

Data ONTAP™ 6.5

Software Setup Guide

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Preface

About this guide

This guide describes how to set up and configure Network Appliance™ filers that run Data ONTAP™ 6.5 software. It covers all NetApp® filer models.

Audience

This guide is for system administrators who are familiar with operating systems, such as UNIX® and Windows®, that run on the filer's clients. It assumes that you are familiar with how to set up and configure the filer and how the NFS, CIFS, DAFS, VLD, HTTP, FCP for SCSI, and iSCSI protocols are used for file and block sharing or transfers. This guide doesn't cover basic system or network administration topics, such as IP addressing, routing, and network topology; it emphasizes the characteristics of the NetApp filer.

Is this guide right for you?

If you are installing new filers, this is the correct guide for you. If you are unsure, use the following table to decide which guide to read.

If you are...	Read...
Configuring a new NetApp filer	This guide
Upgrading an existing filer to the Data ONTAP 6.5 software	The <i>Data ONTAP 6.5 Upgrade Guide</i>
Converting existing NetApp filers to a cluster	The <i>Cluster Guide</i> for the specific filer series hardware

For a complete listing of Data ONTAP documentation, see the NetApp on the Web site at <http://now.netapp.com>, or the *Storage Management Guide*.

Terminology

When the term “filer” is used, the information applies to all NetApp filer models including the FAS900 and the NearStore™ series of storage appliances.

This guide uses the term “type” to mean pressing one or more keys on the keyboard. It uses the term “enter” to mean pressing one or more keys and then pressing the Enter key.

Command conventions

You can enter filer commands on the system console or from any client computer that can access the filer through a Telnet session.

In examples that illustrate commands executed on a UNIX workstation, the command syntax and output might differ, depending on your version of UNIX.

Keyboard conventions

When describing key combinations, this guide uses the hyphen (-) to separate individual keys. For example, “Ctrl-D” means pressing the “Control” and “D” keys simultaneously. Also, this guide uses the term “Enter” to refer to the key that generates a carriage return, although the key is named “Return” on some keyboards.

Typographic conventions

The following table describes typographic conventions used in this guide.

Convention	Type of information
<i>Italic font</i>	Words or characters that require special attention. Placeholders for information you must supply. For example, if the guide says to enter the <code>arp -d hostname</code> command, you enter the characters “arp -d” followed by the actual name of the host. Book titles in cross-references.
Monospaced font	Command and daemon names. Information displayed on the system console or other computer monitors. The contents of files.
Bold monospaced font	Words or characters you type. What you type is always shown in lowercase letters, unless you must type it in uppercase letters.

Special messages

This guide contains special messages that are described as follows:

Note_____

A note contains important information that helps you install or operate the system efficiently.

Caution

A caution contains instructions that you must follow to avoid damage to the equipment, a system crash, or loss of data.

About this chapter

This chapter provides an overview of the setup process and things to consider before you begin the process.

Topics in this chapter

This chapter discusses the following topics:

- ◆ [“Before you begin”](#) on page 2
- ◆ [“The setup process”](#) on page 6

Before you begin

Product documentation

Product documentation is shipped with the filer and is available online at <http://now.netapp.com>. Read the latest Data ONTAP 6.5 Release Description for the latest tips and other information about the product.

CD-ROM and diskettes shipped with the filer

The filer was shipped with a CD-ROM and system boot diskettes, for filers that use diskettes instead of CompactFlash™ cards. Because the system software is installed at the factory, you don't need the CD-ROM or system boot diskettes to install or configure a new filer. However, you should store the CD-ROM and system boot diskettes in a safe place for recovery purposes.

The following table describes the CD-ROM and system boot diskettes.

Media	Contents
Data ONTAP CD-ROM	The CD-ROM contains the system software and system boot software in two formats so that it can be read by both UNIX and Windows workstations. It also includes product documentation. If you need to reinstall the system software for any reason, you need this CD-ROM. For full information about the contents of the CD-ROM, see the file named <code>index.htm</code> on the CD-ROM. Note— Call Network Appliance Technical Support for instructions before reinstalling system software on the filer.
System boot diskettes	If the filer fails to boot from a hard disk, you must boot the filer from the system boot diskettes, unless the filer has a CompactFlash card. See the hardware guide for your filer for details about how to boot from media such as diskettes.

Setting filer domain account privileges

In order to set up and administer your filer, you must have administrator privileges for the computer that serves as the administration host.

If...	You will need...
Your filer has a CIFS license	Privileges to access and administer the Windows host and the filer domain
Your filer has an NFS license	Privileges to access and administer the UNIX host

Requirements for Windows Active Directory domains

In order to add a filer to a Windows Active Directory domain, you need

- ◆ A host address (A) record on the Domain Name System (DNS) server for the filer's fully qualified domain name
- ◆ Permissions for the filer administration account to perform the following actions on the filer container (the Active Directory console tree object in which the filer computer account will reside):
 - ❖ Change Password
 - ❖ Write Public Information
 - ❖ Create Computer Objects

If you create the filer domain account before you run `cifs setup`, you do not need to assign the "Create Computer Object" permission. For details about these permissions, see "[Precreating a Filer Domain Account in Active Directory \(Optional\)](#)" on page 30.

Use of DHCP with F800 series and F900 series filers for remote access

When you enable Dynamic Host Configuration Protocol (DHCP) to assign a static IP address to the onboard interface (e0) of an F800 series or F900 series filer during first-time setup, you can connect to the filer through a Telnet client and complete the first-time configuration remotely. Otherwise, you must attach a hard-wired serial console to the filer to complete the configuration.

When you use DHCP to assign an IP address to the onboard interface, the filer performs the following operations:

- ◆ Obtains the address from the DHCP server when the filer is turned on
- ◆ Configures the onboard interface with the IP address
- ◆ Becomes accessible to a Telnet client or the Setup Wizard

Caution

When you use DHCP with a filer, you must ensure the DHCP server is configured to return a static IP address for the interface. If the server returns a dynamic IP address, the filer displays an error message and continues to use the IP address permanently—which can result in an IP address conflict if the DHCP server assigns the IP address dynamically to other clients from time to time.

Installation of filer hardware

For your system's configuration information, which includes such information as storage capacity, expansion slot assignments, and disk shelf, disk drive, and tape drive support, see the *System Configuration Guide* on the NetApp on the Web site at <http://now.netapp.com>. See the hardware guide specific to your filer for information about installing filer hardware.

Installation of clustered filers

If you are installing a filer cluster, cable the filers in the cluster according to the instructions in the hardware series cluster guide. Note that much of the configuration information must be complementary, and often identical, for filers that form a cluster. See "[Verifying the configuration for clustered filers](#)" on page 48 for more information.

Information about SnapDrive system requirements and setup for your filer

If you plan to use SnapDrive™ on your Windows host to manage virtual disks on your filer, see the *SnapDrive Installation and Administration Guide* for information about SnapDrive system requirements and setup for your filer.

Information required to configure a new filer

During the setup process, you configure your new filer to run on the network. To configure a filer, you need a lot of information about the filer and your network, including such items as licensed protocols, administration host name, network interfaces, and network services such as DNS, Network Information Service (NIS), Windows Internet Naming Service (WINS), Simple Mail Transport Protocol (SMTP), and so on.

See Appendix A, “[Configuration Worksheet](#),” on page 57 for a complete list of the required information, with spaces in which you can record configuration information to be used during filer setup.

**Information about
setting up LDAP
authentication on
your filer**

For information about how to configure your filer to use LDAP authentication, see the information about setting up UNIX authentication in the *File Access Management Guide*.

**Information about
setting up Kerberos
V5 authentication
for NFS on your filer**

For information about how to configure your filer to use Kerberos V5 authentication for NFS, see the *File Access Management Guide*.

The setup process

Stages of the setup process

The following table describes the stages of the process for setting up and configuring a new filer for the first time.

Stage	Process	
1	Attach the new filer to the network so that you can use one of the setup methods to set up and configure your filer.	
2	If you...	Then...
	Have a DHCP server on the same segment as your new F800 series or F900 series filer and intend to use the DHCP service to assign an IP address to the onboard interface	1. Locate the label that has the MAC address for the onboard interface on the left side of the back of the filer. 2. Record the MAC address in a copy of the Configuration Worksheet in Appendix A. 3. Configure the DHCP server to return a static IP address for the interface based on the MAC address for the onboard interface.
	Are not using DHCP to configure the filer’s onboard interface (e0)	Attach a serial console to the filer.
3	Gather the information and record it.	Gather the information described in Chapter 2, “ Information Gathering ,” on page 9 and record it on a photocopy of the Appendix A, “ Configuration Worksheet ,” on page 57.
4	Select the setup method to configure the filer; follow the instructions on how to use the method.	Read Chapter 3, “ Setup ,” on page 21 to decide which setup method to use.

Stage	Process	
5	Verify the setup.	After completing the setup process, go to Chapter 4, “ After Setup Is Complete ,” on page 33.

Information you need to gather

You need to collect the information described in the following tables to set up and configure your filer. You can use the Configuration Worksheet in Appendix A to record your values.

How setup methods call out information types

When you use a setup method, you are prompted to enter values for information types, depending on the setup method you've chosen. Not all setup methods prompt you for the same information or in the same order. The setup command prompts you for all of the values needed to set up your filer, based on what Data ONTAP discovers upon bootup.

The Setup Wizard prompts you for the information types related to basic filer configuration, network services, network addresses, and protocols.

The differences among the setup methods are noted in the following tables. The alternate names used by the Setup Wizard for the term used in the setup command appear in parenthesis.

Notation for filer cluster configurations

If you are configuring a filer as part of a cluster, some information types must be unique for each filer in the cluster, and some information types must be identical on both filers. In the tables below, the information type description indicates whether the information type must be unique for each filer or identical on both filers.

MAC address

If you intend to use the DHCP service to assign an IP address to the onboard interface, locate the MAC address and record it.

Information type	Description
MAC address (or Interface MAC Address)	The unique address of the network interface built into the filer's motherboard. You can find the address on a label on the back of F800 series filers or by entering <code>sysconfig -a</code> at the filer prompt and looking for the following output: slot 0: 10/100 Ethernet Controller IV e0 MAC Address: 00:00:4c:0f:2c:ee

Required filer information

The following information is required for all installations.

Information type	Description
Host name (Hostname or Filer Name)	The name by which the filer is known on the network. If the filer is licensed for the NFS protocol, the name can be no longer than 32 characters. If the filer is licensed for the CIFS protocol, the name can be no longer than 15 characters. The host name must be unique for each filer in a cluster.
Password (Administrative Password)	A password that the filer requires before granting administrative access at the console, through a Telnet client, or through the Remote Shell protocol.
Time zone (Timezone)	The time zone in which the filer resides. See Appendix B, “Time Zones,” on page 61 for a list of valid time zones. The time zone must be identical on both filers in a cluster.
Filer location (Location)	A description of the physical location of the filer. The string value you enter during filer setup process is recorded in the SNMP location information. Use a description that identifies where to find your filer (for example, “Lab 5, Row 7, Rack B”).
Language	The language used for multiprotocol filers if both the CIFS and NFS protocols are licensed. See Appendix C, “Supported Languages,” on page 69 for a list of supported languages and their abbreviations. The language must be identical on both filers in a cluster.
Administration host (Administrative Host)	A client computer that is allowed to access the filer through a Telnet client or through the Remote Shell protocol.

Virtual network interfaces

If you want to create virtual network interfaces (vifs), you must use the setup command. Begin by gathering the following information.

Information type	Description
Virtual network interfaces	For each vif, record the following information: ◆ Name of each vif ◆ Number of links for each vif ◆ Link names for each link The virtual network interface information must be identical on both filers in a cluster.

Network information

If your network uses standard Ethernet or Gigabit Ethernet (GbE) interfaces, record the following information for each interface.

Information type	Description
Network Interface name	The name of the Ethernet (or GbE) interface, depending on what port the Ethernet card is installed in. Examples include e0 (for Ethernet single); e1 (for GbE); and e3a, e3b, e3c, e3d (for Ethernet quad-port). Network interface names are automatically assigned by Data ONTAP as it discovers them.
IP address	A unique address for each network interface.
Subnet mask (Network Mask)	The subnet mask for the network to which each network interface is attached. Example: 255.255.255.0

Information type	Description
Partner IP address (Interface to Take Over)	If your filer is licensed for cluster takeover, record the interface name or IP address belonging to the takeover partner that this interface should take over during a cluster takeover. Examples: e0 or 10.10.10.2 For vifs, you must specify the interface name rather than the interface IP address.
Media type (Network Type)	The type of interface: ◆ 100tx-fd (100Base-TX, full-duplex) ◆ tp-fd (10Base-T, full-duplex) ◆ 100tx (100Base-TX, half-duplex) ◆ tp (10Base-T, half-duplex) ◆ auto (autonegotiate speed and duplex)
If the interface supports jumbo frames, Maximum Transmission Unit (MTU) size	The default frame size defined for a jumbo frame on the filer is 9,018 bytes, and the maximum supported size is 9,210 bytes. These sizes correspond to MTU sizes of 9,000 and 9,192, respectively. Note_____ See the <i>Network Management Guide</i> for details about MTU size. _____

DAFS protocol

If your filer is licensed for the DAFS protocol, record the following information.

Information type	Description
VI/IP network device	If your network uses VI/IP network interfaces that you want to configure to work with DAFS, record the following information: ◆ IP address ◆ Netmask (or subnet mask)

Information type	Description
Cluster network devices that use DAFS	Record the names of the cluster partner VI/IP network interfaces you want to configure to work with DAFS. Note_____ This information is required only if you licensed cluster takeover. _____
Filer volumes to export	Record the names of the filer volumes exported through the DAFS service.
Authentication for privileged clients	Record the authentication level for privileged clients. This determines whether the clients communicating with the filer are privileged clients that are trusted to have multiple sets of user credentials. Note_____ The DAFS Database Accelerator client requests AUTH_NONE access to communicate with the filer. _____
Idle timeout for sessions	Record the length of time, in seconds, that a session can be idle before a session ends, or times out.

ATM LANE

If your network supports ATM LANE, record the following information.

Information type	Description
ATM ForeIP/ SPANS	If your network uses Asynchronous Transfer Mode (ATM) Simple Protocol for ATM Network Signaling (SPANS) interfaces, record the following information for each interface: ◆ Interface name ◆ Host IP address OR Partner IP address ◆ Netmask (or subnet mask) ◆ Media type The ATM ForeIP/SPANS interface information must be identical on both filers in a cluster.
ATM LANE	If your network uses ATM LAN Emulation (LANE) interfaces, record the following information for each interface: ◆ Interface name ◆ Host IP address OR Partner name ◆ Emulated LAN (ELAN) name ◆ LANE Configuration Server (LECS) address ◆ IP address ◆ Netmask (or subnet mask) The ATM LANE interface information must be identical on both filers in a cluster.

Default gateway

If your network uses routers, record the following information.

Information type	Description
Router (Routing Gateway)	Record the following information for the primary gateway to use for routing outbound network traffic: ◆ Gateway name ◆ IP address of the router

HTTP protocol

If your filer is licensed for HTTP, record the following information.

Information type	Description
Location of the http directory	The directory where the Web files and directories are stored. The default directory is /home/http in the filer's root volume.

DNS services

To configure your filer to use DNS services, you must have the following DNS information.

Information type	Description
DNS domain	The name of your network's Domain Name Service (DNS). The DNS domain name must be identical on both filers in a cluster.

Information type	Description	
DNS servers	The IP addresses of your DNS servers.	
	If...	You will need...
	Your filer will not use Active Directory services	The IP address for one or more DNS servers that will provide host name lookup services to the filer.
	You want to make Active Directory services available to CIFS	The IP address of DNS servers that support your Windows Active Directory domain.

NIS services

If your network uses NIS services, record the following information.

Information type	Description	
NIS domain name	The name of your NIS domain. The filer can use an NIS Domain to authenticate users and client computers. The NIS domain name must be identical on both filers in a cluster.	
NIS servers	The host names of your preferred NIS servers.	
	If...	You will need...
	Your site uses NIS	The host names of your NIS servers.
	You want NIS to broadcast to find a server	To enter an asterisk (*) when asked for the NIS server names

CIFS protocol

If your filer is licensed for the CIFS protocol, record the following information.

Information type	Description
Windows domain	The name of your Windows domain. If your site uses Windows servers, it has one or more domains. Record the name of the domain to which the filer should belong. Note_____ The Windows domain name value does not need to be identical on both filers in a cluster. You can have each filer in a cluster exist in a different domain and/or workgroup from its partner. However, if you have a multiprotocol environment and use UID to SID mapping, the UNIX security information must be compatible between the two domains.
WINS servers	The servers that handle Windows Internet Name Service (WINS) name registrations, queries, and releases. If you choose to make the filer visible through WINS, you need to record up to four WINS IP addresses. Note_____ The WINS server value does not need to be identical on both filers in a cluster. You can have each filer in a cluster exist in a different domain and/or workgroup from its partner.
Windows Active Directory domain administrator user name	The user name of a Windows domain administrator with sufficient privileges to add this filer to the Windows domain. Note_____ This is only required if you are using a Windows Active Directory domain.

Information type	Description
Windows Active Directory domain administrator password (Windows 2000 administrator password)	The password for the Active Directory domain administrator user account. If your domain is an Active Directory domain, you must use the password for a user account with sufficient permissions to add the filer to the domain. Caution————— Before you enter the password, be sure to create a secure connection (HTTPS); otherwise, the password is sent to the filer unencrypted.
Active Directory	The Windows Active Directory container in which to place filer accounts. This can be either the default of Computers or a previously created organizational unit (OU) specified by you. The path for the OU must be specified in reverse order, separated by commas. Example: If the path is eng\dev\mgmt, the active directory distinguished name is as follows: ou=mgmt, ou=dev, ou=eng Note————— A user in the Windows Active Directory domain can precreate the account and Data ONTAP updates that account. See “Precreating a Filer Domain Account in Active Directory (Optional)” on page 30

Remote management controller for Autosupport

If your filer has a remote management controller (RMC) for enhanced Autosupport, record the following information.

Information type	Description
MAC address	If you are using DHCP service, record the MAC address for the RMC. Locate the MAC address by entering <code>sysconfig -v</code> at the filer prompt and looking at the output for the RMC in slot 1.
IP address	If you are not using DHCP service, record the IP address for the RMC.
Network mask	If you are not using DHCP service, record the network mask for RMC.
Gateway	If you are not using DHCP service, record the IP address for the RMC gateway.
Media type	The type of interface for the RMC: ◆ 100tx-fd (100Base-TX, full-duplex) ◆ tp-fd (10Base-T, full-duplex) ◆ 100tx (100Base-TX, half-duplex) ◆ tp (10Base-T, half-duplex) ◆ auto (autonegotiate speed, duplex, and flow control)
Mail host	The name or IP address of the preferred mail host. The mail host delivers RMC alerts and local Autosupport e-mail.

About this chapter

This chapter describes different methods for setting up your filer, why you might use each method, and what to do once you have chosen a setup method.

Topics in this chapter

This chapter discusses the following topics:

- ◆ [“Choosing a setup method”](#) on page 22
- ◆ [“Using the setup script”](#) on page 24
- ◆ [“Using the Setup Wizard”](#) on page 27
- ◆ [“Configuring your filer for CIFS”](#) on page 29

Choosing a setup method

Setup method options

- You can set up your filer using either of the following methods:
- ◆ The setup script, from a console attached to the filer’s serial port or from a Telnet client, if you have DHCP enabled
 - ◆ The Setup Wizard from a Web browser

How to decide which method to use

Use the following table to decide which setup method to use.

If...	Use...
Your network does NOT support configuration through DHCP OR Your filer uses vifs, ATM LANE, or ATM SPANS interfaces OR You need to begin setup prior to using the wizard or running cifs setup OR You prefer to use the command line to set up your filer	The setup script

If...	Use...
Your network supports configuration through DHCP AND your filer does NOT use vifs, ATM LANE, or ATM SPANS interfaces AND you want to set up the filer through a Web browser AND you use the default Active Directory container for a Windows setup	The Setup Wizard
You finished using the setup script, the Setup Wizard, or a combination of the two to enter some basic filer configuration information, and now want to configure your filer for CIFS.	The cifs setup script

Setting up CIFS after running the setup script

Following the setup process, you may use `cifs setup` to configure your filer exclusively for CIFS client access or for multiple protocols.

If you have a valid CIFS license, `cifs setup` is automatically invoked upon completion of setup operations using the `setup` command or the Setup Wizard. However, you may terminate `cifs setup` at any point and run it later by entering `cifs setup` from the command line of a Telnet client or a serial port console.

If you plan to join the filer to an Active Directory domain, you may want to consider the setup option described in [“Precreating a Filer Domain Account in Active Directory \(Optional\)”](#) on page 30.

Using the setup script

When to use the setup script

Perform the steps described in this section after you have read and considered the available setup methods described in “[Choosing a setup method](#)” on page 22.

Designating an administrative host

During the setup process, you are prompted to designate an administration host. The host you specify (if any) is the machine that you intend to use for filer administrative tasks. Consider the following information when deciding whether you want to designate an administration host.

When you do not designate an administration host:

- ◆ The filer’s root file systems are available to all network clients.
Any users can gain access to the filer’s root file system and change or remove filer configuration files in the /etc directory.

When you designate an administration host:

- ◆ You limit filer administration to the host you specify.
You can add additional administration hosts after setup by modifying the filer’s NFS exports and CIFS shares.
- ◆ The filer’s root file system (/vol/vol0 by default) is accessible to that administration host in the following ways:
 - ❖ As a share named C\$, if the filer is licensed for the CIFS protocol
 - ❖ By NFS mounting, if the filer is licensed for the NFS protocol
For example, to mount netapp:/vol/vol1/MyQtree on a UNIX host, you would enter the following command:

```
mount filer:/vol/vol1/MyQtree/mnt/netapp /MyQtree
```

Running the setup script

To use the setup script, complete the following steps.

Step	Action
1	Boot the filer by doing the following: 1. Turn on the power switches to all disk shelves. 2. Turn on the filer's power switches. Note_____ After the filer boots, Data ONTAP begins discovering the devices, interfaces, and licenses installed in the system. Data ONTAP displays messages on the console and starts prompting you to enter setup information.
2	Answer the prompts using the information you gathered earlier. See Chapter 2, "Information Gathering," on page 9.
3	When prompted, enter a host name and IP address to designate the filer administration host machine, or press Enter to allow filer administration from all clients. Caution_____ If you do not designate an administration host, the filer's root file systems are available to all network clients. See "Designating an administrative host" on page 24 for administrative host considerations. To remove an administration host you've designated, enter the following command at the filer prompt after setup is complete: options admin.hosts ""
4	Enter n to continue using the setup command when you receive the following prompt. Would you like to continue setup through the Web interface?

Step	Action
5	When setup is complete, to transfer the information you've entered to the filer, enter the following command, as directed by the prompt on the screen. reboot Note_____ If you do not enter reboot, the information you entered does not take effect. _____
6	If you are configuring a pair of filers in a cluster and have not configured the other filer, set up the other filer in the cluster.

Using the Setup Wizard

When to use the Setup Wizard

Perform the steps described in this section after you have read and considered the available setup methods described in “[Choosing a setup method](#)” on page 22.

Configuring and running the Setup Wizard

To configure and use the Setup Wizard, complete the following steps.

Step	Action
1	Configure the following information into your DHCP server: ◆ Filer MAC address ◆ Filer fixed IP address ◆ Any of the following optional information: ❖ Routers ❖ Default route ❖ DNS domain name ❖ DNS servers ❖ NIS domain name ❖ NIS servers ❖ WINS servers ❖ SMTP server Note If you do not configure this information into your DHCP server, the corresponding fields in the Setup Wizard will be empty, and you will need to enter the information manually into the Setup Wizard fields.

Step	Action
2	Boot the filer by doing both of the following: 1. Turn on the power switches to all disk shelves. 2. Turn on the filer's power switches. Note _____ After the filer boots, Data ONTAP begins discovering the devices, interfaces, and licenses installed in the system, prompting you to enter setup information.
3	Answer the prompts using the information you gathered earlier, until you are asked to continue setup using the Web interface. See Chapter 2, “Information Gathering,” on page 9.
4	Enter y when you receive the following prompt: Would you like to continue setup through the Web interface?
5	From a filer client's Web browser, enter the following URL: http://filer_ip_address/api <i>filer_ip_address</i> is the IP address for your filer. Example: If the IP address of the onboard Ethernet interface (named e0) is 10.14.26.99, enter the following: http://10.14.26.99/api Result: The browser displays the Setup Wizard startup page.
6	Fill in the Setup Wizard fields using the information you gathered earlier.
7	After you verify that the configuration information is correct as shown on the last screen, click Finish.
8	If you are configuring a pair of filers in a cluster and have not configured the other filer, set up the other filer in the cluster now.

Configuring your filer for CIFS

When cifs setup is run

When you have a valid CIFS license, `cifs setup` is automatically invoked upon completion of the Setup Wizard or the setup script. You can also start the `cifs setup` script by entering `cifs setup` on the Data ONTAP command line.

Configuring filers for CIFS

To add the filer to an Active Directory environment, the `cifs setup` script creates and joins the filer’s computer account to an Active Directory domain. This requires you to assign permissions on certain domain objects. If your security structure does not allow you to assign the permissions described in [Step 2](#) of the following procedure, see “[Precreating a Filer Domain Account in Active Directory \(Optional\)](#)” on page 30.

Complete the following steps to configure your filer for CIFS.

Step	Action
1	Determine whether you want to precreate an Active Directory Domain account for the filer, as described on the following page. If yes, follow that procedure. If no, go on to Step 2 .
2	For Active Directory environments only: In the Active Directory Users and Computers tree, select the Organizational Unit (OU). On the OU, assign the following permissions for the filer administrator account: Change Password, Write Public Information, and Create Computer Objects.
3	Enter the <code>cifs setup</code> command and use the information you gathered to answer questions posed by the prompts. See Chapter 2, “ Information Gathering ,” on page 9.

Precreating a Filer Domain Account in Active Directory (Optional)

Terminology

In this section, the following definitions apply:

- ◆ *filer domain account* is the Active Directory domain account created for the filer.
- ◆ *filer administrator account* is the user account assigned to the filer (the “Windows 2000 Administrator Name” you enter during `cifs setup`).
- ◆ *filer container* is the console tree object (such as an Organizational Unit) in Windows Active Directory for your filer domain account.

Reasons for precreating the filer domain account

When you use `cifs setup` to create the filer domain account, you must assign certain permissions (listed later in this section) on the filer container.

If you create the filer domain account before you run `cifs setup`

- ◆ You do not need to assign the permission to Create Computer Objects.
- ◆ You can assign permissions specifically on the filer domain account, instead of assigning them on the filer container.

If your security structure does not allow the permissions `cifs setup` requires when it creates the filer domain account, you can create the filer domain account before you run `cifs setup`.

How `cifs setup` creates the filer domain account

When you run `cifs setup`, it automatically creates a domain account for the filer and joins the filer to the domain you specify. Therefore, you must assign permission for the filer administrator account to Create Computer Objects within the filer container.

Required permissions

If your security structure does not allow you to assign computer object creation permission to the filer administrator account, an administrator who has these permissions can use Active Directory Administrative Tools to create the filer domain account manually, before `cifs setup` is run.

If you *do not* precreate the filer domain account, you must assign the following permissions to the filer container:

- ◆ Change Password
- ◆ Write Public Information
- ◆ Create Computer Objects

If you *do* precreate the filer domain account, you must assign the following permissions to the filer container or to the filer domain account you create:

- ◆ Change Password
- ◆ Write Public Information

How to manually precreate and configure a filer domain account

To precreate and configure a domain account for the filer, perform the following steps.

Note

The following procedure describes Windows 2000 Server tasks. Details of this procedure may vary on other Windows server versions.

Step	Action
1	In the Active Directory Users and Computers View menu, ensure that the Advanced Features menu item is checked.
2	In the Active Directory tree, locate the OU for your filer, right-click, and choose New > Computer.
3	Enter the filer (domain account) name. Note the filer name to make sure you enter it precisely when you run <code>cifs setup</code> later.
4	Specify the name of the filer administrator account to be allowed to “add this computer to the domain.”
5	Right-click on computer account you just created and choose Properties from the pop-up menu.
6	Click the Security tab.
7	Select the user or group that will add the filer to the domain.

Step	Action
8	In the Permissions list, ensure that the following check boxes are enabled: "Change Password" and "Write Public Information".
9	Run <code>cifs setup</code> . At the prompt "Please enter the new hostname," enter the filer name you specified in Step 3 .

About this chapter This chapter discusses what you do after setup is complete.

Topics in this chapter

This chapter discusses the following topics:

- ◆ [“The verification process”](#) on page 34
- ◆ [“Verifying network connections”](#) on page 37
- ◆ [“Verifying host name resolution”](#) on page 39
- ◆ [“Preparing NFS clients to access the filer”](#) on page 40
- ◆ [“Preparing CIFS clients to access the filer”](#) on page 43
- ◆ [“Starting FCP”](#) on page 46
- ◆ [“Starting iSCSI”](#) on page 47
- ◆ [“Verifying the configuration for clustered filers”](#) on page 48
- ◆ [“Verifying the RMC connections and setup”](#) on page 52
- ◆ [“Administering your filer”](#) on page 53

The verification process

Complete process The following table describes the complete process for verifying that your filer is communicating on the network, that it is online and ready to operate. Also included are recommendations for preparing the filer for use.

To make the filer ready to use, complete all of the following steps that are appropriate for your filer and the licenses you use with it.

Stage	What you do	For details
1	Verify the filer’s network connection.	See “ Verifying network connections ” on page 37.
2	Verify that the filer is online and has the appropriate volumes and licenses.	After setup, the filer is online, and the following entities exist on the filer: /vol/vol0 (a virtual root path) /vol/vol0/home (a directory) 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. For NFS: /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. For CIFS: /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.

Stage	What you do	For details
3	For NFS, configure clients to access the filer.	See “ Verifying host name resolution ” on page 39.
4	For CIFS, configure clients to access the filer.	See “ Preparing CIFS clients to access the filer ” on page 43.
5	For HTTP, configure HTTP service.	If you purchased a license for the HTTP protocol for you filer, turn on HTTP service using the FilerView® interface or the console commands described in the <i>File Access Management Guide</i> .
6	For CIFS, set up password and group files.	If you purchased a license for the CIFS protocol and you are not using a Windows domain controller to authenticate users, configure password and group files according to the instructions in the <i>Storage Management Guide</i> .
7	Configure CIFS shares.	If you purchased a license for the CIFS protocol, configure CIFS shares so that users can access directories on the filer according to the instructions in the <i>File Access Management Guide</i> .
8	Assign access rights to CIFS users and groups.	If you purchased a license for the CIFS protocol, assign access rights using the instructions in the <i>File Access Management Guide</i> .
9	Install the SecureShare™ program on CIFS clients.	If your filer is licensed for the CIFS protocol, you can install the SecureShare program on Windows client machines according to the instructions on the NetApp on the Web (NOW) site at http://now.netapp.com and use the feature as described in the <i>File Access Management Guide</i> .

Stage	What you do	For details
10	Configure DAFS.	If your filer is licensed for the DAFS protocol, configure the DAFS settings according to the instructions in the <i>File Access Management Guide</i> .
11	Start FCP.	If your filer is licensed for FCP, follow the procedures in “ Starting FCP ” on page 46.
12	Start iSCSI.	If your filer is licensed for iSCSI, follow the procedures in “ Starting iSCSI ” on page 47.
13	Check the configuration of clustered filers.	If you configured clustered filers, check the cluster configuration information according to “ Verifying the configuration for clustered filers ” on page 48.
14	Learn about the Data ONTAP software.	Read the information in “ CD-ROM and diskettes shipped with the filer ” on page 2.
15	Check the RMC connections.	Read the information in “ Verifying the RMC connections and setup ” on page 52.
16	Learn about FilerView.	Read the information in “ Administering your filer ” on page 53.
17	Install electronic documentation.	- Obtain the documentation in zip file format from either of the following sources: - The software download page on NOW (http://now.netapp.com) - The CD-ROM: <i>drive:\doc\docs.zip</i> - Use your browser to open the page at http://filer_name/na_admin - Select the Install Documentation link. - Follow the prompts to locate and install the documentation zip file.

Verifying network connections

Verifying connectivity

To verify filer network connectivity, complete the following steps.

Step	Action	
1	If you want to verify a...	Then...
	Hostname interface	Complete Steps 2 and 3.
	IP address of an interface	Complete Steps 4 and 5.
2	At a client attached to the network, enter the following command: ping <i>hostname-interface</i> <i>hostname</i> is the host name that you assigned to the filer when you ran setup. <i>interface</i> is one of the interface names that the filer assigned when you ran setup. Example: This command tests the network connections for a filer that has the host name “toaster” with an interface named e0 installed. ping toaster-e0	
3	Repeat the test once for each interface that is installed in the filer.	
4	At a client attached to the network, enter the following command: ping <i>hostname-IP_address</i> <i>hostname</i> is the host name that you assigned to the filer when you ran setup. <i>IP_address</i> is the IP address that the filer assigned to that interface during setup. Example: This command tests the network connections for a filer that has the host name “toaster” with an interface named e0 installed at 172.25.50.10. ping 172.25.50.10	

Step	Action
5	Repeat the test once for each interface that is installed in the filer.

If interfaces don't respond

To identify a problem when an interfaces does not respond to a ping command, take the following actions.

Step	Action
1	Check to make sure that the interface is securely attached to the network.
2	Check to make sure that the media type is set up correctly if the interface is using a multiport Ethernet card with different port speeds.
3	Check to make sure that the routers function properly with correct routing information if the ping command is issued from a network not directly attached to the interface.
4	If you received a response from the IP address ping but not the hostname ping, there may be a problem with name resolution. See the section “ Verifying host name resolution ” on page 39.

Verifying host name resolution

Automatically generated host names for interfaces require resolution

When you ran setup, the filer generated a host name for each interface by appending the number of the interface to the filer host name. You need to make sure that these host names are resolved into IP addresses.

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.

Host name resolution

To ensure host names are resolved into IP addresses, complete the following step.

Step	Action	
1	If you use...	Then...
	DNS or NIS for name resolution	Add an entry in your DNS or NIS databases for each of the filer interfaces. Example: This shows how the entries might look for a filer with four interfaces: <pre>192.16.3.145 toaster-e0 192.16.3.145 toaster-e1 192.16.3.145 toaster-f0 192.16.3.145 toaster-a5</pre> Note_____ For Active Directory domains, you must also create a host address (A) record on the DNS server for the filer’s fully qualified domain name. _____
	/etc/hosts files for name resolution	Add an entry in each host’s /etc/hosts file for each of the filer interfaces.

Preparing NFS clients to access the filer

How to make filer data available

To make filer data available to NFS clients, you need to do the following tasks:

- ◆ Export the filer’s file system
- ◆ Mount the filer’s file system
- ◆ Create a directory on the NFS client to act as a mount point

Exporting NFS clients

You must export the filer’s file systems before NFS clients can mount them. Only UNIX and “mixed” styles of file systems are available for mounting by NFS clients. CIFS file systems (NTFS style), cannot be mounted by NFS clients.

To export the filer’s file systems, complete the following steps.

Step	Action																														
1	Determine valid path names for directories by entering the following command at the filer prompt: qtree Sample output: <table><tr><td>Volume</td><td>Tree</td><td>Style</td><td>Oplocks</td><td>Status</td></tr><tr><td>-----</td><td>----</td><td>-----</td><td>-----</td><td>-----</td></tr><tr><td>vol0</td><td>home</td><td>unix</td><td>enabled</td><td>normal</td></tr><tr><td>vol1snap</td><td>qtree1</td><td>unix</td><td>enabled</td><td>normal</td></tr><tr><td>vol2eng</td><td>team1</td><td>mixed</td><td>enabled</td><td>normal</td></tr><tr><td>vol2mkt</td><td>nt</td><td>ntfs</td><td>enabled</td><td>normal</td></tr></table>	Volume	Tree	Style	Oplocks	Status	-----	----	-----	-----	-----	vol0	home	unix	enabled	normal	vol1snap	qtree1	unix	enabled	normal	vol2eng	team1	mixed	enabled	normal	vol2mkt	nt	ntfs	enabled	normal
Volume	Tree	Style	Oplocks	Status																											
-----	----	-----	-----	-----																											
vol0	home	unix	enabled	normal																											
vol1snap	qtree1	unix	enabled	normal																											
vol2eng	team1	mixed	enabled	normal																											
vol2mkt	nt	ntfs	enabled	normal																											
2	From the sample output, convert the first three entries into valid path names. To do this, use this format: <i>/Volume/Tree</i>. For example: /vol0/home /vol1snap/qtree1 /vol2eng/team1 Note_____ Because only “unix” and “mixed” styles can be mounted on NFS clients, /vol2mkt/nt (which has “ntfs” style) cannot be mounted. _____																														
3	Use a text editor from an NFS client to open the /etc/exports file.																														

Step	Action
4	Add the filer directories to the /etc/exports file to export them. For information about specifying entries and access permissions, see the chapter about file access using NFS in the <i>File Access Management Guide</i> to find out how /etc/exports works. Example: <pre>/vol/vol0/home -anon=0 /vol/vol1snap/qtrees1 /vol/vol2eng/team1</pre>
5	Save the file and exit the text editor.

Mounting NFS client file systems

You can mount the filer's file system by using one of the following methods:

- ◆ Add entries for the directories exported from the filer for each client in the /etc/vfstab file (for Solaris clients) or /etc/fstab file (for non-Solaris clients)
- ◆ Use the UNIX mount command
- ◆ Use the UNIX automounter tool

To mount the filer's file systems by adding entries to the /etc/vfstab file, complete the following steps.

Step	Action
1	Use a text editor from an NFS client to open the /etc/vfstab (or /etc/fstab) file.
2	Add the entries for the directories exported from the filer for each client in the /etc/vfstab file (or /etc/fstab) file. Example: <pre>toaster:/vol/vol0/home nfs - yes - rw,bg,hard toaster:/vol/vol1snap/qtrees1 -yes - rw,bg,hard toaster:/vol/vol2eng/team1 - yes - rw,bg,hard</pre> Note_____ The /vol/vol0/home directory is used as a sample filer directory in this procedure. You should use a path that exists on your filer. _____

Step	Action
3	Save the file and exit the text editor. Result: After you edit the NFS clients' /etc/vfstab file (or /etc/fstab file), the clients mount the file systems automatically when they boot.

Creating a mount point directory on an NFS client

To create a mount point directory on the NFS client, complete the following step.

Step	Action
1	At the NFS client, create a directory to act as a mount point. Example: <code>mkdir /n/toaster/home</code>

Mounting a filer directory on an NFS client

To mount the filer's directory on the NFS client, complete the following steps.

Step	Action
1	To mount the filer's /vol/vol0/home directory to /n/toaster/home, add the following entry for the client in the /etc/vfstab file (or /etc/fstab) file, assuming that the client is on the same network as the filer's e0 Ethernet interface: toaster-e0:/vol/vol0/home /n/toaster/home nfs rw 0 0 Result: The file system is mounted when the client reboots, and remains available after subsequent rebooting.
2	To mount the /vol/vol0/home directory without a client reboot, enter the following command at the NFS client: mount toaster-e1:/vol/vol0/home /n/toaster/home Result: The file system is mounted immediately, but is no longer available upon reboot.

Preparing CIFS clients to access the filer

How filer data is visible to CIFS clients

Once setup is complete, the filer establishes CIFS client connectivity by automatically registering with the master browser on its local network.

Note—Although CIFS connectivity has been established, you need to configure shares with CIFS access permissions before any filer data becomes visible to CIFS clients. For information about how to make a test share available to CIFS clients, see the *File Access Management Guide*.

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

CIFS client connection methods

The following table enumerates and describes the methods by which CIFS clients can connect to the filer, depending on the client operating system.

For more information about commands and windows mentioned in the table, see the operating system manual for your computer.

Method	Client operating system	Command or window
Method 1: Clicking the filer icon	Windows 95, Windows 98, Windows Me, Windows NT 4.0	Network Neighborhood
	Windows Me, Windows 2000, Windows XP, Windows 2003	My Network Places
Method 2: Connecting to the filer as a network drive	Windows 95, Windows 98, Windows Me	Map Network Drive window—available according to Workgroup or domain membership
	Windows NT 4.0	Map Network Drive window (from NT Explorer)
	Windows 2000, Windows XP, Windows 2003	Map Network Drive

Method	Client operating system	Command or window
Method 3: Connecting to the filer as a network drive	Windows NT 3.51, Windows for Workgroups	Connect Network Drive window (from the File Manager)
Method 4: Mapping a share to a drive letter on the command line	Operating systems that support the DOS command-line interface and support the net use command, including Windows 2000, Windows XP, and Windows 2003	net use <i>drive_letter</i> :\\path Example: net use f:\\toaster\\home

Information users need for accessing the filer

To inform users about how to access the filer, complete the following steps.

Step	Action
1	Determine the connection methods that are correct for your CIFS clients.

Step	Action	
2	If your CIFS clients can...	Then...
	Use methods 2, 3, or 4 to connect to the filer. See “CIFS client connection methods” on page 43.	Inform your users of the filer’s UNC path. The UNC path consists of a computer name and a share name in the following format: <code>\\computer_name\share_name</code> Example: If the filer is named toaster and the directory for users’ directories has the share name “home,” the UNC path is <code>\\toaster\home</code>. Result: 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.
	Use method 1 to connect to the filer. See “CIFS client connection methods” on page 43.	Inform your users of the filer name so that they can locate the filer in Network Neighborhood.

Configuring filer storage options

Once you have verified the filer is configured, you need to configure it for your storage needs. For information about storage configuration, see the *Storage Management Guide*.

Starting FCP

Starting the FCP service

To start the FCP service, complete the following step.

Step	Action
1	Enter the following command: fcp start

Verifying that the FCP service is running

To verify that the FCP service is running, complete the following step.

Step	Action
1	Enter the following command: fcp status

Starting iSCSI

Starting the iSCSI service

To start the iSCSI service, complete the following step.

Step	Action
1	Enter the following command: iscsi start

Verifying that the iSCSI service is running

To verify that the iSCSI service is running, complete the following step.

Step	Action
1	Enter the following command: iscsi status

Verifying the configuration for clustered filers

How you check your cluster configuration

There are two ways you can check your cluster configuration prior to placing your cluster online:

- ◆ Running the Cluster Configuration Checker script
- ◆ Manually, through the command line

Values that need to match between clustered filers

When you configure your clustered filers, the following configuration information needs to match.

- ◆ Parameters
- ◆ Network interfaces
- ◆ Configuration files
- ◆ Licenses and option settings

Note

The values for domain controllers and WINS servers no longer need to be identical on both filers in a cluster. You can have each filer in a cluster exist in a different domain or a different workgroup, or both. However, if you have a multiprotocol environment and use UID-to-SID mapping, the UNIX security information must be compatible between the two domains. For example, if you have a UID of 119, it must map to the same Windows account for both filers.

Checking options with the Cluster Configuration Checker

The Cluster Configuration Checker is a script that runs under UNIX or as a Common Gateway Interface (CGI) script from a UNIX Web server. It detects the following configuration problems:

- ◆ Different versions of Data ONTAP on the local and partner filers
- ◆ Incorrectly configured network interfaces
- ◆ Mismatched licenses and option settings

Note

The Cluster Configuration Checker script does *not* verify matching configuration files. To verify matching configuration files, see [“Matching configuration files”](#) on page 51.

You can download the Cluster Configuration Checker script from the NetApp on the Web (NOW) site at <http://now.netapp.com/NOW/tools>. Look for the Cluster Configuration Checker (cf-config-check.cgi) file.

To run this script from the command line, complete the following steps.

Step	Action
1	Collect the IP addresses and login information for the local and partner filers.
2	Download the Cluster Configuration Checker script ZIP archive file from the NetApp on the Web site at (http://now.netapp.com) site and extract the script file.
3	Run the script, as described in the online instructions on the script Web page. You can run the script either from the command line or through a Web browser that can access both filers.
4	Examine the script output and correct any errors or differences identified in the output.

Manually checking clustered filer settings

The following sections provide information required to manually verify clustered filer configurations.

Matching network interfaces

The network interfaces must have identical values on both filers in a cluster.

To manually check the network interfaces, see the Data ONTAP command reference information for the `ifconfig` command.

Matching filer options and licenses

To check options on the local and partner filers, complete the following steps.

Step	Action
1	View the options set on the local filer by entering the following command at the filer's console: options Result: The current option settings on the filer are listed. You should see output similar to the following: <pre> autosupport.doit DONT autosupport.enable on . . dns.domainname filer1 (might be overwritten in takeover) dns.enable off (might be overwritten in takeover) ftpd.enable off . . </pre>
2	Note the values of filer options with comments. (Comments appear in parentheses.) The comments for filer options are: ◆ (value might be overwritten in takeover) ◆ (same value required in local+partner) ◆ (Same value in local+partner recommended)
3	Verify that options with comments are set to the same value for both filers.
4	Correct any mismatched options using the following command: options <i>option_name</i> <i>option_value</i>
5	Check the license settings on both filers using the following command: license
6	Correct mismatched license settings using the following command: license <i>option=code</i>

Matching configuration files

Certain configuration files in the root volume of the filer (not the UNIX administration host) need to be identical on clustered filers. Verify that the contents of the configuration files shown in the following table are identical for the clustered filers.

File	Filer 1	Filer 2
/etc/resolv.conf		
/etc/httpd.mimetypes		
/etc/dgateways		
/etc/nsswitch.conf		

Matching parameters

Ensure that the parameters shown in the following table have identical values on both clustered filers.

Parameter	Filer 1	Filer 2
ARP table		
date		
ndmp		
nfs		
route table		
routed		
timezone		

Verifying the RMC connections and setup

Verifying the RMC connections and setup

To verify the remote management controller (RMC) connections and setup, complete the following steps.

Step	Action
1	Enter the following command: rmc setup Note _____ It might take a few minutes for the new network settings for the RMC to take effect.
2	Enter the following command to verify the connection from the filer to the RMC interface: ping rmc interface <i>rmc interface</i> is the IP address of the RMC.
3	To verify that Autosupport is enabled and Autosupport options are valid, enter the following command: options autosupport Result: The Autosupport options should be set as follows: autosupport.enable on autosupport.support.enable on autosupport.mailhost <i>name or IP address of mailhost</i>
4	To test RMC mail delivery, enter the following command: rmc test email TESTMSG Result: The RMC should send e-mail within a few minutes. If the test fails, you should verify filer connectivity and whether the mailhost is valid.

About the RMC network interface

The RMC network interface is not used for serving data so it will not show up in the output for the `ifconfig` command.

Administering your filer

Methods of administration

This section provides a brief overview of the methods you can use to administer your filers. See the *Storage Management Guide* for more information, including a table that describes each book in the library of Data ONTAP documentation. The NetApp on the Web (NOW) site (<http://now.netapp.com>) includes a Data ONTAP library page with links and PDF files for every piece of documentation.

Administration from the command line

You’ve already been using the command-line interface by entering commands at the filer prompt. You can set the privilege level that determines what commands are available to you by using the `priv` command. All the commands are documented online as UNIX-style manual pages.

Administration from FilerView

FilerView is a Web-based administration tool for Data ONTAP that enables you to perform most administration tasks from any client on your network that has a compatible Web browser. Through FilerView, you can perform tasks that otherwise require you to enter commands at the filer prompt or to edit configuration files.

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

Accessing FilerView

To access FilerView, complete the following steps.

Step	Action
1	Launch a Web browser, either Netscape Navigator 4.7 or later or Microsoft Internet Explorer 5 or later.

Step	Action
2	Point your browser to the filer home page (<code>http://hostname/na_admin</code>), substituting the filer name for <i>hostname</i>. Example: If your host's name is toaster, enter the following URL: <code>http://toaster/na_admin</code> Result: When your browser connects to the filer, you see the filer home page.

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

Choice	Description
FilerView	Opens the FilerView program in a new window.
Filer At-A-Glance	Opens a window that provides real-time filer performance and network traffic statistics.
Documentation link	Upon first usage, this button is disabled and a separate link allows you to select zip files to install the HTML and PDF versions of product documentation. Once documentation is installed, you can use the documentation button to access the Network Appliance documents you selected.
Manual Pages	Links to UNIX-style manual pages for the Data ONTAP console commands.
Submit a support case	Directs the browser to a form on the Network Appliance technical support Web site. You can use the form to report problems.

How FilerView works

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 Status category contains choices that launch separate tools that monitor filer performance.
- ◆ The Wizards category provides a graphical user interface you can use to modify the values you specified when you ran the setup and the `cifs` setup scripts.
- ◆ The other categories represent management functions.

You can view the real-time displays or the functions in a category by clicking the Real Time Status or a category name. You can select a real-time display or a function by clicking the display or function name.

Note

If the filer has an administration password, FilerView prompts you to enter the password the first time you select a function. 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.

You can alter the filer configuration by changing information that is displayed in forms and then saving the information.

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.

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 NetApp on the Web (NOW) site (<http://now.netapp.com>).

When you register with the NOW site, you can configure your account to receive e-mail regarding software updates.

Custom Management Information Base

You may want to configure the Network Appliance custom Management Information Base (MIB) with SNMP, to retrieve runtime and configuration information about filer operation such as statistics, RAID, file systems, and protocols. For details information about custom MIB groups, see the *Network Management Guide*.

Autosupport feature

The Autosupport feature is automatically enabled when you run the setup process on a filer for the first time. Autosupport sends event messages and weekly reports to Network Appliance Technical Support. This can significantly decrease the time it takes to assess and resolve problems that might occur on your system.

If you do not want any Autosupport messages to be sent, you can disable Autosupport by entering the command `options autosupport.support.enable off`. Autosupport does not send any messages to Network Appliance until at least 24 hours after you complete the setup process.

How to use this worksheet

Use this worksheet with Chapter 2, “[Information Gathering](#),” on page 9, to record the information you need to set up and configure your filer or NearStore system. Gather the information before you begin setting up and configuring your system.

Types of information		Your values
Filer	MAC address for the filer’s built-in Ethernet interface	
	Host name	
	Password	
	Time zone	
	Filer location	
	Language used for multiprotocol filers	
Administration host	Host name	
	IP address	
Virtual interfaces	Interface name	
	Number of links	
	Link names	
Ethernet interfaces	Interface name	
	IP address	
	Subnet mask	
	Partner IP address	
	Media type (network type)	
	Are jumbo frames supported?	
	MTU size for jumbo frames	

Types of information		Your values
DAFS	VI/IP network device names	
	Cluster network devices that use DAFS	
	Filer volumes to export	
	Authentication for privileged clients	
	Idle timeout for sessions	
ATM ForeIP/SPANS	Interface name	
	Host IP address or Partner IP address	
	Netmask (or subnet mask)	
	Media type	
ATM LANE	Interface name	
	Host IP address or partner name	
	Emulated LAN (ELAN) name	
	LANE Configuration Server (LECS) address	
	IP address	
	Netmask (or subnet mask)	
Router (if used)	Gateway name	
	IP address	
Location of HTTP directory		
DNS	Domain name	
	Server address 1	
	Server address 2	
	Server address 3	

Types of information		Your values
NIS	Domain name	
	Server name 1	
	Server name 2	
	Server name 3	
Windows domain		
WINS servers	1	
	2	
	3	
Windows Active Directory domain administrator user name		
Windows Active Directory domain administrator password		
Active Directory (command-line setup only)		
RMC	MAC address	
	IP address	
	Network mask (subnet mask)	
	Gateway	
	Media type	
	Mailhost	

About this section

This appendix provides valid times zones you can enter when the setup script prompts you to enter a time zone. Time zones are divided into two sections:

- ◆ Time zones by offset from Greenwich Mean Time (GMT), and miscellaneous time zones that are not grouped by region.
- ◆ Time zones grouped by geographical region, in alphabetical order.

If you need to change your selected time zone after setup is complete, see the *Storage Management Guide* for information about the `timezone` command.

Time zone aliases

Use the following aliases to represent their corresponding time zone descriptions.

- ◆ GMT — Greenwich Mean Time, UCT, UTC, Universal, Zulu
- ◆ CET — MET (Middle European Time)
- ◆ US/Eastern — Jamaica
- ◆ US/Mountain — Navajo

GMT offset and miscellaneous time zones

About time zones listed in this section

This section contains the following valid Data ONTAP time zones:

- ◆ Time zones defined by GMT offset
- ◆ Time zones that are not associated with a geographical region
- ◆ Regional time zones that are not grouped by major land mass

Etc

Etc/GMT	Etc/GMT+11	Etc/GMT-9
Etc/GMT+0	Etc/GMT+12	Etc/GMT-10
Etc/GMT+1	Etc/GMT0	Etc/GMT-11
Etc/GMT+2	Etc/GMT-0	Etc/GMT-12
Etc/GMT+3	Etc/GMT-1	Etc/GMT-13
Etc/GMT+4	Etc/GMT-2	Etc/GMT-14
Etc/GMT+5	Etc/GMT-3	Etc/Greenwich
Etc/GMT+6	Etc/GMT-4	Etc/UCT
Etc/GMT+7	Etc/GMT-5	Etc/Universal
Etc/GMT+8	Etc/GMT-6	Etc/UTC
Etc/GMT+9	Etc/GMT-7	Etc/Zulu
Etc/GMT+10	Etc/GMT-8	

GMT

GMT	GMT+9	GMT-5
GMT+1	GMT+10	GMT-6
GMT+2	GMT+11	GMT-7
GMT+3	GMT+12	GMT-8
GMT+4	GMT+13	GMT-9
GMT+5	GMT-1	GMT-10
GMT+6	GMT-2	GMT-11
GMT+7	GMT-3	GMT-12
GMT+8	GMT-4	

Miscellaneous

Arctic/Longyearbyen
CET
CST6CDT
Cuba
EET
Egypt
Eire
EST
EST5EDT
Factory
GB
GB-Eire
Greenwich
Hongkong

HST
Iceland
Iran
Israel
Japan
Kwajalein
Libya
MET
MST
MST7MDT
Navajo
NZ
NZ-CHAT
Poland

Portugal
PRC
PST8PDT
ROC
ROK
Singapore
Turkey
UCT
Universal
UTC
WET
W-SU
Zulu

System V

SystemV/AST4
SystemV/AST4ADT
SystemV/CST6
SystemV/CST6CDT
SystemV/EST5

SystemV/EST5EDT
SystemV/HST10
SystemV/MST7
SystemV/MST7MDT
SystemV/PST8

SystemV/PST8PDT
SystemV/YST9
SystemV/YST9YDT

Time zones by geographical region

About time zones listed in this section

This section contains valid Data ONTAP time zones, grouped alphabetically by geographical region.

Africa

Africa/Abidjan	Africa/Djibouti	Africa/Maputo
Africa/Accra	Africa/Douala	Africa/Maseru
Africa/Addis_Ababa	Africa/Freetown	Africa/Mbabane
Africa/Algiers	Africa/Gaborone	Africa/Mogadishu
Africa/Asmera	Africa/Harare	Africa/Monrovia
Africa/Bamako	Africa/Johannesburg	Africa/Nairobi
Africa/Bangui	Africa/Kampala	Africa/Ndjamena
Africa/Banjul	Africa/Khartoum	Africa/Niamey
Africa/Bissau	Africa/Kigali	Africa/Nouakchott
Africa/Blantyre	Africa/Kinshasa	Africa/Ouagadougou
Africa/Brazzaville	Africa/Lagos	Africa/Porto-Novo
Africa/Bujumbura	Africa/Libreville	Africa/Sao_Tome
Africa/Cairo	Africa/Lome	Africa/Timbuktu
Africa/Casablanca	Africa/Luanda	Africa/Tripoli
Africa/Conakry	Africa/Lumumbashi	Africa/Tunis
Africa/Dakar	Africa/Lusaka	Africa/Windhoek
Africa/Dar_es_Salaam	Africa/Malabo	

America

America/Adak	America/Grenada	America/Noronha
America/Anchorage	America/Guadeloupe	America/Panama
America/Anguilla	America/Guatemala	America/Pangnirtung
America/Antigua	America/Guayaquil	America/Paramaribo
America/Aruba	America/Guyana	America/Phoenix
America/Asuncion	America/Halifax	America/Port_of_Spain
America/Atka	America/Havana	America/Port-au-Prince
America/Barbados	America/Indiana	America/Porto_Acre
America/Belize	America/Indianapolis	America/Puerto_Rico
America/Bogota	America/Inuvik	America/Rainy_River
America/Boise	America/Iqaluit	America/Rankin_Inlet
America/Buenos_Aires	America/Jamaica	America/Regina
America/Caracas	America/Jujuy	America/Rosario
America/Catamarca	America/Juneau	America/Santiago
America/Cayenne	America/Knox_IN	America/Santo_Domingo

America/Cayman	America/La_Paz	America/Sao_Paulo
America/Chicago	America/Lima	America/Scoresbysund
America/Cordoba	America/Los_Angeles	America/Shiprock
America/Costa_Rica	America/Louisville	America/St_Johns
America/Cuiaba	America/Maceio	America/St_Kitts
America/Curacao	America/Managua	America/St_Lucia
America/Dawson	America/Manaus	America/St_Thomas
America/Dawson_Creek	America/Martinique	America/St_Vincent
America/Denver	America/Mazatlan	America/Swift_Current
America/Detroit	America/Mendoza	America/Tegucigalpa
America/Dominica	America/Menominee	America/Thule
America/Edmonton	America/Mexico_City	America/Thunder_Bay
America/El_Salvador	America/Miquelon	America/Tijuana
America/Ensenada	America/Montevideo	America/Tortola
America/Fort_Wayne	America/Montreal	America/Vancouver
America/Fortaleza	America/Montserrat	America/Virgin
America/Glace_Bay	America/Nassau	America/Whitehorse
America/Godthab	America/New_York	America/Winnipeg
America/Goose_Bay	America/Nipigon	America/Yakutat
America/Grand_Turk	America/Nome	America/Yellowknife

Antarctica

Antarctica/Casey	Antarctica/Mawson	Antarctica/Palmer
Antarctica/DumontDUrville	Antarctica/McMurdo	Antarctica/South_Pole

Asia

Asia/Aden	Asia/Irkutsk	Asia/Qatar
Asia/Alma-Ata	Asia/Ishigaki	Asia/Rangoon
Asia/Amman	Asia/Istanbul	Asia/Riyadh
Asia/Anadyr	Asia/Jakarta	Asia/Saigon
Asia/Aqtau	Asia/Jayapura	Asia/Seoul
Asia/Aqtobe	Asia/Jerusalem	Asia/Shanghai
Asia/Ashkhabad	Asia/Kabul	Asia/Singapore
Asia/Baghdad	Asia/Kamchatka	Asia/Taipei
Asia/Bahrain	Asia/Karachi	Asia/Tashkent
Asia/Baku	Asia/Kashgar	Asia/Tbilisi
Asia/Bangkok	Asia/Katmandu	Asia/Tehran
Asia/Beirut	Asia/Krasnoyarsk	Asia/Tel_Aviv
Asia/Bishkek	Asia/Kuala_Lumpur	Asia/Thimbu
Asia/Brunei	Asia/Kuching	Asia/Tokyo
Asia/Calcutta	Asia/Kuwait	Asia/Ujung_Pandang
Asia/Chungking	Asia/Macao	Asia/Ulan_Bator
Asia/Colombo	Asia/Magadan	Asia/Urumqi

	Asia/Dacca Asia/Damascus Asia/Dubai Asia/Dushanbe Asia/Gaza Asia/Harbin Asia/Hong_Kong	Asia/Manila Asia/Muscat Asia/Nicosia Asia/Novosibirsk Asia/Omsk Asia/Phnom_Penh Asia/Pyongyang	Asia/Vientiane Asia/Vladivostok Asia/Yakutsk Asia/Yekaterinburg Asia/Yerevan
Atlantic	Atlantic/Azores Atlantic/Bermuda Atlantic/Canary Atlantic/Cape_Verde	Atlantic/Faeroe Atlantic/Jan_Mayen Atlantic/Madeira Atlantic/Reykjavik	Atlantic/South_Georgia Atlantic/St_Helena Atlantic/Stanley
Australia	Australia/ACT Australia/Adelaide Australia/Brisbane Australia/Broken_Hill Australia/Canberra Australia/Darwin Australia/Hobart	Australia/LHI Australia/Lindeman Australia/Lord_Howe Australia/Melbourne Australia/NSW Australia/North Australia/Perth	Australia/Queensland Australia/South Australia/Sydney Australia/Tasmania Australia/Victoria Australia/West Australia/Yancowinna
Brazil	Brazil/Acre Brazil/DeNoronha	Brazil/East	Brazil/West
Canada	Canada/Atlantic Canada/Central Canada/East-Saskatchewan	Canada/Eastern Canada/Mountain Canada/Newfoundland	Canada/Pacific Canada/Saskatchewan Canada/Yukon
Chile	Chile/Continental	Chile/EasterIsland	
Europe	Europe/Amsterdam Europe/Andorra	Europe/Kiev Europe/Kuybyshev	Europe/San_Marino Europe/Sarajevo

	Europe/Athens Europe/Belfast Europe/Belgrade Europe/Berlin Europe/Bratislava Europe/Brussels Europe/Bucharest Europe/Budapest Europe/Chisinau Europe/Copenhagen Europe/Dublin Europe/Gibraltar Europe/Helsinki Europe/Istanbul	Europe/Lisbon Europe/Ljubljana Europe/London Europe/Luxembourg Europe/Madrid Europe/Malta Europe/Minsk Europe/Monaco Europe/Moscow Europe/Oslo Europe/Paris Europe/Prague Europe/Riga Europe/Rome	Europe/Simferopol Europe/Skopje Europe/Sofia Europe/Stockholm Europe/Tallinn Europe/Tirane Europe/Vaduz Europe/Vatican Europe/Vienna Europe/Vilnius Europe/Warsaw Europe/Zagreb Europe/Zurich
Indian (Indian Ocean)	Indian/Antananarivo Indian/Chagos Indian/Christmas Indian/Cocos	Indian/Comoro Indian/Kerguelen Indian/Mahe Indian/Maldives	Indian/Mauritius Indian/Mayotte Indian/Reunion
Mexico	Mexico/BajaNorte	Mexico/BajaSur	Mexico/General
Pacific	Pacific/Apia Pacific/Auckland Pacific/Chatham Pacific/Easter Pacific/Efate Pacific/Enderbury Pacific/Fakaofu Pacific/Fiji Pacific/Funafuti Pacific/Galapagos Pacific/Gambier Pacific/Guadalcanal Pacific/Guam Pacific/Honolulu	Pacific/Johnston Pacific/Kiritimati Pacific/Kosrae Pacific/Kwajalein Pacific/Majuro Pacific/Marquesas Pacific/Midway Pacific/Nauru Pacific/Niue Pacific/Norfolk Pacific/Noumea Pacific/Pago_Pago Pacific/Palau Pacific/Pitcairn	Pacific/Ponape Pacific/Port_Moresby Pacific/Rarotonga Pacific/Saipan Pacific/Samoa Pacific/Tahiti Pacific/Tarawa Pacific/Tongatapu Pacific/Truk Pacific/Wake Pacific/Wallis Pacific/Yap

Language choices

The following table lists the languages supported by Data ONTAP on multiprotocol filers, and the corresponding language code abbreviations you enter during setup.

You can also view this list by entering `vol lang` at the filer prompt.

Language	Abbreviation	Language	Abbreviation
Danish	da	Korean	ko
Dutch	nl	Norwegian	no
English	en	Portugese	pt
English (U.S.)	en_US	POSIX	C
Finnish	fi	Simplified Chinese	zh
French	fr	Simplified Chinese (GBK)	zh.GBK
German	de	Spanish	es
Hebrew	he	Swedish	sv
Italian	it	Traditional Chinese euc-tw	zh_TW
Japanese euc-j	ja	Traditional Chinese Big 5	zh_TW.BIG5
Japanese PCK(sjis)	ja_JP.PCK		

Specifying the language code

To specify the language appropriate to your organization, complete the following step.

Step	Action
1	When prompted during setup, enter the code that corresponds to the appropriate language. Note_____ To use UTF-8 as the NFS character set, append .UTF-8 to the abbreviation. _____ Example: ko.UTF8