides an RS-232 serial connection over an RJ-45 interface. This interface can be used for the following tasks:

- Perform initial setup on a newly installed system that does not yet have other connectivity options
- Perform software recovery tasks when other connectivity is unavailable
- Monitor network statistics and errors
- Configure SNMP agent parameters
- Download software updates

Any device connected to this port must be capable of asynchronous transmission.

Before you begin

You may have to acquire some or all of the following:

- The Cisco serial console management cable.
- A USB to DB9 serial adapter and any drivers the adapter requires.
- Terminal emulation software such as PuTTY, HyperTerminal or Procomm Plus.
- A computer that can support VT100 terminal emulation.

Procedure

Step 1 Plug the RJ-45 end of the serial management cable into the console port on the fabric interconnect, and connect the DB-9 male end into the serial port on a laptop or other computer.

If the computer you will use does not have a serial port, you will need to use the Serial to USB adapter. Be sure to install the drivers for your adapter.

Step 2 Start your terminal software.

Step 3 Configure the terminal software as follows:

- The COM port for the connection you are about to establish is the connection to the fabric interconnect. You may need to look in the computer's device manager to confirm this.
- The other connection parameters are 9600 baud, 8 data bits, no parity, 1 stop bit.

Step 4 Use the terminal software's command to open the connection to the fabric interconnect.

A session window will start and you will see one of the following prompts:

```
loader>
```

or

```
switch(boot)#
```

or

```
FI-A(local-mgmt)#
```

You now have terminal access. Depending on the prompt, you may have all Cisco UCS Manager CLI commands or a very abbreviated set of configuration commands.

Connecting the Management Port

Caution To prevent an IP address conflict, do not connect the management port to the network until the initial configuration is complete. For configuration instructions, see the *Configuration Guide* for the version of Cisco UCS Manager that you are using. The configuration guides are available at this URL: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides-list.html

The Ethernet management connector port has an RJ-45 interface that will connect to an external hub, switch, or router.

Procedure

Step 1 Connect the appropriate modular cable to the Ethernet management connector port:

- Use modular, RJ-45, straight-through UTP cables to connect the port to an Ethernet switch or hub.
- Use a cross-over cable to connect to a router interface.

Step 2 Connect the other end of the cable to the device.

Connecting to an SFP+ Ethernet or Fibre Channel Port

Installing or Removing SFP Transceivers

Caution Excessively removing and installing an SFP transceiver can shorten its life. Do not remove and install transceivers more often than necessary. We recommend that you disconnect cables before installing or removing SFP transceivers to prevent damage to the cable or transceiver.

Use an SFP transceiver to connect to a Fibre Channel port.

Installing a Transceiver

Use an SFP+ transceiver to connect to an Ethernet or Fibre Channel port.

Procedure

Step 1 Attach an ESD wrist strap and follow the instructions for its use.

Step 2 Remove the dust cover from the port cage.

Step 3 Remove the dust cover from the port end of the transceiver.

Step 4 Insert the transceiver into the port:

- If the transceiver has a Mylar tab, position the transceiver with the tab on the bottom, and then gently insert the transceiver into the port until it clicks into place.
- If the transceiver has a bale clasp, position the transceiver with the clasp on the bottom, close the clasp by pushing it up over the transceiver, and then gently insert the transceiver into the port until it clicks into place.
- If the transceiver does not install easily, ensure that it is correctly positioned and the tab or clasp are in the correct position before continuing.

Note If you cannot install the cable into the transceiver, insert or leave the dust plug in the cable end of the transceiver.

Removing a Transceiver

Use an SFP+ transceiver to connect to an Ethernet or Fibre Channel port.

Caution Excessively installing and removing an SFP or SFP+ transceiver can shorten its life. Do not remove and install transceivers unless it is absolutely necessary. We recommend disconnecting cables before installing or removing transceivers to prevent damage to the cable or transceiver.

Procedure

Step 1 Attach an ESD wrist strap and follow the instructions for its use.

Step 2 If a cable is installed in the transceiver:

a) Record the cable and port connections for later reference.

b) Press the release latch on the cable, grasp the connector near the connection point, and gently pull the connector from the transceiver.

c) Insert a dust plug into the cable end of the transceiver.

If the transceiver does not remove easily in the next step, push the transceiver completely in and then ensure that the latch is in the correct position before continuing.

Step 3 Remove the transceiver from the port:

- If the transceiver has a Mylar tab latch, gently pull the tab straight out (do not twist), and then pull the transceiver out of the port.
- If the transceiver has a bale clasp latch, open the clasp by pressing it downwards, and then pull the transceiver out of the port.

Note If you cannot remove the SFP+ transceiver, reseat it by returning the bale clasp to the up position. Press the SFP+ transceiver inward and upward into the cage. Next, lower the bale clasp and pull the SFP+ transceiver straight out with a slight upward lifting force. Be careful not to damage the port cage during this process.

Step 4 Insert a dust cover into the port end of the transceiver and place the transceiver on an antistatic mat or into a static shielding bag if you plan to return it to the factory.

Step 5 If another transceiver is not being installed, protect the optical cage by inserting a clean cover.

Installing or Removing Cables into SFP or SFP+ Trancsceivers

Installing a Cable into a Transceiver

Caution To prevent damage to the copper cables, do not place more tension on them than the rated limit and do not bend to a radius of less than 1 inch if there is no tension in the cable, or 2 inches if there is tension in the cable.

Caution To prevent possible damage to the cable or transceiver, install the transceiver in the port before installing the cable in the transceiver.

Procedure

Step 1 Attach an ESD wrist strap and follow its instructions for use.

Step 2 Remove the dust cover from the connector on the cable.

Step 3 Remove the dust cover from the cable end of the transceiver.

Step 4 Align the cable connector with the transceiver and insert the connector into the transceiver until it clicks into place.

If the cable does not install easily, ensure that it is correctly positioned before continuing.

For instructions on verifying connectivity, see the *Configuration Guide* for the version of Cisco UCS Manager that you are using. The configuration guides are available at this URL: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides-list.htm.

Removing a Cable from a Transceiver

Caution To prevent damage to the copper cables, do not place more tension on them than the rated limit and do not bend to a radius of less than 1 inch if there is no tension in the cable, or 2 inches if there is tension in the cable.

Caution When pulling a cable from a transceiver, grip the body of the connector. Do not pull on the jacket sleeve, because this action can compromise the fiber-optic termination in the connector.

Caution If the cable cannot be easily removed, ensure that any latch present on the cable has been released before continuing.

Procedure

Step 1 Attach an ESD wrist strap and follow the instructions for its use.

Step 2 Press the release latch on the cable, grasp the connector near the connection point, and gently pull the connector from the transceiver.

Step 3 Insert a dust plug into the cable end of the transceiver.

Step 4 Insert a dust plug onto the end of the cable.

Connecting to a Fibre Channel Port

Installing or Removing SFP+ Transceivers

Installing an SFP Transceiver

Caution Excessively removing and installing an SFP transceiver can shorten its life. Do not remove and install transceivers more often than necessary. We recommend that you disconnect cables before installing or removing SFP transceivers to prevent damage to the cable or transceiver.

Procedure

Step 1 Attach an ESD wrist strap and follow the instructions for its use.

Step 2 Remove the dust cover from the port cage.

Step 3 Remove the dust cover from the port end of the transceiver.

Step 4 Insert the transceiver into the port:

- If the transceiver has a Mylar tab, position the transceiver with the tab on the bottom, and then gently insert the transceiver into the port until it clicks into place.
- If the transceiver has a bale clasp, position the transceiver with the clasp on the bottom, close the clasp by pushing it up over the transceiver, and then gently insert the transceiver into the port until it clicks into place.

Caution If the transceiver does not install easily, ensure that it is correctly positioned and the tab or clasp are in the correct position before continuing.

Note If you cannot install the cable into the transceiver, insert or leave the dust plug in the cable end of the transceiver.

Removing an SFP Transceiver

Procedure

Step 1 Attach an ESD wrist strap and follow the instructions for its use.

Step 2 If a cable is installed in the transceiver, do the following:

a) Record the cable and port connections for later reference.
b) Press the release latch on the cable, grasp the connector near the connection point, and gently pull the connector from the transceiver.
c) Insert a dust plug into the cable end of the transceiver.

Step 3 Remove the transceiver from the port:

- If the transceiver has a Mylar tab latch, gently pull the tab straight out (do not twist), and then pull the transceiver out of the port.
- If the transceiver has a bale clasp latch, open the clasp by pressing it downwards, and then pull the transceiver out of the port.

Note If you have difficulty removing a bale clasp SFP transceiver, reseat the SFP by returning the bale clasp to the up position. Press the SFP inward and upward into the cage. Next, lower the bale clasp and pull the SFP straight out with a slight upward lifting force. Be careful not to damage the port cage during this process.

Step 4 Insert a dust cover into the port end of the transceiver and place the transceiver on an antistatic mat or into a static-shielding bag if you plan to return it to the factory.

Step 5 If another transceiver is not being installed, protect the optical cage by inserting a clean cover.

Installing or Removing Cables into SFP Transceivers

Caution To prevent damage to the fiber-optic cables, do not place more tension on them than the rated limit and do not bend to a radius of less than 1 inch if there is no tension in the cable, or 2 inches if there is tension in the cable.

Installing a Cable into an SFP Transceiver

Caution To prevent possible damage to the cable or transceiver, install the transceiver in the port before installing the cable in the transceiver.

Procedure

Step 1 Attach an ESD wrist strap and follow the instructions for its use.

Step 2 Remove the dust cover from the connector on the cable.

Step 3 Remove the dust cover from the cable end of the transceiver.

Step 4 Align the cable connector with the transceiver and insert the connector into the transceiver until it clicks into place.

If the cable does not install easily, ensure that it is correctly positioned before continuing.

For instructions on verifying connectivity, see the *Configuration Guide* for the version of Cisco UCS Manager that you are using. The configuration guides are available at this URL: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides-list.html

Removing a Cable from an SFP Transceiver

Caution When pulling a cable from a transceiver, grip the body of the connector. Do not pull on the jacket sleeve, because this action can compromise the fiber-optic termination in the connector.

Caution If the cable cannot be easily removed, ensure that any latch present on the cable has been released before continuing.

Procedure

Step 1 Attach an ESD wrist strap and follow the instructions for its use.

Step 2 Press the release latch on the cable, grasp the connector near the connection point, and gently pull the connector from the transceiver.

Step 3 Insert a dust plug into the cable end of the transceiver.

Step 4 Insert a dust plug onto the end of the cable.

Maintaining SFP28 Transceivers and Fiber-Optic Cables

SFP28, SFP+ transceivers, and fiber-optic cables must be kept clean and dust-free to maintain high signal accuracy and prevent damage to the connectors. Attenuation (loss of light) is increased by contamination and should be kept below 0.35 dB.

Consider the following maintenance guidelines:

- Transceivers are static sensitive. To prevent ESD damage, wear an ESD wrist strap that is connected to the chassis.
- Do not remove and insert a transceiver more often than is necessary. Repeated removals and installation can shorten its useful life.
- Keep all optical connections covered when not in use. If they become dusty, clean before using to prevent dust from scratching the fiber-optic cable ends.
- Do not touch ends of connectors, ensuring that they remain free of fingerprints and other contamination.
- Clean regularly; the required frequency of cleaning depends upon the environment. In addition, clean connectors if they are exposed to dust or are accidentally touched. Both wet and dry cleaning techniques can be effective. Refer to fiber-optic cleaning procedures for your site.
- Inspect routinely for dust and damage. If damage is suspected, clean and then inspect fiber ends under a microscope to determine if damage has occurred.