



Sun StorEdge™ N8000 Filer Series Administrator's Guide

Sun Microsystems, Inc.
901 San Antonio Road
Palo Alto, CA 94303
U.S.A. 650-960-1300

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Preface

The *Sun StorEdge N8000 Filer Series Administrator's Guide* describes how to perform administration tasks with hosts on the network using a graphical user interface (GUI) tool. This tool is called the Filer Administration Tool.

This guide is intended for system administrators who are experienced with typical system administration tasks.

Before You Read this Book

Before using the procedures in this book, you should have already installed and configured the Sun StorEdge N8x00 filer on the network by following the instructions in the *Sun StorEdge N8x00 Filer Installation, Configuration, and Service Guide*.

How This Book Is Organized

Chapter 1 provides a product overview.

Chapter 2 describes the Filer Administration Tool.

Chapter 3 gives a business example of how you might use the Filer Administration Tool.

Chapter 4 provides troubleshooting information.

Typographic Conventions

Typeface	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% su Password:
<i>AaBbCc123</i>	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type <code>rm filename</code> .

Shell Prompts

Shell	Prompt
C shell	<i>machine_name%</i>
C shell superuser	<i>machine_name#</i>
Bourne shell and Korn shell	\$
Bourne shell and Korn shell superuser	#

Related Documentation

Document Title	Part Number
<i>Sun StorEdge A1000 and D1000 Installation, Operation, and Service Manual</i>	805-2624
<i>Sun StorEdge N8200 Filer Installation, Configuration, and Service Guide</i>	806-4668
<i>Sun StorEdge N8200 Filer Installation Checklist</i>	806-5417
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Filer Overview

A network attached storage (NAS) device is an appliance that supplies disk storage to users over a network. Moving storage from the user's desktop to the network maximizes data availability and security. The Sun StorEdge N8200 Filer (hereafter referred to as "the filer") is a NAS that consists of a controller and one or more disk storage systems (hereafter referred to as "disk storage unit").

The filer contains features that are designed to minimize down time, including:

- Mirrored system disks in the controller
- Hardware redundant array of independent disks (RAID)-5 storage system
- Redundant power supplies in both the controller and disk storage units

Access to the filer's disk storage is through the following industry standard file access protocols:

- NFS™ file system
- Common Internet File System (CIFS)

The filer includes a web-based administration tool that provides an easy-to-use graphical user interface (GUI).

FIGURE 1 illustrates how a filer can interact in a common network environment.

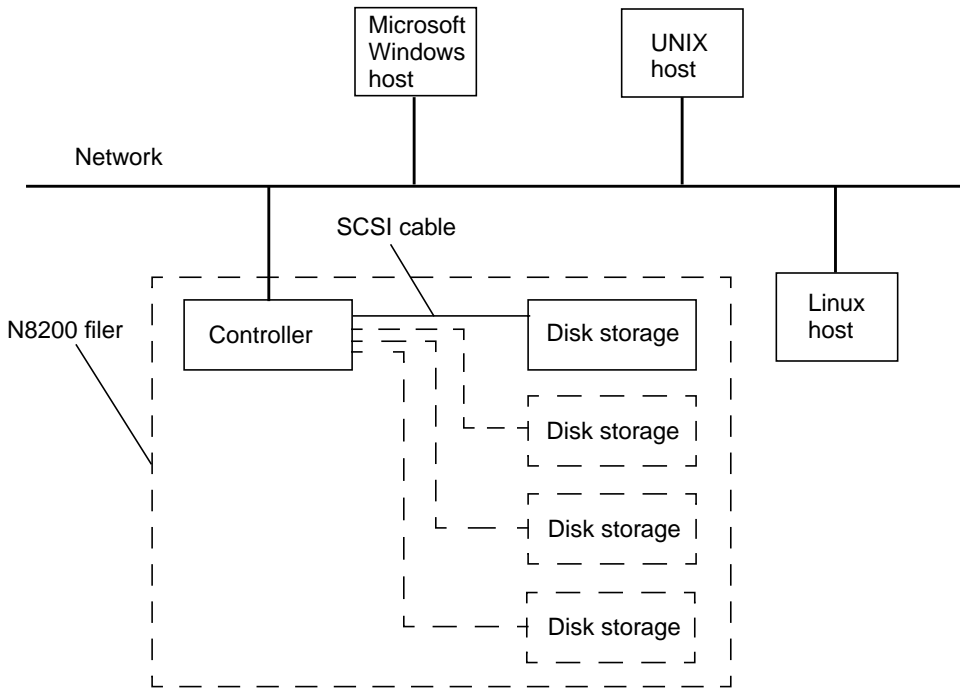


FIGURE 1 Typical N8200 Network Configuration

Note – The N8200 filer system storage can be expanded in 200-Gbyte increments to a maximum of 800 Gbytes. This is done by adding disk storage units. Contact your local Sun sales representative for more information.

The Filer Administration Tool

This chapter describes the Filer Administration Tool functions that are used to administer hosts on the network. The Filer Administration Tool main window has a tab for each of the six administration functions. This chapter provides a description of these functions, and is organized as follows:

- “Getting Started” on page 4
- “Important Information” on page 6
- “Users Function” on page 7
- “Groups Function” on page 11
- “Hosts Function” on page 14
- “Shares Function” on page 17
- “Network Function” on page 21
- “Settings Function” on page 24

Getting Started

Use this procedure to start the Filer Administration Tool after installing the filer or after restarting the system from a shutdown.

▼ To Start the Filer Administration Tool

1. Start the Netscape™ web browser.

Note – The Filer Administration Tool has been optimized for the Netscape 4.x browser.

2. Type the following in the URL location field:

`http://hostname:8080/`

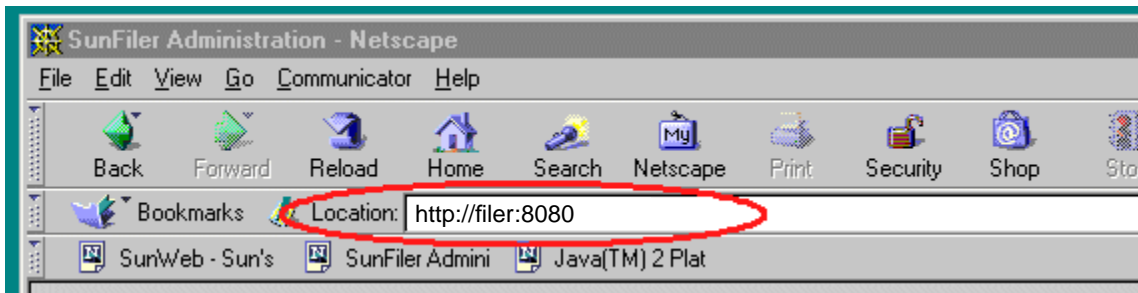


FIGURE 2-1 Typing the Filer URL

The Password dialog box is displayed.

3. Type the password you specified during installation.

The Filer Administration Tool is displayed and is ready to use as shown in FIGURE 2-3.

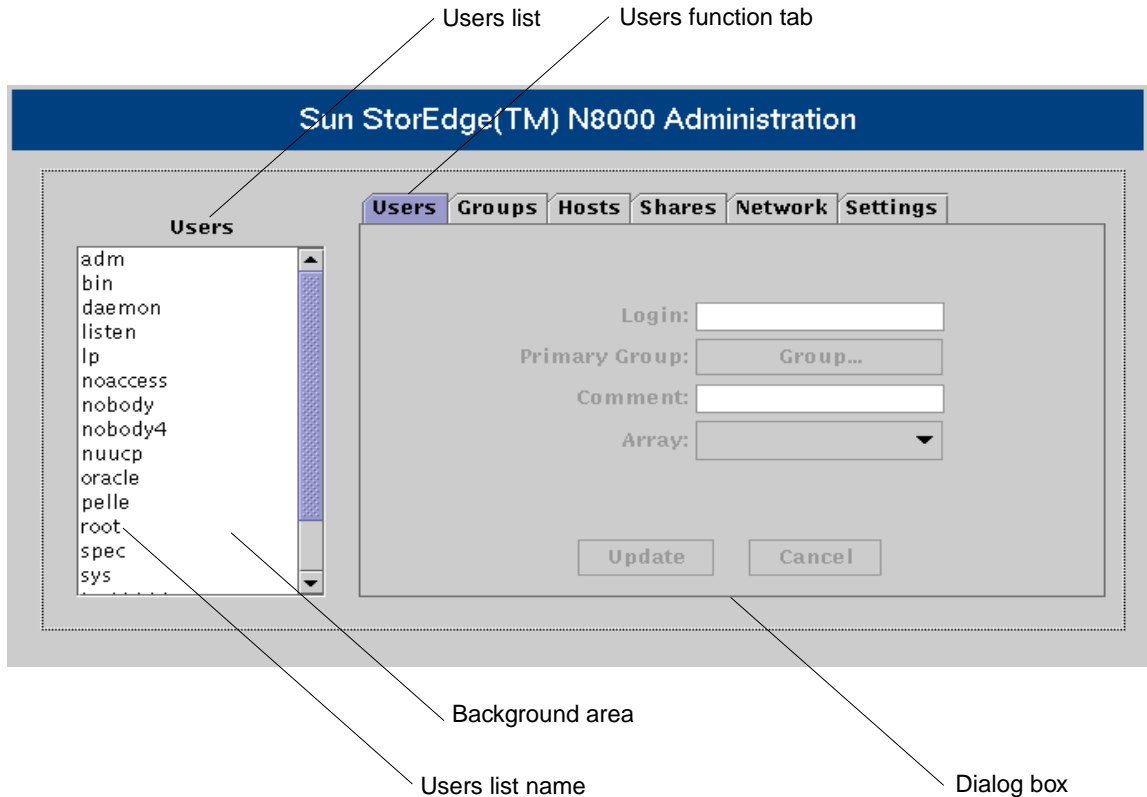


FIGURE 2-2 Filer Administration Tool Main Window

The Filer Administration Tool consists of a menu with a list box on the left and a dialog box on the right. The dialog box has a tab for each of the six administration functions:

- Users
- Groups
- Hosts
- Shares
- Network
- Settings

These functions are described in this chapter, and a business example that demonstrates using the Filer Administration Tool is provided in Chapter 3.

Important Information

Filer Administration Tool Protocols

1. When the Filer Administration Tool opens, the Users list on the left shows all the user account names currently configured on the filer. Some of the account names displayed in this list are system-supplied account names and should not be changed or deleted.
2. Whenever you start to edit a function, you must either enable the changes by using Update or cancel by using Cancel.
3. If you right-click on either a name or the background area of a function menu dialog box list, a context-sensitive menu is displayed.

Context-sensitive means that only those functions that are applicable at that time are displayed. For example, if you right-click on a user name, the full range of options are displayed; but if you right-click on the background, only the Add option is displayed.

4. If the filer has been configured to use the Network Information Service (NIS), and View User is selected, the Array button does not show the associated array (it goes blank) unless the user's home directory corresponds to one of the existing storage devices with the filer.

File Locking

File locking must be considered in an environment where data is accessed for update (read/write) from multiple locations simultaneously. If the filer is operating in an environment where data is not updated simultaneously, or updates are made only through the clients connected via CIFS, no special precautions are required. However, if the filer is operating in an environment where data is updated simultaneously through both the NFS and CIFS protocols, the following precaution must be observed. For all applications that use NFS to access data, ensure that the application establishes a "UNIX advisory lock" on all data being updated.

Caution – If an application uses both NFS and CIFS protocols to access data and does not have a "UNIX advisory lock" established, simultaneous updates can result in corrupted data.

Users Function

Use this function to assign account names to users so they can access data on the filer.

When the Filer Administration Tool opens, the Users dialog box is displayed by default as shown in FIGURE 2-3. The Users list on the left shows all the user account names currently configured on the filer. Some of the account names displayed in this list are system-supplied account names and should not be changed or deleted.



Caution – Never delete or modify a system-supplied account name.

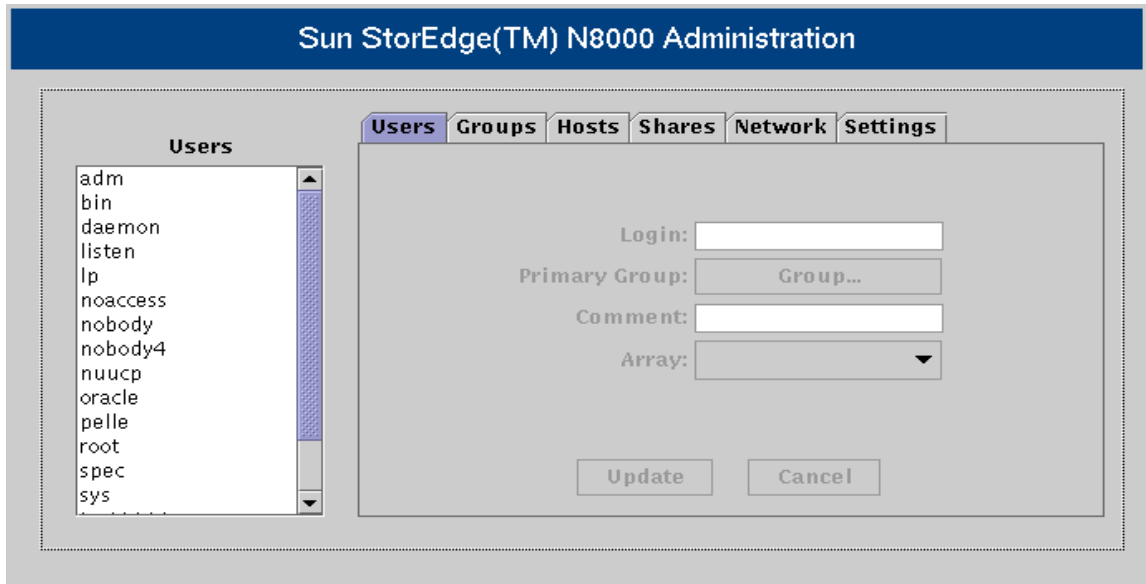


FIGURE 2-3 Filer Administration Tool Main Window

When you right-click a name in the Users list, a menu is displayed with the following four options, as shown in FIGURE 2-4.

- View User
- Add User
- Change User
- Remove User

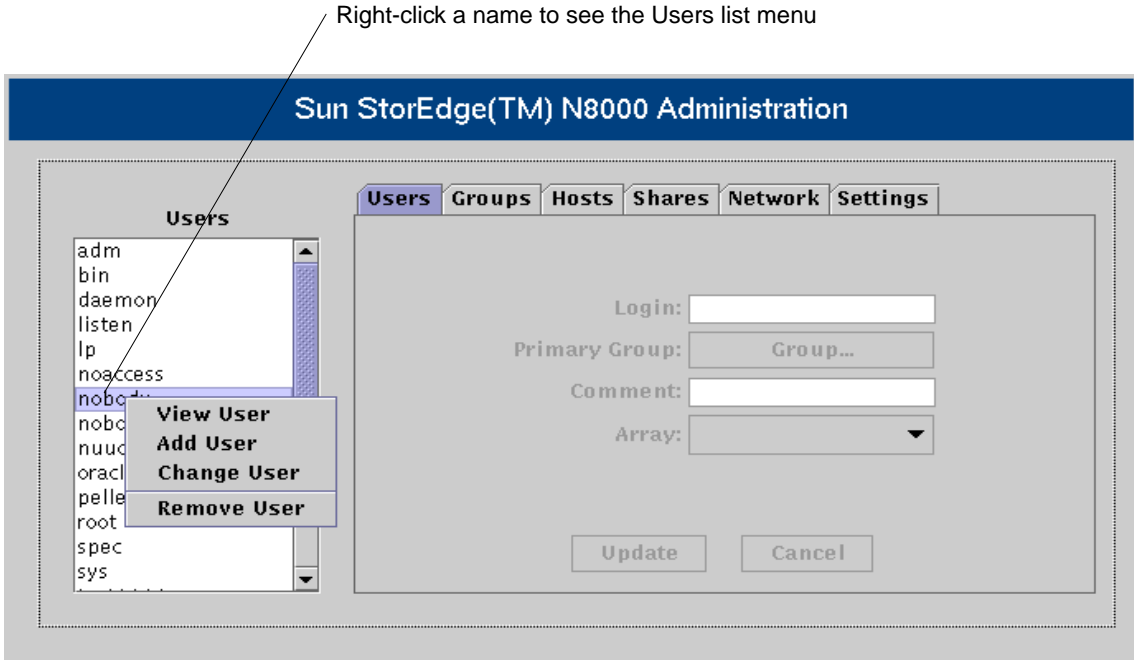


FIGURE 2-4 Users List Menu

View User

View User populates the data entry fields with information about the highlighted user name. The information shown in the data entry fields is light gray to indicate that the fields are inactive.

Add User

Add User activates the dialog box (see FIGURE 2-5) so you can add a user account to the filer system.

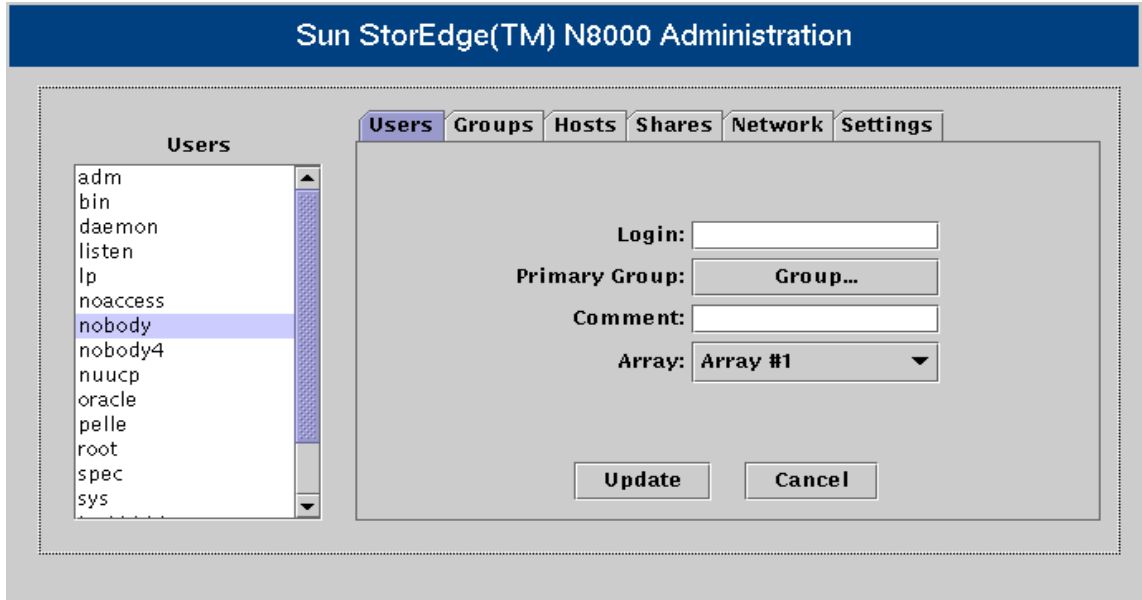


FIGURE 2-5 Users Function - Add User

The Add User field descriptions are as follows:

- **Login.** This field is used to assign a short name (no more than eight alphanumeric characters) to identify a user to the system.
- **Primary Group.** This field is used to assign a group name. Every user must be assigned to a primary group. A user can be a member of more than one group. Groups are used to manage permissions within the filer system. A group can have access only to specified files and directories.
- **Comment.** This field is optional and is typically used to associate a full name to an account user name.
- **Array.** This field is used to assign a user to an array in a multi-array environment. There might be more than one array within a filer; this allows an administrator to balance the load and manage capacity more efficiently.

Click Update to:

- Create a new user account.
- Create a new home directory for the user account on the indicated array.
- Make the user account home directory available through the NFS and CIFS protocols.

Change User

Change User enables you to change the following fields for an existing user.

- Primary Group
- Comment

Click Update to make the changes effective.

Remove User

Remove User removes the selected user account from the filer.

This function does not remove the user's home directory on the filer; thus minimizing the chance of permanently removing important data. Removal of a user's home directory must be done using operating system commands.

Groups Function

This function enables you to combine multiple users into a logical unit for the purpose of controlling access to files and directories. The Groups function works in a similar fashion to the Users function.

When you right-click a name in the Groups list, a menu is displayed with four options as shown in FIGURE 2-6.

- View Group
- Add Group
- Change Group
- Remove Group

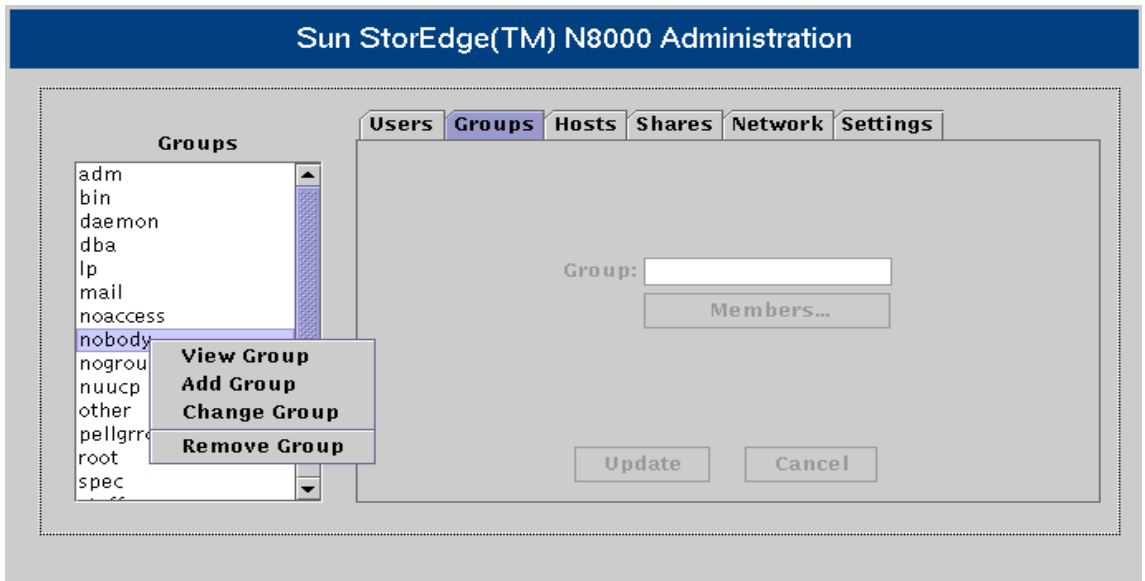


FIGURE 2-6 Groups List Menu

View Group

View Group populates the filer window data entry field with information about the highlighted group name. The information shown in the data entry field is light-gray to indicate that the fields are inactive. Click Members to view the membership of the selected group.

Add Group

Add Group activates the dialog box, as shown in FIGURE 2-7.

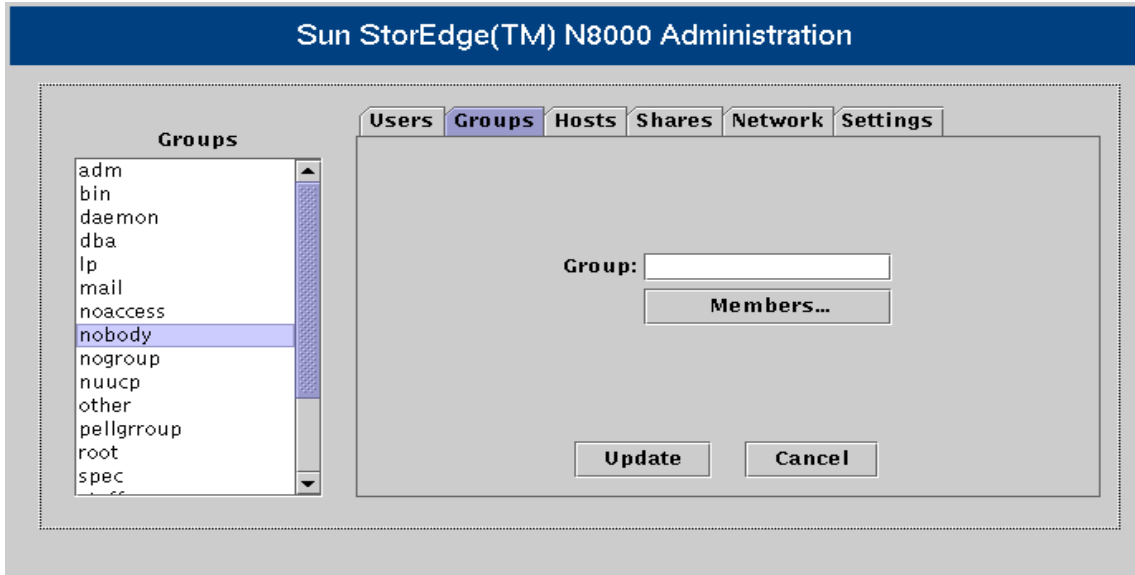


FIGURE 2-7 Groups Function - Add Group

The Add Group field descriptions are as follows:

- **Group.** This field enables you to name (no more than eight alphanumeric) a new group.
- **Members.** Use this button to select members for a new group. When you click on this button, a new Member Selection list is displayed with available users. To select multiple users for a group, hold down the control key and click on the names in the list.

Click Update to:

- Create a new group with the indicated membership.
- Create a new home directory for the group account on the indicated array.
- Make the group account home directory available through the NFS and CIFS protocols.

Change Group

This option enables you to change the membership composition of a selected group.

Click Members to see a Member Selection list with all the current group members. To change the group membership, Control-click to highlight only the desired members, and then click Apply. Only the highlighted members will remain in the group.

Note – For the Change Group option, if you do not hold down the Control key to select or deselect a name in the list box, all currently selected members will be deselected! If this happens and you want to regain the original membership, simply click Cancel.

Remove Group

Remove Group removes the selected group account from the filer.

Hosts Function

A host is another name for a computer, or other device, that resides on a network. Each host is uniquely identified on a network by its Internet Protocol (IP) address. An IP address is made up of four numbers, each with a range of 1 to 254, that are separated by periods. In addition, a host can have a name assigned to it for convenience in referring to a specific host. See TABLE 2-1 for examples.

TABLE 2-1 Host Identification Examples

Host Name	IP Address
filer-05	192.168.17.11
benchpress	129.10.56.20

Hosts can have multiple names (aliases) that can refer to the same machine.



Caution – System-supplied host names should not be modified or removed. These include the hostname assigned to the filer, as well as “localhost.”

The Hosts function is important because, in conjunction with the Shares function, it is another method by which administrators can control the access to the filer data files. The Shares function (which is discussed later) enables the administrator to establish read-only or read-and-write permissions to specific directories based on a specific host.

When you right-click a name in the Hosts list, a menu is displayed with two options, as shown in FIGURE 2-8.

- View Host
- Add Host
- Remove Host

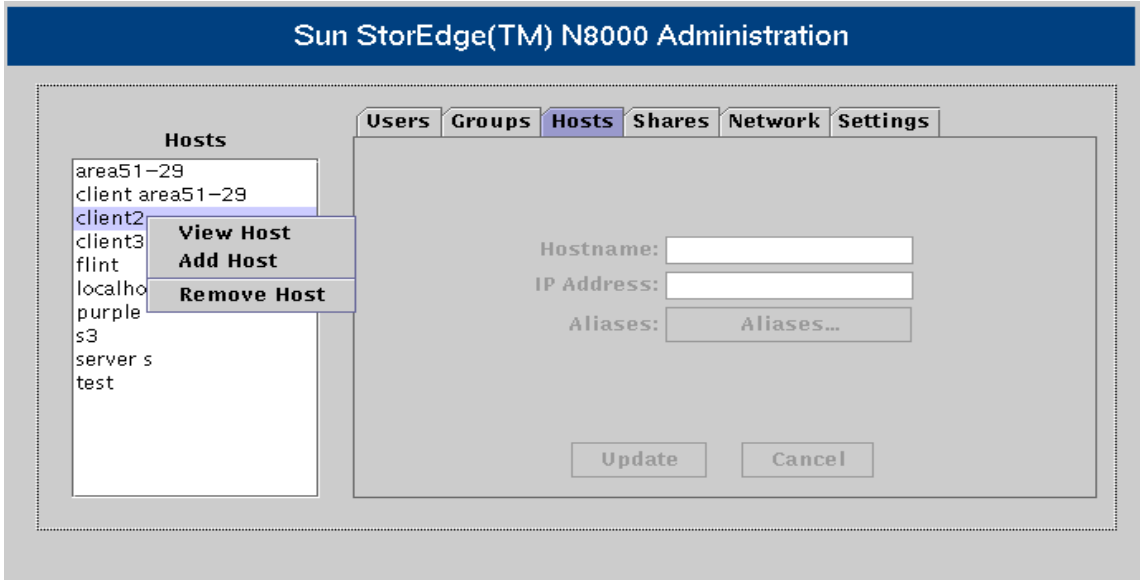


FIGURE 2-8 Hosts List Menu

View Host

View Host populates the filer window data entry field with information about the highlighted group name. The information shown in the data entry field is light-gray to indicate that the fields are inactive.

Add Host

This option enables you to add a host, which can later be assigned read and write or read-only access to a share. Add Host activates the dialog box, as shown in FIGURE 2-9.

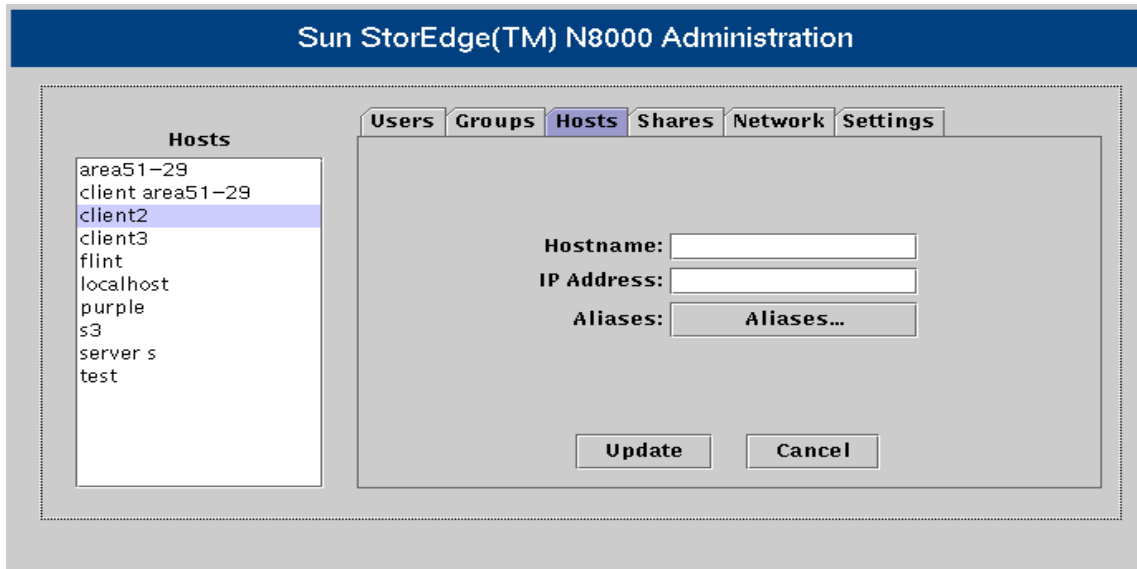


FIGURE 2-9 Hosts Function - Add Host

- **Hostname.** This field enables you to assign a primary name to a new host.
- **IP Address.** This field is used to establish a new host IP address.
- **Aliases.** This button enables you to configure alternate names for a given host.

Remove Host

Remove Host removes the selected host account from the filer.

Shares Function

Shares is the means by which the filer makes its local disk space available to other networked hosts and users on those hosts. This means that for each share, there is an underlying directory that it is “sharing” with the rest of the network.

When you right-click a name in the Shares list, a menu is displayed with three options, as shown in FIGURE 2-10.

- Add Share
- Change Share
- Remove Share

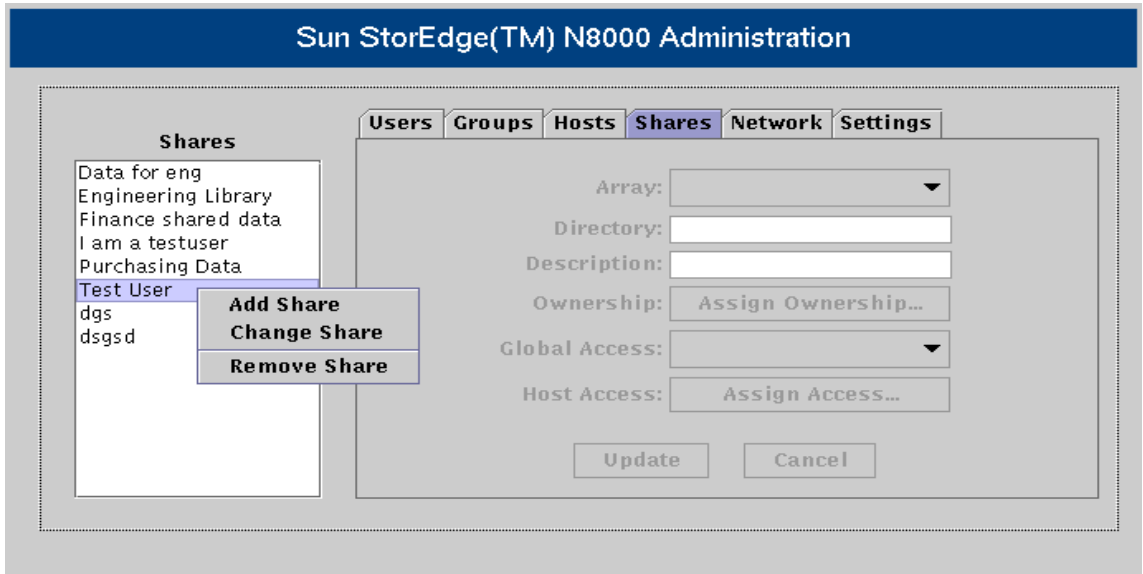


FIGURE 2-10 Shares List Menu

Add Share

This option enables you to create a directory on the filer and make that directory available on the network. Add Share activates the dialog box, as shown in FIGURE 2-11.

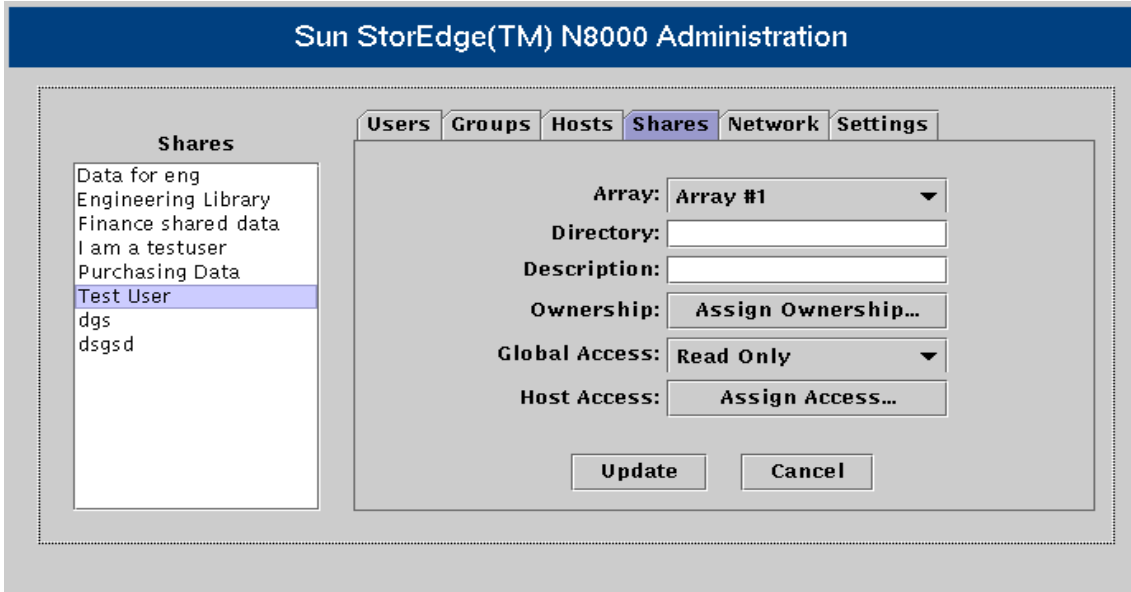


FIGURE 2-11 Shares Function - Add Share

- **Array.** Enables you to choose from a list of available arrays. These arrays correspond to the storage devices that are configured on the system. The array name (for example, array #1) is a generic name and has nothing to do with the operating system. The array field maps to a top-level directory such as /data1, /data2, /data3, or /data4.
- **Directory.** This field is used to name the directory that will share information on the array specified above.
- **Description.** This field is used to establish the common name for the share that will appear in the Shares list.
- **Ownership.** This button is used to assign user and group ownership to a directory created on the network by the Add Share option. The default user is "root" (the superuser), and the default group is "other." Once ownership of a directory is assigned, the owner is responsible for setting the permission levels on all the files and subdirectories that reside inside a share.

- **Global Access.** This button is used to establish the access level that any system on the network would have if it mounted this share. It is either Read Only or Read/Write.

Administrators can create a share and set global access to read or write, but set permissions (using the system commands `chown`, `chgrp`, and `chmod`) so that only one person or a select group of people can have access to it.

- **Host Access.** This button works in a similar fashion to the Global Access button, except that it enables a finer level of control by the host. When you select the Host Access button, a dialog box is displayed with a list of hosts and a data entry field. When you right-click on a name in the host list, a menu with four options is displayed: Update Access, Add Host, Remove Host, and Revert.
 - **Update Access** enables you to select an existing host of this Host Access dialog box host list to change the level of access.
 - **Add Host** enables you to add a new host to the Host Access dialog box host list to set the level of access. This host must have already been added to the main host list with the Host function.

Note – The Add Host process does not add a host to the Hosts Function list; it adds a host only to the Host Access dialog box list.

- **Remove Host** enables you to remove a host from the Host Access dialog box host list.
- **Revert** enables you to undo any changes made to the Host Access dialog box host list. The list reverts back to the state before the Host Access dialog box was opened.

In addition to Read Only and Read/Write, there is a Root access level on the Host Access dialog box. This allows full administrative level access to the named share from a specified remote host.

There are also two buttons at the bottom of the dialog box.

- **Update** enables you to make any changes effective and continue with Host Access processing.
- **Finished** terminates the Host Access session.

Note – If the access assigned to a host matches the share's global access, that host will not appear in the Host Access dialog box host list after an update.

Change Share

Change Share enables you to modify the permissions of a share. It works in a similar fashion to Add Share except the Array button is not available.

Remove Share

This option removes the selected share from the filer.

Network Function

The Network function allows you to configure the network interfaces that have been installed on the filer. When the filer was installed and configured, the primary interface was established when the prompts for the hostname and IP address were answered. This function enables you to set up additional network interfaces. Each additional interface must have a unique name and address.

When you right-click a name in the Network list, a menu is displayed with the following three options, as shown in FIGURE 2-12.

- View
- Change
- Disable

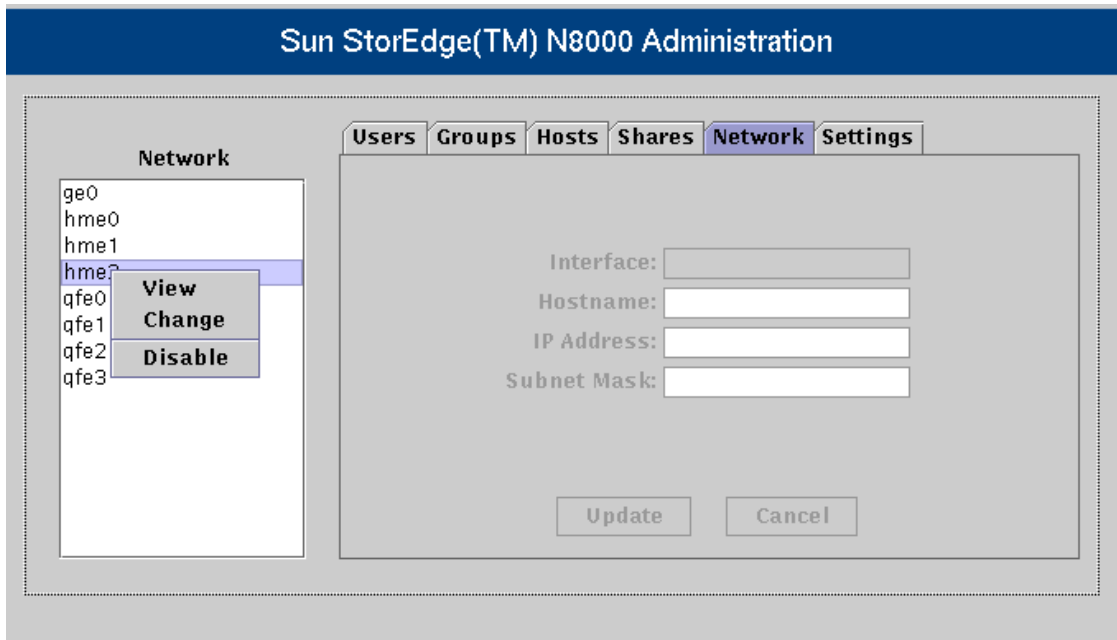


FIGURE 2-12 Network List Menu

View

View populates the filer window data entry field with information about the highlighted interface. If an interface has not been configured, the IP address field will be set to 0.0.0.0. The information shown in the data entry field is light-gray to indicate that the fields are inactive.

Change

This option enables you to change the configuration of a network interface. Change is also used to configure a previously unconsidered interface.

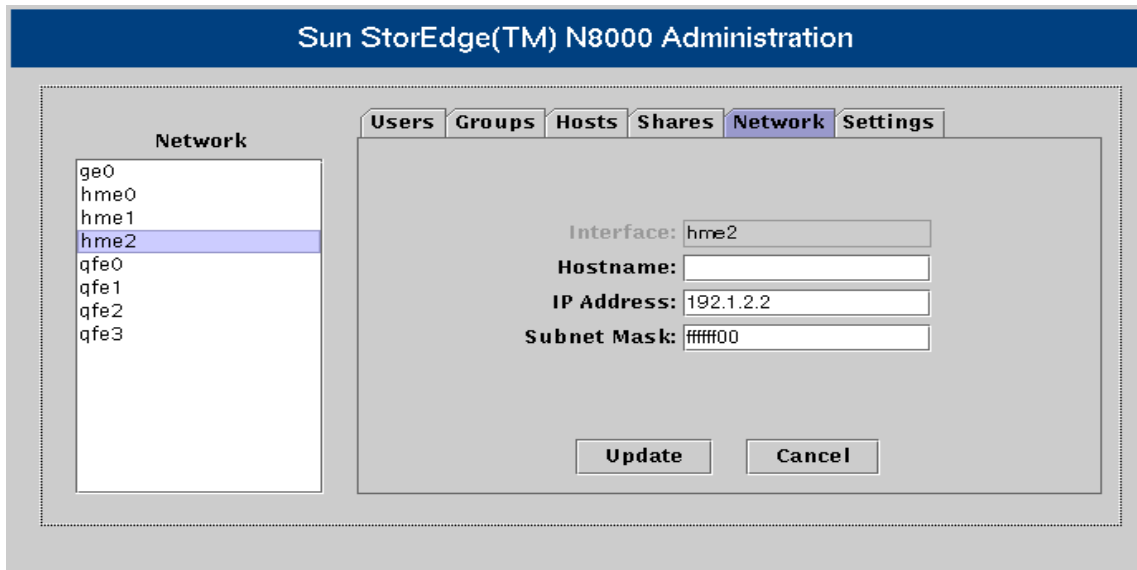


FIGURE 2-13 Network Function - Change

- **Hostname.** This field enables you to assign a unique name to the network interface being changed.
- **IP Address.** This field is used to assign a unique IP address to the network interface being changed.
- **Subnet Mask.** This field enables you to set the subnet mask for the interface being configured. The subnet mask can be entered in either of two ways:
 - Decimal notation; for example, 255.255.255.0
 - Hexadecimal notation; for example fffff00



Caution – Changing the configuration of the network interfaces could cause communication problems between the filer and the rest of the network. Be careful to ensure the filer conforms to the configuration settings of the other hosts on the network.

Disable

This option resets the selected network interface to an unconfigured state. Disable reset all values, including the hostname and IP address.

Settings Function

The Settings function is used to configure various system settings and parameters.

Settings Function Data Entry

When you open the Shares function, a dialog box with three active buttons is displayed, as shown in FIGURE 2-14.

- **Email Notification.** This button is used to configure one or more email addresses to which notification will be sent if a hard drive should fail. Such notification are sent on either a failure of one of the RAID-protected data disks or one of the mirrored system disks.

Note – To enable email notifications, a network mail server must be identified to the filer. To identify the network mail server, use the Host function to create a host named “mailhost” or assign the alias “mailhost” to an existing host.

- **NIS.** This button is used to change the Network Information Service (NIS) domain on which the machine resides. NIS is used to distribute various data files across multiple machines.

Note – If a Sun StorEdge N8000 series filer is configured as a member of a NIS domain, the Filer Administration Tool functions in read-only mode. This results in access to the Users, Groups, and Hosts functions will be restricted to view only.

- **DNS.** This button is used to change the Domain Name System (DNS) information that filer uses to look up network addresses using host names. DNS is the counterpart of an IP address.

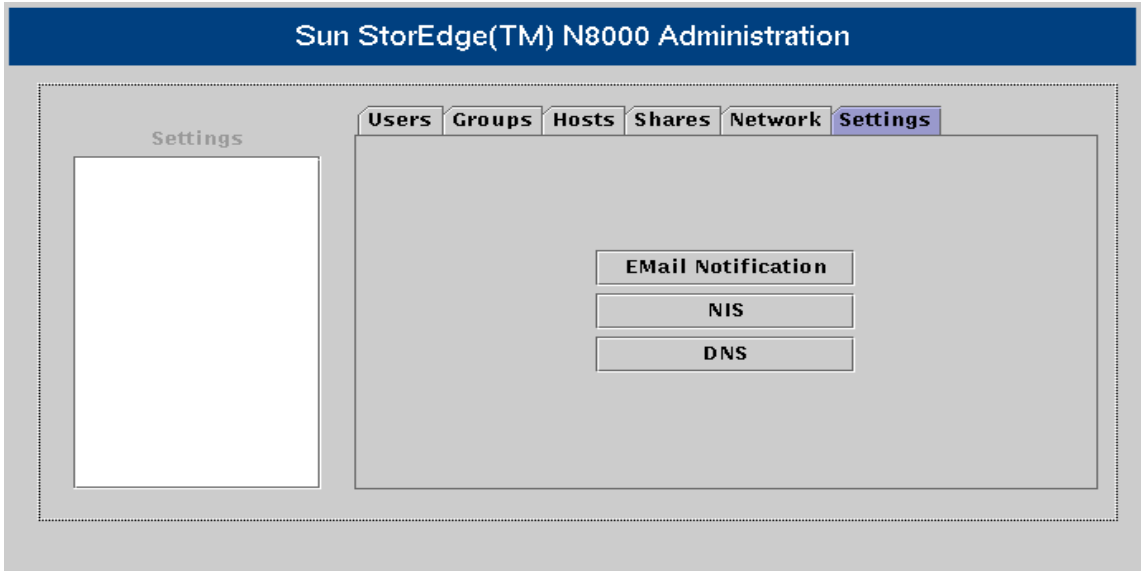


FIGURE 2-14 Settings Function Dialog Box

Using the Filer Administration Tool

This chapter is organized as follows:

- “A Business Example” on page 28
- “Procedures” on page 30
 - “To Add a New Group” on page 30
 - “To Add a New User” on page 34
 - “To Remove a User” on page 38
 - “To Change a Group” on page 39
 - “To Add a New Host” on page 42
 - “To Add a New Share” on page 47
 - “To Change a Share” on page 55
 - “To Change a Network Interface” on page 62
 - “To Change Email Notifications” on page 62
 - “To Change DNS Client Services” on page 64
 - “To Change NIS Client Services” on page 66

A Business Example

This section provides a typical business example and assumes that you are the system administrator for a company that needs to assign access to the filer for the Finance department. The Finance department has five members and a supervisor. The supervisor and possibly other members need to have different access permissions. The company CFO also needs read-only access to the filer data.

TABLE 3-1 Business Example Summary

Work Objective/Condition	Task	Reference
Start setting up the Finance department functional group.	1. Add a <i>group</i> account name for the department. Leave the group membership empty.	“To Add a New Group” on page 30
	2. Add a <i>user</i> account name for each member of the department. Assign each member to the group created above, and designate this group to be a primary group.	“To Add a New User” on page 34 Note: Whenever you add a user, a share for that user is automatically created (added) in the home directory. This share can then be modified or deleted with the Shares function.
An employee in the finance department quits.	1. Remove the employee’s user account name from the system.	“To Remove a User” on page 38
	2. Delete the employee’s user account name from the group.	“To Change a Group” on page 39
Create a common shared data area for the department.	1. Add a <i>host</i> name (IP address) for each machine in the department.	“To Add a New Host” on page 42
	2. Add a <i>share</i> for the department and establish the hosts, group(s), ownership, and access permissions.	“To Add a New Share” on page 47

TABLE 3-1 Business Example Summary (Continued)

Work Objective/Condition	Task	Reference
Set up access to the share for the CFO.	<ol style="list-style-type: none"> 1. Add a <i>user</i> account name for the CFO. 2. Add a <i>host</i> name (IP address) for the CFO's machine. 3. Change the department <i>share</i> to add the CFO host with read-only access. 	<p>“To Add a New Group” on page 30</p> <p>“To Add a New Host” on page 42</p> <p>“To Change a Share” on page 55</p>
The Engineering department is generating so much traffic that it impacts the performance of the primary network.	Move the Engineering department to a separate network and configure one of the filer's network interfaces for use on that network.	“To Change a Network Interface” on page 62
Set up email notifications and client services.	<ol style="list-style-type: none"> 1. As the system administrator, set up email to automatically notify you of any hardware physical failures. 2. Set up DNS client service. 3. Set up NIS client service. 	<p>“To Change Email Notifications” on page 62</p> <p>“To Change DNS Client Services” on page 64</p> <p>“To Change NIS Client Services” on page 66</p>

Procedures

This section contains the following topics:

- “To Add a New Group” on page 30
- “To Add a New User” on page 34
- “To Remove a User” on page 38
- “To Change a Group” on page 39
- “To Add a New Host” on page 42
- “To Add a New Share” on page 47
- “To Change a Share” on page 55
- “To Change a Network Interface” on page 62
- “To Change Email Notifications” on page 62
- “To Change DNS Client Services” on page 64
- “To Change NIS Client Services” on page 66

▼ To Add a New Group

Use this function to establish groups that can later be categorized into primary groups and subgroups. The new group can be left empty so that members can be assigned later.

1. **Click the Groups tab if it is not active.**

2. Right-click in the background area of the Groups list.

The Groups list box submenu is displayed.

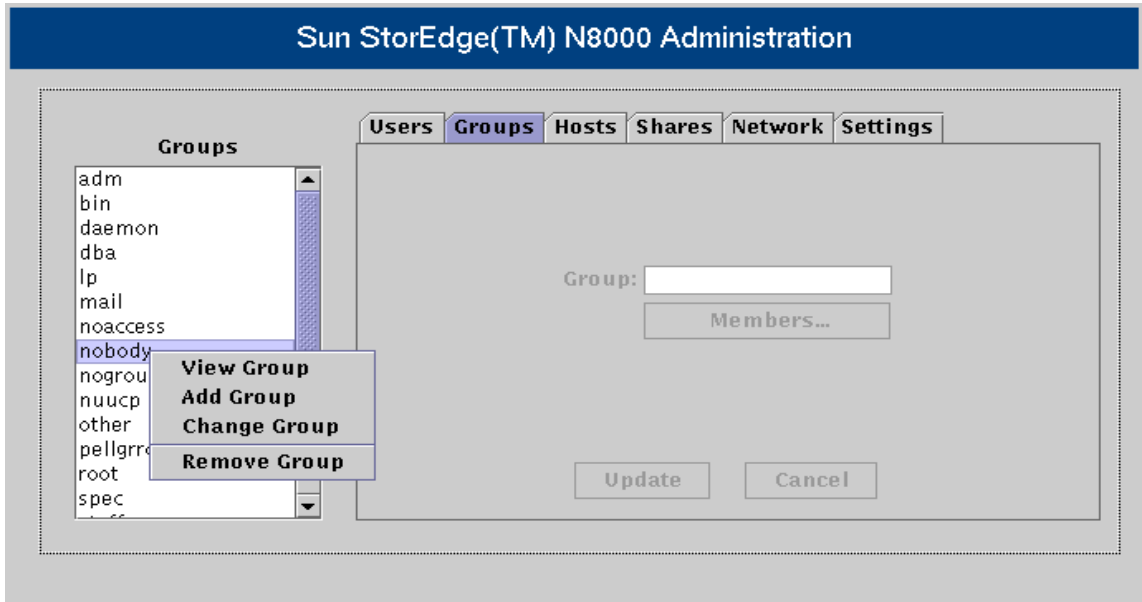


FIGURE 3-1 Groups List Menu

Note – If you right-click on either a name or the background area of a list, a context-sensitive menu is displayed. Context-sensitive means that only those functions that are applicable at that time are displayed. For example, if you right-click on a user name, the full range of functions are displayed; but if you right-click on the background, only the Add function is displayed. This is true for the list menus of all Filer Administration Tool functions.

3. Choose Add Group.

The dialog box becomes active.

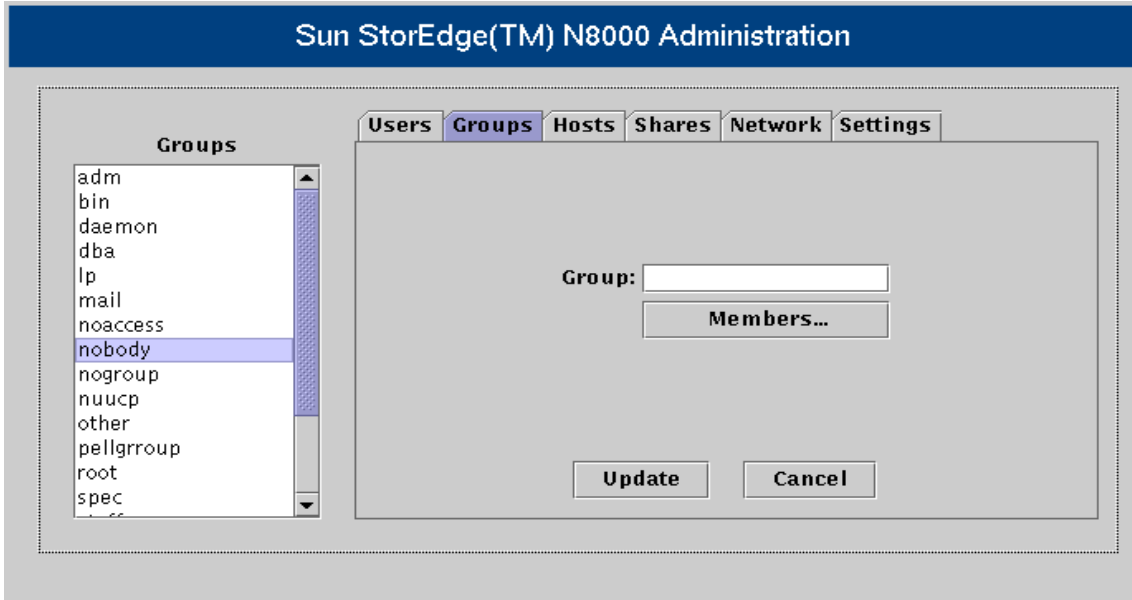


FIGURE 3-2 Groups Function - Add Group

4. Type a unique group name with no blank spaces and with eight or less alphanumeric characters.

5. Click **Members**, or if the user(s) has not been added to the system yet (as in “A Business Example” on page 28) skip this step to leave the group empty so you can assign members later.

The Members Selection list, which shows all current users, is displayed.

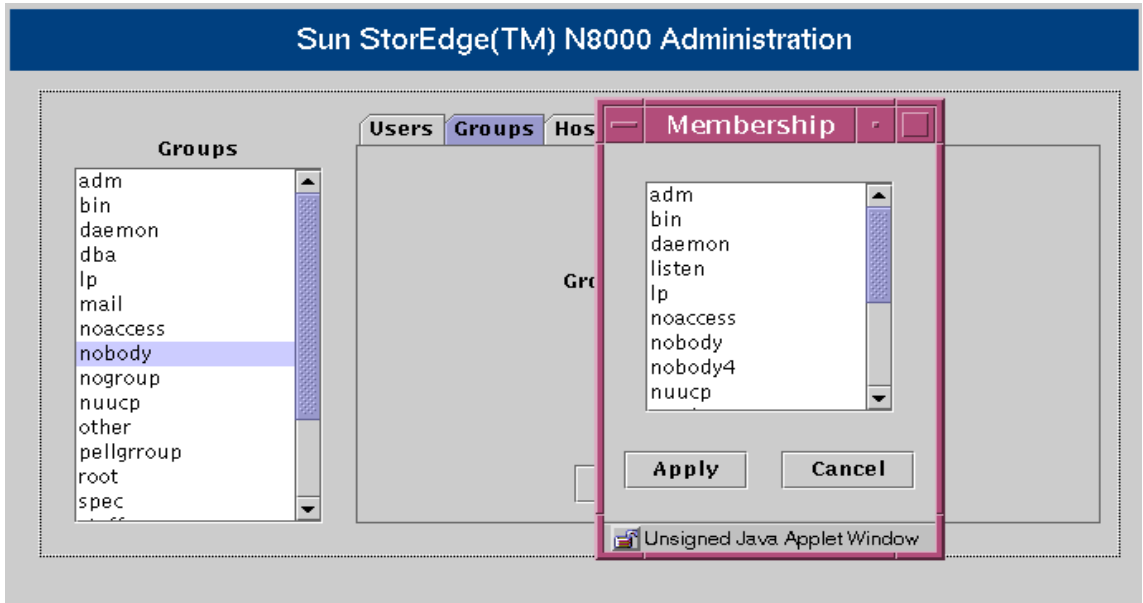


FIGURE 3-3 Groups Function - Members Selection

- a. Control-click on all the member(s) to be added to the group.
 - b. Click **Apply**.
6. Click **Update**.

Note – Whenever you start to edit a function, you must either enact the changes by using **Update** or cancel by using **Cancel**.

7. Verify that the new group is displayed in the **Groups** list box.

▼ To Add a New User

1. Click the Users tab if it is not active.
2. Right-click in the background area of the Users list box.

The Users list menu is displayed.

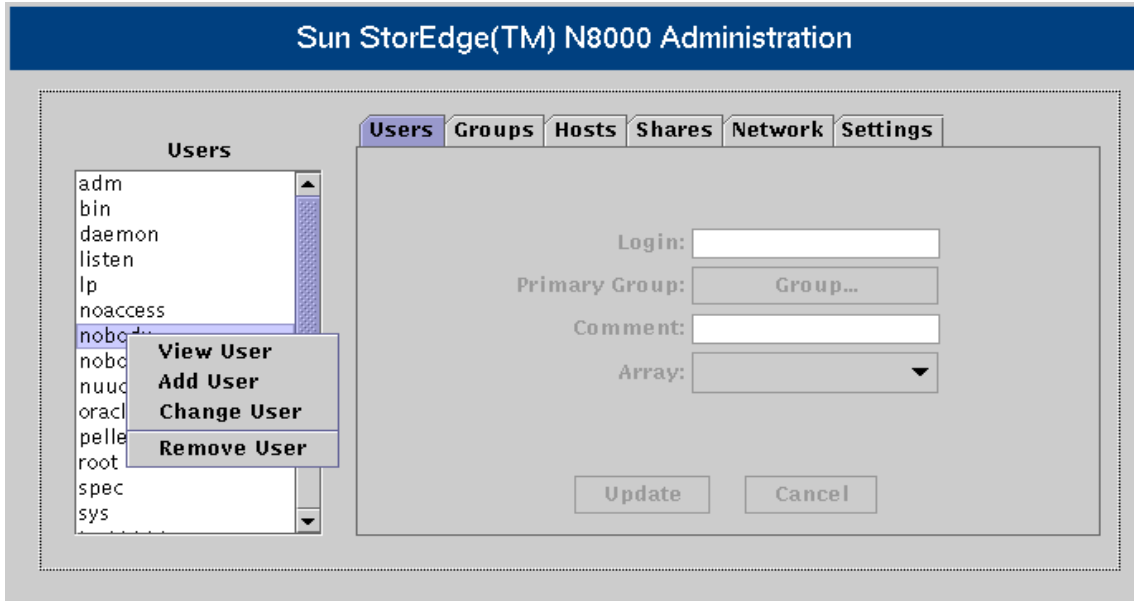


FIGURE 3-4 Users List Menu

3. Choose Add User.

The dialog box become active.

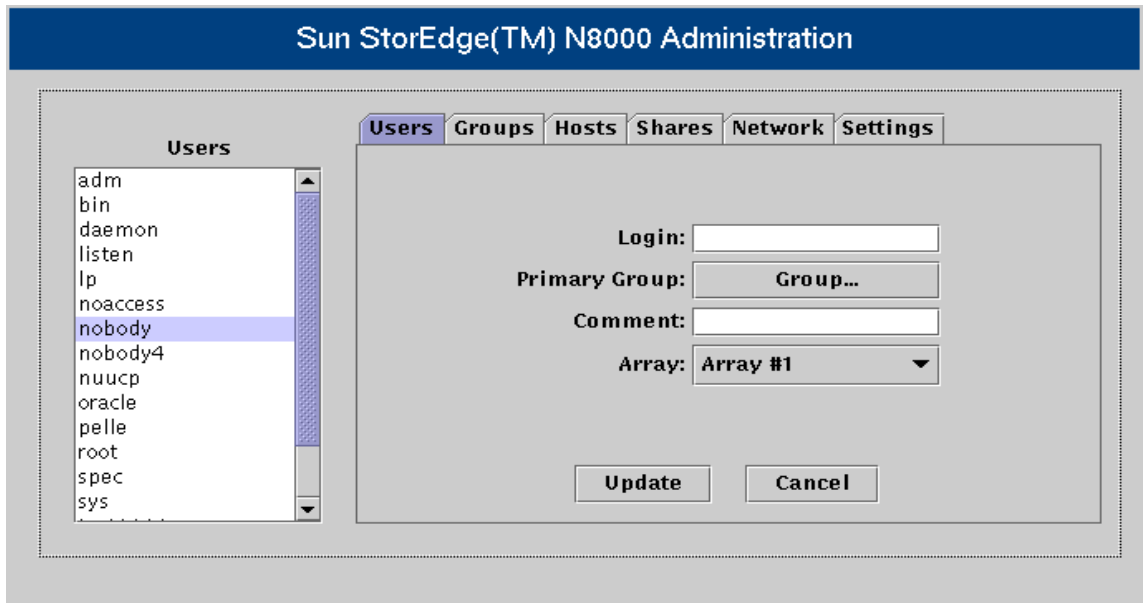


FIGURE 3-5 Users Function - Add User

4. Type a unique user name with no blank spaces and with eight or less alphanumeric characters.

This will be the user's login name.

5. Click Primary Group.

The Group Selection list box is displayed.

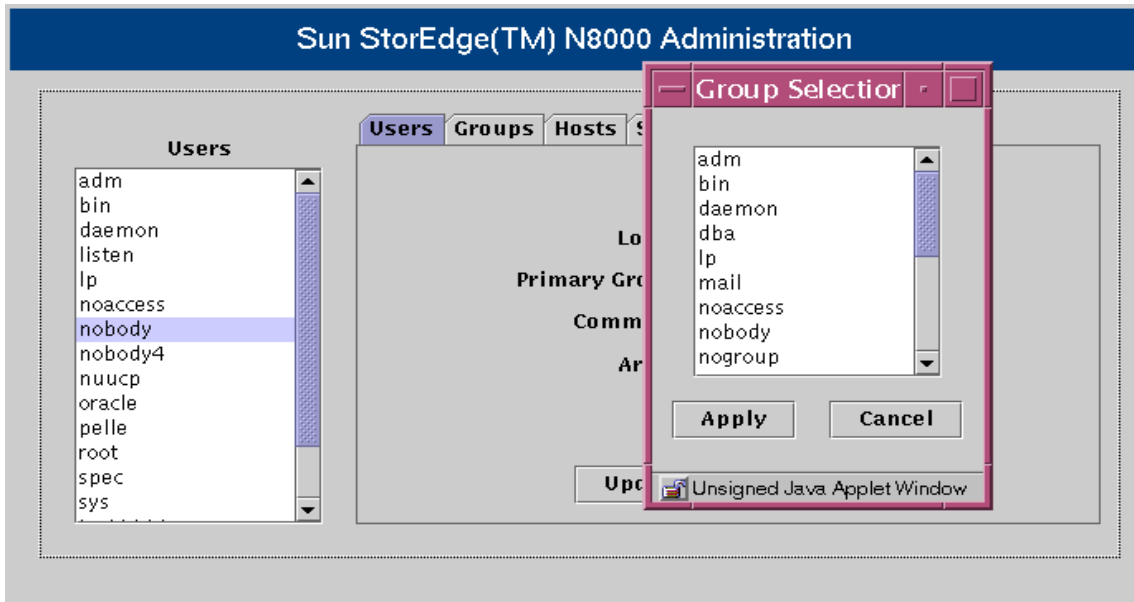


FIGURE 3-6 Users Function - Primary Group - Group Selection

6. Choose a Group and click Apply.

This links the user to this primary group.

7. Optionally, add a comment.

8. Click Array and choose an array.

There can be up to four arrays.

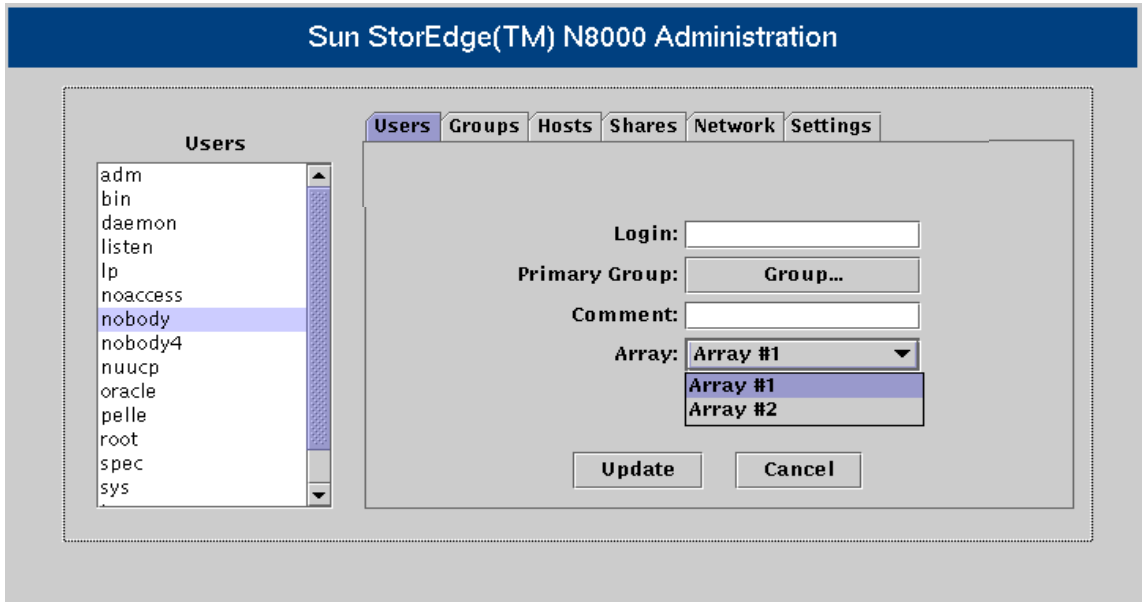


FIGURE 3-7 Users Function - Array Selection

9. Click Update.

10. Verify that the new user is displayed in the Users list.

▼ To Remove a User

1. Click the Users tab if it is not active.

2. Right-click on a user.

The Users list menu is displayed.

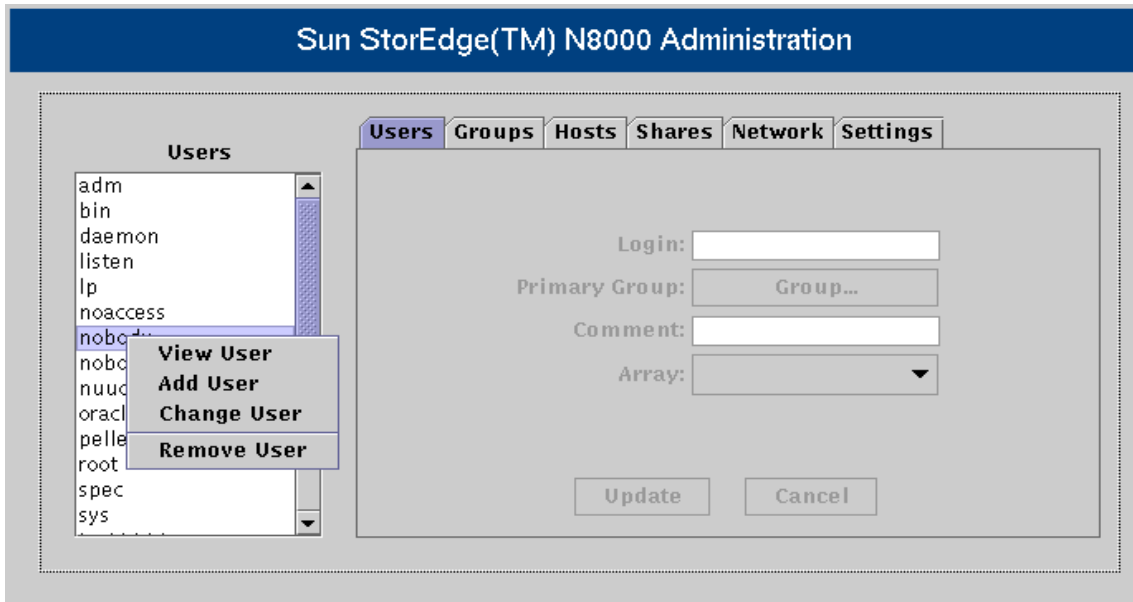


FIGURE 3-8 Users List Menu

3. Choose Remove User and verify or cancel the removal when prompted.

4. Verify that the deleted user does not appear in the Users list.

▼ To Change a Group

Use the Change Group option to delete members from a group.

Note – To add a new or existing user to a group, use the Users function (see “To Add a New User” on page 34). To add a new user, click in the background area of the Users list. For an existing user, click on the user’s name.

1. Click the Groups tab if it is not active.
2. Right-click on a group.

The Groups list menu is displayed.

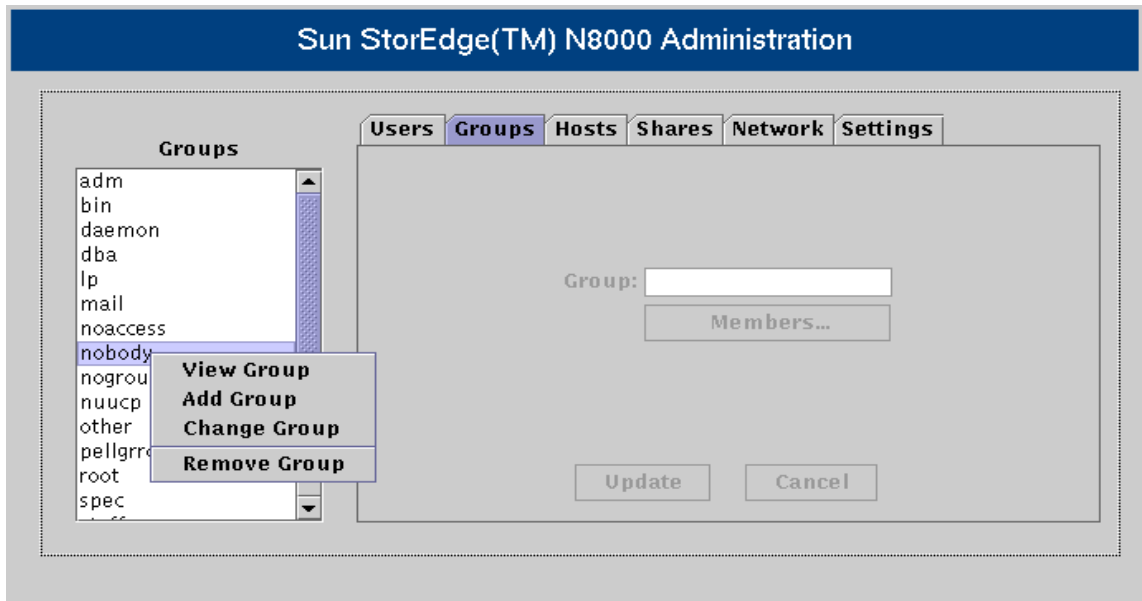


FIGURE 3-9 Groups List Menu

3. Choose Change Group.

The group name is displayed in the data entry field and the Members button becomes active.

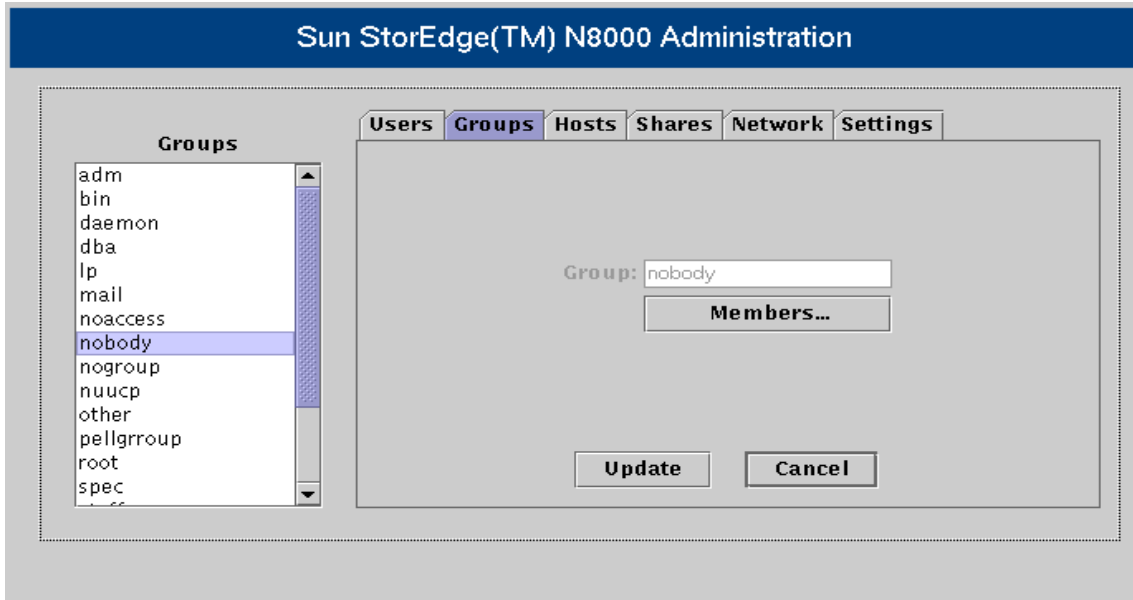


FIGURE 3-10 Groups Function - Change Group

4. Click Members.

The Members Selection list, which contains all members in the named group, is displayed.

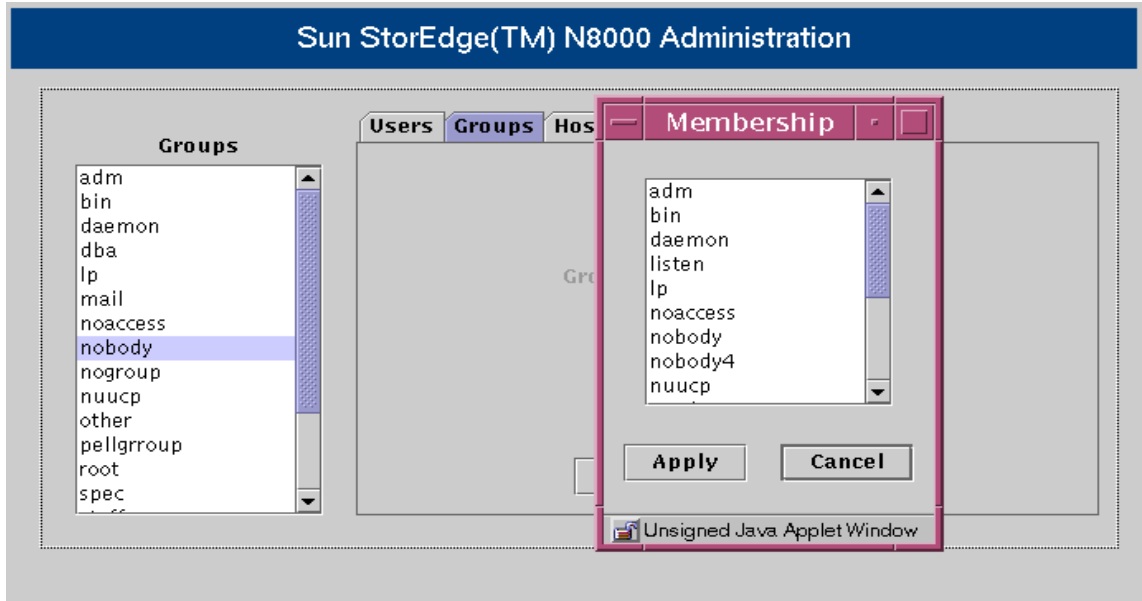


FIGURE 3-11 Groups Function - Member Selection

5. Control-click to highlight all member that are to *remain* in the group.

All members that are not highlighted will be deleted.

Note – If you want to choose more than one member to remain, and you do not hold down the Control key while selecting a new name, the current member(s) are de-selected. If you forget to hold down the Control key and want to regain the original selections, click Cancel.

6. Click Apply.

7. Click Update.

8. Verify that the excluded member(s) do not appear in the Member Selection list by clicking Members again.

▼ To Add a New Host

1. Click the Hosts tab if it is not active.
2. Right-click in the background area of the Host list.

The Hosts list menu is displayed.

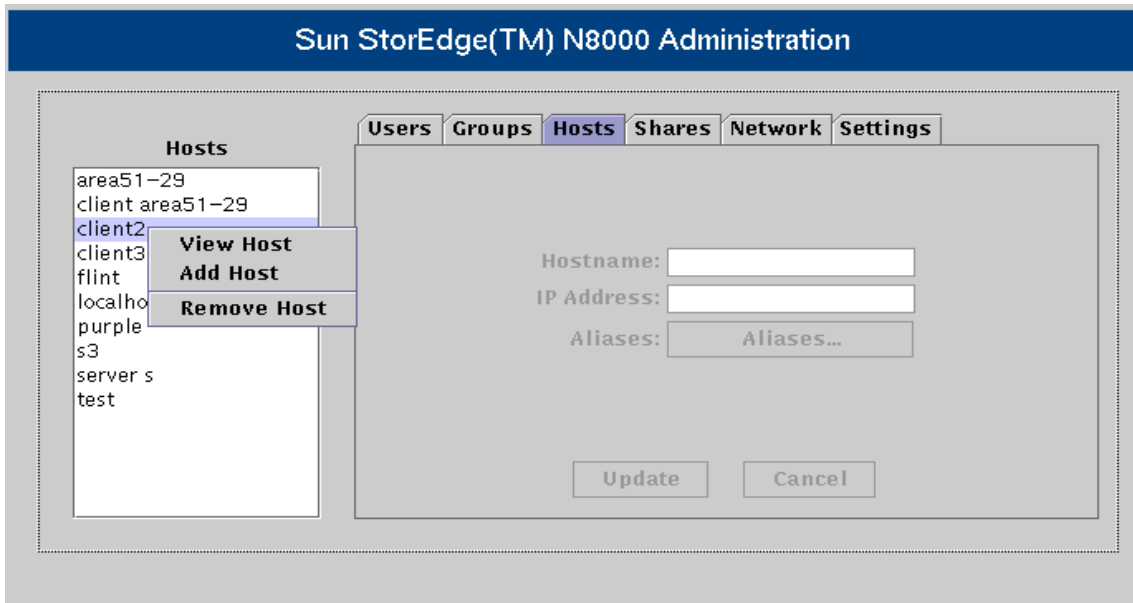


FIGURE 3-12 Hosts List Menu

3. Choose Add Host.

The dialog box become active.

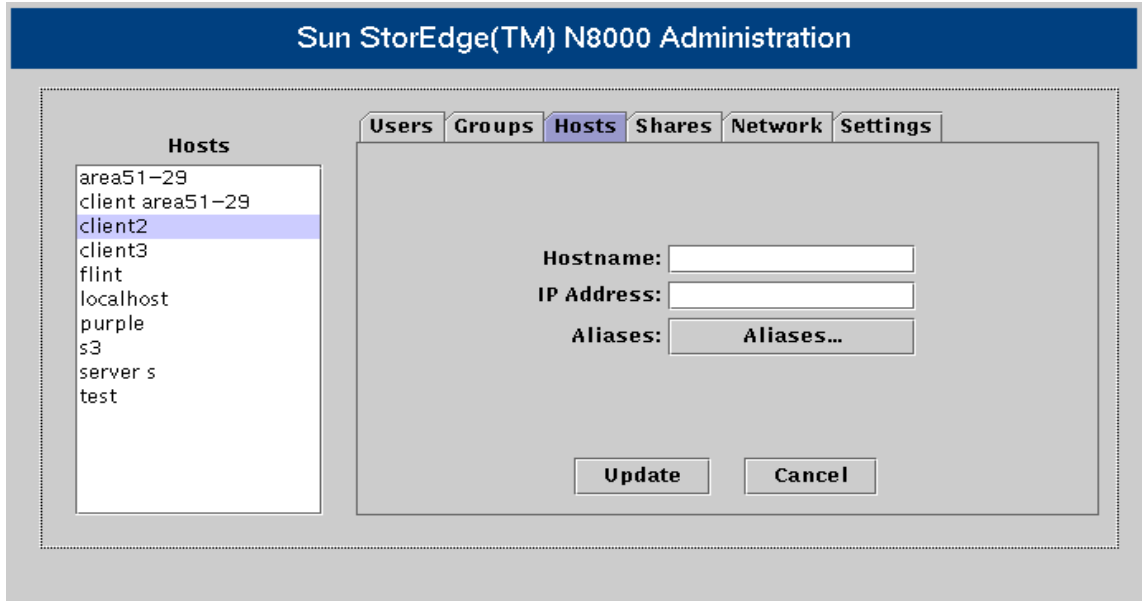


FIGURE 3-13 Hosts Function - Add Host

4. Type a unique host name.

5. Type in the host's IP address.

6. Optionally, Click Aliases.

The Host Aliases list is displayed and might be empty, as shown in FIGURE 3-14.

a. To remove a host, right-click on it.

It is automatically removed.

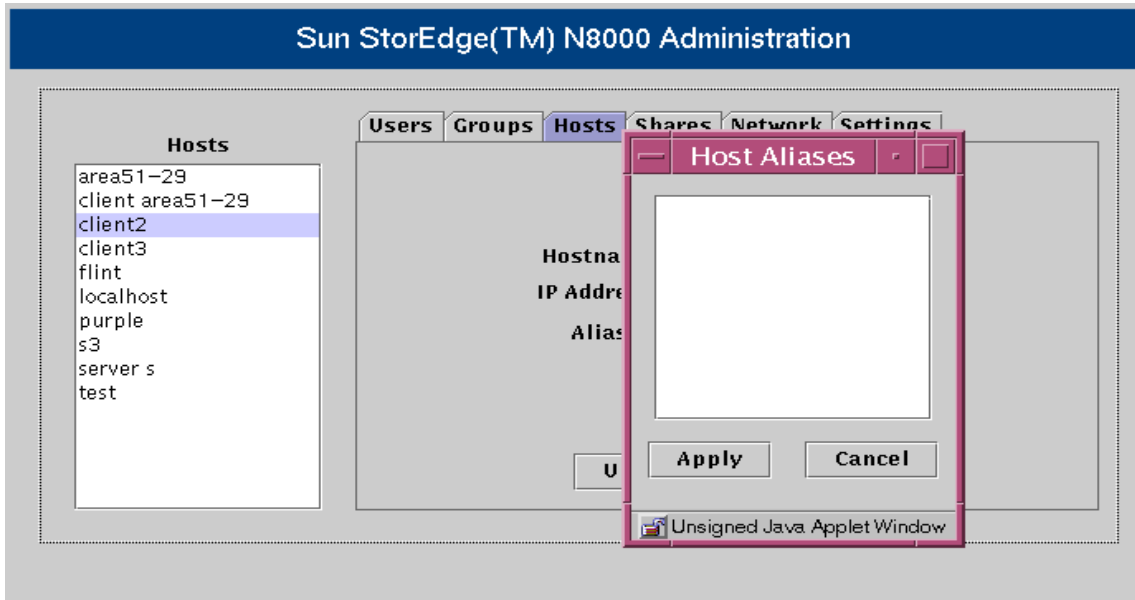


FIGURE 3-14 Hosts Function - Host Aliases

b. To add a host, right-click in the background area.

The Add menu is displayed.

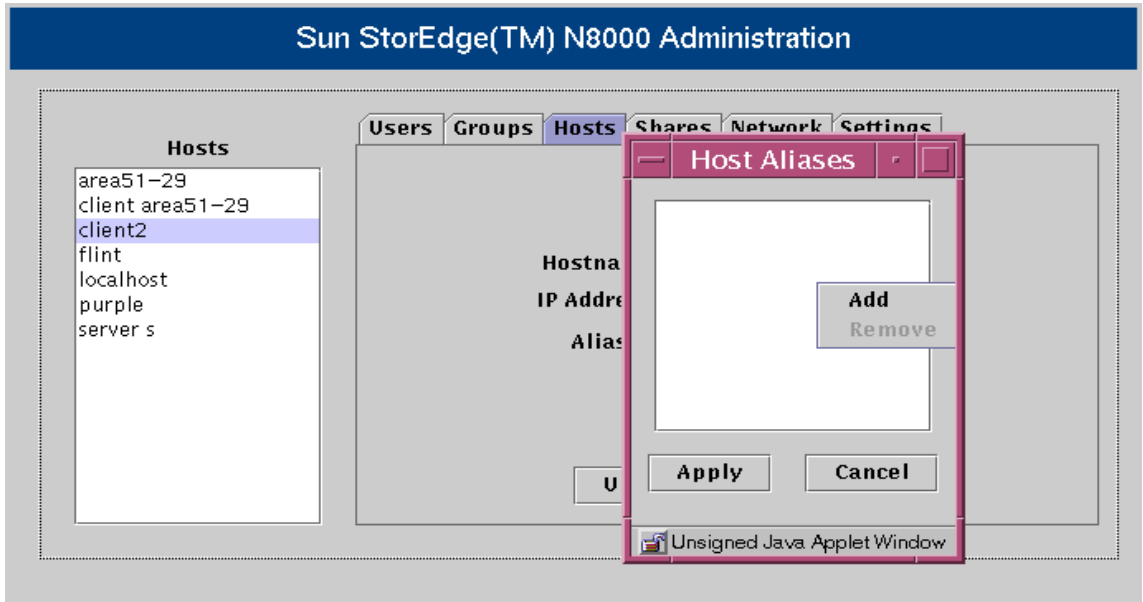


FIGURE 3-15 Hosts Function - Host Aliases - Add

i. Click Add.

The Add Host Alias dialog box is displayed.

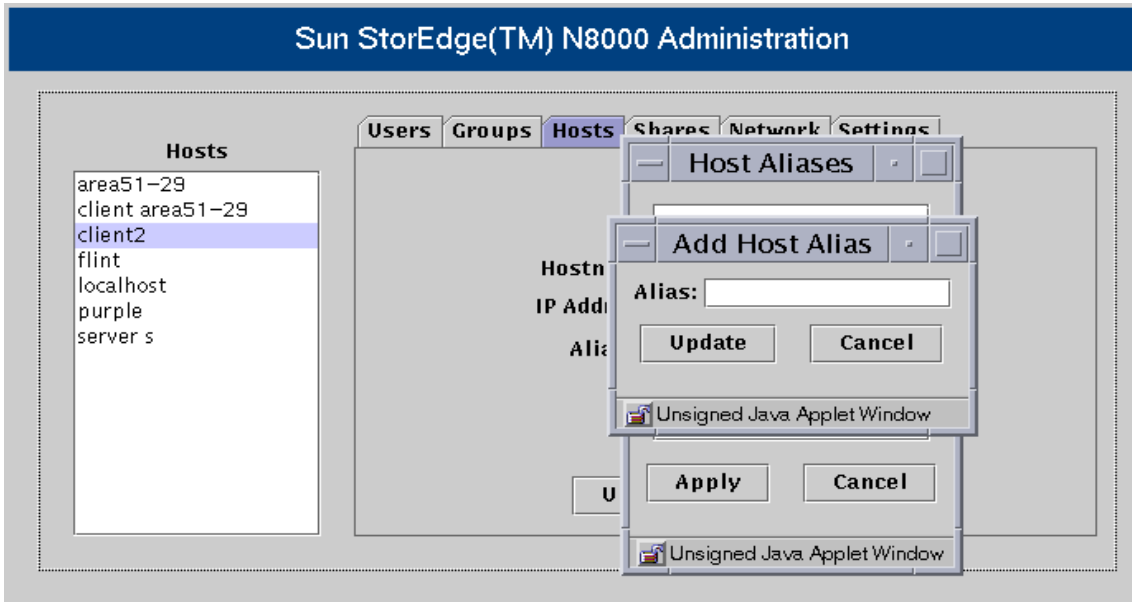


FIGURE 3-16 Hosts Function - Host Aliases - Add - Add Host Aliases

ii. Type the host Alias and click Update.

iii. Click Apply.

7. Click Update.

8. Verify that the host is displayed in the Hosts list.

▼ To Add a New Share

1. Click the Shares tab if it is not active.
2. Right-click in the background area of the Shares list box.

The Shares list menu is displayed.

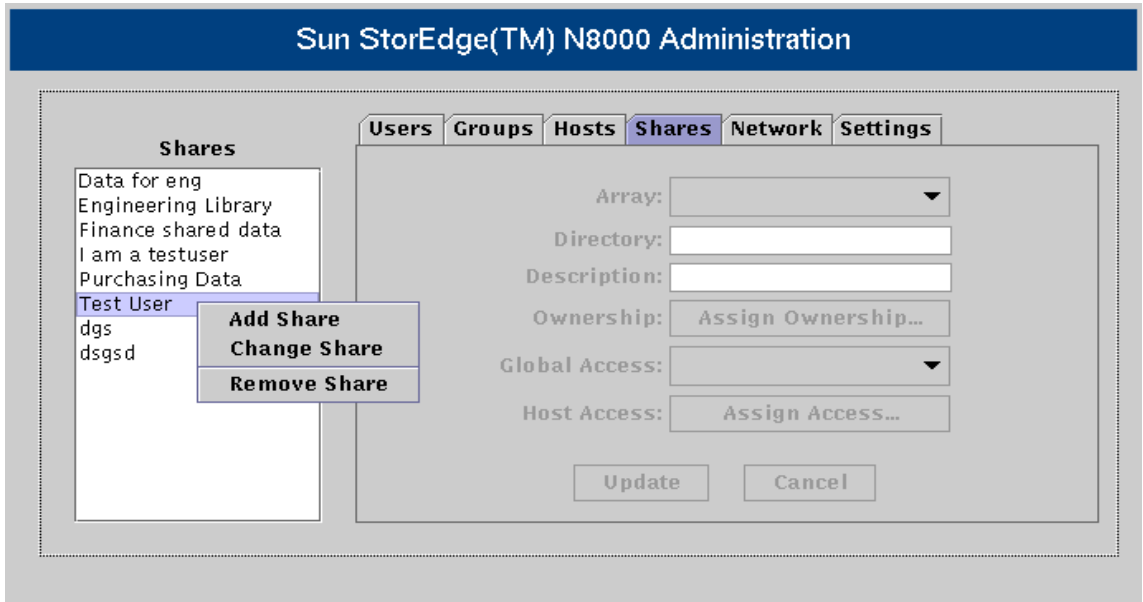


FIGURE 3-17 Shares List Menu

3. Choose Add Share.

The dialog box become active.

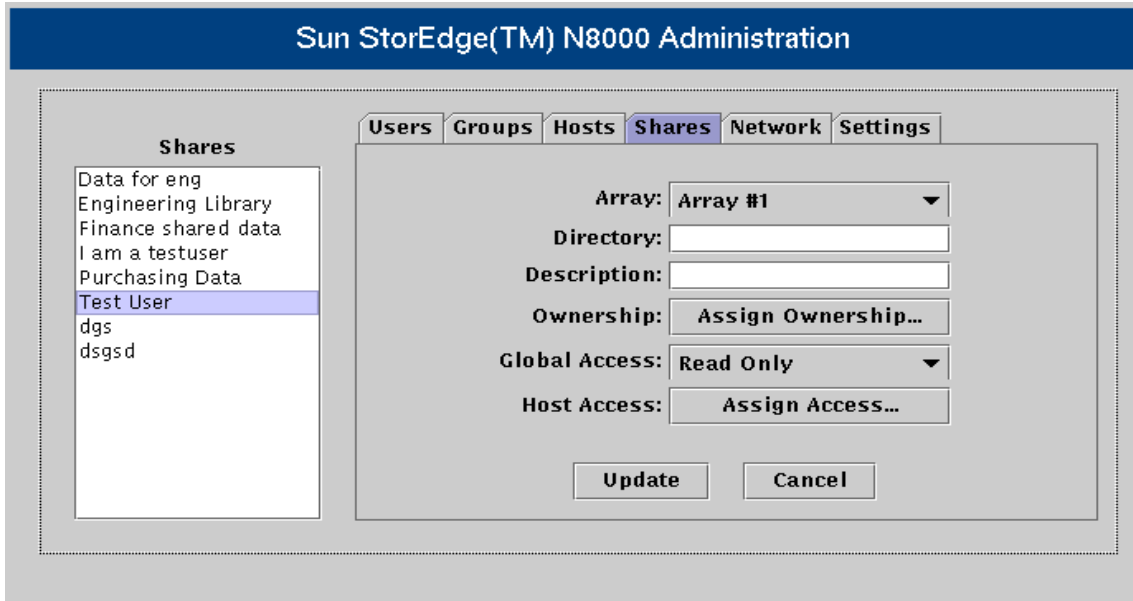


FIGURE 3-18 Shares Function - Add Share

4. Click Array and choose an array.

There can be up to four arrays.

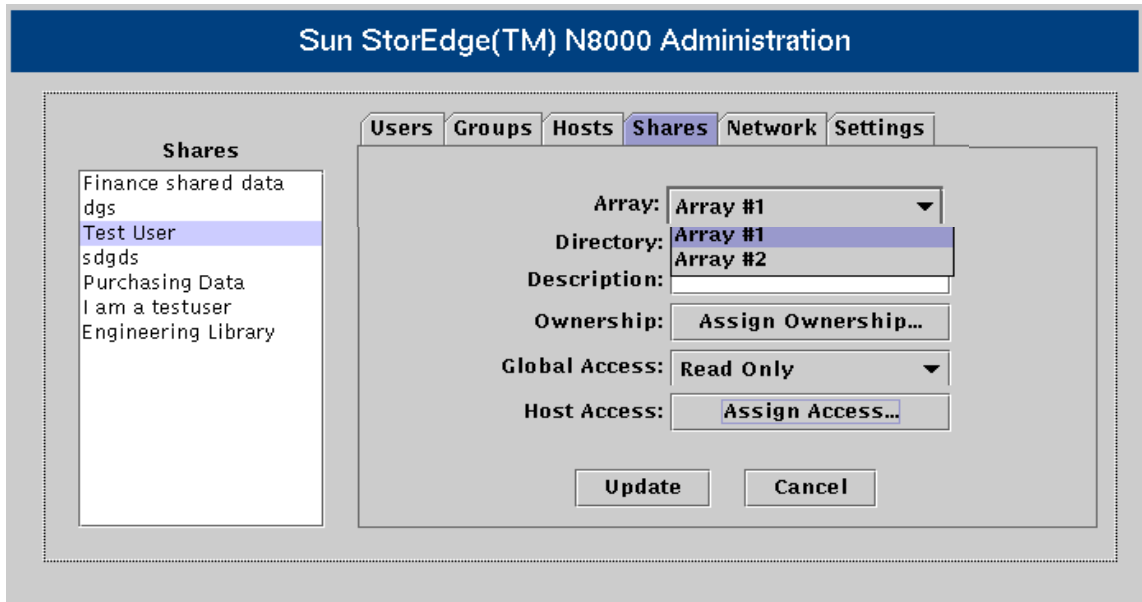


FIGURE 3-19 Shares Function - Array Selection

5. Type the name of the directory to be created.

It will share information on the array specified above.

6. Type a name for the new share for the department in the Description field.

7. Click Ownership.

The Ownership dialog box is displayed.

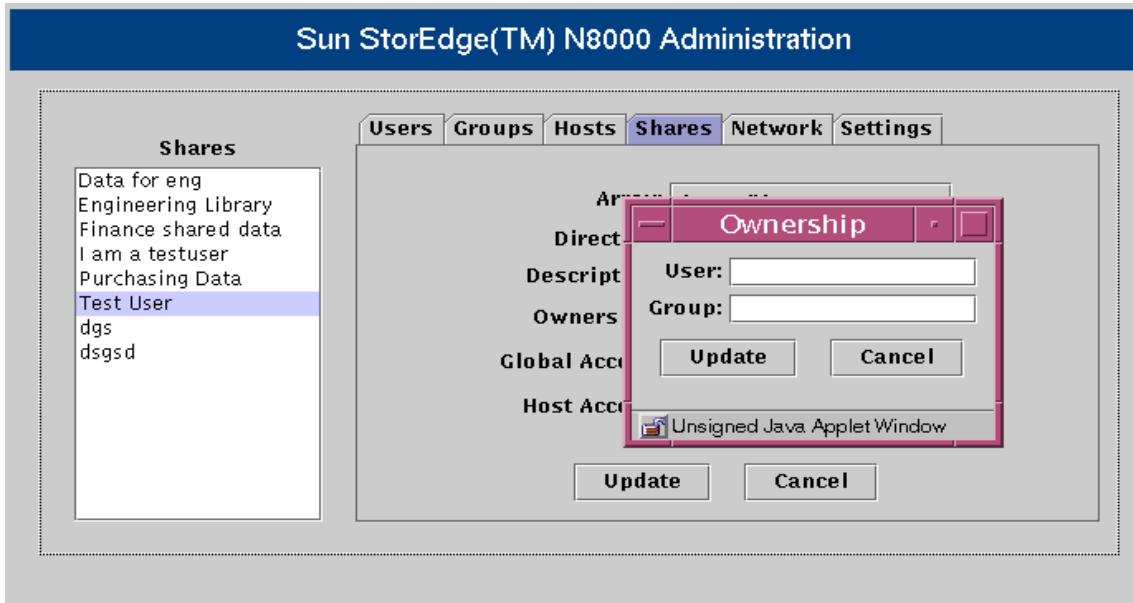


FIGURE 3-20 Shares Function - Ownership

8. Enter a User name and Group, and click Update.

This could be the department supervisor and the department group name.

9. Click Global Access and choose the Global access level.

The global access is for read and write permission for all systems on the network.

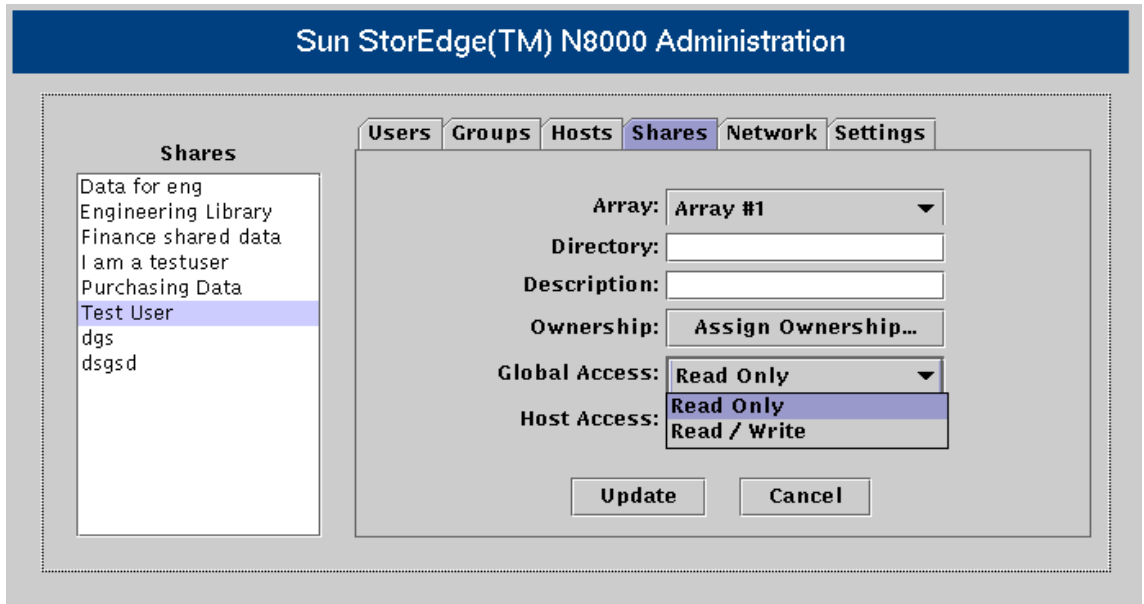


FIGURE 3-21 Shares Function - Global Access

10. Optionally, click Host Access and make the selections you want.

Use this option to create an access permission that is an exception to the global access established in the prior step. Thus, you might assign read/write global access, but you can give a specific host read-only access.

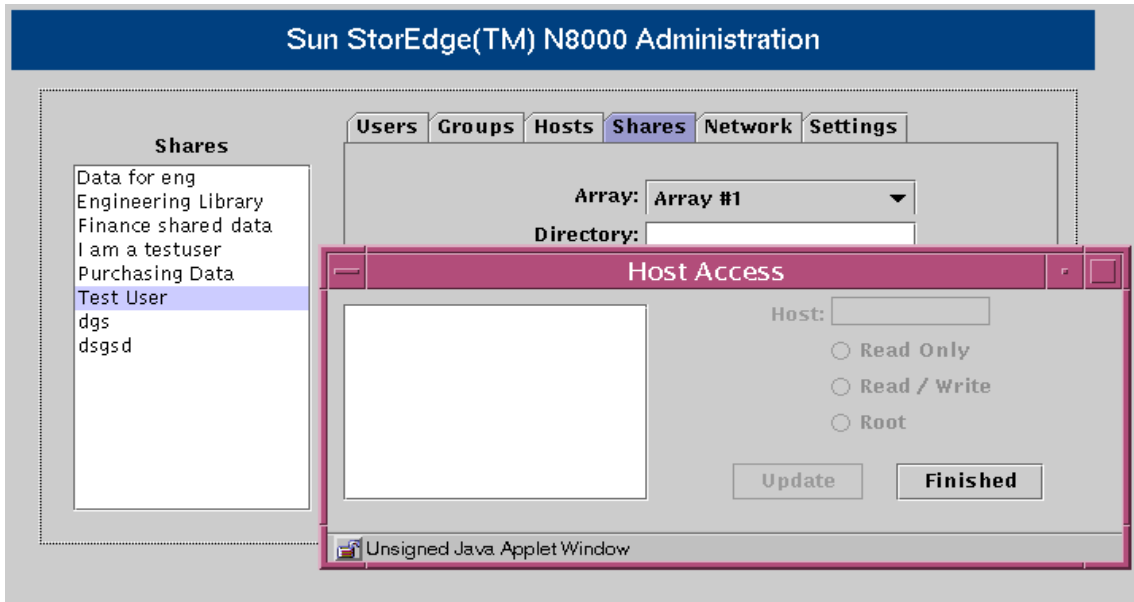


FIGURE 3-22 Shares Function - Host Access

a. To optionally add a host.

- i. Right-click in the background area of the Host Access list and choose Add Host.**

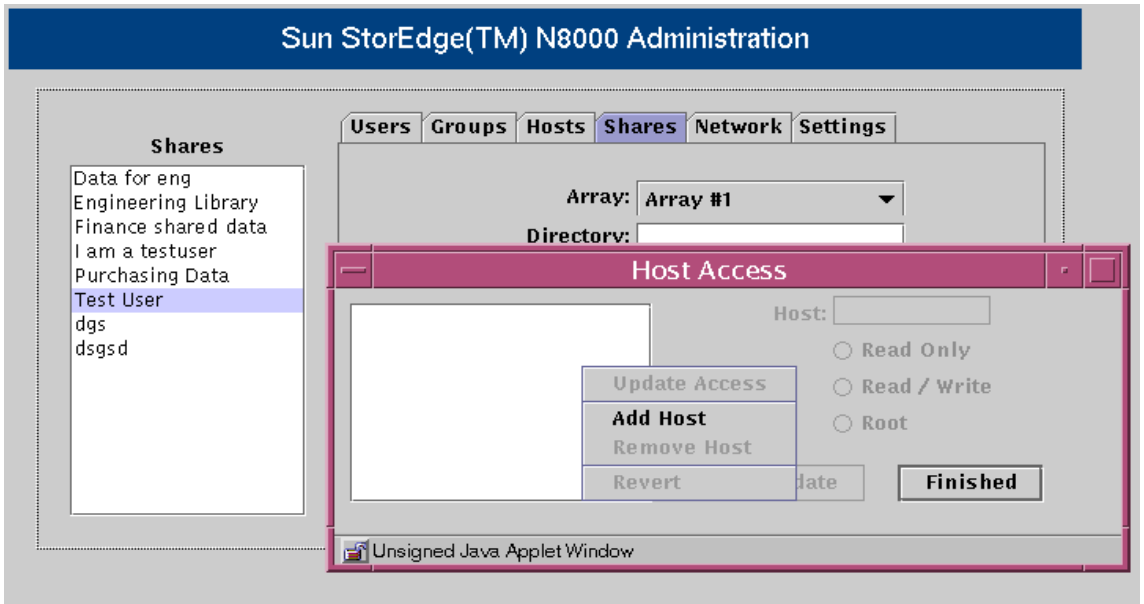


FIGURE 3-23 Shares Function - Host Access Submenu

The Add Host dialog box is displayed.

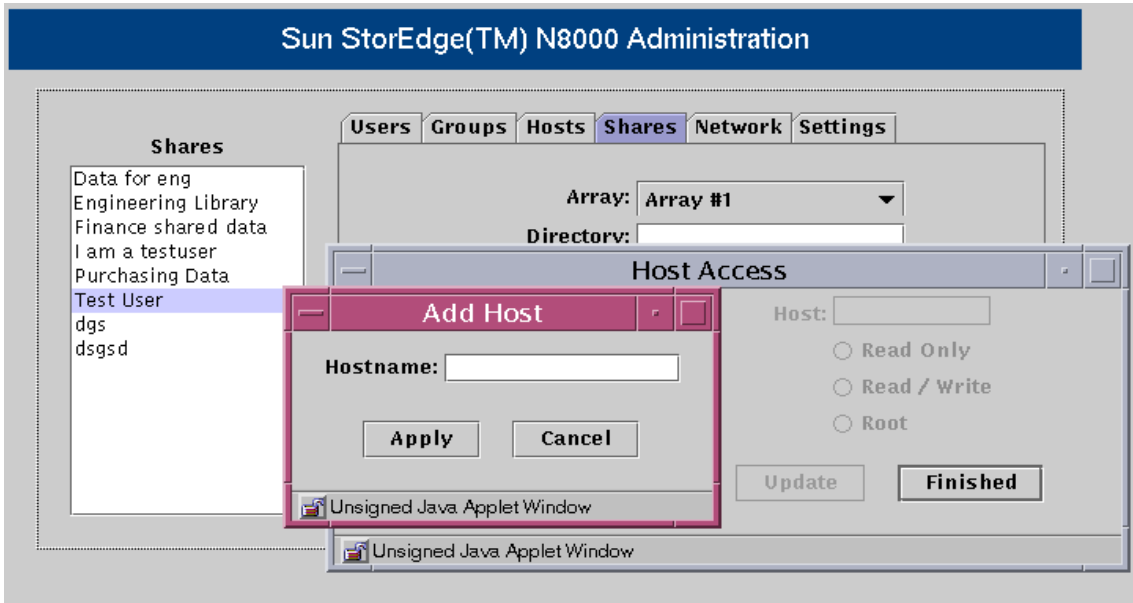


FIGURE 3-24 Shares Function - Host Access - Add Host

ii. Type a host name and click Apply.

The Host Access dialog box displays the newly added host name (refer to FIGURE 3-22).

b. Choose a host.

c. Choose a host access level and click Update.

d. Repeat with any other hosts you want.

e. Click Finished.

11. Click Update.

12. Verify that the new share is displayed in the Shares list.

▼ To Change a Share

1. Click the Shares tab if it is not active.
2. Right-click on a Share.

The Shares list menu is displayed.

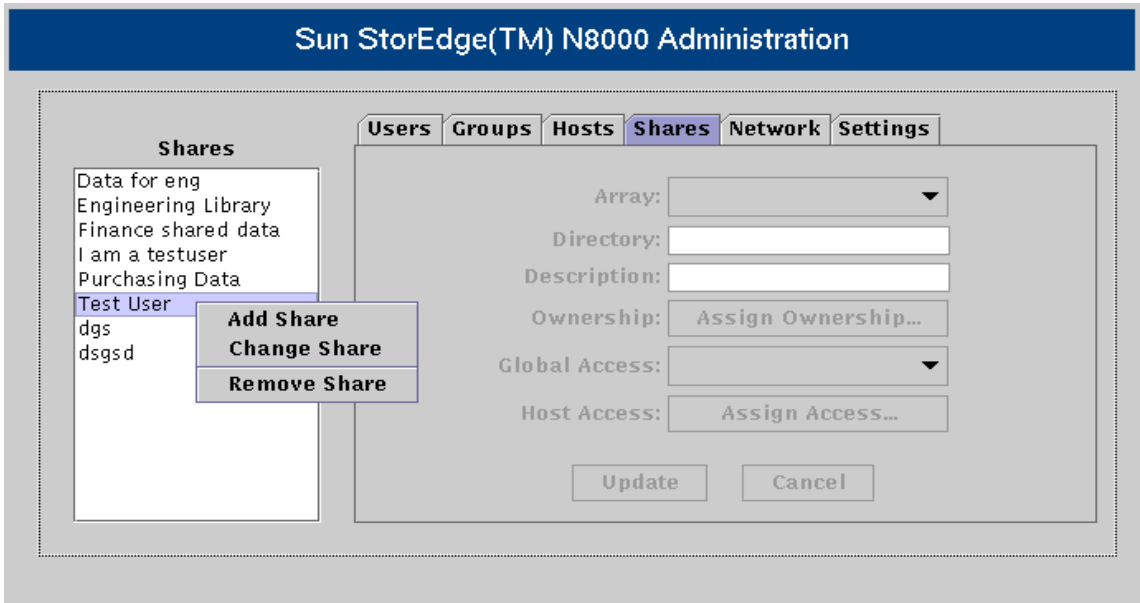


FIGURE 3-25 Shares List Menu

3. Choose Change Share.

The last three data entry buttons of the dialog box become active.

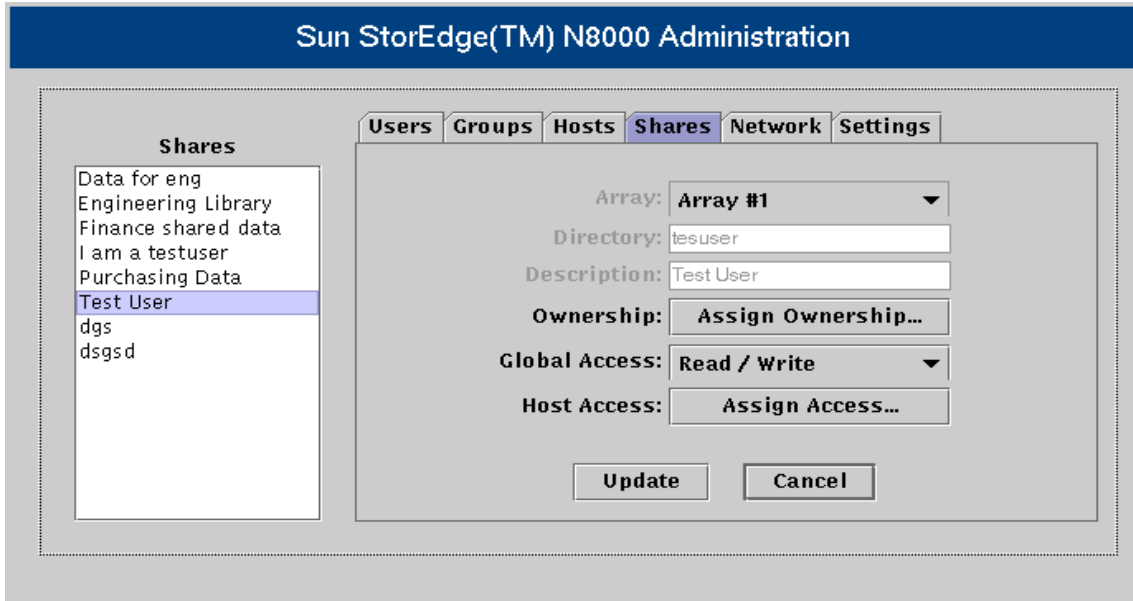


FIGURE 3-26 Shares Function - Change Share

4. **Optionally (if, for example, the previous owner left the company), click Ownership.**

The Ownership dialog box is displayed.

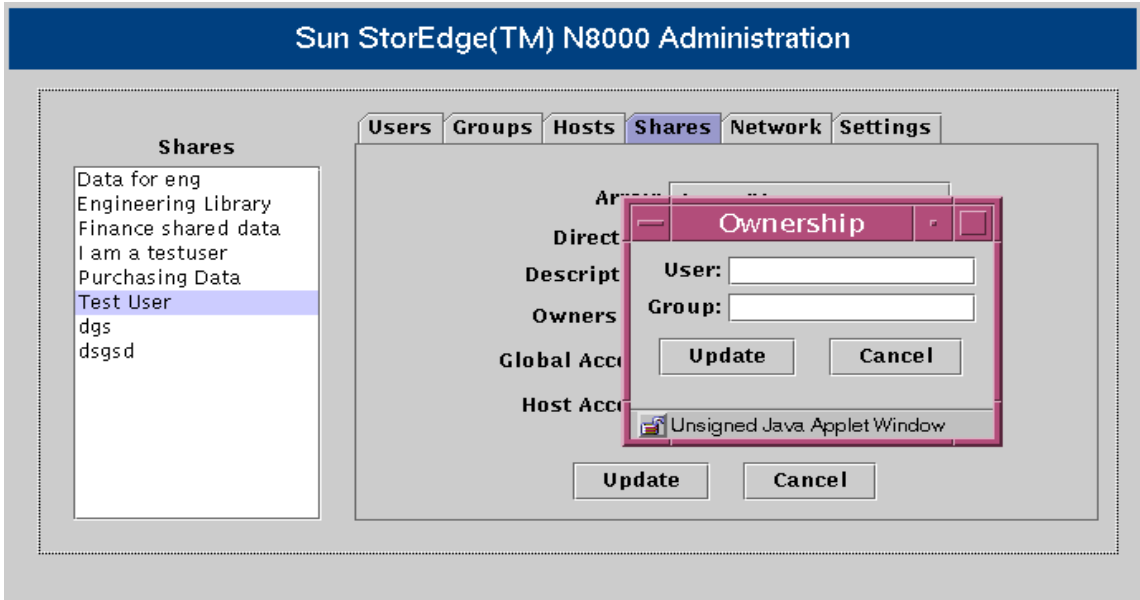


FIGURE 3-27 Shares Function - Ownership

5. **Enter a User and Group name, and click Update.**

6. Optionally, click Global Access and choose a Global Access level.

Global access is for read and write permission for all systems on the network.

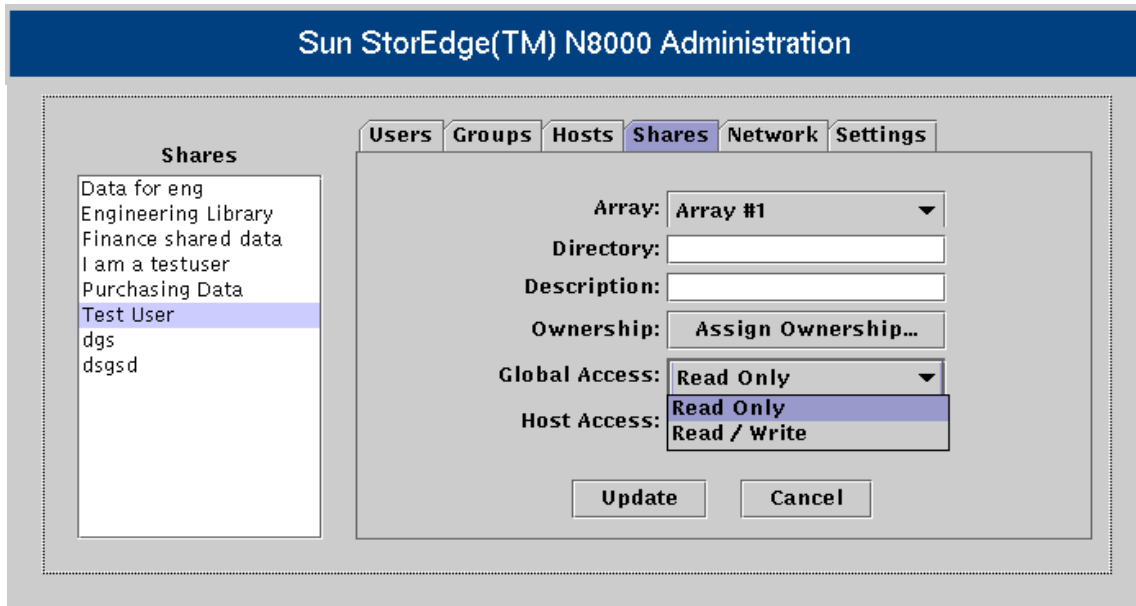


FIGURE 3-28 Shares Function - Global Access

7. Optionally, click **Host Access** and make the selections you want.

This is the most typical change you might make to a share.

Use this option to create an access permission that is an exception to the global access established in the previous step. Thus, you might assign read/write global access, but you can give a specific host read-only access.

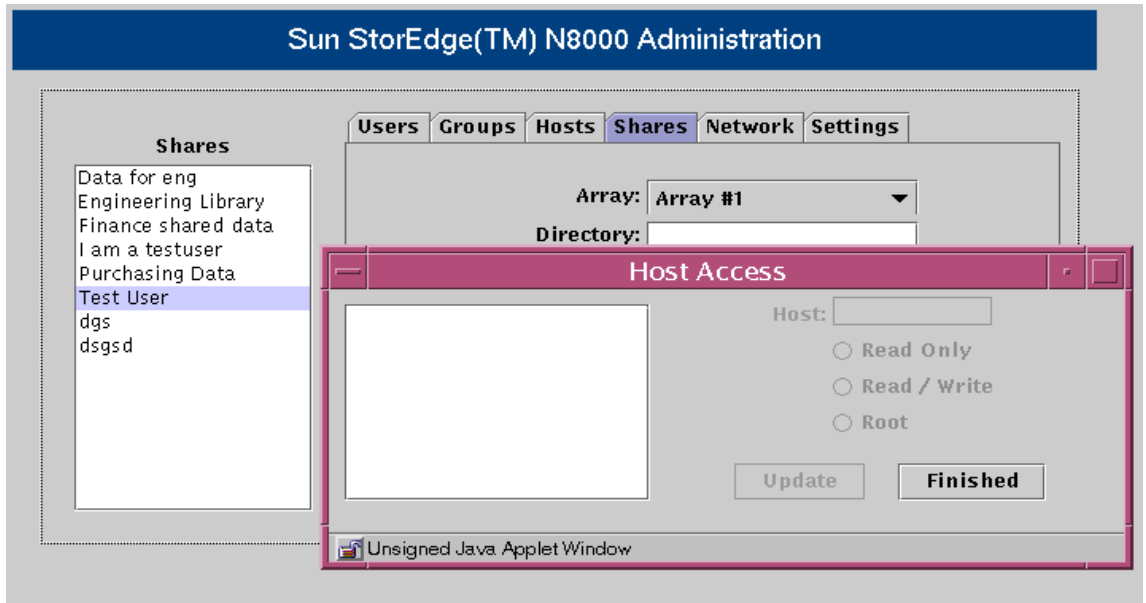


FIGURE 3-29 Shares Function - Host Access

a. To optionally add a host:

i. Right-click in the background area of the Host Access list and choose Add Host.

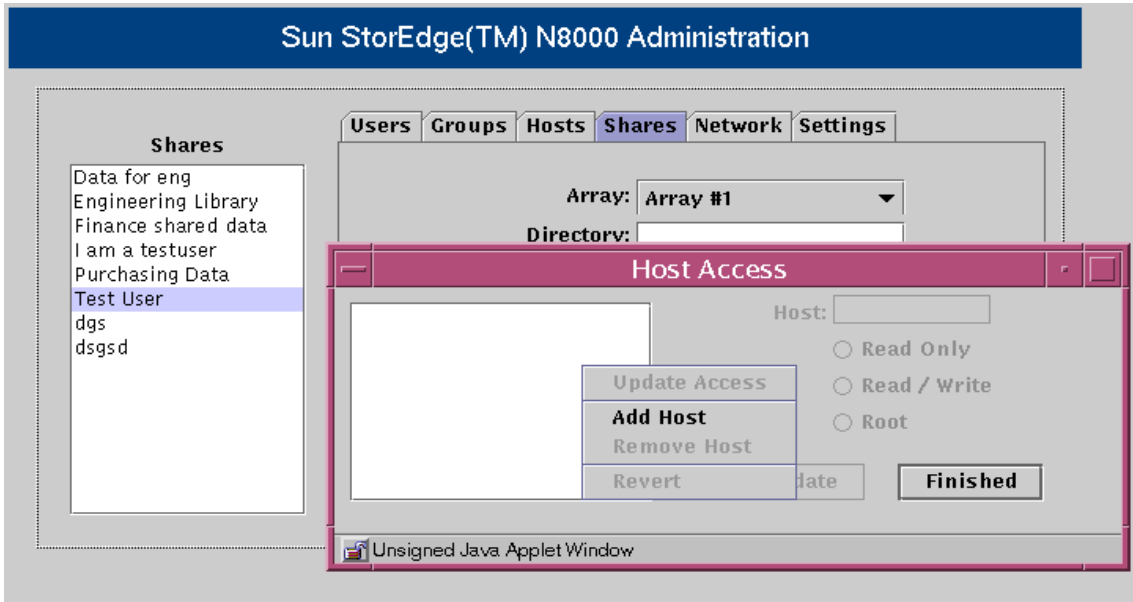


FIGURE 3-30 Shares Function - Host Access Submenu

The Add Host dialog box is displayed.

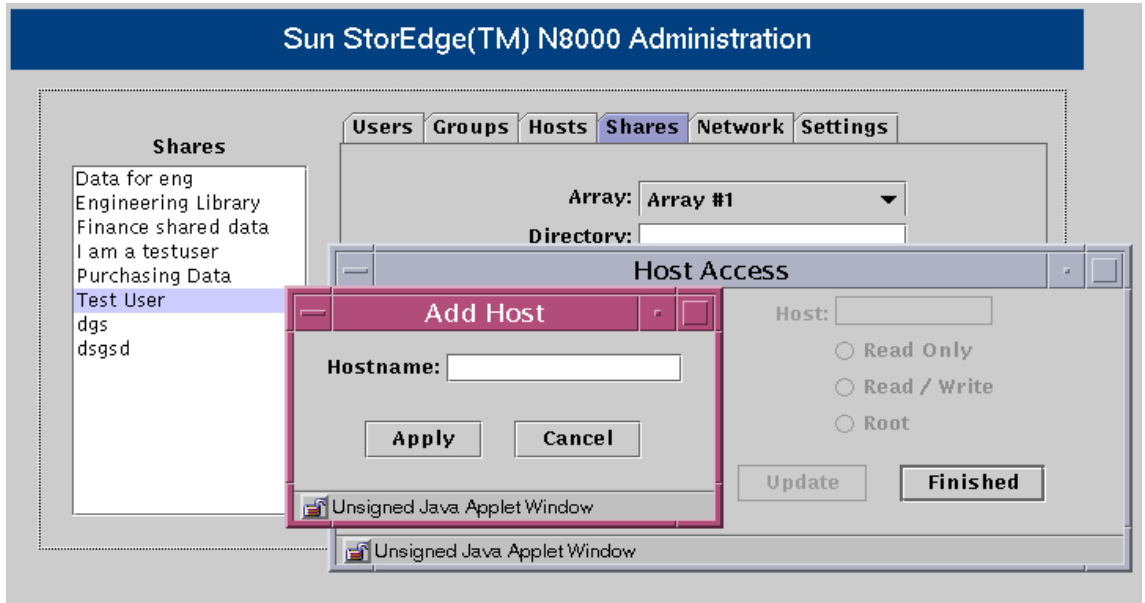


FIGURE 3-31 Shares Function - Host Access - Add Host

ii. Type a host name and click Apply.

The Host Access dialog box displays the newly added host name (refer to FIGURE 3-29).

- b. Choose a host.**
 - c. Choose a host access level and click Update.**
 - d. Repeat with any other hosts you want.**
 - e. Click Finished.**
- 8. Click Update.**

▼ To Change a Network Interface

1. Contact your local Sun sales representative for more information on what network interface options are available for use with the filer.
2. Obtain a network card from Sun.
3. Install the network card in the filer per the instructions supplied with the card.
4. Use the Filer Administration Tool to configure the new interface(s) to operate on the network.

Refer to “Network Function” on page 21.

▼ To Change Email Notifications

1. Click the Settings tab if it is not active.

The Settings menu is displayed.

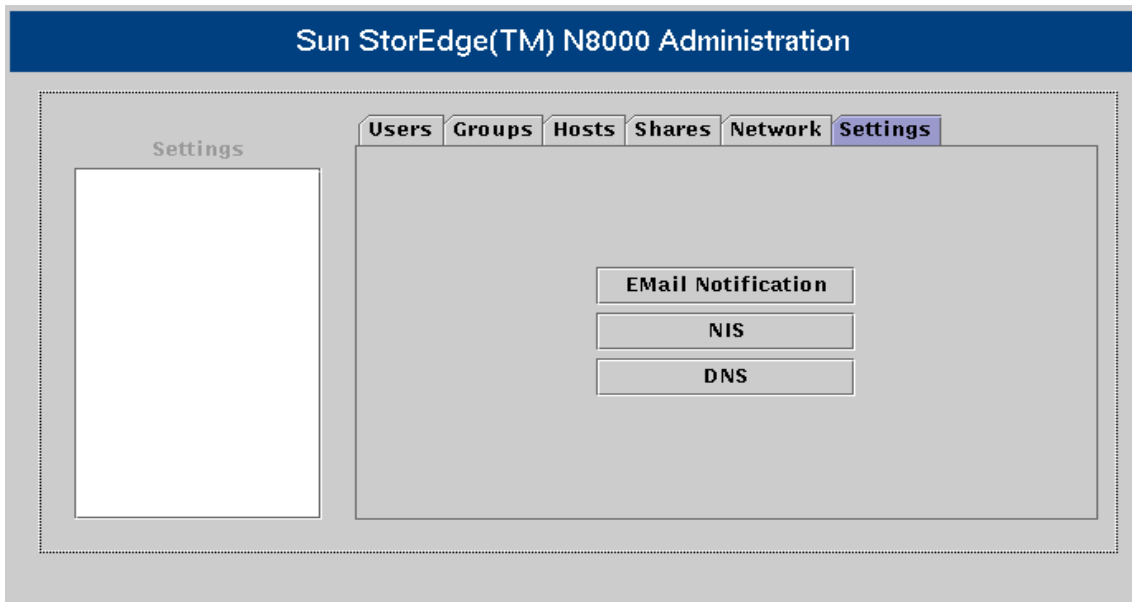


FIGURE 3-32 Settings Function

2. Click EMail Notification.

The EMail Address list box is displayed.

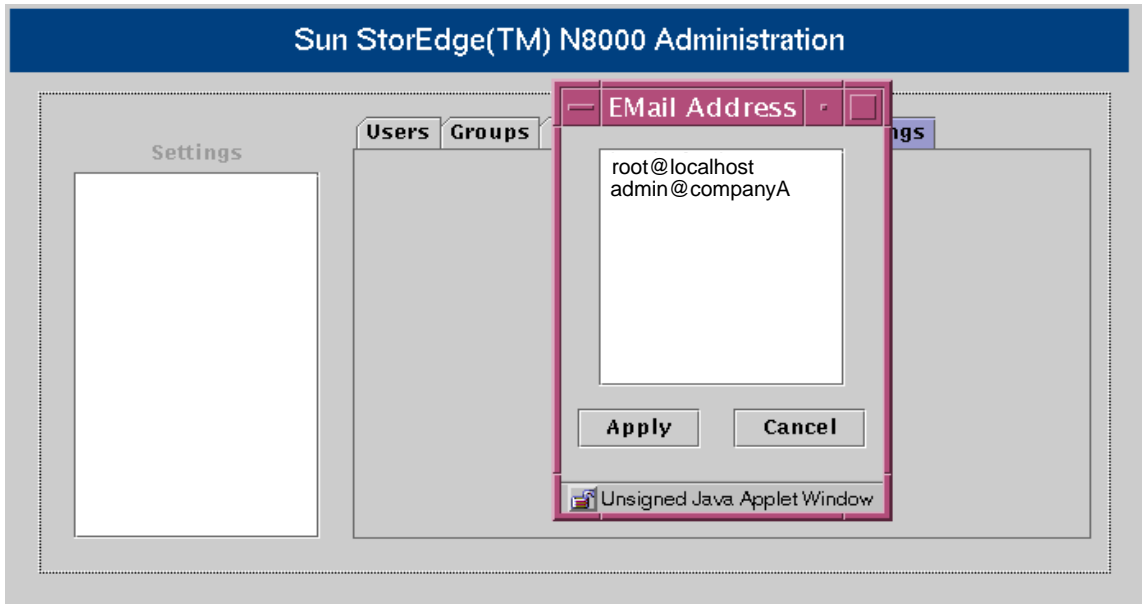


FIGURE 3-33 Settings Function - Email Address

3. Type a new email address.

4. Highlight the new entry and click Apply.

The new address is displayed in the list.

▼ To Change DNS Client Services

1. Click the **Settings** tab if it is not active.

The Settings menu is displayed.

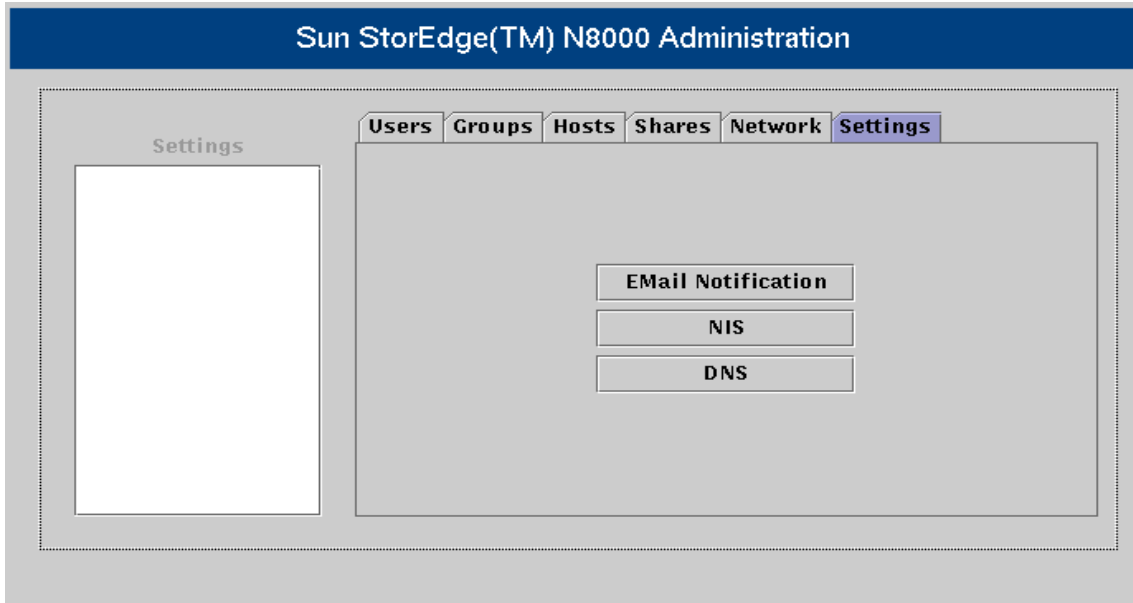


FIGURE 3-34 Settings Function

2. Click DNS.

The DNS Configuration dialog box is displayed.

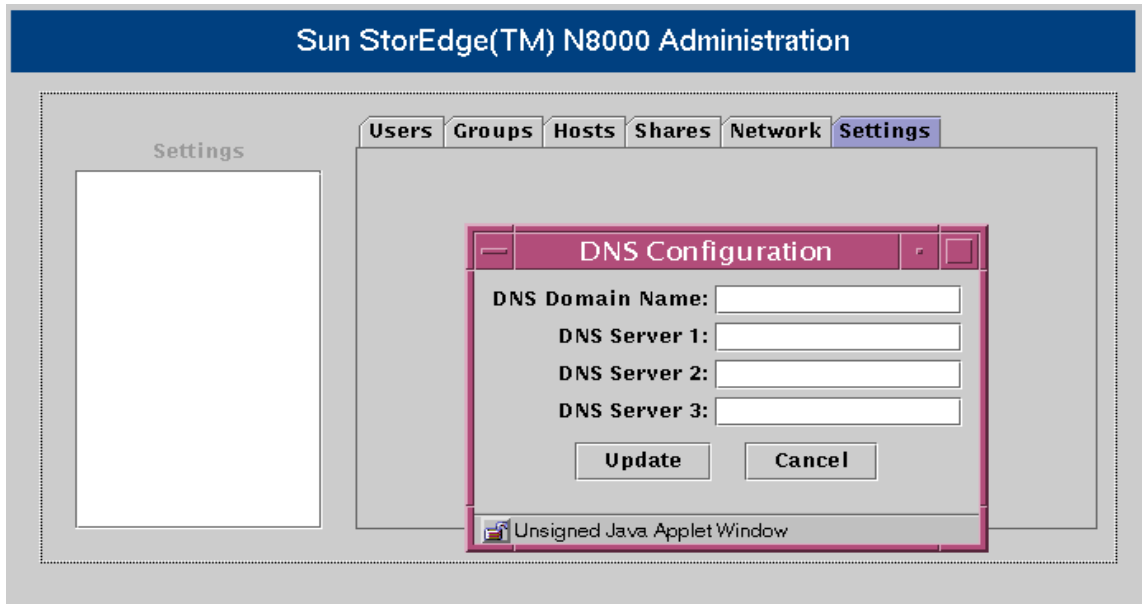


FIGURE 3-35 Settings Function - DNS Configuration

3. Type a new DNS Domain Name.

4. Type the server names that you want associated with the new domain name.

5. Click Update.

▼ To Change NIS Client Services

1. Click the **Settings** tab if it is not active.

The Settings function menu is displayed.

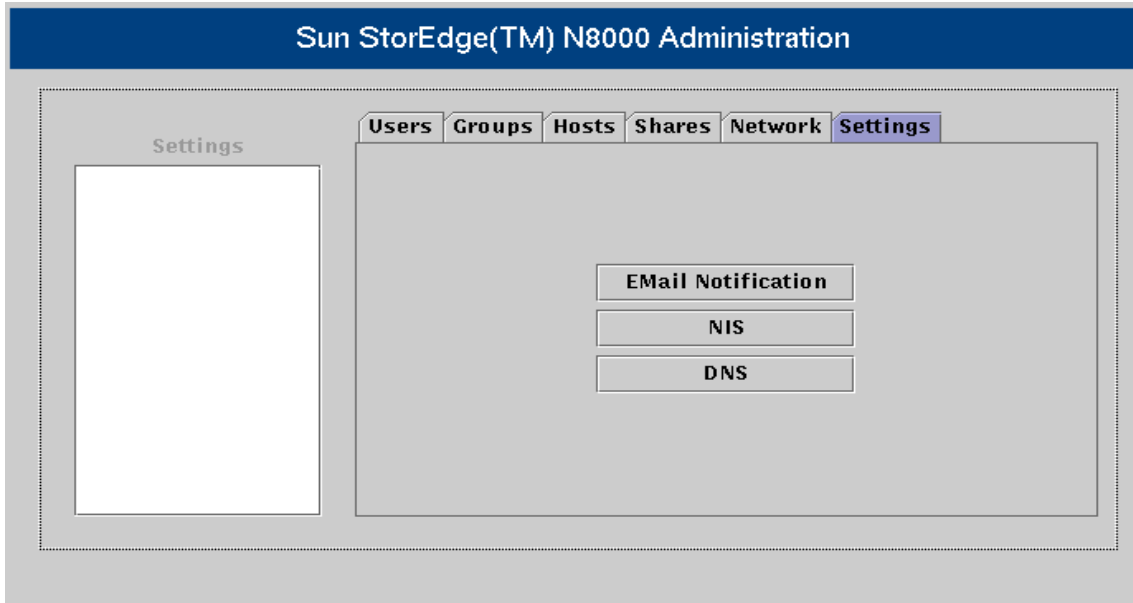


FIGURE 3-36 Settings Function

2. Click NIS.

The NIS Configuration dialog box is displayed.

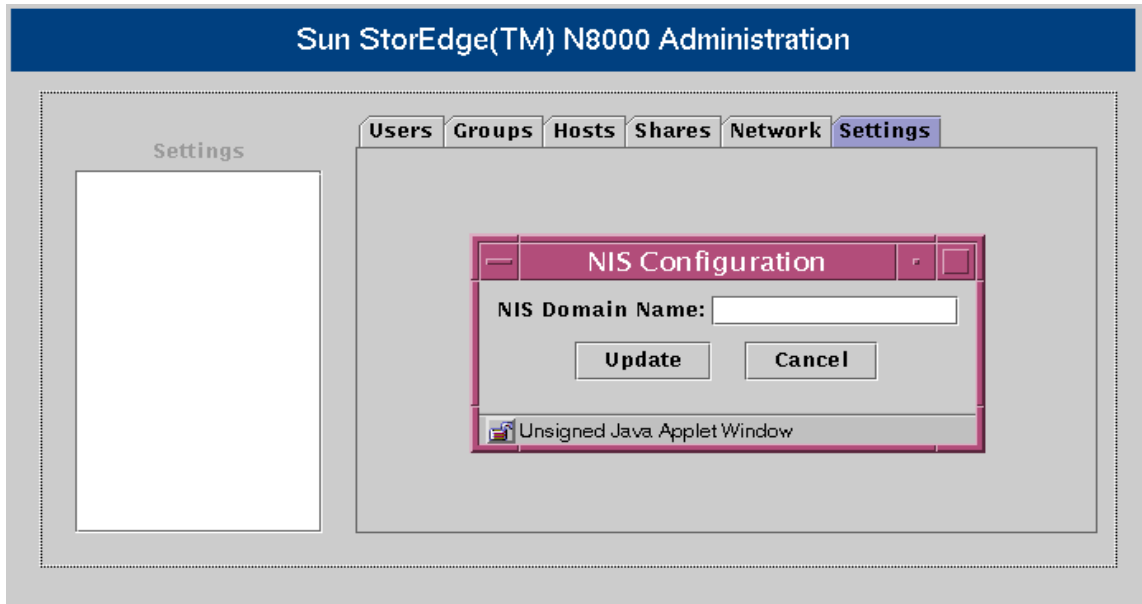


FIGURE 3-37 Settings Function - NIS Configuration

3. Type a new NIS Domain Name.

4. Click Update.

Note – If the filer has been configured to use the Network Information Service (NIS), and View User is selected, the Array button does not show the associated array (it goes blank) unless the user's home directory corresponds to one of the existing storage devices with the filer.

Troubleshooting

This chapter provides troubleshooting procedures for problems you might encounter while using the Filer Administration Tool. For additional troubleshooting help, contact your Sun service provider.

This chapter is organized as follows:

- “Status Checks and Failure Notification” on page 70
- “Troubleshooting” on page 70
 - “The Filer Administration Tool Does Not Open” on page 70
 - “The Filer Administration Tool Does Not Display Properly” on page 70
 - “Hard Disk Failures” on page 71
 - “Long Reboot Time After Fixing a Controller Boot Disk Failure” on page 72
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Status Checks and Failure Notification

You can set up the filer system to monitor and notify you of errors in two ways:

- If the Simple Network Management Protocol (SNMP), is available, set it up to monitor the activity of the devices on the network (see “The Filer Administration Tool” on page 3).
- Use the Settings function to set up email notifications for hardware physical failures such as disk drives and power supplies.

You should also check for error messages in `/var/adm/messages` once or twice a week and every time you reboot the filer.

Troubleshooting

The Filer Administration Tool Does Not Open

The web browser shows a gray box and the login dialog box is not displayed.

1. **Make sure you are using the Netscape 4.x web browser.**
2. **Ensure that the Java™ language is enabled within the Netscape browser.**
3. **Bring up the Java console to check for any error messages.**
4. **If the problem persists, contact your local Sun Customer Service office.**

The Filer Administration Tool Does Not Display Properly

- **Make sure you are using the Netscape 4.x web browser.**

Hard Disk Failures

A Data Disk in a Disk Storage Unit Fails

This failure is reported in three ways:

- An amber LED on the disk drive lights
- You receive an SNMP trap message
- An email message is sent to the address established with the Settings function. Refer to “To Change Email Notifications” on page 62.

Note – If only one disk drive fails in a disk storage unit, no data is lost and the operation of the unit is not interrupted.

- **Replace the disk drive by following the instructions in *Sun StorEdge A1000 and D1000 Installation, Operations, and Service Manual*.**

The failed disk data is automatically reconstructed on the new disk. You do not have to reboot the system.

A Boot Disk in the Controller Fails

You are notified of this failure by an email message sent to the address established with the Settings function. Refer to “To Change Email Notifications” on page 62.

1. **Use the `metadb` command to remove the replica database from the failed drive.**

Refer to *Sun Solstice DiskSuite 4.2 User's Guide* section: “How to Remove State Database Replicas (Command Line).”

2. **If necessary, replace the failed disk drive.**

3. **Rebuild the mirror as required.**

Refer to *Sun Solstice DiskSuite 4.2 User's Guide* for instructions.

4. **Use the `metadb` command to create a new replica database on the replacement drive.**

Refer to *Sun Solstice DiskSuite 4.2 User's Guide* for instructions.

Note – The instructions to recover from a boot device failure are also located online at: <http://docs.sun.com>.

You do not have to reboot the system.

Long Reboot Time After Fixing a Controller Boot Disk Failure

The filer is designed to have a fast reboot time due to a logging file system. The file system consistency check (`fsck`) time should be no more than 10 seconds. If it takes longer than 10 seconds:

1. **Check the console attached to the system to see what is happening to the system.**
If you see no output and a lot of disk activity (the green LEDs on the disk drives are blinking), the system is working. Wait until it is finished.
2. **Check to see if the system has been modified by altering the mount options in the `/etc/vfstab` file.**
3. **If the problem persists, contact your local Sun service provider.**

You Cannot Access Data on a Disk Storage Unit and the Amber LED on the Unit Lights

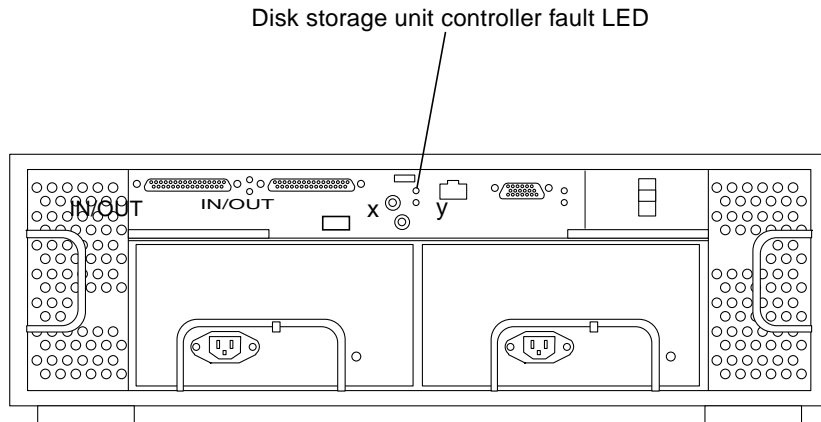


FIGURE 4-1 Back of Disk Storage Unit

This can be due to two possible causes:

- The SCSI cable is loose, or it is the wrong cable for the unit.
- The disk storage unit controller has failed. If this happens, the data on the disks is still intact, but you must replace the disk storage unit controller.

Replace the controller using the instructions in *Sun StorEdge A1000 and D1000 Installation, Operations, and Service Manual*.

Make sure you reboot the system after replacing the controller.



Caution – Make sure the memory in the new controller is the same as the original. Remove the memory from the old controller and install it in the new controller if necessary.

You do not have to reconfigure the new controller.

Failure in the Controller Power Supply or Fan

The cooling fan is integral to proper operation of the power supplies in the controller. This failure is reported in two ways:

- Error messages in the `/var/adm/messages` file
- An amber LED on the front of the controller lights

See the replacement instructions in *Sun StorEdge A1000 and D1000 Installation, Operations, and Service Manual*.

Failure in the Disk Storage Unit Power Supply or Cooling Canister

The cooling fans and power supplies are individual parts of the disk storage unit. This failure is reported in four ways:

- An SNMP trap message is sent
- Error messages are printed to the `/var/adm/messages` file
- An amber LED on the front of the disk storage unit lights
- An amber LED on the power supply or cooling canister lights

See the replacement instructions in *Sun StorEdge A1000 and D1000 Installation, Operations, and Service Manual*.

Cannot Ping the Filer on the Network

1. Check to make sure you can ping other hosts on the network.
2. Verify the filer network cable is properly connected.
3. Check the network with the console connection.
 - a. Connect the serial cable to the filer.

- b. Log in as a root user.

If no login prompt is displayed, do the following:

- Ensure you are using the correct cables.

Are you using the NULL modem cable that comes with the filer in the serial port A on the back of the controller?
- Check the system configuration settings recorded in the *Sun StorEdge N8200 Filer Installation, Configuration, and Service Guide*.

- c. Try to ping any host on the network.

If you can ping another host, a problem exists with the network.

- d. Check to see if the filer can see traffic on the network by typing:

```
# snoop -d hme0
```

Where `hme0` is the network device.

If nothing is displayed on the screen, verify again that the cable connections are correct.

Note – No indicated traffic means that the interface is not connected to the network.

- e. Type:

```
# ifconfig -a
```

The output should look something like the following:

```
lo0: flags=849<UP,LOOPBACK.RUNNING, MULTICAST>mtu 8232
    inet 127.0.0.1 netmask ff000000
hme0: flags=863<UP,BROADCAST,NOTRAILERS,RUNNING,MULTICAST>
    mtu 1500 inet 192.1.1.1 netmask ffffffff broadcast 192.1.1.255
```

f. Verify that the following settings are correct:

- IP address
- Broadcast address
- Flags

g. If any setting is incorrect, do the following:

i. Type:

```
# vi /etc/hosts
```

ii. Search the file to locate the filer IP address, which should be immediately below the local host IP address.

```
127.0.7.1 localhost name  
192.130.151.22 filer-name loghost name
```

iii. Correct the *filer-name* IP address.

iv. Reboot by typing:

```
# init 6
```

The broadcast address and interface flags are automatically corrected.

4. If the problem persists, contact your local Sun service provider.

The Web Browser Displays the Message: The requested item could not be loaded by the proxy

1. **Make sure that the URL address requested is correct and complete**
(IP address:8080).
2. **Verify that the web server software is running by establishing a telnet connection to the filer from another host and typing:**

```
# ps -ef|grep httpd
```

The output should look something like the following:

```
# nobody 4298 4296 0 Apr 24 ? 0:00/usr/local/apache/bin/http
# nobody 4306 4296 0 Apr 24 ? 0:00/usr/local/apache/bin/http
# root 4296 1 0 Apr 24 ? 0:00/usr/local/apache/bin/http
# nobody 4302 4296 0 Apr 24 ? 0:00/usr/local/apache/bin/http
# nobody 4301 4296 0 Apr 24 ? 0:00/usr/local/apache/bin/http
# nobody 4300 4296 0 Apr 24 ? 0:00/usr/local/apache/bin/http
# nobody 4299 4296 0 Apr 24 ? 0:00/usr/local/apache/bin/http
```

- If the http processes are not displayed, contact your local Sun service provider.
- If the http processes are displayed and the problem persists, carefully verify the URL address again.

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