

# Sun Datacenter InfiniBand Switch 72

## Getting Started Guide

This guide describes the minimum steps you must perform to bring the Sun Datacenter InfiniBand Switch 72 from Oracle® online for the first time. Please read the entire contents of this guide.

Detailed installation information about all tasks in this document can be found in the *Sun Datacenter InfiniBand Switch 72 User's Guide*, which is available at the Sun documentation web site:

<http://docs.sun.com/app/docs/prod/ib.switch.72>

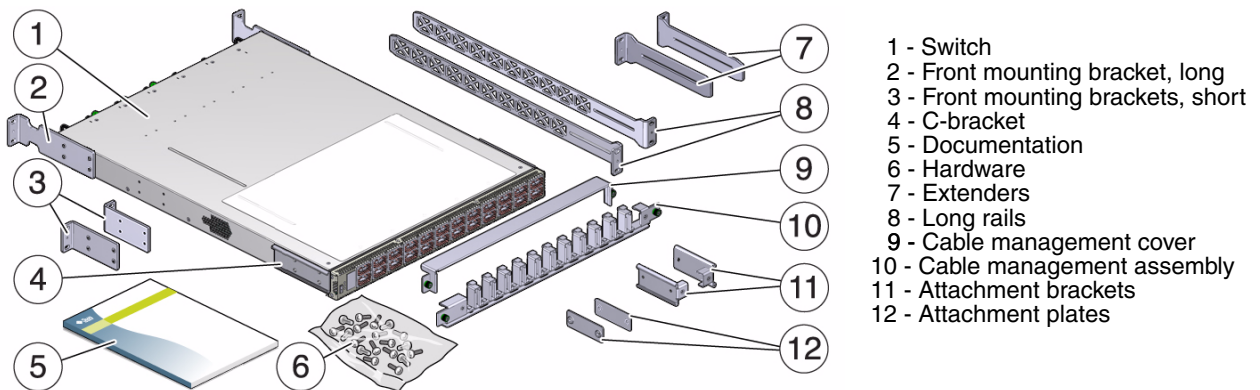
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**Note** – You must read the *Sun Datacenter InfiniBand Switch 72 User's Guide* before installing your switch.

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Refer to the section “[Product Documentation](#)” at the end of this document for a complete list of documentation for this system.

### Contents



### Safety and Compliance Information

Before performing an installation, refer to the following documents for safety information:

- *Important Safety Information for Sun Hardware Systems* – Printed document included in the shipping kit.
- *Sun Datacenter InfiniBand Switch 72 Safety and Compliance Guide* – Available at the Sun documentation web site.

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## ▼ Mount the Switch Chassis in a Rack



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**Caution** – The rear of the switch chassis intakes from the cold aisle and the front of the switch chassis exhausts to the hot aisle. This flow direction is the opposite of most rack-mounted components and might require you to install the switch in an orientation that is opposite of the following instructions.

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1. **Open the rack doors.**
2. **Assemble the cable management extenders. Perform Steps 2a to 2d for each extender.**
  - a. **Slide the attachment bracket over the extender, so that the tab on the bracket is opposite the flange of the extender.**

The open end of the tab is toward the flange. The flat end of the tab is toward the rear of the extender.
  - b. **Place the attachment plate on the flange side of the extender, opposite the attachment bracket.**
  - c. **Use two screws to sandwich the attachment bracket and plate to the extender, in the position farthest from the flange.**
  - d. **Using a No. 2 Phillips screwdriver, tighten the two screws.**
3. **Attach the cable management extenders and long rails to the rear of the rack. Perform Steps 3a to 3c for each side of the rack.**
  - a. **Place the long rail to the mounting location on the rear rack post.**
  - b. **Butt the flange of the extender to the flange of the long rail**
  - c. **Secure the assembly to the post with two captive nuts and two screws.**
4. **Attach the long front brackets to the front of the switch with four screws on each side and the C-brackets to the rear of the switch with four screws on each side.**
5. **Route the power cords through the rack with the female end at the front of the rack where the switch will install.**

Ensure that there is 24 inches (610 mm) of power cord slack at the front of the rack to provide an adequate service loop should you remove the switch from the rack in the future.
6. **Carefully lift the switch into the front of the rack and slide the rear of the switch onto the long rails.**

Ensure that the ends of the long rails slide into the C-brackets at the rear of the switch chassis and that the power cords lie in the cut-outs of the long front mounting brackets.
7. **Mount the front of the switch chassis to the rack posts with two captive nuts and two screws at each side.**

Tighten the screws securely.
8. **Install the cable management bracket to the tabs of the attachment brackets, tightening the thumbscrews on each side of the cable management bracket.**

## ▼ Connect the Management Cables

1. **Connect an Ethernet cable between the switch NET0 port and the network that is configured with a DHCP server.**

Connections to the management controller are made through DHCP.

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## 2. Configure your DHCP server to provide a host name and address to the switch.

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**Note** – If a DHCP server is not available, the switch will default to static IP 169.254.0.36/16. Alternatively, you can connect a USB-to-serial adapter cable between the switch’s USB port and a terminal device. This connection provides alternative communication with the management controller. The terminal device must be configured 115200 baud, 8 bit, no parity, 1 stop bit. See the *Sun Datacenter InfiniBand Switch 72 User’s Guide* for more information.

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## 3. Route the management cables so that they do not interfere with other cables, with servicing the switch, or with other systems.

### ▼ Power On the Switch

1. Activate the management console so that it is ready to communicate with the management controller.
2. Plug the power cords into the receptacles at the front of the switch chassis and into separate power sources.

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**Note** – To provide redundancy, connect each power cord to a separate power source. The switch can operate with only one power connection, but there is no redundancy in that case.

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The AC LED on each power supply lights green. In a moment, the OK LED lights green, power is supplied, the fans spin up, and the management controller boots.

- If the AC LED does not light, there is something wrong with supplied power.
  - If the OK LED does not light, there is something wrong with the power supply.
  - If the Attention LED on a power supply lights amber, there is a fault in the power supply.
  - If the Attention LED on a fan lights amber, there is a fault with that fan.
3. Route the power cords so that they do not interfere with other cables, with servicing the switch, or with other systems.
  4. Begin network communication with the management controller using the `ssh` command and the hostname configured with the DHCP server:

```
% ssh -l root nm2name
root@nm2name's password: password
#
```

where *nm2name* is the host name provided by DHCP. The name might be the word `hostname`.

Initially, the *password* is `changeme`. You can change the *password* at a later time.

If you do not see this output or prompt, there is a problem with the DHCP configuration, network communication, or the management controller.

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## 5. (Optional) Begin serial communication with the management controller:

```
...
CentOS release 5.2 (Final)
Kernel 2.6.27.13-nm2 on an i686

nm2name login:root
Password: password
#
```

where *nm2name* is the host name provided by DHCP. The name might be the word *hostname*.

Initially, the *password* is *changeme*. You can change the *password* at a later time.

If you do not see this output or prompt, there is a problem with the serial configuration, the USB-to-serial adapter, or the management controller.

## 6. Check the status of the management controller, power supplies, fans, and switch chip. Verify that the switch voltage and temperature values are within specification:

```
# showunhealthy
# env_test
```

An unfavorable output from these commands means a hardware fault with that particular component. A voltage or temperature deviating more than 10% from the provided specification means a problem with the respective component.

## ▼ Start the Subnet Manager

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**Note** – If your InfiniBand fabric is already active from a Subnet Manager external to the switch, set that Subnet Manager's priority to higher than 0. You do not have to start another Subnet Manager.

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### 1. Start the Subnet Manager:

```
# enablesm
```

### 2. (Optional) Set the Subnet Manager Priority:

```
# setsmpriority priority
# disablesm
# enablesm
```

where *priority* is 0 (lowest) to 13 (highest).

## ▼ Connect the InfiniBand Cables

### 1. Loosen the two thumbscrews that secure the cover to the cable management bracket and lift the cover off.

## 2. Connect InfiniBand cables. Perform Steps 2a to 2e for each InfiniBand cable.

As you connect InfiniBand cables, the Subnet Manager begins establishing links within and routes through the switch.

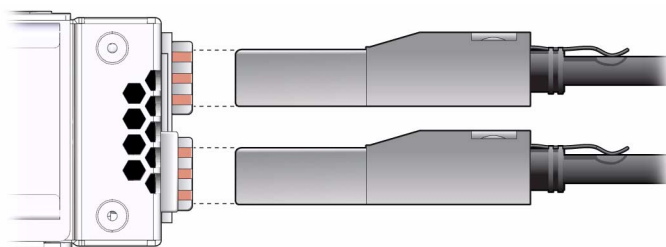


**Caution** – Do not allow any InfiniBand cable to bend tighter than a 5 inch (127 mm) radius. Tight bends can damage the cable internally.

### a. Remove the protective cap from the connector and visually inspect the InfiniBand cable.

If the CXP connector is bent or damaged, use a different cable.

### b. Orient the cable's CXP connector to the horizontal, ensuring that the upper shell just touches the underside of the top of the receptacle on the front panel.



### c. Slowly slide the connector into the receptacle.

As you slide the connector in, the top of the shell should scrape against the underside of the top of the CXP receptacle.

If the cable stops or binds after about 1/4 in. (5 mm) travel, back out and repeat from [Step b](#).

If the connector stops or binds with about 1/8 in. (2 mm) still to go, back out and repeat [Step c](#).

### d. Continue to push the connector in until the hooks catch onto the top of the receptacle.

### e. Place the cable into the open slot on the cable management bracket.

## 3. Replace the cover for the cable management bracket and tighten the thumbscrews.

## 4. Route the InfiniBand cables so that they do not interfere with other cables, with servicing the switch, or with other systems.

## 5. Check that the Link LEDs for cabled links are lit green.

If the Link LED is dark, the link is down. If the Link LED flashes, there are symbol errors.

## 6. Check the link status of the InfiniBand cables:

```
# listlinkup
```

- If the link for a connector is reported as "Not present", there is no cable attached or the link at either end of the cable is down.
- If a port "is down", use the `enableswitchport 0 portnumber` command to bring the port up. Alternatively, use the `i4reset` command to reset the entire switch chip.

## 7. Close the rack doors, if possible. Remove doors if necessary.

## ▼ Verify the InfiniBand Fabric

- ◆ Use the following commands on the management controller to verify the InfiniBand fabric is operational:
  - `ibdiagnet` - Performs diagnostics upon the InfiniBand fabric and reports status.
  - `ibnetdiscover` - Discovers and displays the InfiniBand fabric topology and connections.
  - `ibcheckerrors` - Checks the entire InfiniBand fabric for errors.

## Product Documentation

The following table lists the documentation currently applicable to Oracle's Sun Datacenter InfiniBand Switch 72. You can find the documents at:

<http://docs.sun.com/app/docs/prod/ib.switch.72>

Task	Document Type	Part Number
Review the safety information.	Safety and Compliance Manual	(820-7754)
	Important Safety Information for Sun Hardware Systems	(821-1590)
Review any known issues and workarounds.	Product Notes	(820-7753)
Install, administer, and service the switch.	User's Guide	(820-7751)
Learn about the command set.	Command Reference	(820-7752)

## Technical Support

If you have technical questions about this product that are not answered in this document, go to:

<http://www.sun.com/service/contacting>

## Documentation Feedback

Submit comments about this document by clicking the Feedback [+] link at <http://docs.sun.com>. Include the title and part number of your document with your feedback:

*Sun Datacenter InfiniBand Switch 72 Getting Started Guide*, part number 820-7755-11.

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