

# **Data ONTAP™ Software 5.3**

## **First-Time Configuration**

### **Using the Setup Wizard**

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## About this guide

### How to use this guide

Welcome to *First-Time Configuration Using the Setup Wizard*.

Use this guide to get your new NetApp® filer configured and operating using the Web-based Setup Wizard interface.

### Is this the right guide for you?

If you are not installing new filers, this is not the correct guide for you. Use the following table to decide which guide to read.

| If you are...                                                                                                                                             | Read...                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Configuring a new NetApp filer and want to use the command-line <b>setup</b> interface<br><br>Configuring a new NetApp filer into a clustered environment | <i>First-Time Configuration Using the Setup Command</i> |
| Upgrading an existing filer to the Data ONTAP 5.3 software                                                                                                | <i>Software and Firmware Upgrade Guide</i>              |
| Converting existing F630 or F700 series filers into a cluster                                                                                             | <i>Cluster Conversion Guide</i>                         |

### Intended audience

The information in this guide is for system administrators who are familiar with networking concepts, such as host names, Internet Protocol (IP) addresses, Network File System (NFS) exports, and Common Internet File System (CIFS) shares. If you are not familiar with these concepts, you might need assistance to complete the initial filer configuration.

# About the configuration

---

## What the Setup Wizard provides

The Setup Wizard provides an easy to use Web-based method of configuring the basic settings for a new filer.

The configuration method using the **setup** command:

- ◆ Uses command-line installation and configuration commands to install and configure the new filer
- ◆ Provides limited on-line help

The Setup Wizard uses the network and a Web browser to perform the initial basic setup for filers, eliminating the need for the command-line setup. The Setup Wizard contains context-sensitive help for each field on each page.

After you finish the basic configuration, you can use the Web-based FilerView™ tool to complete other types of configurations you might need on this filer. FilerView also uses the network and a Web browser to perform general management tasks.

## Prerequisites to using the Setup Wizard

The Setup Wizard needs an IP address to begin the configuration process, which you can obtain using either of the following methods:

- ◆ An existing Dynamic Host Configuration Protocol (DHCP) server on your network during initial boot of the new filer. To use DHCP IP services, the filer must be an F700 series filer.
- ◆ If the filer can't find or obtain an IP address from the DHCP server, the normal **setup** script, using a console connected to the filer, prompts you for several pieces of information, including an IP address, and then asks whether you want to use the Setup Wizard. This method works with any filer; however, you must have a console connected to the filer for the initial few pieces of setup information.

## Restrictions on using Setup Wizard

The following restrictions apply to the Setup Wizard:

- ◆ If you want to configure filers in a clustered environment, follow the normal **setup** command configuration that is discussed in *First-Time Configuration Using the Setup Command*.
- ◆ If you don't want to switch from the console to the Web-based wizard to do the configuration (when you are not using a DHCP server), you should

probably use the normal `setup` command configuration that is discussed in *First-Time Configuration Using the Setup Command*.

### **About basic setup configuration**

The Setup Wizard uses multiple Web pages with a limited number of questions per page to set up the filer. On-line context-sensitive help is available for each field that you need to respond to. The Setup Wizard covers protocol licensing, based on what you purchased; administration setup; DNS, NIS, and NT setup; and routing and email gateway setup.

When you finish the setup procedure, the filer is configured and ready for use.

### **About further configuration**

After you finish with the basic setup using the Setup Wizard, the wizard takes you to a page where you can use FilerView to configure more options on the filer, if needed.

Some configuration options, however, are only available from the command line or on a client workstation. Each chapter explains what tool (FilerView, command line, client workstation) is necessary to complete that part of the configuration.



## Information needed

### Worksheets available for configuration

This guide contains a worksheet that describes the information you supply in the Setup Wizard to configure the basic filer parameters.

This guide also contains several worksheets that describe the information you must supply when using the `setup` command. You only use the `setup` command and its worksheets when you don't have a DHCP server available to provide the filer's IP address. After the IP address is established, you can use the Setup Wizard from a client to continue the filer's configuration.

### What you need to do

If you are using a DHCP server to obtain the filer's IP address, fill out the [Setup Wizard Configuration Worksheet](#), in [Appendix A](#), so that you are prepared to provide information when the Setup Wizard prompts for it.

If you are not using a DHCP server (used only with F700 series filers) to obtain the filer's IP address, you need to use a serial console on the filer and the `setup` command to configure the IP address.

Fill out the [Setup Command Configuration Worksheets](#), in [Appendix B](#), so that you are prepared to provide information when the `setup` command prompts for it.



## Beginning the configuration

### Steps to configuration

There are several steps to performing the basic configuration of a new filer:

- ◆ Providing the filer with an IP address
- ◆ Using the Setup Wizard to do the configuration
- ◆ Verifying the configuration of the filer

### How to provide an IP address

There are two methods to providing the filer with an IP address:

- ◆ Using DHCP to obtain the IP address for the new filer; this method is only available for F700 series filers. To use the DHCP server to obtain an IP address for the filer, you need to ensure that the following DHCP configuration exists:

- ❖ You need the MAC address from the filer's *e0* interface before you turn on and configure your filer. You need to manually allocate a static IP address on the DHCP server.

The *e0* MAC address is printed on a label on the back of the filer's PCB carrier, in the upper left-hand corner.

- ❖ Use the *e0* MAC address to manually allocate a static IP address on the DHCP server for your filer; or provide your DHCP administrator with the information to perform this task. The DHCP server uses the *e0* MAC address to identify the filer when it boots.

To avoid IP address conflicts, use a static IP address on your DHCP server. If you use a dynamic IP address, the filer does not release that address when its lease expires. The lease is a predetermined expiration time set on the DHCP server.

If you are using DHCP to obtain the IP address for the filer, read [“Using the Setup Wizard on an F700 series filer with a DHCP server”](#) on page 9.

- ◆ Entering a static IP address for the new filer using a console attached directly to the filer. The console is used for the initial information needed to obtain an IP address for the filer.

If you are not using DHCP to obtain the IP address for the filer, read [“Using the Setup Wizard on a new filer without a DHCP server”](#) on page 11.

## **How to use the Setup Wizard**

After you have the IP address for the new filer, you can point your browser to the URL address on the filer to start the Setup Wizard. You follow the pages of prompts to complete the configuration. Each prompt field has its own context-sensitive help screen if you need more information than the prompt gives.

The last page of the wizard displays all the configuration settings you provided and enables you to make any changes you might want to make. You can click the field you want to change; the wizard takes you to that specific page.

After you finish making any changes necessary, you click Finish and the Setup Wizard configures the filer. After the Setup Wizard is finished, the filer is ready for use.

## **How to verify the configuration**

You can verify that the configuration is successful by using `ping` to see that all network interfaces are up and working.

# Using the Setup Wizard on an F700 series filer with a DHCP server

---

**Description** This procedure configures an F700 series filer using the Setup Wizard. After you complete this procedure, the filer is running the protocols for which you purchased licenses, and is configured and ready for use.

**Prerequisites** You need the following requirements completed before you begin the procedure:

- ◆ A static IP address on your DHCP server set up before you begin the filer configuration
- ◆ The new filer attached to the network
- ◆ A client browser on the same network as the filer's *e0* network
- ◆ Filled out worksheet from Appendix A

**Restrictions** If your new filer will be using virtual interfaces or ATM networking cards, use the procedure documented in [“Using the Setup Wizard on a new filer without a DHCP server”](#) on [page 11](#).

**Steps** To begin the configuration, complete the following steps.

| Step | Action                                                                                                                                                                                                                                     |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Turn on the filer's power switch to begin the configuration process.<br><br>The first time the filer boots, it contacts the DHCP server and requests an IP address. The DHCP server supplies the static IP address you configured it with. |

| Step | Action                                                                                                                                                                                                                                                                                                                                                          |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2    | <p>From a client on the same network, point a web browser to</p> <p><code>http://filer-name/api</code></p> <p>or</p> <p><code>http://filer-ip-address/api</code></p> <p>Replace <i>filer-name</i> or <i>filer-ip-address</i> with either the name of the filer or the filer's IP address that you set up in the DHCP server.</p> <p>The Setup Wizard loads.</p> |
| 3    | <p>Enter the information from the filled out <a href="#">Setup Wizard Configuration Worksheet</a>, from <a href="#">Appendix A</a>, for each of the pages of prompts in the Setup Wizard.</p>                                                                                                                                                                   |

## Results

After you finish configuring the filer, it is on-line. The following directories exist on the filer:

`/vol/vol0`  
`/vol/vol0/home`

### Note

`/vol` is not a directory—it is a special virtual root path under which the filer mounts its volumes. You cannot mount `/vol` to view all the volumes on the filer; you must mount each filer volume separately.

If you purchased a license for the NFS protocol, `/vol/vol0` is exported to the administration host for root access; `/vol0/home` is exported to the administration host for root access and to all clients for general access. Paths such as `/etc/passwd` are referenced as `/vol/vol0/etc/passwd`.

If you purchased a license for the CIFS protocol, `/vol/vol0` is shared as C\$; only the system administrator with the root password has read and write access to the C\$ share. The `/vol/vol0/home` directory is shared as HOME without access granted to anyone.

## Where to go from here

Verify the network connections of your new filer using the procedure in [“Verifying network connections”](#) on [page 13](#).

# Using the Setup Wizard on a new filer without a DHCP server

---

## Description

This procedure enables you to use the Setup Wizard on a new filer without using a DHCP server to obtain the new filer's IP address. This procedure also enables you to set up virtual interfaces and ATM networking cards in your new filer.

After you complete this procedure, the filer is running the protocols for which you purchased licenses, and is configured and ready for use.

## Prerequisites

You need the following requirements completed before you begin the procedure:

- ◆ Installed filer hardware and the serial console attached to the filer according to the instructions in your hardware guide
- ◆ The new filer attached to the network
- ◆ A client browser on the same network as the filer's *e0* network
- ◆ Filled out worksheet from Appendices A and B

## Steps

Complete the following steps to give the filer an IP address and to use the Setup Wizard to configure the filer.

| Step | Action                                                                                                                                                                                                                                                                    |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Turn on the filer's power switch to begin the configuration process. Note that this is the <code>set up</code> command configuration being used.                                                                                                                          |
| 2    | Enter the information requested by using the <a href="#">Setup Command Configuration Worksheets</a> , from <a href="#">Appendix B</a> , that you filled out.<br><br>The following prompt is displayed:<br>Would you like to continue setup through the web interface? [n] |

| Step | Action                                                                                                                                                                                                                                                                                                                                      |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3    | <p>Enter <b>yes</b> to continue the setup using the Setup Wizard.</p> <p>The wizard displays the following message:</p> <p>Point a web browser to</p> <p style="padding-left: 40px;"><code>http://filer-name/api</code></p> <p>or</p> <p style="padding-left: 40px;"><code>http://filer-ip-address/api</code></p> <p>to complete setup.</p> |
| 4    | <p>From a client attached to the network, point your browser to the filer address given; the Setup Wizard loads.</p>                                                                                                                                                                                                                        |
| 5    | <p>Enter the information for each of the pages of prompts in the Setup Wizard using the <a href="#">Setup Wizard Configuration Worksheet</a>, from <a href="#">Appendix A</a>, that you filled out.</p>                                                                                                                                     |

**Where to go from here**

Verify the network connections of your new filer using the procedure in “[Verifying network connections](#)” on [page 13](#).

## Verifying network connections

---

### Description

After you configure the filer, you use the `ping` command from a client attached to the network to verify that the filer is set up correctly and can communicate with other computers on the network.

### Steps

Follow the steps below to verify filer communication.

| Step | Action                                                                                                                                                                                                                                                                                                                                     |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <p>At a client workstation, enter the following command:</p> <pre><b>ping hostname-interface</b></pre> <p>Replace <i>hostname</i> with the host name that you assigned to the filer when you ran <code>setup</code>; replace <i>interface</i> with one of the interface names that the filer assigned when you ran <code>setup</code>.</p> |
| 2    | <p>Repeat the test for each interface that is installed in the filer.</p>                                                                                                                                                                                                                                                                  |

### Examples

The following examples test the network connections for a filer that has the host name *toaster* with two interfaces named *e0* and *f0* installed:

```
ping toaster-e0
```

```
ping toaster-f0
```

### Troubleshooting

If an interface does not respond to a `ping` command, make sure that

- ◆ The interface is securely attached to the network.
- ◆ The media type is set up correctly if the interface is on an Ethernet card containing different media connectors.
- ◆ The routers function properly with correct routing information if the `ping` command is issued from a network not directly attached to the interface.



## Configuration using FilerView

### Using FilerView

This chapter introduces FilerView, the Network Appliance Web-based administration tool for Data ONTAP, and describes how to use it to continue the configuration of a filer, if needed.

FilerView enables you to perform most administration tasks from any client on your network that has a compatible Web browser. FilerView is a GUI-based administration tool that performs tasks that would otherwise require you to enter commands at the filer console or edit configuration files.

You can use FilerView even if you did not purchase a license for the HTTP protocol.

### Prerequisites

You need Netscape Navigator 4 or later or Microsoft Internet Explorer 4 or later to access FilerView. FilerView has not been tested with other Web browsers.

## Accessing FilerView

If you just finished the basic filer configuration using the Setup Wizard, you can click the *system management tools* link on the Setup Wizard's Finished page to access FilerView.

Otherwise, you can access FilerView by pointing your browser to the filer home page ([http://hostname/na\\_admin](http://hostname/na_admin)), substituting the filer's name for *hostname*:

**Example:** If your host's name is toaster, enter the following URL:

**[http://toaster/na\\_admin](http://toaster/na_admin)**

When your browser connects to the filer, the filer home page is loaded, as shown.



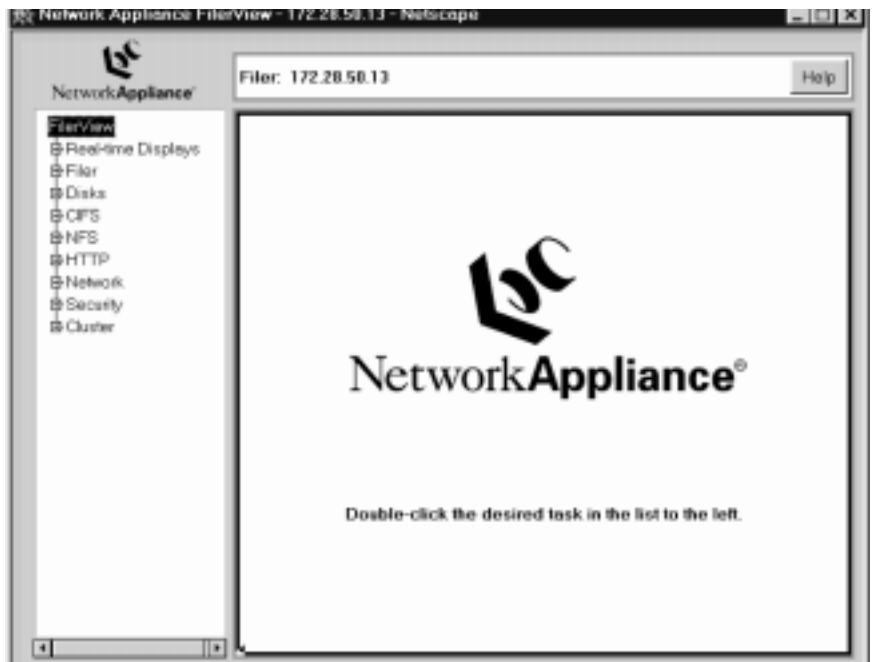
The initial page contains the choices shown in the following table.

| Choice       | Description                                                        |
|--------------|--------------------------------------------------------------------|
| Manual Pages | Links to UNIX-style man pages for the Data ONTAP console commands. |
| FilerView    | Links to the FilerView opening screen with management options.     |

| Choice                  | Description                                                 |
|-------------------------|-------------------------------------------------------------|
| Filer-At-A-Glance       | Displays a tool that monitors the performance of the filer. |
| Initiate a Support Call | Links to the Customer Support Initiate Call form.           |

## FilerView interface

The following illustration shows the FilerView interface.



## Using the interface

The FilerView interface consists of two frames: a left frame and a right frame.

**Left frame:** The left frame contains an expandable list of categories:

- ◆ The Real-time Displays category contains choices that launch separate tools that monitor filer performance.
- ◆ The other categories represent management functions.

To view the Real-time Displays or the functions in a category, double-click the Real-time Displays or a category name. To select a Real-time Display or a function, double-click the display or function name.

---

### Note

The first time you select a function, FilerView prompts you to enter the filer's administration password. After you enter the correct password, FilerView does not prompt you for the password again.

---

**Right frame:** The right frame contains a logo initially.

As you select functions from the left frame, the right frame changes to display forms that provide information about the filer configuration and enable you to change the filer's configuration.

To alter the filer configuration, you change information that is displayed in forms and then save the information.

**Help button:** The top of the window contains a Help button that you can click to view Help for the form that is currently displayed in the right frame.

## Completing the configuration

---

### Types of configuration options

Following are the types of configuration options you might have on your new filer and need to configure using FilerView or the command-line interface.

| Option                                                                                                                                                      | See...                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| If your filer is not using NIS to authenticate NFS and CIFS users, or if your filer is not using a Windows NT domain controller to authenticate CIFS users. | <a href="#">Chapter 5, “Set Up Password and Group Files”</a>         |
| You purchased a license for the CIFS protocol.                                                                                                              | <a href="#">Chapter 6, “Configuring Access to CIFS Shares”</a>       |
| If your filer is using NIS to authenticate NFS and CIFS users, or if your filer is using a Windows NT domain controller to authenticate users.              | <a href="#">Chapter 7, “Configuring Clients to Access the Filer”</a> |
| If you want to install and use the SecureShare™ features on your filer, which provide SecureShare Access and SecureShare Account Migrator.                  | <a href="#">Chapter 8, “Installing SecureShare”</a>                  |



## Password and group information

### What this chapter contains

This chapter describes how to set up the *passwd* and *group* files on the filer so that the filer can authenticate users. Note that the procedures in this chapter are accomplished using the command line.

### Who should use this chapter

You should use the information in this chapter if your filer is licensed for the CIFS protocol and does not use a Windows NT domain controller to authenticate users.

If your filer does use a Windows NT domain controller, skip this chapter and continue with [Chapter 6](#), “[Configuring Access to CIFS Shares](#).”

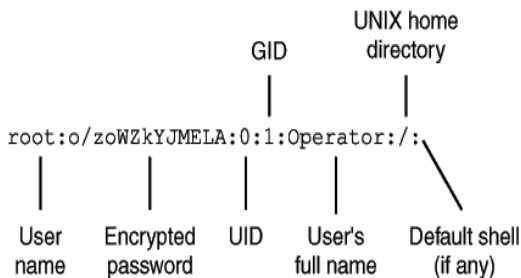
### How the filer uses the *passwd* and *group* files

The initial setup created default *passwd* and *group* files in the */etc* directory of the filer default volume. The filer uses *passwd* and *group* files for the following reasons:

- ◆ To authenticate users for CIFS or PC-NFSD access and to translate user and group names in the */etc/quotas* file to UIDs and GIDs  
If the filer uses a Windows NT domain controller to authenticate CIFS users, the domain controller verifies the user’s login name and password, and the filer verifies that the user has an entry in the *passwd* file.  
If the filer uses the *passwd* file to authenticate NFS or CIFS users, the filer uses the encrypted password in the *passwd* file to verify the user’s login name and password.
- ◆ To determine CIFS guest access  
For additional information about guest access, see “Enabling guest access” in the *System Administrator’s Guide*.
- ◆ To determine users’ rights to access files  
For information about how the filer uses the files to determine access rights in an environment with both NFS and CIFS users, refer to “Choosing the method of deciding access rights” in the *System Administrator’s Guide*.

## The default passwd file

The following illustration shows the default entry in the *passwd* file.

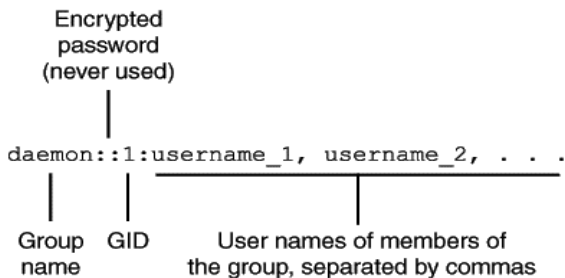


The following table describes the fields in an entry.

| Field               | Description                                                                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User name           | Contains a user name for the user.                                                                                                                           |
| Encrypted password  | Contains a password for the user. The filer disregards this field if NIS or a Windows NT domain controller is used to authenticate user names and passwords. |
| UID                 | Contains a unique integer that is the UID (user ID).                                                                                                         |
| GID                 | Contains a unique integer that is the user's primary GID (group ID).                                                                                         |
| User's full name    | Contains the user's full name. The filer ignores this field.                                                                                                 |
| UNIX home directory | Contains the path of the user's home directory. The filer ignores this field.                                                                                |
| Default shell       | Contains the path of the user's default shell. The filer ignores this field.                                                                                 |

## The default group file

The following illustration shows the default entry in the *group* file.



The following table describes the fields in an entry.

| Field              | Description                                                             |
|--------------------|-------------------------------------------------------------------------|
| Group name         | Contains a unique group name.                                           |
| Encrypted password | Contains a password. This field is never used and is blank.             |
| GID                | Contains a unique integer that is the GID.                              |
| User names         | Contains a comma-separated list of user names that belong to the group. |

# Accessing passwd and group files from Windows NT and Windows 95 workstations

---

**Description** This procedure enables you to access the *passwd* and *group* files from a Windows NT or Windows 95 workstation.

**Steps** Complete the following steps to access the files from a Windows NT or Windows 95 workstation.

| Step | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <p>Map a drive to the root of the default filer volume using the following Universal Naming Convention (UNC) path; replace <i>filename</i> with the name of your filer:</p> <p><code>\\filename\C\$</code></p> <p>When prompted, enter a password based on one of the following scenarios:</p> <ul style="list-style-type: none"><li>◆ If Windows displays a dialog box asking for a user name and a password, use Administrator as the user name.</li><li>◆ If you set up the filer to use a Windows NT domain controller to authenticate users, use the domain's administrator password.</li><li>◆ If you set up the filer to use the <i>passwd</i> file to authenticate users, use the administrator password that you entered when you ran the Setup Wizard.</li></ul> |
| 2    | <p>Change to the <i>/etc</i> directory.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Accessing passwd and group files from UNIX/NFS clients

---

### Description

This procedure enables you to access the *passwd* and *group* files from a UNIX/NFS client.

### Steps

Complete the following steps to access the files from a UNIX/NFS client.

| Steps | Action                                                                                                                                                                                   |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | Mount the root of the default filer volume to the client's file system using the following path; replace <i>filename</i> with the name of your filer:<br><br><i>filename</i> : /vol/vol0 |
| 2     | Change to the <i>/etc</i> directory.                                                                                                                                                     |

## Add entries to the passwd file

---

The procedure you use to add entries to the */etc/passwd* file depends on whether you are using the */etc/passwd* file or either a Windows NT domain controller or NIS to authenticate users.

If you are using the */etc/passwd* file to authenticate users, follow the instructions in the next section, “[Adding entries to the passwd file from a UNIX host](#)” on [page 27](#).

If you are using either a Windows NT domain controller or NIS to authenticate users, follow the instructions in “[Adding entries to the passwd file from a Windows/NFS client](#)” on [page 29](#).

# Adding entries to the passwd file from a UNIX host

---

**Description** In this procedure, you add entries to a *passwd* file on a UNIX host using a text editor, then transfer the file to the filer. You add entries to the *passwd* file on a UNIX host because each entry in the file requires an encrypted password and the filer does not have a command for creating passwords. The format for entries in the *passwd* file is as follows:

```
username:password:uid:gid:full name:/:default shell
```

**Steps** Complete the following steps to add entries to a *passwd* file.

| Step | Action                                                                                                                                                                                       |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Log in to a UNIX host as the root user.                                                                                                                                                      |
| 2    | Change to the <i>/etc</i> directory.                                                                                                                                                         |
| 3    | Make a copy of the existing <i>passwd</i> file under a new name, such as <i>passwd.old</i> .                                                                                                 |
| 4    | Open the existing <i>passwd</i> file in a text editor.                                                                                                                                       |
| 5    | Add an entry for each user who needs access to files.<br><br>Leave the password and default shell fields empty. You set passwords in Step 8. The filer does not use the default shell field. |
| 6    | If you did not purchase a license for the NFS protocol, delete any entries from the <i>passwd</i> file that are for non-CIFS users.                                                          |
| 7    | Save the file and exit the editor.                                                                                                                                                           |
| 8    | Set a password for each user by entering the following command:<br><br><b>passwd <i>username</i></b><br><br>The <b>passwd</b> program prompts you to enter the new password twice.           |
| 9    | Copy the <i>passwd</i> file from the UNIX host to the <i>/etc</i> directory on the filer.                                                                                                    |

| Step | Action                                                                                        |
|------|-----------------------------------------------------------------------------------------------|
| 10   | Delete the <i>passwd</i> file from the UNIX host and rename the saved file to <i>passwd</i> . |
| 11   | Continue with “ <a href="#">Adding entries to the group file</a> ” on page 30                 |

# Adding entries to the passwd file from a Windows/NFS client

---

**Description** In this procedure, you edit the *passwd* file from a Windows NT or Windows 95 workstation or a UNIX/NFS client using a text editor. The format for entries in the *passwd* file is as follows:

```
username:password:gid:uid:full name:default shell
```

**Steps** Complete the following steps to add entries to the *passwd* file.

| Step | Action                                                                                                                                                                                                             |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | In a text editor, open the <i>passwd</i> file from the <i>/etc</i> directory of the default filer volume.                                                                                                          |
| 2    | Add an entry for each user who needs to access files.<br><br>Leave the password and default shell fields empty. The filer does not use them when users are authenticated by a Windows NT domain controller or NIS. |
| 3    | Save the file and exit the text editor.                                                                                                                                                                            |
| 4    | Continue with “ <a href="#">Adding entries to the group file</a> ” on <a href="#">page 30</a> .                                                                                                                    |

# Adding entries to the group file

---

## Description

In this procedure, you edit the *group* file from either a Windows NT or Windows 95 workstation or a UNIX/NFS client using a text editor. This enables you to add users to a specific group that has rights to access the filer.

The format for entries in the group file is as follows:

groupname::gid:username, . . . , username

## Prerequisites

This procedure assumes that you already connected to the root filer volume using the instructions in one of the following sections:

- ◆ “[Accessing passwd and group files from Windows NT and Windows 95 workstations](#)” on [page 24](#)
- ◆ “[Accessing passwd and group files from UNIX/NFS clients](#)” on [page 25](#)

## Steps

Complete the following steps to add entries to the *group* file.

| Step | Action                                                                                                                                                                                                                 |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | In a text editor, open the <i>group</i> file from the <i>/etc</i> directory of the default filer volume.                                                                                                               |
| 2    | Add entries to the file for each group.                                                                                                                                                                                |
| 3    | Save the file and exit the text editor.<br><br><b>Results:</b> The <i>passwd</i> and <i>group</i> files on the filer now contain entries for users and groups. The filer can verify users’ rights to access the filer. |

## What to do next

Use the following table to determine what to do next.

| If...                                                 | See...                                                                |
|-------------------------------------------------------|-----------------------------------------------------------------------|
| You purchased a license for the CIFS protocol.        | <a href="#">Chapter 6, “Configuring Access to CIFS Shares.”</a>       |
| You did not purchase a license for the CIFS protocol. | <a href="#">Chapter 7, “Configuring Clients to Access the Filer.”</a> |



## Assign access rights

### About this chapter

This chapter describes how to assign users and groups access rights to CIFS shares (directories) using FilerView; see the *System Administrator's Guide* for instructions about using Windows NT Server Manager to assign access rights.

If you did not purchase a license for the CIFS protocol, continue with [Chapter 7](#), “[Configuring Clients to Access the Filer.](#)”

### Scope of shares access

The rights you assign to a share apply to the entire share; for example, if you assign a user rights to a share named HOME, the user gains rights to the directory specified by the HOME share and to all subdirectories under the directory. When you assign rights, they are recorded in the share ACL.

### Introducing the cifs share parameters

FilerView enables you to grant users and groups access to CIFS shares. The CIFS share parameters are described in the following table.

| Parameter    | Description                                                                       |
|--------------|-----------------------------------------------------------------------------------|
| access       | Specifies that an access entry is to be created.                                  |
| share        | Specifies the name of the share.                                                  |
| user   group | Specifies that the user   group name is a group.                                  |
| name         | Specifies the name of the user or group for which access to the share is granted. |

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rights    | <p>Specifies which rights the user or group have to the share.</p> <p>Rights are specified by three characters, <i>rwX</i>, which stand for read, write, and execute. A dash (-) in any position denies the user the right specified by the character it replaces.</p> <p>Examples:</p> <p><i>rwX</i> grants read, write, and execute rights.</p> <p><i>r--</i> grants only the right to read files.</p> <p><i>rw-</i> grants only the rights to read and write files.</p> <p><i>r-X</i> grants only the rights to read and execute files.</p> |

# Establishing access to shares

---

**Description**                      The following procedure creates the access rights to the current CIFS shares.

**Steps**                              Complete the following steps to establish access to shares.

| Step | Action                                                                                                                                                                                                                                             |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | From FilerView, select the CIFS option.                                                                                                                                                                                                            |
| 2    | From the CIFS option, select Share/Access Editor.                                                                                                                                                                                                  |
| 3    | Select the specific share you want to provide access to and click New Access.                                                                                                                                                                      |
| 4    | Choose either Access by Group or Access by User.                                                                                                                                                                                                   |
| 5    | Enter the name of the user or group for whom you want to specify access right to the share.                                                                                                                                                        |
| 6    | <div>In the Rights field, select the type of permissions you want to set for this share.<br/><br/>You can choose UNIX-style permissions, such as <i>rwX</i>, or Windows NT permissions, which are No Access, Read, Change, and Full Control.</div> |
| 7    | Click OK to create the new access.                                                                                                                                                                                                                 |

**What to do next**                      Follow the instructions in [Chapter 7, “Configuring Clients to Access the Filer.”](#)



## NFS and CIFS client configuration

### About this chapter

This chapter describes how to configure NFS and CIFS clients to access directories and files on the filer.

### NFS client configuration

If you purchased a license for the NFS protocol, follow the instructions in this section to prepare NFS clients to mount file systems from the filer.

### Host and interface names

When you ran the Setup Wizard, the filer generated a host name for each interface by appending the number of the interface to the filer host name.

For example, the interface name for the first interface on a filer named toaster might be *toaster-e0*; the second interface might be *toaster-e1*.

### CIFS client configuration

If you purchased a license for the CIFS protocol, follow the instructions in this section to configure CIFS clients to access information on the filer.

**Filer is visible to CIFS clients after setup:** After the Setup Wizard finishes, the filer becomes visible to CIFS clients by automatically registering with the master browser on its local network.

If cross-subnet browsing is configured correctly, the filer is now visible to all CIFS clients. For more information about cross-subnet browsing, refer to Microsoft networking documentation.

**CIFS client connection methods:** The following table describes the various methods by which CIFS clients can connect to the filer. For more information about commands and windows mentioned in the table, refer to the operating system manual for your computer.

| <b>Method</b> | <b>Client operating system</b>                                                                                         | <b>Command or window</b>                                   | <b>Description</b>                                                                                         |
|---------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>1</b>      | Windows 95,<br>Windows NT 4.0                                                                                          | Map Network Drive<br>window (from Network<br>Explorer)     | Connect to the filer as a network<br>drive.                                                                |
| <b>2</b>      | Windows 95,<br>Windows NT 4.0                                                                                          | Network Neighborhood                                       | Click the filer icon in the Network<br>Neighborhood window.                                                |
| <b>3</b>      | Windows NT 3.51,<br>Windows for<br>Workgroups                                                                          | Connect Network Drive<br>window (from the File<br>Manager) | Connect to the filer as a network<br>drive.                                                                |
| <b>4</b>      | Any operating system<br>that supports the DOS<br>command-line interface<br>and supports the <b>net<br/>use</b> command | <b>net use</b> command                                     | Map a share to a drive letter on the<br>command line. For example:<br><br><b>net use f: \\toaster\home</b> |

## Configure NFS clients

---

### **Configure NFS clients for either of two types of name resolution**

To configure NFS clients, choose one of the following methods:

- ◆ Configuring NFS clients if you use DNS or NIS for name resolution on page 40
- ◆ Configuring NFS clients if you use /etc/hosts file for name resolution on page 41

## Configuring NFS clients if you use DNS or NIS for name resolution

---

### Procedure

If you use DNS or NIS for name resolution, add an entry in your DNS or NIS databases for each of the filer interfaces.

The following example shows how the entries might look for a filer with four interfaces:

```
255.255.255.145    toaster-e0 toaster
255.255.255.155    toaster-e1
255.255.255.165    toaster-f0
255.255.255.175    toaster-a5
```

In the first line of the preceding example, the filer host name itself is used as an alias for the first network interface.

## Configuring NFS clients if you use `/etc/hosts` file for name resolution

---

### Procedure

If you use `/etc/hosts` file for name resolution, add an entry in each host's `/etc/hosts` file for each of the filer interfaces.

The following example shows how the entries might look for a filer with four interfaces:

```
255.255.255.145    toaster-e0 toaster
255.255.255.155    toaster-e1
255.255.255.165    toaster-f0
255.255.255.175    toaster-a5
```

In the first line of the preceding example, the filer host name itself is used as an alias for the first network interface.

## Exporting filer directories

---

### Procedure

You must export the filer's file systems before clients can mount them.

Use an editor from an NFS or CIFS client to edit the */etc/exports* file to export filer directories.

# Mounting file systems on clients

## Procedure

For clients to mount file systems from the filer, you must create entries for the directories exported from the filer in each client's `/etc/fstab` or `/etc/vfstab` file.

After you edit the clients' `/etc/fstab` or `/etc/vfstab` file, the clients mount the file systems automatically when they boot.

Complete the following steps to prepare clients to mount the filer's file systems.

**Note**—  
The `/vol/vol0/home` directory is used as a sample filer directory in this procedure. You should use a path that exists on the filer.

| Step | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Create a directory on the client to act as a mount point. For example, <code>/n/toaster/home</code> .                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2    | <p>To mount the filer's <code>/vol/vol0/home</code> directory to <code>/n/toaster/home</code>, add the following line to the client's <code>/etc/fstab</code> or <code>/etc/vfstab</code> file:</p> <pre><b>filename-ex:/vol/vol0/home /n/toaster/home nfs rw 0 0</b></pre> <p>Replace <i>filename</i> with the name of your filer; replace <i>ex</i> with the specific Ethernet interface on that filer (for example, <code>e0</code> or <code>e1</code>).</p> <p>The file system is mounted when the client reboots.</p> |
| 3    | <p>To mount the <code>/vol/vol0/home</code> directory without a client reboot, enter the following command at the client:</p> <pre><b>mount toaster-e1:/vol/vol0/home /n/toaster/home</b></pre> <p><b>Result:</b> After the <code>/vol/vol0/home</code> directory on the filer is mounted, the user on the client system can create, modify, or remove files in <code>/n/toaster/home</code>.</p>                                                                                                                          |

## What to do next

Use the following table to decide what to do next.

| If...                                                 | See...                                                                  |
|-------------------------------------------------------|-------------------------------------------------------------------------|
| You purchased a license for the CIFS protocol.        | <a href="#">“Configuring CIFS clients”</a> on <a href="#">page 45</a> . |
| You did not purchase a license for the CIFS protocol. | <a href="#">Chapter 9</a> , <a href="#">“About the Filer Software.”</a> |

# Configuring CIFS clients

---

**Procedure**

Complete the following steps to inform users about how to access the filer.

| Step | Action                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | From the table from the CIFS client configuration on page 37, determine the connection methods that are correct for your CIFS clients.                                                                                                                                                                                                                                                                                                        |
| 2    | <p>If your CIFS clients can use methods 1, 3, and 4 to connect to the filer, inform your users of the filer’s UNC path.</p> <p>The UNC path consists of a computer name and a share name in the following format:</p> <p><i>\\computer_name\share_name</i></p> <p><b>Example:</b> If the filer is named toaster and the directory that contains users’ directories is shared with the name “home,” the UNC path is <i>\\toaster\home</i>.</p> |
| 3    | <p>If your CIFS clients can use method 2 to connect to the filer, inform your users of the filer name so that they can locate the filer in Network Neighborhood.</p> <p><b>Results:</b> After you provide users with information about how to access the filer, they can connect to the filer, view directories, and read and write files.</p>                                                                                                |

**What to do next**

Read [Chapter 9, “About the Filer Software,”](#) to learn about the software that you received with the filer.



## About SecureShare

### Features in SecureShare

For multiprotocol environments, Data ONTAP provides two SecureShare features:

- ◆ SecureShare Access, which makes it easy for Windows users to change UNIX file permissions on the filer.  
SecureShare Access appears as a tab in the Properties dialog box of a set of files you select if at least one of the files is a UNIX file. To use SecureShare Access, follow the instructions in “Changing UNIX permissions from Windows” in the *System Administrator’s Guide*.
- ◆ SecureShare Account Migrator (formerly the `cvtusers` tool), which makes it easy to convert users and groups from a Windows NT domain into the format necessary to populate the `/etc/passwd` and `/etc/group` files on your filer. It enables you to perform the following tasks:
  - ❖ Create the commands necessary to build CIFS shares for each user and apply appropriate rights to these shares.
  - ❖ Synchronize a Windows NT domain with `/etc` files, so you can keep your `/etc` files current by running the program daily.

You can run SecureShare Account Migrator only from Windows NT, and only if you have administrative access to the filer.

# Installing SecureShare Access

---

## Description

This procedure installs SecureShare Access from the CD-ROM onto the filer.

## Steps

Complete the following steps to install SecureShare Access from the CD-ROM.

| Step | Action                                                           |
|------|------------------------------------------------------------------|
| 1    | Make sure the that Data ONTAP 5.3 CD-ROM is in the CD-ROM drive. |
| 2    | Click the CD-ROM drive icon.                                     |
| 3    | Click UTILS.                                                     |
| 4    | Click SSACCESS.                                                  |
| 5    | Click SSACCESS.EXE.                                              |
| 6    | Follow the prompts in the SecureShare Access installer program.  |

# Installing SecureShare Account Migrator

---

Description

The following procedure installs the SecureShare Account Migrator from the CD-ROM onto the filer.

Steps

Complete the following steps to install SecureShare Account Migrator from the CD-ROM.

| Step | Action                                                                    |
|------|---------------------------------------------------------------------------|
| 1    | Make sure that the Data ONTAP 5.3 CD-ROM is in the CD-ROM drive.          |
| 2    | Click the CD-ROM drive icon.                                              |
| 3    | Click UTILS.                                                              |
| 4    | Click SSAM.                                                               |
| 5    | Open the README file.                                                     |
| 6    | Click CVTUSERS.EXE.                                                       |
| 7    | Follow the prompts in the SecureShare Account Migrator installer program. |

What to do next

Read [Chapter 9, “About the Filer Software,”](#) to understand what software is shipped and installed on the filer.



## Filer software description

### About this chapter

This chapter describes the software that shipped with the filer.

The filer shipped with a CD-ROM and system boot diskettes. Because system software has been installed at the factory, you don't need the CD-ROM or system boot diskettes to install or configure a new filer.

Store the filer software in a safe place so that you can use it to recover from potential software problems in the future.

### CD-ROM and diskette contents

The following list describes the CD-ROM and system boot diskettes:

| Package item          | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data ONTAP CD-ROM     | This CD-ROM contains the system software and documentation. If you need to reinstall the system software for any reason, you need this CD-ROM; call Network Appliance Technical Support for instructions before reinstalling system software on the filer. The Data ONTAP CD-ROM contains the system files and system boot software in two formats so that it can be read by both UNIX and PC workstations. For full information about the contents of the CD-ROM, read the file named <i>intro.txt</i> on the CD-ROM. |
| System boot diskettes | If the filer fails to boot from hard disk, or if you forget your password, you must boot the filer from the system boot diskettes.                                                                                                                                                                                                                                                                                                                                                                                     |
| Custom MIB            | Use this Management Information Base (MIB) with SNMP to get detailed information about filer operation. For further information, see the <i>System Administrator's Guide</i> .                                                                                                                                                                                                                                                                                                                                         |

### Software updates

Network Appliance regularly makes software updates available to customers who purchase software support agreements.

You can find information about the latest software updates at the Network Appliance NOW Web site at <http://now.netapp.com>.

## What to do next

Your filer is now configured and operational. Your clients can access the filer to store and retrieve files. Use the following table to determine what to do next.

| If you want to...                                                  | See...                                                 |
|--------------------------------------------------------------------|--------------------------------------------------------|
| Learn about managing Data ONTAP using commands                     | The Data ONTAP 5.3 <i>System Administrator's Guide</i> |
| Learn how to install the Data ONTAP MIB on your management station | The Data ONTAP 5.3 <i>System Administrator's Guide</i> |

## Setup Wizard Information Worksheet

| Basic Setup Wizard information worksheet                                                                                                                                                                                                                                                      | Value               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Page 1 Filer Setup</b>                                                                                                                                                                                                                                                                     |                     |
| <b>New Filer Name</b>                                                                                                                                                                                                                                                                         |                     |
| <p>A unique 1- to 32-character name that uses only alphanumeric characters and hyphens.</p> <p><b>Note</b> _____<br/>                     If you purchased a license for the CIFS protocol and want to use the same host name for both NFS and CIFS, select a name of 1 to 15 characters.</p> |                     |
| <b>Administrative Password</b>                                                                                                                                                                                                                                                                |                     |
| The password required to administer the filer.                                                                                                                                                                                                                                                |                     |
| <b>Time Zone</b>                                                                                                                                                                                                                                                                              |                     |
| The name of the filer's time zone.                                                                                                                                                                                                                                                            |                     |
| <b>Language</b>                                                                                                                                                                                                                                                                               |                     |
| The language that the filer should use for system names, file names, and so on.                                                                                                                                                                                                               |                     |
| <b>Protocol Licenses</b>                                                                                                                                                                                                                                                                      |                     |
| <p>The protocol licenses that the filer will be using.</p> <p><b>Note</b> _____<br/>                     You only need to type a license in if it didn't come preloaded with the filer.</p>                                                                                                   | NFS<br>CIFS<br>HTTP |

| Basic Setup Wizard information worksheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Value |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Page 2 Filer Setup (continued)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <b>Email Address</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |
| The email address of the filer's administrator. This is used for autosupport mail and for setting SNMP contact information.                                                                                                                                                                                                                                                                                                                                                                                                                          |       |
| <b>Location</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| The physical location of the filer; used in SNMP traps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |
| <b>Administrative Host</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |
| <p>Host Name or Host IP address</p> <p>The name of a client that you plan to use for administrative tasks, such as</p> <ul style="list-style-type: none"> <li>mounting the filer's root directory (/) to an NFS client (if you purchased a license for the NFS protocol)</li> <li>entering filer commands using the <code>rsh</code> program or a <code>telnet</code> client</li> </ul> <p>If you do not enter an administration host name and IP address, any NFS client can mount the filer's root file system and modify configuration files.</p> |       |
| <b>Page 3 Filer Setup - Network Services</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
| <b>DNS Domain</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |
| The name of your Domain Name System (DNS) domain, such as <code>netapp.com</code> , if the filer should use DNS for host lookups.                                                                                                                                                                                                                                                                                                                                                                                                                    |       |

| Basic Setup Wizard information worksheet                                                                                            |              | Value                                   |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------|
| <b>DNS Servers</b>                                                                                                                  |              |                                         |
| The name and IP addresses of up to two DNS servers that supply DNS information for the filer.                                       | 1.           |                                         |
|                                                                                                                                     | 2.           |                                         |
| <b>NIS Domain</b>                                                                                                                   |              |                                         |
| The name of a Network Information Services (NIS) domain, such as netapp.com, if the filer should use NIS for host and user lookups. |              |                                         |
| <b>Routing Gateway</b>                                                                                                              |              |                                         |
| The name or IP address of the primary gateway to use for routing outbound traffic.                                                  |              |                                         |
| <b>Email Gateway</b>                                                                                                                |              |                                         |
| The name or IP address of the computer running the Simple Mail Transport Protocol (SMTP) that the filer can use for sending mail.   |              |                                         |
| <b>Page 4 Filer Setup - Network Addresses</b>                                                                                       |              |                                         |
| <b>Network Addresses</b>                                                                                                            |              |                                         |
| Name - IP Address                                                                                                                   | Network Mask | Network Type / WINS (on off; CIFS only) |
|                                                                                                                                     |              |                                         |
|                                                                                                                                     |              |                                         |
|                                                                                                                                     |              |                                         |
|                                                                                                                                     |              |                                         |
|                                                                                                                                     |              |                                         |
|                                                                                                                                     |              |                                         |
|                                                                                                                                     |              |                                         |
|                                                                                                                                     |              |                                         |



| Basic Setup Wizard information worksheet                                                           | Value |
|----------------------------------------------------------------------------------------------------|-------|
| <b>Page 5 Filer Setup - Protocol Configuration</b>                                                 |       |
| <b>NT Domain</b> (used only with CIFS)                                                             |       |
| The name of the NT domain that should be used.                                                     |       |
| <b>WINS Servers</b> (used only with CIFS)                                                          |       |
| The name of the WINS server that the filer should register with.                                   |       |
| <b>NFS Character Encoding</b> (used only with NFS)                                                 |       |
| The type of encoding used for NFS file names, either Default or UTF-8.                             |       |
| <b>HTTP Root Directory</b> (used only with HTTP)                                                   |       |
| The path for the directory that is the root of the Web for files served through the HTTP protocol. |       |



## Introduction

### **About the worksheets**

The worksheets in this appendix assist you in collecting the information you need to configure your new filer with the IP addresses necessary when using the `setup` command.

# Host name and interfaces

---

**About this worksheet**

This worksheet contains information about your filer’s host name and its interfaces.

The worksheet contains four sections of interface information:

- ◆ Virtual interfaces
- ◆ Ethernet interfaces
- ◆ Fore/IP SPANS interfaces
- ◆ ATM LANE interfaces

Complete the sections for the interfaces that your filer uses.

**Note**\_\_\_\_\_

You cannot configure clustered filers when using the Setup Wizard.

\_\_\_\_\_

**Host name**

The host name is a unique 1- to 32-character name that uses only alphanumeric characters and hyphens.

**Note**\_\_\_\_\_

If you purchased a license for the CIFS protocol and want to use the same host name for both NFS and CIFS, select a name of 1- to 15- characters.

\_\_\_\_\_

|                  |  |
|------------------|--|
| <b>Host Name</b> |  |
|------------------|--|

## Virtual interfaces

Complete this section only if you plan to use virtual interfaces with your filer. You can define up to 32 virtual interfaces. Each virtual interface must have a 1- to 15-character name, and can be defined as a single or multiple virtual interface.

For each virtual interface, enter a name, the number of links, and the link names.

| Virtual interface names | Number of links | Link names |
|-------------------------|-----------------|------------|
| 1:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |
| 2:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |
| 3:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |
| 4:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |
| 5:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |

| Virtual interface names | Number of links | Link names |
|-------------------------|-----------------|------------|
| 6:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |
| 7:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |
| 8:                      |                 | 1:         |
|                         |                 | 2:         |
|                         |                 | 3:         |
|                         |                 | 4:         |

**Ethernet interfaces**

Filers can contain a maximum of 31 interfaces. The interface names in this table are assigned by `setup` automatically.

| #  | Host interface name | Host IP address | Host subnet mask |
|----|---------------------|-----------------|------------------|
| 1  |                     |                 |                  |
| 2  |                     |                 |                  |
| 3  |                     |                 |                  |
| 4  |                     |                 |                  |
| 5  |                     |                 |                  |
| 6  |                     |                 |                  |
| 7  |                     |                 |                  |
| 8  |                     |                 |                  |
| 9  |                     |                 |                  |
| 10 |                     |                 |                  |
| 11 |                     |                 |                  |
| 12 |                     |                 |                  |
| 13 |                     |                 |                  |
| 14 |                     |                 |                  |
| 15 |                     |                 |                  |
| 16 |                     |                 |                  |
| 17 |                     |                 |                  |
| 18 |                     |                 |                  |
| 19 |                     |                 |                  |
| 20 |                     |                 |                  |
| 21 |                     |                 |                  |
| 22 |                     |                 |                  |
| 23 |                     |                 |                  |
| 24 |                     |                 |                  |
| 25 |                     |                 |                  |
| 26 |                     |                 |                  |

| #  | Host interface name | Host IP address | Host subnet mask |
|----|---------------------|-----------------|------------------|
| 27 |                     |                 |                  |
| 28 |                     |                 |                  |
| 29 |                     |                 |                  |
| 30 |                     |                 |                  |
| 31 |                     |                 |                  |

**Fore/IP SPANS**

Complete this section if your filer uses Fore/IP SPANS interfaces.

| # | SPANS interface name | Enter the host IP address and subnet mask<br>OR the Partner IP address |                  |                    |
|---|----------------------|------------------------------------------------------------------------|------------------|--------------------|
|   |                      | Host IP address                                                        | Host subnet mask | Partner IP address |
| 1 |                      |                                                                        |                  |                    |
| 2 |                      |                                                                        |                  |                    |
| 3 |                      |                                                                        |                  |                    |
| 4 |                      |                                                                        |                  |                    |
| 5 |                      |                                                                        |                  |                    |
| 6 |                      |                                                                        |                  |                    |
| 7 |                      |                                                                        |                  |                    |
| 8 |                      |                                                                        |                  |                    |

## ATM LANE interfaces

Complete this section if your filer uses ATM LANE interfaces.

| <b>ATM<br/>adapter #</b> | <b>ATM interace name</b> | <b>Partner Name</b> |
|--------------------------|--------------------------|---------------------|
| 1                        |                          |                     |
| 2                        |                          |                     |
| 3                        |                          |                     |
| 4                        |                          |                     |
| 5                        |                          |                     |
| 6                        |                          |                     |
| 7                        |                          |                     |
| 8                        |                          |                     |

| <b>ATM<br/>Adapter #</b> | <b>ELAN<br/>Name</b> | <b>LECS Address<br/>(Use well-known or specify address)</b> |
|--------------------------|----------------------|-------------------------------------------------------------|
| 1                        |                      |                                                             |
| 2                        |                      |                                                             |
| 3                        |                      |                                                             |
| 4                        |                      |                                                             |
| 5                        |                      |                                                             |
| 6                        |                      |                                                             |
| 7                        |                      |                                                             |
| 8                        |                      |                                                             |
| 9                        |                      |                                                             |
| 10                       |                      |                                                             |
| 11                       |                      |                                                             |
| 12                       |                      |                                                             |
| 13                       |                      |                                                             |

| <b>ATM<br/>Adapter #</b> | <b>ELAN<br/>Name</b> | <b>LECS Address<br/>(Use well-known or specify address)</b> |
|--------------------------|----------------------|-------------------------------------------------------------|
| 14                       |                      |                                                             |
| 15                       |                      |                                                             |
| 16                       |                      |                                                             |
| 17                       |                      |                                                             |
| 18                       |                      |                                                             |
| 19                       |                      |                                                             |
| 20                       |                      |                                                             |
| 21                       |                      |                                                             |
| 22                       |                      |                                                             |
| 23                       |                      |                                                             |
| 24                       |                      |                                                             |
| 25                       |                      |                                                             |
| 26                       |                      |                                                             |
| 27                       |                      |                                                             |
| 28                       |                      |                                                             |
| 29                       |                      |                                                             |

