



Sun StorEdge™ 6920 System Site Preparation Guide

Sun Microsystems, Inc.
www.sun.com

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Preface

The *Sun StorEdge™ 6920 System Site Preparation Guide* describes facilities requirements for installing a Sun StorEdge™ 6920 system. Follow the guidelines as outlined in this document when planning your installation.

6920 System Documentation

The following is a list of documents related to the Sun StorEdge 6920 system. For any document number with *nn* as a suffix, use the most current document.

Subject	Title	Part Number
Unpacking instructions attached to the shipping container	<i>Unpacking Guide</i>	816-5230- <i>nn</i>
System license information	<i>Sun StorEdge 6920 System License Cards</i>	817-5829- <i>nn</i> 817-5225- <i>nn</i>
System installation and initial configuration information	<i>Sun StorEdge 6920 System Getting Started Guide</i>	817-5227- <i>nn</i>
System regulatory and safety information	<i>Sun StorEdge 6920 System Regulatory and Safety Compliance Manual</i>	817-5230- <i>nn</i>
Late-breaking information not included in the information set	<i>Sun StorEdge 6920 System Release Notes</i>	817-5229- <i>nn</i>
Instructions for software installation from CD	<i>Sun StorEdge 6920 System Host Installation Software Guide</i>	817-5831- <i>nn</i>

System overview information, as well as information on system configuration, maintenance, and basic troubleshooting, is covered in the online help included with the software. In addition, the `SSCS(1M)` man page provides information about the commands used to manage storage using the command-line interface (CLI).

Related Documentation

The following documents provide detailed information, if needed, about system components.

Product	Title	Part Number
Sun StorEdge network Fibre Channel switch-8, switch-16, and switch-64	<i>Sun StorEdge Network 2Gb FC Switch-8 (SANbox2-8c) Installer's/ User's Manual</i>	875-3364- <i>nn</i>
	<i>Sun StorEdge Network 2Gb FC Switch-8 and Switch-16 FRU Installation</i>	817-0064- <i>nn</i>
	<i>Sun StorEdge Network 2Gb FC Switch-8 and Switch-16 Release Notes</i>	817-0770- <i>nn</i>
	<i>Sun StorEdge Network 2Gb FC Switch-64 Release Notes</i>	817-0977- <i>nn</i>
Sun StorEdge Brocade switch documentation	<i>Sun StorEdge Network 2Gb Brocade SilkWorm 3200, 3800, and 12000 Switch 3.1/4.1 Firmware Guide to Documentation</i>	817-0062- <i>nn</i>
Sun StorEdge McData switch documentation	<i>Sun StorEdge 2Gb McData Intrepid 6064 Director Guide to Documentation</i>	817-0063- <i>nn</i>
Expansion cabinet	<i>Sun StorEdge Expansion Cabinet Installation and Service Manual</i>	805-3067- <i>nn</i>
Storage Service Processor	<i>Sun Fire V100 Server User's Guide</i>	816-2756- <i>nn</i>
Solaris Operating System	<i>Solaris Handbook for Sun Peripherals</i>	816-4468- <i>nn</i>

Related Vendor Documentation

For installation instructions and other information about Brocade and McData Fibre Channel switches, refer to the product documentation provided by the vendor.

Accessing Sun Documentation Online

You can view, print, or purchase a broad selection of Sun documentation, including localized versions, at:

<http://www.sun.com/documentation>

For Sun StorEdge 6920 system documentation, go to:

http://www.sun.com/products-n-solutions/hardware/docs/Network_Storage_Solutions/Midrange/6920/index.html

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Site Preparation and Planning

This document provides the information you need to prepare your site before installing the Sun StorEdge™ 6920 system. Follow the guidelines as outlined in this document when planning your installation.

To determine the complete list of components and Short Name (all caps)s your shipment will include, consult your local Sun sales representative.

For a product overview and installation instructions, refer to the *Sun StorEdge 6920 System Getting Started Guide*.

This document contains the following sections:

- “Customer Obligations” on page 1
- “Safety Information” on page 2
- “Facility Requirements” on page 3
- “Cabling Requirements” on page 6
- “Collecting System Information” on page 7
- “Planning the Storage Configuration” on page 9

Customer Obligations

The customer is obliged to inform Sun Microsystems, Inc. of any and all ordinances and regulations that might affect the installation. The customer is responsible for meeting all government codes and regulations concerning facilities. The customer is also required to do the following:

- Comply with all local, national, and international codes covered in this specification. The subjects covered include fire and safety, building, and electrical codes.

- Document and inform Sun Microsystems, Inc. of any deviations from this specification.

Safety Information

Install the Sun StorEdge 6920 system in accordance with the local safety codes and regulations at the facility site. Make sure that you read the safety precautions in the *Sun StorEdge 6920 System Regulatory and Safety Compliance Manual*. The following sections contain additional safety information for the local facility:

- “Handling Precautions” on page 2
- “Secure Installation Requirements” on page 3
- “Placement of a Sun Product” on page 3

Note – Do not make mechanical or electrical modifications to the equipment. Sun Microsystems, Inc. is not responsible for regulatory compliance of a modified Sun product.

Handling Precautions



Caution – A fully configured Sun StorEdge 6920 system cabinet can weigh in excess of 1400 pounds (627 kg). Ensure that all surfaces this system will move over can withstand this load.

The cabinet is equipped with wheels so that you can move it. Use enough personnel when moving the cabinet, especially on sloped loading docks and ramps, to gain access to a raised computer room floor. Move the cabinet slowly and deliberately, and make sure that the floor is free from foreign objects and cables that the cabinet could roll over.



Caution – To avoid injury, wear protective footwear when moving a system.

Secure Installation Requirements

To minimize personnel injury in the event of a seismic occurrence, you must securely fasten the cabinet to a rigid structure extending from the floor to the ceiling, or from the walls, of the room in which the cabinet is located.

Install the cabinet on a level surface. At each corner, on the base of the cabinet, are adjustable nonskid pads. Extend these pads when the cabinet is installed to prevent the cabinet from rolling. Do not use these pads to level the cabinet.

Placement of a Sun Product

If you have ordered a Sun StorEdge 6920 system without an expansion cabinet, make sure you allow enough room to install a second or third cabinet in the event that you want to expand your system.



Caution – Do not block or cover the openings of your Sun product. Never place a Sun product near a radiator or heat register. Failure to follow these guidelines can cause overheating and affect the reliability of your Sun product.

Air cools the Sun StorEdge 6920 system cabinets from front to back. Air enters at the front, circulates, and is expelled at the back of the cabinet. The front and back door clearances provide sufficient space for cooling. See TABLE 5 for specific clearance specifications.

Facility Requirements

This section contains the following information about the facility requirements for the Sun StorEdge 6920 system:

- “Environmental Requirements” on page 4
- “Electrical and Power Specifications” on page 5
- “Physical Specifications” on page 5

Environmental Requirements

The environmental requirements in TABLE 1 are the limits to which the systems are tested to ensure that they meet all functional requirements.

TABLE 1 Facility Environmental Specifications

Specifications	Operating	Nonoperating
Temperature	41°F to 95°F (5°C to 35°C) noncondensing	-40°F to -76°F (-40°C to -60°C) noncondensing
Relative humidity	10% to 90% noncondensing maximum gradient 10% per hour	93% noncondensing maximum gradient 10% per hour
Altitude	9,840 feet (3,000 meters)	39,370 feet (12,000 meters)

Avoid temperature extremes and keep the work area clean. Maintain the operating conditions described in TABLE 2. The Short Name (all caps) typically resides in a computer room environment that provides control over environmental factors such as temperature, humidity, and airborne dust. A computer room installation can also help protect equipment from fire, flood, or other danger originating in the building.

Recommended Operating Environment

The operating environmental limits in TABLE 1 reflect what the systems have been tested to, in order to meet all functional requirements. The optimum operating condition in TABLE 2 is the recommended operating environment. Operating computer equipment for extended periods of time at or near the temperature or humidity extremes is known to significantly increase the failure rate of hardware components. To minimize any chance of down time due to component failure, plan to use the optimal temperature and humidity ranges.

TABLE 2 Facility Optimal Environmental Specifications

Environmental Factor	Ambient Temperature Range	Ambient Relative Humidity
Operating	70°F to 73.5°F (21°C to 23°C)	45% to 50%

Electrical and Power Specifications

All Sun StorEdge 6920 systems require two independent power sources. Each Short Name (all caps) cabinet has two power conditioners for redundancy mounted in the base of the cabinet. To maintain the power redundancy, each conditioner must be connected to an independent power source. TABLE 3 lists the power required for each conditioner.

TABLE 3 Power Specifications for Each Cabinet

Specification	Rating
AC voltage rating	200 to 240 VAC
AC voltage range	180 to 264 VAC
Frequency range	50 to 60 Hz single phase
Current at 240 VAC	32A
Power consumption, maximum:	
• Sun StorEdge 6920 system, base cabinet	4.2 kW
• Sun StorEdge 6920 system with one expansion cabinet	8.4 kW

The following is recommended for all installations:

- All AC mains and supply conductors to power distribution boxes for the system cabinet must be enclosed in a metal conduit or raceway, when specified by local, national, and/or other applicable government codes and regulations. The supply conductors and power distribution boxes (or equivalent metal enclosures) must be grounded at both ends.
- The supplied Short Name (all caps)s require voltages within minimum fluctuation. The facilities voltage at the customer facility must not vary by more than (+/-) 5%.
- The customer facilities must provide suitable surge protection.

Physical Specifications

This section contains the physical requirements for the Sun StorEdge 6920 system.

Physical Dimensions

The values given in TABLE 4 are for the maximum hardware configuration.

TABLE 4 System Physical Specifications

System	Height	Width	Depth	Weight
Sun StorEdge 6920 system, base cabinet	75 in. 190.5 cm	23.9 in. 60.7 cm	37 in. 94 cm	1465 lb. 665 kg
Sun StorEdge 6920 system with one expansion cabinet	75 in. 190.5 cm	47.8 in. 121.4 cm	37 in. 94 cm	3000 lb. 1364 kg
Sun StorEdge 6920 system with two expansion cabinets	75 in. 190.5 cm	71.7 in. 182.1 cm	37 in. 94 cm	4550 lb. 2068 kg

Clearance and Service Access

TABLE 5 provides front and back physical clearance requirements for servicing the components in the system cabinet. Refer to the Storage Automated Diagnostic Environment Service Advisor pages for specific service procedures.

TABLE 5 Clearance and Service Access for the Sun StorEdge 6920 System Cabinet

Access Location	Clearance Needed
Front	48 in. 122 cm
Back	36 in. 92 cm

Cabling Requirements

When cabling the system, follow these guidelines:

- Keep the power and interface cables clear of walkways. Route cables inside walls, under the floor, through the ceiling, or in protective channels or raceways. Route interface cables (excluding fiber-optic cables) away from motors and other sources of magnetic or radio frequency interference.

- Do not exceed cable length limitations. TABLE 6 shows the cable specifications and lengths.

TABLE 6 Cable Specifications

Cable Type	Connector	Maximum Length
Shielded Ethernet, 10/100BASE-T, category 5	RJ-45	328.084 ft. (100 m)
Serial (Available only to qualified field service representatives)	RJ-45	82.021 ft. (25 m)
Power (220V)	Standard	Not applicable

The power cables are the standard ones shipped with the Sun StorEdge system. The cables that connect two cabinets together are standard Fibre Channel (FC) cables.

Collecting System Information

Before beginning the installation, prepare the site and gather the information that you will need to perform the installation. To do this, refer to the worksheet on page 8.



Caution – The Sun StorEdge 6920 system uses the private network addresses 10.0.0.x and 192.168.0.x. Therefore, do not use these addresses when connecting directly to the Sun StorEdge 6920 system. If your network uses these addresses, ensure that they are behind a firewall, as dictated by the network RFCs.

Use this worksheet to collect the information you will need during the system installation.

<input checked="" type="checkbox"/>	Sun StorEdge 6920 System Configuration Worksheet	
<input type="checkbox"/>	Sun StorEdge 6920 System ID: (0 - 7)	_____
<input type="checkbox"/>	Sun StorEdge 6920 System IP Address:	_____
<input type="checkbox"/>	Sun StorEdge 6920 System Network Mask:	_____
<input type="checkbox"/>	Name Server Domain Name:	_____
<input type="checkbox"/>	IP Address of the Domain Name Server (DNS):	_____
<input type="checkbox"/>	Gateway IP Address:	_____
<input type="checkbox"/>	Email Notification Address:	_____
<input type="checkbox"/>	Telephone Number: (analog phone line for remote monitoring)	_____
<input type="checkbox"/>	Site Address:	_____
<input type="checkbox"/>	Host IP Address: (another host on your network)	_____
<input type="checkbox"/>	Host Bus Adapter (HBA) WWNs:	_____

Planning the Storage Configuration

After you collect the information you will need and before you actually configure the system, you must determine how to configure your Sun StorEdge 6920 system according to your needs and the needs of your clients.

Use TABLE 7 as a guide for planning your site storage configuration.

Help

For more information about specific features and configuration options, see the *Sun StorEdge 6920 System Getting Started Guide* and the online help system.

TABLE 7 Storage Configuration Options

Default Configuration		Configuration Options
Storage domains	All storage elements are in one storage domain (DEFAULT), which can be accessed by all hosts (initiators).	You can choose either of the following options when configuring storage domains: <ul style="list-style-type: none">• Use the existing default configuration (as is)• Create a custom storage domain
Storage profiles	The default storage domain uses the “Default” profile to specify its storage parameters. The default storage profile is: <ul style="list-style-type: none">• RAID level: RAID-5• Segment size: 64 Kbyte• Read-ahead mode: On• Number of drives: variable• Array type: Best Available Match: Bandwidth• Number of disks: variable• Dedicated hot spare: No• Virtualization strategy: Stripe• Stripe size: 1 Mbyte	You can choose any of the following options when configuring storage profiles: <ul style="list-style-type: none">• Use the existing default configuration (as is)• Select one of the predefined storage profiles shipped with the system• Create a custom storage profile

TABLE 7 Storage Configuration Options *(Continued)*

Default Configuration		Configuration Options
Storage pools	All virtual disks are in one storage pool (Default).	You can choose either of the following options when configuring storage pools: <ul style="list-style-type: none">• Use the existing default configuration (as is)• Create a new storage pool
Virtual disks	Virtual disks are preconfigured at the factory as based on the number of drives ordered for your system. The virtual disks are configured as RAID-5. If an array has 7 drives per tray, all 7 drives are configured as a single RAID-5 virtual disk. If an array has 14 drives, the tray is configured as two RAID-5 virtual disks.	You can choose any of the following options when configuring storage pools: <ul style="list-style-type: none">• Use the existing default configuration• Move the default RAID-5 virtual disk to a new pool• Delete the RAID-5 virtual disk and create a different virtual disk in a new pool
Volumes	The default configuration does not include predefined volumes.	You must configure volumes.