



Xsan 2

Migration Guide

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Apple
1 Infinite Loop
Cupertino, CA 95014-2084
408-996-1010
www.apple.com

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Simultaneously published in the United States and Canada.

019-0965/2008-02-08

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Upgrading to Xsan 2

This guide shows you how to upgrade your Xsan 1.4 storage area network to Xsan 2 on Mac OS X v10.5.

Follow the instructions in this guide to upgrade an existing Xsan 1.4.2 SAN and its volumes to Xsan 2 on Mac OS X or Mac OS X Server version 10.5.

Before You Begin

Review the following information before you upgrade your SAN.

Upgrade Your SAN to Xsan 1.4.2

This guide shows you how to upgrade to Xsan 2 from Xsan 1.4.2, the latest available Xsan software update.

If you're running Xsan 1.4 or 1.4.1, you can choose Software Update from the Apple menu on each SAN computer and install the Xsan 1.4.2 update.

For help upgrading from an earlier version of Xsan, see the *Xsan Migration Guide*, available at www.apple.com/server/documentation.

Volume Availability During Upgrade

The upgrade process includes activities such as checking and converting file-system data structures, so users can't access SAN volumes during the upgrade.

Important: You must unmount your SAN volumes from clients during the upgrade. You should notify the people who use the clients that the volumes will be unavailable.

Mac OS X or Mac OS X Server?

The Xsan file system, the Xsan Admin application, and the Xsan User Quotas application run identically on Mac OS X and Mac OS X Server. Any statement in this guide about Mac OS X also applies to Mac OS X Server.

Notation Conventions

The following conventions are used in this book wherever shell commands or other command-line items are described.

Notation	Indicates
<code>fixed-width font</code>	A command or other terminal text
<code>\$</code>	A shell prompt
<code>[text_in_brackets]</code>	An optional parameter
<code>(one other)</code>	Alternative parameters (type one or the other)
<i>italic</i>	A parameter you must replace with a value
<code>[...]</code>	A parameter that may be repeated
<code><angle_brackets></code>	A displayed value that depends on your SAN configuration

Version Compatibility

The following table shows the compatibility of Xsan 2 metadata controllers and clients with earlier Xsan versions and with StorNext controllers and clients.

Controller	Client	Compatible
Xsan 2	Xsan 2 (Mac OS X v10.5)	Yes
	Xsan 1.4.2 (Mac OS X V10.4 or v10.5)	Yes
	Xsan 1.4–1.4.1	No
	Xsan 1.3 or earlier	No
	StorNext FX 1.4 or 2.0	Yes
	StorNext FS 2.4–3.1	No
Xsan 1.4 or earlier	Xsan 2	No
StorNext FS 3.1	Xsan 2	Yes
StorNext FS 2.4–3.0	Xsan 2	No

Upgrading Your SAN

The following steps summarize how to upgrade your SAN to Xsan 2.

- 1 Back up your SAN volumes.
- 2 Unmount and stop existing volumes.
- 3 Verify the integrity of your SAN volumes.
- 4 Upgrade all SAN computers to Mac OS X v10.5 Leopard.
- 5 Install Xsan 2 on all SAN computers.
- 6 Run the SAN Setup Assistant.
 - a Open Xsan Admin and connect to an upgraded metadata controller.
 - b Add computers to the new SAN.
 - c Authenticate to each SAN computer.
 - d Add Xsan 2 serial numbers.
- 7 (Optional) Adjust failover priorities.
- 8 Recheck volume integrity.
- 9 Remount volumes on clients and controllers.

Instructions for each of these steps appear on the following pages.

WARNING: Do not make any changes to Xsan settings (using either Xsan Admin or the command-line tools) while you are upgrading your SAN controllers. If you need to make configuration changes, wait until you finish upgrading all of your controllers.

Step 1: Back up your SAN volumes

Before you begin the upgrade, you should make a backup copy of the files on your SAN volumes.

Step 2: Unmount and stop existing volumes

Before upgrading your SAN controllers and clients to Xsan 2, you must unmount and stop all existing SAN volumes.

To unmount and stop volumes:

- 1 Open your current version of Xsan Admin.
- 2 In Xsan Admin, unmount existing volumes from all clients and controllers.
- 3 Stop all volumes.
- 4 Quit Xsan Admin.

Step 3: Verify volume integrity

It is important to verify the integrity of each SAN volume's file-system data structures and repair them if necessary before proceeding with the upgrade. You can use the `cvfsck` utility (in `/Library/Filesystems/Xsan/bin/`) to do both.

To check and repair a SAN volume:

- 1 Open Terminal (in `/Applications/Utilities/`).
- 2 If you are not working at a SAN controller computer, use SSH to log in to a controller remotely:

```
$ ssh user@computer
```

where *user* is an administrator user on the controller computer and *computer* is the controller's name or IP address.

- 3 Run the `cvfsck` command-line utility to replay any events recorded in the file-system journal:

```
$ sudo cvfsck -j volume
```

- 4 Check the volume to see if repairs are required:

```
$ sudo cvfsck -vn volume
```

- 5 If the report generated in the previous step lists problems, type the following command to repair the volume:

```
$ sudo cvfsck -vw volume
```

- 6 Repeat steps 3 through 5 for each of your SAN volumes.

For more information about the `cvfsck` command, see the `cvfsck` man page.

Step 4: Upgrade all SAN computers to Mac OS X v10.5 Leopard

Xsan 2 runs only on computers with Mac OS X v10.5 Leopard. Before installing Xsan 2, you need to upgrade all SAN computers to Mac OS X v10.5 or later.

To upgrade Mac OS X on your SAN computers:

- 1 Insert the Mac OS X v10.5 software installation disc in a controller computer, and then double-click the Install Mac OS X icon.

When you reach the Select Destination pane of the installer, click Options and select Upgrade Mac OS X.

Important: Be sure to select the upgrade installation, not the clean installation. If you perform a clean installation of the operating system, your controllers will lose their copies of the Xsan configuration files for your existing volumes.

- 2 Restart the controller computer when prompted by the installer.
- 3 Repeat steps 1 and 2 for each computer on your SAN.

Step 5: Install Xsan 2 on SAN computers

When your SAN computers are all running Mac OS X v10.5, you can install Xsan 2.

To install Xsan 2:

- Insert the Xsan 2 install disc in each SAN computer and double-click Install Xsan.

Step 6: Run the SAN setup assistant

After you have installed Xsan 2, you can use the setup assistant in the new Xsan Admin application to complete the upgrade.

To run the SAN setup assistant:

- 1 Open Xsan Admin (in /Applications/Server/).
- 2 When the SAN setup assistant appears, click Continue in the Introduction pane.
- 3 In the Initial SAN Setup pane, select "Connect to existing SAN" and click Continue.
- 4 In the dialog that appears, enter the name or address of a metadata controller, enter an administrator user name and password, and click Connect.
- 5 In the Add Computers pane, select the computers that belong to the SAN. If a computer doesn't appear in the list, click Add Remote Computer and add it.
- 6 In the Authenticate SAN Computers pane, enter the common administrator account name and password for the SAN computers and click Continue. If computers have different administrator accounts, choose "Authenticate to SAN computers one by one."
- 7 In the Serial Numbers pane, add an Xsan 2 serial number for each computer in the SAN, and then click Continue.

Step 7: (Optional) Adjust controller failover priorities

You can set the failover priority for a volume to control which metadata controller is most likely to host the volume.

To adjust a volume's failover priority:

- In Xsan Admin, select Volumes in the SAN Assets list, select the volume in the list, and then choose Edit Failover Priority from the Action (gear) pop-up menu.

Step 8: Recheck volume integrity

Even though you verified the integrity of each volume's file-system data structures before the upgrade, you should repeat the check now to be sure that the upgrade was successful and your volumes are in the best possible condition.

To check your volumes:

- Repeat the instructions in Step , "Step 3: Verify volume integrity," on page 7.
If the check reveals any problems, follow the same instructions to repair the volume.

Step 9: Remount volumes on SAN computers

You can now remount the SAN volumes on your clients and controllers.

To mount volumes:

- 1 In Xsan Admin, select Mounts in the SAN Assets list.
- 2 Select a computer in the list and click the Mount Read & Write button.

To mount a volume on more than one computer at a time, hold down the Command or Shift key as you select computers in the list. To mount a volume for read-only access, choose Mount Read Only from the Action (gear) pop-up menu.