



# Sun StorEdge™ D2 Array Cabinet Installation Guide

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# Cabinet Installation

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This document describes how to mount Sun StorEdge D2 arrays in Sun cabinets. Refer to the following manual how to set up before installation and how to finish installation and configuration after the array is mounted in the cabinet:

- *Sun StorEdge D2 Array Installation, Operation, and Service Manual*

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**Note** – You need a Philips screwdriver to perform the procedures in this manual.

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## Shipping Box Contents

The shipping box for the cabinet-mountable (also called rack-mountable) Sun StorEdge D2 array contains the following items needed for installing the array in a Sun cabinet.

**TABLE 1** Inventory for the Cabinet-mountable Sun StorEdge Array

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1	Sun StorEdge D2 array with mounting tray attached
2	Mounting brackets
16	10-32 x 1/2 in screws
2	Trim strips with four 10-14 x 7/16 in screws attached

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The shipping box for the conversion kit contains the following items needed for modifying a tabletop array so that the array can be mounted in a Sun cabinet.

**TABLE 2** Rackmount Conversion Kit Inventory

1	Mounting tray
2	Mounting brackets
16	10-32 x 1/2 in screws
2	Trim strips with four 10-14 x 7/16 in screws attached
4	10-14 x 7/16 in screws

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## Overview of Tasks for Mounting Arrays

TABLE 3 lists the tasks required for mounting a Sun StorEdge D2 array in a Sun cabinet along with links to where the tasks are documented.

**TABLE 3** Tasks for Mounting Arrays

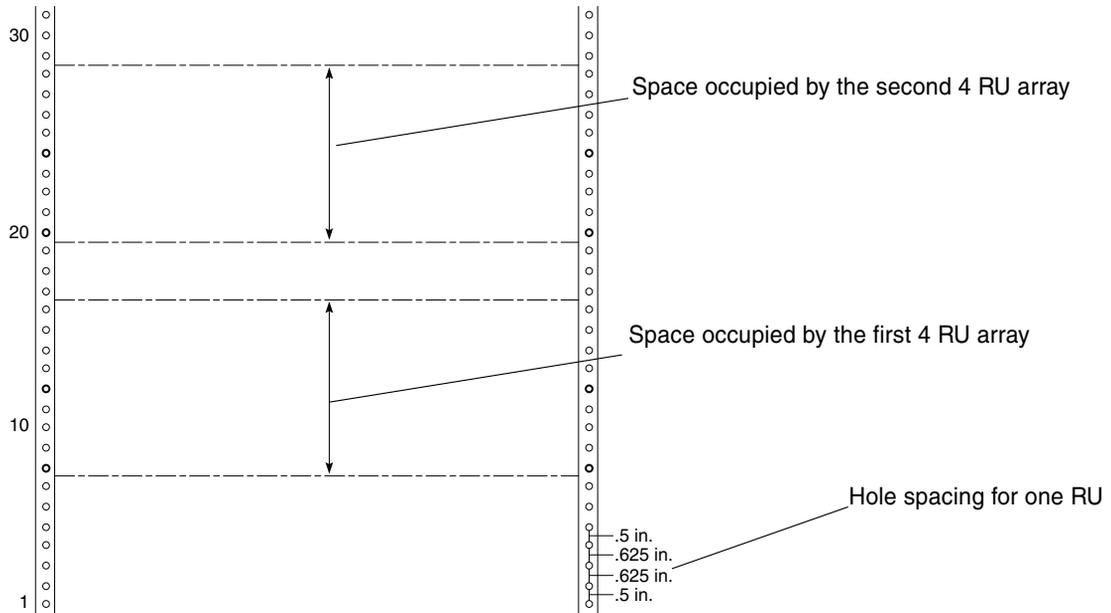
<b>Task</b>	<b>Where Documented</b>
Find out which mounting holes to use in the cabinet.	<i>Rackmount Placement Matrix (RPM)</i> at <a href="http://www.sun.com/products-n-solutions/hardware/docs/Network_Storage_Solutions/Cabinets_and_Enclosures">www.sun.com/products-n-solutions/hardware/docs/Network_Storage_Solutions/Cabinets_and_Enclosures</a> . For an example using the table for the Sun StorEdge Expansion Cabinet, go to: "Using the Mounting Hole Numbers in the RPM" on page 3.
Install the tray on the array if you are upgrading a tabletop array to rackmount it.	"To Install a Tray on an Array" on page 5
Connect the mounting brackets to the cabinet.	"To Connect the Mounting Brackets to a Cabinet" on page 7
Install the array into the cabinet.	"To Install an Array in a Cabinet" on page 10

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# Using the Mounting Hole Numbers in the RPM

This section provides the information you need to use the mounting hole numbers provided in the *Rackmount Placement Matrix (RPM)* when you are installing a Sun StorEdge D2 array.

Vertical mounting space is defined in rack units (RUs). Sun StorEdge D2 arrays are 4 RU units high. One RU equals 1.75 in (4.44 cm), which is the total of the distances between the repeating pattern of the mounting holes that make up one RU: .5 in (1.27 cm) + .625 in (1.59 cm) + .625 in (1.59 cm). RU boundaries are in the center of the holes that are spaced .5 in (1.27 cm) apart. The hole spacing for a single RU is illustrated at the lower right of FIGURE 1.



**FIGURE 1** Cabinet Hole and RUs, Spacing and Numbering

The hole numbers start with 1 at the bottom and are stamped on the metal in increments of 10 (as illustrated in FIGURE 1). Holes in the metal mounting rails at the front, the back, and the sides of the cabinet all have the same numbers. Also as shown in FIGURE 1, the arrays are installed from the bottom of the cabinet up.

A table in the *RPM* gives the number of RUs in each Sun cabinet. For example, the Sun StorEdge Expansion Cabinet is a 36 RU cabinet, with space for up to nine Sun StorEdge D2 arrays.

TABLE 4 is an example from the *RPM* showing the mounting holes to use when installing Sun StorEdge D2 arrays in a Sun StorEdge Expansion Cabinet. See the *RPM* for other tables that list mounting holes for installing these arrays in other qualified cabinets.

**TABLE 4** Holes for Mounting Sun StorEdge D2 Arrays in Sun StorEdge Expansion Cabinets

Array	Mounting Brackets to Cabinet	Tray to Cabinet
1	8,12	11,14
2	20,24	23,26
3	32,36	35,38
4	44,48	47,50
5	56,60	59,62
6	68,72	71,74
7	80,84	83,86
8	92,96	95,98
9	104,108	107,110

The column headings in TABLE 4 are explained in the following list:

■ **Array**

Numbers corresponding to the order of installation of the arrays. Installation proceeds from the bottom of the cabinet up (as indicated in FIGURE 1), with 1 being the first array, 2 being the second, and so on.

■ **Mounting Brackets to Cabinet**

Hole numbers to use when installing the screws that secure the mounting brackets to the cabinet.

For an illustration of the screws that secure the mounting brackets, see “To Connect the Mounting Brackets to a Cabinet” on page 7.

■ **Tray to Cabinet**

Hole numbers to use when installing the screws that secure the tray to the cabinet

For an illustration of the placement of the screws that secure the tray to the cabinet, see FIGURE 7.

The hole numbers from the first row of TABLE 4 are used in examples throughout this manual.

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# Procedures

## ▼ To Install a Tray on an Array

Use an 8 in lb torque Philips screwdriver to start the holes. Tighten the screws with an 18 in lb torque driver.



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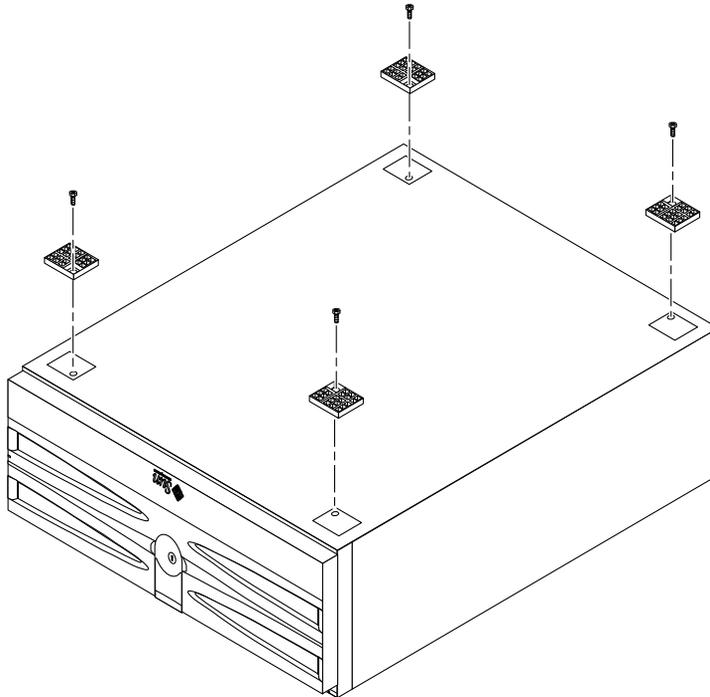
**Caution** – This procedure requires two people to lift and move the array. Use care to avoid injury. A array with a tray attached may weigh up to 64 pounds (29 kg).

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1. With the aid of an assistant, invert the array with the front facing you (FIGURE 2).

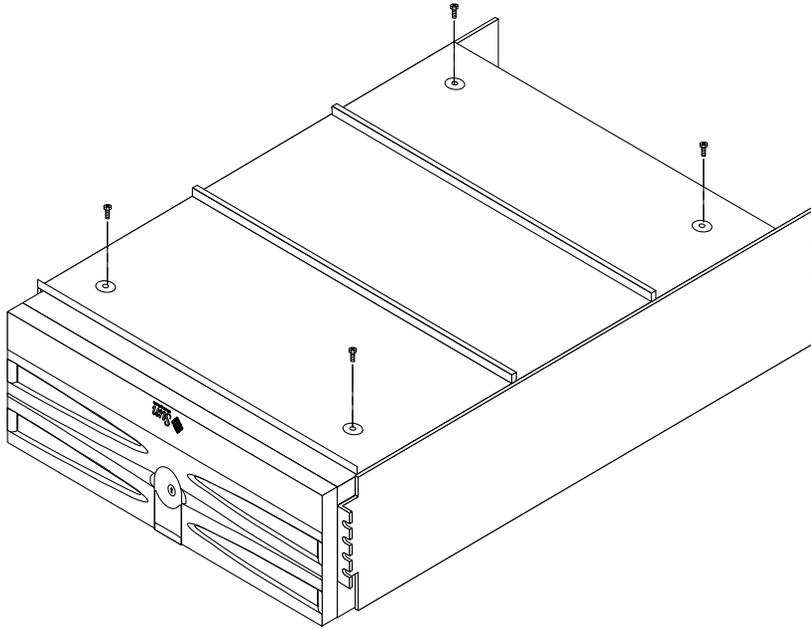
2. Remove the feet.

Discard the feet and screws. They are not reused.



**FIGURE 2** Removing the Feet

3. Place the tray on the array (FIGURE 3).



**FIGURE 3** Installing the Mounting Tray on the Chassis

4. Loosely thread four 10-14 x 7/16-in screws into the four holes.
5. When all screws are started, tighten them to 18 in/lb.
6. With the aid of an assistant, restore the array to the upright position with the front of the array facing you.
7. Go to "To Connect the Mounting Brackets to a Cabinet" on page 7.

## ▼ To Connect the Mounting Brackets to a Cabinet

Use an 8 in lb torque Philips screwdriver to start the holes. Tighten the screws with an 18 in lb torque driver.

Have the *Rackmount Placement Matrix* table handy that applies to your cabinet.

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**Note** – The mounting brackets are identical, and they can be installed in either side of the cabinet. Install the brackets from the bottom of the cabinet to the top.

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- 1. Remove the front panel or door from the cabinet.**
- 2. Remove the vented rear door from the cabinet.**  
Refer to the cabinet’s documentation for how to perform the first two steps.
- 3. Attach the mounting brackets using the designated holes in the brackets and the designated holes in the cabinet’s rails.**

Insert the screws through the designated holes in the brackets shown in FIGURE 4 into the rail holes.

For the appropriate rail hole numbers, see the “Mounting Brackets to Cabinet” column in the table from the RPM that applies your cabinet.

For example, when installing the brackets for the first array in a Sun StorEdge expansion cabinet, you would put the screws into the rail holes numbered 12 and the 8, which are assigned to Array 1 in the following row from TABLE 4.

Array	Mounting Brackets to Cabinet	Tray to Cabinet
1	8,12	11,14

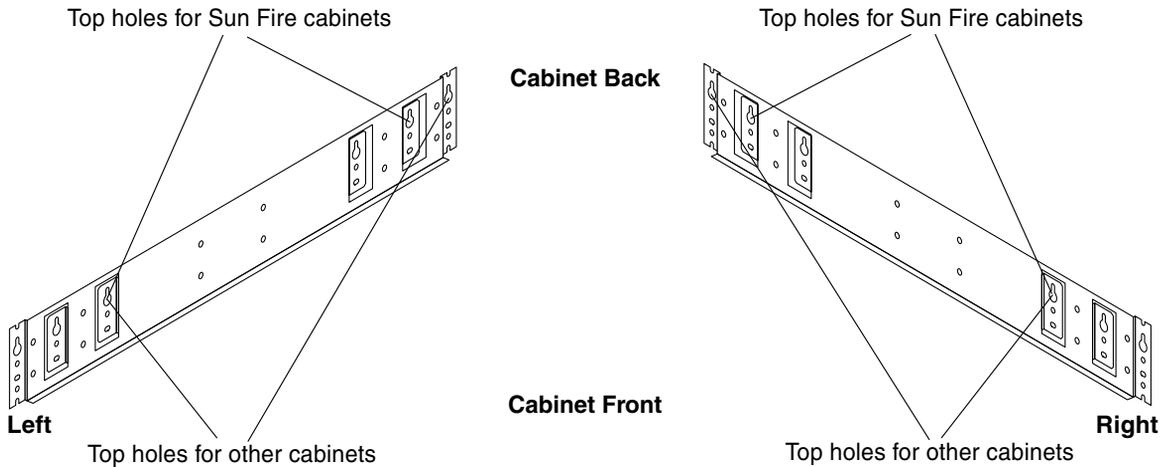
- a. Loosely thread four 10-32 x 1/2 in screws through the bracket into the holes with the same number on the front and back rails on both sides of the cabinet.**

Insert each screw into the highest-numbered hole specified in the “Mounting Brackets to Cabinet” column. When installing the first array in a Sun StorEdge Expansion cabinet, you would insert one screw through the left bracket into hole 12 on the front mounting rail and another screw through the same bracket into hole 12 on the back rail. Then on the right side of the cabinet you would insert two more screws through the right mounting bracket into the corresponding rail holes numbered 12.

- b. Using the top holes designated for your cabinet in FIGURE 4, place the bracket on the screws.

FIGURE 4 shows the top holes to use for Sun Fire cabinets and the top holes to use for other cabinets.

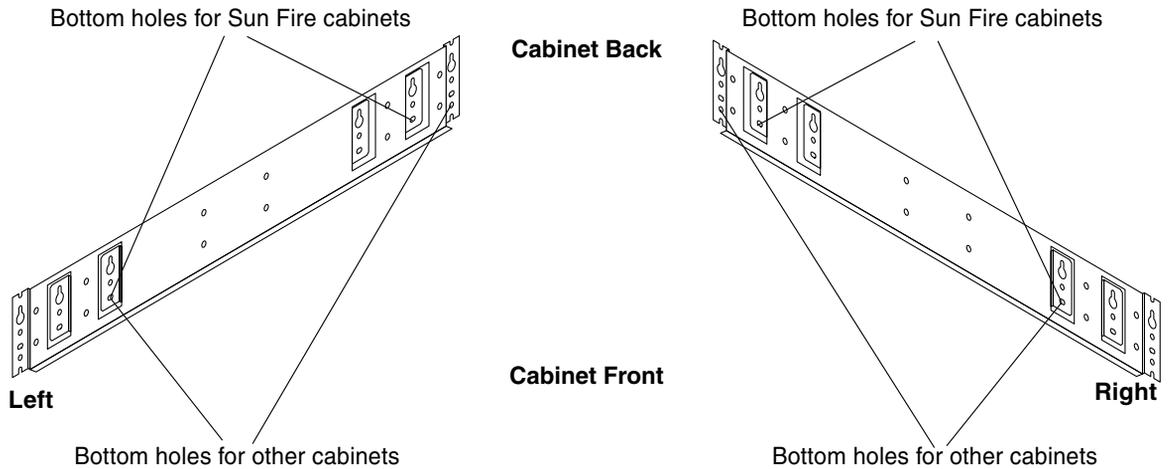
For example, if you are mounting the array in a Sun StorEdge Expansion Cabinet, you would slide the mounting bracket holes designated for “other cabinets” over the screws you attached to the mounting rails in the previous step.



**FIGURE 4** Top Holes for Securing the Mounting Bracket to the Cabinet

- i. Take a mounting bracket.
- ii. Place the top holes of the mounting bracket onto the appropriate screws on each side.
- iii. Slide the bracket down so that the tops of the holes rest on the screws.

- Loosely thread four more 10-32 x 1/2 in screws through the appropriate bottom holes of the mounting brackets into the designated holes in the rails.



**FIGURE 5** Bottom Holes for Securing the Mounting Bracket to the Cabinet

Insert the screws through the mounting bracket according to the placement guidelines in FIGURE 5. Put the screws through the holes in the mounting brackets into the designated numbered holes in the rails (use the smaller number in the “Mounting Brackets to Cabinet” column).

- In the Sun StorEdge expansion cabinet example, you would insert a screw through each mounting bracket on both sides of the cabinet using the bottom holes indicated by “Bottom holes for other cabinets” in FIGURE 5. The screws would connect through the brackets into the holes numbered 8 in the mounting rails.
- Tighten all four screws on both mounting brackets.
- Do Step 3 through Step 6 again for additional brackets for additional arrays, if any.
- Go to “To Install an Array in a Cabinet” on page 10.

## ▼ To Install an Array in a Cabinet

Use an 8 in lb torque Philips screwdriver to start the holes. Tighten the screws with an 18 in lb torque driver. Install arrays from the bottom of the rack to the top.



**Caution** – This procedure requires two people to lift and move the array. Use care to avoid injury. A array with a tray attached may weigh up to 64 pounds (29 kg).

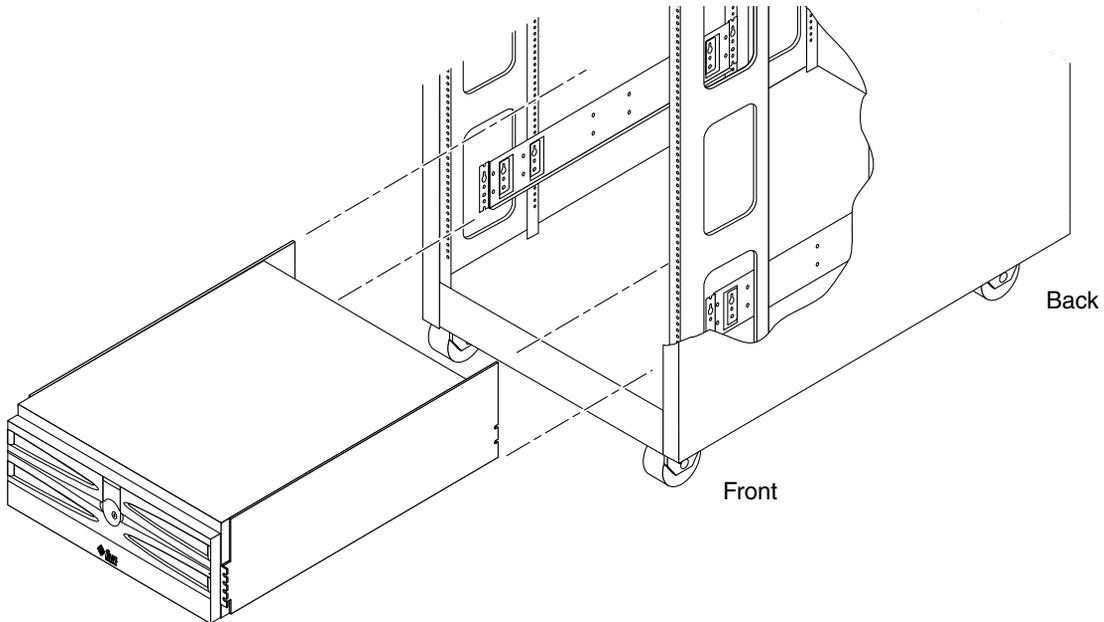
1. Unless the cabinet is bolted to the floor, ensure that the cabinet's stabilizer legs are extended before proceeding.



**Caution** – The cabinet can become front-heavy while the array is being installed. Failure to extend the legs can result in the cabinet tipping forward and injuring personnel.

Refer to the cabinet's documentation for how to extend the stabilizer legs.

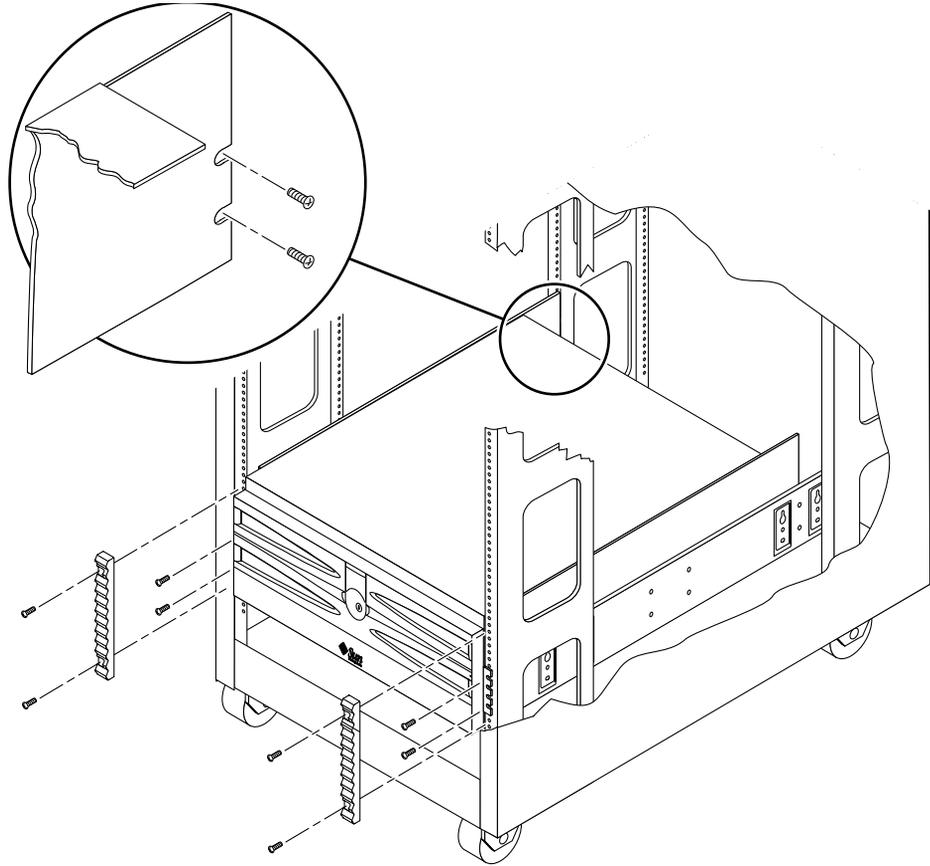
2. With the aid of an assistant, lift the array (one person on each side) and approach the cabinet with the back of the array facing the front of the cabinet.
3. Align the mounting tray with the mounting brackets in the cabinet (FIGURE 6).



**FIGURE 6** Aligning the Mounting Tray With the Mounting Brackets

4. Rest the array on the mounting brackets.
5. Slide the array into the cabinet.
6. Insert and tighten two 10-32 x 1/2 in screws in the designated holes to connect the back of the tray to the rails at the back of the cabinet (FIGURE 7).

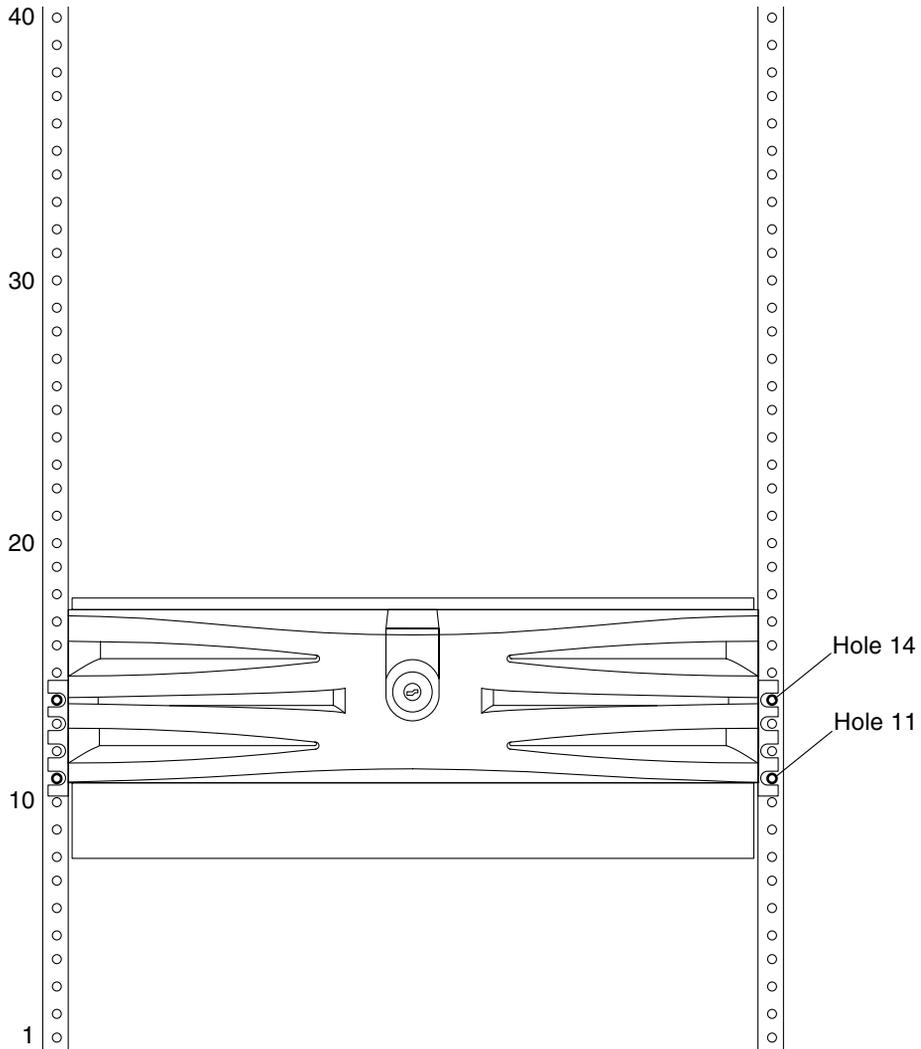
For example, when installing the first array into a Sun StorEdge expansion cabinet, you would insert the two screws through the back of the tray into holes 11 and 14 on the rails at the back of the cabinet.



**FIGURE 7** Installing the Screws That Connect the Tray and That Connect the Trim Strips to the Cabinet

**7. Insert and tighten two 10-32 x 1/2 in screws securing the front of the tray to the mounting rails at the front of the cabinet (FIGURE 7).**

For example, when installing the first array into a Sun StorEdge expansion cabinet, you would insert the two screws through the flanges at the front of the tray into holes 11 and 14 on the rails at the front of the cabinet (FIGURE 8).



**FIGURE 8** Example: Connecting the Front of the First Tray to the Cabinet

8. **Place one trim strip at the right and another trim strip at left side of the front of the array, and insert and tighten the attached screws into the matching holes in the rails at the front (FIGURE 7).**

FIGURE 7 shows the trim strip being applied after the screws connecting the tray to the front of the cabinet.

9. **Repeat Step 2 through Step 8 using the holes specified for next array, until you have installed all the units in the cabinet.**
10. **Follow the instructions in the cabinet documentation, if necessary, to reassemble the cabinet.**

Reassembling the cabinet might include the following steps:

- Replacing or closing the front panel and/or door
- Replacing or closing the vented rear door
- Pushing the stabilizer legs back into the cabinet

11. **Connect the power cable and SCSI cables and perform the additional steps to install and configure the array as described in the installation, operation, and service manual that applies to the array.**

