

Network Attached Storage

Serial ATA Network

User Guide

A coordinate system with a red dot at the origin and arrows pointing up and to the right.

SOFTWARE VERSION 1.0.06

071832000
APRIL 2004

the most watched worldwide

Network Attached Storage

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User Guide



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Grass Valley Product Support

To get technical assistance, check on the status of problems, or report new problems, contact Grass Valley Product Support via e-mail, the Web, or by phone or fax.

Web Technical Support

To access support information on the Web, visit the product support Web page on the Grass Valley Web site. You can download software or find solutions to problems by searching our Frequently Asked Questions (FAQ) database.

World Wide Web: <http://www.thomsongrassvalley.com/support/>
Technical Support E-mail Address: gvgtechsupport@thomson.net

Phone Support

Use the following information to contact product support by phone during business hours. Afterhours phone support is available for warranty and contract customers.

United States	(800) 547-8949 (Toll Free)	France	+33 (1) 34 20 77 77
Latin America	(800) 547-8949 (Toll Free)	Germany	+49 6155 870 606
Eastern Europe	+49 6155 870 606	Greece	+33 (1) 34 20 77 77
Southern Europe	+33 (1) 34 20 77 77	Hong Kong	+852 2531 3058
Middle East	+33 (1) 34 20 77 77	Italy	+39 06 8720351
Australia	+61 3 9721 3737	Netherlands	+31 35 6238421
Belgium	+32 2 3349031	Poland	+49 6155 870 606
Brazil	+55 11 5509 3440	Russia	+49 6155 870 606
Canada	(800) 547-8949 (Toll Free)	Singapore	+656379 1390
China	+86 106615 9450	Spain	+ 34 91 512 03 50
Denmark	+45 45968800	Sweden	+46 87680705
Dubai	+ 971 4 299 64 40	Switzerland	+41 (1) 487 80 02
Finland	+35 9 68284600	UK	+44 870 903 2022



Authorized Support Representative

A local authorized support representative may be available in your country. To locate the support representative for your country, visit the product support Web page on the Grass Valley Web site.

Profile Users Group

You can connect with other Profile XP Media Platform users to ask questions or share advice, tips, and hints. Send e-mail to profile-users@thomson.net to join the community and benefit from the experience of others.

Safety Summaries

General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

Only qualified personnel should perform service procedures.

While using this product, you may need to access other parts of the system. Read the *General Safety Summary* in other system manuals for warnings and cautions related to operating the system.

Review all system operator manuals, including manuals in electronic format on the system hard drive.

Injury Precautions

Use Proper Power Cord

To avoid fire hazard, use only the power cord specified for this product.

Ground the Product

This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Do Not Operate Without Covers

To avoid electric shock or fire hazard, do not operate this product with covers or panels removed.

Do Not Operate in Wet/Damp Conditions

To avoid electric shock, do not operate this product in wet or damp conditions.

Do Not Operate in an Explosive Atmosphere

To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.



Product Damage Precautions

Use Proper Power Source	Do not operate this product from a power source that applies more than the voltage specified.
Provide Proper Ventilation	To prevent product overheating, provide proper ventilation.
Do Not Operate With Suspected Failures	If you suspect there is damage to this product, have it inspected by qualified service personnel.
Battery Replacement	To avoid damage, replace only with the same or equivalent type recommended by the circuit board manufacturer. Dispose of used battery according to the circuit board manufacturer's instructions.

Safety Terms and Symbols

Terms in This Manual



These terms may appear in this and other product manuals:

WARNING: Warning statements identify conditions or practices that can result in personal injury or loss of life.



CAUTION: Caution statements identify conditions or practices that can result in damage to the equipment or other property.

Terms on the Product

These terms may appear on the product:

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

WARNING indicates a personal injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product



The following symbols may appear on the product:

DANGER high voltage



Protective ground (earth) terminal



ATTENTION – refer to manual

Service Safety Summary

Do Not Service Alone

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

No Power Switch

To avoid electric shock, disconnect the main power by means of the power cord. The power cord is the main power disconnect. Ensure that the power cord is easily accessible at the rear of the product or at the power receptacle.

Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect power and remove battery (if applicable) before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.



Certifications and Compliances

Canadian Certified Power Cords

Canadian approval includes the products and power cords appropriate for use in the North America power network. All other power cords supplied are approved for the country of use.

FCC Emission Control

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by Grass Valley Group can affect emission compliance and could void the user's authority to operate this equipment.

Canadian EMC Notice of Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Canadian Certified AC Adapter

Canadian approval includes the AC adapters appropriate for use in the North America power network. All other AC adapters supplied are approved for the country of use.

EN55022 Class A Warning

For products that comply with Class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Laser Compliance

Laser Safety Requirements

The device used in this product is a Class 1 certified laser product. Operating this product outside specifications or altering its original design may result in hazardous radiation exposure, and may be considered an act of modifying or new manufacturing of a laser product under U.S. regulations contained in 21CFR Chapter 1, subchapter J or CENELEC regulations in HD 482 S1. People performing such an act are required by law to recertify and reidentify this product in accordance with provisions of 21CFR subchapter J for distribution within the U.S.A., and in accordance with CENELEC HD 482 S1 for distribution within countries using the IEC 825 standard.

Laser Safety

Laser safety in the United States is regulated by the Center for Devices and Radiological Health (CDRH). The laser safety regulations are published in the “Laser Product Performance Standard,” Code of Federal Regulation (CFR), Title 21, Subchapter J.

The International Electrotechnical Commission (IEC) Standard 825, “Radiation of Laser Products, Equipment Classification, Requirements and User’s Guide,” governs laser products outside the United States. Europe and member nations of the European Free Trade Association fall under the jurisdiction of the Comité Européen de Normalization Electrotechnique (CENELEC).

FCC Emission Limits

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.



Certification

Category	Standard
Safety	<i>Designed/tested for compliance with:</i> ANSI/UL60950-2000 - Safety of Information Technology Equipment IEC 60950 - Safety of Information Technology Equipment (3rd edition, 1999) CAN/CSA C22.2, No. 60950-00 - Safety of Information Technology Equipment EN60950:2000 - Safety of Information Technology Equipment (3rd edition)

Environmental Criteria

The following table lists the environmental criteria for the NewsShare NAS system.

Characteristics	Description
Operating Temperature	<i>Requirement:</i> 10° to 40°C
Storage Temperature	<i>Requirement:</i> -40° to 65°C
Operating Altitude	<i>Requirement:</i> To 10,000 feet <i>Supplemental Data:</i> IEC 60950 compliant to 2000 meters
Storage Altitude	<i>Requirement:</i> To 40,000 feet
Mechanical Shock	<i>Supplemental Data:</i> Class 5 (30G) Grass Valley 001131500
Random Vibration	<i>Requirement:</i> Operational: Class 6 Grass Valley 001131500 <i>Requirement:</i> Non-Operational: Class 5 Grass Valley 001131500
Transportation	<i>Requirement:</i> Grass Valley 001131500
Equipment Type	<i>Supplemental Data:</i> Information Technology
Equipment Class	<i>Supplemental Data:</i> Class 1
Installation Category	<i>Requirement:</i> Category II Local level mains, appliances, portable equipment, etc.
Pollution Degree	<i>Requirement:</i> Level 2 operating environment, indoor use only.
Relative Humidity	<i>Requirement:</i> Operating 80% from +30° to +40°C Non-Operating 90% from +30° to +60°C Do not operate with visible moisture on the circuit boards



Power Cords

The power cords provided with the subsystem are for use in the United States and Canada only. They are not suitable for use in other countries. If necessary, replace the power cords with ones of correct voltage and frequency that meet local safety and electrical standards.

>>> WARNING: *The array must be electrically grounded. Operating the appliance without proper grounding can damage disk drives. If the outlets you use are not grounded, have a licensed electrician replace them and install grounding conductors.*

Le cordon d'alimentation secteur fourni avec le système n'est utilisable que pour les Etats-Unis et le Canada. Il n'est pas réglementaire pour les autres pays. Dans ce cas, remplacer ce cordon d'alimentation secteur par un modèle conforme aux normes de sécurité en vigueur, localement et du standard électrique au niveau de la tension et de la fréquence.

Das mit dem Subsystem mitgelieferte Netzkabel darf nur in dem USA und Kanada verwendet werden; Für alle anderen Länder sind Netzkabel für die dort gültigen Normen (Volt und Hertz) zu verwenden.

Specifications

This table lists environmental specifications:

Type	Description
Configuration	Integrated appliance node with serial ATA RAID storage
Network file protocols	NFSV2/V3, CIFS/SMB, FTP, HTTP
Naming services	WINS, DNS
Authentication services	NIS, PDC
System performance	Greater than 900 Mbps or 100 MB/s
Capacity	3 TB raw (1.5 TB mirrored) storage space
Number of drives	12
File systems	1
Maximum file system size	2 TB
Host interface	Gigabit Ethernet port copper 1000 BT TX, RJ-45
Enclosure dimensions	19"w x 3.5"h x 27"d (48.26 cm x 8.89 cm x 68.58 cm)
Weight	57.6 lbs (26.18 kg)
Power requirements	100v -127v, 50/60hz, 5 amps 200v-240v, 50/60hz, 2.5 amps
Power supply	Auto-ranging, hot swap, redundant
Power connector	Dual LEC309-21 male power inlets
Storage management	Interface in-band Ethernet
Browser support	Internet Explorer 5.50, 6.0; Netscape Navigator 4.7x; Safari; Mozilla 1.3
External management	SNMP, version 1 and version 2
Error/status notification	SMTP
Environmental temperature	Operating, normal 5° to 35° C; non-operating -40° to 65° C
Altitude	Operating 0 to 10,000 ft. (3,048 m); non-operating 0 to 40,000 ft. (12,192 m)
Relative humidity	Operating 5-75% non-condensing; non-operating 5-95% non-condensing



Preface

Hardware

This chapter discusses how to:

- Unpack the NewsShare NAS components
- Cable the appliance
- Power on the system
- Replace a power supply
- Replace a drive



Components

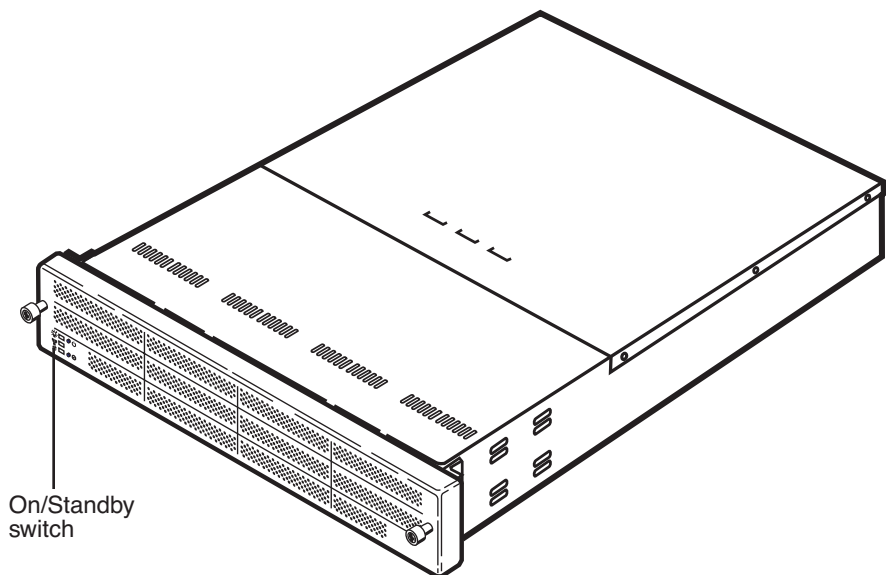
The NewsShare NAS system consists of the following components:

- Enclosure—Contains a server, a RAID 10 array, and power supplies
- Database System Manager—Contains the Operating System and the Sequel Server
- Accessories, including cables

Unpacking the Appliance

To unpack the NewsShare NAS:

1. Move the Enclosure to the place of operation. The appliance weighs approximately 57.6 pounds (26.18 kg); use care in lifting it.

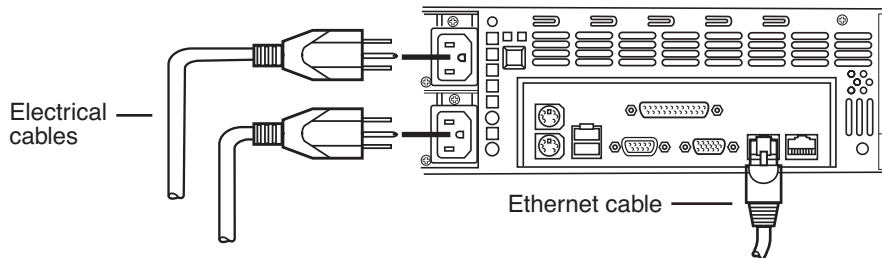


2. Unpack the Database System Manager (DSM) and place it on top of the Enclosure.

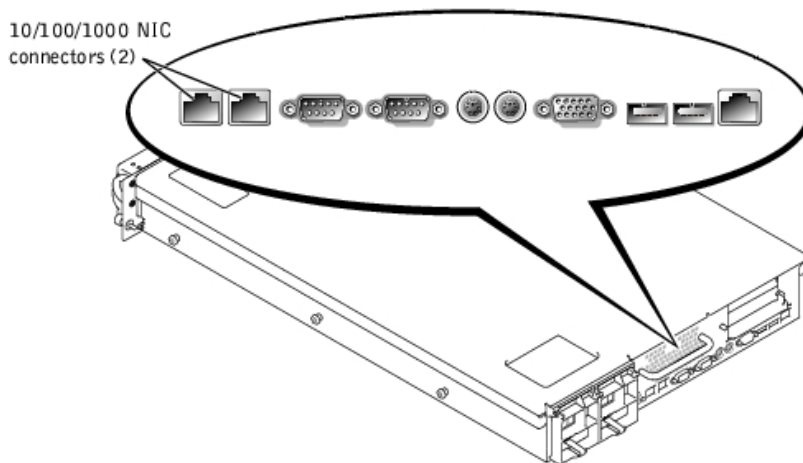
Cabling the Appliance

To cable the NewsShare NAS:

1. Attach electrical cables as shown below. For greater redundancy, attach electrical cables to separate power sources.



2. Attach an Ethernet cable from the **left** Ethernet port to a node on your network. (The second port, to the right, is reserved. Do not use the right Ethernet port. It is hard-coded to an address of 0.0.0.0.)
3. Cable the DSM by connecting the Gigabit NIC port 1 to the network switch, using a standard CAT-5e Ethernet cable.



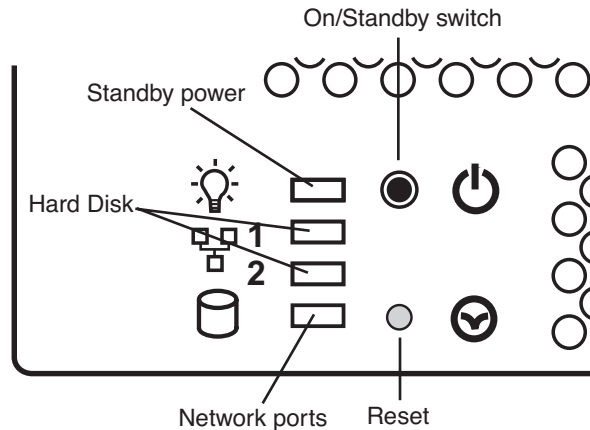
4. Cable a NewsEdit workstation to the NewsShare NAS by connecting the Gigabit NIC port from the Gigabit card on the back of the NewsEdit workstation to the network switch, using a standard CAT-5e Ethernet cable.



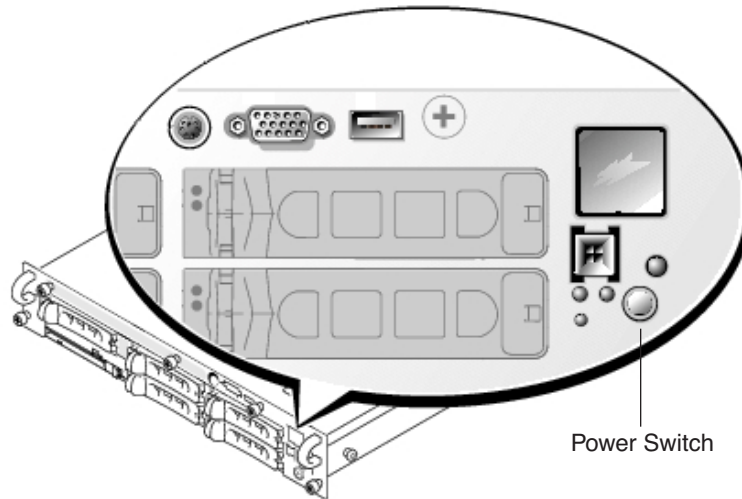
Powering On the System

Once the NewsShare NAS system is cabled, power on the system:

1. Power up the Enclosure by pressing the small, round On/Standby switch button on the front left of the machine:



2. Press the power switch on the front of the DSM to turn it on:



>>> CAUTION: Once the electrical cables are connected, the system has electrical power. Turning the On/Standby switch to standby does not remove power—you must disconnect the electrical cables to remove power.

Field Replaceable Units (FRUs)

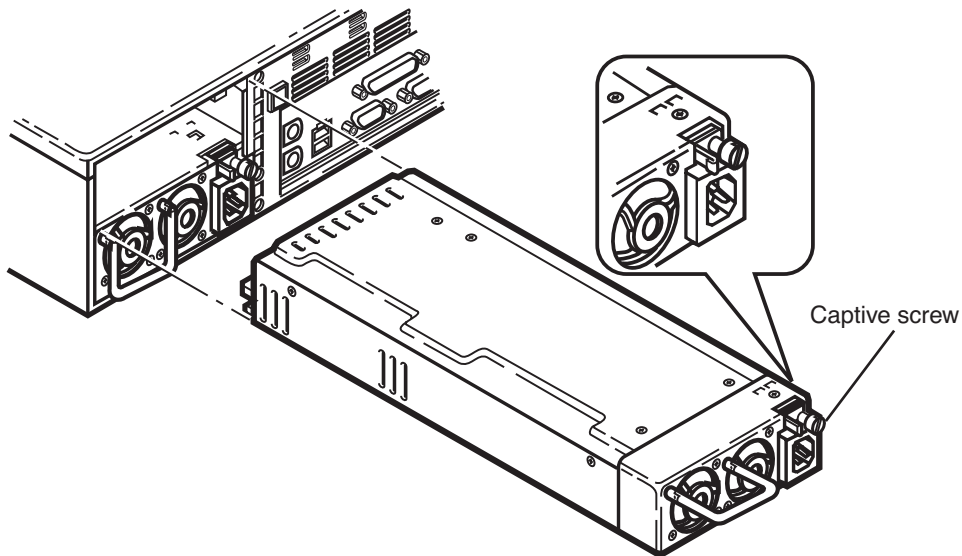
Over the life of the system, you may be required to replace either the power supply or a drive. Both are hot-swappable, which means that you can replace the part while the system is active, without powering down the system.

Replacing a Power Supply

While one power supply is inactive, the second power supply provides power to the whole system. To ensure uninterrupted activity, replace the failed power supply as soon as possible.

To replace a power supply:

1. Unplug the electrical cable to the power supply being replaced.
2. Unscrew the captive screw.



3. Pull the power supply by its handle.
4. Insert a replacement drive.
5. Tighten the captive screw.
6. Insert the electrical cable.



Replacing a Drive

To view drive status, in the NewsShare NAS window, choose **Storage | RAID System | Logical/Physical View**. The RAID System window appears. A bad drive appears red.

The location of the drive on the screen (for example, upper right corner) translates to the location of the drive in the enclosure, viewed from the front. Position a mouse pointer over the drive icon to view a small box showing the drive number. The drive number will always be for that slot. (If you remove drive 3 and add a new drive, the new drive will also be drive 3.) The failed drive shown in the window above equates to the upper right drive in the enclosure, or Drive 9, viewed from the front. The drives read top to bottom, left to right, as shown below:

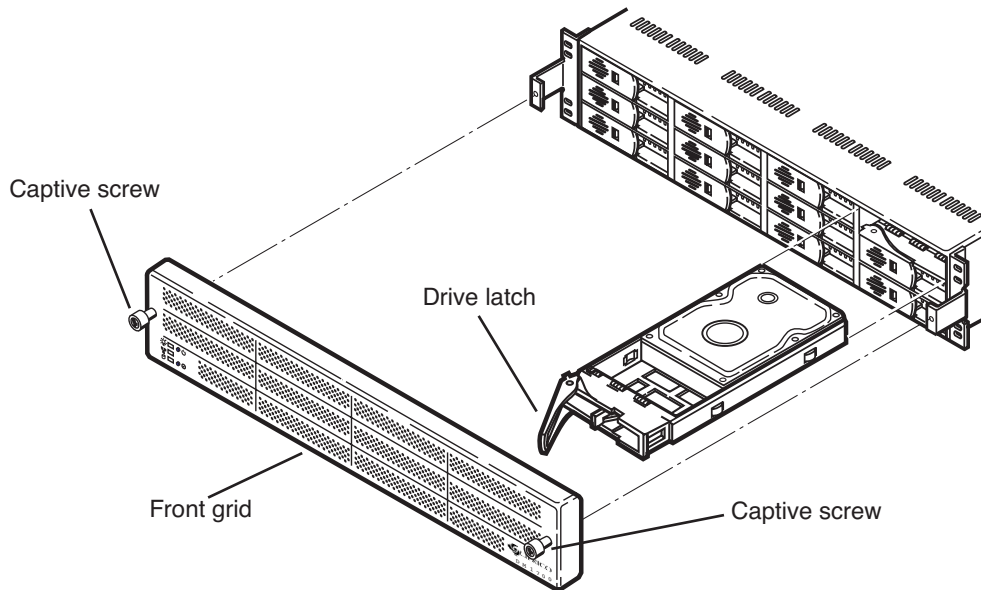
Drive 0	Drive 3	Drive 6	Drive 9
Drive 1	Drive 4	Drive 7	Drive 10
Drive 2	Drive 5	Drive 8	Drive 11

To replace a drive:

1. Choose **Storage | RAID System | Disk Drive | Add/Remove**.
2. Select **Failed Drive** from the list of drives to remove. Click **Save**.



3. Unscrew the captive screws on the grid at the front of the system.



4. Pull the front grid away from the enclosure.
5. Open the drive latch.
6. Pull the drive from the drive bay.
7. Reverse steps 3 through 6, above. Secure front grid with captive screws.
8. Choose **Storage | RAID System | Disk Drive | Add/Remove**.
9. Select **New Drive** from the list of drives to add.
10. Click **Save**.





Chapter 1 Hardware

Software Setup

This chapter describes how to configure your NewsShare NAS system, including how to:

- Prepare a network to recognize the NewsShare NAS
- Open the NewsShare NAS software
- Configure network ports
- Enter a name and IP address
- Change the password
- Set the date and time
- Configure SNMP
- Configure SMTP
- Save and reboot the system
- Create a file system
- Create shares



Worksheet

NewsShare NAS setup requires that you know the following values. Determine what values you want for the fields shown in the worksheet.

Field	Default Value	(Optional) Change To
Software address	https://192.168.50.20:9890	
Security password	Appliance serial number	
Domain name (NIS)	Default.domain	
Gateway IP address	0.0.0.0	
Netmask	255.255.0.0	
Node	Node	
Port 0 Public IP address	192.168.50.20	
SNMP	Community name	
	Version 1 or 2, or SNMP server	
	Host 1 address of SNMP server	
	Host 2 address of SNMP server	
SMTP	SMTP server address	
	Name of event notification contact	
	E-mail address for event notification	



For more information on setup values, refer to subsequent chapters in this book, or click on the Help icon (?) for information about any window.

Configuring the System

Preparing a Network to Recognize NewsShare NAS

From any network machine, enable your network to recognize NewsShare NAS by adding an IP address to the network within the subnet range of 192.168.50.0.

Opening NewsShare NAS Software

1. From a PC or workstation on the network, open NewsShare NAS software in a Web browser (such as Netscape, Internet Explorer, or Mozilla) by entering the following IP address in the browser address bar:

https://192.168.50.20:9890

Notice the *s* in the *https*: address. Make sure your browser allows cookies and Java Script (or JIT). (For more information, refer to “Browser Settings” on page 104.)

2. Read and agree to the license agreement.
3. Enter the password, which is the NewsShare NAS appliance serial number. (You will change the password in a subsequent window.) The appliance serial number appears at the top of the frame:



NewsShare NAS software opens and defaults to the setup window. Click **Setup**. The Configure Network Ports window appears.

NOTE: *At any time during Setup, click on the Back icon to review or change prior windows. Configuration is not complete until you save and reboot.*



Configuring Network Ports

Configure network ports to work in your environment. Do not enable jumbo frames unless you are certain your software allows for it. For more detailed information, refer to “Configuring Network Ports” on page 52.

1. Enter a public IP address for Port 0 (external). This is the appliance address on the network.
2. Enter a network netmask.
3. Click **Next** to continue.



Entering a Name and IP Address

For more detailed information, refer to “Changing Names and IPs” on page 53.

1. Enter a local domain name. The default is Default.Domain.
2. Enter a gateway address. The default gateway address is 0.0.0.0 (no gateway).
3. Enter a node name for the appliance.



4. Click **Next** to continue.

Changing the Password

For more detailed information, refer to “Changing Passwords” on page 82.

1. Change the appliance password, if necessary. (Remember to write it down.)
2. Click **Next** to continue.



Setting the Date and Time

For more detailed information, refer to “Setting Date and Time” on page 86.

1. Select the correct time zone, date, and time for your area.



2. Click **Next** to continue.

Configuring SNMP

Simple Network Management Protocol (SNMP) notifies an SNMP manager via traps when an event occurs in the NewsShare NAS system. For more detailed information, refer to “Enabling SNMP” on page 67. To disable SNMP, leave the window blank and click **Next**. To enable SNMP, do the following:

1. Enter a community name.
2. If you have an SNMP manager running on a host, enter the IP address of the SNMP server for Host 1 or 2. NewsShare NAS will send event notices to that host.
3. Choose either SNMP Version 1 or 2. Both versions of SNMP report error conditions. SNMP2 is an updated version that has better security, automatic continuous feedback, and potentially provides more error information.
4. Choose the severity level to trigger event notification.
5. Click **Next** to continue.



Configuring SMTP

Simple Mail Transfer Protocol (SMTP) notifies an administrator via e-mail when an event occurs in the NewsShare NAS system. For more detailed information, refer to “Enabling SNMP” on page 67.

To disable SMTP, leave the window blank and click on the Next icon. To enable SMTP, do the following:

1. Enter the IP address of the mail server.
2. Add a new contact by clicking **New**. The SMTP Contact window appears.
3. Enter the name, e-mail address, event severity, and time during which this contact will be notified.
4. Click **OK** to return to the SMTP window.



Saving and Rebooting

1. In the SMTP window, click on the Save icon. NewsShare NAS asks if you are sure you want to save this configuration.
2. Click **OK**. A message appears reporting that the setup was successful, and requesting that you reboot.
3. Click **Reboot Now**. A message appears, telling you the system is rebooting.
4. Close the browser. *Do not power down the enclosure.*
5. After two minutes, open a browser. In the address bar, enter the public IP address you created in “Entering a Name and IP Address” on page 30. Rebooting takes between 2 and 10 minutes. Refresh until the Welcome window appears.
6. Enter the password you created in “Changing the Password” on page 30.

Creating a File System

The configuration window appears. Click **Yes** to create a file system. The File System Creation window appears. For more detailed information, refer to “Creating a File System” on page 32.

1. Click on the RAID device from the Available Devices List. The size of the file system you are creating appears.
2. Enter a mount point. An example is:
./
3. Choose a method to exchange files between computers. If you are in a Unix environment, select **NFS**. If you are in a Windows environment, select **CIFS**. If you have a mixed environment, select both.
4. Click **Next** to continue.



Creating Shares

When you chose CIFS, the CIFS Share window appears. Specify CIFS options. For more detailed information, refer to “Create CIFS Share” on page 37.



The mount point is the share name for NFS, but can be different for CIFS. Click **Save**.

Setup Complete

The NewsShare NAS is now attached to your network, ready to store, retrieve, and share files between your networked clients, reliably and at high speed.

The following chapters describe options and modifications.



Chapter 2 Software Setup

Storage

This chapter contains all functions relating to creating and managing the storage sub-system.

- Creating, deleting, or viewing information about a file system
- Creating, modifying, deleting, or viewing information about a share
- Viewing information about a RAID system, including the logical unit, controller, and drives



File System

A file system is a collection of files and directories stored on a logical unit. Only one file system can reside on the NewsShare NAS. The file system was created as part of Setup. Refer to “Creating a File System” on page 32.

Creating a File System

To create a new file system, choose **Storage | File System | Create**. The File System Creation window appears:

Home - Storage - File System - Creation Logout

File System Creation ?

File System List:

Select the devices for the new File System

Available Devices List:

Size for new File System: GB

Mount Point:

Select how to export the File System:

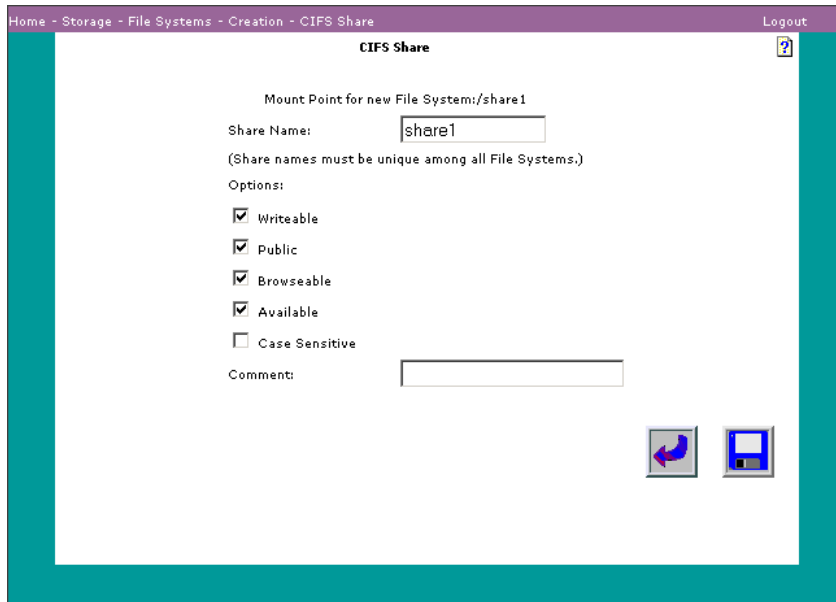
NFS CIFS

1. Click on the logical unit. The approximate total size of the file system appears in the Size for new File System field. The maximum size of a file system is two terabytes.
2. In the Mount Point field, enter the mount point from which the NewsShare NAS file system is logically attached to the network. The field must start with a slash (/). The mount point is the path to the appliance. It can be used as an FTP site, but otherwise, it is transparent.
3. Select CIFS as the File System export method.
CIFS, Common Internet File System, is used in Windows systems. NFS is not supported.
4. Click **Next** to go to the next window.



Create CIFS Share

A share can be mounted by multiple client computers. This allows multiple users to access common files and file systems. If you chose CIFS when creating a file system or share, or modifying a share, the CIFS Share window appears:

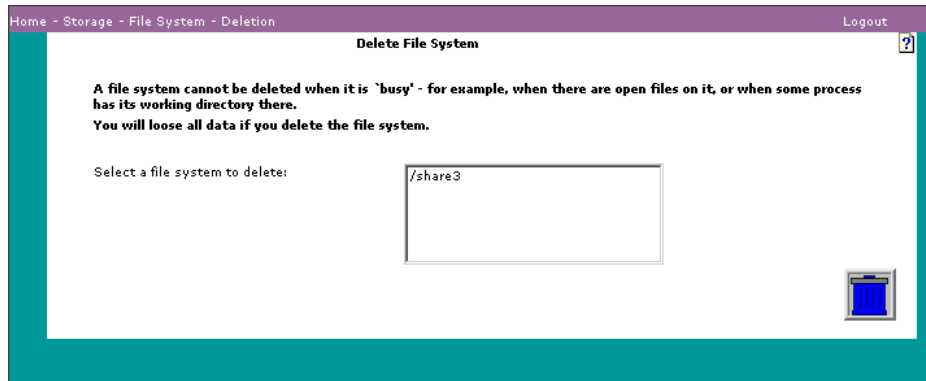


1. Enter the share name that Windows networks use to denote the share.
2. Choose settings from the following:
 - **Writable:** If set, users can write and read this share.
 - **Public:** If set, access by the user Guest is allowed, making the share available to unknown users.
 - **Browseable:** If set, share name is visible in Windows network neighborhood (using Samba).
 - **Available:** If set, clients can connect to the share or file system, and access its resources. If not set, clients cannot access the share or file system.
 - **Case Sensitive:** If set, the system sees filenames as case sensitive.
3. (Optional) Enter a comment.



Deleting a File System

To delete a file system, choose **Storage | File System | Delete**. The Delete File System window appears:



When a file system is deleted, all space allocated for it becomes available. All data in the file system is destroyed. File systems in use cannot be deleted. When the file system is deleted, all files associated with it are automatically deleted. You cannot delete a file system that is in use or cannot be unmounted.

Examples are:

- Any client has an open file within the file system and is writing to it.
- The HTTP server has its root directory on the file system.
- Any ftp user has its home directory on the file system.

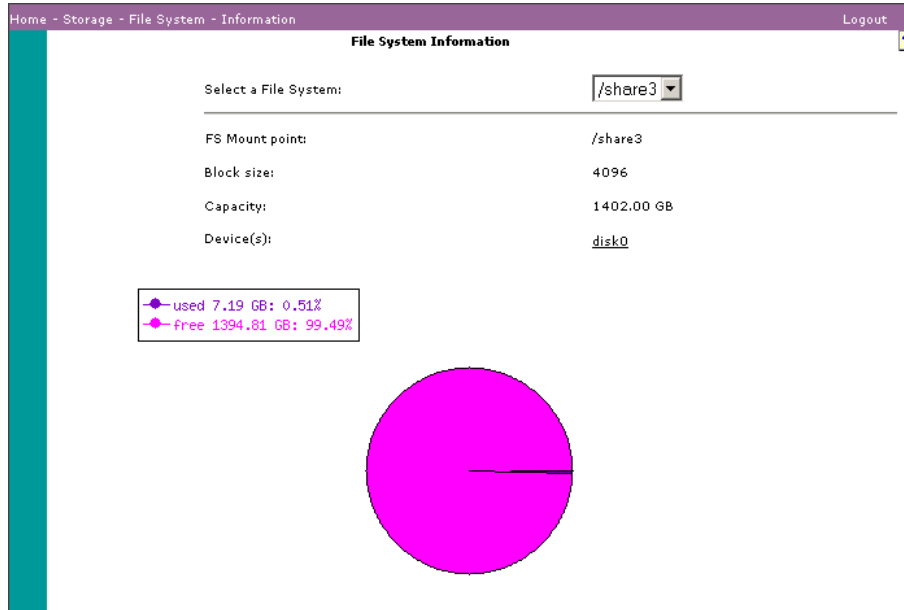
To delete a file system:

1. Select the file system.
2. Click **Delete**. The system asks you to confirm the deletion.
3. Click **OK** to confirm the deletion.



Viewing File System Information

To view file system information, chose **Storage | File System | Information**. The File System Information window appears:



The File System Information window displays a pie chart showing free space and used space, and the information described below:

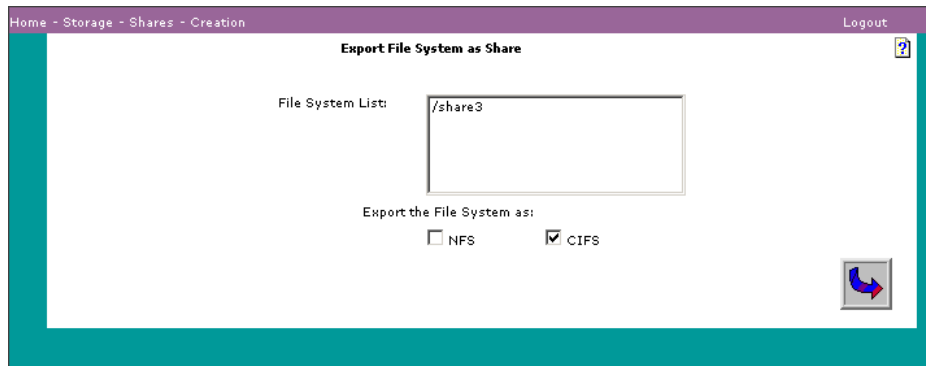
Field	Description
FS Mount point	Directory where this file system is mounted on the appliance server node. The file system hierarchy begins at this directory.
Block size	Size of data that is processed or manipulated as a single unit.
Capacity	Number of gigabytes on the file system.
Device	NewsShare NAS appliance.
Used/Free	Percentage of the file system used or free.



Shares

Creating a Share

To create a share, choose **Storage | Shares | Create**. The Export File System as Share window appears:



Though a file system is shared when you create the file system, you can also share a file system after it is in use.

1. Select the file system.
2. To specify the export method, check the box next to **CIFS**:

CIFS, Common Internet File System, is used in Windows systems, and is the default. NFS is not supported.

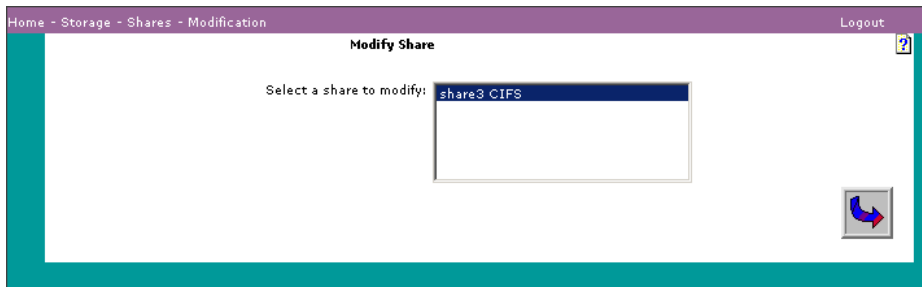


3. Click **Next** to proceed to the next Create Share page.

When you choose to export a file system as a CIFS share, the CIFS Share window appears. Refer to “CIFS Share Information” on page 42. A file system can have multiple CIFS shares.

Modifying a Share

To make changes to a share, choose **Storage | Shares | Modify**. The Modify Share window appears:



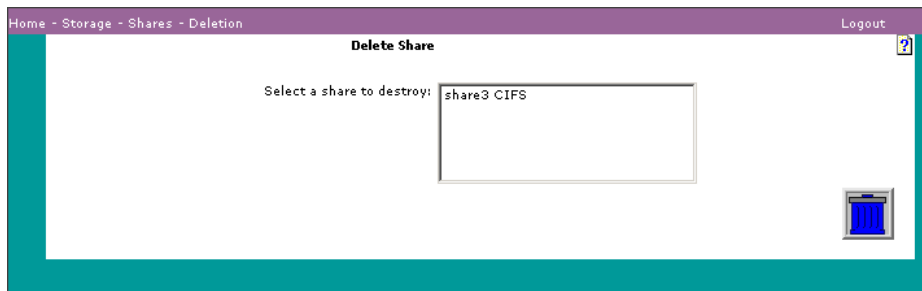
1. In the list of shares, click on the share to modify.



2. Click **Next** to proceed to CIFS Share window. Refer to the “CIFS Share Information” on page 42.

Deleting a Share

To remove access to this file system or change the share options for the exported file system, choose **Storage | Shares | Delete**. The Delete Share window appears:



You cannot delete a share that is in use or cannot be unmounted. Examples are:

- A client has an open file within the file system and is writing to it.
- The HTTP server has its root directory on the file system.
- Any ftp user has its home directory on the file system.



To delete a share:

1. Select the share from the text box.
2. Click **Delete**. You are asked to confirm.
3. Click **OK**.

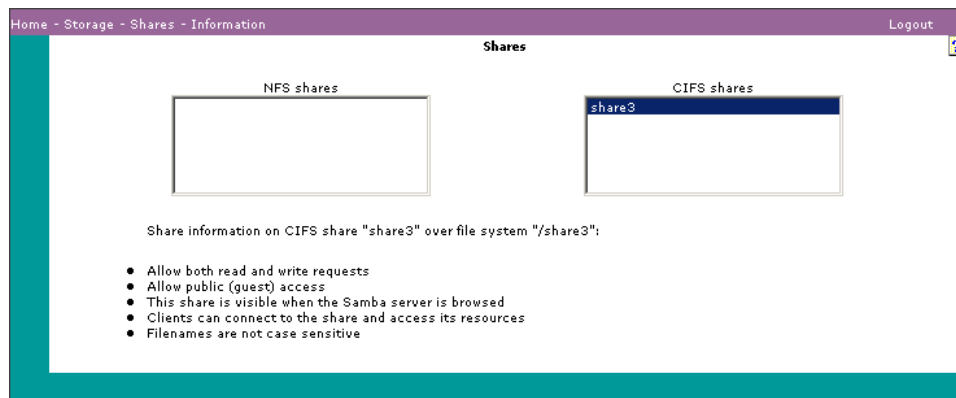


Viewing Share Information

To view information about a share, choose **Storage | Shares | Information**. From one of the two lists, click on the share for which you want information.

CIFS Share Information

If you choose a CIFS share, the CIFS Shares window appears:

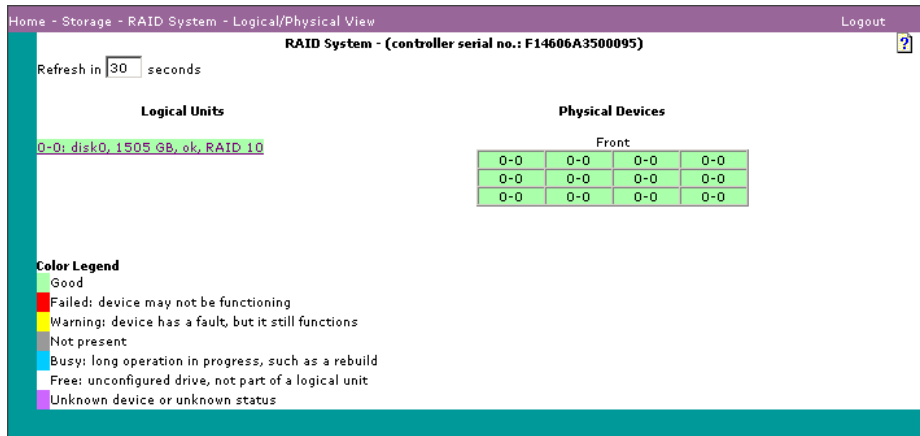


Share information is described in the bulleted list on the Shares window.

RAID System

Viewing Logical/Physical Status

For a logical and physical view of the system, choose **Storage | RAID System | Logical/Physical View**. The RAID System window appears:



Home - Storage - RAID System - Logical/Physical View Logout

RAID System - (controller serial no.: F14606A3500095) ?

Refresh in seconds

Logical Units

0-0: disk0, 1505 GB, ok, RAID 10

Physical Devices

Front

0-0	0-0	0-0	0-0
0-0	0-0	0-0	0-0
0-0	0-0	0-0	0-0

Color Legend

- Good
- Failed: device may not be functioning
- Warning: device has a fault, but it still functions
- Not present
- Busy: long operation in progress, such as a rebuild
- Free: unconfigured drive, not part of a logical unit
- Unknown device or unknown status

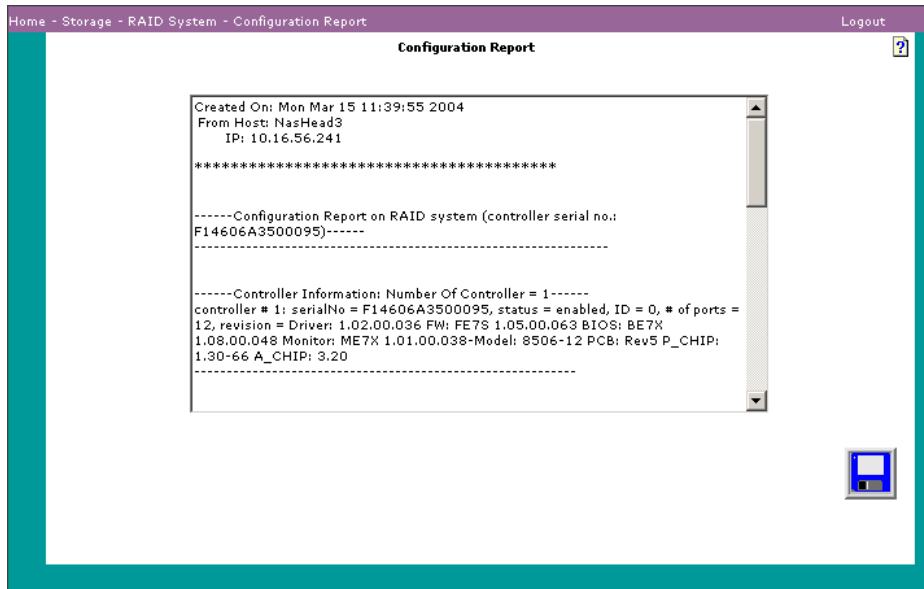
On the lower left of the window, status is indicated by the color legend:

Color	Description
Green	Good.
Red	Failed. Device may not be functioning.
Yellow	Warning. Device has a fault, but it still functions.
Black	Not present.
Blue	Busy. A long operation, such as a Rebuild, is in progress.
White	Free. Unconfigured drive and not part of a logical unit.
Purple	Unknown device or unknown status.



Viewing a Configuration Report

To view a configuration report, choose **Storage | RAID System | Configuration Report**. A Configuration Report, similar to the one shown below, describes the components of the appliance.



The date is the date the report was created. The report lists components, serial numbers, and revision levels.

Viewing Storage Statistics

View the storage statistics window choosing **Storage | RAID System | Storage Statistics**. The Storage Statistics window displays statistics regarding the RAID sub-subsystem devices.

Home - Storage - RAID System - Storage Statistics Logout

Storage Statistics

Refresh in seconds.

Grass Valley System Total ---

Mean Request Rate (r/w/t):	0.0 IOps /	0.2 IOps /	0.2 IOps
Mean Data Rate (r/w/t):	0.00 MBps/	0.00 MBps/	0.00 MBps
Mean Response Time (r/w/t):	0.000 ms /	3.967 ms /	3.967 ms
Mean Block Transfer Size (r/w/t):	0.0 KB /	4.0 KB /	4.0 KB

Response Time (r/w/t)			Block Size (r/w/t)		
0ms-2.5ms:	0.00%/	83.33%/ 83.33%	512B :	0.00%/	0.00%/ 0.00%
2.5ms-5.0ms:	0.00%/	0.00%/ 0.00%	1KB- <2KB:	0.00%/	0.00%/ 0.00%
5.0ms-7.5ms:	0.00%/	0.00%/ 0.00%	2KB- <4KB:	0.00%/	0.00%/ 0.00%
7.5ms- 10ms:	0.00%/	0.00%/ 0.00%	4KB- <8KB:	0.00%/	100.00%/100.00%
10ms- 25ms:	0.00%/	16.67%/ 16.67%	8KB- <16KB:	0.00%/	0.00%/ 0.00%
25ms- 50ms:	0.00%/	0.00%/ 0.00%	16KB- <32KB:	0.00%/	0.00%/ 0.00%
50ms- 75ms:	0.00%/	0.00%/ 0.00%	32KB- <64KB:	0.00%/	0.00%/ 0.00%
75ms-100ms:	0.00%/	0.00%/ 0.00%	64KB-<128KB:	0.00%/	0.00%/ 0.00%
100ms-250ms:	0.00%/	0.00%/ 0.00%	128KB-<256KB:	0.00%/	0.00%/ 0.00%
250ms-500ms:	0.00%/	0.00%/ 0.00%	256KB-<512KB:	0.00%/	0.00%/ 0.00%
500ms-750ms:	0.00%/	0.00%/ 0.00%	512KB- <1MB:	0.00%/	0.00%/ 0.00%
750ms- 1s :	0.00%/	0.00%/ 0.00%	1MB- <2MB:	0.00%/	0.00%/ 0.00%

Enter the refresh interval. The table below describes the fields for reads, writes, and the total reads and writes:

Field	Description
Mean Request Rate	The number of requests per second from the host processes.
Mean Data Rate	The number of megabytes of data read/written per second.
Mean Response Time	The number of milliseconds from read/write initiation to completion.
Mean Block Transfer Size	Mean block transfer size.
Response Time	Reads and writes, grouped by various response time intervals.
Block Size	Reads and writes are grouped by various block sizes.

The percentage is the percentage of the total Response Time or Block Size being transmitted at that time.

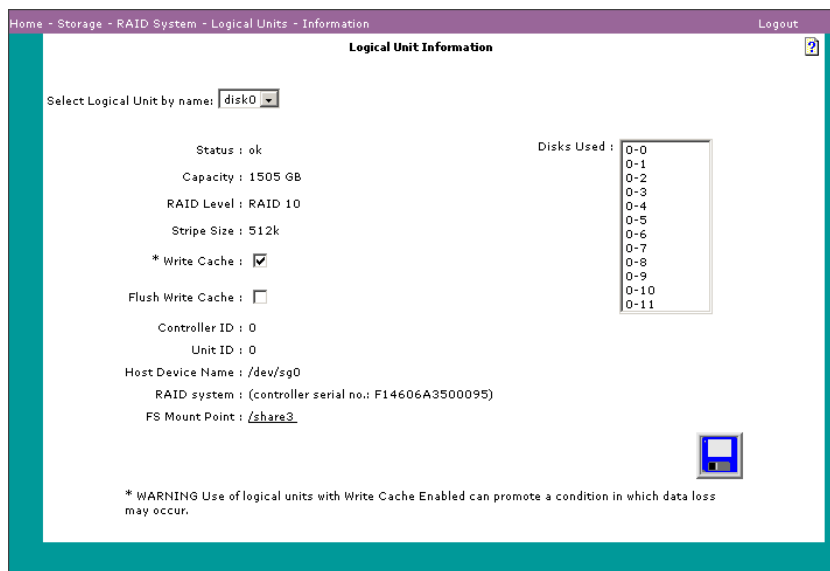


Viewing Logical Unit Status

Logical unit status consists of configuration information and rebuild.

Configuration/Information

To view information about a logical unit and the disk drives that comprise the logical unit, choose **Storage | RAID System | Logical Unit | Configure/Information**. The Logical Unit Information window appears:



The following information is displayed:

- Status indicates the status of the logical unit as a whole. Some possible states are: OK, Unformatted, Formatting, Initializing, or Rebuilding. If the status is Formatting or Rebuilding, a link displays the current progress of that operation.
- Capacity is the number of gigabytes on the logical unit.
- The RAID level for the NewsShare NAS is always 10.
- Stripe Size is the number of bytes of data written to a single disk drive. The default is 512 Kb.
- Write Cache can be Enabled or disabled

- Flush Write Cache can be Enabled or disabled
- Controller ID
- Unit ID
- Host Device Name
- RAID system is the controller serial number
- FS Mount Point is a link to the File System Information page, described in “Viewing File System Information” on page 39.

Rebuild

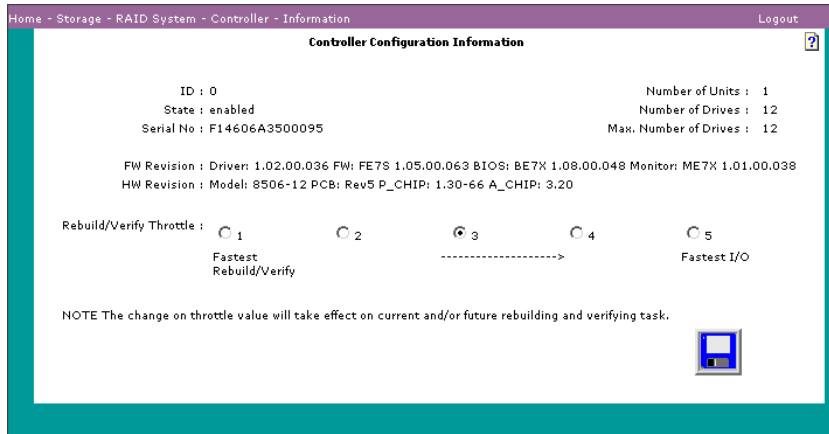
To rebuild a logical unit, choose **Storage | RAID System | Logical Unit | Rebuild**.

Rebuilding applies to one disk drive within the logical unit. If a drive in the logical unit fails, a spare drive is used as a replacement for the failed drive. All the data that was formerly on the failed drive is reconstructed on the replacement drive.



Viewing Controller Information

To view controller configuration information, choose **Storage | RAID System | Controller | Configure/Information**. The Controller Configuration Information window appears:



The table below describes the controller fields:

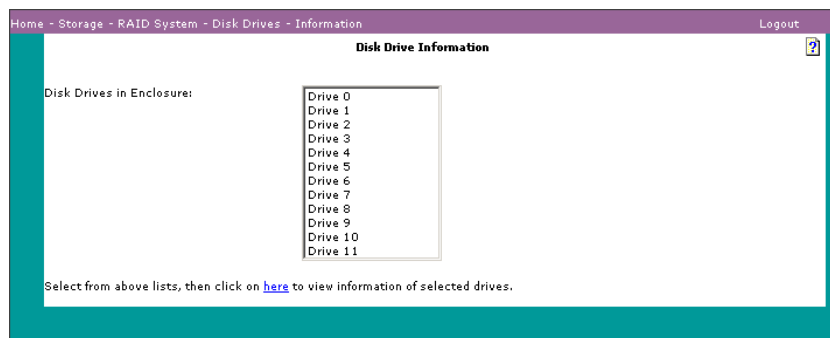
Field	Description
ID	Identification of the selected controller
State	Enabled
Serial No:	Controller ID
Number of Units	There is only one unit
Number of Drives	Number of drive
Max. Number of Drives	Possible maximum number of drives
FW Revision	Revision number of the controller firmware
HW Revision	Revision number of the controller hardware
Rebuild/Verify Throttle	The throttle determines which has a higher priority: the system or the rebuild. Select the fastest I/O button to give the I/Os the highest priority. Selecting a faster rebuild slows the performance of the system. Note: This command may be inaccessible while the fastest rebuild option is in progress.

Viewing Disk Drive Status

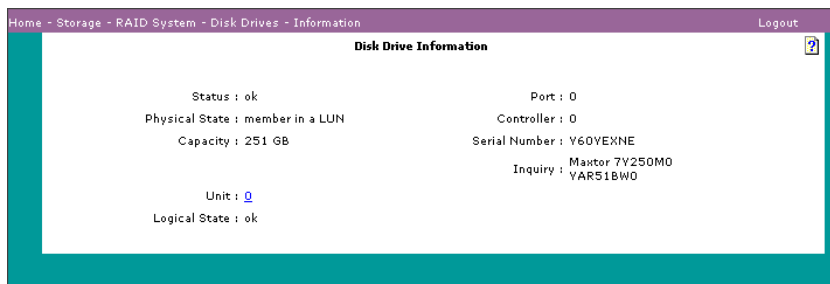
Disk Drive status consists of drive information and the add/remove command.

Viewing Drive Information

To view information about one or more disk drives, choose **Storage | RAID System | Disk Drive | Information**. The Disk Drive Information window appears, listing all the available drives:



Select a drive and click on [here](#) to view specific information about that drive. The Disk Drive Information window appears:

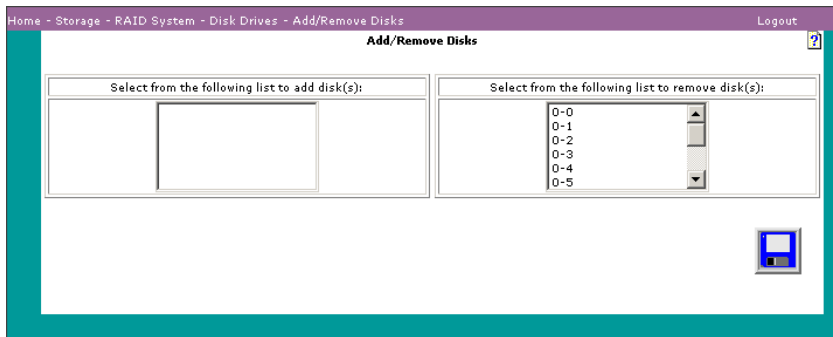




Field	Description
Status	OK, Absent, or Critical
Physical State	Member of a Logical Unit, Absent, Unformatted, or Free
Capacity	The number of gigabytes on the drive
Unit	The logical unit ID number of which the disk drive is a part. To display information for this logical unit, click on this number. The Logical Unit Information window appears.
Logical State	Ready, Off, Failed, Spinning up, Testing, Testing good, No system sector, Rebuild, or Unformatted
Port	Number of the port
Controller	ID of the controller
Serial Number	Disk drive serial number
Inquiry	Disk drive product information

Adding or Removing a Drive

To add or remove a disk, choose **Storage | RAID System | Disk Drive | Add/Remove**. The Add/Remove Disks window s appears:



Use this window to replace one or more disk drives with new disk drives. Refer to the procedure described in “Replacing a Drive” on page 24.

Network Administration

This section manages the way in which the NewsShare NAS appliance is presented to the physical network.

Many network tasks were configured during Setup. That configuration (and other network information) can be modified with the Network commands. The following can be modified:

- Port addresses
- Server names
- Routing information

NOTE: For information on using IP addresses in a network, refer to *Appendix A on page 103*.



Configuring Network Ports

To configure a network port, choose **Network | Network Ports**. The Network Port Configuration window appears:

Home - Network - Network Ports Logout

Network Port Configuration ?

Enable Jumbo Frames

Public IP

10	16	56	241
255	255	252	0

Netmask

NOTE: If you change something other than the Public IP the new configuration will not take effect until the appliance node is rebooted. Please stop all I/O activities and reboot the appliance or wait for the browser to be redirected to the new IP after you change and save the configuration.

Review or change the following:

- Click the check box to **Enable Jumbo Frames** (or to disable them when already enabled). Using standard frames, the packets sent through the network are 1.5K. Using jumbo frames, the packets sent through the network are 9K. Jumbo frames improve performance, but they must be supported by your network to work properly.
- Enter a new address for Port 0. Port 0 is the external or data port. The Public IP address is the address of the server node on the network. For more information on valid IP addresses, refer to “Entering IP Addresses” on page 105.
- For port 0, enter a netmask.



After entering changes, click **Save**. You are asked if you want to reboot immediately or wait until later.

NOTE: Enabling jumbo frames or changing the netmask will not take effect until the appliance node is rebooted. Stop all I/O activities. Reboot the appliance; wait for the browser to be redirected to the new IP after you save the configuration.

Changing Names and IPs

You named the local domain and entered IP addresses as part of Setup. To change names and IPs, choose **Network | Names/IPs**. The Names and IPs window appears:

Home - Network - Names/IPs Logout

Names and IPs

Local Domain:

Gateway: . . .

Netmask: . . .

Name: IP:

Note: Changes to the Gateway, Netmask or Node Name do not take effect until you save the changes and reboot. Stop all I/O activity before rebooting.

Review or change the following:

- A domain name is a unit with common rules and procedures. All devices on the network that share a common part of the IP address are part of this domain. The default is Default.Domain.
- The gateway is a machine on the network that routes traffic from one physical network to another. You can use a gateway used by another computer in the network. The default gateway address is 0.0.0.0 (no gateway).
- You cannot change the netmask. The netmask is used to filter messages into a particular network segment. It is stored in the appliance server node and is matched to each incoming IP address to determine whether to accept or reject the message packet. The preset netmask is 255.255.0.0.
- The node name.
- The Public IP address. Clients use this address to access the file systems on the node. The similarity in octets depends on the class IP address being used. In the Names and IPs window above, the appliance is using a Class B IP address. In this case, the first two octets are the same because the machine is



on the same subnet. The third and fourth octets uniquely identify each node. For more information about IP addresses, refer to “Entering IP Addresses” on page 105.

NOTE: *The subnet for Port 0 must be the same subnet as that used for the workstation.*



If you make changes, click **Save**.

Specifying Static Routes

A static route is a path between two networks. To specify a path by which the appliance can access a computer outside the network (for example, NTP, DNS, or NIS) and permit outside computers to access NewsShare NAS, choose **Network | Static Routes**. The Static Routes window appears:

Review and change any of the following:

- Enter the IP address of the external network to which NewsShare NAS will connect. (This is required if you maintain a web server on the network.)
- Enter the Gateway IP address for this static route. A gateway is an entry and exit point to a network.
- Specify a netmask from the list of compatible netmasks. To determine compatible netmasks for the network IP address, click the link **Netmask**.
- To add the network and gateway IP addresses of this route to the appliance route table, click **Add**.
- To remove a route, select it and click **Remove**.

NOTE: *Changes do not take effect until you reboot through this software. Instructions for rebooting are described in “Shutting Down” on page 88.*

System Services

System services consist of the following configurations:

- Service Message Block (SMB)
- Common Internet File System (CIFS)
- Network Information Service (NIS)
- Local hosts
- Host name resolution
- Simple Network Management Protocol (SNMP)
- Simple Mail Transfer Protocol (SMTP)
- Notification test

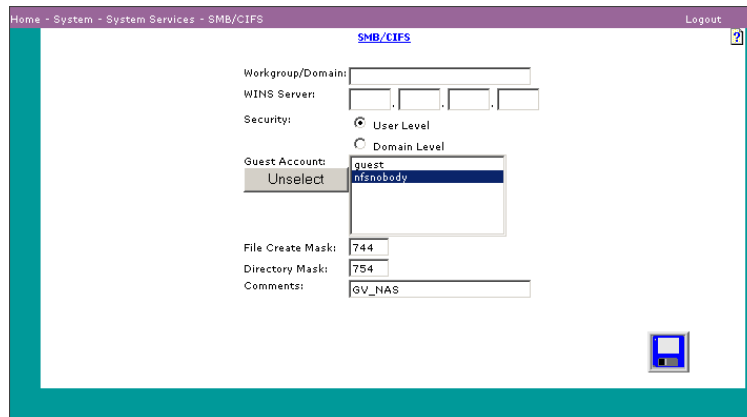


Configuring SMB/CIFS

SMB is a message format used by DOS and Windows to share files, directories, and devices. Many network products use SMB, including LAN Manager, Windows for Workgroups, Windows NT, and LAN Server. A number of products use SMB to enable file sharing among different operating system platforms. Samba, for example, enables UNIX and Windows machines to share directories and files. SMB runs over most common network protocols.

User Level Security

To configure SMB/CIFS security, choose **System | System Services | SMB/CIFS**. If you enable User Level, the SMB/CIFS window appears:



1. Enter the Workgroup/Domain name This is the workgroup or domain used to access the appliance server node in the Windows network neighborhood.
2. Enter the IP address of the WINS server, if you use one. WINS is a Windows-specific method of name resolution. The WINS server translates a NetBIOS name into an IP address.
3. Select a user whose privileges are given to the Guest account by clicking on a user name. Anyone logging in as Guest will have the same privileges as this user. (To deselect a selected user, click **Unselect**.)
4. Create a mask in the File Create Mask. This mask assigns permissions for a DOS/Windows file at the time the file enters a NewsShare NAS file system. Permissions for individual files can be changed later. If the create mask itself is changed, any new DOS/Windows files are assigned the new permissions but existing files retain the permissions that were originally assigned.

Masks

NewsShare NAS is a UNIX-based operating system. Although Windows/DOS has a larger set of modes than UNIX specifies for permissions, all NewsShare NAS files and directories are assigned a UNIX-format octal mask for permissions. A mask is a three-digit number. The first digit gives permission to the file owner. The second digit gives permission to a group. The third digit gives permission to all others. The digits assign the permissions as follows:

Number	Read	Write	Execute
0	No	No	No
1	No	No	Yes
2	No	Yes	No
3	No	Yes	Yes
4	Yes	No	No
5	Yes	No	Yes
6	Yes	Yes	No
7	Yes	Yes	Yes

The owner must at least be able to read any file he or she owns; therefore the first digit must always be not less than a one (1). The initial default file mask is 744 (which means an owner can read, write, and execute any file he or she owns that is saved to this workgroup, but the group and all others can only read it).

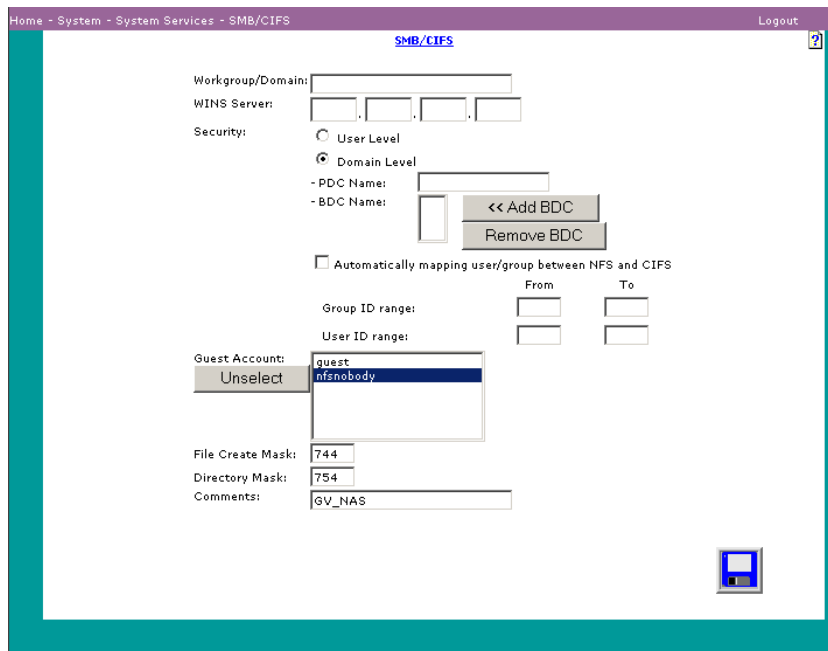
1. Enter 3 digits for the Directory Create Mask to grant permissions for this directory. When a DOS/Windows directory is saved in a NewsShare NAS file system, the mask assigns permissions to the new directory at the time the directory enters a NewsShare NAS file system. Permissions for individual directories can be changed later. New DOS/Windows directories are assigned new permissions, but all existing directories retain the permissions that were originally assigned. The initial default directory create mask is 754. UNIX permissions are defined in the table above.
2. Enter an optional comment.
3. Click **Save**.





Changing Domain Level Security

If you enable Domain Level security in the SMB/CIFS window, this window appears:



1. For domain level security, NewsShare NAS asks for the name of the Primary Domain Controller (PDC) and the Backup Domain Controller (BDC). Enter the name of the PDC. In Windows NT, the PDC is the main machine that responds to security authentication requests, such as logging in, within its domain.
2. (Optional) The PDC can be backed up by one or more backup domain controllers (BDC) that also handle security authentication. Enter the name of any BDC. Click **Add**. (To remove a BDC, click on its name and click **Remove**.)
3. Select the user whose privileges are given to the Guest account by clicking on the user name. Anyone logging in as Guest will have the same privileges as this user. To deselect a selected user, click **Unselect**.
4. (UNIX permissions are defined in the table on page 57.) Create a mask in the

File Create Mask. This mask assigns permissions for a DOS/Windows file at the time the file enters a NewsShare NAS file system. Permissions for individual files can be changed later. If the create mask itself is changed, any new DOS/Windows files are assigned the new permissions, but existing files retain the assigned permissions.

5. Enter 3 digits for the Directory Create Mask to grant permissions for this directory. When a DOS/Windows directory is saved in a NewsShare NAS file system, the mask assigns permissions to the new directory at the time the directory enters a NewsShare NAS file system. Permissions for individual directories can be changed later. New DOS/Windows directories are assigned new permissions, but all existing directories retain the permissions that were originally assigned. The initial default directory create mask is 754.
6. (Optional) To set the system to automatically map between NFS and CIFS, check the box next to Automatically mapping. When set, a user or group is mapped to a number in the Group/User ID range specified in Step 7.

NOTE: If this box is not checked, users will be able to access only public files, even though the user is included in the domain.

7. (Optional, for automatic mapping only) To change the range of IDs, enter integers for the From/To fields of Group/User ID. The default ranges are 10000 to 20000. The fields are used only when automatic mapping is on.

NOTE: If you use both PDC and NIS, enter all PDC users and groups into NIS. Otherwise, you could have duplicate users/groups in the domains. This also ensures that mappings between the domains are consistent.

8. Enter any comment, using a maximum of 110 characters.



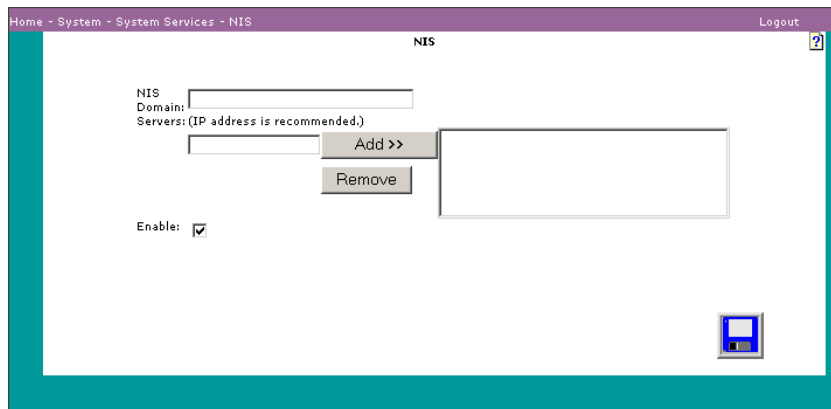
9. Click **Save**.



Configuring NIS

NIS is a client-server protocol for distributing system configuration data, such as user and host names, between computers. The network.naming service from SunSoft™ allows resources to be added, deleted, or relocated. Formerly known as Yellow Pages or yp, NIS is a defacto UNIX standard. NIS+ is a redesigned NIS for Solaris™ 2.0 products. TCP/IP, NFS, and NIS comprise the primary networking components of the UNIX client-server protocol for tracking user and host names on a network.

To configure NIS, choose **System | System Services | NIS**. The NIS window appears:



1. To use NIS security, enter the NIS domain name.
2. Enter the IP address for each NIS server.

NOTE: For information on using IP addresses in a network, refer to “Entering IP Addresses” on page 105.

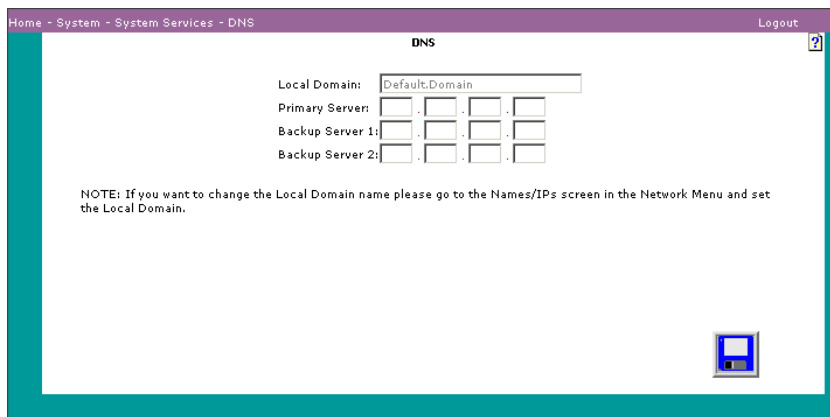
3. Click **Add**. (To remove a server, select it and click **Remove**.)
4. Click **Enable**.
5. Click **Save**.



Configuring DNS

DNS is database system that translates a host name into an IP address using TCP/IP. For example, abc.com is converted into an address such as 207.219.116.4. DNS is a static, hierarchical name service housed on a number of servers on the Internet. It maintains this database for resolving host names and IP addresses. This allows you to specify remote computers by host or user name rather than by numerical IP address.

To configure DNS, choose **System | System Services | DNS**. The DNS window appears with the local domain:



Home - System - System Services - DNS Logout

DNS


Local Domain:

Primary Server: . . .

Backup Server 1: . . .

Backup Server 2: . . .

NOTE: If you want to change the Local Domain name please go to the Names/IPs screen in the Network Menu and set the Local Domain.



(To change the current domain name, from the Network menu, choose **Names and IPs**.)

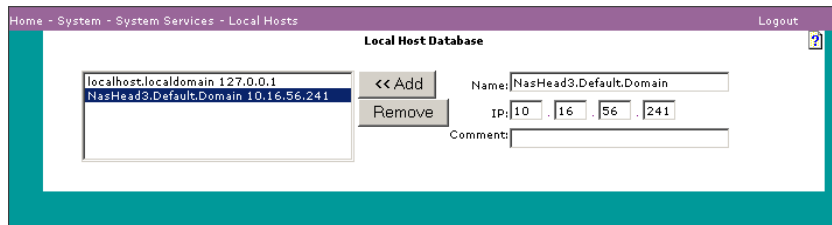
1. Enter the IP address of the primary server.
2. (Optional) Enter an IP address of a backup server to use if the system cannot locate the primary server.
3. (Optional) Enter an IP address of a second backup server.
4. Click **Save**.





Configuring Local Hosts

A local host database adds IP addresses of machines that provide services the appliance needs to access. For example, a local host database allows the appliance to access NIS, NTP, or DNS. To display the Local Host Database window, choose **System | System Services | Local Hosts**.



Adding a Device

1. Enter a name for any device that the appliance accesses by name, such as an NTP server or NIS server.
2. Enter the IP address of the device.
3. (Optional) Enter any comments for each pair of device names and addresses you enter.
4. After typing the name and IP address of each local host device, click **Add**. This adds a name and address pair to the local host file.

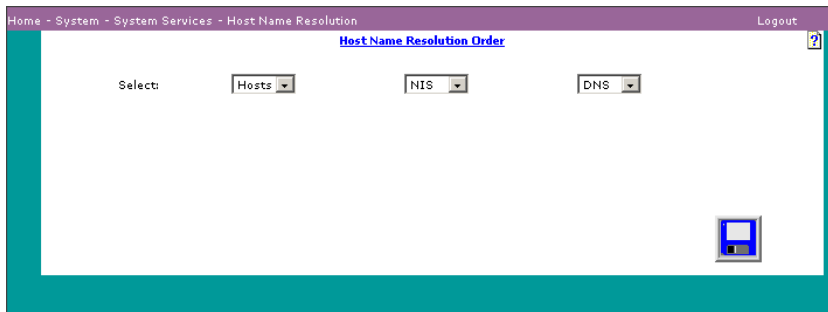
Removing a Device



1. To remove a device from the database, select the name and click **Remove**.
2. Click **Save**.

Specifying Host Name Resolution

Bypass this window if you do not have an existing HNR setup. To specify the methods and the order in which the appliance resolves name conflicts, choose **System | System Services | Host Name Resolution**. The Host Name Resolution (HNR) window appears:



The three methods (or files) for resolving name conflicts are: DNS, NIS, and Hosts (a local host file). For each resolution method you select on this window, you must set up parameters. A parameter entry window exists for each method.

There are three methods for resolving names:

- DNS: Refer to “Configuring DNS” on page 61.
- Hosts (a local host file): Refer to “Configuring Local Hosts” on page 62.
- NIS: Refer to “Configuring NIS” on page 60.

1. On the Host Name Resolution Order window, shown above, specify the order in which the system resolves names (or less than three, if you do not use all methods), reading from left to right. For Example: Hosts, NIS, DNS (which is the default order) indicates that names are resolved by first looking to Hosts, second looking to NIS, and lastly looking to DNS. When the window opens, the drop-down list boxes show the order currently set for the system.
2. From the drop down box, select the first (left) method. Optionally, select a second method. (The method you chose for the first option is no longer valid.) Optionally, select a third method. (The method you chose for the first and second option is no longer valid.)

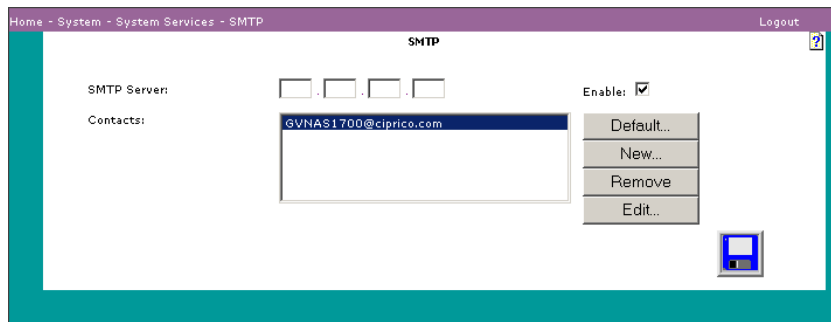


3. Click **Save**.



Enabling SMTP

Simple Mail Transfer Protocol (SMTP) is a protocol for sending an e-mail message, notifying the addressee of an appliance event. To change or review the SMTP setup, choose **System | System Services | SMTP**. The SMTP window appears:

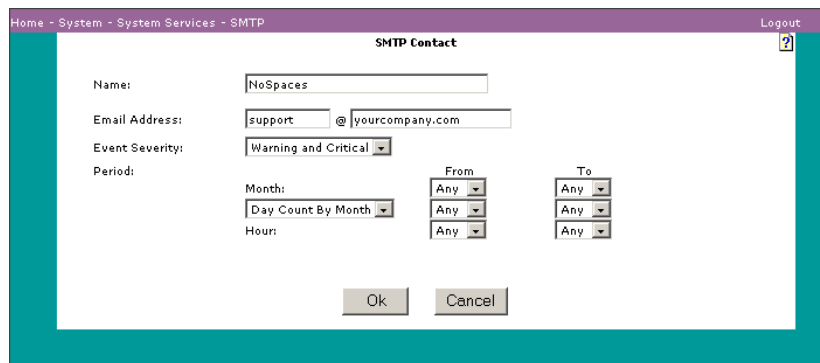


To change SMTP setup do the following:

1. Enable or disable SMTP by putting a check mark in the Enable box.
2. If enabled, enter an IP address of the mail server.

Maintain the list of those who will be responsible for receiving event notification e-mails for the appliance. During periods that are not covered by any contacts, the event notification is sent to the Default SMTP contact.

1. To add a new contact, click **New**. The SMTP Contact window appears:



2. Enter the name of the contact.
3. Enter an e-mail address for receiving notification.
4. Choose the severity level to trigger an event notification:
 - Warning and Critical (default): A warning event is less serious than a critical event. The system is still operational. As soon as it is convenient, provide administrative attention.
 - Critical: A critical event may render the system inoperable. Immediate attention is required.
5. Enter the times for event notification as follows:
 - Months: Range of months for event notification or Any, meaning all months. The range includes both the start and end months. For example, Feb. to Apr. includes all of February, March, and April.
 - Days: Range of days for event notification or Any, meaning all days. “Day count by month” means from day one of the month to the last day of the month (28 to 31 days). “Day count by week” means from Sunday to Saturday. The range includes both the start and end days. For example, Tues. to Thur. includes all of Tuesday, Wednesday, and Thursday.
 - Hours: Range of hours for event notification or Any, meaning all hours. The range includes both the start and end hours. For example, 10 to 13 begins at 10 am and ends at 1:59:59 pm.
6. Click **OK**. The SMTP window reappears.
7. Click **Save**.





Example 1

Contact Person 1 receives event notification only on Sundays, all day Sunday, from January to June. Select Jan. as the From month, June as the To month. Select Day Count by Week. Select From day to be Sunday and To day as Sunday. Select From hour and To hour as Any.

Example 2

Contact Person 2 receives event notification for all working hours on all working days, year round. Select From month and To month as Any. Select Day Count by Week: From day is Monday and To day is Friday. From hour is 8 (am) and To hour is 16 (4:59:59 pm.)

Enabling SNMP

Simple Network Management Protocol (SNMP) is a management software that sends messages, called protocol data units (PDUs) on the status of devices in a system. SNMP-compliant devices store data about themselves in Management Information Bases (MIBs) and return this data to the SNMP requesters. The data ensures that all devices on the network are operating properly.

To configure SNMP, choose **System | System Services | SNMP**; the SNMP window appears:

The screenshot shows the SNMP configuration interface. At the top, there is a breadcrumb trail: Home - System - System Services - SNMP. The main content area is titled 'SNMP'. It includes a 'Community Name' text input field containing 'www.thomsongrassvalley.com'. Below this is the 'SNMP Server' section, which contains a table for configuring two hosts. The table has columns for 'Host 1 IP' and 'Host 2 IP', and rows for 'Version 1' and 'Version 2'. The 'Version 1' row has IP addresses 172.29.200.14 for Host 1 and empty fields for Host 2. The 'Version 2' row has IP addresses 172.29.200.50 for Host 1 and empty fields for Host 2. Below the table is an 'Event Severity' dropdown menu currently set to 'Warning and Critical'. A 'Save' button is located at the bottom right of the form area.

	Host 1 IP				Host 2 IP			
Version 1:	172	29	200	14				
Version 2:	172	29	200	50				

1. Enter a community name. An SNMP community is a group of one or more hosts. The community name identifies the community and acts like a password that authenticates the SNMP manager to the agent. Keep the community name secret, just as you would a password.
2. If you have an SNMP manager running on a host, enter the IP address of the SNMP server for Host 1 or 2 for either SNMP Version 1 or SNMP Version 2. Both versions of SNMP report error conditions. SNMP2 is an updated version that has better security, automatic continuous feedback, and potentially provides more error information. The appliance will send event notices to that host.
3. Choose the severity level to trigger event notification:
 - Warning and Critical (default): A warning event is less serious than a critical event. The system is still operating. As soon as it is convenient, provide administrative attention.
 - Critical: A critical event may render the system inoperable. Immediate attention is required.



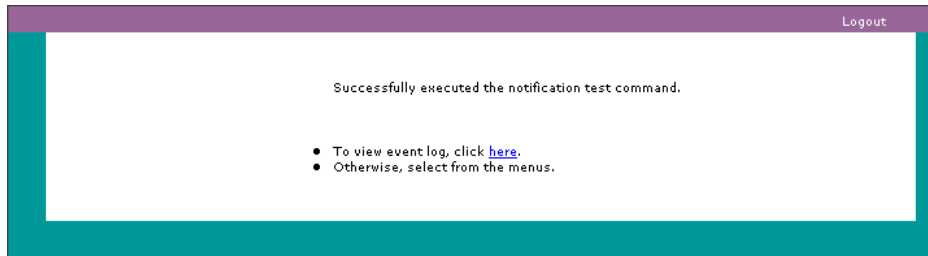
4. Click **Save**.



Testing Notification

To test notification, choose **System | System Services | Notification Test**. No window is associated with this function. Click on Notification Test and the appliance does the following:

- Sends an e-mail to all configured SMTP contacts that meet the current date and time requirements.
- Sends an event to the event log.
- Sends SNMP traps to all configured trap handlers.



System Information

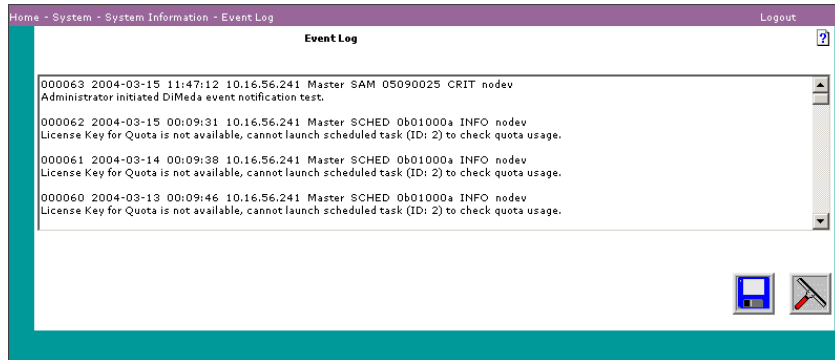
System information consists of the following reports:

- Event log
- Summary
- Common Internet File System (CIFS) clients
- Status
- Storage usage
- CPU usage
- System-wide statistics
- Configuration information
- Environmental information



Viewing Event Log

To view an event log, choose **System | System Information | Event Log**. The Event Log window appears:



You can save the log to another file and clear the log. The event log holds one megabyte of data. When it is full, new events are written over the oldest events. Fields in the event log are described in this table:

Field	Description
Event ID	A sequential number assigned by the system as events are logged.
Time/Date	Date and time at which the event occurred.
Node	The address of the appliance.
Software Module	The software module in which the event message was generated. (For use by development engineers.)
Code Address	Within the above software module, this is the address at which the event message was generated. (For use by development engineers.)
Severity Level	The severity level of an event can be Info, OK, Warning, or Critical. Warning and Critical events indicate system problems. Info and OK events are included in the log to provide context for the serious events.
Description	This describes the logged event.

Saving the Event Log

1. Right click on Save to save the contents of the current event log file to another file. A menu appears.
2. From the menu, select **Save Target As** or **Save Link As** (different browsers use different terminology). A Save As dialog box appears.



3. Browse to the directory you use for saving log files, type the file name, and click **Save**.

To clear the Event Log



- Click **Clear** (window wiper) to delete all contents from the current event log.



Viewing a Network Summary

To view a summary of the network, choose **System | System Information | Summary**. The System Summary window appears:

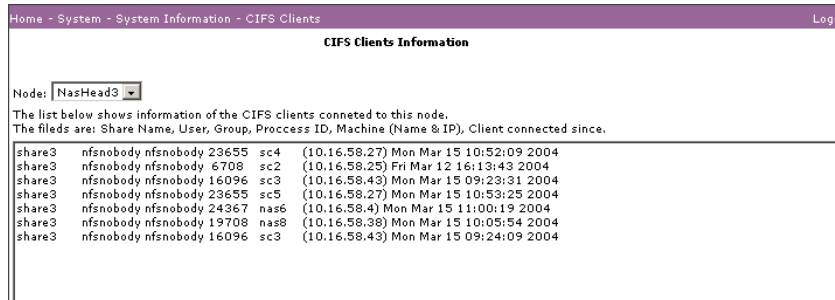
System Summary	
Appliance SN:	b741-b641-092c-d5a2
Appliance Last Rebooted:	Fri Mar 12 15:32:13 EST 2004
Node:	NasHead3
Serial No:	EV836510
IP address:	10.16.56.241
Number of CPUs:	2
CPUs Description:	Family 15, Intel(R) Xeon(TM) CPU 2.80GHz, 2799.299 MHZ Family 15, Intel(R) Xeon(TM) CPU 2.80GHz, 2799.299 MHZ
Date & Time:	2004/03/15 11:21:57
Software Revision:	1.0.06

The fields shown for each server node are described below:

Field	Description
Appliance SN	Serial number assigned to the appliance.
Appliance Last Rebooted	Date and time at which the appliance was last rebooted.
Node	Node name.
Serial No.	Serial number of the node.
IP address	IP address of the node.
Number of CPUs	Number of processors in the appliance.
CPUs Description	A description of the processors in the appliance.
Date & Time	Current system date and time.
Software Revision	The revision of the software running the appliance.

Viewing CIFS Clients Information

To view information on all CIFS clients connected to the selected node, choose **System | System Information | CIFS Clients**. The CIFS Clients Information window appears:



A CIFS client is any PC connected to the appliance.

NOTE: Along with CIFS clients, this list includes inter-process communication processes. These extra entries show up as IPC\$ clients. Ignore these entries.

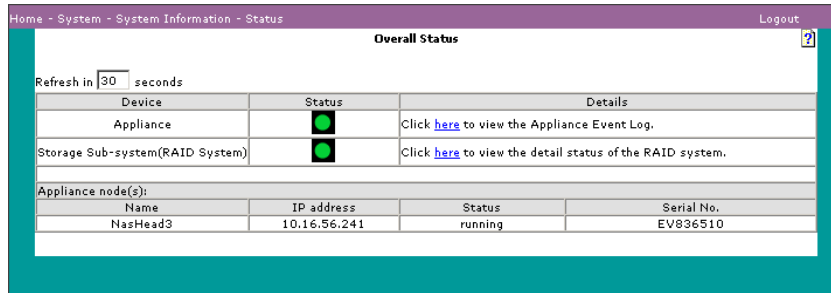
The following information is shown for each CIFS client:

- Share name
- User group
- Process ID
- Machine name and IP address
- Time the CIFS client connected to the node



Viewing Overall Status

To view status, choose **System | System Information | Status**. The Overall Status window appears:



This window displays the status for devices and server nodes. In the Refresh box, type the number of seconds between window updates. The window is updated in intervals of the number of seconds you enter. A green light means the device is fully functioning. A yellow light means the device is degraded or has a fault, but it still functions. A red light means the device is down and not functioning.

Fields for devices are described below:

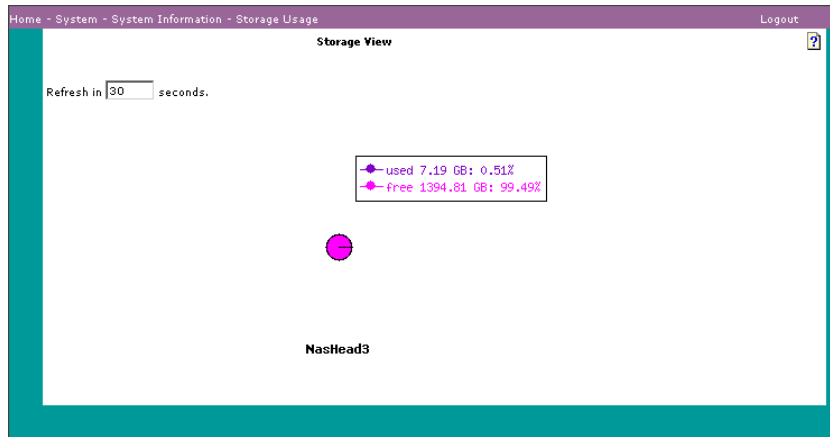
Device	Status
Appliance	Status of the appliance is shown with colors. Click on this link to display the event log.
Storage Subsystem (RAID)	Status of the RAID disk subsystem is shown with colors. Storage subsystems include RAID controllers. Click on this link to display the details of the RAID storage subsystem.

Fields for the server nodes are described below:

Field	Description
Name	Name assigned to this server.
IP address	The network IP address used to transfer data across the network to the server.
Status	The status of a server can be: Running or Not Responding.
Serial No	Serial number of this server.

Viewing Storage Usage

To view storage usage, choose **System | System Information | Storage Usage**. The Storage View window appears:

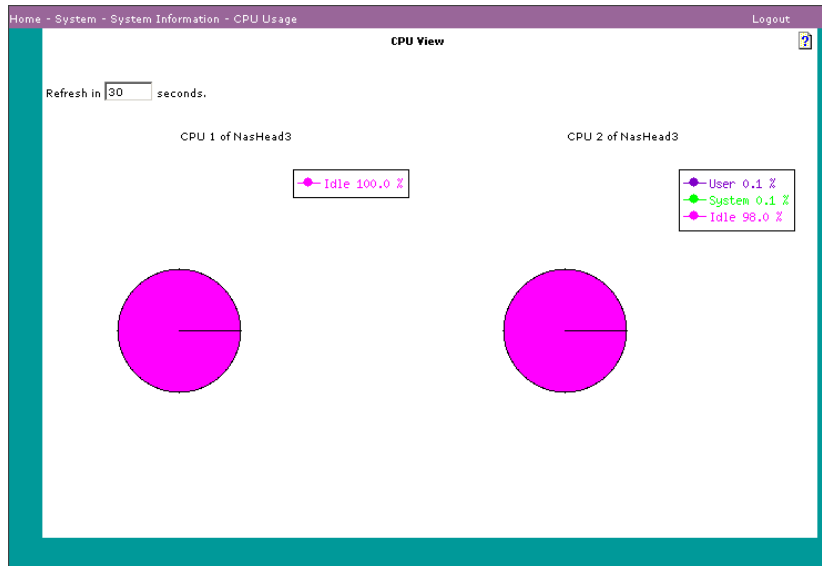


This window displays a pie chart of storage usage. The pie chart shows used space in a color different from that used for free space. In the text box, type the number of seconds between updates. The data shown on the pie chart is updated in intervals of the number of seconds you enter.



Viewing CPU Usage

To view a pie chart of CPU usage, choose **System | System Information | CPU Usage**. The CPU View window appears:



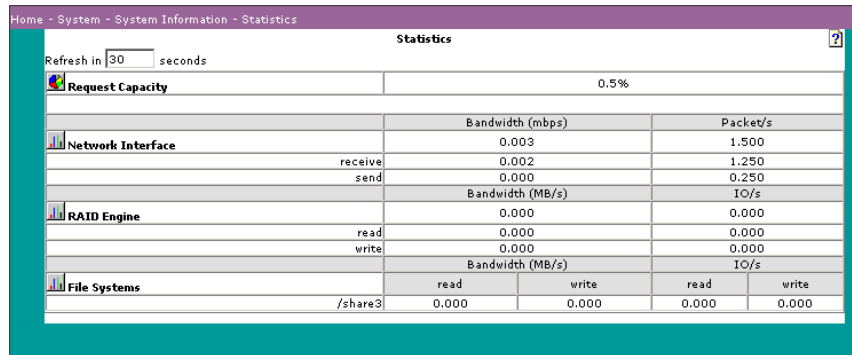
Enter the refresh interval. In the text box, type the number of seconds between window updates. The data shown on the pie chart is updated in intervals of the number of seconds you entered.

The window shows the percent of time spent in these activities:

Activity	Description
User	Percent of time the CPU spent on application software.
System	Percent of time the CPU spent on system software.
Idle	Percent of time the CPU was inactive.

Viewing Statistics

To view performance data, choose **System | System Information | Statistics**. A Statistics window similar to this window appears:



Enter the refresh interval. The data on this window is updated in intervals of the number of seconds you entered. Click on the icon to the left of Request Capacity to graphically view the CPU load. Click on the icons to the left of Network Interface, RAID Engine, or File Systems to view the performance statistics graphically. The fields shown are described below:

Field	Description
Request Capacity	Percent of processing capacity that is used. 0% means there is no capacity available. 100% means that no processing capacity is available.
Network Interface	Data transfer between a client and the appliance. Separately, for receive and send, it shows: Bandwidth, measured in megabits per second and packets per second.
RAID Engine	Transfer rates from the disk array. Separately, for read and for write, it shows: Bandwidth, measured in megabytes per second and input or output (I/O) per second.
File Systems	Transfer rates for each file system. For read and write, it shows: Bandwidth, measured megabytes per second and input or output (I/O) per second



Viewing Configuration Information

To build and e-mail a file showing the appliance configuration, choose **System | System Information | Configuration Information**. The Generate Configuration Information window appears:

The screenshot shows a web browser window with a purple header bar containing the text "Home - System - Information - Configuration Information" and a "Logout" link. The main content area is titled "Generate Configuration Information" and contains the following form elements:

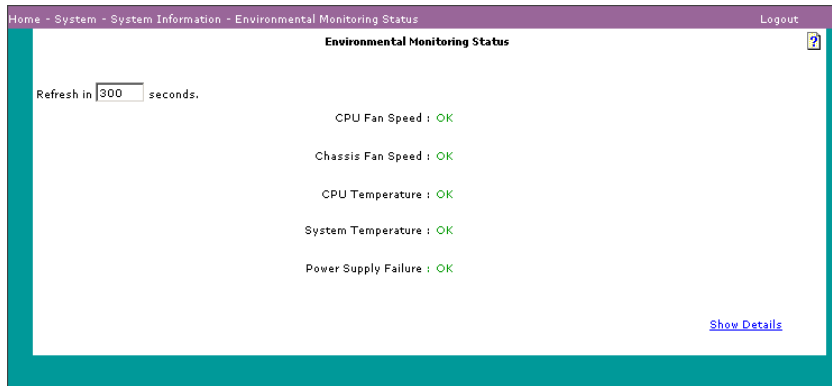
- "Create Information for:" with two radio buttons: "Administrator" (selected) and "Customer Service".
- "Email Address:" followed by two input fields separated by an "@" symbol.
- A "Save" button icon in the bottom right corner.

1. Choose the type of information to generate. You can create information for:
 - System Administrator: This is the default. It provides information a system administrator can use to monitor the system.
 - Customer Service: Customer Service staff can use this file to trouble shoot your system.
2. Enter the e-mail address. This is the address to which the configuration report will be sent.
3. Click **Save** to generate the configuration information report. Another window opens. Click on the link to view the Configuration File.



Monitoring the Network Environment

To view the appliance enclosure status, choose **System | System Information | Environmental Monitoring**. The Environmental Monitoring window appears:



This window displays the status of components that maintain the safe operation of the appliance: fans, temperature sensors, and the power supply. In the text box, type the number of seconds between window updates. The data shown on the window is updated in intervals of the number of seconds you entered.

The window lists the status of these appliance components:

- **CPU Fan Speed**—Status is OK (green) if the speed is within safe limits; otherwise status is Warning (yellow).
- **Chassis Fan Speed**—Status is OK (green) if the speed is within safe limits; otherwise status is Warning (yellow).
- **CPU Temperature**—Status is OK (green) if the temperature is within safe limits; otherwise status is Warning (yellow).
- **System Temperature**—Status is OK (green) if the temperature is within safe limits; otherwise status is Warning (yellow).
- **Power Supply**—Status is OK (green) if the power supply is operating as expected; otherwise status is Warning (yellow).



Chapter 6 System Information

To display additional information on the component status, click on the link in the lower right corner of the window. A Detailed Report, similar to the report shown below appears:

Home - System - System Information - Environmental Monitoring Status - Environmental Monitoring Detailed Report Logout

Environmental Monitoring Detailed Report ?

Refresh in seconds.

Monitored Item	High Limit	Low Limit	Status

CPU1 Fan Speed (RPM)		712	5113
CPU2 Fan Speed (RPM)		712	5113
Chassis Fan 1 Speed (RPM)		88	19014
Chassis Fan 2 Speed (RPM)		88	4333
Chassis Fan 3 Speed (RPM)		88	4411
Chassis Fan 4 Speed (RPM)		88	20000
+12V Voltage (V)	13.74	10.15	12.16
+5V Voltage (V)	5.75	4.25	4.89
+3.3V Voltage (V)	3.79	2.80	3.30
3.3Vsb Voltage (V)	3.79	2.80	3.33
Vccp Voltage (V)	1.86	0.77	1.44
-12V Voltage (V)	-10.19	-13.82	-11.88
CPU1 Temperature (C)		127	38
CPU2 Temperature (C)		127	37
System Temperature (C)		65	48
Power Supply Failure			Good

[Return to Environmental Monitoring Status Page](#)

System Administration

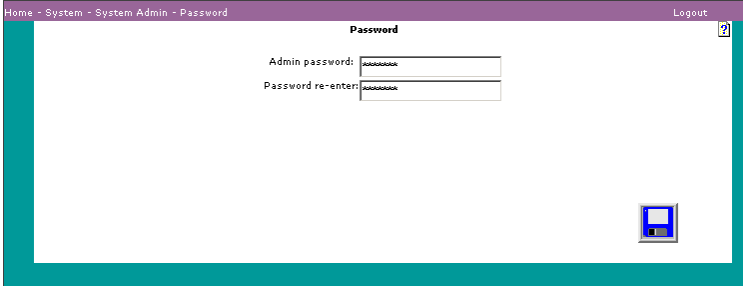
System Administration consists of:

- Changing the appliance password
- Updating software with a new revision
- Configuring environmental monitor policy
- Using a command line
- Changing date and time
- Shutting down the system



Changing Passwords

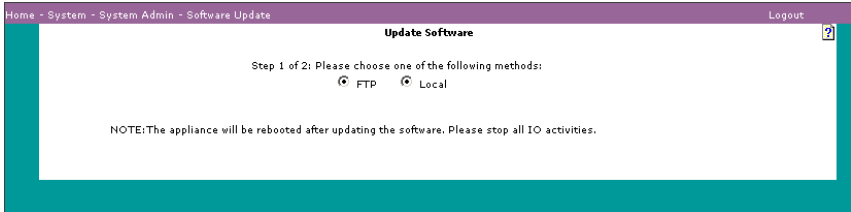
To change the appliance password, choose **System | System Administration | Password**. The Password window appears:



Enter and re-enter the new password.

Updating Software

To install a new revision of the NewsShare NAS Software, choose **System | System Administration | Update Software**. The first Update Software window appears:



Update the NewsShare NAS software from the local host computer that the NewsShare NAS GUI accesses or from the Thomson Grass Valley support site. In either case, you must perform some preparation tasks before you can use this window to upgrade.

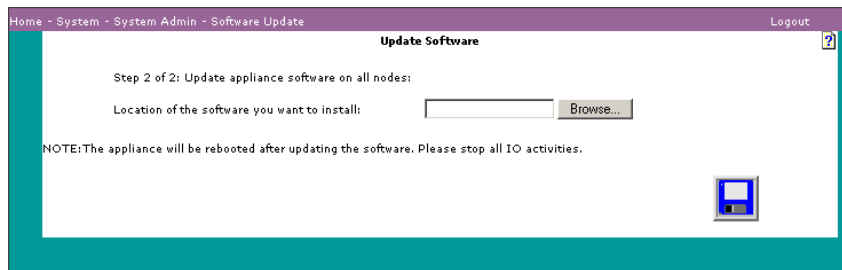
1. Select the method to update the software:
 - **FTP:** Use this method if the software does not reside on the local host machine.
 - **Local:** Use this method if the software is directly available from the host computer (the local host machine) that the NewsShare NAS GUI accesses.
2. Follow the instructions on the next pages for the selected method.

Using an FTP File

Contact Technical Support for more information on using FTP to upgrade the NewsShare NAS software.

Using a Local File

If you choose Local in the Update Software window, the local Update Software window appears:



1. Type in the full pathname or click **Browse**. Browse to the location of the TGZ file on a CD or any local directory. Select the TGZ file.
2. Click **Open**.
3. In the appliance window, click **Save**. Software upgrades take several minutes. The system reboots after the upgrade finishes.





Monitoring Environmental Policy

Use this window to configure temperature thresholds and to specify if a shutdown should be initiated when the thresholds are breached. A threshold is breached if the temperature goes above the hard or soft upper limit, or below the hard or soft lower limit. Violating a threshold causes an event to be generated, posted in the event log, an e-mail or a trap sent if SMTP and/or SNMP services are active. Violating a hard threshold, if the Init Shutdown box is checked, shuts down the appliance.

1. Change any threshold limit. Configure any of the temperature thresholds listed below for the CPU or the system. The temperature values are in Celsius, and must be positive numbers less than, or equal to, 78.

Field	Description
Lower Critical	The default value is 0 for the CPU and System. This value must be less than the lower warning threshold.
Lower Warning	This value must be less than the upper warning threshold.
Upper Warning	This value must be lower than the upper critical threshold.
Upper Critical	The default value is 78 for CPU and 65 for the System.

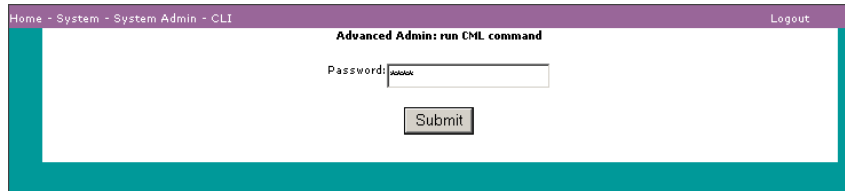
2. Specify if threshold violations should initiate a shutdown. A check in the box for CPU or System directs DiMeda to shutdown when a temperature threshold is violated.



3. Click **Save** to set new parameters and exit the window.

Using the Command Line Interpreter

To view a command line, choose **System | System Administration | CLI**. The CML Password window appears:

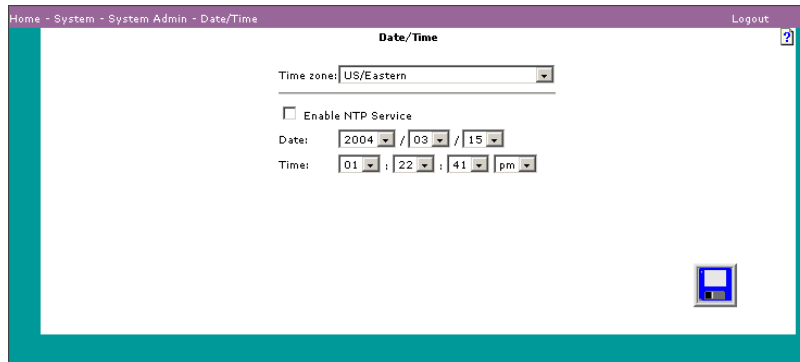
A screenshot of a web browser window titled "Advanced Admin: run CML command". The browser's address bar shows "Home - System - System Admin - CLI" and a "Logout" link is visible in the top right corner. The main content area of the page contains a "Password:" label followed by a text input field with a masked password "j0000k". Below the input field is a "Submit" button.

Enter a password. Click **Submit**. A second CML Command window appears. Use the drop-down list to select the command to run. Parameters can be passed to the command. Click on the hypertext link to run the command. The results of running the command, if any, are shown in the Result area.



Setting Date and Time

To set the date and time, choose **System | System Administration | Date/Time**. The Date/Time window appears:



After you set the date and time, the appliance maintains the correct date and time, including Daylight Savings and Leap Year.

1. If you do not use Network Time Protocol (NTP), select the correct time zone for the site and go to Step 4.

NOTE: To automatically update scheduled time changes such as daylight savings time, use a city time zone rather than a regional time zone.

2. If you use NTP, click **Enable NTP Service**. NTP is a protocol that synchronizes the real-time clock in a computer to the Universal Time Coordinated (UTC) via radio, satellite, or modem. The NTP server field appears, as shown in the Date/Time window above. The date and time fields are set at the current date and time. They cannot be modified. Using NTP ensures accurate time keeping. Some business applications may require it.
3. Enter the IP address or the host name of the NTP service to which you subscribe. Go to Step 6.
4. Specify the current year, month, and day. (Not available if NTP service is enabled.)
5. Specify the current hours, minute, and seconds. (Not available if NTP service is enabled.)

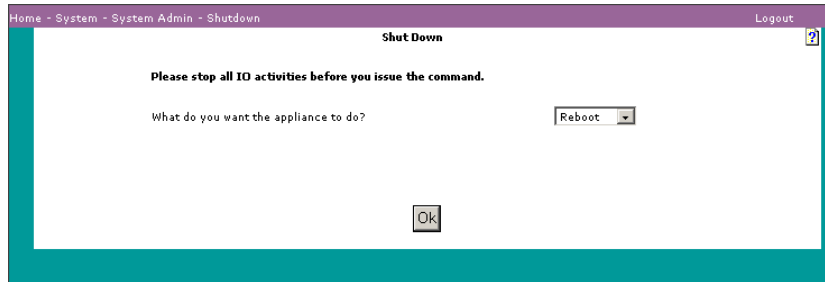


6. Click **Save**.



Shutting Down

To shut down the appliance, choose **System | System Administration | Shutdown**. The Shutdown window appears:



1. From the drop-down list box, choose one of the following:
 - **Reboot:** This option shuts down and then reboots the appliance server.
 - **Shutdown:** This option shuts down the server operating system. Wait at least one minute after issuing a shutdown before turning off power to the server node.
2. From the drop-down list box, choose one or both server nodes to shut down or reboot.
3. Click **OK**.

NOTE: Powerdown Appliance Node(s) does not shut down electrical power to a node. It halts the server.

Users and Groups

If the appliance is attached to an existing network that has PDC or NIS authentication, use the existing network authentication. However, to add user or group permissions specifically to the data on the NewsShare NAS file systems, or if the appliance is not attached to an existing network that has authentication, add and maintain users and groups through the commands described in this chapter. Creating users or groups for the appliance is optional. All members of a group have the same access and permissions to read, write, and view files.

To add users and groups through the appliance, use the following procedure, described in more detail in this chapter:

1. Create a group or groups.
2. Create a user name and password for each user.
3. While adding a user, assign the user to a primary group and, optionally, a secondary group.

This chapter also describes how to:

- Change a user
- Delete a user
- Delete a group
- View existing users and groups on the network. This is especially useful when adding new users or groups. If a name is already taken, the Add command fails. In that case, check the existing users and groups for an unused name.



Adding Users

To add a user, choose **User/Group | Add User**. The Add User window appears:

Home - User/Group - Add User (page 1 of 2) Logout

Add User


Enter user login name:

Enter user ID (500 - 65533; optional):

Enter full name of user:

Enter password:

Re-enter password:

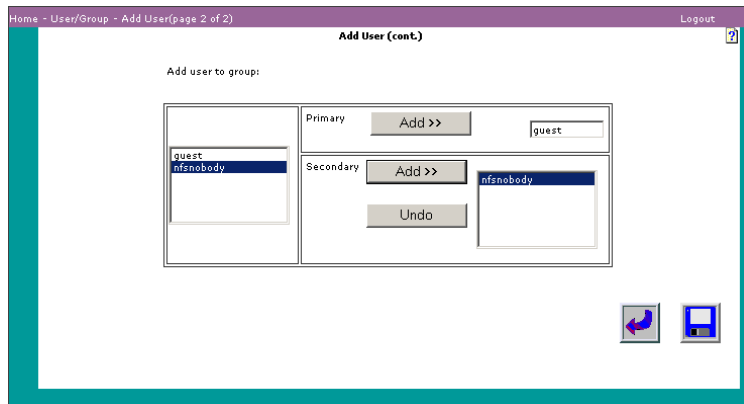


(Add groups before users. The procedure for adding groups is described in “Adding Groups” on page 95.) Identify users to the appliance so that files and information can be accessed by these users.

1. Enter the user login name. This is required.
2. Enter a user ID or let the appliance assign a user ID. This field is required. Valid IDs are (500 through 65533). If number is already assigned to a user, an NIS user, or a PDC user, the add fails. Use the “Viewing User/Group List” on page 97 to locate free IDs.
3. Enter the full name of the user. The first character cannot be a digit. Periods are not accepted. Spaces are allowed anywhere except the beginning or end of the field.
4. Enter a password for the user. Use a maximum of eight characters.
5. Re-enter the user password. The two password entries must match.
6. Click **Next**. The Add User to Group window appears.



NOTE: If you add users before you add groups, there is no list of groups from which to choose other than Guest and Nfsnobody. When you create a group (as shown in “Adding Groups” on page 95), you can add existing users to it. The group can only be a user’s secondary group. To add a primary group, use “Changing Users” on page 92.



7. To specify a user's primary group, from the list of available groups on the left, click on a group name. Click **Add** (in the Primary box) to make this group the primary group for this user. You must have one primary group. If you change your mind, repeat this step, selecting a different primary group.
8. (Optional) To specify the secondary groups, from the list of available groups on the left, click on a group name. Click **Add** (in the Secondary box) to create a secondary group for this user. If you change your mind, click **Undo** (in the Secondary box) to remove the user from the group.
9. Repeat the previous step for each secondary group to which this user will belong.



10. Click **Save**.



Changing Users

To modify user information, choose **User/Group | Change User**. The Change User window appears:

Home - User/Group - Change User (page 1 of 2) Logout

Change User

Select a user

guest
nfsnobody

Select >

User name

Full name

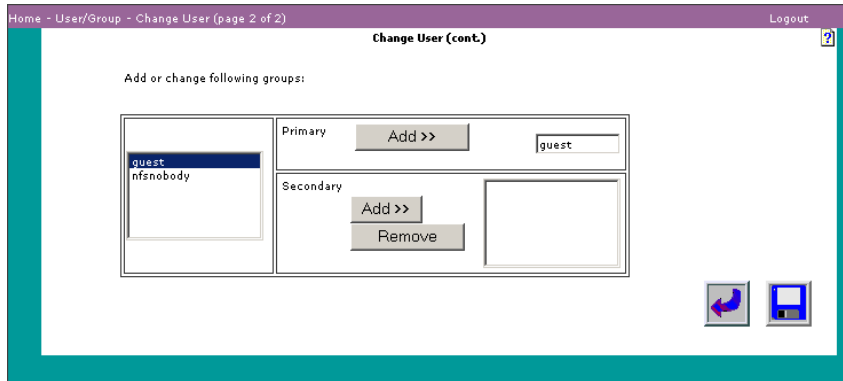
Password

Re-enter Password

Next

1. From the list on the left, select the user to change. Current information about that user appears in the text boxes to the right. You can change any of the displayed fields except the user login name.
2. (Optional) Type the new full name in the text box. Use a maximum of 61 valid characters. (Refer to “Invalid Input Characters” on page 106.) The first character cannot be a digit. Spaces are allowed anywhere except the beginning or end of the field.
3. (Optional) Type the new password in the text box, using a maximum of eight characters. Spaces are not accepted.
4. Enter the password a second time to confirm it.
5. Click **Next**. The Change User (cont.) window appears:





6. (Optional) Select a new primary group for the user. From the list of available groups on the left, click on a group. Click **Add** (in the Primary box) to make it the user's primary group. Each user must be part of one primary group. To change the primary group, simply repeat this step selecting a different group.
7. (Optional) Add the user to a new secondary group. From the list of available groups on the left, click on a group. Click **Add** (in the Secondary box) to make it the user's secondary group. A user can belong to any number of secondary groups, or none. Repeat this step for each group to which the user will be added.
8. (Optional) Remove the user from a secondary group. From the list of secondary groups on the right, click on a group name. Click **Remove** to delete the user from this group. Repeat this step for each group from which the user will be removed.

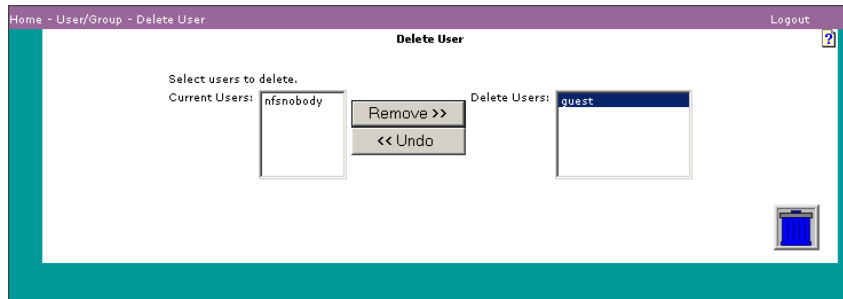


9. Exit the window by clicking **Save**.



Deleting Users

To delete a user, choose **User/Group | Delete User**. The Delete User window appears:

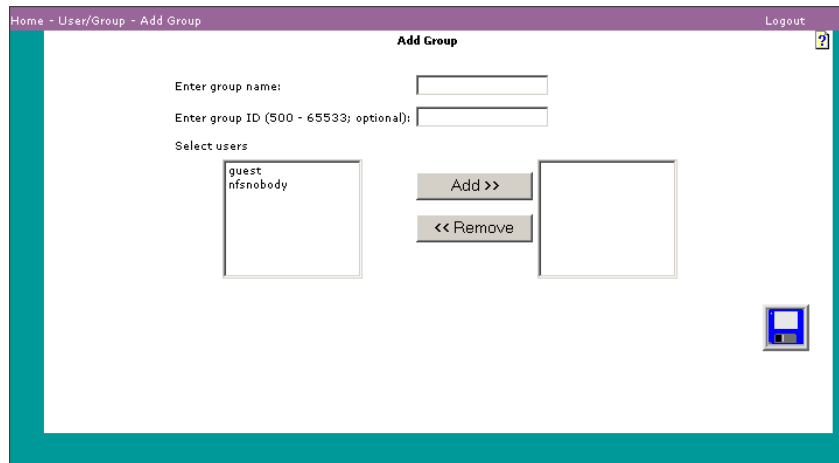


1. From the list on the left, select the user to delete.
2. Click **Remove**. The user name appears in the box to the right. Repeat this step for each user to be removed. (To undo, select a user in the list on the right, and click **Undo**.)
3. Click **Delete** to remove all users in the Delete Users list.



Adding Groups

A group combines users into a unit with common rules and permissions. To create a group, choose **User/Group | Add Group**. The Add Group window appears:



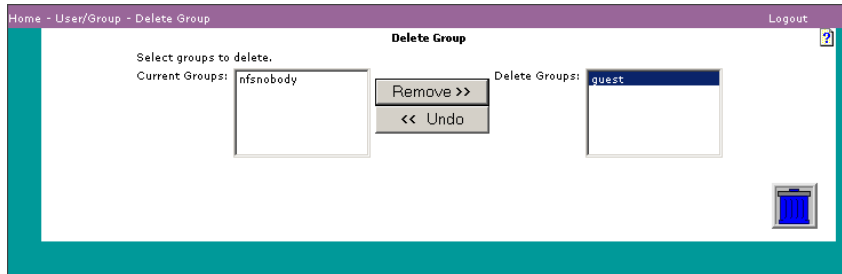
1. Enter a group name using a maximum of 16 characters.
2. Enter a group ID or let the appliance assign a group ID. A Group ID is required. Valid IDs are (500 through 65533). If the entered or assigned number is already assigned to a local, NIS, or PDC group, the add command fails. Use the User/Group List window to locate free IDs.
3. (Optional) To add a user to a group, from the list of available users on the left, click on the user name, and click **Add**. This will be a secondary group for the user. The list on the right shows the users currently in the group. Repeat this step for each user to add to the group.
4. (Optional) To remove a user, click on the user name in the list on the right. Click **Remove**. Repeat this step for each user you do not want in the group.
5. Click **Save**.





Deleting Groups

To remove a group from the system, choose **User/Group | Delete Group**. The Delete Group window appears:



1. From the list on the left, select the group to delete.
2. Click **Remove**. The group name appears in the box to the right. Repeat this step for each group to remove. If you change your mind, select a group in the list on the right, and click **Undo**.
3. Click **Delete** to remove all groups in the Delete Groups list.



Viewing User/Group List

To view all users and groups in the system, choose **User/Group | List User/Group**. The User/Group List window displays users, user IDs, groups, group IDs, which users are in each group, and which groups each user is in.

Home - User/Group - List Logout

User/Group List:

Please select from the following lists:

List of Users (name : ID):	List of Groups (name : ID):
guest : 499 nfsnobody : 65534	guest : 499 nfsnobody : 65534

Sort users by: login name user ID

Sort groups by: group name group ID

User 'guest' belongs to the following groups:

guest *

* Indicates primary group of the user.

Display a list of either all users or all groups in the list box at the bottom of the window. When NIS or PDC are enabled, those users and groups are displayed along with local users and groups. Perform the following actions:

1. Display all groups to which a user belongs. From the list of users on the left, select a user name. In the list of groups at the bottom of the window, an asterisk next to a group name indicates the user's primary group. Click in a radio button to select the order in which groups appear in the List of Groups. To locate free group ID numbers, check the group ID button.
2. Display all users in a group. From the list of groups on the right, select a group name. All users in that group are displayed in the list at the bottom of the window. Click in a radio button to select the order in which users appear in the List of Users. To locate free user ID numbers, check the user ID button.



Chapter 8 Users and Groups

Using Online Help

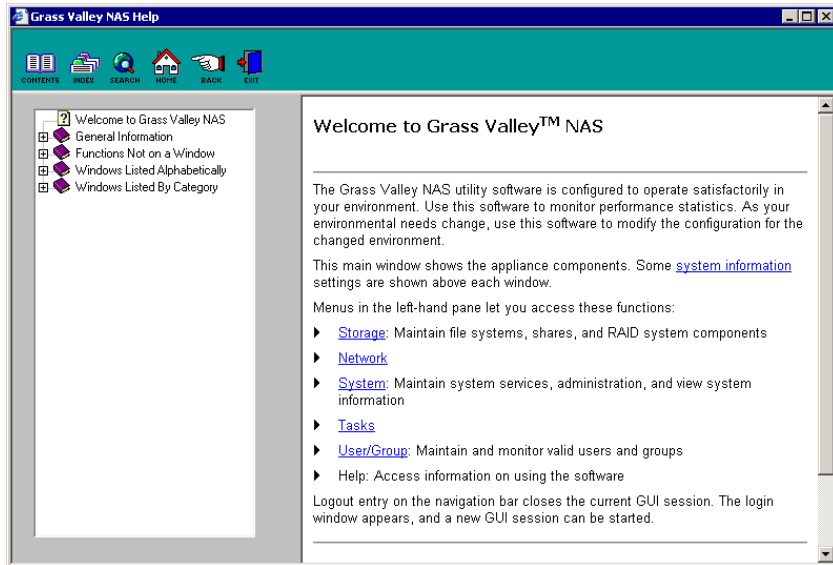
The online Help system provides information about using NewsShare NAS:

- Help is available for each window. Click a Help link (a small question mark in the upper right of the NewsShare NAS display pane) in a window to view Help specific for that window.
- To view the online Help, choose **Help** from the main NewsShare NAS menu.



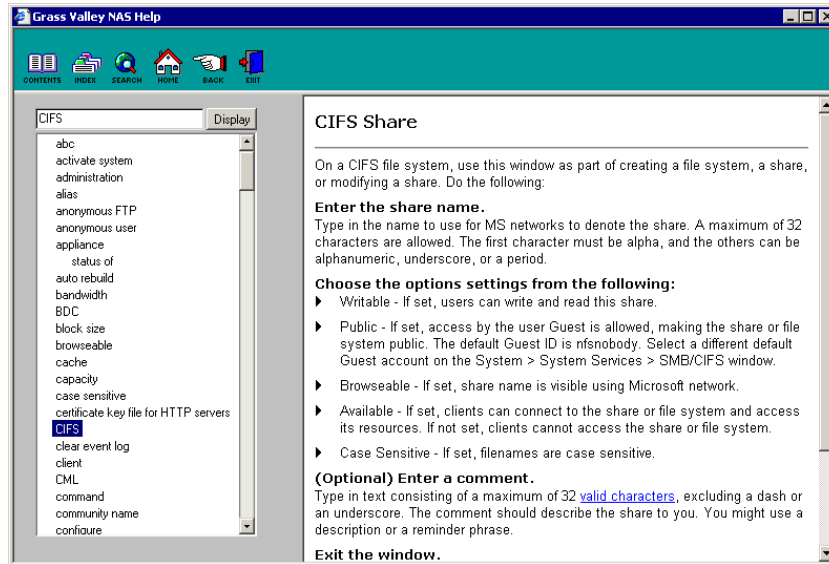
Viewing Help Topics

The Help topic for the current window opens when you click the Help link. Click on the plus signs (+) to the left of the Help books to view a list of Help topics. Double-click on the topic name to view the topic.



Using the Help Index

To view a list of terms, click the **Index** icon. The Index pane appears:

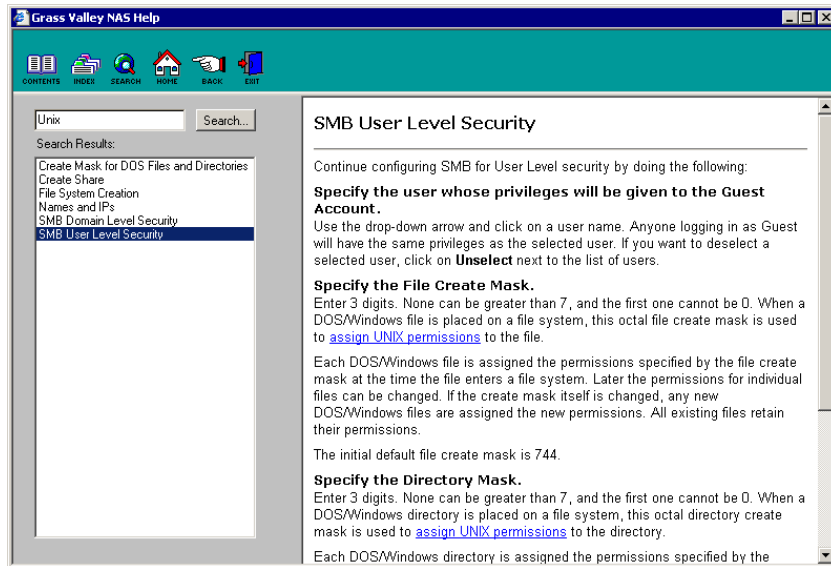


1. Click the Index icon.
2. Enter a term. Click **Display**.
3. One of the following happens:
 - One topic is found for the term. The topic is shown in the topic pane.
 - Multiple topics are found for the term. All topic names are shown in a small window. Click on the name of a topic to read, and then click **Display**.



Searching For Help Topics

To search for a topic, in the Help window, click **Search**. The search window appears:



1. Click the Search icon.
2. Enter a topic to search for, and click **Search**.
3. One of the following happens:
 - One topic is found for the term. The topic is shown in the topic pane.
 - Multiple topics are found for the term. All topic names are shown in a small window. Click on the name of a topic to read, and then click **Display**.

Troubleshooting

Trouble-shooting consists of:

- Browser settings
- IP address logic
- Invalid characters for NewsShare NAS fields



Browser Settings

Netscape 4

We have found that some versions of Netscape 4 do not render pages properly. Our recommendation is that users update their browser. Netscape 4 was released nearly seven years ago, and the most common version, 4.7, five years ago. Due to the vast improvements in technology, your view of HTML will be improved by an up-to-date Web browser.

Web browsers can be downloaded for free at the following sites (all have Windows and Mac versions, except where noted.):

- Microsoft Internet Explorer
- Netscape
- Mozilla

There are many other browsers available, but their compatibility is not guaranteed.

Allowing Cookies

When the browser does not allow cookies, or cookies do not work well in the browser, the following symptoms appear:

- A timed GUI session does not work correctly. The session expires before the specified time. To work around this browser problem, set the session expiration on the Login window to Connection is Broken. The downside of doing this is that session protection is lost.
- Setting the refresh interval on a View Information window to a non-default interval does not work correctly.

To avoid these problems, allow cookies. For information on cookies, refer to the browser Online Help.

Enabling Java

Enable Java script or JIT. For information on enabling Java, refer to the browser Online Help. If Java is not enabled in the browser, the icon that displays status does not refresh automatically. In this case, the only window that periodically refreshes status is the View Status window.

Entering IP Addresses

An Internet Protocol (IP) address is a unique identification for any machine on the Internet. An IP address has the form: **216.27.72.326**

Each of the four groups of numbers separated by a period is called an octet (because internally they are represented by 8 binary numbers). An IP address has two components:

- The net portion of an IP address always includes the first octet. The net portion identifies the network to which the computer belongs.
- The host (or server node) portion always includes the last octet. The host portion of an IP address identifies the specific computer within the network.

The Default Network has 0.0.0.0 for an IP address. IP addresses are grouped by class. A NewsShare NAS system might use any of the following classes:

- Class A is for very large networks. The net portion of all IP addresses in this class of networks is the first octet, which can be between 1 and 126. The last three octets are used for host nodes. An example of a Class A IP address is net = 124. and host = 24.53.107
- Class B is for medium-sized networks. The net portion of all IP addresses in this class of networks is the first two octets, where the first octet is between 128 and 191. (The first octet 127. is reserved for a special purpose.) The last two octets are used for the host nodes. An example of a Class B IP address is net = 144.24. and host = 53.107.
- Class C is for small to mid-sized networks. The net portion of all IP addresses in this class of networks is the first three octets, where the first octet is between 192 and 223. The last octet is used for the host nodes. An example of a Class C IP address is net = 195.24.53. and host = 107.

The gateway for a network controls messages into and out of that network. The gateway uses a netmask to filter out IP addresses that are not appropriate for the class of the network. For example, the netmask 255.255.0.0 is commonly used for a gateway on a Class B network. This tells the gateway which part of the IP address to pay attention to and which to ignore.



Invalid Input Characters

Many fields do not accept the set of characters listed in the table below. Whenever the field is said to accept *valid characters*, do not use any of the characters listed.

Character	Name
&	ampersand
=	equal sign
~	tilde
;	semi-colon
*	asterisk
(left parenthesis
)	right parenthesis
'	single quote
“	double quote
	perpendicular line
`	apostrophe
<	left angle bracket
>	right angle bracket
\	back slash
\$	dollar sign
%	percent sign
!	exclamation point
[left square bracket
]	right square bracket
{	left curly bracket

Character	Name
}	right curly bracket
/	forward slash
?	question mark
+	plus sign
,	comma
@	at sign
#	pound (or number) sign
:	colon
^	caret



Appendix Troubleshooting

Setting Up the Database System Manager

The Database System Manager is already set up for you at the factory. If you ever need to re-install the software for the DSM, follow these instructions.

To set up the Database System Manager:

1. Install Microsoft SQL Server, Standard Edition
2. Install Microsoft SQL Server Service Pack 3
3. Set up SQL Server properties for the DSM

This chapter discusses each of these steps in detail.

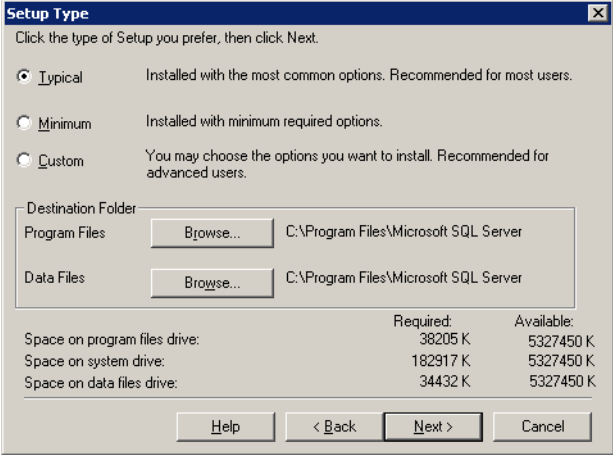
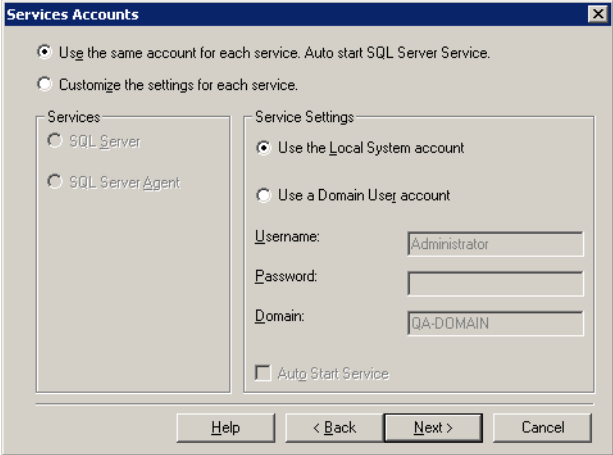


Installing Microsoft SQL Server

To install Microsoft SQL Server on the DSM, insert the Microsoft SQL CD-ROM into the machine's CD-ROM drive. Make sure you install the Standard edition, not the Personal edition.

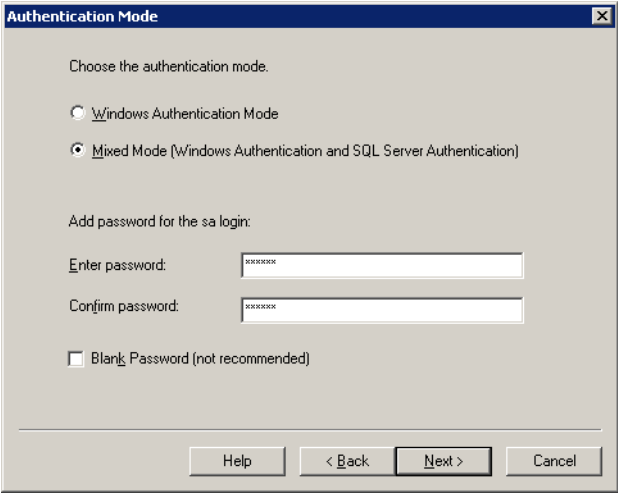
The installation program starts automatically and guides you through the installation process as follows:

On this screen...	Do this...
Opening screen	Select SQL Server 2000 Components .
Install Components	Select Install Database Server .
Welcome	Click Next .
Computer Name	<ol style="list-style-type: none">1. Select Local Computer.2. Verify computer name.3. Click Next.
Installation Selection	Select Create a New Instance of SQL Server and click Next .
User Information	Enter name and company, and click Next .
License	Read and accept, then click Yes .
CD Key	Enter your 25-digit CD key, which located on the CD liner notes on the CD sleeve, then click Next .
Install Definition	Select Server and Client Tools , and click Next .
Instance Name	Leave Default checked and click Next .

On this screen...	Do this...
Setup Type	 <p>Leave settings at the default values and click Next.</p>
Services Accounts	 <ol style="list-style-type: none"> 1. Select Use the same account for each service. 2. In the Service Settings section, select Use the Local System account. 3. Click Next.



Appendix *Setting Up the Database System Manager*

On this screen...	Do this...
Authentication Mode	 <ol style="list-style-type: none">1. Select Mixed Mode.2. Enter the password, <i>triton</i>.3. Confirm the password.4. Click Next.
Copy Files	Click Next .
Licensing Mode	<ol style="list-style-type: none">1. Select Per Seat.2. Set the maximum number of SQL clients for which your NAS is designed.3. Click Next.
Setup Complete	Click Finish .

Installing Microsoft SQL Server Service Pack 3

To install the Microsoft SQL Server Service Pack 3:

1. Be logged in as Administrator and stop any foreground applications.
2. Locate the service pack file **sql2ksp3.exe** and double-click its icon.

The software opens into a temporary directory—use the default location of C:\sql2ksp3.

3. Select **Start | Run** and enter **c:\sql2ksp3\setup.bat**.

The installation program starts automatically and guides you through the installation process as follows:

On this screen...	Do this...
Welcome	Click Next .
License	Read and accept, then click Yes .
Instance Name	Click Next .
Connect to Server	Select Windows account information and click Next .
SA Password Warning	If you encounter this screen, enter and confirm the SA password, <i>triton</i> .
Backward Compatibility Checklist	Leave unchecked Enable cross-database ownership . Select Upgrade Microsoft Search . Click Continue .
Error Reporting	Leave unchecked Automatically send fatal error reports and click OK .
Start Copying Files	Click Next .
Setup Complete	Click Finish .



Setting Up SQL Server Properties for the DSM

To set up SQL Server properties:

1. Select **Start | Programs | SQL Server | Enterprise Manager**.
2. Click “+” next to **Microsoft SQL Servers** and then next to **SQL Server Group** to reveal the DSM machine.
3. Right-click on the DSM’s icon and select **Properties**.
4. Click the Security tab; under Authentication, select **SQL Server and Windows**.
5. Click the Memory tab and use the Maximum slide bar to set the memory limit.
The memory limit should be the maximum memory of the machine minus 128 MB.
6. Click **OK**.

Setting Up the NewsShare Server

In order for the NewsShare NAS to operate properly as a news database, you need to run the SetupNewsShareServer installer.

The installer will not modify or delete customer data in existing News databases; it simply makes compatibility changes for programming interfaces. Nonetheless, it is strongly recommended that backups be made of existing, server-mounted News databases prior to running the installer. See “Using Database Utilities” on page 116 for more details.

To run the installer:

1. Log on to the DSM machine as Administrator.
2. Make sure that the DSM is not in active service to NewsShare clients.
3. Locate the file, SetupNewsShareServer.exe, on the NewsroomSuite CD-ROM.
4. Double-click the installer icon, **SetupNewsShareServer.exe**.
The installer runs and copies files onto the DSM.
5. Click **OK**.



Using Database Utilities

Six command-line utilities are available for maintenance of the News database that is used by NewsShare and NewsEdit. You need to run the SetupNewsShareUtilities installer in order to use these utilities; this installer is located on the NewsroomSuite CD-ROM.

Once installed, instructions for these command-line utilities can be found on the DSM in

C:\Program Files\Vibrint x.0\DB Maintenance\NewsDatabaseUtilities.htm.

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