SMARTSTOR

NAS

Product Manual

Version 1.0

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Important data protection information

You should back up all data before installing any drive controller or storage peripheral. Promise Technology is not responsible for any loss of data resulting from the use, disuse or misuse of this or any other Promise Technology product.

Notice

Recommendations

In this *Product Manual*, the appearance of products made by other companies, including, but not limited to software, servers, and disk drives, is for the purpose of illustration and explanation only. Promise Technology does not recommend, endorse, prefer, or support any product made by another manufacturer.

Table of Contents

Chapter 1: About This Manual

This *Product Manual* describes how to setup, use, and maintain the SmartStor NAS. It also describes how to use:

- SmartNAVI software that you install and run on your Windows or Mac
- Web Promise Advanced Storage Manager (WebPASM) software that runs on the SmartStor NAS

Also included are four levels of notices:

Note

A *Note* provides helpful information such as hints or alternative ways of doing a task.

Important

An *Important* calls attention to an essential step or point required to complete a task. Important items include things often missed.

Caution

A *Caution* informs you of possible equipment damage or loss of data and how to avoid them.

Warning

A *Warning* notifies you of probable equipment damage or loss of data, or the possibility of physical injury, and how to avoid them.

Chapter 2: SmartStor NAS Introduction

2.1 Specifications

Product	4 Bay NAS	2 Bay NAS
Applied Model	NS4600	NS2600
Hot-swappable	Yes	Yes
Ethernet	x1	x1
eSATA port	x1	No
USB 2.0 port	x2	x1
Internal HDD Support	3.5" SATA I/II	3.5" SATA I/II
RAID 0	Yes	Yes
RAID 1	Yes	Yes
RAID 5	Yes	No
RAID 10	Yes	No
iSCSI Target Service	16	No
Printer Server	Yes	Yes
HDD S.M.A.R.T	Yes	Yes
SMB/CIFS (Windows)	Yes	Yes
NFS (Linux client support)	Yes	Yes
AFP (Mac)	Yes	Yes
Bonjour	Yes	Yes
Windows AD Service	Yes	Yes
Web Advance Management	WebPASM 2.0 (AJAX)	WebPASM 2.0 (AJAX)
Client Management Utility	SmartNAVI 2.0	SmartNAVI 2.0
HTTPS	Yes	Yes
Web File Management	Yes	Yes
NAS Remote Replication	Yes	No
External HDD Backup/restore	Backup/restore	Backup/restore
FTP Server	Yes	Yes
Web Download Station	BT/emule/HTTP/FTP	BT/emule/HTTP/FTP
Web Server	Yes	Yes
SQL Server	Yes	Yes
DLNA Certificated	DLNA 1.5	DLNA 1.5
Facebook upload	Yes	Yes
uPnP/DLNA Media Server	Yes	Yes
iTunes Server	Yes	Yes
Squeezebox Server	Yes	No
Mobile Media Center	Yes	Yes
Photo Album	Yes	Yes

Wake On LAN	Yes	Yes
Power on/off schedulely	Yes	Yes
Disk Spin-Down	Yes	Yes
Max User Accounts	512	512
Max Group	256	256
Max Shared Folder	1024	1024
Max Concurrent Connections	64	64
Max Mail Alert e-mail address	32	32
UPS Support	Yes	Yes
Network Recycle Bin	Yes	Yes
Dynamic DNS	Yes	Yes

Chapter 3: Installation and Setup

3.1 Task 1: Unpacking the SmartStor NAS

The SmartStor NAS box contains the following items:

- SmartStor NAS Unit
- *Quick Start Guide*
- Screws for disk drives (1 package)
- Ethernet cable
- Power cord
- CD with SmartNAVI software, *Product Manual* and *Quick Start Guide*

Warning

The electronic components within the SmartStor are sensitive to damage from Electro-Static Discharge (ESD). Observe appropriate precautions at all times when handling the SmartStor or its subassemblies.

Important

To configure the SmartStor, you must install SmartNAVI. See "Installing the SmartNAVI(Recommend)" on page 8.

Figure 1. SmartStor 2 Bay NAS Front View

Disk Drive

Drive Carrier

Drive Status LED

Drive Activity LED

Ethernet Activity LED

Power Button

System Status LED
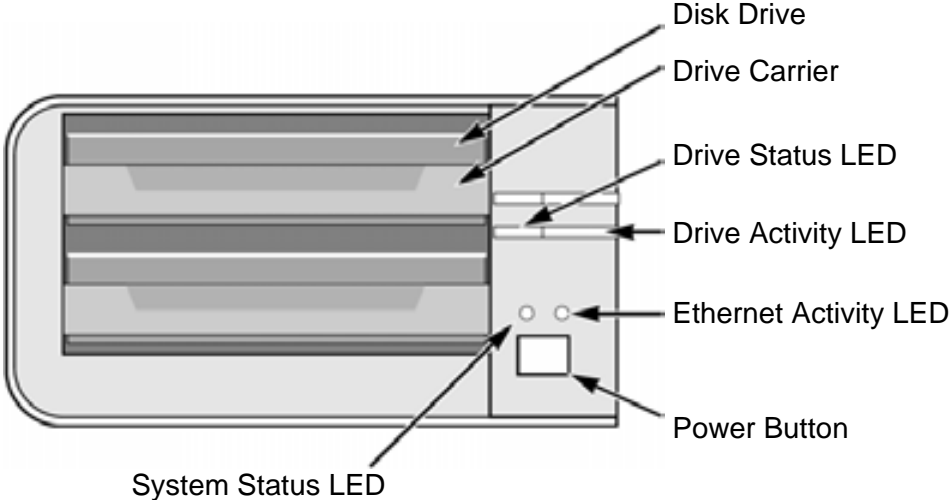
Figure 2. SmartStor 2 Bay Rear View

Cooling Fan

USB Connection

RJ45 Network Connection

Power Connection
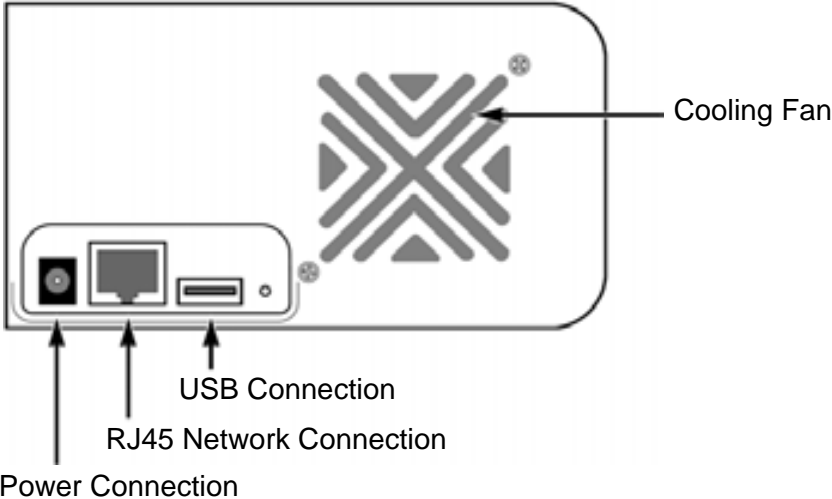
Figure 3. SmartStor 4 Bay NAS Front View
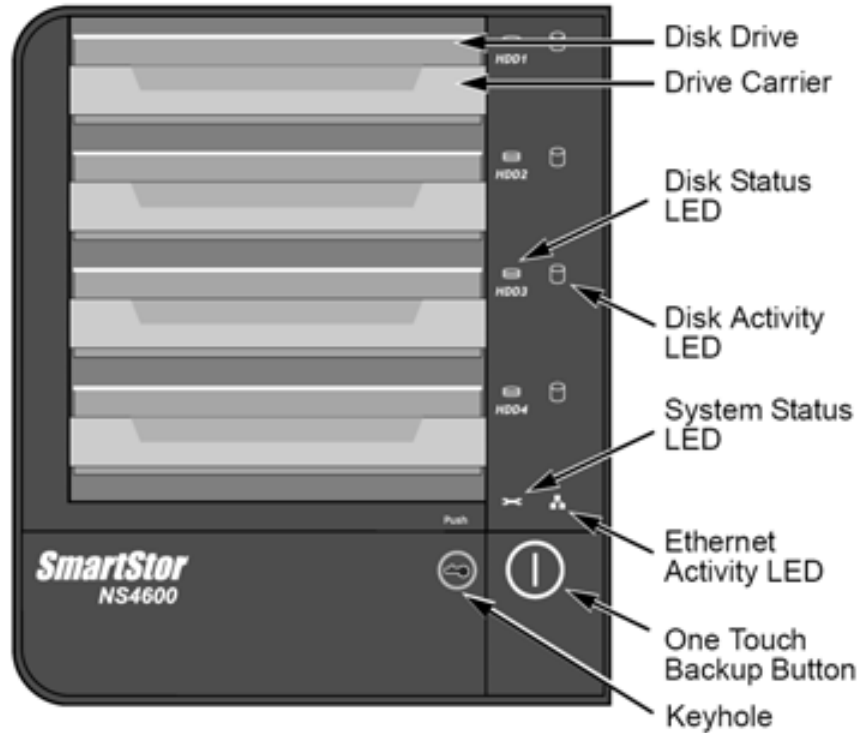
Note: This SmartStor is shown without the front door.

	Warning
	Please note that the keyhole of the upper and lower side, to avoid the machine damage or can not be used.

Figure 4. SmartStor 4 Bay Rear View
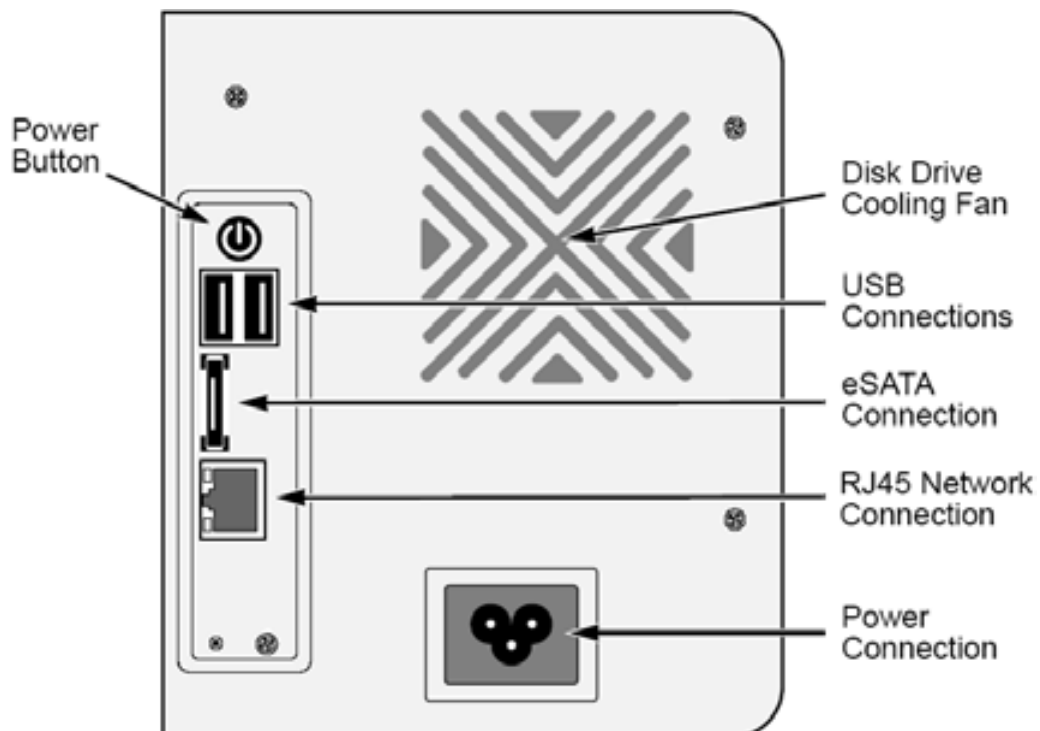
3.2 Task 2: Installing Disk Drives

You can populate the SmartStor NAS with SATA 1.5 Gb/s or 3.0 Gb/s disk drives. For optimal performance, install disk drives of the same model and capacity. Your disk drives will become a RAID Volume on the SmartStor.

To install disk drives:

1. Open the door on the front of the SmartStor enclosure.
2. Pull a disk drive carrier from the enclosure. See Figure 1.
3. Carefully lay the disk drive into the drive carrier, so that the screw holes on the sides of the carrier align with the screw holes in the drive. See Figure 5.

Figure 5. Disk drive installed in a drive carrier

SATA Data and Power Connectors

Disk Carrier Handle

4. Insert the screws through the holes in the drive carrier and into the sides of the disk drive.

    *   Install only the counter-sink screws supplied with the SmartStor.

    *   Install four screws per drive.

    *   Snug each screw. Be careful not to over-tighten.

5. Reinstall the drive carrier into the SmartStor enclosure.

    Repeat steps 2 through 5 until all of your disk drives are installed.

6. Close the door on the front of the SmartStor.

3.3 Task 3: Connecting to the Network

To connect the SmartStor to your network:

1. Attach one end of the network cable to the RJ45 network connection. See Figure 2 and 4.

2. Attach the other end of the network cable to your Ethernet hub or switch.

3.4 Task 4: Connecting the Power

To power the SmartStor:

1. Attach the power cord on the back of the SmartStor enclosure and plug the other end into the power source. See Figure 2 and 4.

2. On the front of the SmartStor, press the power button. See Figure 1 and 3.

    It takes about a minute to boot the SmartStor. When fully booted:

    *   The System Status LED turns to normal status color. See Figure 1 and 3.

    *   The system might take 2 minutes for boot up. After boot up successful, buzzer beeps one time.

3.5 Task 5: Installing the SmartNAVI(Recommend)

SmartNAVI is a client utility which helps users connect their PC/Mac to SmartStor NAS. It's also provide management and client backup function for SmartStor users.

OS Support

The following operating systems support SmartNAVI:

*   Windows XP 32BIT Professional with SP3

*   Windows XP 64BIT XP 64 with SP2

*   Windows Vista 32/64 BIT Enterprise with SP2

*   Windows Server 2003 R2 32/64 BIT with SP2

*   Windows Server2008 32/64 BIT enterprise with SP2

*   Windows 7 32/64 BIT

- Mac OS 10.4.x and above

Installation: Windows

To install the SmartNAVI on a Windows PC:

1. Insert the CD into your PC's CD-ROM.

2. Double-click the **SmartNAVI** installer icon (right).

SmartNAVI_1_
6_0_10_win.e
xe

3. Click the **Next** button to begin installation.

The License Agreement screen appears.

4. Click the "I accept the terms..." option, then click the **Next** button.

The Choose Destination Location screen appears.

5. Optional. Click the **Browse...** button to choose a new install location for the software.

    Click the **Next** button.

    The Ready to Install screen appears.

6. Click the **Install** button to proceed with installation.

    When the installation is finished, the final installation screen appears.

7. Click to **Finish** button to close the installer.

   With the Online Registration box checked, your browser will open and go directly to the Promise product registration website. Thank you for taking the time to register.

The installer adds a SmartNAVI icon to the:

- Start menu
- Application tray

SmartNAVI loads automatically every time your Windows OS starts.

Installation: Mac

1. Please double-click the SmartNAVI.dmg file to open and install the disk of SmartNAVI Image. (right)

2. Click the SmartNAVI Image to open the folder. (right)

3. Drag the SmartNAVI.app icon to the right side Applications folder.
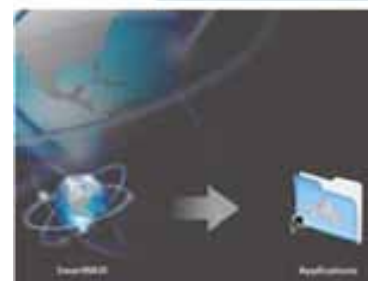
3.6 Connecting to Web Promise Advanced Storage Manager (WebPASM)

The WebPASM software is factory-installed on the SmartStor system. WebPASM runs in the browser on your PC. You can access WebPASM:

- From browser directly . See page 12.
- Connect WebPASM form SmartNAVI. See page 13.

From browser directly

To log into WebPASM in your browser:

In the Browser address field, type in the IP address of the SmartStor.

Note that the IP address shown below is only an example. The IP address you type into your browser will be different.

- WebPASM uses an HTTP connection..http://
- Enter the SmartStor's IP address 203.67.129.38
- Add ..../admin/

Together, your entry looks like this: **http://203.67.129.38/admin/**

Connect WebPASM form SmartNAVI

To log into WebPASM from SmartNAVI:

1. Right-click the SmartStor NAS in the Device list.

2. Choose the **Open Advanced Management** item to start the browser and open WebPASM.

SmartNAVI in
Windows

SmartNAVI in
Mac OS X

Your default browser starts and the WebPASM login screen displays.

4. Type **admin** in both the User Name and Password fields, then click the **Login** button.

    The user name and password are case sensitive.

    Note: For more information about WebPASM, see "Chapter 6: WebPASM" on page 132.

3.7 Shutting Down the SmartStor

To shut down the SmartStor, press and hold the power button for four seconds.

The system status LED turns red, then goes dark.

To restart the SmartStor, press the power button again.

Chapter 4: File and Printer Sharing by the SmartStor NAS

4.1 Setting up a Network Drive on a Windows PC

You can also use SmartNAVI for this purpose, see "Mounting a Share Folder / Creating a Network Drive" on page 83. If your PC does not have SmartNAVI, use the following procedure to setup a Network Drive with My Network Places.

To setup a network drive:

1. On the Windows desktop, double-click the **My Network Places** icon.

2. Click the **Search** button in the toolbar.

If the Search button is not shown, from the View menu, choose *Toolbars*, then *Standard Buttons*.

3. In the Computer name field, type the IP address of the SmartStor and click the **Search** button.
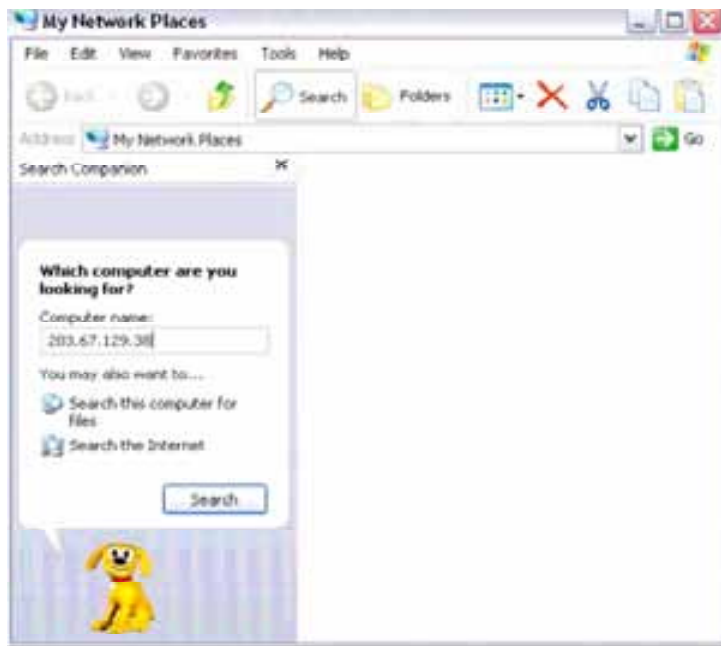
The SmartStor appears in the search results list.
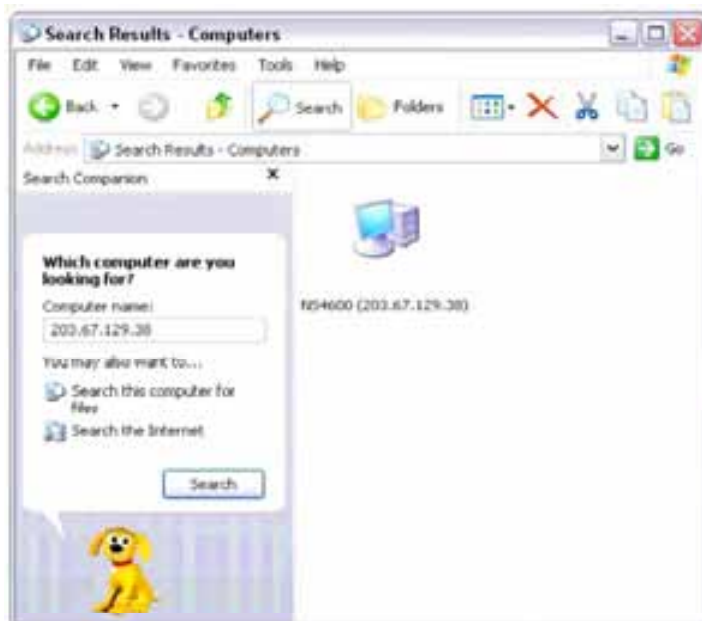
4. Double-click the **SmartStor** to show the Public folder and any other folders you have created.

5. Right-click the folder you want and choose *Map Network Drive* from the dropdown menu.
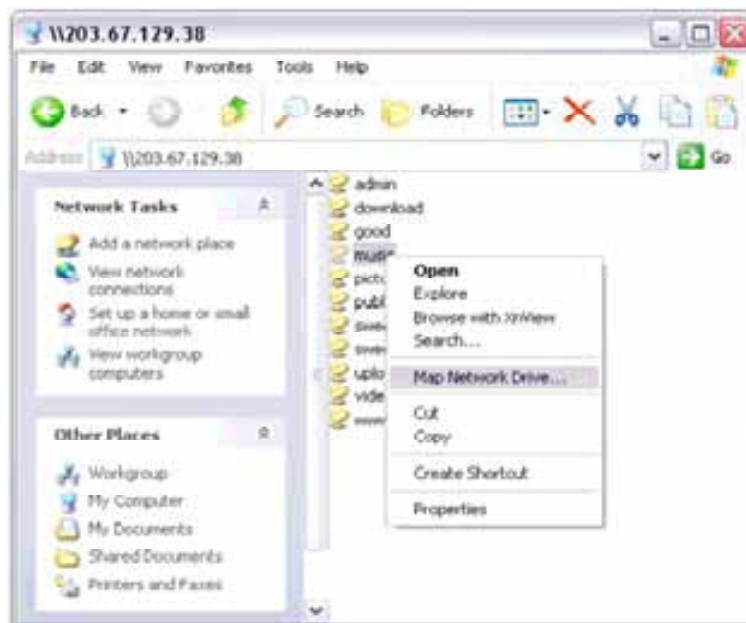
The Map Network Drive dialog box appears.

6. In the Map Network Drive dialog box, choose a drive letter and click the **Finish** button.

7. Double-click the **My Computer** icon on your Windows desktop.

    The folder on the SmartStor appears under My Computer as a network drive.
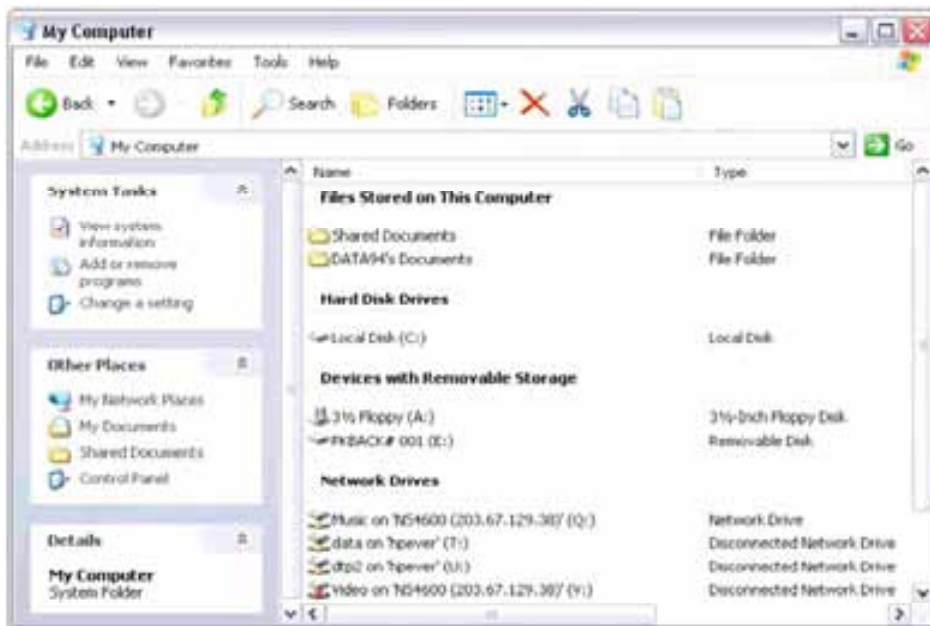
    You can now copy files to and from the folder on the SmartStor.

4.2 Setting up a Network Drive on a UNIX or Linux PC

Before you can access the SmartStor from a UNIX or Linux PC, you must configure the SmartStor to communicate with UNIX and Linux.

Step 1. Enable Linux/Unix NFS

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Protocol Control** icon *(B)*, then click the **UNIX/Linux** tab *(C)*.

3. In the Services field, click the **Enable** option button (default). *(D)*

4. Optional. To join a NIS Domain, click the **UNIX/Linux** tab *(A)*, then click the **Yes** button beside Services. *(B)*

   Note: If you join an NIS Domain, you automatically disable your AD Domain settings. See "Setting up Windows Access" on page 142.

5. Enter the Domain name into the field provided. *(C)*

   See your Network Administrator for help with this information.

6. Click the **OK** button to save your settings. *(D)*

   The setting runs automatically.

Step 2. Setting up File Sharing

File access from UNIX and Linux PCs is controlled by specifying the IP address of each PC that can access a given folder.

You must designate the IP addresses for each folder individually. You can have up to 256 IP addresses for all of your folders. You can use *.*.*.* to allow all IP access.

To set up UNIX/Linux file sharing:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Sharing Setup** icon *(B)*, then click the **UNIX/Linux Sharing** tab. *(C)*

3. Choose a volume from the Volume dropdown menu. *(D)*

4. Choose a folder from the Folder Name dropdown menu. *(E)*
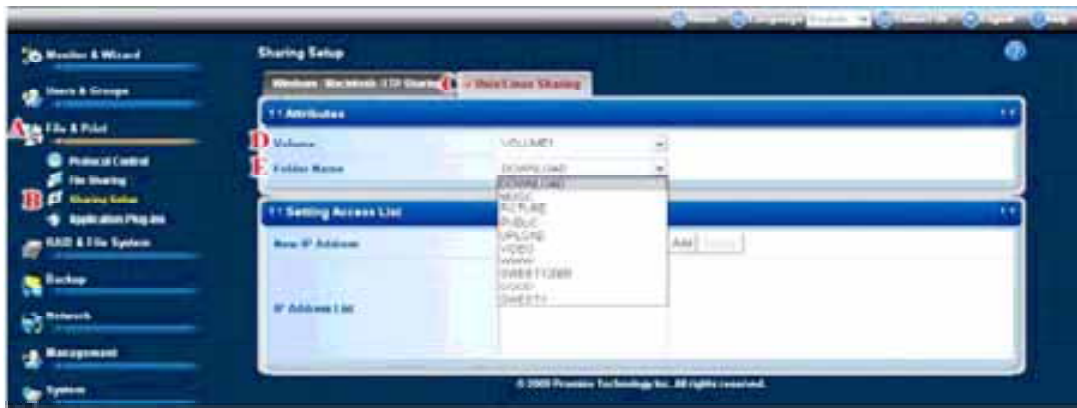
5. In the New IP Address field, type the IP address of the UNIX or Linux PC from which you will access this folder, then click the **Add** button.

6. Click the **OK** button in the confirmation box.
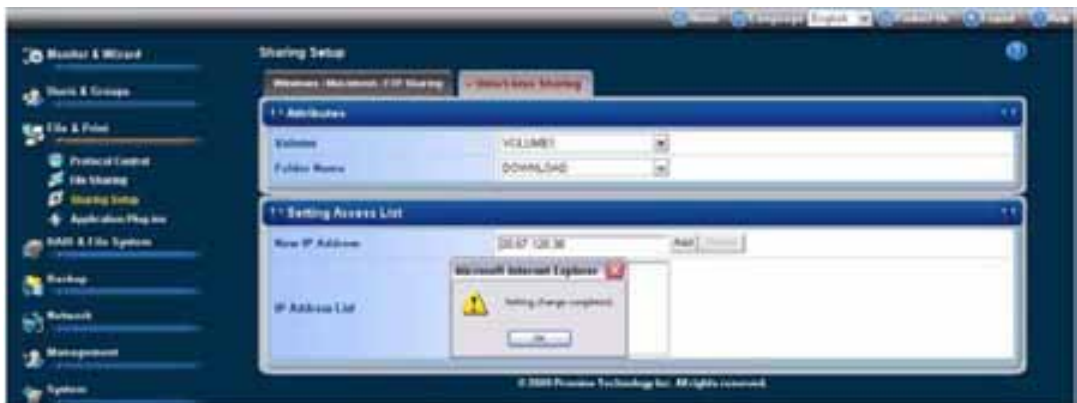
On the UNIX/Linux PC with Command Line Interface

1. Open a terminal window.

2. Create a new folder for the SmartStor. Type **mkdir SmartStor** and press Enter.

3. Mount the SmartStor. Type **mount SmartStor NAS IP/VOLUME1/PUBLIC/ SmartStor** and press Enter.

   Note that the IP address shown above is only an example.

   Volume1 and Public refer to the default Volume and folder created during setup. If you created a different volume or folder, use those names.

4. Change to the SmartStor directory. Type **cd /SmartStor** and press Enter.

   You can now copy files to and from the folder on the SmartStor.

   When you are done with the SmartStor, type **cd; umount /SmartStor** and press Enter.

On the Linux PC with Graphic Desktop

This procedure is for a RedHat Enterprise Linux 4 configuration. If you run a different version of Linux, you might have to adapt the procedure. See your OS documentation.

1. From the Applications menu, choose *Network Servers.*

2. In the Network window, double-click **Windows Network**.

3. Double-click the **SmartStor NAS** on the network.
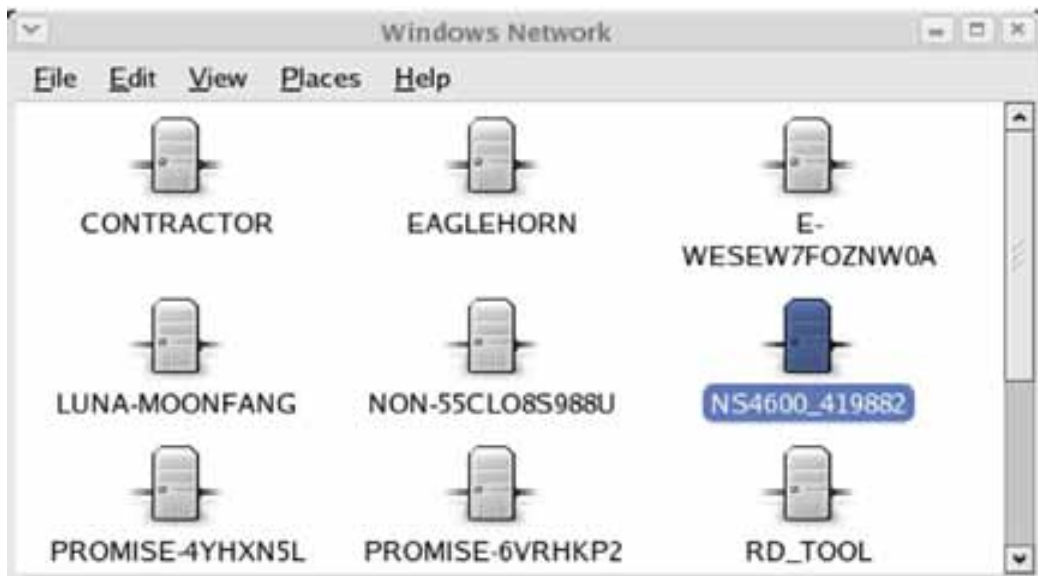
4. Double-click the folder you want.

    If this is the first time you accessed this folder, an Authentication dialog box opens.

5. Type the user name and password in the respective fields, then click the **OK** button.

    The default user name is **admin**. The default password is **admin**.

    The user name and password are case sensitive.

    Leave the Domain field blank.

    The folder opens. You can now copy files to and from the folder on the SmartStor.

4.3 Setting up a Network Drive on a Mac

Before you can access the SmartStor from a Mac, you must configure the SmartStor to communicate with the MacOS.

In WebPASM

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*
2. In the Tree, click the **Protocol Control** icon *(B)*, then click the **Mac** tab. *(C)*
3. In the Services field, click the **Enable** button *(D)*.
4. Optional. Type a message in the Login Message field. *(E)*
5. Click the **OK** button to save your settings. *(F)*

    The optional login message appears on the Welcome screen when you log into SmartStor from a Mac.

To set up Mac file sharing:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Sharing Setup** icon *(B)*, then click the **Windows/Mac/ FTP Sharing** tab. *(C)*

3. Choose a volume from the Volume dropdown menu. *(D)*

4. Choose a folder from the Folder Name dropdown menu. *(E)*

5. Check the **Mac** protocol box. *(F)*

6. In the User/Group list, group names are preceded by the **@** character. *(G)*

7. Under Permissions, choose a permission level for this user or group: *(H)*

8. Click the **OK** button to save your settings. *(I)*

9. In the confirmation box, click the **OK** button.

You can now access the specified folder from a Mac.

The Mac file sharing enables Macs to access folders on the SmartStor. In this case, access is given for the PUBLIC folder.

On the Mac Desktop

1. From the Go menu, choose *Connect to Server.*

2. In the Connect to Server dialog box, type **afp://SmartStor NAS IP** and click the **Connect** button.

   Note that the IP address shown below is only an example. The IP address you type in the dialog box on your Mac will be different.

   Click the **+** button to add this IP address to the Favorite Servers list.

3. Type the user name and password in the respective fields, then click the **OK** button.

   The default user name is **admin**. The default password is **admin**.

   The user name and password are case sensitive.

4. In the SmartStor NAS dialog box, click the folder you want, then click the **OK** button.

5. In the SmartStor NAS Welcome screen, click the **OK** button.
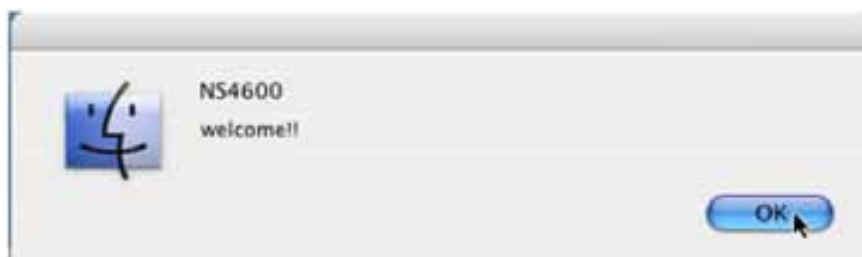
A window opens on the Mac desktop to access the folder on the SmartStor.
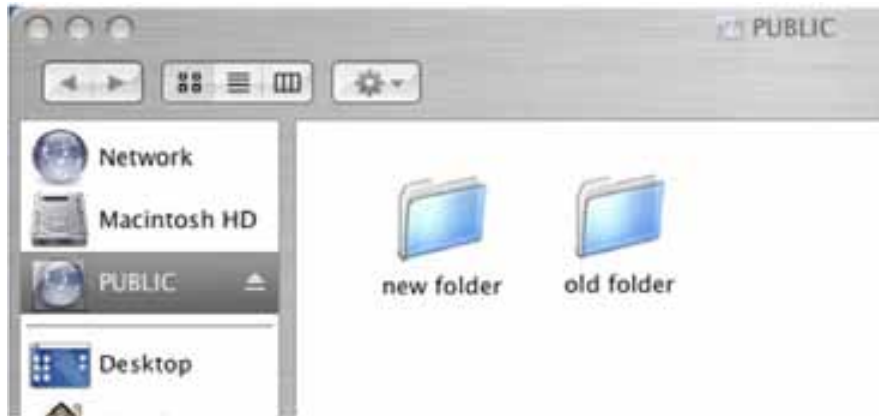
You can now copy files to and from the folder on the SmartStor.

4.4 Connecting a USB Printer to SmartStor

To connect a USB printer to the SmartStor:

1. Set up your printer and install the printer drivers onto your PC as described in the printer's *Setup Guide* or *User Manual*.

2. Attach the USB cable from your printer to one of the USB connections on the back of the SmartStor.

USB Connection
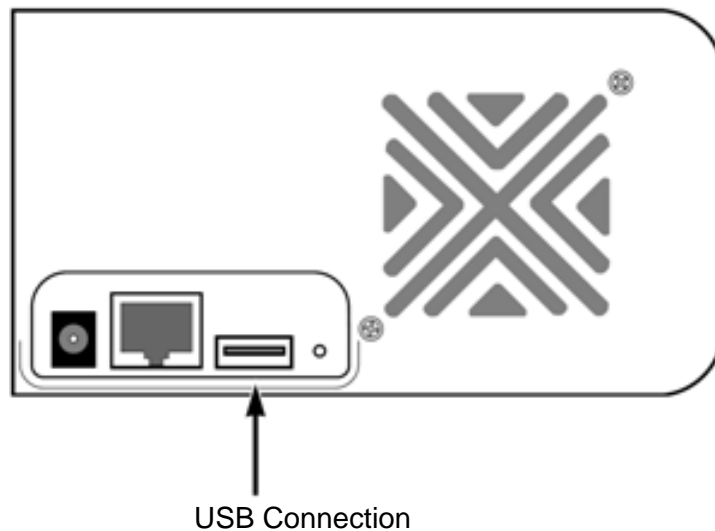
4.5 Setting up the Print Server on SmartStor

To set up the SmartStor's print server:

1. Start WebPASM.

See "From browser directly" on page 12, or "Connect WebPASM form SmartNAVI" on page 13.

2. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

3. Click the **Protocol Control** icon *(B)*, then click the **Printer Server** tab. *(C)*

4. Click the **Enable** option button beside Printer Server. *(D)*

5. Click the **OK** button to save your settings. *(E)*

4.6 Setting up Windows Printing

If your printer came with automatic configuration software, you might have to complete this procedure first to create a connection path. Then use the configuration software.

To set up printing on a Windows PC:

1. On the Windows desktop, double-click the **My Network Places** icon.

2. Click the **Search** button in the toolbar.

   If the Search button is not shown, from the View menu, choose *Toolbars*,

then *Standard Buttons*.

3. In the Computer name field, type the IP address of the SmartStor and click the **Search** button in the side bar.

   The SmartStor appears in the search results list.

4. In the computer list, double-click the **SmartStor** to open it.

   If the Connect to dialog box appears, type the user name and password in the respective fields, then click the **OK** button.

   The default user name is **admin**. The default password is **admin**.

   The user name and password are case sensitive.

5. Right-click the **usbptr01** icon folder and choose *Connect...* from the dropdown menu.
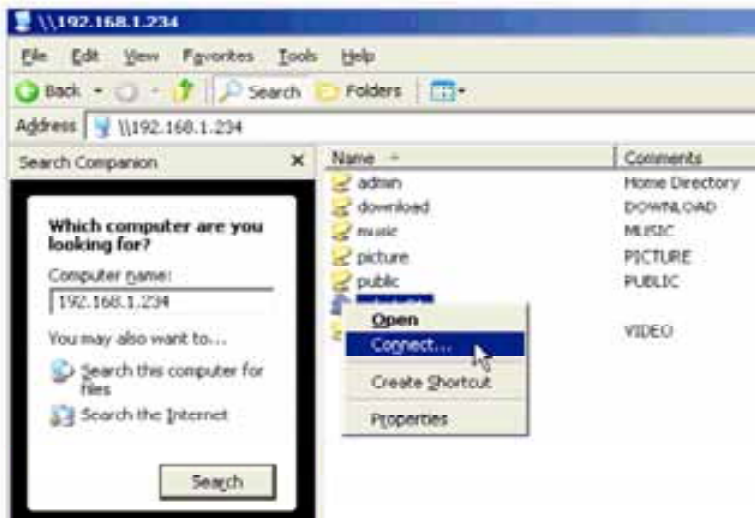
6. When the warning message about printer drivers appears, click the **OK** button to continue.

7. In the Add Printer Wizard, click the Manufacturer and SmartStor NAS name of your USB printer, then click the **OK** button.
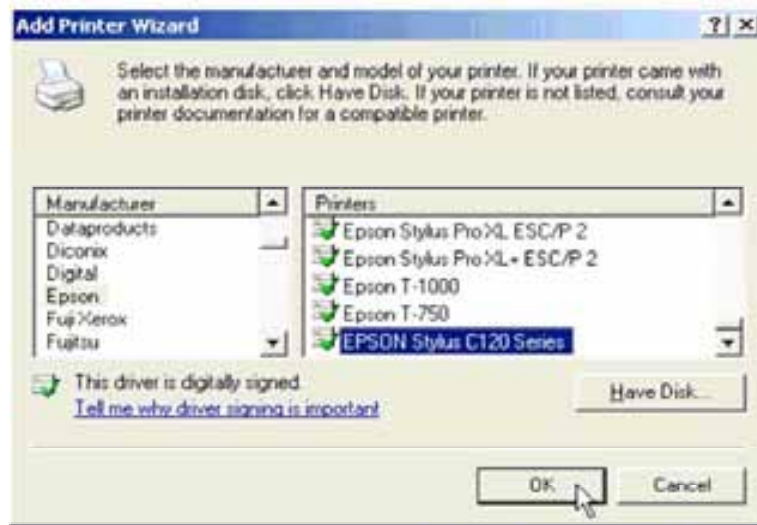
8. To verify printer installation, in the Windows Start menu, choose *Settings*, then *Printers and Faxes*.

    The Printers and Faxes screen appears. The **usbptr01** is the USB printer on the SmartStor.
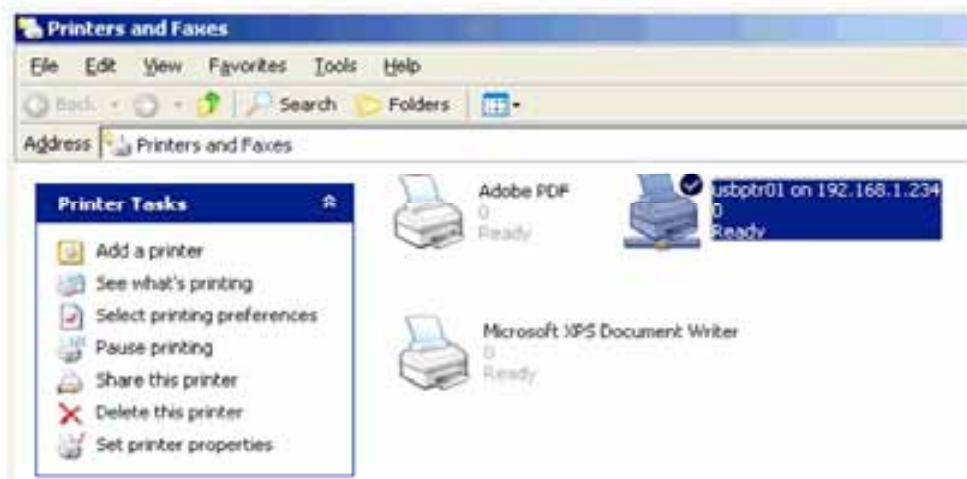
4.7 Setting up Linux Printing

This procedure is for a RedHat Enterprise Linux 4 configuration. If you run a different version of Linux, you might have to adapt the procedure. See your OS documentation.
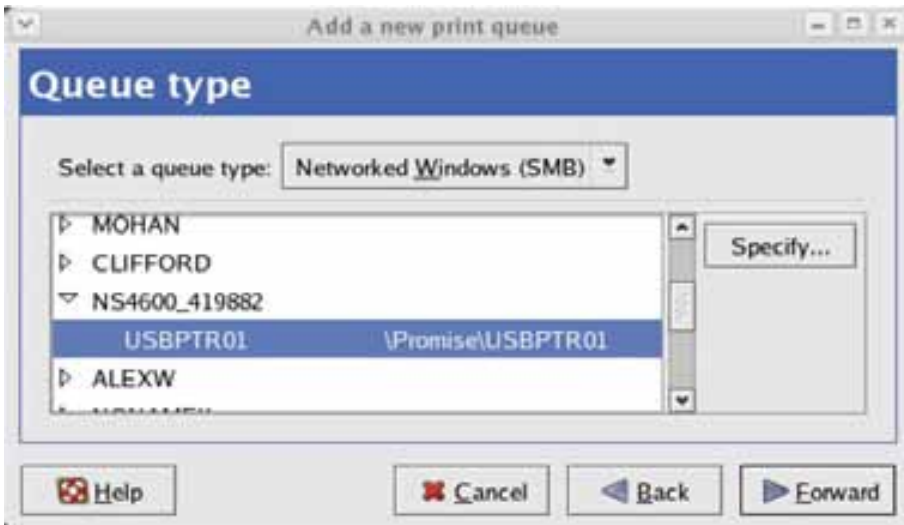
1. From the Applications menu, choose *System Settings*, then *Printing*.

    Printer configuration window opens.

2. Click the **New** button.

    Add a new print queue dialog box opens.

3. Click the **Forward** button.

4. In the Name field, type a name for the printer, such as *NAS_printer*, a description, and click the **Forward** button.

5. From the Select a queue type dropdown menu, choose *Network Windows (SMB)*.

6. Scroll the list and click the **triangle** icon beside SmartStor NAS.

   USBPTR01 appears below SmartStor NAS. USBPTR01 represents the USB printer connected to the SmartStor.

7. Highlight *USBPTR01* and click the **Forward** button.

   The Authentication dialog box opens.

8. In the User name and Password fields, type **admin**, then click the **OK** button.

   The user name and password are case sensitive.
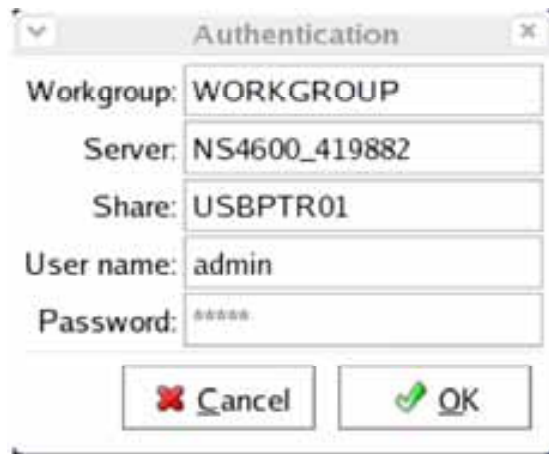
The Printer Model dialog box opens.

9. From the dropdown menu, choose the manufacturer of your printer.

   From the model list, highlight the model of your computer, then click the **Forward** button.

10. Click the **Finish** button.

    USBPTR01 is added to your printer list.
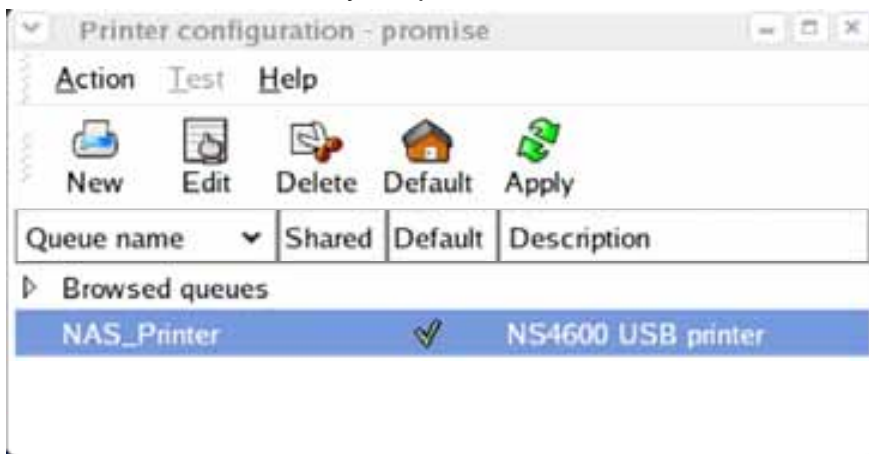
4.8 Setting up Mac Printing

To set up printing on a Mac:

1. From the Apple Menu, choose *System Preferences*.
2. Double-click the **Print & Fax** icon.
3. Click the **Setup Printers** button.
4. In the Printer List, click the **Add** icon.

    The Printer List displays a new panel.
5. In the new panel, from the popup menus, choose:
    *   Windows Printing
    *   Workgroup
6. From the list, highlight the **SmartStor**, then click the **Choose** button.
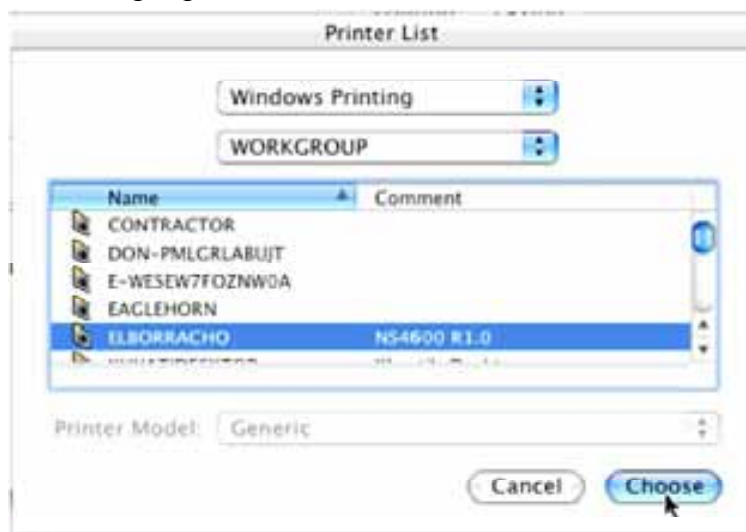

A user name and password dialog box appears.
7. Type the user name and password in the respective fields, then click the **OK** button.

    The default user name is **admin**. The default password is **admin**.

    The user name and password are case sensitive.

The printer list displays a new panel.

8. Highlight the *USBPTR01* in the list.

    USBPRT01 represents the USB printer connected to the SmartStor.
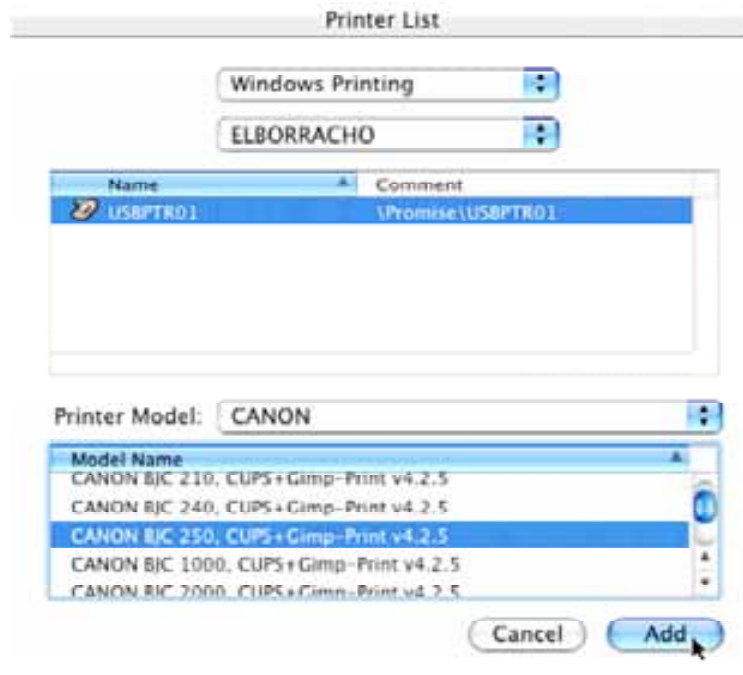
9. In the Printer Model popup menu, choose the make of your printer.

10. In the SmartStor NAS name list, choose the model of your printer.

11. Click the **Add** button.

    USBPTR01 is added to your printer list.
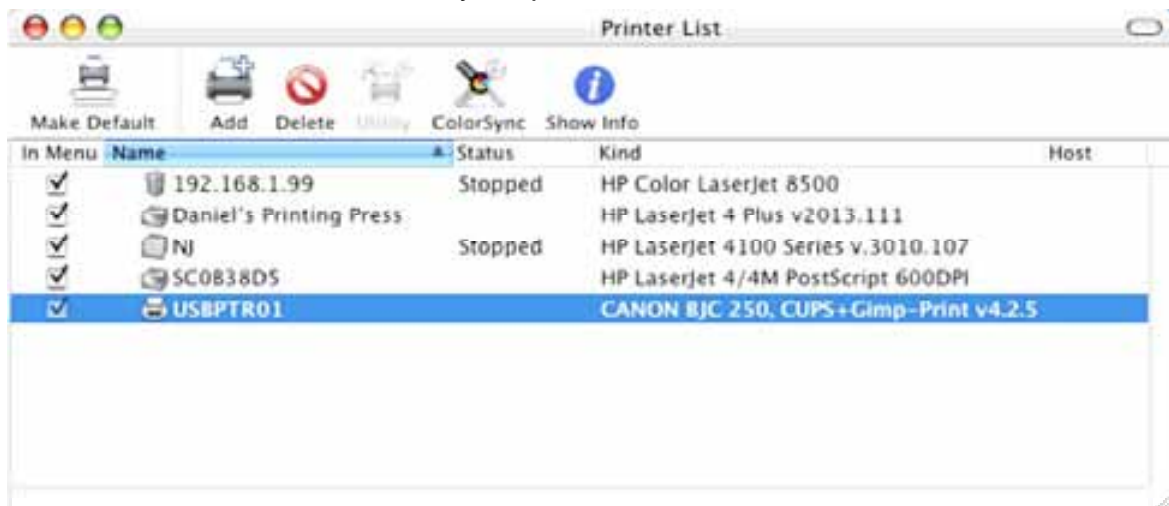
4.9 Connecting a USB Drive

To connect a USB drive to the SmartStor, attach the USB cable from your external drive to one of the USB connections on the back of the SmartStor.

If you have a USB memory stick, attach it directly to one of the USB connections or use a USB cable, whichever is more convenient.

USB Connection

The USB drive or memory stick appears as a folder called *usbdisk* when you create your network drive. See the instructions on the following page.

SmartStor supports USB drives and memory sticks formatted to FAT32 and Ext3 file formats. If the SmartStor does recognize the USB drive or memory stick, the *usbdisk* folder does not appear. See "Formatting an External USB Drive or Memory Stick" on page 163.

Windows PC

The USB drive appears as a folder on the SmartStor when you create a network drive on a Windows PC.
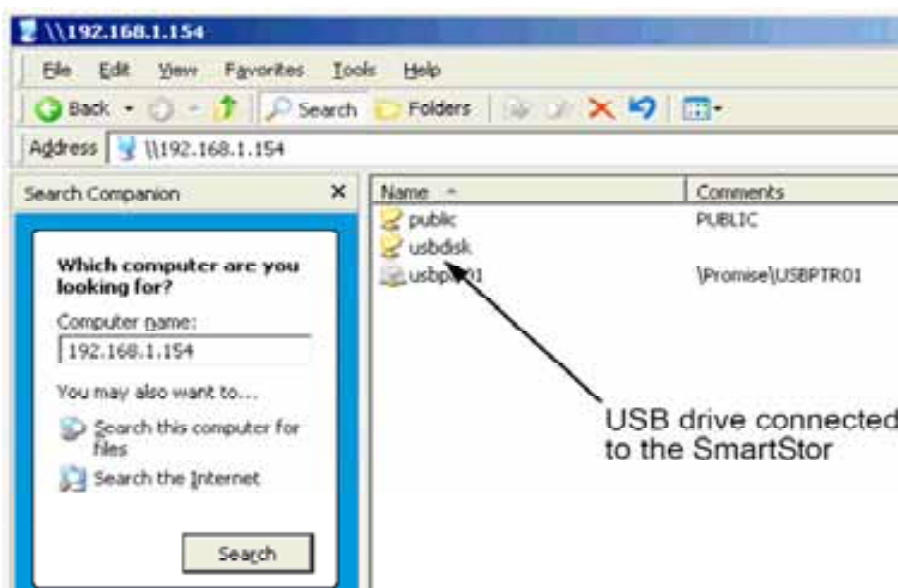
Follow the procedure "Setting up a Network Drive on a Windows PC" on page 15, but choose the *usbdisk* folder instead of the *public* folder.

Linux PC

The USB drive appears as a folder on the SmartStor when you create a network drive on a Linux PC.
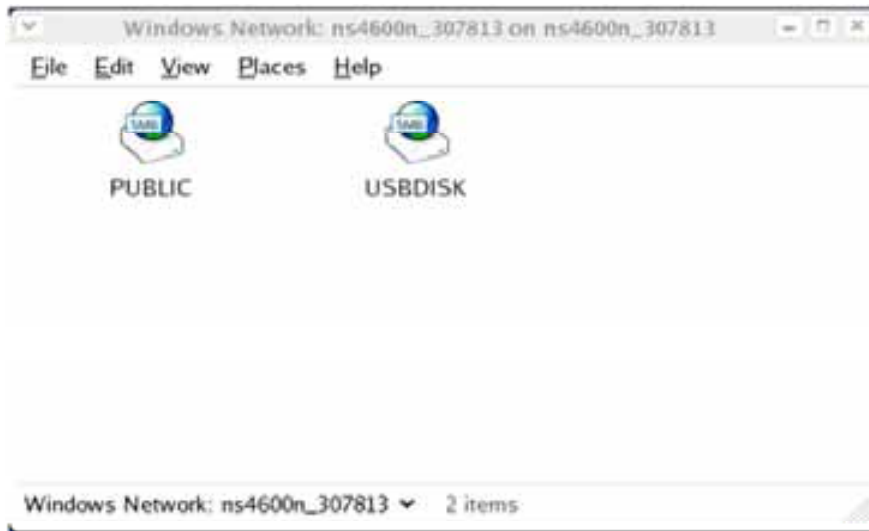
Follow the procedure "Setting up a Network Drive on a UNIX or Linux PC" on page 18, but choose the USBDISK folder instead of the PUBLIC folder.

Mac

The USB drive appears as a folder on the SmartStor when you create a network drive on a Mac.
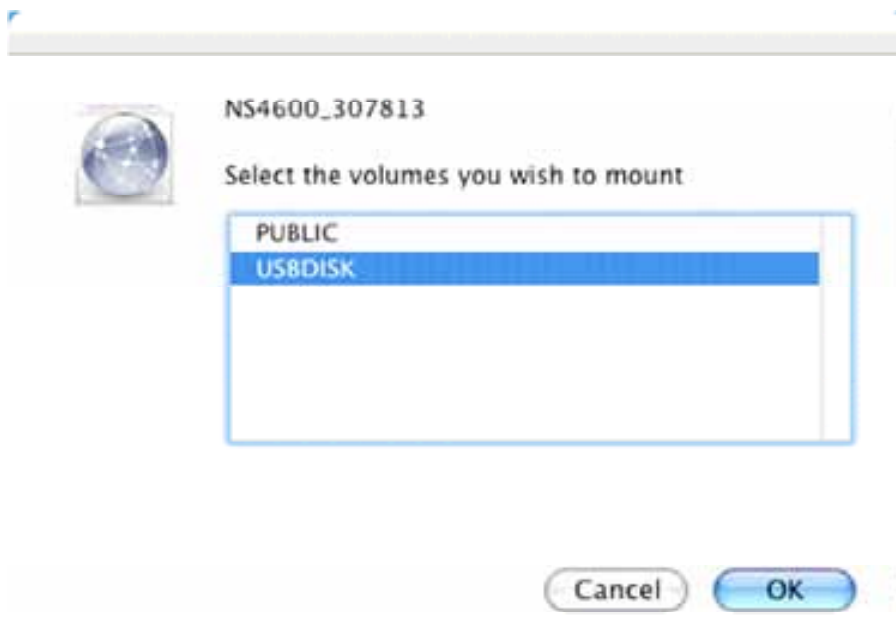
Follow the procedure "Setting up a Network Drive on a Mac" on page 22, but choose the USBDISK folder instead of the PUBLIC folder.

4.10 Disconnecting a USB Drive

To disconnect a USB drive or memory stick from the SmartStor:

1. Be sure that no files on the USB drive or memory stick are still open.
2. Unplug the USB drive or memory stick from the SmartStor.

    The SmartStor automatically unmounts the USB drive or memory stick.

Chapter 5: SmartNAVI

5.1 Setting up the SmartStor

The SmartNAVI performs the setup procedures on your SmartStor. After the procedure is done, you will have a default folder on the SmartStor, set up as a network drive on your PC.

You can change the network settings, create RAID volumes, add and mount folders on your SmartStor after initial setup using SmartNAVI. You can also made more advanced settings using the WebPASM software. See "Connecting to Web Promise Advances Storage Manager (WebPASM)" on page 13.

SmartNAVI in Windows

SmartNAVI in Mac OS X

Opening SmartNAVI

1. Double-click the **SmartNAVI** icon in the Windows application tray or Mac Dock (right).

   The SmartNAVI Window opens.

2. From Language dropdown menu, choose the language you prefer.

3. Double-click the SMARTSTOR NAS in the Device list.

4. Type **admin** in the Username, Password, and Confirm fields, then click the **Login** button.

This action creates a default user and logs the default user into SmartNAVI.

The Main Window opens.

5. Choose a Setup Mode and click the button:

- **One Click Setup** - Loads a collection of default settings. Recommended for most users.

- **Advanced Setup** - Enables you to make your own settings. Recommended for advanced users.

One Click Setup

To configure your NAS system using One Click Setup:

1. Go to the **Main Window**.

   See "Opening SmartNAVI" on page 37.

2. Click the **Setup Wizard** icon.

3. Click the **One Click Setup** button.

4. Click the **OK** button to continue.

5. Click the **Yes** button in the confirmation box.
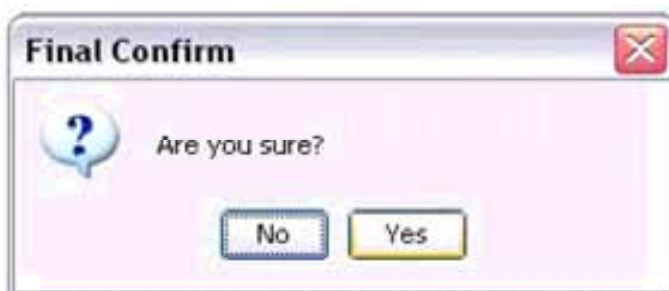
The NAS reboots. Then your RAID volume is ready.

The PUBLIC folder on the RAID Volume appears under My Computer as a network drive.

You are finished with the setup.

If you chose **Advanced Setup**, continue under "Advanced Setup" on page 40.

Advanced Setup

To configure your NAS system using Advanced Setup:

1. Go to the **Main Window**.

   See "Opening SmartNAVI" on page 37.

2. Click the **Setup Wizard** icon. *(A)*

3. Click the **Advanced Setup** button. *(B)*

4. Choose **Automatic** (DHCP) or **Manual** network settings. *(C)*

   If you chose **Manual** settings, type entries for each of the following parameters in the fields provided: *(D)*

   Click the **Next** button to continue. *(E)*

5. Choose the following values from their respective dropdown menus:
   - Timezone
   - Year
   - Month
   - Day
   - Time in Hours, Minutes, and Seconds

   Click the **Next** button to continue.

6. Choose Automatic or Manual RAID Volume creation.

   If you chose Manual, choose the type of RAID Volume you want:

   - Maximum Capacity and performance - RAID 0, using all disk drives
   - Data Protection - RAID 5, using all disk drives

   Click the **Next** button to continue.

7. Choose a network drive letter from the dropdown menu.

   This drive will be mapped as a network drive on your PC.

   The list begins with S and goes in reverse alphabetical order.

   Click the **Next** button to continue.

8. Review your parameters.

   To make changes, click the **Previous** button.

   To accept the parameters and configure your NAS system, click the **OK** button.

9. Click the **Yes** button in the confirmation box.

10. The NAS reboots. Then your RAID volume is ready.

    The PUBLIC folder on the RAID Volume appears under My Computer as a network drive. See Figure 4.

    You are finished with the setup.

Figure 4. The PUBLIC folder as a Windows network drive

    You can now copy files to and from the folder on the SmartStor.

    To access this folder from other PCs, see "Chapter 4: Connecting to the SmartStor" on page 15.

To create additional RAID Volumes and folders, see "Chapter 6: WebPASM" on page 132.

5.2 Managing Users and Groups

Creating a User

To create a user:

1. Go to the **Main Window**.
2. Click the **User Management** icon. *(A)*
3. Click the **Create New User** button. *(B)*
4. Type a Username in the field provided. *(C)*

   Up to 16 characters, A-Z, 0-9, and _, first character must be a letter. No spaces.
5. Type a Password in the field provided. *(D)*

   Up to 16 characters, A-Z and 0-9. No spaces.
6. Retype the Password in the Confirm field. *(E)*
7. Click the **OK** button. *(F)*

8. Click the **Yes** button in the confirmation box.

9. User created successfully.

Note

These users can access the share folders but not SmartNAVI or WebPASM.

Creating the Default User

This feature creates the default user for SmartNAVI.

> **Important**
>
> If you change to a new default user, the previous default user's network drives, backup schedules, username, and password information all will be deleted.

To create the default user:

1. Go to the **Main Window**.
2. Right-click the system in the **Device List**.
3. Choose **Default NAS** from the popup menu.

4. Type the default username **admin** in the field provided.
5. Type the default password **admin** in the field provided.

6. Click the **Login** button.

If you do not choose a default user, SmartNAVI sets the default user after you first log on.

To create additional users, see "Creating the Default User" on page 44.

Changing User Passwords

To change a user's password:

1. Go to the **Main Window**.
2. Click the **User Management** icon. *(A)*
3. Click the **Modify User** button. *(B)*
4. Click the user whose password you want to change. *(C)*

5. Admin user ONLY. Type the old password in the field provided.

6. Type the new password in the field provided. *(D)*

7. Retype the password in the Confirm field. *(E)*

8. Click the **OK** button. *(F)*

Viewing a List of Users

To view a list of Users:

1. Go to the **Main Window**.

2. Click the **User Management** icon.

   The **User List** appears.

Deleting a User

To delete a user:

1. Go to the **Main Window**.
2. Click the **User Management** icon. *(A)*
3. Click the **Delete User** button. *(B)*
4. Click the user you want to delete. *(C)*
5. Click the **OK** button. *(D)*

6. Click the **Yes** button in the confirmation box.
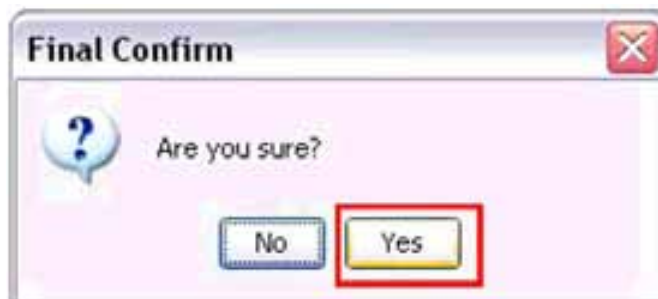
7. User deleted.

Creating a Group

To create a Group:

1. Go to the **Main Window**.
2. Click the **User Management** icon. *(A)*
3. Click the **Create New Group** button. *(B)*
4. Type a Group name in the field provided. *(C)*

   Up to 16 characters, A-Z, 0-9, and _. No spaces.
5. Optional. Move 🔵 members to the **Selected User** list to add them.

   Or add them later. *(D)*

6. Click the **OK** button. *(E)*

Viewing a List of Groups

To view a list of Groups:

1. Go to the **Main Window**.

2. Click the **User Management** icon.

3. Click the **Group List** button.

Adding Members to a Group

Note

A User can only belong to one Group. If a User already belongs to a Group and you add him to this Group, you automatically delete him from the previous Group.

To add Users as Group members:

1. Go to the **Main Window**.
2. Click the **User Management** icon. *(A)*
3. Click the **Modify Group Member** button. *(B)*
4. Click the Group whose membership you want to change. *(C)*
5. Move ⬤ members to the **Selected User** list to add them. *(D)*
6. Click the **OK** button. *(E)*

Deleting Members from a Group

Note

Deleting a User from a Group does not delete the User from the System.

To delete Users from a Group:

1. Go to the **Main Window**.
2. Click the **User Management** icon. *(A)*
3. Click the **Modify Group Member** button. *(B)*

4. Click the Group whose membership you want to change. *(C)*

5. Move 🔵 members to the **Available User** list to delete them. *(D)*

6. Click the **OK** button. *(E)*

Deleting a Group

Before you can delete a Group, you must first delete all of the Members from the Group.

To delete a Group:

1. Go to the **Main Window**.

2. Click the **User Management** icon. *(A)*

3. Click the **Delete Group** button. *(B)*

4. Click the Group you want to delete. *(C)*

5. Click the **OK** button. *(D)*

6. Click the **Yes** button in the confirmation box.

Viewing Quotas

Quotas are portions of storage space that you assign to each user or group.

To view a quota:

1. Go to the **Main Window**.
2. Click the **User Management** icon.
3. Click the **Quota** icon.

Setting Quotas

Quotas are portions of storage space that you assign to each user or group.

Assigning quotas enables you to control how much storage space each user or group can access.

By default, each user and group is assigned an unlimited quota, meaning that any one user or group can access the entire storage space. In the Quota screen, the names of groups are preceded with a @ symbol.

To set a quota:

1. Go to the **Main Window**.
2. Click the **User Management** icon. *(A)*
3. Click the **Quota** icon. *(B)*
4. Click the user or group whose quota you want to assign. *(C)*

5. From the dropdown menu, choose the RAID Volume to which the quotaapplies. *(D)*

6. Click one of the following options: *(E)*

   - Unlimited
   - Limited Quota

7. If you chose Limited Quota, type a number into the field provided. *(E)*

   This number represents how many MB of data the user or group can access.

8. Click the **OK** button. *(F)*

9. The setting succeeds.

	Note
	If you set different size quotas for the user and the group, SmartStor will use the smaller quota.

5.3 Managing RAID Volumes

Creating a RAID Volume

This feature enables you to create a RAID volume or designate a disk drive as a spare.

To create a RAID volume:

1. Go to the **Main Window**.
2. Click the **Volume Configuration** icon. *(A)*
3. Click the **Create Volume** button. *(B)*
4. Choose **Automatic** or **Manual** RAID Volume creation. *(C)*

   If you chose Manual, choose the type of RAID Volume you want: *(D)*

   • Maximum Capacity - RAID 0, using all disk drives

   • Data Protection - RAID 1, 5, or 10, depending on the number of disk drives available

5. Click the **OK** button. *(E)*

The RAID volume takes several minutes to create and initialize, depending on the size of your disk drives.

Note

When you create your RAID volume in WebPASM, you can choose additional options, such as Multiple RAID volumes.

See "Setting up SmartStor with the Setup Wizard" on page 134.

Expanding a RAID Volume

This feature adds all unassigned disk drives to your existing RAID volume.

To expand a RAID volume:

1. Go to the **Main Window**.
2. Click the **Volume Configuration** icon.
3. Click the **Expand Volume** button.
4. Click the **OK** button.

5. Click the **Yes** button in the confirmation box.

The RAID volume might take couples of hours to expand and initialize.

	Note
	Expansion is only available when your NAS system has the proper combination of RAID volume and free disk drives.
	For additional expansion options or to change the RAID level of your volume, use WebPASM.
	See "Migrating a RAID Volume" on page 159.

Viewing RAID Volume Status

RAID Volume status includes:

- RAID level
- Capacity
- Usage - Percentage of capacity used
- Disk drive model and capacity

To view the status of a RAID Volume:

1. Go to the **Main Window**.
2. Click the **Volume Configuration** icon.
3. Click the **Volume Status List** button.

   The Volume Status appears.

Viewing a List of RAID Volumes

To view a list of RAID Volumes:

1. Go to the **Main Window**.
2. Click the **Volume Configuration** icon.

3. Click the **Volume List** button.

The Volume List appears.

Recreating a RAID Volume

Caution

When you recreate a RAID volume, you delete all the data saved in the volume.

Back up any important data before you recreate a volume.

To recreate a RAID volume:

1. Go to the **Main Window**.
2. Click the **Volume Configuration** icon. *(A)*
3. Click the **Recreate Volume** button. *(B)*
4. Choose **Automatic** or **Manual** RAID Volume creation. *(C)*

   If you chose Manual, choose the type of RAID Volume you want: *(D)*

   • Maximum capacity and performance - RAID 0

   • Data Protection - RAID 1, 5, or 10, depending on the NAS model and number of drives

5.   Click the **OK** button. *(E)*

6.   Click the **Yes** button in the first confirmation box.

7.   Type **YES** then click the **OK** button in the second confirmation box.

The RAID volume takes several minutes to recreate and initialize, depending on the size of your disk drives.

5.4 Managing Backups

Caution

Please do not close the SmartNAVI or logout the MS Windows system while you are setting a scheduled backup or running the backup process. It will discontinue backup process.

Doing a Backup Now

This feature enables you to perform an immediate schedule backup of your files from your Windows or Mac to the NAS system (SmartNAVI).

You can perform an immediate backup of your files from:

- SmartNAVI Main Window
- SmartNAVI Device List
- SmartNAVI tray icon (Windows PCs only)
- One Touch Button

Main Window

If you do not have a backup schedule for your PC, start your backup from the SmartNAVI Main Window.

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon.
3. Click the **Backup** button.
4. Under Backup your data to, choose:
   - The SmartStor NAS or Local drive (your PC or MAC) from the first dropdown menu.

- The letter designation of your PC or MAC drive under the second dropdown menu.

5. Do any of the following actions to select your backup folders:

- Check the **Backup My Data** box - Selects the My Documents, Favorites, and Desktop folders with all their contents.

- Click the **Add to Backup** icon - Opens the My Documents folder. Click a folder you want to backup, and then click the **Choose** button. Repeat for additional folders.
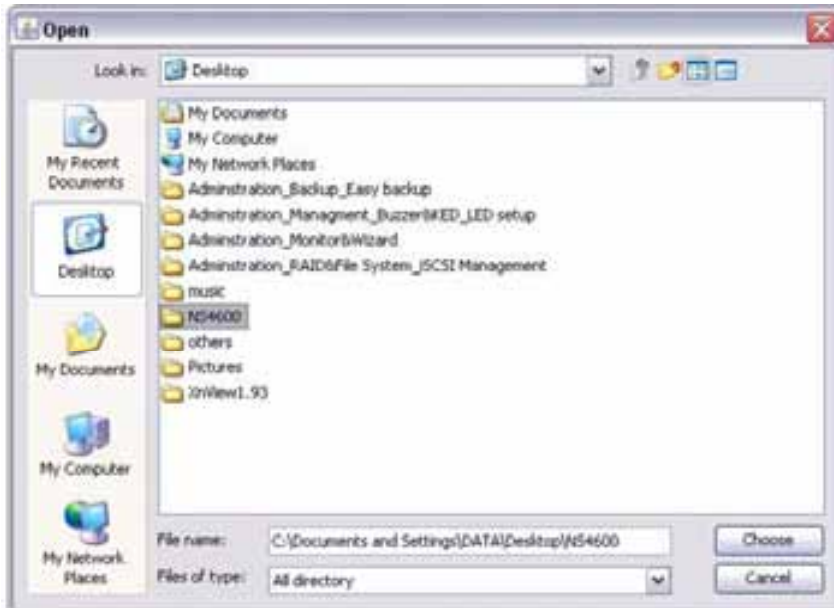
- Drag and drop the folders you want to backup to the **Backup your data from** window.

6. Click the **Backup** button.

   The backup begins immediately.

Device List

Before you can do a backup from the SmartNAVI Main Window, you must create a backup schedule.

1. Go to the **Main Window**.
2. Right-click the system in the **Device List** whose backup you want to run.
3. Choose the **Backup Now** item.

The backup begins immediately.

Tray Icon

Before you can do a backup from the SmartNAVI tray icon, you must create a backup schedule and setup default NAS first. This feature applies to Windows Cs only.

1. Right-click the **SmartNAVI** icon in the application tray.
2. Choose **Backup Now** in the popup menu.

The backup begins immediately.

The amount of time required depends on the size and number of files being backed up.

The backed up files will appear on the NAS system (SmartNAVI) in a folder

named **BACKUPDATA_your username**.

You can restore the backup files to your PC at any time.

See "Restoring Backed-up Files" on page 70.

Scheduling a Backup

You can schedule backups by the hour, day, or week.

To set a schedule for backing up files from your PC to the NAS system (SmartNAVI):

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon.
3. Click the **Backup** button.
4. Under Backup your data to, choose:

- The SmartStor NAS or Local drive (your PC or MAC) from the first dropdown menu.
- The letter designation of your PC or MAC drive under the second dropdown menu.

5. Do any of the following actions to select your backup folders:

- Check the **Backup My Data** box - Selects the My Documents, Favorites, and Desktop folders with all their contents.

- Click the **Add to Backup** icon - Opens the My Documents folder. Click a folder you want to backup, and then click the **Choose** button. Repeat for additional folders.

- Drag and drop the folders you want to backup to the **Backup your data from** window.

6. Click the **Schedule** button.

7. Click an option button for:
   - Hour
   - Day
   - Day of the week
8. Choose the corresponding values from the dropdown menus:
   - Number of hours
   - Time of day in hours and minutes
   - Time of day and day of the week

9. Click the **Add** button.

The newly created schedule appears in the **Schedule List**.

The backed up files will appear on the NAS in a folder named **BACKUPDATA_ your username**.

You can also click the **Start** button to run a scheduled backup immediately.

Viewing Backup Schedules

To view the list of current schedules:

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon.
3. Click the **Schedule List** button.

The list of all backup schedules appears.

Changing a Scheduled Backup

You can schedule backups by the hour, day, or week.

To change the scheduled backup of files from your PC to the NAS system (SmartNAVI):

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon. *(A)*
3. Click the **Schedule List** button. *(B)*
4. Click the schedule you want to change. *(C)*

5. Click the **Modify** button. *(D)*

6. Click the folder whose contents you want to backup.

Click the **Add to Backup** icon to expand the tree and narrow your choices.
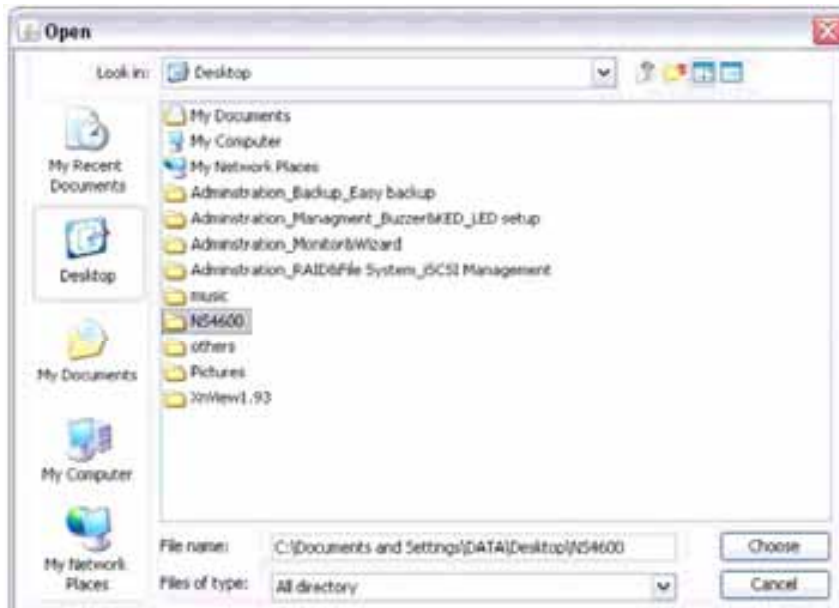
7. Click the **Schedule** button.
8. Click an option button for:
   - Hour
   - Day
   - Day of the week
9. Choose the corresponding values from the dropdown menus:
   - Number of hours
   - Time of day in hours and minutes
   - Time of day and day of the week
10. Click the **Add** button.

The modified schedule appears in the **Schedule List**.

You can also click the **Start** button to run a scheduled backup immediately.

Deleting a Scheduled Backup

Deleting a scheduled backup has no effect upon any files previously backed-up to the NAS system (SmartNAVI).

To delete a scheduled backup:

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon. *(A)*
3. Click the **Schedule List** button. *(B)*
4. Click the schedule you want to delete. *(C)*
5. Click the **Delete** button. *(D)*

6. Click the **Yes** button in the confirmation box.

Restoring Backed-up Files

You can restore all or any portion of the files in the **BACKUPDATA_your username** folder on the NAS system (SmartNAVI).

You can choose to restore the files to:

- Their original location on your PC or MAC
- An alternative location on your PC or MAC

The original file structure is maintained during backup and restoration.

Caution

If you restore to the original folders on your PC, the restore function will overwrite the files in those folders.

Be careful which files you restore and where on your PC you direct the backup files.

To restore your backed-up files from the NAS system to your PC:

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon. *(A)*
3. Click the **Restore** button. *(B)*
4. Click the folder whose contents you want to restore. *(C)*
   Click the arrow icons to expand the tree and narrow your choices. *(D)*

5. Click an option button for:

- Restore to original folder - The backup files will overwrite the files on your PC *(E)*
- Restore to a specific folder - No files are overwritten on your PC *(E)*

6. If you chose **Restore to a specific folder**, do one of the following actions:

- Type the name of an existing folder in the field provided
- Type the name of an new folder in the field provided
- Click the Folder icon - Opens the My Documents folder. *(F)*

Click a folder you want to use for a target, then click the **Open** button *(G)*

7. Click the **Restore** button. *(H)*

8. Click the **Yes** button in the confirmation box.
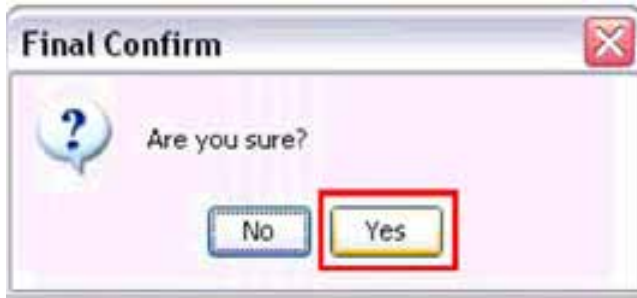
The restoration begins immediately.

The amount of time required depends on the size and number of files being restored.

Viewing the Backup Event Log

Backup events report on backups, schedules, and file transfers.

Events are reported by date, time, severity (information or error) and description.

To view Backup Event Log:

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon. *(A)*
3. Click the **Event Log** button. *(B)*
4. Optional. Set the Event Filter dropdown menu to display: *(C)*
   - All events
   - Information events only
   - Error events only

5. Optional. Click the arrow on the **Date/Time** header to reverse the chronological order. *(D)*

Note

For NAS system events, see "Viewing the System Event Log" on page 95.

Saving the Event Log

This function saves a copy of the Backup Event Log as a text file onto your PC.

The text file records the events displayed in the Event Log window.

Set the Event Filter dropdown menu to display:

- All events
- Information events only
- Error events only

Click the arrow on the **Date/Time** header to reverse the chronological order.

To save a copy of the Backup Event Log as a text file:

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon.
3. Click the **Event Log** button.

4. Click the **Save** button.

5. Optional. Change the file name or save to a different location.
6. Click the **Save** button in the Save dialog box.
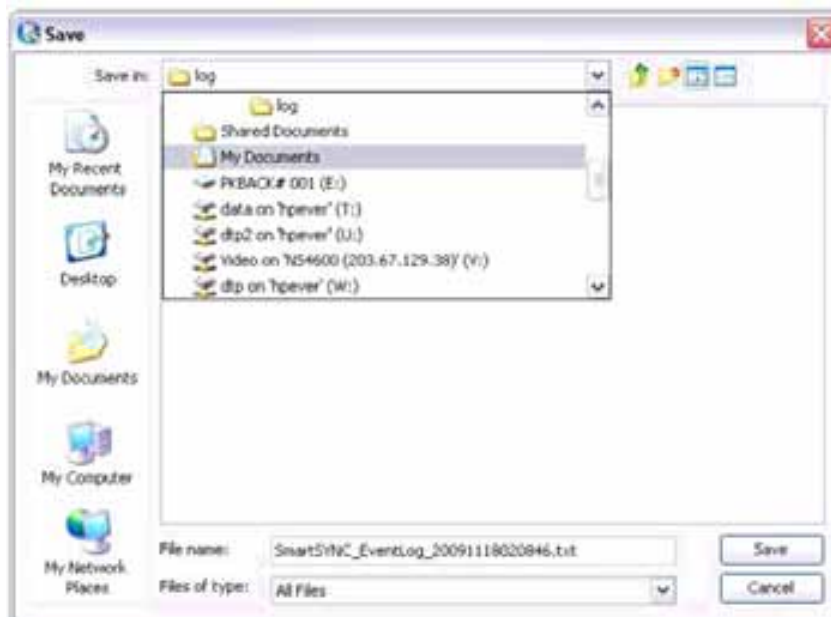
Clearing the Event Log

Note

Before you clear the Backup Event Log, consider saving a copy for future reference. See "Saving the Event Log" on page 73.

To clear the Backup Event Log:

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon.
3. Click the **Event Log** button.

4. Click the **Clear All** button.

5. Click the **Yes** button in the confirmation box.

Setting the Port

By using port setting, the public services like a WWW server or an FTP server, and others running on your private network may become accessible from the Internet.

To set the Port:

1. Go to the **Main Window**.
2. Click the **SmartSYNC** icon. *(A)*
3. Click the **Setting** button. *(B)*
4. Type the Port number in the field provided. The default number is 873. *(C)*
5. Click the **OK** button. *(D)*

The setting begins immediately.

6. Click the **OK** button in the confirmation box. The Setting is successful.

5.5 Managing Share Folders

Creating a Share Folder

To create a new share folder:

1. Go to the **Main Window**.

2. Click the **Share Folder** icon. *(A)*

3. Click the **Create New Share Folder** button. *(B)*

4. Type a folder name in the field provided. *(C)*
   Use A-Z, 0-9, - and _. No spaces.

5. Choose the RAID Volume from the dropdown menus. *(D)*

6. For each user in the list, click one of the following options: *(E)*

- Deny access

- Read Only

- Read and Write

"Guest" is the only other default user.

7. Click the OK button. *(F)*

8. Click the Yes button in the confirmation box.

The permission has been set successfully.

Opening a Share Folder

This feature opens share folders in the file browser.

From the **Device List**:

1. Right-click the system in the **Device List** whose share folders you want to open.

2. Choose the **Share Folders** item.

All share folders open in your PC's file browser.

From the **Main Window**:

1. Click the **Share Folder** icon.

2. Double-click the folder in the **Share Folder List** that you want to open.

   The share folder opens in your PC's file browser.

From the Tray Icon:

1. Right-click the **SmartNAVI** icon in the application tray.

2. Choose **Share Folder** in the popup menu.

All share folders open in your PC's file browser.

Viewing a List of Share Folders

To view a list of Share Folders:

1. Go to the **Main Window**.
2. Click the **Share Folder** icon.
3. Click the **Share Folder List** button.

The Share Folder List appears.

4. Double-click the individual share folder to view its contents.
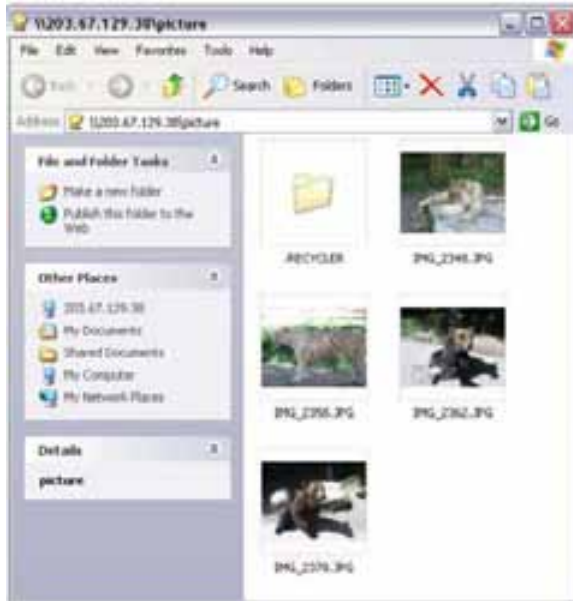
Changing Share Folder Permissions

The Admin user always has read and write permission. All other users have Read Write permission by default.

To change permissions:

1. Go to the **Main Window**.
2. Click the **Share Folder** icon. *(A)*
3. Click the **Share Folder Permission** button. *(B)*
4. Click the share folder whose permissions you want to change. *(C)*
    The folder name will become highlighted.
5. For each user in the list, click one of the following options: *(D)*

*   Deny access

*   Read Only

*   Read and Write

"Guest" is the only other default user.

6. Click the **OK** button. *(E)*

The permission change happens immediately.

Deleting a Share Folder

Note

For NAS system events, see "Viewing the System Event Log" on page 95.

Caution

When you delete a share folder, you delete all the data saved in the folder.

Back up any important data before you delete a folder.

To delete a share folder:

1. Go to the **Main Window**.
2. Click the **Share Folder** icon.
3. Click the **Delete Share Folder** button.

4. Click the share folder you want to delete.
   The folder name will become highlighted.

5. Click the **OK** button.
6. Click the **Yes** button in the first confirmation box.

7. Type **Yes** then click the **OK** button in the second confirmation box.

Mounting a Share Folder /Creating a Network Drive

To mount a share folder or create a network drive (Windows):

1. Go to the **Main Window**.
2. Click the **Share Folder** icon. *(A)*
3. Click the **Mount Share Folder** button. *(B)*
   Click the share folder you want to mount or make a network drive. *(C)*
4. The folder name will become highlighted.
5. Choose a device name (drive letter) from the dropdown menu. *(D)*

6. Click the **Mount** button. *(E)*

The share folder appears on your PC as a mounted or network drive.

Un-mounting a Share Folder /Disconnecting a Network Drive

To un-mount a share folder or disconnect a network drive (Windows):

1. Go to the **Main Window**.

2. Click the **Share Folder** icon. *(A)*

3. Click the **Mount Share Folder** button. *(B)*

4. Click the share folder you want to un-mount or delete as a network drive. *(C)*
   The folder name will become highlighted.

5. Click the **Un-Mount** button. *(D)*

6. Click the **Yes** button in the confirmation box.

The share folder is un-mounted or disconnected but the link remains (Windows).

Setting up a Share Folder for Time Machine

Time Machine is a backup utility included with Mac OS X 10.5 "Leopard" or more.

Before you begin, be sure your Mac is running and connected to the same network as the SmartStor.

On SmartNAVI

To set up a SmartStor folder for Time Machine backups:

1. Go to the **Main Window**.

2. Click the **Share Folder** icon.

3. Click the **Mount Share Folder** button.

4. Click the share folder you want to use for Time Machine backups.

5. Check the **Support TimeMachine** box.

6. Click the **Mount** button.

   If the process goes correctly, the following message appears:

   This folder has been set to a network drive.

On the Mac

Follow this procedure if you have not set up Time Machine.

To set up the Mac for backups with SmartStor:

1. On the desktop, go to the Dock and click the **Time Machine** icon.

   A popup message informs you that no storage location is set up.

2. In the popup message, click the **Set Up Time Machine** button.

   The Time Machine dialog box appears.

3. In the Time Machine dialog box, click the **Choose Backup Disk...** button.

4. In the list of external drives, choose the share folder that you mounted on the SmartStor and click the **Use for Backup** button.

   A Name and Password dialog box appears.

5. In the dialog box, enter your username and password of NAS authentication, then click the **Connect** button.

Pre-existing Time Machine Configuration on the Mac

Follow this procedure if you currently have a Time Machine configuration.

To set up the Mac for backups with SmartStor:

1. On the desktop, go to the Dock and click the **Time Machine** icon.

   The Time Machine dialog box appears.

2. In the Time Machine dialog box, click the **Change Disk...** button.

3. In the list of external drives, choose the share folder that you mounted on the SmartStor and click the **Use for Backup** button.

   A Name and Password dialog box appears.

4. In the dialog box, enter your username and password, then click the **Connect** button.

5.6 Making Management Settings

Configuring a NAS System

The Setup Wizard has two modes:

- **One Click Setup** - Loads a collection of default settings. Recommended for most users.

- **Advanced Setup** - Enables you to make your own settings. Recommended for advanced users.

Caution

Do NOT run the Setup Wizard on a NAS system that is already configured! That action will delete your data and network drives!

One Click Setup

To configure your NAS system using One Click Setup:

1. Go to the **Main Window**.

2. Click the **Setup Wizard** icon.

3. Click the **One Click Setup** button.

4. Click the **OK** button to continue.

5. Click the **Yes** button in the confirmation box.

The NAS reboots. Then your RAID volume is ready.

Advanced Setup

To configure your NAS system using Advanced Setup:

1. Go to the **Main Window**.

2. Click the **Setup Wizard** icon. *(A)*

3. Click the **Advanced Setup** button. *(B)*

4. Choose **Automatic** (DHCP) or **Manual** network settings. *(C)*

   If you chose **Manual** settings, type entries for each of the following parameters in the fields provided: *(D)*

   - Computer (NAS system) Name

   - IP Address

   - Subnet Mask

   - Gateway

- Primary and Secondary DNS - optional

Click the **Next** button to continue. *(E)*

5. Choose the following values from their respective dropdown menus:

- Timezone

- Year

- Month

- Day

- Time in Hours, Minutes, and Seconds

Click the **Next** button to continue.

6. Choose Automatic or Manual RAID Volume creation.

If you chose Manual, choose the type of RAID Volume you want:

- Maximum Capacity and performance - RAID 0, using all disk drives

- Data Protection - RAID 5, using all disk drives (Note: Only for 4 Bay NAS)

Click the **Next** button to continue.

7. Choose a network drive letter from the dropdown menu.

    This drive will be mapped as a network drive on your PC.

    The list begins with S and goes in reverse alphabetical order.

    Click the **Next** button to continue.

8. Review your parameters.

    To make changes, click the **Previous** button.

    To accept the parameters and configure your NAS system, click the **OK** button.

9. Click the **Yes** button in the confirmation box.

10. The NAS reboots. Then your RAID volume is ready.

Changing Network Settings

Caution

If your NAS system is on a network, check with your Network Administrator before you change the network settings. Incorrect settings can result in address conflicts and connection failures.

To change your network settings:

1. Go to the **Main Window**.
2. Click the **NAS Management** icon. *(A)*
3. Click the **Network Setting** button. *(B)*
4. Choose **Automatic** (DHCP) or **Manual** network settings. *(C)*

   If you chose **Manual** settings, type entries for each of the following parameters in the fields provided: *(D)*

   • Computer (NAS system) Name
   • IP Address
   • Subnet Mask
   • Gateway
   • Primary and Secondary DNS - optional

5. Click the **OK** button. *(E)*

6. Click the **Yes** button in the Network Setup box.

7. The NAS reboots automatically.

8. Click your system in the **Device List**.

   The **Main Window** reopens.

Locating the SmartStor

This feature helps you to physically locate a NAS system.

To locate a SmartStor:

1. Go to the **Main Window**.
2. Rignt-click the system in the **Device List** that you want to locate.
3. Choose the **Locate NAS** item.

On the NAS system you chose:

- The buzzer sounds three times
- The Status LED blinks RED three times

Wake-on-LAN

This feature allows you to turn on or wake up the SmartStor by locate a NAS system.

System Status LED
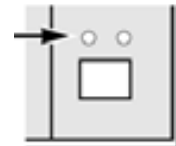
To wake up a SmartStor:

1. Go to the **Main Window**.
2. Rignt-click the system in the **Device List** that you want to wake up.

3. Choose the **Locate NAS** item.

It takes about a minute to boot the SmartStor. When fully booted:

*   The System Status LED turns to normal status color.
*   The buzzer beeps one time.

Choosing a Default NAS System

This feature sets the default NAS system (SmartStor) for the Main Window and SmartNAVI tray icon. A default NAS activates several important functions, including:

*   Share Folder: Opening a Share Folder
*   Backup Now: Performing an Immediate Backup
*   Open Advanced Management: Starting the Advanced Storage Manager
*   Event Notice: Enabling Event Notification

If you do not choose a default NAS, SmartNAVI sets the default NAS after you first log on.

To set a default NAS:

1. Go to the **Main Window**.
2. Right-click the system in the **Device List** that you want to make the default.

3. Choose the **Default NAS** item.

The default NAS is highlighted in the Device List.

Enabling or Disabling Event Notification

This feature displays popup notices of events on the default NAS system.

Enabling Event Notification

To enable event notification:

1. Right-click the **SmartNAVI** icon in the application tray.

2. Check **Event Notice** in the popup menu.

SmartNAVI displays a popup message indicating that event notification is working.
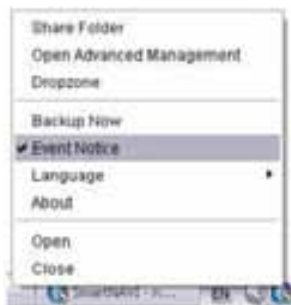
Disabling Event Notification

To disable event notification:

1. Right-click the **SmartNAVI** icon in the application tray.
2. Uncheck **Event Notice** in the popup menu.
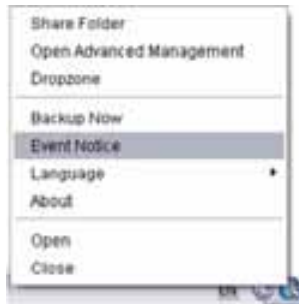
Viewing the System Event Log

NAS events report functions and status of the NAS system. The Event Log displays the 20 most recent events.

Events are reported by date, time, severity (information or warning) and description.

To view the NAS systemís Event Log:

1. Go to the **Main Window**.
2. Click the **NAS Management** icon.
3. Click the **Event Log** button.

Click the arrow on the **Date/Time** header to reverse the chronological order.
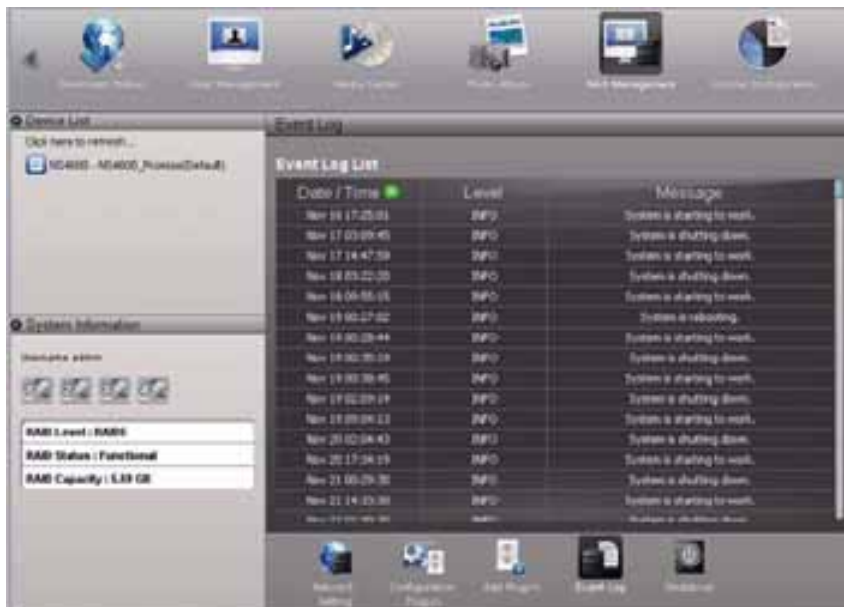
	Note
	For backup system events, see "Viewing the Backup Event Log" on page 72.

Adding Application Plug-ins

Application plug-ins are enhancements to SmartStor's capabilities.

SmartNAVI installs plug-ins from your PC. WebPASM installs plug-ins from a folder on the SmartStor. Also see "Adding Application Plug-ins" on page 179.

Download your plug-ins from the Promise Support Website. Plug-in file names end with a **.ppg** extension. Save the plug-in file to a convenient place on your PC.

To add a plug-in to SmartStor:

1. Go to the **Main Window**.
2. Click the **NAS Management** icon.
3. Click the **Add Plugin** button.

4. Do one of the following actions:

    - Type the name of the plug-in file
    - Click the folder icon, navigate to the plug-in file, click it, then click the **Open** button
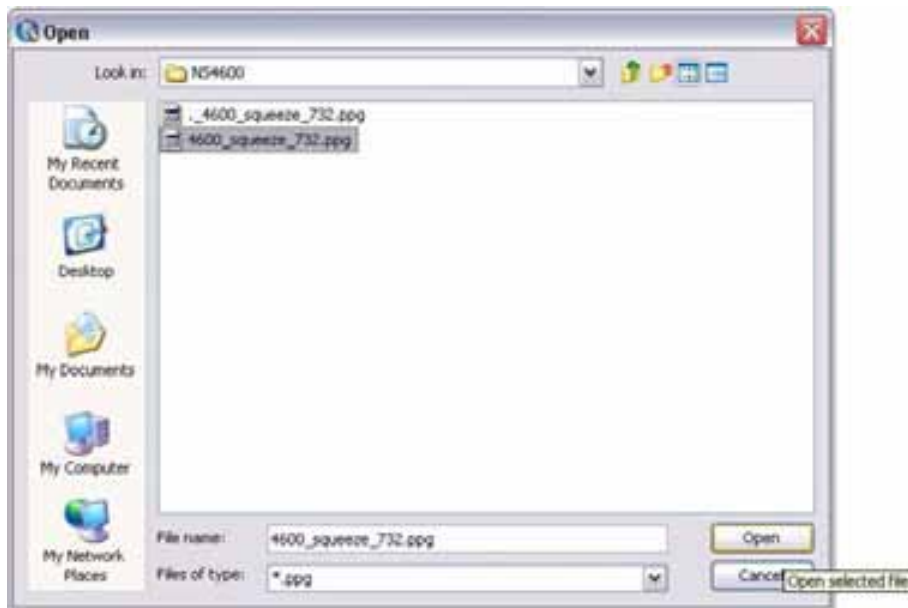
5. Click the **OK** button.

After a few moments, the plug-in is added.
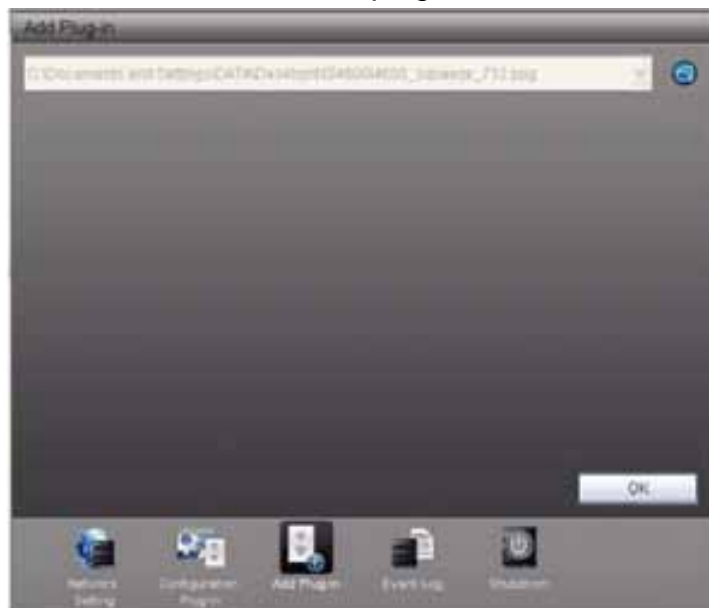
<table>
<tr><td>Warning</td></tr>
<tr><td>Do not disconnect the power or shut down the SmartStor while the plug-in installation is running!</td></tr>
</table>

6. Click the **Configure Plugin** button.

    The newly added plug-in appears in the list. Its Service Status is OFF.

7. Click the plug-in to choose it.

    The plug-inís name will become highlighted.

8. Click the **Enable** button.

After a moment, the Service Status changes to ON.

The plug-in is now installed SmartStor.

Viewing a List of Plug-ins

To view a list of installed plug-ins:

1. Go to the **Main Window**.

2. Click the **NAS Management** icon.

3. Click the **Configuration Plugin** button.

Currently installed plug-ins appear in the **Configuration Plugin** list.

Viewing Plug-in Version Numbers

To view plug-in version numbers:

1. Right-click the **SmartNAVI** icon in the application tray.
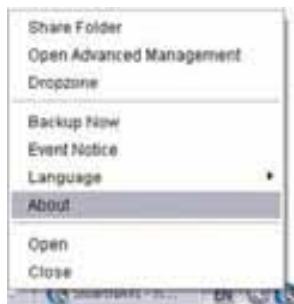
2. Choose **About** from the popup menu.

The About window appears. The About window includes a list of installed plug-ins and their version numbers.

When you are done with the About window, click the **Close** button.

Enabling and Disabling Plug-ins

Enabling Plug-ins

You must add a plug-in to SmartStor before you can use this function.

To enable a plug-in:

1. Go to the **Main Window**.
2. Click the **NAS Management** icon. *(A)*
3. Click the **Configuration Plugin** button. *(B)*
4. Click the Plug-in you want to enable. *(C)*

The plug-inís name will become highlighted.

5. Click the **Enable** button. *(D)*

After a moment, the Service Status changes to ON.

The plug-in is now enabled on SmartStor.
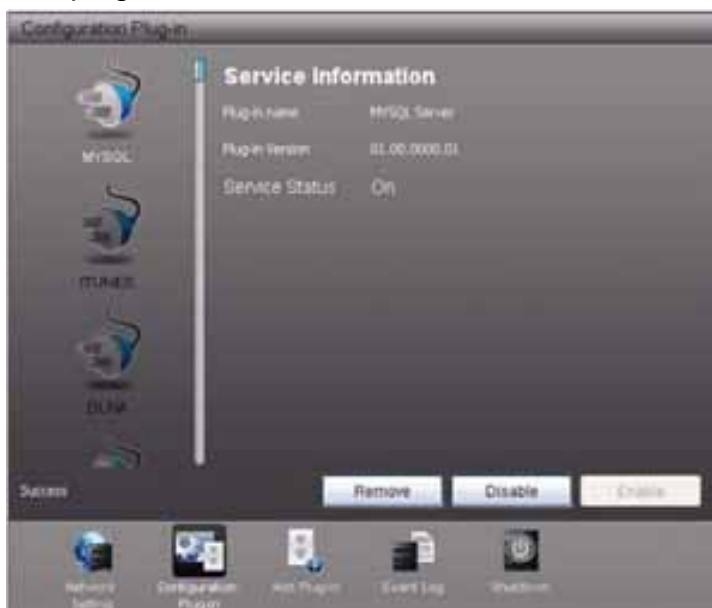
Disabling Plug-ins

Disabling a plug-in saves memory space and processing time on the SmartStor. If you do not use a feature, consider disabling its plug-in.

To disable a plug-in:

1. Go to the **Main Window**.
2. Click the **NAS Management** icon *(A)*.
3. Click the **Configuration Plugin** button *(B)*.
4. Click the Plug-in you want to disable *(C)*.

   The plug-inís name will become highlighted.

5. Click the **Disable** button *(D)*.

After a moment, the Service Status changes to OFF.
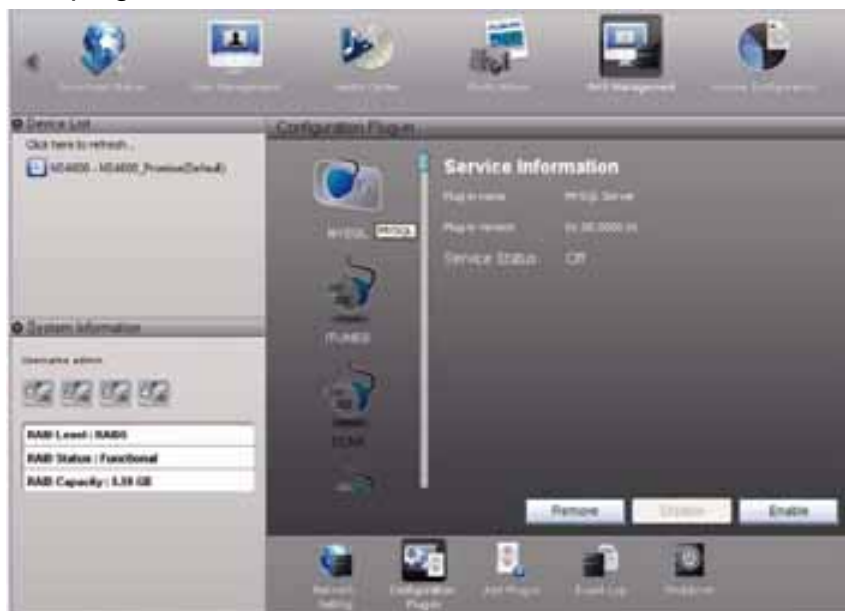
The plug-in is now disabled.

Removing Plug-ins

There are two reasons to remove a plug-in:

- To replace the old plug-in with a new one
- You know that you will never use the plug-in

Before you remove a plug-in, consider disabling it, instead. See "Enabling and Disabling Plug-ins" on page 100.

To remove a plug-in:

1. Go to the **Main Window**.
2. Click the **NAS Management** icon. *(A)*
3. Click the **Configuration Plugin** button. *(B)*

4. Click the Plug-in you want to remove. *(C)*

   The plug-inís name will become highlighted.

5. Click the **Remove** button. *(D)*

6. Click the **Yes** button in the confirmation box.

   The plug-in is removed from SmartNAVI.

   If you need the plug-in later, you can reinstall it. See "Adding Application Plug-ins" on page 96.

Rebooting the SmartStor

Normally you will only need to reboot the SmartStor is after a firmware upgrade or plug-in installation. During the reboot, none of your folders will be accessible rom your networked PCs.

To reboot the SmartStor:

1. Go to the **Main Window**.

2. Click the **NAS Management** icon. *(A)*

3. Click the **Shutdown** button. *(B)*

4. Click the **Restart** option *(C)*

5. Click the **OK** button. *(D)*

6. The reboot runs automatically.

When the SmartStor is fully booted:

- The system status LED turns to normal status color
- The buzzer beeps one time (if the buzzer is nabled)

See "Enabling and Disabling the Buzzer" on page 180.
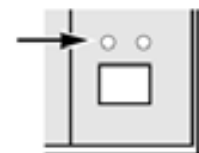
System Status LED

Shutting Down the SmartStor

The only time you need to shut down the SmartStor is to eplace the disk drive cooling fan or the power supply.

During and after the shutdown, none of your folders will be accessible from your etworked PCs.

Using SmartNAVI

To shut down the SmartStor:

1. Go to the **Main Window**.
2. Click the **NAS Management** icon. *(A)*
3. Click the **Shutdown** button. *(B)*
4. Click the **Shutdown** option. *(C)*
5. Click the **OK** button. *(D)*

6. The shutdown runs automatically.

Directly

System
Status LED

To shut down the SmartStor, press and hold the power utton on the back of the SmartStor enclosure for five econds (top, right). The system status LED turns red, then goes dark (bottom, right).
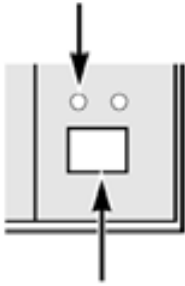
Power Button

Restarting the SmartStor

To restart the SmartStor after a shutdown, press the power button on the back of the SmartStor enclosure (top, right).
When the SmartStor is fully booted:

- The system status LED turns to normal status color (bottom, right)
- The buzzer beeps one time (if the buzzer is enabled)

See "Enabling and Disabling the Buzzer" on page 180.

5.7 Managing Downloads

Adding a Link

Note

This feature requires the BT server plug-in for each NAS system.

See "Adding Application Plug-ins" on page 96.

SmartNAVI and the NAS system can download files using several protocols, including:

- Torrent
- HTTP
- FTP
- eDonkey

For Torrent files, use your browser to locate the file you want on the Internet and download its link to your PC. Then add the Torrent file link to the Download Station as described below.

To add a Torrent file download link:

1. Go to the **Main Window**.
2. Click the **Download Station** icon.

3. Click the **Add New Link** button.

4. Do one of the following actions:

- Type the link into the field provided.

- Click the folder icon, navigate to the link, click it, then click the **Open** button.
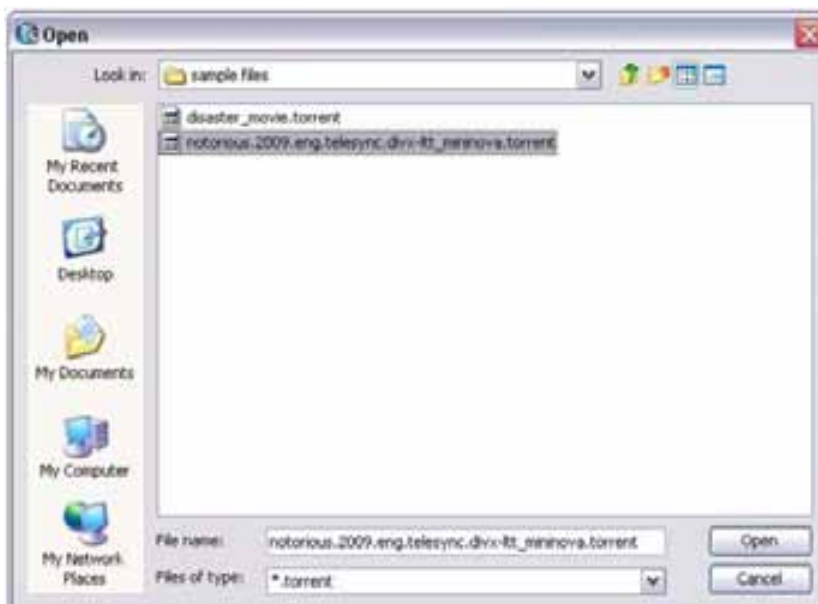
5. Click the **Add** button.

The Torrent files are added to the **Download List** and begin to download automatically. The Torrent files are saved to the **download** folder on the NAS system.

Drag and Drop Files

Drag and drop supports HTTP, FTP, and Torrent files. The process includes two actions:

-   Showing the **Dropzone** icon on your desktop
-   Dragging and dropping files onto the **Dropzone** icon

Windows

To show the Dropzone icon in Windows, right-click the SmartNAVI icon in the Windows tray and choose *Dropzone* from the popup menu.
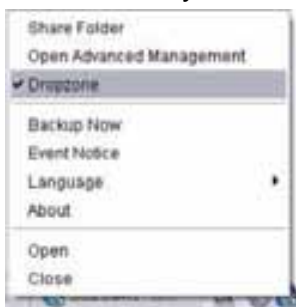
The **Dropzone** icon appears on the desktop.

Mac OS X

To show the **Dropzone** icon in Mac OS X:

1. Go to the **Main Window**.

2. From the Function dropdown menu, choose *Dropzone*.

    The **Dropzone** icon appears on the desktop.

Dragging and dropping files

Drag and drop your files onto the **Dropzone** icon.

Torrent files are added to the **Download List** and begin to download automatically. Files are saved to the **download** folder on the NAS system.

To close the **Dropzone** icon, choose *Dropzone* again in the popup (Windows) or dropdown (Mac OS X) menu.

Batch Downloading Files

You can batch-download files from a server. The files must have the same name with sequential numbering. You might have to rename your files to use this feature.

To add a series of sequential download links:

1. Go to the **Main Window**.
2. Click the **Download Station** icon.
3. Click the **Add New Link** button.
4. Click the **Batch** button.

A dialog box appears.

5. In the field provided, type the URL of the file server. Then type a slash (/) and the file name with an asterisk (*). *(A)*
6. Choose one of the following values for the asterisk:

- Numbering from 0 to 20, Maximum Length is in 1 to 4 places *(B)*
- Lettering from *a* to *z* or *A* to *Z* for Case Sensitive. *(C)*

A list of files appears in the window. *(D)*

7. Click the **OK** button. *(E)*
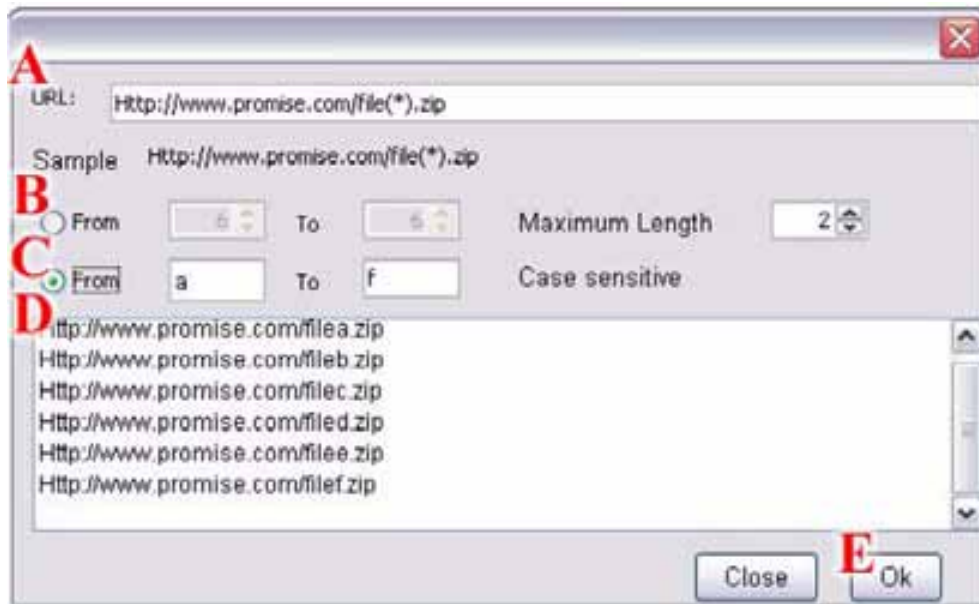
The batch-download files are added to the **Download List** and begin to download automatically. The files are saved to the **download** folder on the NAS system.

Viewing the Download List

The Torrent files in this list have not been downloaded yet.

To view the Download List:

1. Go to the **Main Window**.
2. Click the **Download Station** icon.
3. Click the **Download List** button.

Downloading began automatically when you added the links.
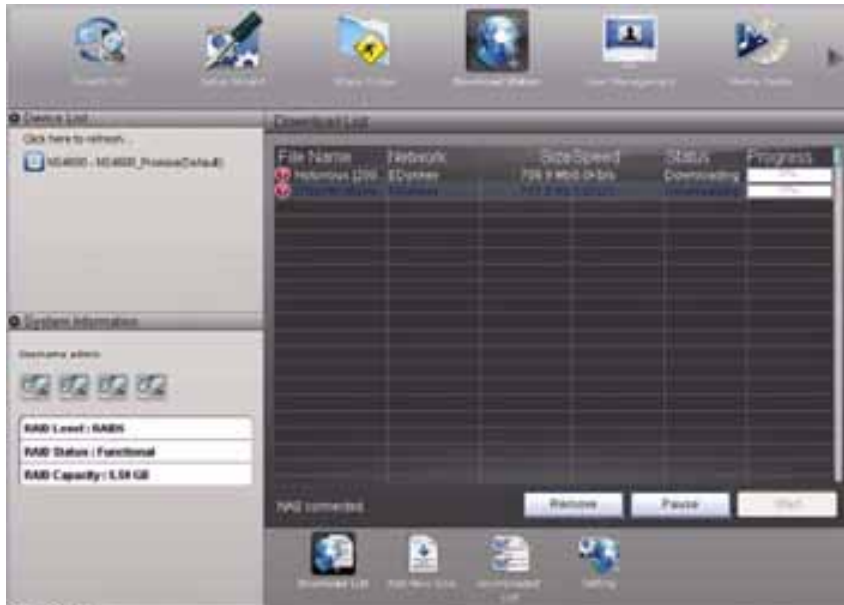
Torrent files are saved to the **download** folder on the NAS system.
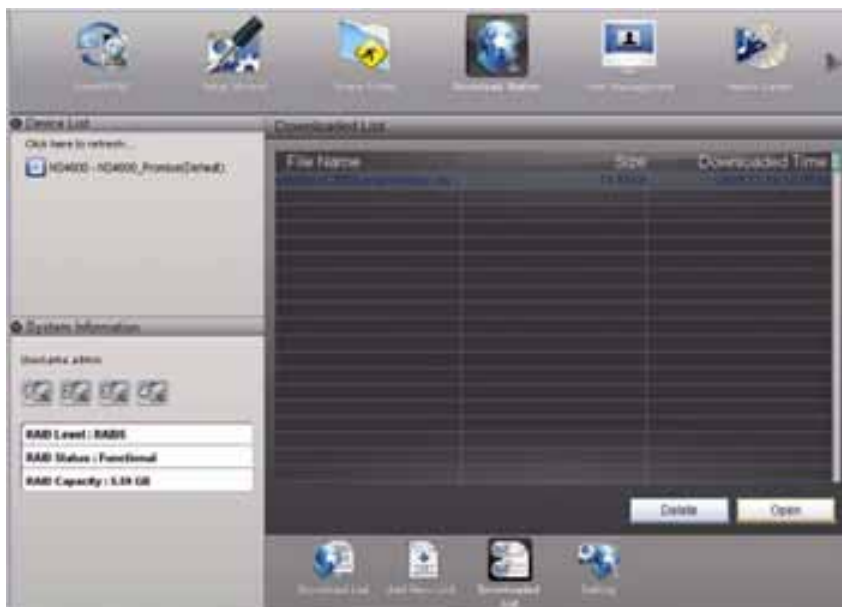
Removing a Link

When you remove a link, the Download Station does not download the corresponding Torrent file.

To remove a Torrent file download link:

1. Go to the **Main Window**.
2. Click the **Download Station** icon.
3. Click the **Download List** button.
4. Click the file link you want to remove.

5. Click the **Remove** button.

6. Click the **Yes** button in the confirmation box.

Pausing and Resuming a Download

Pausing a Download

To pause a Torrent file download:

1. Go to the **Main Window**.
2. Click the **Download Station** icon.
3. Click the **Download List** button.
4. Click the link of the file download you want to pause.

5. Click the **Pause** button.
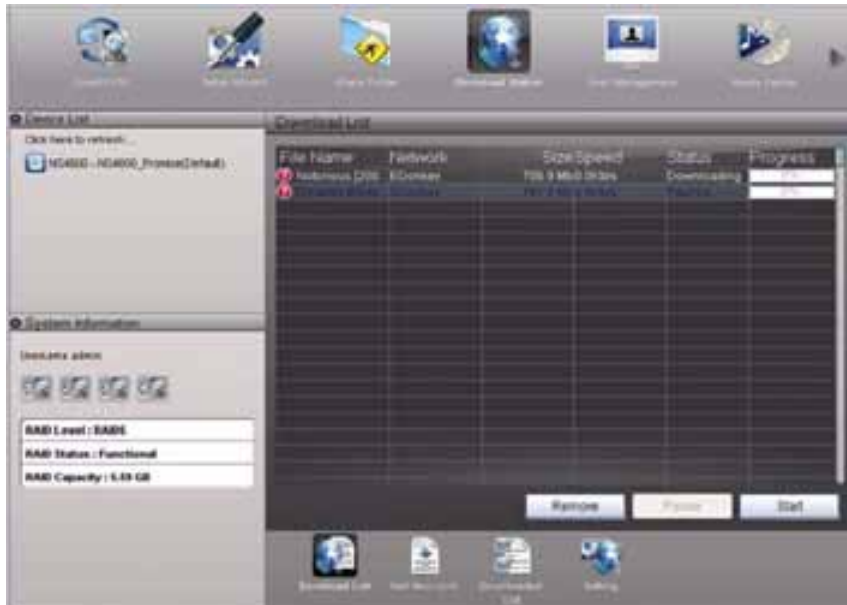
Resuming a Download

To resume a Torrent file download:

1. Go to the **Main Window**.
2. Click the **Download Station** icon.
3. Click the **Download List** button.
4. Click the link of the paused file download you want to resume.
5. Click the **Start** button.
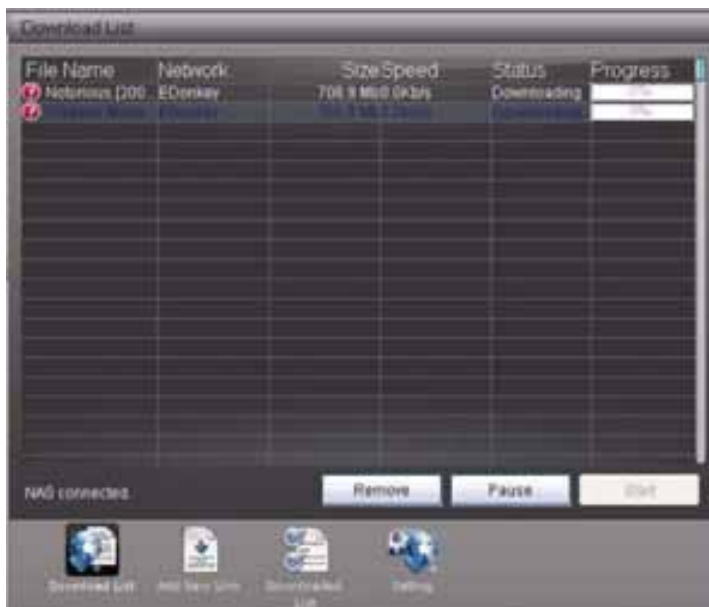
Viewing the Downloaded List

The Torrent files in this list have been downloaded.

To view a list of downloaded files:

1. Go to the **Main Window**.

2. Click the **Download Station** icon.

3. Click the **Downloaded List** button.
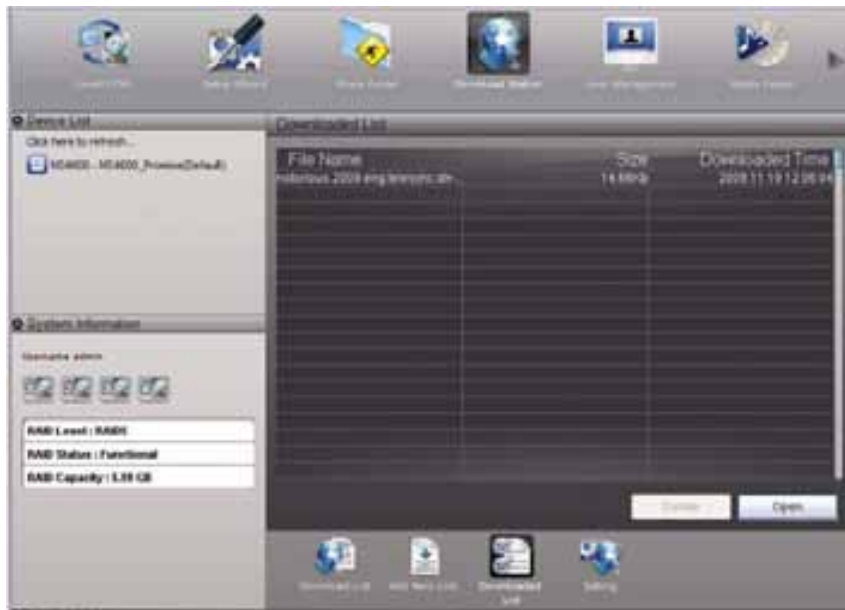
Torrent files are saved to the **download** folder on the NAS system.

Opening a Downloaded File

Note

This feature requires a plug-in for each NAS system. See "Adding Application Plug-ins" on page 96.

To open a downloaded file:

1. Go to the **Main Window**.

2. Click the **Download Station** icon.

3. Click the **Downloaded List** button.

4. Click the file you want to open.

5. Click the **Open** button.

Deleting a Downloaded File

Caution

The feature deletes Torrent files from the **download** folder on the NAS system.

To delete a downloaded Torrent file:

1. Go to the **Main Window**.
2. Click the **Download Station** icon.
3. Click the **Downloaded List** button.
4. Click the file you want to delete.
5. Click the **Delete** button.
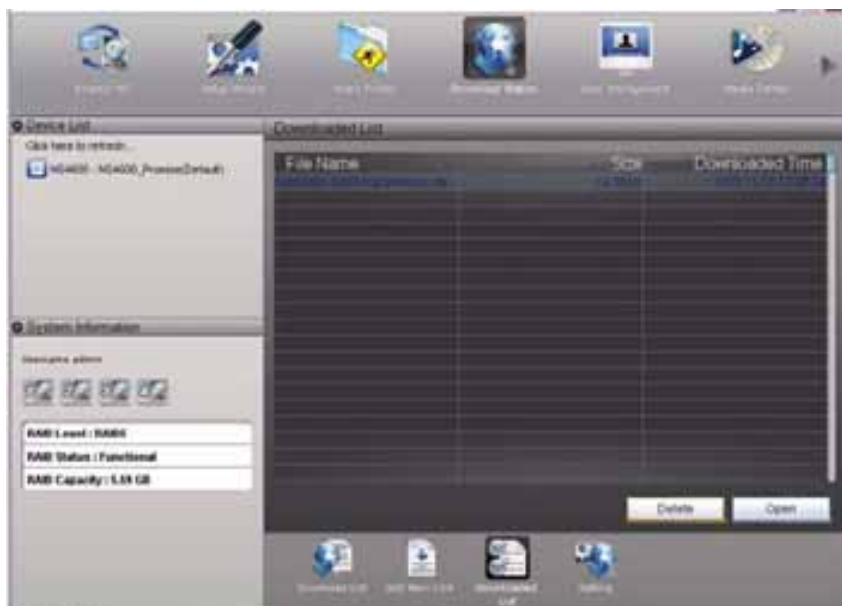
6. Click the Yes button in the confirmation box.

The link and corresponding Torrent file in the download folder on the NAS system are deleted.

5.8 Using Media Center

Media Center contains the Media Library, which enables you to organize and play your music and video files that are saved on the NAS system.

Note that there are two features called Media Center. This section deals with Media Center in SmartNAVI. See "Media Center" on page 192.

Important

This feature requires the DLNA plug-in to be installed and enabled on the NAS system.

Your music and video files must be saved in the MUSIC and VIDEO folders, respectively, on the NAS system.

Viewing Playlists

To view a Playlist:

1. Go to the **Main Window**.

2. Click the **Media Center** icon.

The Media Library window appears with List highlighted.

A list of playlists appears in the List Window.

Playlists are shown by name and the number of files in the playlist.

Creating a Playlist

This function requires a LAN connection to the NAS system.

To create a Playlist:

1. Go to the **Main Window**.
2. Click the **Media Center** icon.

    The Media Library window appears with List highlighted.
3. Click the **Create Playlist** icon.
4. Type a name for the playlist in the highlighted box and press Enter.

5. Click and drag files from the folder list to the Playlist icon.

The playlist is stored in the DLNA database on the NAS system.

Playing a Playlist

To play a Playlist:

1. Go to the **Main Window**.
2. Click the **Media Center** icon.

The Media Library window appears with List highlighted.

3. Right-click the playlist in the List Tree or the List Window and choose **Play** from the dropdown menu.

The List Tree   **The List Window**

Renaming a Playlist

This function requires a LAN connection to the NAS system.

To rename a Playlist:

1. Go to the **Main Window**.

2. Click the **Media Center** icon.

   The Media Library window appears with List highlighted.

3. Right-click the playlist in the List Tree you want to rename and choose **Rename** from the dropdown menu.

4. Type a name for the playlist in the highlighted box and press Enter.
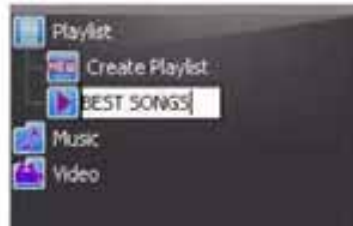
5. Right-click the playlist in the Window you want to rename and choose **Rename** from the dropdown menu.

Deleting a Playlist

This function requires a LAN connection to the NAS system.

To delete a Playlist:

1. Go to the **Main Window**.

2. Click the **Media Center** icon.

The Media Library window appears with List highlighted.

3. Right-click the playlist in the List Tree or the List Window you want to delete and choose **Delete** from the dropdown menu.

4. Click the **Yes** button in the confirmation box.

The playlist is deleted.

Playing a Single Music or Video File

To play a single music or video file:

1. Go to the **Main Window**.
2. Click the **Media Center** icon.

   The Media Library window appears with List highlighted.
3. Click the Music or Video folder icon.
4. Right-click on the file you want to play and choose **Play** from the dropdown menu.

Using the Panel

1. Go to the **Main Window**.
2. Click the **Media Center** icon.

   The Media Library window appears with List highlighted.
3. Click the Music or Video folder icon.

4. Click the arrow ![arrow icon] on the list header to reverse the chronological order by Name, Artist, Genre and Length.

5. In the Media Library window, click these icons as desired to apply their effects:

Icon	Function
	Media Library
	Media Player
	Mute
	Volume
	Play
	Stop
	Previous
	Next
	No Repeat
	Shuffle
	Repeat One
	Repeat All

5.9 Managing Photo Albums

Making an Album

An album is a collection of photo files that you can browse by means of Adobe Flash® and HTML technology. You can make any number of albums using photos in a variety of file formats. And you can use the same photos in multiple albums.

Part 1: Making your Album

To make a new album:

1. Go to the **Main Window**.

2. Click the **Photo Album** icon.

    The Make Album screen appears.

3. Click the **Select** button and choose **From folder** in the dropdown menu.

4. In the Open dialog box, navigate to the folder that contains the photo files you want to add to your album and click the **Open** button.
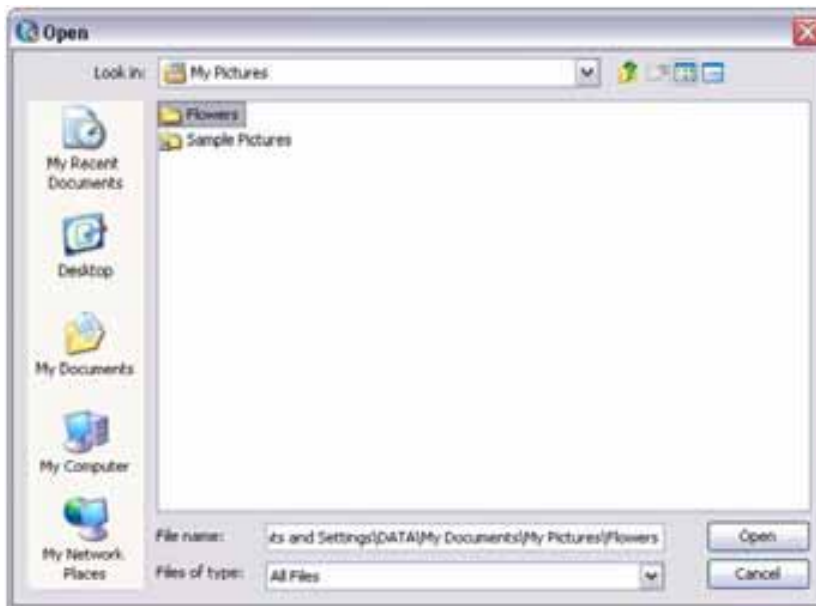
Thumbnails of the photos in the folder appear in the left window.

5. Click and drag the photos to the right window to add them to your album.

Optional:

- To view a photo, click the **View** icon.

- To sort the photos, click the **Sort** ![icon] icon and choose a sort method by name, size or data from the dropdown menu.

- To delete a photo, click the photo, then click the **Delete** ![icon] icon.

6. When you finish your selection of photos, click the **Next** ![icon] button.

   The Album Style Setting screen appears.

7. Type a **Title** for your album in the Title field. *(A)*
   Or accept the default title.

8. Choose the **Date** with year, month and day in the dropdown menus. *(B)*

9. Choose a **Style** from the list. *(C)*

   An example of the highlighted Style appears in the Preview window.

   Your photos do not appear in the Preview window.

Part 2: Exporting or Uploading your Album

You now have the choice of:

- Exporting (saving) the album to your PC
- Uploading (saving) the album to the NAS system
- Both actions

To export the album to your PC:

1. Click the **Export Album** icon.

2. In the Final Confirm box:

   - Type the name of the destination folder where you want the Album to be saved.

   - Navigate to the place where you want the destination folder created.
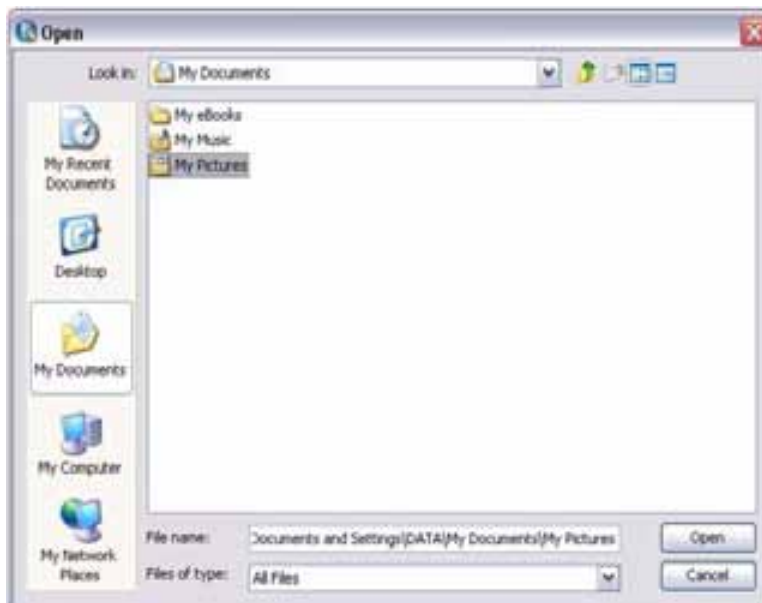
   - Click the **Confirm** button.
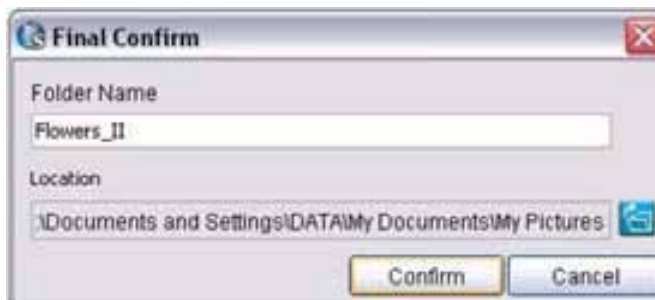
3. When the album success message appears, click the **Confirm** button.

The album has been saved in the destination folder.

To upload the album to the NAS system:

1. Click the **Upload Album** icon.

2. When the album success message appears, click the **Confirm** button.

The album has been uploaded to the **WWW\Album** folder on the NAS system.

Part 3: Viewing your Album

To view your album, open its folder and double-click the **index.html** file.

The album opens in your default browser.
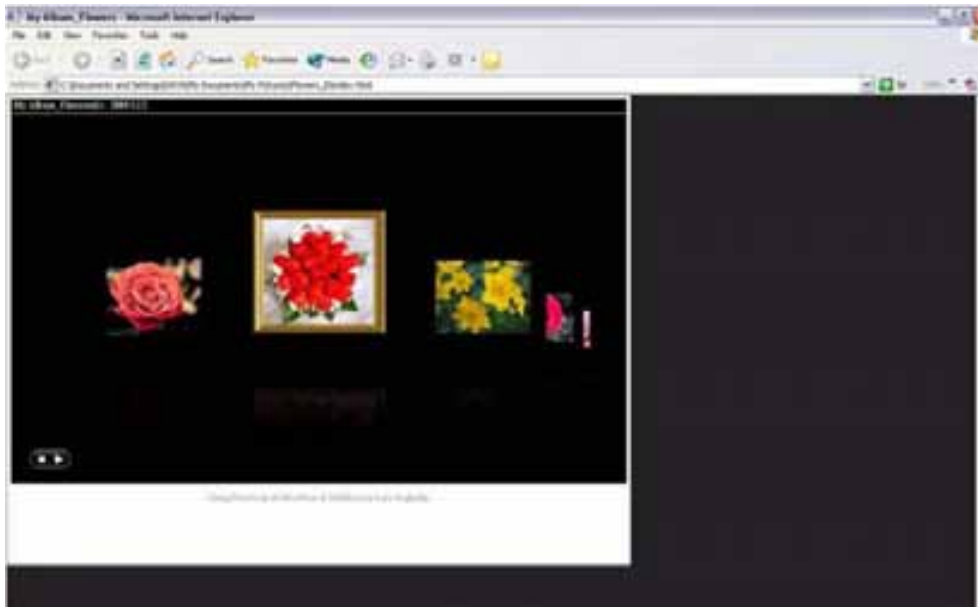
Viewing an Album

To view an album:

1. Go to the **Main Window**.

2. Click the **Photo Album** icon. *(A)*

3. Click the **Manage Album** button. *(B)*

    The Manage Album screen appears.

4. Choose the location, year, and month in the dropdown menus. *(C)*

    Local means on your PC. Other names apply to NAS systems.

    The albums matching the criteria appear in the Manage Album list. *(D)*

5. Click the album you want to view and click the **View** button. *(E)*

In the View window, click these icons as desired to apply their effects:

 - Rotate left

 - Rotate right

 - Zoom in

 - Zoom out

 - Default size

 - Color/grayscale toggle

 - Photo metadata

- Add/view/delete comments

- Full screen view

Editing an Album

The album must be on saved your PC for editing.

To edit an album:

1. Go to the **Main Window**.
2. Click the **Photo Album** icon. *(A)*
3. Click the **Manage Album** button. *(B)*

   The Manage Album screen appears.
4. Choose **Local**, the year and month in the dropdown menus. *(C)*

   The albums matching the criteria appear in the Manage Album list. *(D)*
5. Click the album you want to edit and click the **Edit** button. *(E)*

The Make Album screen appears.

To continue, go to "Making an Album" on page 121.

Deleting an Album

Caution

Deleting an album deletes the photo files saved in the album itself.

Deleting an album does not delete the original photo files that you copied when you created the album or later added to it.

To delete an album:

1. Go to the **Main Window**.
2. Click the **Photo Album** icon. *(A)*
3. Click the **Manage Album** button. *(B)*

   The Manage Album screen appears.

   Choose the location, year, and month in the dropdown menus. *(C)*

   Local means on your PC. Other names apply to NAS systems.

   The albums matching the criteria appear in the Manage Album list. *(D)*

4. Click the album you want to delete and click the **Delete** button. *(E)*

5. In the Confirmation box, click the **Yes** button.

The album is deleted.

Chapter 6: WebPASM

6.1 Choosing a Language

To choose a language, click the Language menu in the WebPASM Header and choose the language you prefer.

6.2 Navigating in WebPASM

The Tree is the primary navigation tool in WebPASM. Categories of functions listed with icons for different topics.

Icons for specific functions are listed under the categories. Click the icon to show the functions.

Click the function icons to display their information on the screen. Each function has one or more tabs in its screen.

The Tree expands and contracts in DHTML-capable browsers. If your browser does not support DHTML, the Tree is expanded all of the time. The functions are not affected.

6.3 Logging out of WebPASM

There are two ways to log out of WebPASM:

- Close your browser window.
- Click **Logout** in the WebPASM Header.
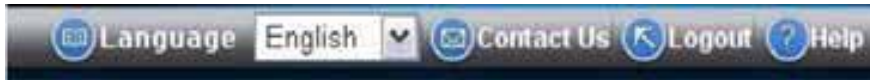
Clicking **Logout** brings you back to the Login Screen. After logging out, you must enter your user name and password in order to log in again.

6.4 Managing Monitor and Wizard

Viewing the information of the Resource Monitor

To view the Resource Monitor:

1. Click the **Administration** topic and choose the **Monitor & Wizard** icon to expand the Tree.

2. Click the **Resource Monitor** icon.

The Resource Monitor displays information about the hardware and software as following:

File System:

- Volume
- Capacity
- Free Capacity
- Used Capacity
- Usage

System Information:

- CPU Usage
- Memory Usage
- Network Flow: inflow and outflow
- Up Time

Enclosure Information:

- System Temperature

- System Fan Speed

Setting up SmartStor with the Setup Wizard

If you used the SmartNAVI Setup Wizard to set up your SmartStor, you do not need to run the Setup Wizard in WebPASM.

If you have not yet set up your SmartStor:

1. Click the **Administration** topic and choose the **Monitor & Wizard** icon to expand the Tree.
2. In the Tree, click the **Setup Wizard** icon to display the Setup Wizard screen.
3. The **Setup Wizard** screen appears.

The Setup Wizard tab enables you to modify the network parameters of the SmartStor.

Changing the Default Computer Name

1. Click the **Administration** topic and choose the **Monitor & Wizard** icon to expand the Tree.
2. In the Tree, click the **Setup Wizard** icon.
3. Under network setting, enter a name for the SmartStor in the **Computer Name** field. Use only letters, numbers, and the underscore character for the name.
4. Click the **OK** button.
5. In the confirmation box, click the **OK** button.

Setting Network Configuration

You can configure your network connection automatically. This option requires you to have a DHCP server on your network. If you do not have a DHCP server, use the manual configuration as below.

1. Click the **Administration** topic and choose the **Monitor & Wizard** icon to expand the Tree.
2. In the Tree, click the **Setup Wizard** icon.

3. Under network setting, choose one of the following options:

   - **Obtain an IP address automatically** - Choose this option if your network has a DHCP server with addresses available

   - **Specify an IP address** - Choose this option if you want to set the IP address and other network setting manually

4. If you chose the **Specify an IP address** option, type the following information in the fields provided:

   - IP Address

   - Subnet Mask

   - Default Gateway IP Address

   - Primary DNS

   - Secondary DNS

   Contact your Network Administrator for help with these settings.

5. Click the **OK** button.

6. In the confirmation box, click the **OK** button.

   The new network settings are applied.

Viewing File System

1. Click the **Administration** topic and choose the **Monitor & Wizard** icon to expand the Tree.

2. In the Tree, click the **Setup Wizard** icon.

3. The File System list displays the following information:

   - File System

   - RAID Level

   - Total Capacity

   - Free Capacity

   - Used Capacity

   - RAID Status

6.5 Managing Users and Groups

Viewing a List of Users

To view the list of Users:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*

2. In the Tree, click the **User Management** icon. *(B)*

   A list of users appears on the Information tab.

3. Click the **Information** tab. A list of users appears under the User List. *(C)*
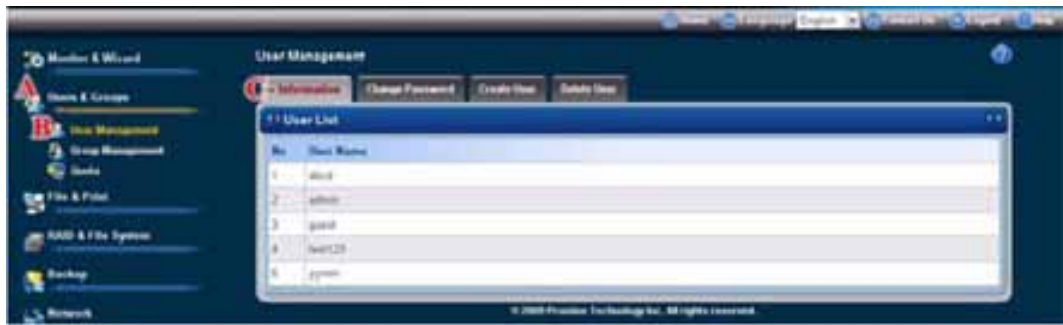
Creating a User

You can create up to 512 Users.

To create or add a new user:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. (A)
2. In the Tree, click the **User Management** icon. (B)
3. Click the **Create User** tab. *(C)*
4. Type a user name in the User Name field provided. *(D)*
5. Type a password into the New Password field provided. *(E)*
6. Type a password into the Retype Password field provided. *(F)*

7. Click the **OK** button. *(G)*
8. In the confirmation box, click the **OK** button.

Changing the User's Password

To change the User's password:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*
2. In the Tree, click the **User Management** icon. *(B)*
3. Click the **Change Password** tab. *(C)*
4. From the User Name drop-down menu, choose the name of the user whose password you want to change. *(D)*
5. Type a new password into the fields provided. *(E)*
6. Type the new password again in the Retype Password field. *(F)*
7. Click the **OK** button. *(G)*

8.   In the confirmation box, click the **OK** button.

If you forget your new password, you reset the SmartStor to the default
Administrator's password. See "Restoring the Default Password" on page 230.

Deleting a User

You cannot delete the Administrator (admin). To delete any other user:

1.   Click the **Administration** topic and choose the **Users & Group** icon to
     expand the Tree. *(A)*
2.   In the Tree, click the **User Management** icon. *(B)*
3.   Click the **Delete User** tab. *(C)*
4.   Click the option button to the left of the user you want to delete. *(D)*
5.   Click the **OK** button. *(E)*

6.   In the confirmation box, click the **OK** button.

Viewing a List of Groups

Groups are composed of users. You can assign permissions to a group, the
same as you would do with individual users.

To view a list of groups:

1.   Click the **Administration** topic and choose the **Users & Group** icon to
     expand the Tree. *(A)*
2.   In the Tree, click the **Group Management** icon. *(B)*
3.   Click the **Information** tab. A list of groups appears under the Group List. *(C)*

Creating a Group

Groups are composed of users. You can assign permissions to a group, the same as you would do with individual users. You can create up to 256 groups.

To create a group:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*
2. In the Tree, click the **Group Management** icon. *(B)*
3. Click the **Create** tab. *(C)*
4. Type a group name in the field provided. *(D)*
5. Click the **OK** button. *(E)*

6. In the confirmation box, click the **OK** button.

Adding Members to a Group

You must create a group before you can assign members to it. See "Creating a Group" on page 138.

To add members to a group:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*
2. In the Tree, click the **Group Management** icon. *(B)*
3. Click the **Group Members** tab. *(C)*
4. From the dropdown menu, choose a group to which you want to add members. *(D)*
5. Highlight users in the Users column *(E)* and click the **>>** button to move them to the Members column. *(F)*

Removing Members from a Group

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*

2. In the Tree, click the **Group Management** icon. *(B)*

3. Click the **Group Members** tab. *(C)*

4. From the dropdown menu, choose a group from which you want to remove members. *(D)*

5. Highlight users in the Members column *(E)* and click the **<<** button to move them to the Users column. *(F)*

Deleting a Group

You must remove all members from the group before you can delete the group.

See "Removing Members from a Group" on page 139.

To delete a group:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*

2. In the Tree, click the **Group Management** icon. *(B)*

3. Click the **Delete** tab. *(C)*

4. Click the option button next to the group you want to delete. *(D)*

5. Click the **OK** button. *(E)*

6. In the confirmation box, click the **OK** button.

Viewing Quotas

Quotas are portions of storage space that you assign to each user or group.

To view a quota:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*

2. In the Tree, click the **Quota** icon. *(B)*

3. Click the **Information** tab. *(C)*

4. From the **Volume** dropdown menu, choose the RAID Volume you want. *(D)*

   A list of users and groups, and the following data appear under the Quota Information List. *(E)*

- Groups & Users name: User group names are preceded with an @ symbol.
- RAID Volume
- Currently assigned quotas
- Used space
- Free space
- Usage

Setting Quotas

Quotas are portions of storage space that you assign to each user or group.

Assigning quotas enables you to control how much storage space each user or group can access.

By default, each user and group is assigned an unlimited quota, meaning that any one user or group can access the entire storage space. In the Quota screen, the names of groups are preceded with a @ character.

To set a quota:

1. Click the **Administration** topic and choose the **Users & Group** icon to expand the Tree. *(A)*
2. In the Tree, click the **Quota** icon. *(B)*
3. Click the **Settings** tab. *(C)*
4. From the dropdown menu, choose the RAID Volume to which the quota applies. *(D)*
5. Under the Quota Information List, click one of the following options: *(E)*
    *   Unlimited
    *   Limited Quota
6. If you chose Limited Quota, type a number into the field provided.

    This number represents how many MB of data the user or group can access.
7. Click the **OK** button. *(F)*

8. In the confirmation box, click the **OK** button.

	Note
	If you set different size quotas for the user and the group, SmartStor will use the smaller quota.

6.6 Managing File & Print Services

Viewing a List of Protocols

To view the list of Protocols:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree.*(A)*

2. In the Tree, click the **Protocol Control** icon.*(B)*

3. Click the **Information** tab. A list of protocols appears on the Protocol List.*(C)*

4. The built-in protocols are: Windows, Mac, FTP Sharing, UNIX/Linux, and Print Server. *(D)*

5. Click the **Enable/Disable** button to activate or deactivate the protocol service, then the Status will show ON/ OFF. *(E)*

Setting up Windows Access

Setting up Windows Service

The Windows tab enables you to activate the Windows service for the SmartStor and provides options to set up the Windows workgroup.

With the Windows service, Windows PC users can access the SmartStor from the network and use it for data storage.

To set up access from a Windows PC:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Protocol Control** icon *(B)*, then click the **Windows** tab. *(C)*

3. In the Services field, click the **Enable** option button. *(D)*

To change the SmartStor's default computer name, go to the Setup wizard or Network Setup. *(E)*

4. Optional. Type a new Computer Description into the field provided. *(F)*

5. Optional. Click the **Enable** option button beside Recycle Bin. *(G)*

    - Enabled - Deleted files move the Recycle Bin. You must empty the Recycle Bin to remove them from the SmarStor. Uses more space.

    - Disabled - Default. Deleted files are immediately removed from the SmartStor. Saves space but has no chance of file recovery.

6. Choose the option button to make the SmartStor a member of: *(H)*

    - An Active Directory (AD) Domain

    - A Workgroup

    Note: If you join an AD Domain, you automatically disable your NIS Domain settings. See "Setting up UNIX/Linux Access" on page 144.

7. Optional. If you chose an AD Domain, enter the following in the fields provided: *(H-1)*

    - Domain or Workgroup Name. This name appears in the Windows Network Neighborhood.

    - Domain Controller

    - Administrator Account

    - Administrator Password

    See your Network Administrator for help with this information.

8. Optional. If you chose an Workgroup, enter the Workgroup name into the field provided: *(H-1)*

    This name appears in the Windows Network Neighborhood. See your Network Administrator for help with this information.

9. Click the **OK** button to save your settings. *(I)*

Setting up File Sharing

To set up Windows file sharing:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Sharing Setup** icon *(B)*, then click the **Windows/Mac/FTP Sharing** tab. *(C)*

3. Choose a Volume from the Volume dropdown menu. *(D)*

4. Choose a folder from the Folder Name dropdown menu. *(E)*

5. Check the **Windows** protocol box. *(F)*

6. In the User/Group list, group names are preceded by the @ character. *(G)*

7. Under Permissions, choose a permission level for this user or group: *(H)*

    -   Deny Access - Visible only, cannot open
    -   Read Only
    -   Read and Write - Default

8. Click the **OK** button to save your settings. *(I)*

9. In the confirmation box, click the **OK** button.

You can now access the folder you chose from a Windows PC.

See "Chapter 4: Connecting to the SmartStor" on page 15 for information about the settings that you must make on your PC.

Note

Windows support is only through SMB and CIFS protocols.

SmartStor supports the Recycle Bin feature. When you delete a file, the file is moved to the Recycle Bin, a hidden folder in the share folder.

Setting up UNIX/Linux Access

Setting up UNIX/Linux Service

The Unix/Linux tab enables you to activate the Unix and Linux service for the SmartStor.

With the Unix/Linux service, Unix/Linux PC users can access the SmartStor from the network and use it for data storage.

To set up access from a UNIX or Linux PC:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. Click the **Protocol Control** icon *(B)*, then click the **UNIX/Linux** tab *(C)*.

3. Click the **Enable** option button (default). *(D)*

4. Optional. To join a NIS Domain, click the **UNIX/Linux** tab *(A)*, then click the **Yes** button beside Services. *(B)*

   Note: If you join an NIS Domain, you automatically disable your AD Domain settings. See "Setting up Windows Access" on page 142.

5. Enter the Domain name into the field provided. *(C)*

   See your Network Administrator for help with this information.

6. Click the **OK** button to save your settings. *(D)*

   The setting runs automatically.

Setting up File Sharing

File access from UNIX and Linux PCs is controlled by specifying the IP address of each PC that can access a given folder.

You must designate the IP addresses for each folder individually. You can have up to 256 IP addresses for all of your folders.

To set up UNIX/Linux file sharing:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. Click the **Sharing Setup** icon *(B)*, then click the **UNIX/Linux Sharing** tab. *(C)*

3. Choose a volume from the Volume dropdown menu. *(D)*

4. Choose a folder from the Folder Name dropdown menu. *(E)*

5. In the New IP Address field, type the IP address of the UNIX or Linux PC from which you will access this folder, then click the **Add** button.

6. Click the **OK** button in the confirmation box.

You can now access the folder you chose from a UNIX or Linux PC.

See "Chapter 4: Connecting to the SmartStor" on page 15 for information about the settings that you must make on your UNIX or Linux PC.

Setting up Mac Access

Setting up Mac Service

The Mac tab enables you to activate the Mac service for the SmartStor.

With the Mac service, Mac computer users can access the from the network and use it for data storage.

To set up access from a Mac:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. Click the **Protocol Control** icon *(B)*, then click the **Mac** tab. *(C)*

3. Click the **Enable** button *(D)*.

4. Optional. Type a message in the Login Message field. *(E)*

5.   Click the **OK** button to save your settings. *(F)*

The optional login message appears on the Welcome screen when you log into SmartStor from a Mac.

Setting up File Sharing

To set up Mac file sharing:

1.   Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2.   Click the **Sharing Setup** icon *(B)*, then click the **Windows/Mac/FTP Sharing** tab. *(C)*

3.   Choose a volume from the Volume dropdown menu. *(D)*

4.   Choose a folder from the Folder Name dropdown menu. *(E)*

5.   Check the **Mac** protocol box. *(F)*

6.   In the User/Group list, group names are preceded by the **@** character. *(G)*

7.   Under Permissions, choose a permission level for this user or group: *(H)*

   •   Deny Access - Visible only, cannot open

   •   Read Only

   •   Read and Write - Default

8.   Click the **OK** button to save your settings. *(I)*

9. In the confirmation box, click the **OK** button.

You can now access the specified folder from a Mac.

See "Chapter 4: Connecting to the SmartStor" on page 15 for information about the settings that you must make on your Mac.

Setting up FTP Access

Setting up FTP Service

The FTP Sharing tab enables you to activate the file transfer protocol (FTP) service for the SmartStor. This service enables the to act as an FTP server.

To set up FTP access for your folders:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Protocol Control** icon *(B)*, then click the **FTP Sharing** tab. *(C)*

3. In the Services field, click the **Enable** option button. *(D)*

4. To specify a new Command Port number, type the number into the field provided. *(E)*

    Port 21 is typically used for the Command Port.

5. To specify a range of passive data port numbers, type those numbers into the fields provided. *(F)*

    The port range is 1024 to 65535.

    Be sure the port numbers you enter are enabled on your firewall and server.

    In active mode, the FTP server uses port 20 for the data port.

6. If your FTP client uses double-byte characters but does not support Unicode, choose your FTP client's encoding from the Client Coding Type dropdown menu, shown here translated to English. Choose from: *(G)*

    *   English (Unicode)
    *   Japanese
    *   Simplified Chinese
    *   Traditional Chinese
    *   Korean

7. Click the **Enable**/ **Disable** option to activate or deactivate the Explicit Encryption. *(H)*

8. Click the **OK** button to save your settings. *(I)*

Setting up File Sharing

To set up FTP file sharing:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Sharing Setup** icon *(B)*, then click the **Windows/Mac/FTP Sharing** tab. *(C)*

3. Choose a V*olume* from the *Volume* dropdown menu. *(D)*

4. Choose a folder from the Folder Name dropdown menu. *(E)*

5. Check the **FTP Sharing** protocol box. *(F)*

6. In the User/Group list, group names are preceded by the **@** character. *(G)*

7. Under Permissions, choose a permission level for this user or group: *(H)*

   - Deny Access - Visible only, cannot open
   - Read Only
   - Read and Write - Default

8. Click the **OK** button to save your settings. *(I)*

9. In the confirmation box, click the **OK** button.

   You can now access the specified folder from your PC using FTP.

Setting up your Print Server

The Printer Server tab enables you to activate the printer server capability of the SmartStor. You can connect a network-shared printer to either of the SmartStor's two USB ports.

You can only connect one printer at a time.

You must activate Windows service (on the Windows tab) before you start the printer server. See "Viewing a List of Protocols" on page 142.
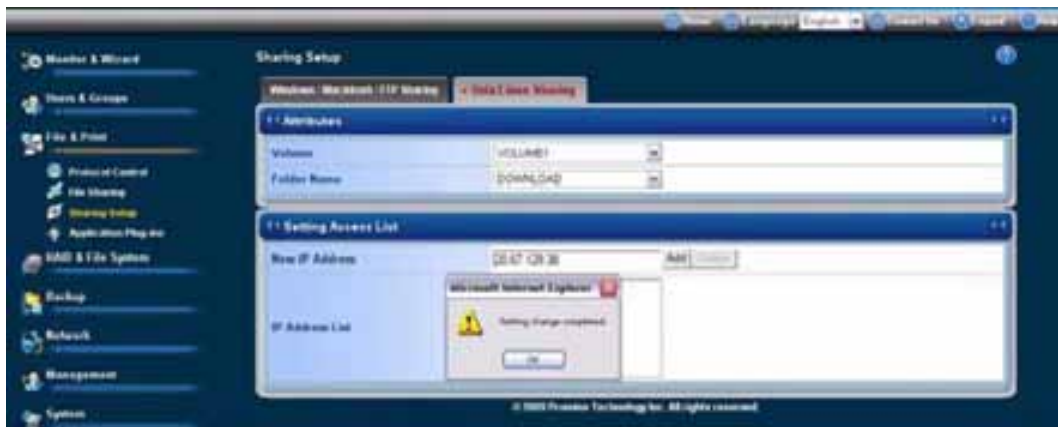
To set up the SmartStor as a printer server:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*
2. Click the **Protocol Control** icon *(B)*, then click the **Printer Server** tab. *(C)*
3. Click the **Enable** option button beside Printer Server. *(D)*
4. Click the **OK** button to save your settings. *(E)*

Note

- The Printer Server tab also verifies that your USB printer is connected and online. If you do not see your printer on the Printer Server tab, take the necessary action to connect and power the printer. See "Connecting a USB Printer to SmartStor" on page 26.

- The software driver for your printer must be installed on your PC before you can print from the PC. See the printer's *Setup Guide* or *User Manual*.

Setting up your DLNA Server

The Digital Living Network Alliance (DLNA) service enables the Universal Plug-and-Play (UPnP) protocol, so your SmartStor can function as a Digital Media Server (DMS). When your DLNA service is enabled, you can connect your DLNA control unit or UPnP client on the network where the SmartStor is

connected, and use the SmartStor to play image, audio, and AV media.

You must install the optional DLNA plug-in before you can make this setting and use the UPnP protocol. See "Adding Application Plug-ins" on page 179.

The media content directory is under /VOLUME1/. Three share folders are created when you install the DLNA plug-in: PICTURE, MUSIC, and VIDEO.

With the DLNA plug-in, SmartStor supports these media formats:

- **Picture** - bmp, gif, jpg, jpeg, png, tif
- **Music** - mp3, pcm, wma
- **Video** - avi, mpg, mpeg, wmv, tts, vob

Viewing a List of Application Plug-ins

To view a list of installed plug-ins:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Protocol Control** icon. *(B)*

3. A list of installed application plug-ins, version numbers and status appear on the **Information** tab. *(C)*

   Many plug-ins have a clickable **link** that takes you to their management interface.
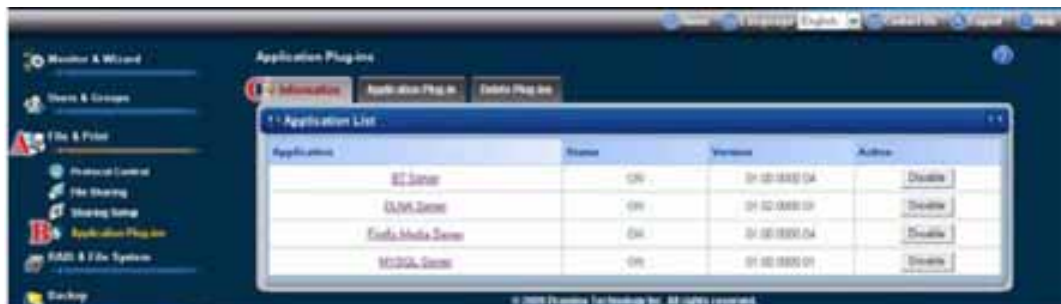
Enabling and Disabling Application Plug-ins

Enabling Application Plug-ins

You must add a plug-in to SmartStor before you can use this function. To add a plug-in to SmartStor, see "Adding Application Plug-ins" on page 179.

To enable a plug-in:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Application Plug-in** icon. *(B)*

3. In the **Information** tab, click the **Enable** button on the end of the plug-in list you want to enable. *(C)*

4. Click the **OK** button in the confirmation box.

    After a moment, the Service Status changes to ON.

    The plug-in is now enabled.

Disabling Application Plug-ins

Disabling a plug-in saves memory space and processing time on the SmartStor. If you do not use a feature, consider disabling its plug-in.

To disable a plug-in:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Application Plug-in** icon. *(B)*

3. In the **Information** tab, click the **Disable** button on the end of the plug-in list you want to disable. *(C)*

4. Click the **OK** button in the confirmation box.

    After a moment, the Service Status changes to OFF.

    The plug-in is now disabled.

Viewing a List of Folders

A folder is the entity that appears as a Network Drive on your PC.

To view the list of folders:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **File Sharing** icon. *(B)*

    A list of current folders appears in the Information tab. *(C)*

    Services enable different types of PCs to access your folders. Use this

function to add or remove a service for a specific folder.

3. Check the boxes beside the services you want to use. *(D)*

4. Click the **OK** button. *(E)*

5. In the confirmation box, click the **OK** button.

   If the service you want is OFF, see:

   "Setting up Windows Access" on page 142

   "Setting up UNIX/Linux Access" on page 144

   "Setting up Mac Access" on page 146

   "Setting up FTP Access" on page 148

Adding a Folder

A folder is the entity that appears as a Network Drive on your PC.

To add a folder:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **File Sharing** icon. *(B)*

3. Click the **Create** tab. *(C)*

4. From the Volume dropdown menu, choose the RAID Volume in which you want to create a new folder. *(D)*

5. In the Folder Name field, type a name for your new folder. *(E)*

6. Click the types of file systems that you want to associate with the folder. The Service Status column displays **ON** when a service is activated.

7. Click the **OK** button. The new folder is created. *(G)*

To access the new folder from a Windows PC, see "Setting up Folder Sharing: Windows, Mac, FTP" on page 155.

To access the new folder from a UNIX or Linux PC, see "Setting up Folder Sharing: UNIX and Linux" on page 156.

To make the folder a network drive on your PC, see "Chapter 4: Connecting to the SmartStor" on page 15.

Deleting a Folder

Caution

When you delete a folder, you delete all the data saved in the folder. Back up any important data before you delete a folder.

To delete a folder:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*
2. In the Tree, click the **File Sharing** icon. *(B)*
3. Click the **Remove** tab. *(C)*
4. Click the option button beside the folder you want to delete. *(D)*
5. Click the **OK** button. *(E)*

6. In the confirmation box, click the **OK** button to confirm.

   Note: The default folder cannot be removed from the folder list.

Setting up Folder Sharing: Windows, Mac, FTP

Sharing Setup assigns user access the folders on your SmartStor. By default all users and groups have read and write access.

To set up sharing for a folder:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*
2. In the Tree, click the **Sharing Setup** icon. *(B)*
3. Click the **Windows/Mac/FTP Sharing** tab. *(C)*
4. From the Volume dropdown menu, choose the RAID Volume containing the folder you want to modify. *(D)*
5. From the Folder Name dropdown menu, choose the folder you want to modify. *(E)*
6. Check the boxes for the protocols you want for this folder: *(F)*

   - Windows
   - Mac
   - FTP

   In the User/Group list, group names are preceded by the @ character.
7. In the Permission list, click the option button for one of the following permissions for each group and user: *(G)*

   - Deny Access - Visible only, cannot open
   - Read Only
   - Read and Write - Default
8. Click the **OK** button. *(H)*

9. In the confirmation box, click the **OK** button.

   Be sure the appropriate services are running for this folder. See:

"Setting up Windows Access" on page 142.

"Setting up Mac Access" on page 146.

"Setting up FTP Access" on page 148.

Setting up Folder Sharing: UNIX and Linux

UNIX and Linux sharing designates which UNIX and Linux PCs can access the folders on your SmartStor. You specify a UNIX or Linux PC by its IP address. You can add up to 256 IP addresses for all of your folders.

You must designate the IP addresses for each folder individually.

To set up UNIX and Linux sharing for a folder:

1. Click the **Administration** topic and choose the **File & Print** icon to expand the Tree. *(A)*

2. In the Tree, click the **Sharing Setup** icon. *(B)*

3. Click the **UNIX/Linux Sharing** tab. *(C)*

4. From the Volume dropdown menu, choose the RAID Volume containing the folder you want to modify. *(D)*

5. From the Folder Name dropdown menu, choose the folder you want to modify. *(E)*

6. In the New IP Address field, type the IP address of the UNIX or Linux PC from which you will access this folder. *(F)*

7. Click the **Add** button to add the computer to the access list. *(G)*

8. In the confirmation box, click the **OK** button.

    Be sure the UNIX/Linux service is running for this folder. See "Setting up UNIX/Linux Access" on page 144.

To remove a computer from the access list:

1. Highlight the IP address of the computer you want to delete. *(A)*

2. Click the **Delete** button. *(B)*

3. Click the **OK** button in the confirmation box. The computer is removed from the list.

6.7 Managing RAID Volumes & File System

Viewing RAID Volume Status

RAID status refers to the disk drives on your SmartStor and how they are arranged into a RAID Volume.

To view the status of your RAID Volume:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree. *(A)*

2. In the Tree, click the **RAID Management** icon. *(B)*

   The RAID Status tab displays the current RAID system and its status: *(C)*

   - **RAID Name** - The name of your RAID, automatically assigned when it was created

   - **RAID Level** - RAID 0, 1, 5, or 10, specified when it was created

   - **Capacity** - Data capacity of the RAID Volume in GB

   - **RAID Status** - Functional is normal. Critical means a disk drive has failed. Offline means you cannot access your data.
     Critical and offline RAIDs require you to take corrective action. See "Replacing a Failed Disk Drive" on page 217.

   - **Action Status** - Idle is normal. Rebuilding means the RAID Volume is being rebuilt after a disk drive failure. Migrating means the RAID Volume is adding a disk drive or changing RAID levels.

   - **Background Activity** - None is normal. Running means a background activity is in progress.

Viewing Disk Drive Information

To view information about a disk drive:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree. *(A)*

2. In the Tree, click the **RAID Management** icon. *(B)*
   The RAID Status tab displays the current RAID system and its status.

3. In the Disk List, double-click a disk drive icon. *(C)*
   The disk drive information displays under Disk Status as below: *(D)*

   - Channel

   - Model

   - Firmware Version

   - Serial Number

   - Capacity

   - Sectors

   - Heads

   - Cylinders

   - Ultra DMA Mode

   - PIO Mode Support

   - Smart Support

   - Smart Enable
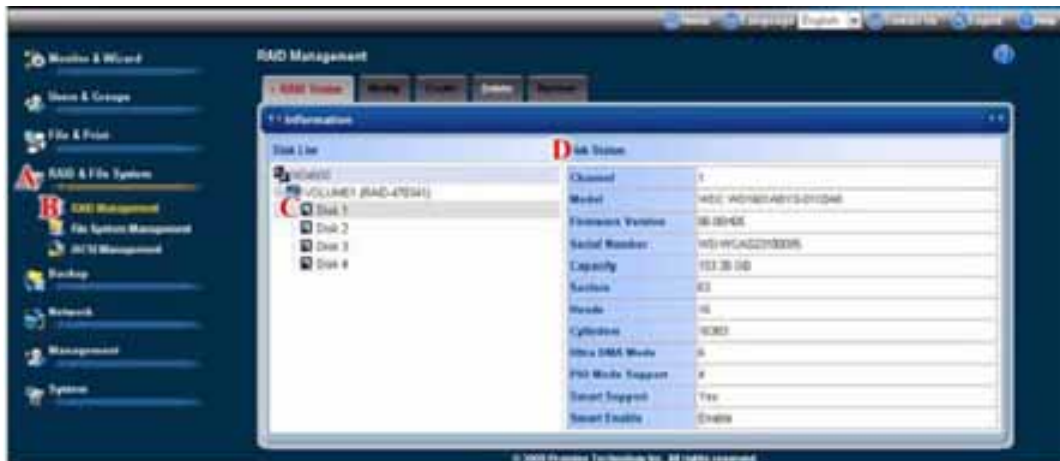
Creating a RAID Volume

On SmartStor, the term RAID Volume refers to one or more disk drives working together as a RAID logical drive.

You can also use a USB disk to create a RAID Volume. See "Viewing an External USB Drive or Memory Stick" on page 162.

You must have unassigned disk drives in your SmartStor to create a new RAID.

To create a new RAID Volume:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.

2. In the Tree, click the **RAID Management** icon.

3. Click the **Create** tab.

4. From the RAID Level dropdown menu, choose the RAID level you prefer for your disk array.

    See "Choosing a RAID Level" on page 212 for more information.

5. Highlight disk drives in the Free Disks column and click the **>>** button to move them to the Disks in RAID column.

6. Click the **OK** button.

7. In the confirmation box, click the **OK** button.

    The RAID Volume is created and formatting begins. Formatting requires several minutes, depending on the size of your disk drives.

    After formatting is done, you must create folders on your RAID Volume. See "Adding a Folder" on page 153.

Designating a Spare Drive

If you have an unassigned disk drive, you can assign it as a spare drive.

For more information, see "Spare Drive" on page 214 and "Automatic Rebuilding" on page 214.

To assign a spare drive:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.

2. In the Tree, click the **RAID Management** icon.

3. Click the **Create** tab.

4. From the RAID Level dropdown menu, choose *Spare Disk*.

5. Highlight a disk drive in the Free Disks column and click the **>>** button to move it to the Disks in RAID column.

6. Click the **OK** button.

7. In the confirmation box, click the **OK** button.

Note: Only for 4 Bay NAS.

Migrating a RAID Volume

To migrate a RAID Volume means to change its RAID level or to add disk drives. See "RAID Volume Migration" on page 215 for more information.

To migrate a RAID Volume:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.

2. In the Tree, click the **RAID Management** icon.

3. Click the **Modify** tab.

4. From the Current Volume dropdown menu, choose the RAID Volume which you want to modify.

5. In the Migrate to RAID Level dropdown menu, choose the target RAID Level.

6. To add disk drives, highlight disk drives in the Free Disks column and click the **>>** button to move them to the Disks in RAID column.

7. Click the **OK** button.

    The RAID Volume is modified as you directed. Migration can take up to two hours, depending on the size of your disk drives.

    During the modification, your RAID Volume and all of the folders on it are fully accessible.

    After the Migration is completed, you must extend the file system in order to use the storage space you have added. You can extend the file system immediately or wait until later.

8. Click the **File System Management** icon.

9. In the File System Status tab, click the **Extend File System** button.

Deleting a RAID Volume

Caution

When you delete a RAID Volume, you delete all the folders in the RAID volume and all the data saved in the folders. Back up any important data before you delete a RAID Volume.

Note

You cannot delete a RAID Volume while a background activity is running, such as Migration or Rebuild. Wait until these activities are completed.

To delete a RAID Volume:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree. *(A)*

2. In the Tree, click the **RAID Management** icon. *(B)*

3. Click the **Delete** tab. *(C)*

4. Click the option button beside the RAID Volume you want to delete. *(D)*

5. Click the **OK** button. *(E)*

6. In the confirmation box, type **YES** into the field provided, then click the **OK** button.

After a RAID Volume is deleted, the SmartStor reboots automatically. When the SmartStor is fully booted:

- The System Status LED turns to normal status color (right)
- The buzzer beeps one time (if the buzzer is enabled)

System Status LED
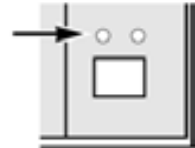
7. Close your browser then restart the browser to access WebPASM.

Viewing the File System Status

To view the status of your File System:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree. *(A)*
2. In the Tree, click the **File System Management** icon. *(B)*
3. This **File System Status** tab displays file and disk space information for the SmartStor as below: *(C)*
   - Volume Name
   - RAID Level
   - RAID Status
   - Total Capacity
   - Free Capacity
   - Used Capacity
   - Usage
   - Assign Capacity-Type the capacity you want into the Assign Capacity column and click the **Extend File System** button.

Note

You can assign the reserve storage capacity from iSCSI space to the total RAID capacity, but you cannot convert it back.

If the capacity is exhausted, this information of Assign Capacity field will not appear.

Viewing an External USB Drive or Memory Stick

To view a USB drive or memory stick attached to the SmartStor:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree. *(A)*

2. In the Tree, click the **RAID Management** icon. *(B)*

    The USB drive or memory stick appears as a USB External Disk. *(C)*

3. Click the File System Management icon. *(D)*

    The USB drive or memory stick appears as a Volume called USBDISK. *(E)*

You do NOT create a RAID Volume or folders with the USB drive or memory stick as you would with the disk drives installed in the SmartStor enclosure.

With the USB drive or memory stick connected to the SmartStor, create a network drive on your PC and choose the USB disk as the folder. Then you can access the USB drive or memory stick from your PC.

See "Chapter 4: Connecting to the SmartStor" on page 15 for more information.

Formatting an External USB Drive or Memory Stick

This option only appears when SmartStor does not recognize the file system on the USB drive or memory stick.

Caution

When you format a USB drive or memory stick, you delete all the data saved on it. Back up any important data before you format.

To format a USB drive or memory stick:

1. Attach the USB drive or memory stick to one of the USB ports on the back of the SmartStor.
2. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.
3. In the Tree, click the **File System Management** icon.
4. On the File System Status tab, highlight the USB drive.
5. From the Format File System Type dropdown menu, choose a file system:
   - **FAT 32** - Use for Windows, Linux, and Macs, and SmartStor
   - **Ext3** - Use for UNIX and Linux PCs, and SmartStor
6. Click the **Format USB Disk** button.
7. In the confirmation box, type **YES**, then click the **OK** button.

Formatting requires several minutes, depending on the size of your USB drive or memory stick.

Viewing the iSCSI Status

The iSCSI Status screen allows you to set up the services setting and displays information about the iSCSI on the SmartStor:

iSCSI (Internet Small Computer System Interface) is an Internet Protocol (IP)-based storage networking standard for linking data storage facilities

To setup the iSCSI services settings:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.
2. In the Tree, click the **iSCSI Management** icon.
3. In the **iSCSI Status** tab, click the **Enable** button in the Services field.
4. Type the following items into their respective fields:
   - iSCSI Port
   - iSNS (Internet Storage Name Service)Server Address

   Contact your network administrator for help with these settings.
5. Click the **OK** button.

   The iSCSI settings are applied.

The following list displays the iSCSI Information for the:

- iSCSI name
- Volume (file system)
- iSCSI Size
- RAID status
- Action status

Click the **Enable/Disable** button in the Action column to activate or deactivate the iSCSI service.

To delete the iSCSI volume:

1. Click the **Delete** button in the Action column.
2. In the confirmation box, type **YES** in the field provided and click the **OK** button.

The iSCSI volume is deleted.

Creating the iSCSI Volume

To create a iSCSI VOLUME (file system):

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.
2. In the Tree, click the **iSCSI Management** icon.
3. Type a new iSCSI name into the iSCSI Name field.
4. Select a iSCSI VOLUME you want to create from the iSCSI Name dropdown list.

Note

The Free Capacity shown here to let you know how much capacity you can create.

5. Type a number of iSCSI capacity into the Capacity field.

6. Click the **OK** button.

The file system is created automatically.

There are several levels of iSCSI security available with Storage Manager for SANs. The basic level is based on the CHAP (Challenge Handshake Authentication Protocol).

To create the iSCSI type to CHAP:

1. Click the **CHAP** option.
2. Type your user name into the User Name field.
3. Type your password into the Password field.
4. Retype your password into the Retype Password field.
5. Click the **OK** button to save your settings.

Modifying the iSCSI Volume

The Modify tab enables you to modify an existing iSCSI VOLUME(file system).

To change the iSCSI's default name:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.
2. In the Tree, click the **iSCSI Management** icon.
3. Select a iSCSI VOLUME you want to modify from the iSCSI Name dropdown list.
4. Type a new iSCSI name into the Modify iSCSI Name field.
5. Click the **OK** button.

The new iSCSI name is applied.

The list also displays the iSCSI information for the Volume and Capacity.

There are several levels of iSCSI security available with Storage Manager for SANs. The basic level is based on the CHAP (Challenge Handshake Authentication Protocol).

To modify the iSCSI type settings from "None" to "CHAP":

1. Click the **CHAP** option.

2. Type your user name into the User Name field.

3. Type your password into the Password field.

4. Retype your password into the Retype Password field.

5. Click the **OK** button to save your settings.

6.8 Managing Backups

Viewing a List of Snapshot Backups

To view the list of Snapshot backups:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.

2. In the Tree, click the **Snapshot Backup** icon.

The current list of Snapshots displays on the Information tab as below:

- Timestamp of the snapshot
- VOLUME (file system)
- Status of the file system
- Capacity of the file system
- Usage in percent of the file system

Setting up a Snapshot Backup

Caution

Setting up a Snapshot will delete all existing Snapshots.

To setup a Snapshot Backup:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.

2. In the Tree, click the **Snapshot Backup** icon.

3. Click the **Setup** tab.

4. From the Volume dropdown menu, choose the RAID Volume you want to backup.

5. Next to Snapshot Status, click the **Enable** option.

6. In the Reserve Capacity dropdown menu, choose a portion in GB of the RAID Volume you want to reserve for snapshots.

7. Choose the number of snapshots (1 to 4) you want from the Number of Snapshots drop-down menu.

8. Click the **OK** button.

9. In the confirmation box, type **yes** into the filed provided than click the **OK** button.

    The snapshot backup settings are applied. The process takes a few moments. Click the **Schedule** tab for scheduling options.

Scheduling a Snapshot Backup

To schedule a Snapshot Backup:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.

2. In the Tree, click the **Snapshot Backup** icon.

3. Click the **Schedule** tab.

4. Click the option you want from the Schedule Type list.

    - **Disable** - No snapshots will be taken.

    - **Do it at once** - Snapshots will be taken now, one time only.

    - **Time interval by hour** - Snapshots will be taken at the hourly interval you choose from the dropdown menu.

    - **Daily** - Snapshots will be taken at the time of day you choose from the dropdown menus.

    - **Weekly** - Snapshots will be taken on the day of the week, at the time of day you choose from the dropdown menus.

5. As needed, make your choices from the dropdown menus.

6. Click the **OK** button.
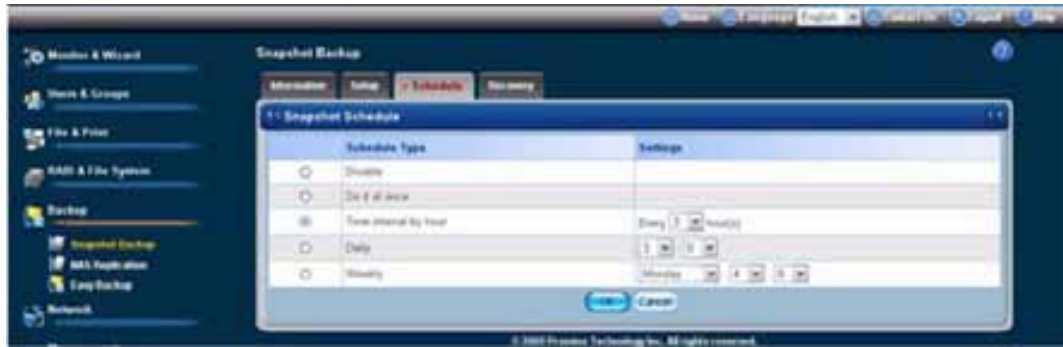
7. In the confirmation box, click the **OK** button.

The new backup schedule is applied. If you have not yet made your Snapshot settings, click the **Setup** tab and make them now.

Recovering Snapshot Backups

The Snapshot recovery feature has two functions:

- Use a Snapshot to restore the data volume (VOLUME1 or VOLUMEx) to an earlier point in time.
- Export a Snapshot to the share folder. The recovered Snapshot volume is read-only.

To recover a Snapshot backup:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.
2. In the Tree, click the **Snapshot Backup** icon.
3. Click the **Recovery** tab.

The Recovery tab lists recovered snapshot backups and the following information about them:

- Timestamp of the snapshot
- VOLUME (file system)
- Status of the file system
- Usage in percent of the file system

4. Click the option button beside the Timestamp and Volume that you want to recover or export.

5. Do one of the following actions:

- To restore the data volume using the Snapshot, click the **OK** button.
- To export the Snapshot to the share folder, click the **Export** button.

SmartStor performs the action you specified.

Viewing the NAS Replication Schedule

NAS Replication is a feature that uses one SmartStor to backup the data on another SmartStor. The two SmartStor systems must be on the same network.

To view the NAS Replication schedule:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.

2. In the Tree, click the **NAS Replication** icon.

   The current schedule displays on the Information tab.

- **Role:**

   Standalone - No backup server was specified
   Primary Server - This SmartStor is the primary, the other SmartStor is the backup
   Backup Server - This SmartStor is the backup, the other SmartStor is the primary

- **Primary or Backup Server** - The IP address of the other SmartStor on the network.

- **Schedule** - Replication schedule in number of hours, daily or weekly. Appears on the primary server.

Setting up NAS Replication

To set up NAS replication:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.

2. In the Tree, click the **NAS Replication** icon.

3. Click the **Setup** tab.

4. Under Settings, click the option button to assign a role to this SmartStor:

   - **Standalone** - Use this option when you only have one SmartStor on your network. This is the default setting and it disables NAS Replication.

   - **Primary** - This SmartStor is the primary and the other SmartStor is the backup server.

   - **Backup Server** - The other SmartStor is the primary and this SmartStor is the backup server.

5. Optional. If you chose Primary or Backup Server, type the IP address of the other SmartStor on your network.

6. Under Schedule, click the option button for the schedule type you want:

   - **Disable** - Disables NAS Replication

   - **Do it at once** - Performs a NAS Replication when you click the **OK** button.

   - **Daily** - Sets the time of day when the NAS Replications happen.

   - **Weekly** - Sets the time of day and day of the week when the NAS Replications happen.

7. Click the **OK** button.

8. In the confirmation box, click the **OK** button.

Enabling One Touch Backup

One Touch Backup is a feature that enables you to backup specified folders from your PC to the SmartStor by pressing a button on the front of the SmartStor.

There are three settings under the One Touch Backup:

- Client Backup
- USB Backup

To enable One Touch Backup:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.

2. In the Tree, click the **Easy Backup** icon.

3. In the One Touch Backup tab, click the **Enable** option.

4. Click the **OK** button.

5. In the confirmation box, click the **OK** button.

To disable One Touch Backup, click the **Disable** option, then click the **OK** button.

You must create a backup schedule in SmartNAVI so the One Touch Backup function will know which folders and files to backup.

Setting USB Backup

The USB Backup tab enables you to change the backup services of the SmartStor and the USB storage device.

To set the USB Backup settings:

1. Click the **Administration** topic and choose the **Backup** icon to expand the Tree.

2. In the Tree, click the **Easy Backup** icon.

3. Click the **USB Backup** tab and then the Backup Services you want.

   • Backup data from the USB storage device to Share Folder

   • Backup data from Share Folder to the USB storage device

4. Select a Backup Method you want from the drop-down list.

   • Add Directory

   • Copy

   • Synchronize

5.   Select a Folder Name you want from the drop-down list.

If you chose the "Backup data from Share Folder to the USB storage device", you can select the folder you want from the Select Folder list.

6.   Click the **OK** button.

The above action will set the USB Backup and perform an initial replication (backup) of your data.

You can set the schedule under the Schedule list. To set the replication schedule:

1.   Choose the replication option you want.

- Do it at once—to set schedule immediately and one time only
- Daily
- Weekly

2.   If you chose **Daily**, select the time of day from the menus.

If you chose **Weekly**, select the day of the week and time of day from the menus.

3. Click the **OK** button.

Replication will occur automatically as scheduled.

6.9 Managing the Network Connection

Viewing Network Setup Information

To view network setup information:

1. Click the **Administration** topic and choose the **Network** icon to expand the Tree.

2. In the Tree, click the **Network Setup** icon.

    The current network setup for this SmartStor displays on the Information tab:

    • Computer Name

    • IP Address

    • Subnet Mask

    • Default Gateway IP Address

    • Primary Domain Name Server IP Address

    • Secondary Domain Name Server IP Address

    To change these settings, click the **Setup** tab.

Making Network Settings

To make network settings:

1. Click the **Administration** topic and choose the **Network** icon to expand the Tree.

2. In the Tree, click the **Network Setup** icon.

3. Click the **Setup** tab.

4. Optional. Type a name for the SmartStor in the Computer Name field.

5. Click an option button to choose an Internet Protocol option:

    • **Obtain an IP address automatically** - Choose this option to let your DHCP server make the network settings.

    • **Specify an IP address** - Choose this option if you want to make your network settings manually.

6. Optional. If you chose *Specify an IP address*, enter the following settings in the fields provided:
   - IP Address
   - Subnet Mask
   - Default Gateway IP Address
   - Primary Domain Name Server IP Address
   - Secondary Domain Name Server IP Address

   See your Network Administrator for help in making these settings.
7. Click the **OK** button.

8. In the confirmation box, click the **OK** button.

Working with Jumbo Frames

The term *jumbo frame* refers to a frame on a local area network that is larger than the standard 1518 byte size. SmartStor supports jumbo frames up to 9000 bytes.

On SmartStor, the frame size setting is called Maximum Transmission Unit (MTU). The default MTU or frame is 1500 bytes. This setting is appropriate for most users. See your Network Administrator before you change this setting.

To make frame size settings:

1. Click the **Administration** topic and choose the **Network** icon to expand the Tree.
2. In the Tree, click the **Network Setup** icon.
3. Click the **Jumbo Frame** tab.
4. From the MTU dropdown menu, choose the maximum MTU or frame size:
   - 1500 bytes (default)
   - 4000 bytes
   - 7000 bytes
   - 9000 bytes

5. Click the **OK** button.

6. In the confirmation box, click the **OK** button.

Working with DDNS

A Domain Name Service (DNS) translates human-readable host names, such as *www.promise.com*, into IP addresses, such as *103.204.15.26*, and back again.

A Dynamic DNS (DDNS) is required because in many cases, IP addresses periodically change. The DDNS enables you to keep up-to-date and stay connected.

There are two DDNS options:

- Provide your own DDNS server
- Register with an online DDNS service

A free online DDNS service is available at http://www.dyndns.com/.

Making DDNS Settings

WebPASM requires the DDNS domain name, user name, and password to work with the DDNS server. See your Network Administrator or the online DDNS service for this information.

To make DDNS settings:

1. Click the **Administration** topic and choose the **Network** icon to expand the Tree.
2. In the Tree, click the **Network Setup** icon.
3. Click the **DDNS** tab.
4. Click the **Enable** option.
5. Type the required information in the fields provided:
   - DDNS (domain) name
   - User name
   - Password

6. Click the **OK** button.

7. In the confirmation box, click the **OK** button.

6.10 Making Management Settings

Viewing the Event Log

The event log keeps a log of the 20 most recent events on the SmartStor. You can use this information to review your actions and to diagnose problems.

To view the Event Log:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2. In the Tree, click the **Event Log** icon.
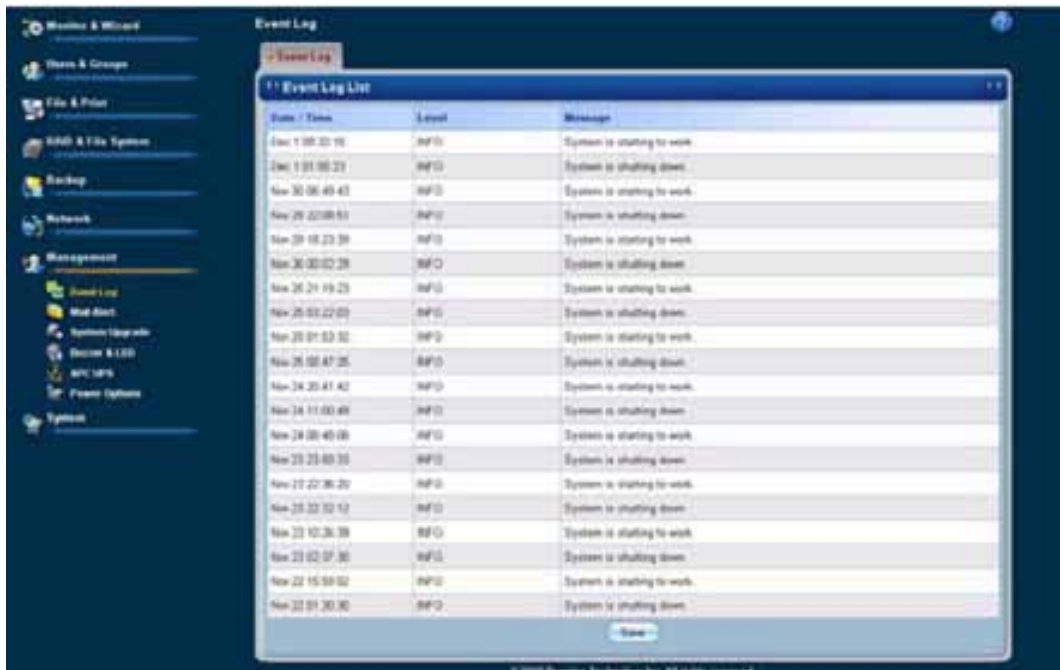
A list of the 50 most recent events displays on the Event Log tab.

Events are ranked in severity as Information, Warning, and Error.

Setting up SMTP Authentication

In order to set up email alerts over a network, you must enable the SMTP service, specify a SMTP server, and in most cases, supply authentication information.

See your Network Administrator for help with these settings.

To set up SMTP authentication:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.
2. In the Tree, click the **Mail Alert** icon.
3. Click the **Setup** tab.
4. Next to Service, click the **Enable** option button.
5. In the SMTP Server field, type the IP address or the DNS name of your SMTP server.
6. Optional. Type a new number in the Command Port field.

   25 is the default number.
7. In the From field, the sender's email address that you want to appear in the alert messages.
8. Next to SMTP Authentication:

   • Click the **Yes** option button to enable authentication.

   • Click the **No** option button to disable authentication.

   Note that most SMTP servers require authentication.
9. If you enabled authentication, to the following:

   • In the User Name field, type the mail server account name.

   • In the Password field, type the password of the mailer server account.
10. Click the **OK** button.

11. In the confirmation box, click the **OK** button.

Sending a Test Message

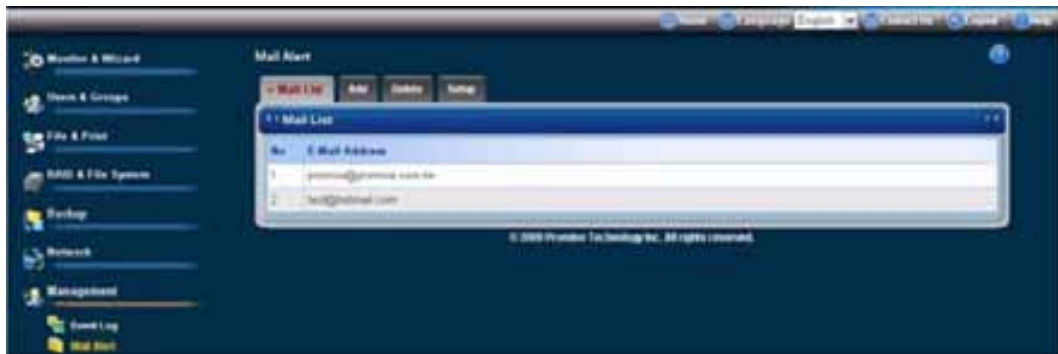Before you can send a test message, you must set up SMTP authentication and have at lease one email alert recipient.

To send a test email message:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.
2. In the Tree, click the **Mail Alert** icon.
3. Click the **Setup** tab.
4. Click the **Test** button.

5. In the confirmation box, click the **OK** button.

A test email message is sent to each recipient on the Mail List tab.

Viewing the Email Alert List

The SmartStor will send alerts via email to the recipients you designate.

To view a list of Email Alert recipients:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2. In the Tree, click the **Mail Alert** icon.

The list of recipients displays on the Mail List tab.

See "Checking Your Email Inbox" on page 229 for an example of an email alert message.
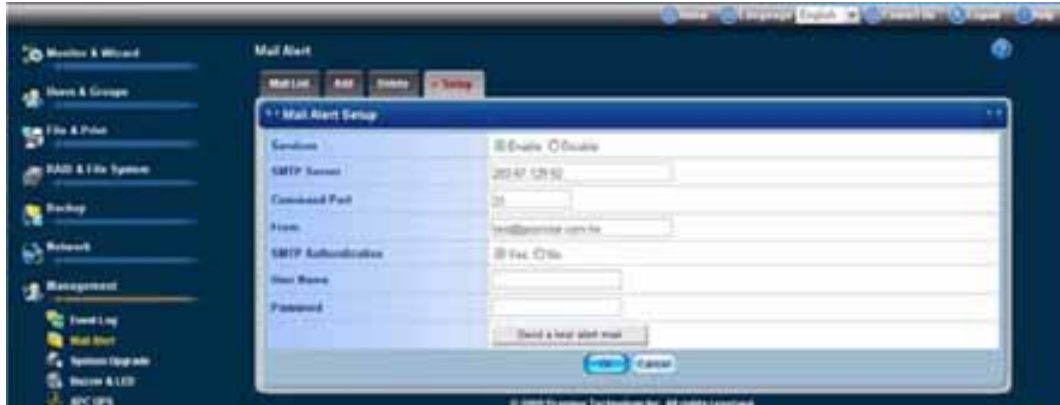
Adding an Email Alert Recipient

You can have up to 32 Email Alert recipients.

To add an Email Alert recipient:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2. In the Tree, click the **Mail Alert** icon.

3. Click the **Add** tab.

4. In the E-Mail Address field, type the recipient's email address.

5. Click the **OK** button.

6. In the confirmation box, click the **OK** button.

Deleting an Email Alert Recipient

To delete an Email Alert recipient:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.
2. In the Tree, click the **Mail Alert** icon.
3. Click the **Delete** tab.
4. Click the option button beside the E-Mail Address you want to delete.
5. Click the **OK** button.
6. In the confirmation box, click the **OK** button.

Adding Application Plug-ins

This feature enables you to upgrade the SmartStor by adding an application plugin.

The procedure requires you to place the plug-in file into a folder on the SmartStor.

WebPASM installs plug-ins from a folder on the SmartStor. SmartNAVI installs plugins from your PC. Also see "Adding Application Plug-ins" on page 96.

Download your plug-ins from the Promise Support Website. Plug-in file names end with a .ppg extension. Place the plug-in file into a folder on the SmartStor.

To create a new folder, click on the File & Print icon, then on the File Sharing icon, then click on the Create tab.

To install the plug-in:

Unzip the file if necessary.

Click the **Browse** button to select the plug-in file (the file name ends with ".ppg" normally).

Click the **OK** button. The application plug-in installs automatically. The process takes several minutes.

> **Warning**
>
> Do not disconnect the power or shut down the SmartStor while the plug-in installation is running!

When the installation is done, WebPASM displays a notification dialog box.

7. In the confirmation box, click the **OK** button.

Removing Plug-ins

There are two reasons to remove a plug-in:

- To replace the old plug-in with a new one
- You know that you will never use the plug-in

Before you remove a plug-in, consider disabling it, instead. See "Enabling and Disabling Application Plug-ins" on page 151.

To remove a plug-in from SmartStor:

1. In the Tree, click the **+** beside the **Management** icon.
2. In the Tree, click the **System Upgrade** icon, then click the **Delete Plug-in** tab.
3. Click the option button to the left of the plug-in you want to delete.
4. Click the **OK** button.
5. In the confirmation box, click the **OK** button.

Enabling and Disabling the Buzzer

The SmartStor has a buzzer that sounds when the SmartStor is finished booting and when a problem is detected. The buzzer is enabled by default.

Promise recommends that you leave the buzzer enabled.

To disable the buzzer:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.
2. In the Tree, click the **Buzzer&LED** icon.
3. Click the Buzzer setup tab and the **Disable** option button.

4.   Click the **OK** button.

5.   In the confirmation box, click the **OK** button.

Click the **Enable** option button, then click the **OK** button to enable the buzzer, then click the **OK** button in the confirmation box.

Enabling and Disabling the LED

The LED Setup tab enables you to turn on or off the SmartStor LED and set the time schedule.

To activate the LED:

1.   Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2.   In the Tree, click the **Buzzer&LED** icon.

3.   Click the LED setup tab and the **Disable** option button.

4.   Click the **Always ON** button.

5.   Click the **OK** button.

The LED is enabled.

To deactivate the LED:

1.   Click the **Always OFF** button.

2.   Click the **OK** button.

The LED is disabled.

To set the time period for turning on/off the LED:

1.   Select the **Daily button** and select the time of day from the menus.

2. Click the **OK** button.

   The time setting is applied.

Viewing UPS Status

If you have an APC Uninterruptable Power Supply (UPS) attached to the SmartStor, you can check its status in WebPASM.

To view UPS status:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2. In the Tree, click the **APC UPS** icon.

   The Information tab displays the status of the UPS.

   If there is no UPS connected or recognized, the Status field reports "NO UPS."

Setting up a UPS

This feature enables you to tell the SmartStor how long to run on UPS battery power and when to shutdown, after a power failure.

To set up a UPS:

1. Attach the APC UPS to one of the SmartStor's USB ports.

2. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

3. In the Tree, click the **APC UPS** icon.

4. Click the **Setup** tab.

5. Click the option button beside the shutdown option you want:

   - Disable - Run until the UPS battery is depleted
   - Run until the UPS battery reaches a certain percentage
   - Run on the UPS battery for certain period of time

   If you chose battery percentage, type a percentage amount in the % field.

   If you chose running time, type the number of minutes into the Mins. field.

6. Click the **OK** button.

7. In the confirmation box, click the **OK** button.

Setting up System Standby

This feature enables the SmartStor to shut down the disk drives in order to save power. You choose the interval of inactivity on the SmartStor after which the drives are powered down. System standby is disabled by default.

To set up System Standby:

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2. In the Tree, click the **Power Options** icon.

3. From the dropdown menu on the System Standby tab, choose the time interval you want. Click the option button beside the shutdown option you want:

   • After 3 minutes - Minimum

   • After X minutes or hours

   • After 5 hours - Maximum

   • Never - Disabled

4. Click the **OK** button.

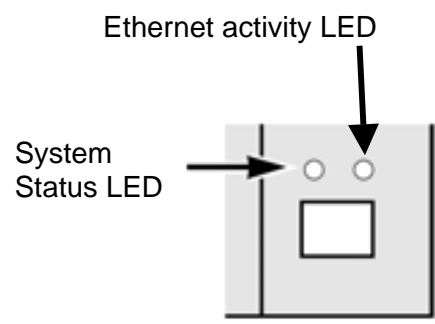Disk Status LED
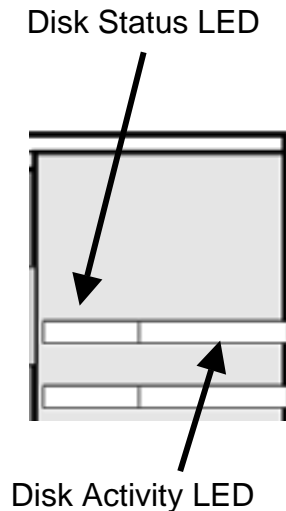
Disk Activity LED

5. In the confirmation box, click the **OK** button.

   When the SmartStor is on standby, the Disk Status and Disk Activity LEDs go dark.

   The System Status LED remains to normal status color.

   The Ethernet Activity LED continues to blink blue/green in response to network activity.

Ethernet activity LED

System Status LED

Enabling and Disabling the Power On LAN

The Power On LAN tab allows you to enable or disable the Power On LAN function, which enables SmartNAVI to change the Standby state to Powered state.

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2. In the Tree, Click the **Power Options** icon.

3. To enable Power On LAN, click the **Enable** option and click the **OK** button.

4. To disable Power On LAN, click the **Disable** option and click the **OK** button.

Power On/Off Automatically

The Power On/Off Automatically tab allows you to set the AC power resumes and the power On/Off schedule.

1. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

2. In the Tree, Click the **Power Options** icon.

3. The AC Power Resumes setting enables you to:

    *   Turn on the server automatically

    *   The server should remain off

4. Click the button beside the option you want and click the **OK** button.

The power On/Off schedule enables you to schedule when the SmartStor turn on and off. The options are:

*   Disable--no power turn on and off automatically

*   Daily--at a set time of day

*   Weekly--on a certain day and time

To specify a power on/off schedule:

1. Click the button beside the option you want.

2. If you selected Daily, choose the hour and minute (time of day) from the dropdown menus.

    If you selected Weekly, choose the day of the week, hour and minute (time of day) from the dropdown menus.

3. Click the **OK** button.

   The new power on/off schedule is applied.

6.11 Managing the System

Setting System Date and Time

To set the date and time on the SmartStor:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.

2. In the Tree, click the **Date / Time** icon.

3. Click the **Setup** tab.

4. From the dropdown menus, choose the time and date values.

5. Click the **OK** button.

6. In the confirmation box, click the **OK** button.

Adjusting for Daylight Saving Time

To adjust the SmartStor's clock for daylight saving time:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.

2. In the Tree, click the **Date / Time** icon.

3. Click the **Time Zone** tab.

4. Check the **Adjust clock for daylight saving changes** box.

5. From the dropdown menu, choose the increment for daylight saving time in your location.

6. Click the **OK** button.

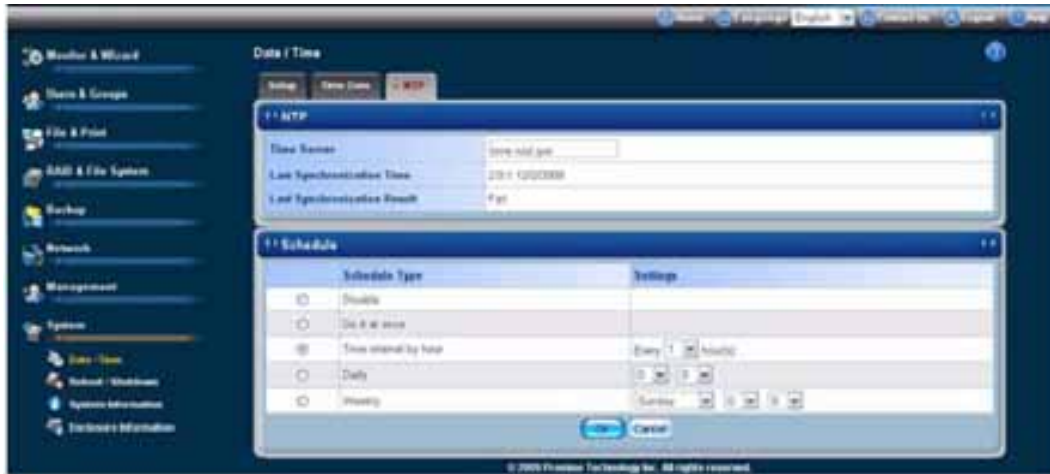7. In the confirmation box, click the **OK** button.

Running the Network Time Protocol

You can use the Network Time Protocol (NTP) to set the system date and time on your SmartStor to synchronize itself with an external Time Server.

To run the Network Time Protocol:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.

2. In the Tree, click the **Date / Time** icon.

3. Click the **Time Zone** tab.

4. From the dropdown menu, choose the time zone for your location.

5. Click the **OK** button.

6. Click the **NTP** tab.

7. In the Time Server field, type the URL of the time server you want to use.

    URL *time.nist.gov* is the default.

8. Under Schedule, choose one of the options:

    • **Disable** - Disables NTP synchronization

    • **Do it at once** - Performs a synchronization when you click the OK button.

    • **Time interval by hour** - Set an hourly interval for a synchronization to happen.

    • **Daily** - Sets the time of day when the synchronization happens.

    • **Weekly** - Sets the time of day and day of the week when the synchronization happens.

9. Click the **OK** button.

10. In the confirmation box, click the **OK** button.

Viewing the Results of NTP Synchronization

To view the results of an NTP synchronization:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.

2. In the Tree, click the **Date / Time** icon.

3. Click the **NTP** tab.

   The results of the latest synchronization are displayed:

   • **Last Synchronization Time** - Time and date of the last synchronization

   • **Last Synchronization Result** - OK means success

Rebooting the SmartStor

Normally you will only need to reboot the SmartStor is after a firmware upgrade or a plug-in installation. During the reboot, none of your folders will be accessible from your networked PCs.
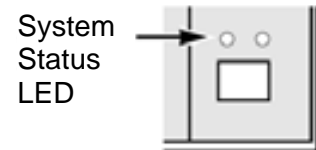
To reboot the SmartStor:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.

2. In the Tree, click the **Reboot / Shutdown** icon.

3. Click the **Reboot** option.

4. Click the **OK** button.

5. In the confirmation box, click the **OK** button.

The reboot runs automatically. When the SmartStor is fully booted:

System Status LED

- The system status LED turns to normal status color (right)
- The buzzer beeps one time (if the buzzer is enabled)

See "Enabling and Disabling the Buzzer" on page 180.
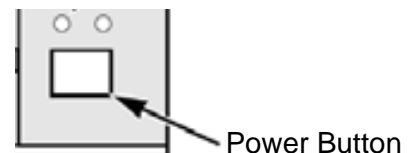
Shutting Down the SmartStor

The only time you need to shut down the SmartStor is to replace the disk drive cooling fan or the power supply.

During and after the shutdown, none of your folders will be accessible from your networked PCs.

Using WebPASM

To shut down the SmartStor:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.

2. In the Tree, click the **Reboot / Shutdown** icon.

Power Button

3. Click the **Shutdown** option.
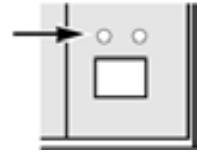
4. Click the **OK** button.

5. In the confirmation box, click the **OK** button.

Directly

To shut down the SmartStor, press and hold the power button for two seconds. The system status LED turns red, then goes dark (right).
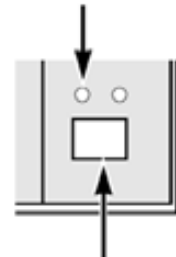
System Status LED

Restarting the SmartStor

To restart the SmartStor after a shutdown, press the power button on the front of the SmartStor chassis (right).

When the SmartStor is fully booted:

*   The system status LED turns to normal status color (right)
*   The buzzer beeps one time (if the buzzer is enabled)

See "Enabling and Disabling the Buzzer" on page 180.

System Status LED

Power Button

Locating the SmartStor

If your SmartStor in is on a rack with other equipment and you need to locate it quickly, this function will assist you.

To locate the SmartStor:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.
2. In the Tree, click the **System Information** icon.
3. Click the **System Information** tab.
4. Click the **Locate** button.
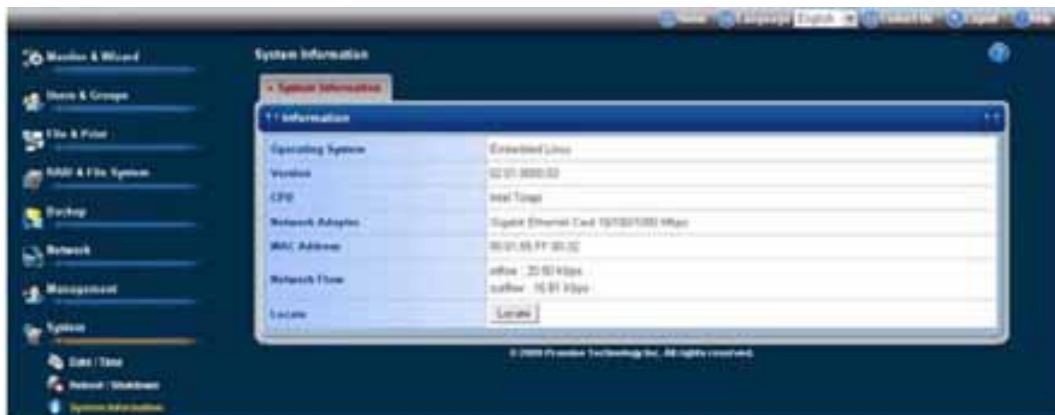
The SmartStor's buzzer beeps three times and the system status LED blinks RED three times (right).

Viewing System Information

To view system information:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.
2. In the Tree, click the **System Information** icon.

3. Click the **System Information** tab.

   System Information includes:

   - **Operating System** - Embedded Linux
   - **Firmware Version** - Changes when you upgrade the firmware.
   - **CPU model** - MPC 8343
   - **Network Adapter** - Gigabit Ethernet
   - **MAC Address** - MAC address of the Ethernet card
   - **Network Flow** - Inflow and Outflow speeds in bits per second
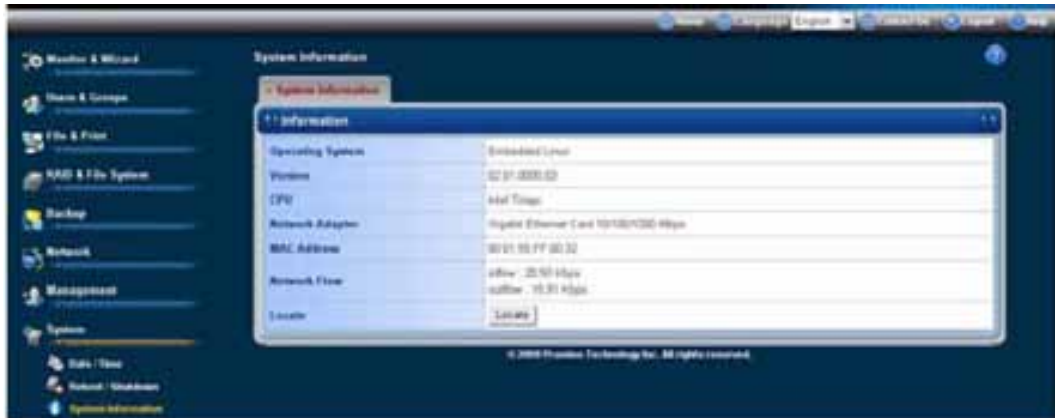

Viewing Enclosure Information

To view enclosure information:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.

2. In the Tree, click the **System Information** icon.

3. Click the **Enclosure Information** tab.

   Enclosure Information includes:

   - CPU temperature
   - System Fan Speed
   - Power Status 5V
   - Power Status 12V
   - Power Status 3.3V

   If any values are out of specification, see "Checking Enclosure Status in WebPASM" on page 224.

Enabling the Smart Fan

The Smart Fan feature slows or turns off the fan to save energy and reduce noise when the fan is not needed to cool the SmartStor enclosure. The Smart Fan is enabled by default.

To enable the Smart Fan:

1. Click the **Administration** topic and choose the **System** icon to expand the Tree.
2. In the Tree, click the **System Information** icon.
3. Click the **Enclosure Information** tab.
4. Under Fan Control, click the **Enable** option.

5. Click the **OK** button.

6. In the confirmation box, click the **OK** button.

6.12 Media Center

Media Center enables you to play your picture, video, and music files from the SmartStor and to download those files to your PC.

Note that there are two features called Media Center. This chapter deals with Media Center on the SmartStor. See page 116 for Media Center in SmartNAVI.

Important

In order for your music and video to play, your PC must have the proper software to support the file formats and codecs used to create those music and video files.

You can identify a file's format by its file extension. If you do not recognize a file extension, look it up on a reference website such as Wikipedia or FILExt.com.

You can download players for common music and video file formats free over the Internet.

Accessing Media Center

To access Media Center:

1. Launch your Browser.

2. In the Browser address field, type the IP address of the SmartStor subsystem.

   Note that the IP address shown below is only an example. The IP address you type into your browser will be different.

   - WebPASM uses an HTTP connection...http://
   - Enter the SmartStor's IP address 203.67.129.38
   - add ..../admin/

   Together, your entry looks like this: http://203.67.129.38/admin/

   The WebPASM login screen displays.

3. Type **admin** in both the User Name and Password fields, then click the **Login** button.

   The user name and password are case sensitive.

4. Click the **Media Center** icon.

The Media Center screen displays.

Using Media Center

Media Center enables you to play your music, video and picture files from the SmartStor and to download those files to your PC or upload those files to the SmartStor.

ALL

The ALL tab enables you to play your entire folder by Download, music, picture, upload and video type name.

Music

Click the music ![icon] icon to access your music files.

To play a music file:

1. Choose and click a music ![icon] folder by Browse, Album, Artist, Genre, Playlist, Tracks or Year to view your music files.

2. Click the music file ![icon] icon or the play ![icon] icon for the music file.

To download a music file:

1. Choose and click a music folder by Browse, Artist, Album, or Genre to view your music files.

2. Click the download icon for the music file.

To make a new Playlist:

1. Choose and click a music folder by Browse, Artist, Album, or Genre to view your music files.

2. Click the add-to-playlist icon for the music file.
3. In the Playlist box, click the **Save Playlist** button.
4. In the Playlist Name box, type the name for the Playlist and click the **OK** button.
5. In the confirmation box, click the **OK** button.

To add a music file to an existing Playlist:

1. Choose and click a music folder by Browse, Artist, Album, or Genre to view your music files.

2. Click the add-to-playlist icon for the music file.
3. In the Playlist box, click the **Save** button.
4. In the Playlist Name box, type the name of the Playlist to which you want to add the music file, and click the **OK** button.

    If the name does not match an existing Playlist, a **new** Playlist is created with the name that you just typed.
5. In the confirmation box, click the **OK** button.

To play music files from a Playlist:

1. Click the Playlist folder icon to view your Playlists.

2. Click the Playlist icon to choose a Playlist.

3. Click the play icon to play a single music file. Or Click the Play ALL icon to play all music files in the playlist.

To delete a Playlist:

1. Click the Playlist folder icon to view your Playlists.

2. Click the delete icon for the Playlist.

Video

Click the video icon to access your video files.

To play a video, click the video file icon or the play icon for the video file.

To download a video, click the download icon for the video file.

Picture

Click the picture icon to access your picture files.

To display a picture, click the picture icon or the display icon for the picture file.

To download a picture, click the download icon for the picture file.

Configuration

The Configuration tab enables you to change the service status and configuration value and lists Media center information.

- Service

To activate/deactivate the DLNA Server service:

Click the **Stop/Start the Server** action button to activate or deactivate the DLNA server.

To activate the File Scanner service:

Click the **Sta rt Full Re-Scan** action button to activate the File Scanner service.

- Configuration

To set the configurations for skip scanning files:

This setting enables you to set the value for skip scanning images, audio or video files smaller than the value you want.

1. Type the value number you want to skip scanning into the Value field.

2. Click the **Apply Change** action button to activate the skip scanning service.

- Information

The Information lists the statistics of songs, videos and pictures.

6.13 Download

Transfers

The Transfers tab displays a list of download process information as below:

- ID
- Network
- Filename
- Size
- Downloaded
- Percentage %
- Sources
- Speed (kb/s)
- ETA
- Priority
- Action
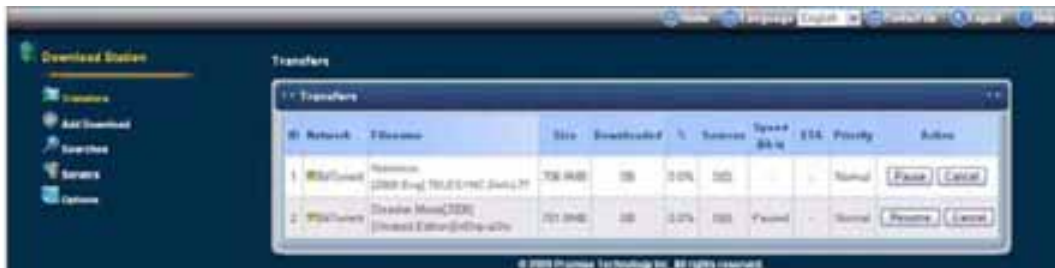
In the action field, you can click the **Pause**, **Resume** or **Cancel** button to activate or deactivate the download process.

Add Download

The Add Download tab enables you to add the Input Link to download the file you want and load torrent file.

• Input Link

To add the Input Link to download:

1. Type the URL/FTP Link into the input link field.
2. Click the **download** button to start the download action.

• Load Torrent

To add the Torrent file to load:

1. Click the **Browse** button the select the torrent file you want.
2. Click the **Load** button to load the file.

Options

The Options tab enables you to set and change the value of download item you want.

The option list displays the information as below:

- Item
- Value
- Action

To set and change the value:

1. Type the value into each field.
2. Click the **change** button to change the value.
3. Click the **OK** button to the confirmation box.

Search

The Search tab enables you to search the download file and view the result.

To search the download files:

1. Type the keyword information in the Keyword field.
2. Click the Search button to start the search action.

The search list displays the information as below:

- ID
- Keyword
- Found
- Waiting
- Action
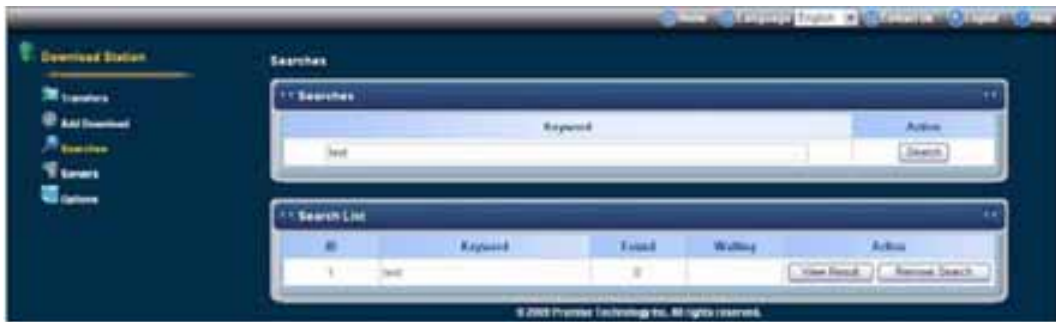
In the action field, you can click the **View Result** or **Remove Search** button to do the next download step.

If you click the **View Result** button, the Results list display. It shows the information as below:

- ID
- Name
- Size
- Avail
- Action

If you click the **Remove Search** button, click the **OK** button in the confirmation box.

Servers

The Servers tab enables you to connect servers and add eDonkey and eMule server you want.

The Conn Servers list displays the information as below:

- ID
- Network
- Name
- IP
- Port
- Users
- Files
- State
- Action

To add Server.met:

1. Type the server information into the server field.
2. Click the **Add** button to add the server into the servers.

6.14 iTunes Server

Create Playlist

The Create Playlist enables you to search the playlist by Titile, Artist, Album or Genre and create your new playlist.

To create the playlist:

1. Under the Searches list, type the keyword into the keyword field.
2. Select the option from the drop-down menu you want.
   - By Title
   - By Artist
   - By Album
   - By Genre
3. Click the **Search** button to search the songs related your keyword.
4. The Result lists display the search results.
5. Click the "+" add into playlist button or "-" remove from playlist button to create your playlist.

6. A playlist window appears, click the **Save the Playlist** button.

7. Type the playlist name you want and click the **Save** button.

8. Click the **OK** button.

The new playlist setting is applied.

Playlist

The Playlist displays the information about the Playlist Name.

To change the playlist:

1. Click the **Edit** button.
2. A playlist window appears, click the **Save the Playlist** button.
3. Type the playlist name you want and click the **Save** button.
4. Click the **OK** button.

The new playlist setting is applied.

Click the **Delete** button to delete the playlist you want.
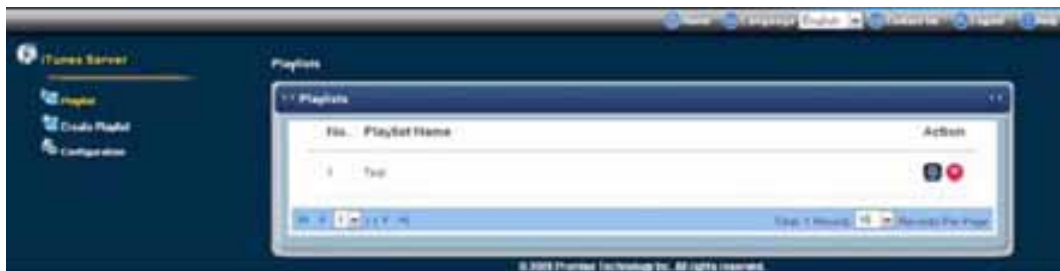
6.15 Web File Manager

The File Manager enables you to delete, download, rename, move or copy your files to your destination folder. The File Management lists all the folders defaulted by the SmartStor and created by users.

- Admin
- DOWNLOAD
- MUSIC
- PICTURE
- PUBLIC

- UPLOAD
- VIDEO
- Other folders created by users

To delete a file:

1. Select a file you want to delete.

2. Click the delete icon.

3. Click the **OK** button in the confirmation box.

To download a file:

1. Select a file you want to download.

2. Click the download icon.

3. Click the **Save** button and select your destination to save the file.

To rename a file:

1. Select a file you want to rename.

2. Click the rename icon.

3. Type the new file name in the New Name field.

4. Click **Rename** button and the setting is applied.

To move or copy a file:

1. Select a file you want to move or copy.

2. Click the move or copy icon.

3. Select the destination folder from the drop-down menu.

4. Click the **Move to** or **Copy to** button to move or copy a file to the other folder you want.

6.16 Database Server

The Database Server enables you to view the database information and change settings for the database server.

To login the database server:

1. Select the language you want from the drop-down menu.

2. Type the default username "root" and password "password" into the login field.

3. Click the **Go** button to access to the phpMyAdmin webpage.

Note: Please be reminded to change your username and password first.

6.17 Web Server

You can set up your own website by just uploading your web pages to the share folder "WWW". You can simply upload your web pages to the SmartStor NAS by the following 3 methods:

- Mapped Share folder
- SmartNAVI
- FTP Upload

Windows Mapped Shares

By mapping the network shares (WWW) on the NAS server to a drive folder in Windows and you may refer to the step-by-step guide below.

1. Right click on My Computer and select "Map Network Drive...".
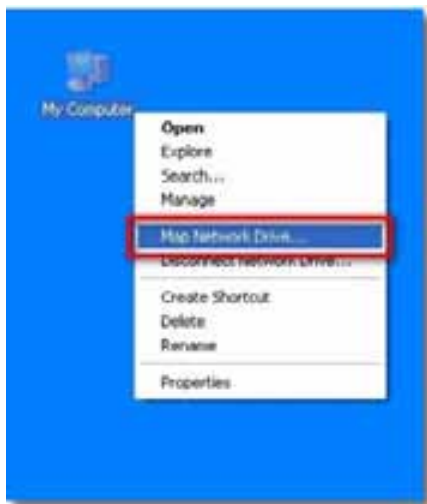
2. Select the Drive and Folder you want.

3. Type your user name and password, and click the OK button.

4. The uploaded web page appears in the drive folder.
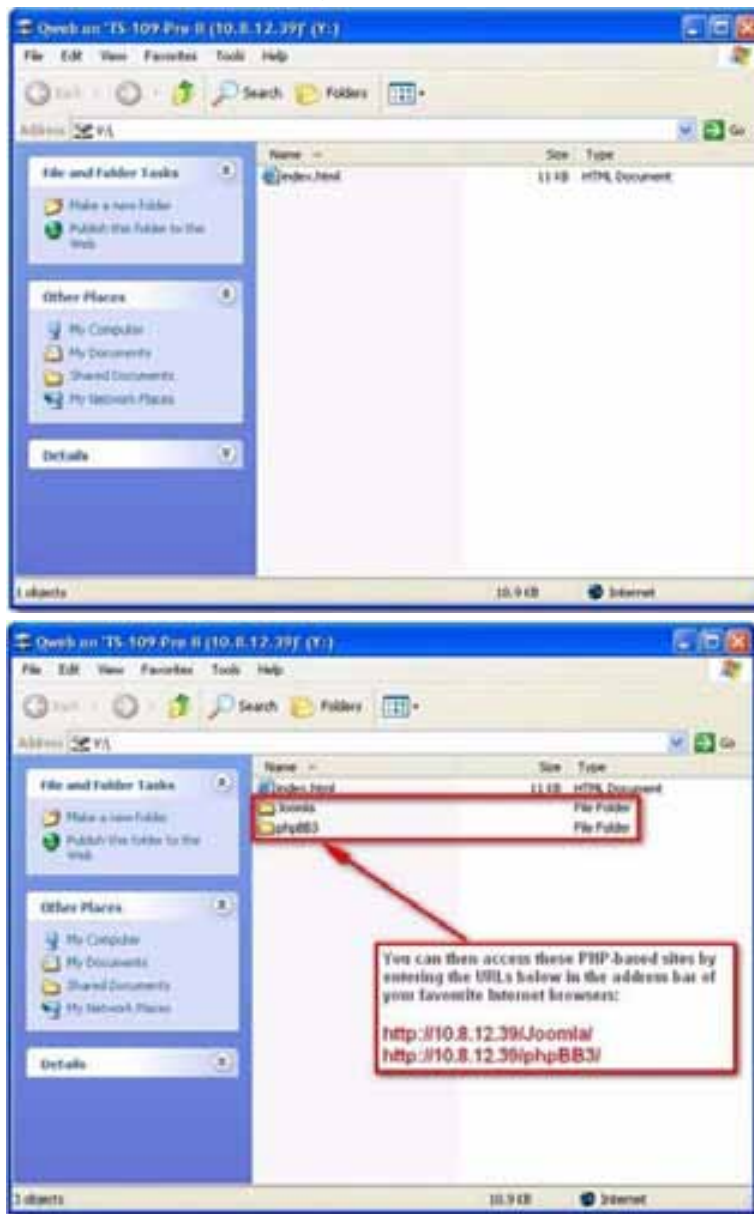
SmartNAVI

By mapping the network shares (WWW) on the NAS server to a drive folder in SmartNAVI and you may refer to the step-by-step guide below.

1. Go to the **Main Window**.
2. Click the **Share Folder** icon.
3. Click the **Mount Share Folder** button.
4. Click the share folder you want to mount or make a network drive.
5. Choose a device name (driver letter) from the dropdown menu.
6. Click the Mount button.

7. The share folder appears on our PC as a mounted or network drive.
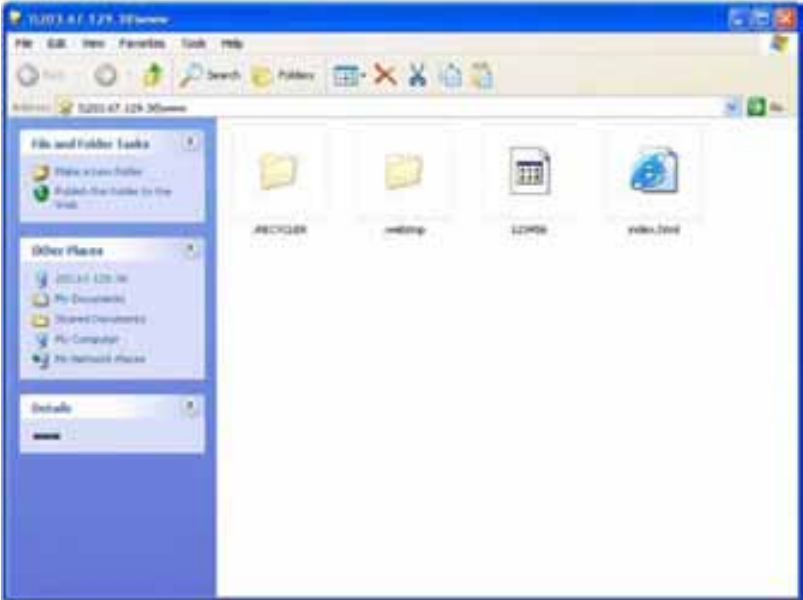
FTP Upload

1. Connect to the WWW share via any FTP client of your choice and type in the username and password when prompted.

2. Click the folder you want to transmit.

3. The web page appears in the drive folder.
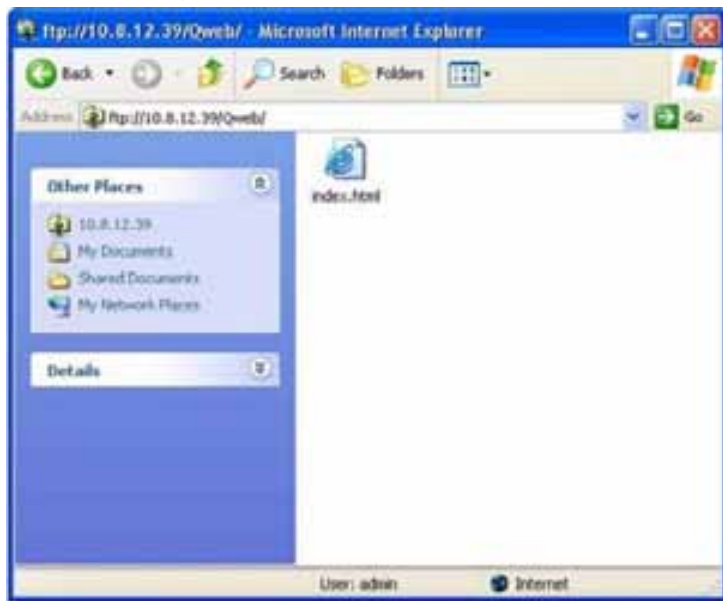
6.18 Squeeze Center

The Squeeze Center is not installed by default. Please download the software by users and refer to the "Adding Application Plug-ins" on page 96 for further information.

Please refer to the Logitech Website for all the functions and settings about the Squeeze Center.

Chapter 7: Technology Background

7.1 Introduction to RAID

RAID (Redundant Array of Independent Disks) allows multiple disk drives to be combined together into a RAID Volume. You create a RAID Volume on your SmartStor when you perform the setup procedure, either in SmartNAVI or the WebPASM Setup Wizard.

The benefits of a RAID can include:

- Higher data transfer rates for increased server performance
- Increased overall storage capacity for a single Volume
- Data redundancy/fault tolerance for ensuring continuous system operation in the event of a disk drive failure

Different RAID levels use different organizational models and have varying benefits. Also see "Choosing a RAID Level" on page 212. The following outline breaks down the properties for each RAID level supported on the SmartStor:

Note: 2 Bay NAS only supports RIAD 0, 1.

RAID 0 - Stripe

When a RAID Volume is striped, the read and write blocks of data are interleaved between the sectors of multiple disk drives. Performance is increased, since the workload is balanced between drives or "members" that form the RAID Volume.

Identical drives are recommended for performance as well as data storage efficiency.
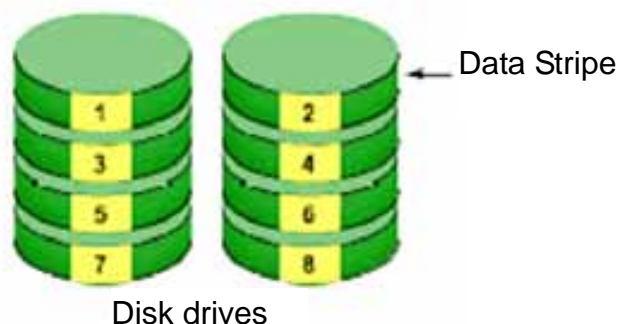
Disk drives

Figure 1. RAID 0 Striping interleaves data across multiple drives

The RAID Volume's data capacity equals the capacity of the smallest disk drive times the number of disk drives. For example, one 100 GB and three 120 GB drives will form a 400 GB (4 x 100 GB) RAID Volume instead of 460 GB.

If disk drives of different capacities are used, there will also be unused capacity on the larger drives.

Because RAID 0 does not offer Fault Tolerance, meaning that you cannot recover your data after a disk drive failure, Promise does not recommend a

RAID 0 Volume for your SmartStor.

RAID 0 Volumes on SmartStor consist of one or more disk drives.

RAID 1 - Mirror

When a RAID Volume is mirrored, identical data is written to a pair of disk drives, while reads are performed in parallel. The reads are performed using elevator seek and load balancing techniques where the workload is distributed in the most efficient manner. Whichever drive is not busy and is positioned closer to the data will be accessed first.

With RAID 1, if one disk drive fails or has errors, the other mirrored disk drive continues to function. This is called *Fault Tolerance*. Moreover, if a spare disk drive is present, the spare drive will be used as the replacement drive and data will begin to be mirrored to it from the remaining good drive.
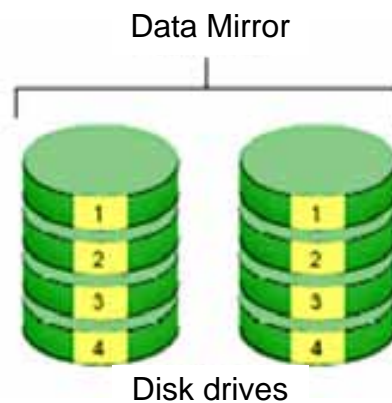
Figure 2. RAID 1 Mirrors identical data to two drives

The RAID Volume's data capacity equals the smaller disk drive. For example, a 100 GB disk drive and a 120 GB disk drive have a combined capacity of 100 GB in a mirrored RAID Volume.

If disk drives of different capacities are used, there will also be unused capacity on the larger drive.

RAID 1 Volumes on SmartStor consist of two disk drives.

If you want a mirrored RAID Volume with more than two disk drives, see "RAID 10 - Mirror / Stripe" on page 211.

RAID 5 - Block Striping with Distributed Parity

RAID 5 organizes block data and parity data across the disk drives. Generally, RAID level 5 tends to exhibit lower random write performance due to the heavy workload of parity recalculation for each I/O. RAID 5 works well for file, database, application and web servers.

Distributed Parity
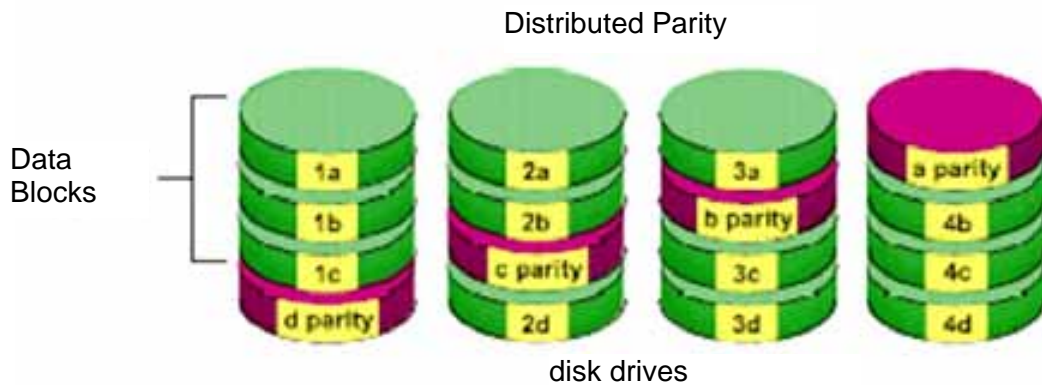
Figure 3. RAID 5 Stripes all drives with data and parity information

The capacity of a RAID 5 Volume equals the smallest disk drive times the number of disk drives, minus one. Hence, a RAID 5 Volume with four 100 GB disk drives will have a capacity of 300 GB. A RAID Volume with two 120 GB disk drives and one 100 GB disk drive will have a capacity of 200 GB.

RAID 5 is generally considered to be the most versatile RAID level.

RAID 5 requires a minimum of three disk drives.

RAID 10 - Mirror / Stripe

Mirror/Stripe combines both of the RAID 0 and RAID 1 types. RAID 10 can increase performance by reading and writing data in parallel while protecting data with duplication. At least four disk drives are needed for RAID 10 to be installed.

With a four-disk-drive RAID Volume, one drive pair is mirrored together then striped over a second drive pair.

Data Stripe

Data Mirror
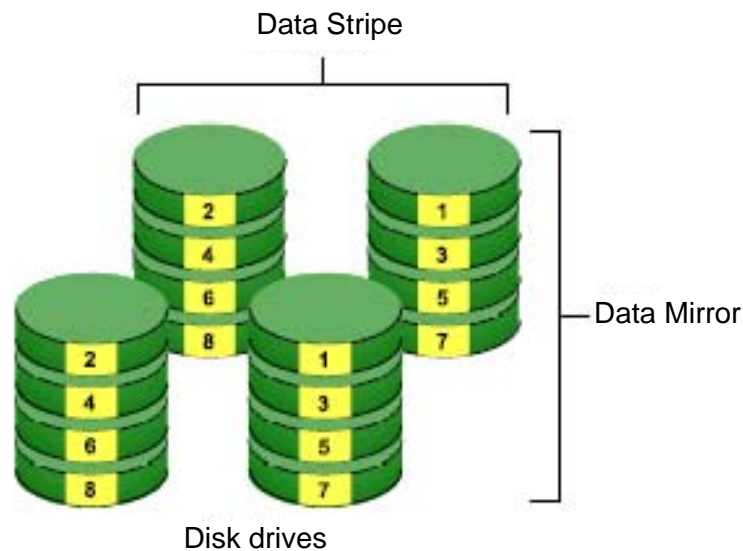
Disk drives

Figure 4. RAID 10 takes a data mirror on one drive pair and stripes it over two drive pairs

The data capacity RAID 10 Volume equals the capacity of the smallest disk drive times the number of disk drives, divided by two.

In some cases, RAID 10 offers double fault tolerance, depending on which disk drives fail.

RAID 10 Volumes on SmartStor consist of four disk drives.

Because all of the available disk drives are used for the RAID Volume, you cannot set up a spare drive with RAID 10.

7.2 Choosing a RAID Level

There are several issues to consider when choosing the RAID level for your Volume. The following discussion summarizes some advantages, disadvantages and applications for each choice.

RAID 0

Advantages	Disadvantages
Implements a striped disk RAID Volume, the data is broken down into blocks and each block is written to a separate disk drive I/O performance is greatly improved by spreading the I/O load across many channels and drives No parity calculation overhead is involved	Not a true RAID because it is not fault tolerant The failure of just one drive will result in all data in an RAID Volume being lost Should not be used in mission critical environments

Recommended applications for RAID 0:

- Image Editing

- Pre-Press Applications
- Any application requiring high bandwidth

RAID 1

Advantages	Disadvantages
Simplest RAID storage subsystem design Can increase read performance by processing data requests in parallel since the same data resides on two different drives	Very high disk overhead - uses only 50% of total capacity

Recommended applications for RAID 1:

- Accounting/Financial
- Payroll
- Any application requiring very high availability

RAID 5

Advantages	Disadvantages
High Read data transaction rateMedium Write data transaction rateGood aggregate transfer rateMost versatile RAID level	Disk failure has a medium impact on throughput

Recommended applications for RAID 5:

- File and Application servers
- WWW, E-mail, and News servers
- Intranet servers

RAID 10

Advantages	Disadvantages
Implemented as a mirrored RAID Volume whose segments are RAID 0 RAID Volumes High I/O rates are achieved thanks to multiple stripe segments	Very high disk overhead - uses only 50% of total capacity

Recommended applications for RAID 10:

- Imaging applications
- Database servers
- General fileserver

7.3 Spare Drive

A spare is a disk drive that has been designated to replace a failed disk drive in a RAID Volume. In the event of the failure of a disk drive within a RAID 1 or three drive RAID 5 Volume, the spare drive is activated as a member of the RAID Volume to replace a disk drive that has failed.

A spare drive cannot replace the failed drive in a RAID 0 Volume because of the way in which data is written to the disk drives under RAID 0.

A spare drive is not available for a RAID 10 Volume because RAID 10 requires all four disk drives in the SmartStor enclosure. However, when you replace the failed disk drive, the SmartStor will automatically rebuild the RAID Volume using the new disk drive.

You must designate a disk drive as a Spare. By default, and unassigned disk drive is Free. Use WebPASM to designate the Free disk drive as a Spare. See Maintaining a spare drive is a good precaution to protect your RAID Volume integrity in the event of disk drive failure.

7.4 Automatic Rebuilding

When a disk drive in your RAID 1, 5, or 10 Volume fails, and a replacement disk drive becomes available, the RAID Volume will rebuild itself to the new disk drive automatically.

For RAID 1 and three-drive RAID 5 Volumes, you can designate a spare drive. If a spare drive is present when the RAID Volume experiences a disk drive failure, the rebuild will start automatically using the spare drive.

For RAID 1, RAID 5, and RAID 10 Volumes without a spare drive, the RAID Volume will begin to rebuild itself automatically when you remove the failed disk drive and install a new disk drive.

A RAID 0 Volume cannot be rebuilt because of the way in which data is written to the disk drives under RAID 0. Even if there is a designated spare drive, rebuilding is not possible for RAID 0 Volumes.

7.5 Partition and Format

When you create a RAID Volume on SmartStor, the RAID Volume is automatically partitioned and formatted for you.

To use your RAID Volume, you must create Folders on the RAID Volume and assign services to those Folders according to your requirements. SmartStor provides file services for Windows, UNIX/Linux and Mac, so all of those PCs can access the folders on the SmartStor, even though each PC might have a different file system.

7.6 RAID Volume Migration

Migration is the process of:

- Changing the RAID level
- Adding disk drives but keeping the same RAID level

In the migration process, the existing RAID Volume is called the *Source*. The proposed RAID Volume is called the *Target*. Each target RAID Volume has certain requirements and they are different for each RAID level. You must meet all of the requirements in order to successfully migrate a RAID Volume.

In most cases, you must add one or more disk drives during the migration process. You can never reduce the number of disk drives.

While the migration is running, you can still access the folders on your RAID Volume and the data they contain.

The tables below shows the migration options for a source RAID Volume according to its RAID level. The available target RAID levels are shown with their requirements.

RAID 0

A RAID 0 source Volume can migrate to the following target RAID levels:

Target	Requirements
RAID 0	Add disk drives.
RAID 1	2 disk drives only. Only a 1-drive RAID 0 can migrate to RAID 1. Add 1 disk drive.
RAID 5	3 disk drives minimum. At least 1 more disk drive than the RAID 0 RAID Volume.

RAID 1

A RAID 1 source Volume can migrate to the following target RAID level:

Target	Requirements
RAID 5	3 disk drives minimum. At least 1 more disk drive than the RAID 0 RAID Volume.

RAID 5

A RAID 5 source Volume can only add a drive.

Target	Requirements
RAID 5	Add a disk drive.

RAID 10

A RAID 10 source Volume cannot migrate or add more disk drives.

Chapter 8: Troubleshooting

This chapter deals problems you might encounter with your SmartStor and how to resolve them. Also see "Frequently Asked Questions" on page 233.

8.1 Responding to an Audible Alarm

The SmartStor has two beep patterns

- **Single beep, not repeated** - The SmartStor is online
- **Two beeps, continuously repeated** - The SmartStor reports a problem

When you boot or reboot the SmartStor, and the buzzer is enabled, the buzzer sounds one time to indicate that the SmartStor is online.

8.2 Checking the System Status LED

The SmartStor system status LED (see Figure 1.) reports the condition of the Enclosure fan and power supply:

- **Blue(NS4600)/Green(NS2600)** - Normal Enclosure function
- **Amber** - There is a problem with the fan or power supply
- **Red** - The fan, power supply, or file system has failed.

The system status LED blinks red three times when you click the **Locate NAS** icon in SmartNAVI or the **Locate** button in WebPASM.

If your SmartStor is configured to work with a UPS, it will continue to run after a power supply failure.

8.3 Checking Disk Status LEDs

The disk status LEDs (see Figure 1.) report the condition of the disk drives:

- **Blue(NS4600)/Green(NS2600)** - Normal disk drive function
- **Amber** - Rebuilding to this disk drive
- **Red** - Failed disk drive
- **Dark** - No disk drive is installed

The disk status LEDs are also dark when the drives are powered down during system stand-by.

See "Replacing a Failed Disk Drive" on page 217.

Figure 1. SmartStor Disk and System Status LEDs
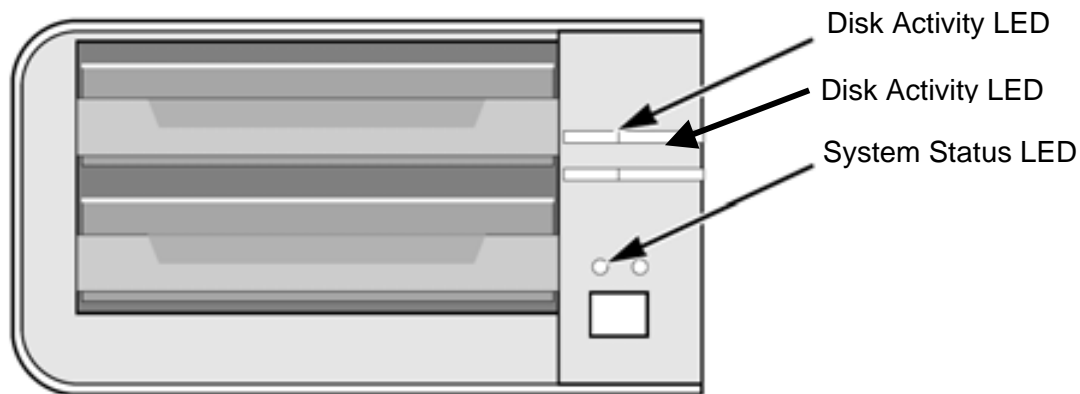
8.4 Replacing a Failed Disk Drive

If a disk drive fails, the Disk Status LED is red. See Figure 1. If the disk drive belongs to a RAID Volume, the Volume goes *Critical* or *Offline*. See "Checking RAID Volume Status in WebPASM" on page 217.

Replace the failed disk drive with a new disk drive of the same or slightly greater capacity. You do not have to power down the SmartStor.

1. Open the SmartStor's front door.
2. Pull out the drive carrier with the failed drive.
3. Remove the failed disk drive from the drive carrier.
4. Install a new disk drive into the carrier.
5. Place the carrier with the new disk drive back into the open slot in the SmartStor.

If the failed drive belonged to a RAID Volume, the RAID Volume will begin rebuilding as soon as the new drive is installed.

During the Rebuild, the Disk Status LED show amber. When the Rebuild is finished, the Disk Status LED turns to normal status color.

If the replacement drive is free, that is, not assigned to a RAID Volume or as a spare, the Disk Status LED remains dark after you install the new drive.

8.5 Checking RAID Volume Status in WebPASM

To view RAID Volume status:

1. Start WebPASM.

2. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.

3. In the Tree, click the **RAID Management** icon.

   The status is displayed in the **RAID Status** tab.

Figure 2. WebPASM reports a Critical RAID Volume
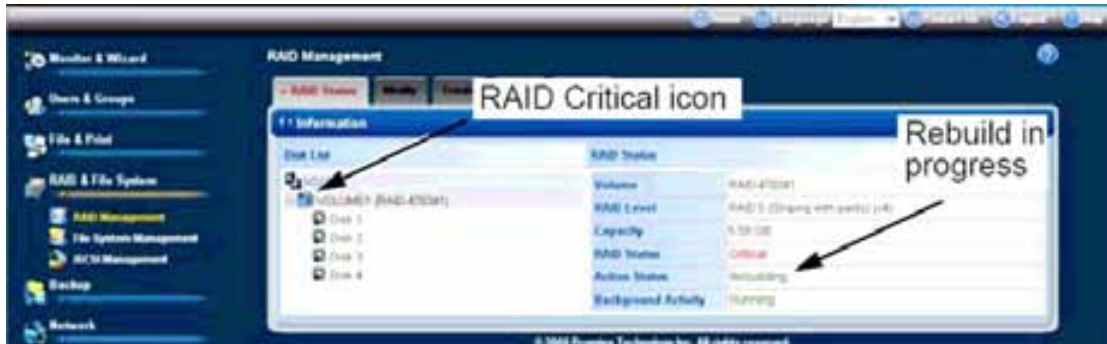
SmartStor Responds to a Critical RAID Volume

How the SmartStor responds to a Critical RAID Volume depends on the RAID level of your Volume and whether you have a spare drive available:

*   For a RAID 1 Volume or a three-drive RAID 5 Volume, if a spare drive is available, the RAID Volume begins rebuilding itself automatically.

*   For RAID 1, 5, and 10 Volumes, when no spare drive is available, you must replace the failed disk drive. The RAID Volume will begin rebuilding itself when you install the new disk drive. See "Replacing a Failed Disk Drive" on page 217.

*   RAID 0 Volumes go *offline* after a disk drive failure. A RAID 0 Volume cannot be rebuilt. All data on the Volume is lost.

Additional Details about Rebuilds

*   The Rebuild takes several minutes, depending on the size of your disk drives.

*   During a rebuild, you can access your folders on the SmartStor.

*   RAID Critical icon.

*   When you replace the failed disk drive with a new disk drive, the new disk drive becomes a Free Drive.

Responding to an Invalid RAID Volume

The SmartStor considers a RAID Volume *invalid* when the RAID Volume was created by a different SmartStor. However, the RAID Volume itself remains functional and the data on it is safe.

This condition could happen when you:

*   Move the disk drives from one SmartStor to a different SmartStor.

- Remove the disk drives in order to send your SmartStor for service.

When the SmartStor's memory does not recognize the RAID Volume, so ASM displays the RAID Volume as invalid. See Figure 3.

Use the Recover function to validate the RAID Volume. The Recover tab is only active when an invalid RAID Volume is present and can be recovered.

Figure 3. An invalid RAID Volume in WebPASM

Using the Recover Function

To validate the RAID Volume:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.

2. In the Tree, click the **RAID Management** icon.

3. Click the **Recover** tab.

4. On the **Recover** tab, click the option button beside the invalid RAID Volume.

5. Click the **OK** button.

   The SmartStor will reboot itself to update its configuration and recognize the RAID Volume.

Important

Running the Recover function might erase some or all of your SmartStor settings. If that condition happens, run the NAS Setup Wizard. See "Setting up the SmartStor" on page 37.

8.6 Checking File System Status in WebPASM

Typically the first indication of a problem with the SmartStor's file system is when your network drive becomes unavailable.

You might also see the message, "File system contains errors. Please check." when you click the icons under the File & Print menu.

To view File System status:

1. Start WebPASM.

2. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.

3. In the Tree, click the **File System Management** icon.

4. Look for the RAID Volume ![icon] icon on the **File System Status** tab.

   If the RAID Volume icon is Critical ![icon] (has a yellow!), the file system contains errors and you must rebuild the file system. See below.

Rebuilding the File System

When you only have read access to your files or no access at all, the File System might be damaged. This feature checks, and where necessary rebuilds the File System without loss of data.

You cannot access any data on the SmartStor while the check/rebuild operation is running.

To rebuild a File System:

1. Click the **Administration** topic and choose the **RAID & File System** icon to expand the Tree.

2. In the Tree, click the **File System Management** icon.

3. In the **File System Status** tab, click the RAID Volume Critical icon to display the **Check File System** button.

4. Click the **Check File System** button.

5. In the confirmation box, type **yes** into the field provided, then click the **OK** button.

   During the File System Check or Rebuild, the System Status LED blinks amber and the Disk Activity LEDs blink blue/green. See page 217, Figure 1.

   The time needed to check and rebuild the File System depends on the amount of data on the SmartStor. The process can take anywhere from 10 minutes to 2 hours.

Warning

Do not disconnect the power or shut down the SmartStor while the check/rebuild is running!

8.7 Checking the Event Log in WebPASM

To view the Event Log in WebPASM:

To check Enclosure status:

1. Start WebPASM.

2. Click the **Administration** topic and choose the **Management** icon to expand the Tree.

3. In the Tree, click the **Event Log** icon.

   The Event Log displays. See Figure 4.

Figure 4. The WebPASM Event Log

4. Check the Event Log for reports of disk drive failure or other problems.

Responding to Events

All events are reported in the Event Log. Most events are simply reports that the SmartStor is responding to your commands.

Many events are also reported via email. The SmartStor's buzzer sounds for serious events that require your attention.

Reported Event	Corrective Action
File System	
File system of volume X content errors! Check the system before continuing.	The file system has a problem. Reboot the SmartStor and check file system again. If the event appears again, the file system has crashed. Rebuild the file system. See page 219.
File system capacity usage of volume X is over 90%.	Reduce the number or size of the files or expand the volume size. See "Migrating a RAID Volume" on page 159.
File system capacity usage of volume X is 100%.	
Rebuilding file system...	The file system is being rebuild by user action.

Reported Event	Corrective Action
NAS Replication	
NAS replication is completed.	NAS replication has finished. Normal.
System is busy. NAS replication is abort!	The RAID Volume is currently formatting, rebuilding, or migrating. Wait until this process is done. Then try the replication again.
System is doing another replication. NAS replication is abort!	The SmarStor is currently doing a replication. Wait until the current replication is done. Then try the second replication again.
NAS replication is failed!	There is a failed network connection between the two SmartStors. Correct the problem and try again. See page 225.
Snapshots	
The snapshot capacity usage which timestamp is [date and time] of volume X is over 90%.	Move the snapshot volume to another storage location. Or delete the snapshot and then create a new one. See page 167.
System is busy. Snapshot creation was aborted!	The RAID Volume is currently formatting, rebuilding, or migrating. Wait until this process is done. Then try the snapshot again.
System is creating another snapshot. Snapshot creation was aborted!	The SmarStor is currently doing a snapshot. Wait until the current snapshot is done. Then try the second snapshot again.
System (enclosure)	
System is starting to work. Normal.	Normal.
System is rebooting.	
System is shutting down.	
System was shut down abnormally.	The SmartStor shut down incorrectly the last time. See "Shutting Down the SmartStor" on page 188.
CPU temperature is higher than 58°C/138°F. System will shut down.	Allow the SmartStor to cool for several minutes. Then restart the SmartStor and check system temperature and fan operation. See page 191. Be sure there is adequate air circulation around the SmartStor.

Reported Event	Corrective Action
System fan speed is lower than 1800 RPM. Check the system before continuing.	Try enabling or disabling the Smart Fan. See page 191. If the fan still runs below 1800 RPM, contact Technical Support. See page 236.
AC Power failure. System will shut down.	Restore the AC power. Then restart the SmartStor. See "Connecting the Power" on page 8.
Disk Drives	
Task X timeout on disk Y at LBA [address]	A LBA error. Check the disk drives. See page 217.
Task X disk error on disk Y at LBA [address] with status Z	Check the RAID Volume. See page 217. Replace the disk drive or rebuild the RAID Volume as needed.
S.M.A.R.T threshold exceeded	Check the disk drives. See page 217. Replace the failed drive. See page 217.
BSL update on disk X at LBA [address]	Bad sector on a disk drive. Check the disk drives. See page 217. Replace the disk drive if it continues to receive BSL updates.
BSL log disk X at LBA [address] cleared	Check the disk drives. See page 217.
Delete Spare Disk	Delete a spare drive. Normal.
RAID Volumes	
Create [RAID name, RAID level and X number of disk drives]	Create a RAID Volume. Normal.
Delete RAID X	Delete a RAID Volume. Normal.
Migration or Rebuilding on array X started.	RAID Volume Migration or Rebuild has started. Normal.
Migration or Rebuilding on array X at Y%.	Progress report on RAID Volume Migration or Rebuild. Normal.
Migration or Rebuilding on array X paused at Y%	RAID Volume Migration or Rebuild was paused temporarily by user action.
Migration or Rebuilding on array X resumed at Y%	RAID Volume Migration or Rebuild was paused and then resumed by user action.
Migration or Rebuilding on array X completed.	RAID Volume Migration or Rebuild has finished. Normal.

Reported Event	Corrective Action
Migration or Rebuilding on array X aborted at Y%	RAID Volume Migration or Rebuild was aborted (stopped) by user action.
Migration or Rebuilding on array X aborted at Y% because of error.	RAID Volume Migration or Rebuild has aborted (stopped) because of an error. Check the disk drives. See page 217. Check the RAID Volume. See page 217.
RAID status: "OFFLINE". The SmartStor NAS X volume Y is offline.	Check the disk drives. See page 217. Replace the failed drive. See page 217. Create a new RAID Volume. See page 158.
RAID status: "CRITICAL". The SmartStor NAS X volume Y is not functioning correctly.	Check the disk drives. See page 217. Replace the failed drive. See page 217. The RAID Volume will rebuild automatically.
RAID X had some errors. Formatting was aborted!	Check the disk drives. See page 217. Replace the failed drive. See page 217.

8.8 Checking Enclosure Status in WebPASM

To check Enclosure status:

1. Start WebPASM.
2. Click the **Administration** topic and choose the **System** icon to expand the Tree.
3. In the Tree, click the **System Information** icon.
4. Click the **Enclosure Information** tab.
   See Figure 5.

Figure 5. The Enclosure Information tab with malfunctions shown

The corrective action you take depends on the nature of the problem:

- If CPU temperature is above specification:

  - Be sure there is adequate air flow around the SmartStor.

  - Be sure the ambient temperature is below 35°C (95°F).

  - Check the fan speed.

- If the fan speed is below specification, contact Technical Support. See page 236.

- If any power status is out-of-specification, contact Technical Support. See page 236.

8.9 Solving Network Connection Problems

Most network connection problems are the result of poor connections.

When the SmartStor is fully booted and connected to the network, the Ethernet Activity LED indicates status and activity:

- **Blue(NS4600)/Green(NS2600)** - Network link is properly connected

- **Flashing Blue/green** - Network Activity

- **Dark** - No Connection

See Figure 6.

If your SmartStor is connected to your network but the Ethernet Activity LED on your SmartStor is dark, check the following items:

- Verify that the switch, hub, or facility network service connection that you are using is operational.

  Switches and hubs have LEDs that light when there is a connection and flash when there is activity.

  Network service connections generally do not have LEDs to verify whether they actually are connected to the network. See your Network Administrator for assistance.

- Be sure the network cable is firmly attached to the SmartStor network

connector at one end and to the network switch, hub, or facility network connection at the other.

• If the cable connections are good, remove the existing network cable and install a known-good network cable.

Figure 6. System Status and Ethernet Activity LEDs

System Status LED

Ethernet Activity LED

POWER button
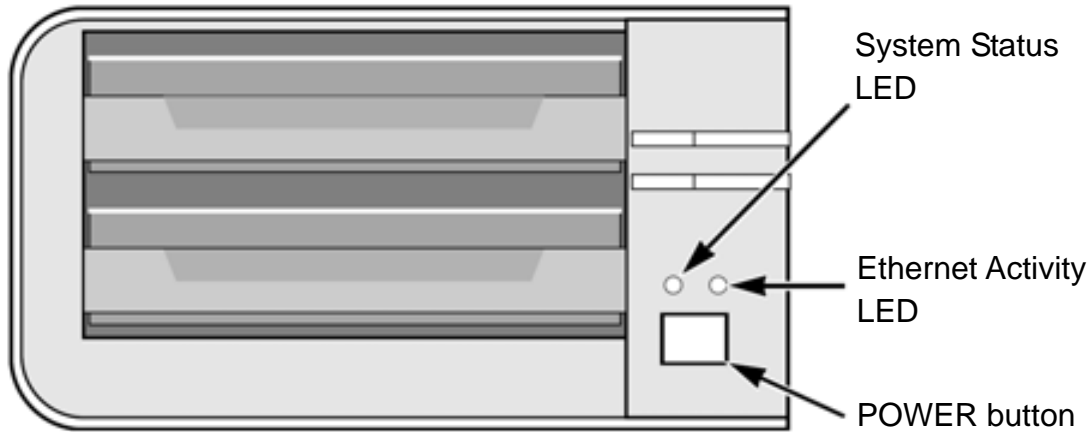
If you know your network devices are working properly and you know that your network cable is good, but the Ethernet Activity LED remains dark, see "Contacting Technical Support" on page 236.

The SmartNAVI application is designed to detect the SmartStor on your network.

If SmartNAVI does not detect your SmartStor, check the following items:

• Be sure the SmartStor is powered up and fully booted.
  The System Status LED should be blue/green. See Figure 6.

• Be sure the SmartStor is properly connected to your network.
  The Ethernet Activity LED should be blue/green or blinking blue/green. See Figure 6.
  If the Ethernet Activity LED is dark, see "Solving Network Connection Problems" on page 225.

• Be sure that SmartNAVI is looking on the same network where you connected the SmartStor.

• If you are running a personal firewall on your Windows PC, the firewall might prevent you from accessing folders on the SmartStor. You must do one of the following actions:

  • Disable the firewall

  • Add an exception for the SmartStor

  See "Resolving a Windows Firewall Issue" on page 231.

Verifying Connections with SmartNAVI

If your PC has multiple network connections, you must verify that SmartNAVI is looking on the network where the SmartStor is installed:

Double-click the **SmartNAVI** icon in the Windows application tray or Mac Dock (right).

SmartNAVI in Windows

SmartNAVI in Mac OS X

The SmartNAVI Main Window opens.

If your SmartStor does not appear in the SmartNAVI Main window, SmartNAVI does not detect the SmartStor on your network. If you have verified all other functions, then you might have SmartNAVI and SmartStor on different   etworks.

8.10 SmartStor Lockup

On rare occasions, SmartNAVI or WebPASM become unresponsive to your inputs. If that happens, check the SmartNAVI Main window on your PC. See Figure 7.

Figure 7. SmartNAVI Main window

If the SmartStor used to appear in the SmartNAVI Main window previously but is no longer there, the SmartStor is probably locked up or frozen and requires a hard reboot.

Caution

> This action is appropriate only when there are no data transfers or installations in progress.
>
> Do not disconnect the power to reboot the SmartStor unless the proper shutdown procedure does not work.

Keep the SmartNAVI Main window open during this procedure.

To hard reboot the SmartStor:

1. Press and hold the Power button for two seconds.

   During a proper shutdown, the System Status LED turns RED, then goes dark.

   If the System Status LED stays the normal status color, the SmartStor is locked up.

   See Figure 8.

Figure 8. SmartStor front and back views

Disk Activity LED

System Status LED

Power Button

Power Connection
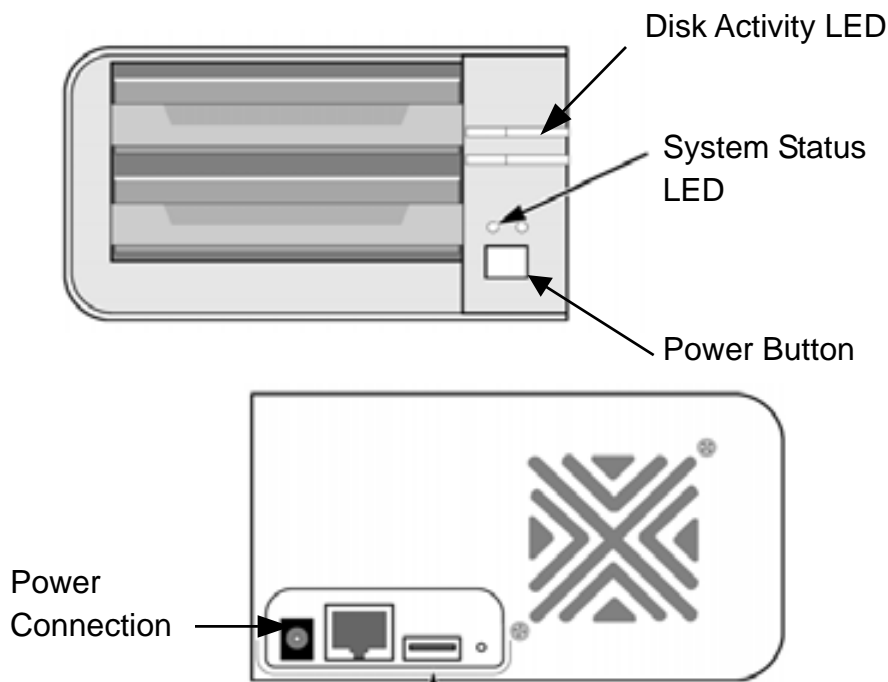
2. Disconnect the power cable from the SmartStor.
3. Wait 10 seconds, then reconnect the power cable.
4. Press the Power button.

   It takes about a minute to boot the SmartStor. When fully booted:

   - The System Status LED turns the normal status color.
   - The buzzer beeps one time.
5. Verify that the SmartStor now appears in SmartNAVI Main window.

   The SmartStor automatically runs a File System Check due to the abnormal shutdown. During the File System Check, the System Status LED blinks amber and the Disk Activity LEDs blink blue/green. See page 219 for more information.

8.11 Checking Your Email Inbox

If you enabled Mail Alert in WebPASM, the SmartStor will send you an email message when a problem arises. Look for a message from "root."

Figure 9. Email message from the SmartStor.
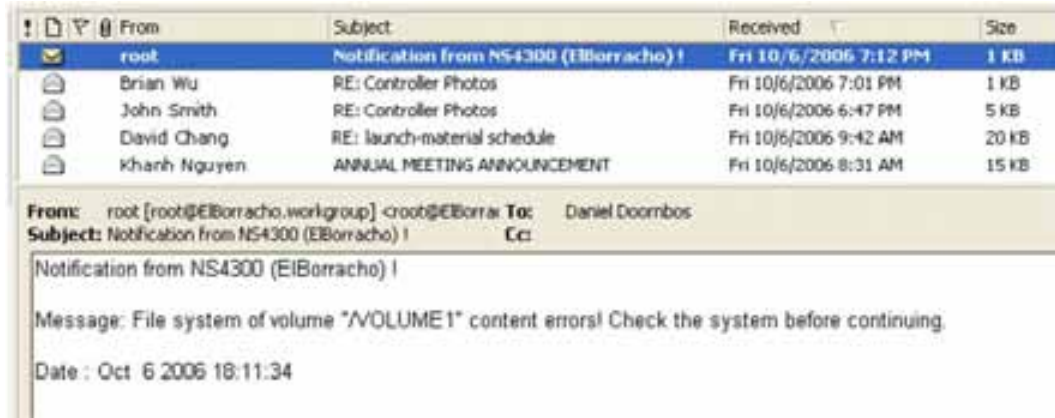
See "Adding an Email Alert Recipient" on page 178 for more information about email alerts.

8.12 Restoring the Default Password

Normally, you change your password in WebPASM. See "Changing the User's Password" on page 136.

If you changed the password and then forgot the new password, you can reset the SmartStor to the default password: **admin**. Use a straightened paper clip or the tip of a ball-point pen as a reset tool.

To reset the Administrator's password:

1. Verify that the SmartStor is fully booted.

2. Insert your reset tool into the reset button hole on the back of the SmartStor. See Figure 10.

3. Press and hold the reset button for Five seconds, until the System Status LED flashes three times.

    See Figure 10. The Administrator's password is now reset to **admin**.

Figure 10. Reset button and System Status LED
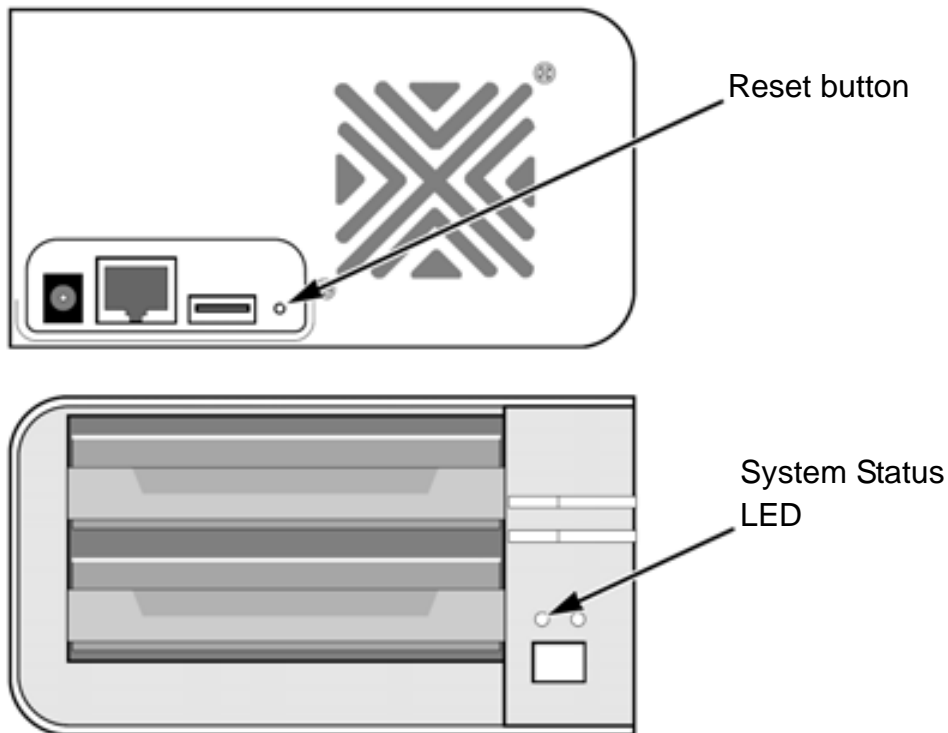
8.13 Resolving a Windows Firewall Issue

If you a running a personal firewall on your Windows PC, the firewall might prevent the you from accessing the SmartStor over your network.

Follow this procedure to add an exception for the SmartStor:

1. From the Windows Start menu, choose *Settings*, then *Network Connections*.

   The Network Connections window opens.

2. Right-click **Local Area Connection** and choose *Properties* from the popup menu.

   The local Area Connection properties dialog box opens.

3. Click the **Advanced** tab.

4. Click the **Settings** button.

   The Windows Firewall dialog box opens.

5. Click the **Advanced** tab.

6. Under Network Connection Setting, click the **Settings** button.

   The Advanced Settings dialog box opens.

7. Click the **Add** button.

   The Service Settings dialog box opens.

8. In the Description of service field, type **Promise NAS utility**.

9. In the Name or IP address field, type the IP address of the SmartStor.

10. In the External Port field, type **49152**.

11. Click the **UDP** option button.

12. In the Internal Port field, type **49152**.

13. Click the **OK** button.

Figure 11. Windows Firewall Advanced Service Settings
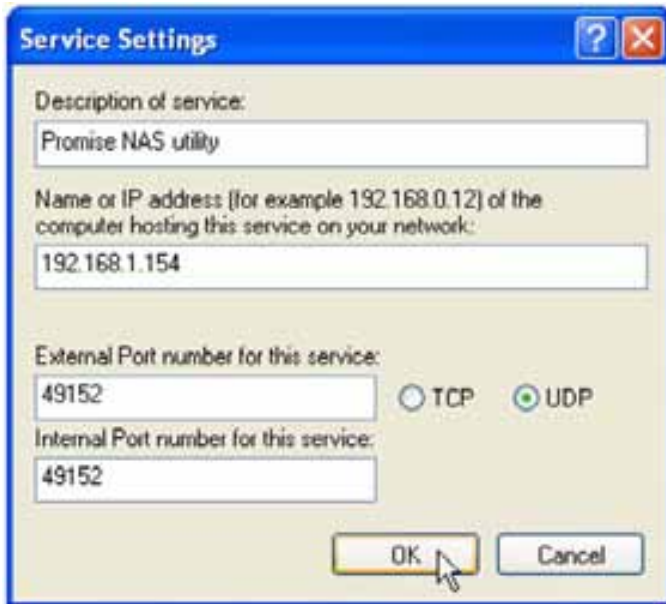
14. Click the **OK** buttons in the Advanced Settings, Windows Firewall, and Local Area Connection Properties dialog boxes.

Chapter 9: Support

9.1 Frequently Asked Questions

Also see "Chapter 8: Troubleshooting" on page 216.

The SmartStor worked OK until I turned it off. When I turned it on again, my Windows network drive connection no longer works.

When you powered up the SmartStor, the DHCP server assigned a different IP address to the SmartStor. Here are two possible solutions:

- You may be able to reset the SmartStor's IP address manually. See "Mounting a Share Folder / Creating a Network Drive" on page 83 or "Changing Network Settings" on page 90.
  Note that changing the SmartStor's IP address may cause an IP address conflict on your network. Check with your Network Administrator before taking this action.

- If you cannot restore the previous IP address, you must create new network drives and printer connections. See "Chapter 4: Connecting to the SmartStor" on page 15.

When I start Windows, a message displays that says, "Could not reconnect all network drives."

The SmartStor reconnects to your PC shortly after Windows starts. In most cases, the SmartStor network drives will be available by the time you click them.

**The SmartNAVI application cannot access the SmartStor over the network.**

If you a running a personal firewall on your Windows PC, the firewall might prevent you from accessing folders on the SmartStor. You must do one of the following actions:

- Disable the firewall

- Add an exception for the SmartStor

See "Resolving a Windows Firewall Issue" on page 231.

I tried to connect my SmartStor as a network drive using SmartSYNC, but Windows displayed an error message.

There might be an IP address conflict between the SmartStor and another device on your network. See your Network Administrator for assistance.

I cannot log into the SmartStor with through the AD Domain.

Be sure you use a "domain name\user name" when you log into the SmartStor using SMB, FTP, or AFP. You must use the "\" character.

Many FTP clients do not support a space in the domain name or user name.

Also, the SmartStor does not support a user home directory.

How does the SmartStor integrate into an NIS Domain?

If the NIS domain account or group name is the same as the SmartStor, the SmartStor will apply them to its account or group.

If the SmartStor joins a NIS Domain, joining only affects the NFS service and Quota settings. The other services are not affected.

How are non-ASCII folder file names displayed?

The SmartStor supports Unicode, so you can use non-ASCII characters in your folder names. Windows 98 and ME do not support Unicode, so they cannot display your folder names properly. But you can still access your folders.

I tried to copy a Windows shortcut to my network drive, but an error message says there is not enough free disk space.

Normally, you can copy a Windows shortcut to a network drive. However, if the network drive is a USB drive or memory stick with FAT32 file format, the SmartStor might not recognize the shortcut and prevent you from copying it.

If this situation occurs, choose a different folder in which to copy the shortcut.

Does SmartStor support a USB drive or memory stick with FAT16 file format?

No. If you attach the FAT16 USB drive or memory stick to SmartStor, you can see the files on it. But if you attempt to copy files to the drive or memory stick, Windows might display a *disk full* message.

How do I remove a USB drive or memory stick from the SmartStor?

Be sure that no files on the USB drive or memory stick are still open. Then unplug the USB drive or memory stick from the SmartStor. The SmartStor automatically unmounts the USB drive or memory stick.

Can I do a One Touch Backup or a regular Backup on a protected folder or file on my Windows PC?

No. Windows does not allow SmartSYNC to access protected folders and files. If you want to perform a backup, you must first disable protection on your folders and files.

I enabled One Touch Backup and pressed the button on the SmartStor but no files were backed up. What happened?

You must create a backup schedule using SmartNAVI. The backup schedule tells One Touch Backup which folders and files to backup from your PC onto the SmartStor.

Which FTP clients are compatible with the SmartStor's FTP server?

Promise recommends FTP clients that support Unicode, such as Filezilla or Smart FTP for Windows, Filezilla for Linux, and Transmit v3.5.5 for Mac.

If your FTP client does not support Unicode, you have two choices:

- Use only ASCII characters to name your shared folders.
- Set your SmartStor for double-byte character encoding. See page 148.

Can I move the disk drives from one SmartStor to a different SmartStor?

Yes. However, to access the RAID Volume on the new SmartStor, you must run the Recover function. When SmartStor's memory does not match the RAID Volume on the disk drives, the RAID Volume is considered *invalid* and the Recover function becomes available. See "Responding to an Invalid RAID Volume" on page 218.

I set up email alert recipients but they never receive any messages.

In most cases, you must setup SMTP authentication in order for your alert messages to pass your SMTP server. See "Setting up SMTP Authentication" on page 176.

Can SmartStor handle jumbo frames?

Yes. But you must set the maximum frame size in WebPASM. See "Working with Jumbo Frames" on page 174.

I tried to create a share folder called "Admin" but the WebPASM software would not let me.

The Admin name is a reserved folder name. Choose another folder name.

I created a share folder and gave it the same name as a local user. This action caused a conflict.

The system does not check share folder names against user names, therefore it is possible to create two folders with the same name. If this happens, delete the share folder, so that only the user's home folder remains.

Is there a Windows browser that supports the Bonjour service?

Yes. Apple's Safari browser supports Bonjour and is available for Windows. And a Bonjour for Windows plug-in is available for Internet Explorer.

Why do my drives fill up when I regularly delete unused files?

If you are running a Windows OS with the Recycle Bin enabled, you must periodically empty Recycle Bin. Deleted files move to the Recycle Bin, the same as on a Windows PC. They are not deleted from the SmartStor until you empty the Recycle Bin.

Where can I find a list of plug-ins installed on my SmartStor?

You can view a list of installed plug-ins using NAS Management in the SmartNAVI Main Window or under File & Print, Protocol Control in WebPASM.

On a Windows PC, you can also right-click the **SmartNAVI** tray icon and choose **About**. On a Mac, you can also click the **Help** dropdown menu and choose **About**.

Where can I find a list of plug-ins available for my SmartStor?

Check for the latest plug-ins on the Promise Support Website. Plug-in file names end with a .ppg extension.

How do I make the SmartStor quieter?

The loudest component on SmartStor is the cooling fan. But the fan can run at low speed part of the time and sometimes not at all. Be sure the *Smart Fan* feature is enabled in WebPASM under System Management, Enclosure Management.

Does the SmartStor have a power-saving feature?

Yes. The *System Standby* feature powers down the disk drives after a selected period of inactivity. To enable System Standby, go to Management, Power Options in WebPASM.

9.2 Contacting Technical Support

Promise Technical Support provides several support options for Promise users to access information and updates. We encourage you to use one of our electronic services, which provide product information updates for the most efficient service and support.

If you decide to contact us, please have the following information available:

- Product model and serial number

- BIOS, firmware, and driver version numbers
- A description of the problem / situation
- System configuration information, including: motherboard and CPU type, hard drive model(s), SAS/SATA/ATA/ATAPI drives & devices, and other controllers.

Technical Support Services

Promise Online™ Web Site	http://www.promise.com/support/support_eng.asp (technical documents, drivers, utilities, etc.)

United States

E-mail Support	e-Support On-Line
Fax Support	(408) 228-1100 Attn: Technical Support
Phone Support	(408) 228-1400 option 4
If you wish to write us for support:	Promise Technology, Inc. 580 Cottonwood Drive Milpitas, CA 95035, USA

The Netherlands

E-mail Support	e-Support On-Line
Fax Support	+31 (0) 40 256 9463 Attn: Technical Support
Phone Support	+31 (0) 40 235 2600
If you wish to write us for support:	Promise Technology Europe B.V. Science Park Eindhoven 5542 5692 EL Son, The Netherlands

Germany

E-mail Support	e-Support On-Line
Fax Technical Support	+49 (0) 2 31 56 76 48 - 29 Attn: Technical Support
Phone Technical Support	+49 (0) 2 31 56 76 48 - 10
If you wish to write us for support:	Promise Technology Germany Europaplatz 9 44269 Dortmund, Germany

Italy

E-mail Support	e-Support On-Line
Fax Support	0039 06 367 12400 Attn: Technical Support
Phone Support	0039 06 367 12626
If you wish to write us for support:	Promise Technology Italy Piazza del Popolo 18 00187 Roma, Italia

Taiwan

E-mail Support	e-Support On-Line
Fax Support	+886 3 578 2390 Attn: Technical Support
Phone Support	+886 3 578 2395 (ext. 8822, 8823)
If you wish to write us for support:	Promise Technology, Inc. 2F, No. 30, Industry E. Rd. IX Science-based Industrial Park Hsin-Chu 30075, Taiwan (R.O.C.)

China – Beijing

E-mail Support	e-Support On-Line
Fax Support	+86 10 8857 8015 Attn: Technical Support
Phone Support	+86 10 8857 8085 or 8095
If you wish to write us for support:	Promise Technology China - Beijing Room 1205, Tower C Webok Time Center, No.17 South Zhong Guan Cun Street Hai Dian District, Beijing 100081, China

China – Shanghai

E-mail Support	e-Support On-Line
Fax Support	+86 21 6249 4627 Attn: Technical Support
Phone Support	+86 21 6249 4192, 4193, or 4199
If you wish to write us for support:	Promise Technology China - Shanghai Room 508, Leader Tower 1189 West Wu Ding Road Jing An District, Shanghai 200042, China

9.3 Limited Warranty

Promise Technology, Inc. ("Promise") warrants that this product, from the time of he delivery of the product to the original end user:

a) all components for a period of two (2) years;

b) will conform to Promise's specifications;

c) will be free from defects in material and workmanship under normal use and service.

This warranty:

a) applies only to products which are new and in cartons on the date of purchase;

b) is not transferable;

c) is valid only when accompanied by a copy of the original purchase invoice;

d) Is not valid on spare parts.

This warranty shall not apply to defects resulting from:

a) improper or inadequate maintenance, or unauthorized modification(s), performed by the end user;

b) operation outside the environmental specifications for the product;

c) accident, misuse, negligence, misapplication, abuse, natural or personal disaster, or maintenance by anyone other than a Promise or a Promise-authorized service center.

Disclaimer of other warranties

This warranty covers only parts and labor, and excludes coverage on software items as expressly set above.

Except as expressly set forth above, Promise DISCLAIMS any warranties, expressed or implied, by statute or otherwise, regarding the product, including, without limitation, any warranties for fitness for any purpose, quality, merchantability, non-infringement, or otherwise. Promise makes no warranty or representation concerning the suitability of any product for use with any other item. You assume full responsibility for selecting products and for ensuring that the products selected are compatible and appropriate for use with other goods with which they will be used.

Promise DOES NOT WARRANT that any product is free from errors or that it will interface without problems with your computer system. It is your responsibility to back up or otherwise save important data before installing any product and continue to back up your important data regularly.

No other document, statement or representation may be relied on to vary the terms of this limited warranty.

Promise's sole responsibility with respect to any product is to do one of the following:

a) replace the product with a conforming unit of the same or superior product;

b) repair the product.

Promise shall not be liable for the cost of procuring substitute goods, services, lost profits, unrealized savings, equipment damage, costs of recovering, reprogramming, or reproducing of programs or data stored in or used with the products, or for any other general, special, consequential, indirect, incidental, or punitive damages, whether in contract, tort, or otherwise, notwithstanding the failure of the essential purpose of the foregoing remedy and regardless of whether Promise has been advised of the possibility of such damages. Promise is not an insurer. If you desire insurance against such damage, you must obtain insurance from another party.

Some states do not allow the exclusion or limitation of incidental or consequential damages for consumer products, so the above limitation may not apply to you.

This warranty gives specific legal rights, and you may also have other rights that vary from state to state. This limited warranty is governed by the State of

California.

Your Responsibilities

You are responsible for determining whether the product is appropriate for your use and will interface with your equipment without malfunction or damage. You are also responsible for backing up your data before installing any product and for regularly backing up your data after installing the product. Promise is not liable for any damage to equipment or data loss resulting from the use of any product.

9.4 Returning Product For Repair

If you suspect a product is not working properly, or if you have any questions about your product, contact our Technical Support Staff through one of our Technical Services, making sure to provide the following information:

- Product model and serial number (required)
- Return shipping address
- Daytime phone number
- Description of the problem
- Copy of the original purchase invoice

The technician will assist you in determining whether the product requires repair.

If the product needs repair, the Technical Support Department will issue an RMA (Return Merchandise Authorization) number.

Important

Obtain an RMA number from Technical Support *before* you return the product and write the RMA number on the label. The RMA number is essential for tracking your product and providing the proper service.

Return ONLY the specific product covered by the warranty (do not ship cables, manuals, diskettes, etc.), with a copy of your proof of purchase to:

USA and Canada: Promise Technology, Inc.
Customer Service Dept.
Attn.: RMA # _____ 47654 Kato Road
Fremont, CA 94538

Other Countries: Return the product to your dealer or retailer.
                                    Contact them for instructions before
                                    shipping the product.

You must follow the packaging guidelines for returning products:

- Use the original shipping carton and packaging
- Include a summary of the product's problem(s)
- Write an attention line on the box with the RMA number
- Include a copy of proof of purchase

You are responsible for the cost of insurance and shipment of the product to Promise. Note that damage incurred due to improper transport or packaging is not covered under the Limited Warranty.

When repairing returned product(s), Promise may replace defective parts with new or reconditioned parts, or replace the entire unit with a new or reconditioned unit. In the event of a replacement, the replacement unit will be under warranty for the remainder of the original warranty term from purchase date, or 30 days, whichever is longer.

Promise will pay for standard return shipping charges only. You will be required to pay for any additional shipping options (such as express shipping).

Appendix A: Important Information

GNU General Public License

This product includes copyrighted third-party software licensed under the terms of the GNU General Public License. Please see the GNU General Public License ("GPL") for the exact terms and conditions of this license at www.gnu.org.

The GPL source code incorporated into the product is available for free download at our web site www.promise.com/support/download/download_eng.asp.

Subject to GPL, you may re-use, re-distribute and modify the GPL source code.

Note that with respect solely to the GPL Software, no warranty is provided, we do not offer direct support for the distribution.

Battery

	Caution
	Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.