



Sun Storage J4200 Array Chassis Replacement Guide

Sun Microsystems, Inc.
www.sun.com

Part No. 820-4413-11
April 2008, Revision A

Submit comments about this document at: <http://www.sun.com/hwdocs/feedback>

Copyright 2008 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed at <http://www.sun.com/patents> and one or more additional patents or pending patent applications in the U.S. and in other countries.

This document and the product to which it pertains are distributed under licenses restricting their use, copying, distribution, and decompilation. No part of the product or of this document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any.

Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and in other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, AnswerBook2, docs.sun.com, and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and in other countries.

All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and in other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

U.S. Government Rights—Commercial use. Government users are subject to the Sun Microsystems, Inc. standard license agreement and applicable provisions of the FAR and its supplements.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2008 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, Californie 95054, Etats-Unis. Tous droits réservés.

Sun Microsystems, Inc. a les droits de propriété intellectuels relatants à la technologie qui est décrit dans ce document. En particulier, et sans la limitation, ces droits de propriété intellectuels peuvent inclure un ou plus des brevets américains énumérés à <http://www.sun.com/patents> et un ou les brevets plus supplémentaires ou les applications de brevet en attente dans les Etats-Unis et dans les autres pays.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a.

Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, AnswerBook2, docs.sun.com, et Solaris sont des marques de fabrique ou des marques déposées de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays.

Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciées de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

LA DOCUMENTATION EST FOURNIE "EN L'ÉTAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.



Contents

Replacing a J4200 Array Chassis	1
Prerequisites	1
Verifying a Chassis Failure	2
ESD Precautions	2
Removing a Chassis	3
Installing the New Chassis	11
Installing CRUs Into a New Chassis	13
Completing the Chassis Installation	17
Related Documentation	18
Service Contact Information	19

Replacing a J4200 Array Chassis

This document describes replacement procedures for the Sun Storage J4200 array chassis.



Caution – Only trained service personnel should remove the covers on this equipment.



Caution – The power supplies in this equipment can produce high energy hazards. Only instructed personnel with authorized access to this equipment can remove and replace modules in the system.

This product is intended for restricted access whereby access is controlled through the use of a means of security (for example, key, lock, tool, badge access), and personnel authorized for access have been instructed on the reasons for the restrictions and any precautions that need to be taken.

Prerequisites

Before you start to replace a failed chassis, you must:

- Back up all data stored on the array.
- Stop all system I/O to the array.
- Verify that the failed chassis is ready to be removed.
- Prepare the work site and observe all [“ESD Precautions”](#) on page 2.

Verifying a Chassis Failure

To determine that a chassis has failed, check the following:

- The array System Power/Status LED (tray front) is amber.
- The audible alarm is sounding.
- All of the component fault LEDs are green.
 - Disk drive ID/Status LEDs (tray front) are green
 - SIM Power LED (tray back) is green
 - Power supply module LEDs (tray back) are green
 - Fan module LEDs (tray back) are green

Note – A steady amber LED on any component, indicates a problem with that component.

ESD Precautions

Observe the following electrostatic discharge (ESD) precautions:

- Remove all plastic, vinyl, and foam material from the work area.
- Wear an antistatic wrist strap at all times when handling any CRU.
- Before handling any CRU, discharge any static electricity by touching a grounded surface.
- After removing a CRU from the cabinet, immediately place it on an antistatic mat.
- Handle any card CRU only by its edges and avoid touching the components or circuitry.
- Do not slide a CRU over any surface.
- Limit body movement (which builds up static electricity) during the removal and replacement of a CRU.

Removing a Chassis



Caution – You must remove power from the chassis that needs to be replaced before starting this procedure. All interconnection trays will be disrupted during this procedure. Powering off one tray causes loss of access to other trays in the array.

1. From the back of the cabinet, locate the chassis (also referred to as a tray) that is being replaced (see [“Verifying a Chassis Failure”](#) on page 2).
2. Disconnect the power cord from each power supply:
 - a. Pull the power cord latch up and over the power cord.
 - b. Disconnect the power cable from the power supply connector.

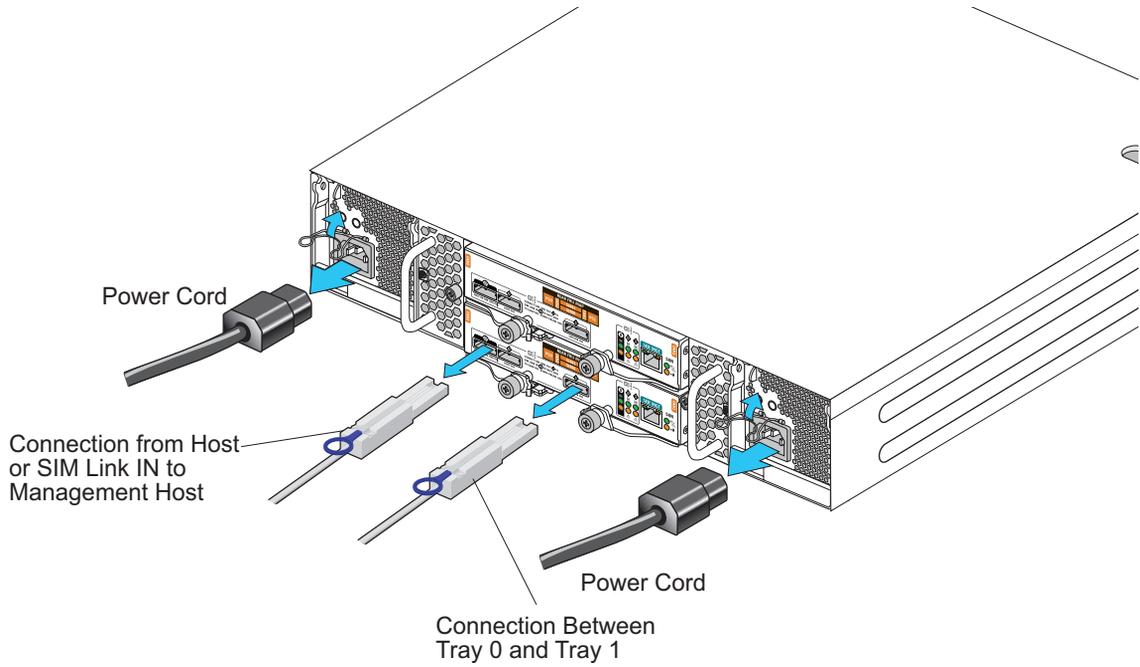


Caution – For products with multiple power cords, all power cords must be disconnected to completely remove power from the system.

3. Label each mini-SAS cable connection. For example, “Tray 1, SIM Link Out to Tray 0, Host or SIM Link IN.”
4. Disconnect the labeled mini-SAS cables from each SIM board.
 - a. Grasp the metal body of the connector with one hand, and use your other hand to firmly grasp and pull the tab.
 - b. Pull the tab gently toward the connector body and then with your other hand, extract the connector from the bulkhead.

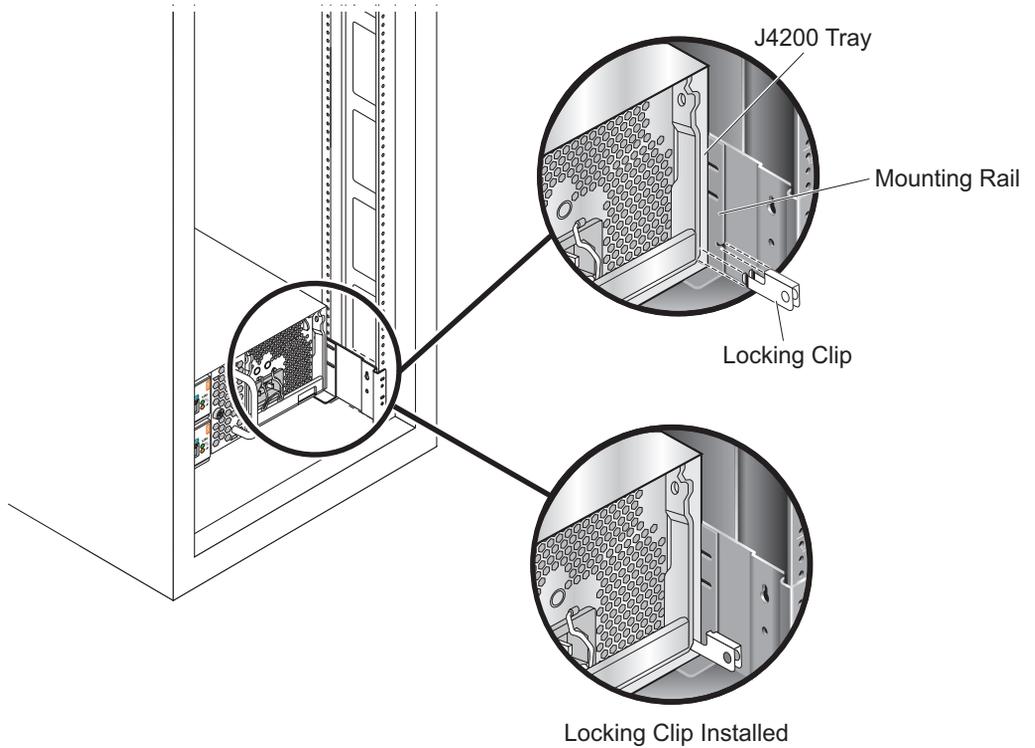
Note – Do not twist the tab or pull it in any direction other than parallel with the connector body. If the tab were to break, a small sharp object (such as a fine-tipped screwdriver) would be required to lift the metal spring at the top of the connector shell to unlatch it.

FIGURE 1 Removing the Power Cables and Mini-SAS Cables



5. Remove the two system locking clips from the lower corners of the chassis (FIGURE 2). You can use a Phillips head screwdriver for leverage to help you pull out each clip.

FIGURE 2 Removing the System Locking Clips



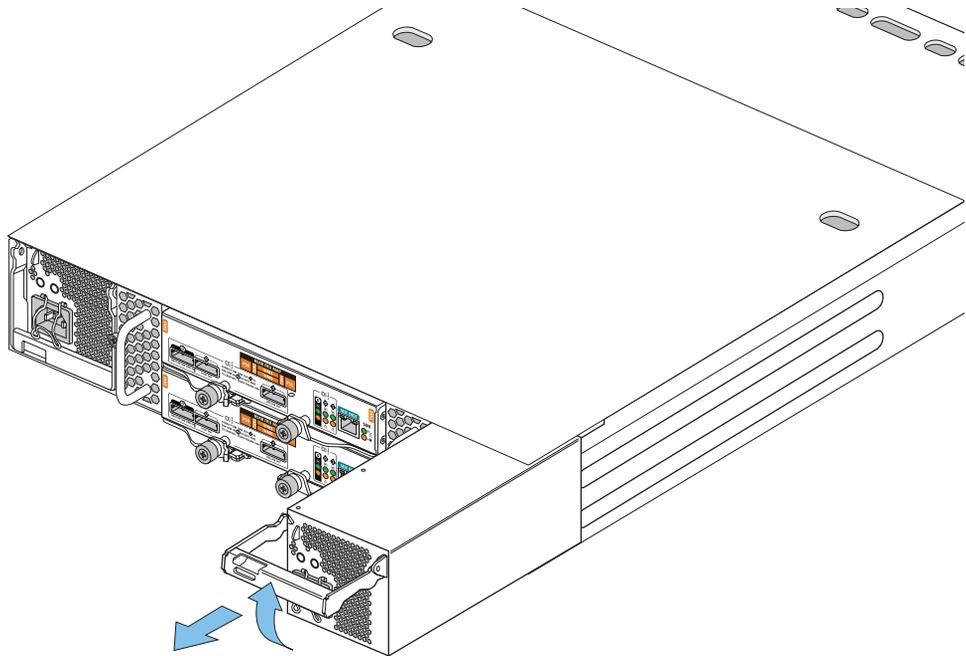
6. Remove each power supply from the chassis (FIGURE 3).



Caution – The power supplies in this equipment can produce high energy hazards. Only instructed personnel with authorized access to this equipment can remove and replace modules in the system.

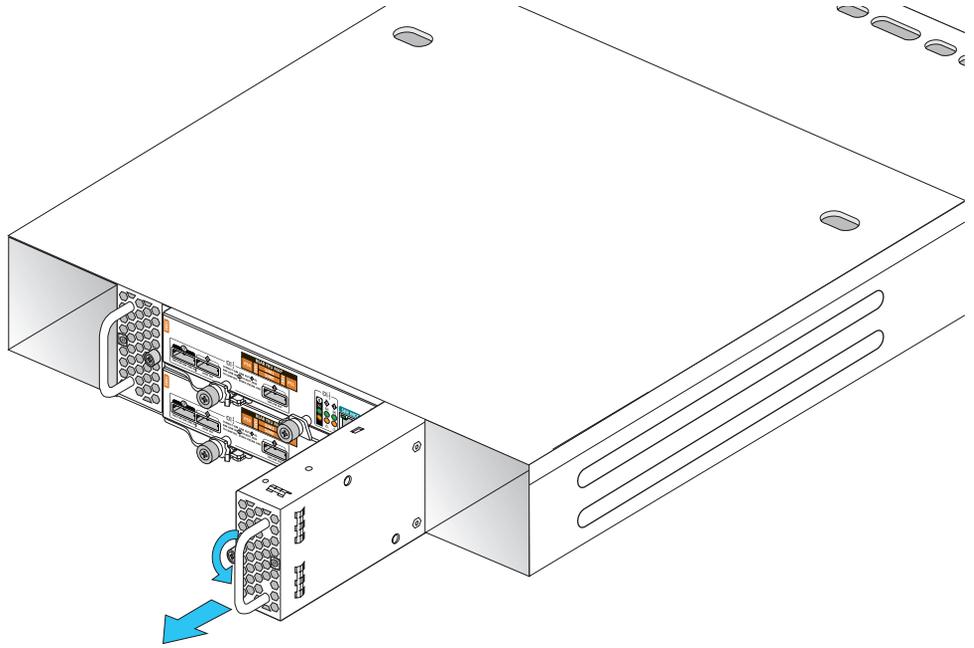
- a. Pull the power supply handle out and lift it up to disconnect the power supply from the tray.
- b. Pull the power supply out of the tray.
- c. Place the power supply aside.

FIGURE 3 Removing a Power Supply



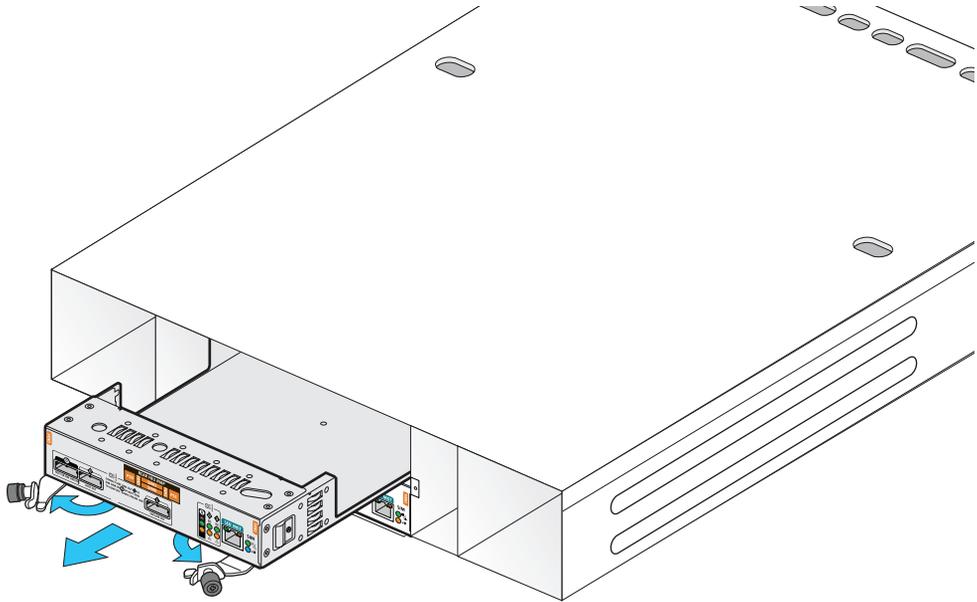
7. Remove each fan module from the chassis (FIGURE 4).
 - a. Loosen the captive screw on the fan module.
 - b. Pull the fan module handle toward you and pull the module out of the tray.
 - c. Place the fan module aside.

FIGURE 4 Removing a Fan Module



8. Remove each SIM board from the chassis (FIGURE 5).
 - a. Loosen the two captive screws on the SIM board.
 - b. Pull both ejector levers outward and pull the SIM board from chassis.
 - c. Place the SIM board aside.

FIGURE 5 Removing a SIM Board From the Chassis



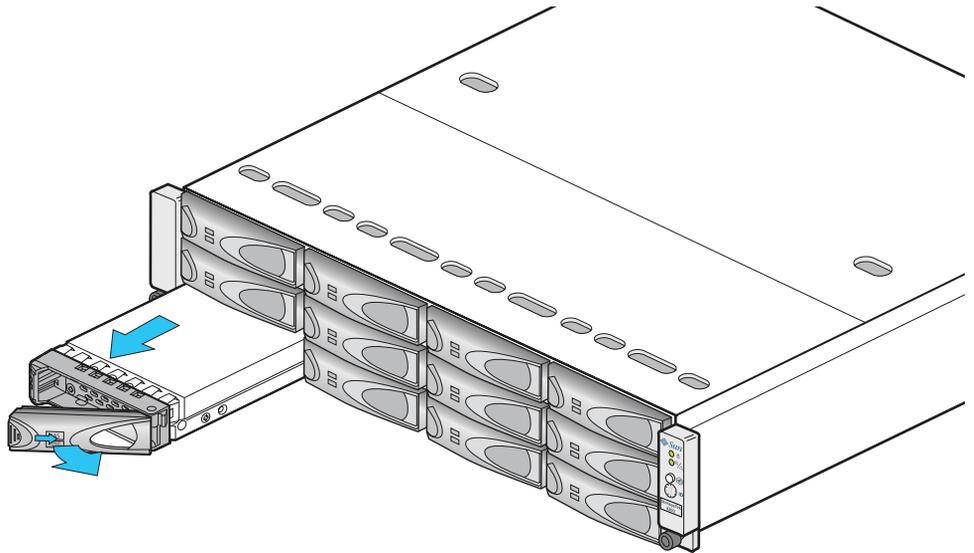
9. From the front of the cabinet, remove each disk drive and disk filler assembly (FIGURE 6).



Caution – Potential loss of data access - Data might be lost if an active disk drive is removed. If you remove an active disk drive accidentally, wait at least 30 seconds before reinserting it.

- a. Press the release button in and to the right to release the disk handle.
- b. Pull the disk handle to eject the disk drive from the tray.
- c. Grasp the middle of the disk drive and pull it toward you to remove it from the tray.
- d. Record the slot location on the outer drive casing. Use the same slot location when installing each disk drive in the new chassis.

FIGURE 6 Removing a Disk Drive or Disk Filler Assembly



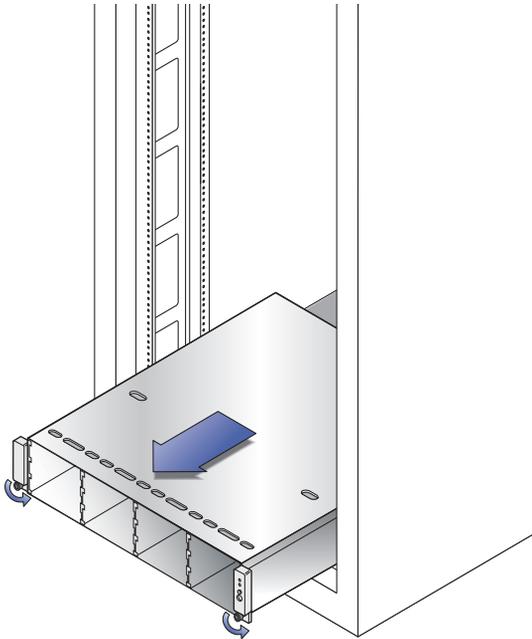
10. After you have removed all of the components from the chassis, remove the chassis from the cabinet (FIGURE 7).



Caution – The empty weight of a chassis is 9kg (20 lbs). You might need two people to remove the chassis from the cabinet.

- a. From the front of the cabinet, loosen the two captive screws on each side of the tray.
- b. Grasp each side of the chassis and pull it toward you, and remove it from the cabinet.

FIGURE 7 Removing the Failed Chassis From the Cabinet



- c. Package the failed chassis and return it to Sun, if instructed to do so, or properly dispose of the failed chassis.

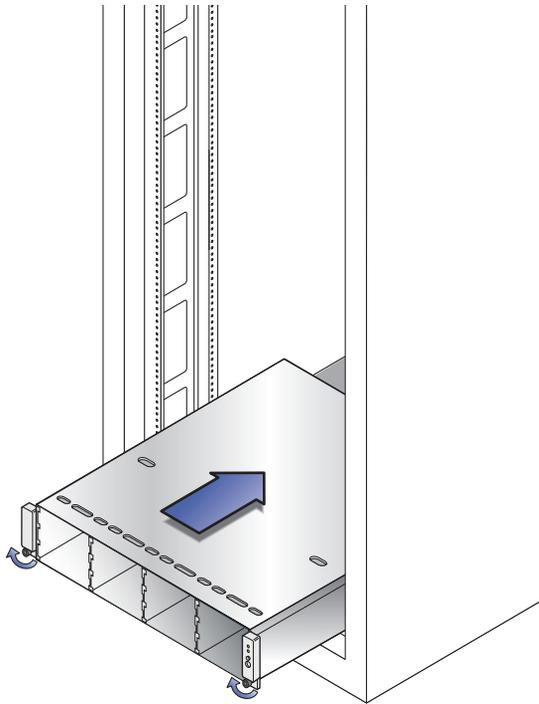
Installing the New Chassis



Caution – Follow all “ESD Precautions” on page 2 and use care when handling all components.

1. From the front of the cabinet, lift and slide the new chassis into the cabinet until the front flanges of the chassis touch the vertical face of the cabinet (FIGURE 8).

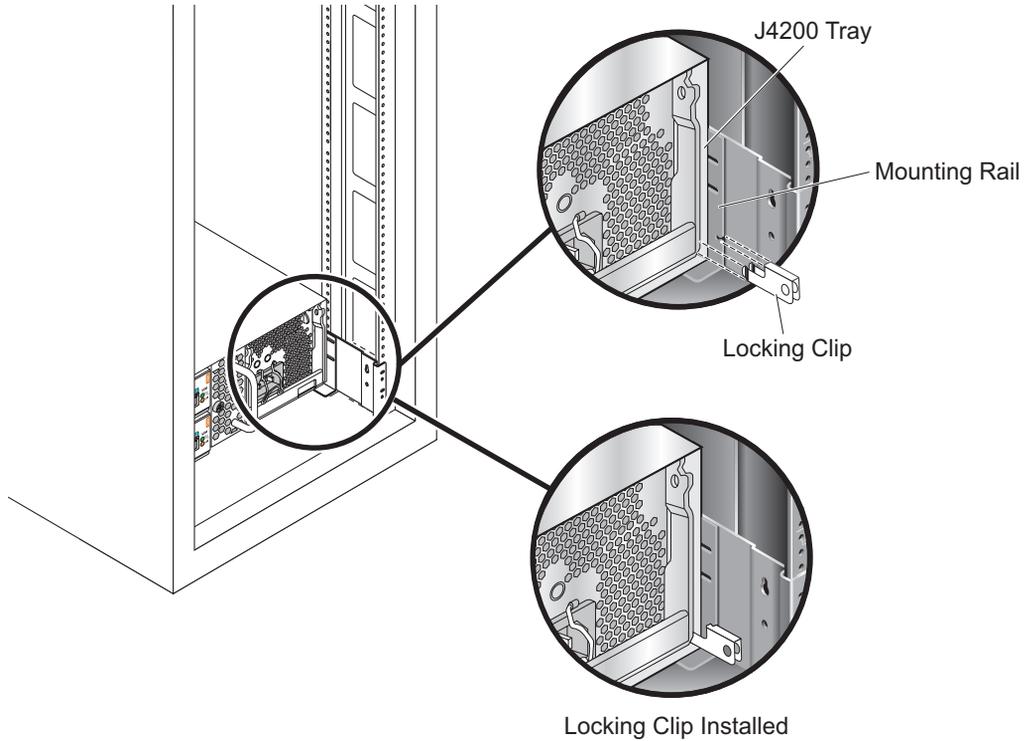
FIGURE 8 Installing the New Chassis in the Cabinet



2. Tighten the captive screw on each side of the tray front to secure the chassis to the cabinet.

3. At the back of the cabinet, slide a system locking clip onto each lower corner of the chassis (FIGURE 9). You can use a Phillips head screwdriver for leverage to help you push in the clip.

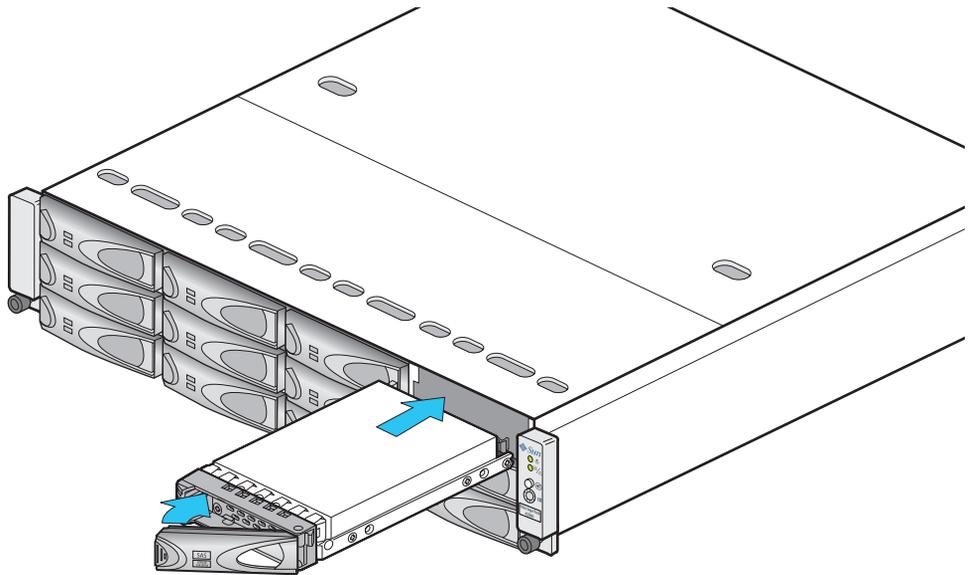
FIGURE 9 Installing the System Locking Clips



Installing CRUs Into a New Chassis

1. From the front of the cabinet, install each disk drive and disk filler assembly into the same slot each component occupied in the failed chassis (FIGURE 10). For each disk drive and disk filler assembly:
 - a. Align the disk component with the open slot and slide the drive into the tray.
 - b. Push the disk drive into the tray until the disk handle engages with the tray.
 - c. Press and close the disk handle to seat the drive into the tray.

FIGURE 10 Installing the Disk Drives and Filler Assemblies in New Chassis

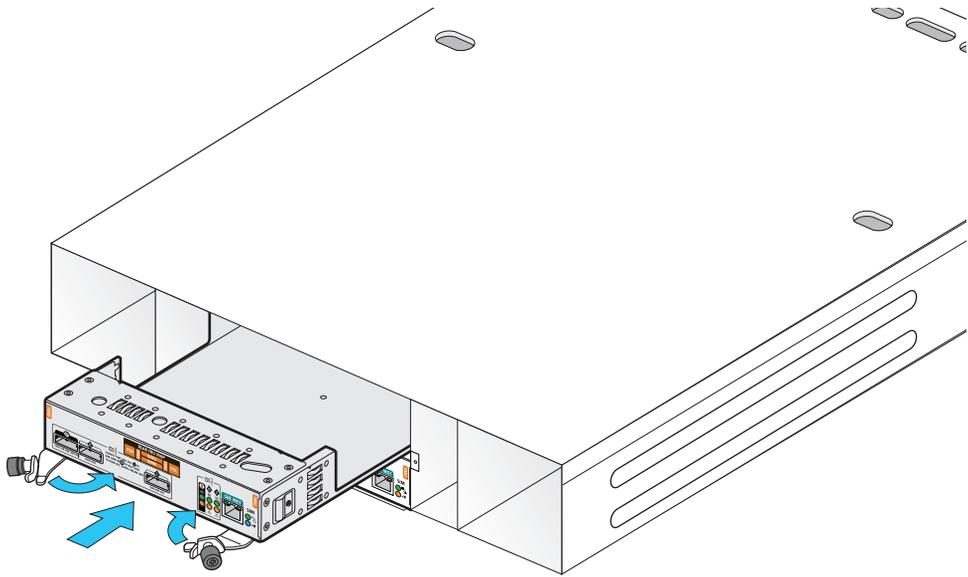


2. From the back of the cabinet, install the two SIM boards in the SIM slots (FIGURE 11).

For each SIM board:

- a. Align the SIM board with the open slot and slide it into the tray.
- b. Push the assembly into the tray until it engages with the tray connectors.
- c. Simultaneously push each ejector lever toward the middle of the board to seat it in the tray.
- d. Tighten each captive screw to secure the board.

FIGURE 11 Installing a SIM Board

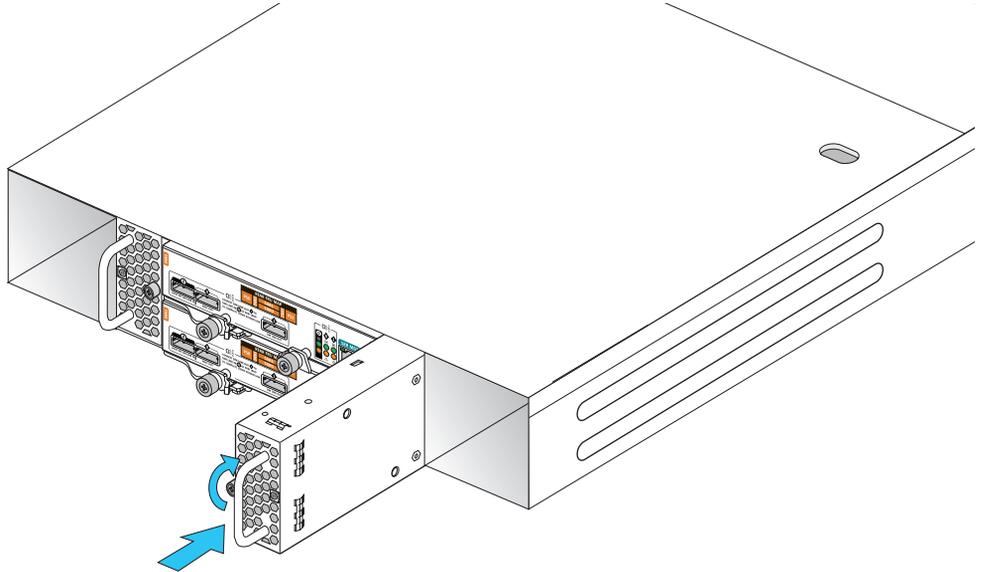


3. Install the two fan modules in the chassis slots (FIGURE 12).

For each fan module:

- a. Align the fan module with the open slot and push in to seat the module in the tray.
- b. Tighten the captive screw to secure the fan module to the tray.

FIGURE 12 Installing a Fan Module



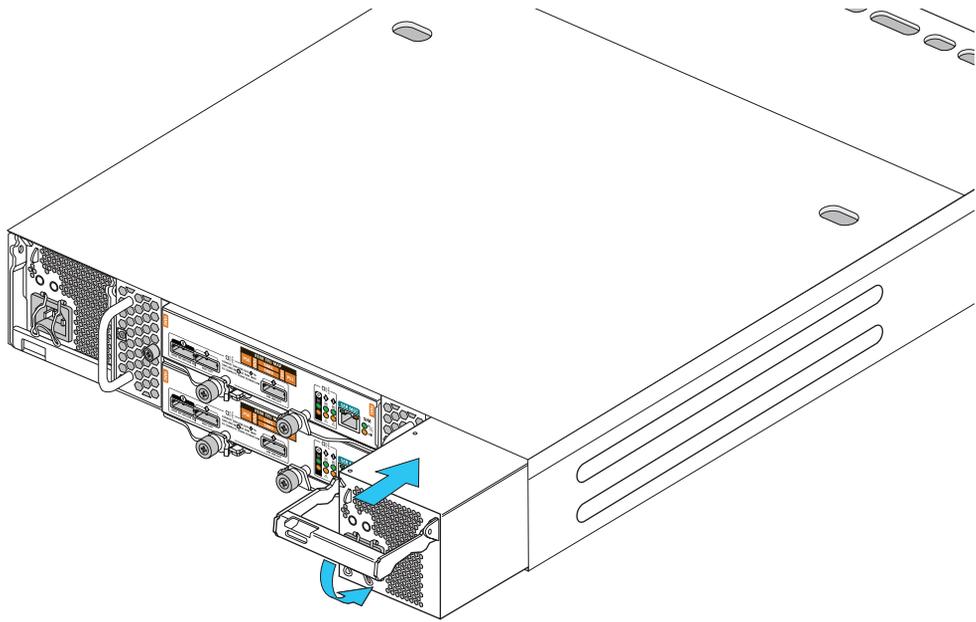
4. Install the two power supplies into the chassis slots (FIGURE 13).

For each power supply:

- a. **Holding up the handle, align the power supply with its open slot.**
- b. **Slide the power supply into the tray and carefully push the power supply to seat it in the chassis.**
- c. **Push the handle down to lock the power supply in the chassis.**

The latch tab locks the handle in place.

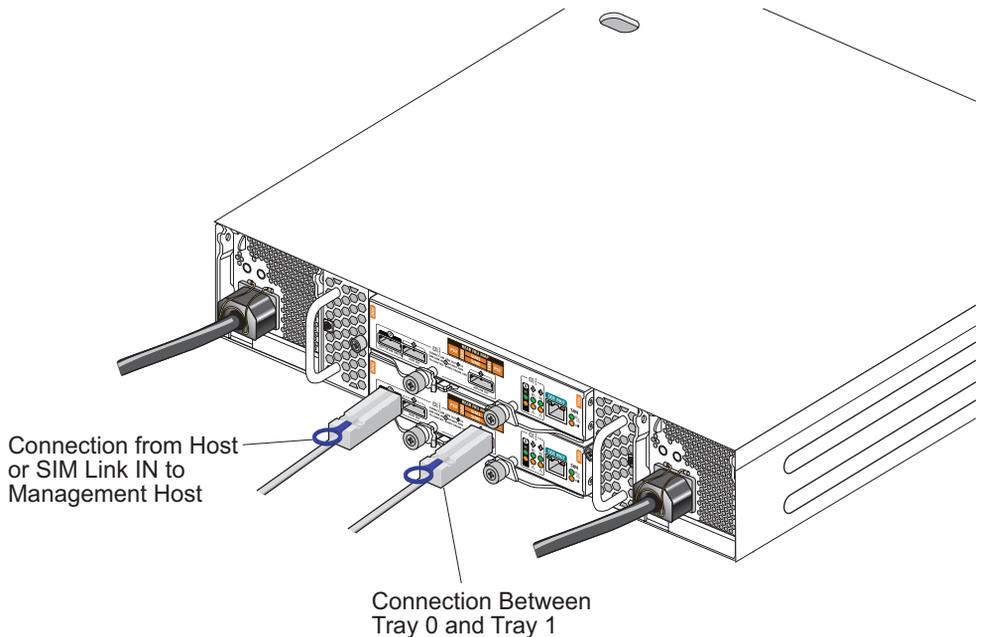
FIGURE 13 Installing a Power Supply



Completing the Chassis Installation

1. From the back of the cabinet, reconnect all mini-SAS cables to their original locations on each SIM board in the new chassis (FIGURE 14).
2. Reconnect the country-specific power cables into each of the power supply connectors (FIGURE 14). Replace the power cord latch over each connector.

FIGURE 14 Reconnecting the Mini-SAS and Power Cables



3. Check the status of each tray.

After the power-on sequence is complete, confirm the following:

- The green OK/Power LEDs on each drive in the tray are steady on.
If all tray and drive Ok/Power LEDs are steady green and the amber Service Required LEDs are off, the power-on sequence is complete and no faults have been detected.
- The amber LED is blinking for any module.
Reseat the module to make sure that it is properly installed. If the LED is now green, the module is functioning properly. If the module remains blinking amber, contact Sun Customer Service Personnel.

- The alarm shuts off after connecting the second power cord.
If an alarm sounds after plugging in the first power cord, the alarm will shut off once the second power cord is connected.

Related Documentation

Application	Title	Part Number
Regulatory and safety information	Sun StorageTek Regulatory and Safety Compliance Manual	96272, Revision A
Multilanguage safety information	Important Safety Information for Sun Hardware Systems	816-7190- <i>nn</i>
Site planning information	<i>Sun Storage J4200/J4400 Array Site Preparation Guide</i>	820-3219- <i>nn</i>
Installation at a glance	Sun Storage J4200 Array Setup Poster	820-3221- <i>nn</i>
Complete details of the hardware components, rail and tray installation, and cabling	<i>Sun Storage J4200 Array Hardware Installation Guide.</i>	820-3218- <i>nn</i>
Late-breaking information not included in the information set	<i>Sun Storage J4200/J4400 Array Release Notes</i>	820-2222- <i>nn</i>
Installation and use of the management software using a GUI	<i>Sun StorageTek Common Array Manager User Guide for the J4000 Array Family</i>	820-3765- <i>nn</i>
Installation and use of the management software using a CLI	<i>Sun StorageTek Common Array Manager CLI Guide for the J4000 Array Family</i>	820-4419- <i>nn</i>
General operation and troubleshooting	<i>Sun Storage J4200/J4400 Array Overview</i>	820-3223- <i>nn</i>
Disk drive replacement procedures	<i>Sun Storage J4200/J4400 Array Disk Drive Replacement Guide</i>	820-3225- <i>nn</i>
SIM board replacement procedures	<i>Sun Storage J4200 Array SIM Board Replacement Guide</i>	820-3226- <i>nn</i>
Power supply replacement procedures	<i>Sun Storage J4200 Array Power Supply Replacement Guide</i>	820-3227- <i>nn</i>

Application	Title	Part Number
Fan replacement procedures	<i>Sun Storage J4200 Array Fan Replacement Guide</i>	820-3229- <i>nn</i>
Chassis replacement procedures	<i>Sun Storage J4200 Chassis Replacement Guide</i>	820-4413- <i>nn</i>
Rail kit installation procedures	<i>Sun Storage J4200/J4400 Array Rail Kit Installation Guide</i>	820-3764- <i>nn</i>

Service Contact Information

If you need help installing or using this product in the United States, call 1-800-USA-4SUN(872-4786), or go to:

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

