



BlackArmor® NAS 440

Networked shared storage for small businesses

Reviewer's Guide

Seagate BlackArmor NAS 440 Reviewer's Guide

Document version: 1.0
Last revised: April 24, 2009

© 2009 Seagate Technology LLC

This document may not, in whole or in part, be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine readable form without prior consent in writing from Seagate Technology LLC.

All examples with names, company names, or companies that appear in this guide are fictitious and do not refer to, or portray, in name or substance, any actual names, organizations, entities, or institutions. Any resemblance to any real person, living or dead, or organization, entity or institution is purely coincidental.

While every effort has been made to ensure technical accuracy, information in this document is subject to change without notice and does not represent a commitment on the part of Seagate Technology LLC. Seagate makes no warranties with respect to this documentation and disclaims any implied warranties of merchantability and fitness for a particular purpose. Seagate shall not be liable for any errors or for incidental or consequential damages in connection with the furnishing, performance, or use of this document or examples herein.

Maxtor, Maxtor BlackArmor, Maxtor OneTouch, Maxtor DrivePass, Maxtor SafetyDrill and Maxtor DriveLock are either trademarks or registered trademarks of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. Seagate and Seagate Technology are registered trademarks of Seagate Technology LLC. The Wave logo, is a registered trademark of Seagate Technology LLC or one of its affiliates. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity one gigabyte, or GB, equals one billion bytes and one megabyte, or MB, equals one million bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Seagate reserves the right to change, without notice, product offerings or specifications.

Seagate Technology LLC
920 Disc Drive
Scotts Valley, CA 95066

Contents

Notes for Reviewers

Contact References	iv
Additional Resources	iv
The Cost of a Lost Data Records.....	1

Part 1: Product Overview

Introduction	1
Capacity and Pricing	2
Key Features	3
Dual Gigabit Ethernet Ports	3
Four USB Ports	4
External Power Supply.....	4
Multiple Simultaneous RAID Levels	4
Hot-Swappable Drives	5
High Security.....	5
Designed for Growth	5
Remote Access – Accessibility from Anywhere	6
PC and Macintosh Support	6
Tools for Systems Integrators	6
Secure Remote Management	6
Active Directory Support	6
Automatic Firmware Update Notification.....	6
What Can You Do With BlackArmor NAS?	7

Part 2: Installation and Use

Installation.....	7
Install the BlackArmor NAS and software	7
Connect with BlackArmor Discovery	8
Complete the initial setup with BlackArmor Manager.....	8
Create customized folders, or shares	10
Create user accounts and assign access rights.....	10
Make BlackArmor Internet accessible (Optional)	11
Optional Features	12
Volumes and RAID	12
Shares, Public and Private.....	12
Protect Data with File Backups	13
BlackArmor Backup	13
Try & Decide	14
Replication	15
Enable Media and iTunes Server Functions	15
Power Management.....	15
Other Functions	16
Conclusion	16
Product Specifications	17

Notes for Reviewers

This reviewer's guide provides information to help you craft your independent review of the Seagate BlackArmor™ NAS 440 networked storage solution. The entire media-relations team at Seagate Technology LLC hopes you find this guide helpful; we look forward to your feedback.

For details regarding BlackArmor NAS installation and operation, consult the following:

- *BlackArmor NAS 440/420 User Guide*
- *BlackArmor Backup User Guide*
- *Seagate Global Access User Guide*

Contact References

Refer your readers to the following Web addresses:

- Seagate Web site: www.seagate.com
- BlackArmor product information: www.seagate.com/blackarmor/

Additional Resources

Images and resources are available online in the Seagate Web site News Room at media.seagate.com/seagate-blackarmor-media-kit .

The Cost of a Lost Data Records

Disk drives rarely fail, but it is a fact of that it does happen. This is the purpose for the BlackArmor NAS, to protect valuable business critical data and to optimize uptime. This objective is achieved by BlackArmor NAS in that data is spread across the four drives that run as a fault-tolerant RAID 5 array.

We've all heard stories about people who never back up their files, and who lose the only copy of a book they've been writing for years. But aside from the emotional cost of lost data, what is the actual monetary value? That question was answered by the Ponemon Institute in a landmark 2007 study. Among the findings:

- A lost customer record cost \$182, an increase of 30 percent over 2005 results. The average total cost per reporting company was \$4.8 million per breach and ranged from \$226,000 to \$22 million.
- Direct incremental costs averaged \$54 per lost record, an eight percent increase over 2005 results for unbudgeted, out-of-pocket spending. These costs include free or discounted services offered; notification letters, phone calls, and emails; legal, audit and accounting fees; call center expenses; public and investor relations; and other costs.
- Lost productivity costs averaged \$30 per lost record, fully double the \$15 cost just one year earlier, for lost employee or contractor time and productivity diverted from other tasks.
- Customer opportunity costs averaged \$98 per lost record, an increase of 31 percent over 2005 results. This cost covers turnover of existing customers and increased difficulty in acquiring new customers. Customer turnover averaged two percent and ranged as high as seven percent.

The Seagate® BlackArmor™ NAS 440 and NAS 420 are designed to help small businesses prevent the negative impacts of data loss or corruption.

Part 1: Product Overview

Introduction

The Seagate® BlackArmor™ NAS 440 and NAS 420 are expandable network-attached storage solutions that provide small business and small-office/home-office (SOHO) organizations with a centralized, secure way to manage business-critical information and data with easy-to-use features. It is perfect for small organizations that have little or no IT support and for SOHO-based individuals who maintain their own hardware. The Seagate BlackArmor NAS 440 and 420 were launched on March 24, 2009.



The Seagate BlackArmor NAS 440/420 is a small-business-specific network storage server designed to provide optimum uptime and data integrity for up to 50 workstations. Hardware, software and services are combined to provide a comprehensive solution for ensuring business continuity. It features one to four 7200-RPM Seagate drives, a 1.2 GHz processor, 256 MB of RAM, dual Gigabit Ethernet ports, four USB ports, and an external power supply.

Capacity and Pricing

The BlackArmor NAS 440 and 420 use the same enclosure, which houses up to four hard drives. The NAS 440 ships with four Seagate Serial ATA (SATA) hard drives; the NAS 420 ships with two. The 420 can be upgraded at any time by installing drives in the two open bays. These configurations allow companies to choose the right amount of storage to meet their immediate business needs and add more as their business grows.

Seagate BlackArmor NAS Configurations

Model	Capacity	Drives	Price*
BlackArmor NAS 440	8TB	4 x 2TB	\$1,999.99
	6TB	4 x 1.5TB	\$1,699.99
	4TB	4 x 1TB	\$1,199.99
BlackArmor NAS 420	2TB	2 x 1TB	\$799.99

* Manufacturer's suggested retail price in US Dollars. Actual dealer price may vary.

Key Features

The Seagate BlackArmor NAS consists of four main components:

- **BlackArmor Server:** The actual hardware that includes main enclosure, disk drives, and external power supply
- **BlackArmor Discovery:** Utility software that finds and connects the BlackArmor NAS to a computer
- **BlackArmor Manager:** A browser-based tool embedded in the NAS to set up, modify, and monitor the BlackArmor NAS locally or remotely
- **BlackArmor Backup:** A software application that backs up files, applications, and even operating systems

Additionally, secure remote access is available via the Internet using the free Seagate Global Access service. No software is required to use Seagate Global Access.

A fully self-contained, out-of-the box solution, the BlackArmor NAS on-board LCD screen displays settings and status information. Compared with affordable NAS products from other manufacturers, we believe the Seagate BlackArmor NAS 440 and NAS 240 each offer unparalleled security, accessibility and peace of mind, achieved through several key features:

Dual Gigabit Ethernet Ports

High-end corporate enterprise-class storage systems and networks use multiple network connections to assure uninterrupted operation should any port fail. At Seagate, we believe this capability should be available to everyone. For that reason, the BlackArmor NAS contains dual rear-panel Ethernet ports that allow users to:

- Connect both ports to the network for fail-safe operation should one port fail
- Connect one port to the network and connect the other port directly to a second BlackArmor NAS to replicate the primary unit automatically without consuming any network bandwidth



The BlackArmor NAS features dual Ethernet ports that can be used to provide port failover redundancy or direct connection to a second unit for automatic replication that bypasses the network. Four USB ports (one located on the front panel) can be used to attach hard drives, share a printer among users, or connect to an uninterruptible power supply data port to ensure a graceful shutdown in the event of a power outage.

Four USB Ports

The one front-mounted and three rear-mounted USB 2.0 ports allow you to connect external USB hard drives for additional storage, manage off-site data rotation, share a USB printer, or connect a UPS (uninterrupted power supply) to safeguard against sudden loss of electrical power.

External Power Supply

Any device with a single built-in power supply is out of business if that power supply fails. It's true for your microwave oven, television, and even your desktop computer. In designing the BlackArmor NAS, one of our guiding principles was to assure that the data stored on it is accessible at all times. Enterprise-class storage sub-systems often have twin built-in power supplies that draw electricity from separate power cords, but that is a very expensive solution. In designing the BlackArmor NAS, we did the next best thing: use an external power supply, exactly like a notebook computer does. Should it ever fail, simply unplug and replace it with another one.



Using an external supply offers several benefits:

- Quick replacement ensures access to data with minimal downtime
- Heat generated by the power supply is kept away from electronics and drives
- The entire unit can be made smaller and lighter
- Ventilation is improved, helping to keep drives cool

Multiple Simultaneous RAID Levels

BlackArmor NAS supports creation of up to four logical volumes. Each volume can be provisioned at a different RAID level of protection (RAID-0/1/5/10). To our knowledge, this capability has never before been incorporated into a small-business NAS solution. The reasons for setting up volumes with different levels of RAID protection should be a function of the data it stores.

For example, data files that are crucial for running a business but where read/write speeds are not a concern would be best served by RAID Level 5. Files that require redundancy and faster read/write performance might be stored at RAID Level 1. For files that require very fast performance, such as watching a downloaded movie stored on the NAS, RAID Level 0, which improves performance but provides no fault tolerance may be the best choice. With the Seagate BlackArmor NAS, it's not only possible to provide all of these RAID configurations simultaneously; it takes just a few minutes to set up. (Note: RAID 5 requires a minimum of three drives, though use of four is preferred. RAID 10 requires four drives configured in pairs.)

The default RAID setting for the BlackArmor is RAID 5 for the BlackArmor NAS 440 server. This ensures the most reliable and redundant back up of the data it contains.

Hot-Swappable Drives



Drive cradle

All BlackArmor NAS products are user-serviceable and feature hot-swappable drives to ensure uninterrupted operation. No tools are required. Simply insert the spare or replacement drive into the cradle and then slide the cradle into the drive bay.

Should a drive ever require replacement, hot swapping means the unit need not be powered down. Additional drive cradles are available for replacement or easy swap for archiving drives. Though Seagate drives are known for their exceptional quality, it is suggested that a company which cannot risk down time keep a spare drive in a cradle ready for use on a moment's notice.

It is important to note that different RAID levels provide differing levels of protection and performance. The BlackArmor NAS 440 ships with RAID 5 already set up. RAID 5 provides the highest possible level of protection for data. Seagate strongly urges the use of RAID 5 when three or more hard drives are present. For two-disk NAS 420 systems, Seagate recommends RAID 1, in which contents of one drive are duplicated (mirrored) on the second drive. Administrators should be especially aware that RAID 0 distributes data across several disks in a way that yields improved performance, but that all data on all disks is lost if any one disk fails.

High Security

With BlackArmor NAS, encryption is possible for entire volumes, folders, and even for an individual backed up file. This is accomplished with intuitive software management for access control using a chipset that provides hardware encryption. A bare metal restore and recovery CD to protect against data loss is included. BlackArmor NAS supports HTTPS and allows for the import of an SSL certificate to encrypt all communications with the device. HTTPS is fully support for remote access via the free Seagate Global Access service.

Synchronization for Up to 50 Computers With BlackArmor Backup software, the BlackArmor NAS delivers automatic and scheduled backup of business-critical data for up to 50 networked computers. This includes full-system backup and RAID options to provide duplication of data. For any business with up to 50 computers, BlackArmor NAS is the perfect solution. The product ships with 10 client licenses; additional licenses are available through the Seagate web site.

Designed for Growth

Not everyone or every small business needs 8TB of storage, even if a portion of that amount is set aside for overhead in a RAID array. Small businesses and self-employed individuals can start with a two-drive 2TB configuration (BlackArmor NAS 420 with two

1GB drives), and add more drives as their businesses and storage needs grow. The Seagate BlackArmor NAS family of servers offers the ability to scale from 2TB to 8TB.

Remote Access – Accessibility from Anywhere

When away from the office, BlackArmor NAS users can use the Seagate Global Access service to access and share content securely from any Internet-connected computer. No software needs to be installed. With this capability, companies can invite colleagues and clients to access select files and folders without needing an FTP site, while keeping the firewall intact and maintaining the security of the network.

PC and Macintosh Support

The Seagate BlackArmor NAS 440 and BlackArmor NAS 420 network servers support Microsoft® Windows® XP, Windows Vista, and Apple® Mac OS® X 10.4.11 or later. (The BlackArmor Backup software is not currently available for Mac OS.)

Tools for Systems Integrators

With the BlackArmor Discovery software, and the unit's built-in management Web server directly addressable through a local IP address, assigned automatically by DHCP or a fixed address assigned manually (such as 192.168.1.xxx), managing the device is very simple and straightforward. Key aspects of management are covered later in this reviewer's guide. Nevertheless, Seagate designed BlackArmor NAS with specific capabilities for value-added resellers, solutions providers, and systems integrators.

Secure Remote Management

For integrators who plan to watch over BlackArmor NAS units on behalf of their customers, this capability allows the integrator to monitor an unlimited number of BlackArmor NAS units from a single location, without the need to make an in-person visit. This capability is implemented through DDNS (Dynamic DNS).

Active Directory Support

BlackArmor NAS incorporates built-in support for and is fully compatible with Microsoft® Active Directory® for directory services, Kerberos-based authentication, and DNS-based naming, and other network information.

Automatic Firmware Update Notification

Most hardware devices benefit from firmware updates that add new features or correct bugs. Since, we expect that Seagate will offer future firmware updates to BlackArmor NAS, we have incorporated a firmware update notification service. The BlackArmor NAS device periodically communicates with a server at Seagate that manages updates. If a firmware update is available, an e-mail message is sent to the address entered during configuration. Unlike application software that checks for updates with an agent that is always running and consuming valuable RAM on a computer, the BlackArmor NAS firmware update originates within the NAS device itself. There is no software to install on

any computer and no memory on any computer is ever used for this service. BlackArmor NAS can be configured to install updates automatically or to notify the administrator that an update is available.

What Can You Do With BlackArmor NAS?

The BlackArmor NAS is highly a versatile device that can be used to store, backup, and share data. You can also stream music, videos, and movies. Uses include:

- Store files by using BlackArmor NAS as a central primary-storage repository.
- Share with colleagues and customers on a local network or over the Internet.
- Create automatic backup copies of files, including the operating system.
- Recover from a disaster, such as the accidental deletion of important files, failure of a drive, or the loss or theft of a computer.
- Access the BlackArmor NAS via the Internet from anywhere in the world to download or upload files using the Seagate Global Access service.
- Share a USB printer with others on the local network.
- Create a media server so that anyone on the local network can leverage downloaded photos, videos, and music for use in presentations, meeting or event materials.
- Enable the Apple® iTunes® service on the server so that users can stream music directly to a network computer that has the iTunes application installed for use in web trainings, presentations or demonstrations.
- Set up scheduled downloads with sites with password validated accounts.

Part 2: Installation and Use

Installation

Installing the Seagate BlackArmor NAS 440 should take about 15 minutes, not including creating of individual user accounts. Consult the *BlackArmor User Guide* for step-by-step instructions for installing and configuring the BlackArmor NAS. This section highlights several key operating features. The tasks that need to be performed follow, with overview instructions. Additional detail can be found in the *BlackArmor User Guide for Windows*.

Install the BlackArmor NAS and software

1. Plug the included Ethernet cable into Port 1 and connect the other end to the network (switch, router, etc.). Connect a second cable to Port 2 and the network for failover capability.
2. Use the power adapter included in the kit to connect the BlackArmor server to a grounded power outlet. The server powers on automatically and the LED lights

on the front panel of the server illuminate. The LCD screen shows the start-up progress.

Connect with BlackArmor Discovery

To connect, you use the BlackArmor Discovery application.

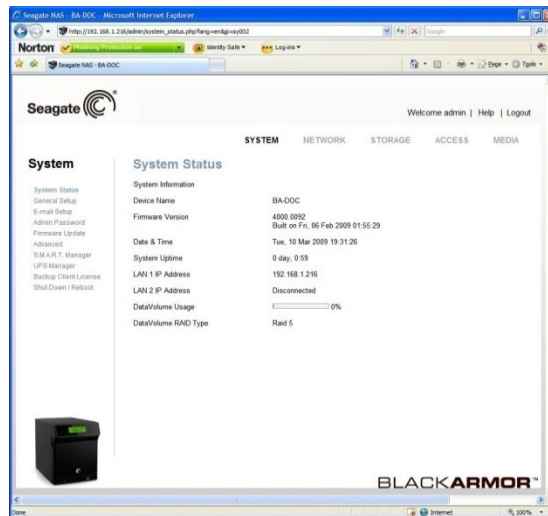
1. Launch the BlackArmor Discovery application from a PC running Windows XP, Windows Vista or a Mac OS X. BlackArmor Discovery searches for installed devices and displays a list. Systems running Windows Vista find the unit automatically and display a dialog for mapping it to a drive letter.
2. Select the BlackArmor unit and (in Windows only) click View **Drive Details**.



The BlackArmor Discovery program locates and lists any connected BlackArmor NAS devices. Select a NAS (only one exists in this example) and click View Drive Details.

Complete the initial setup with BlackArmor Manager

1. Click **Manage** to open the browser-based BlackArmor Manager. Log in using the default settings. (The user name and password are case-sensitive.)
 - Default user name: **admin**
 - Default password: **admin**



The browser-based BlackArmor Manager is used to perform initial configuration and all ongoing management.

Logging into a BlackArmor NAS for the first time launches the *Setup Wizard*.

2. Click **Next** then click "I Agree" to accept the Seagate BlackArmor license
3. Customize basic settings (Optional):
 - Enter a name for the NAS. To make the NAS easy to identify on a local network, give it a unique and easy-to-remember name. The name can be up to 15 alphanumeric characters long and can include hyphens, but not spaces.
 - Enter a description for the server.
 - Select the time zone.
 - Change the administrator password.
 - Select the network mode: DHCP to obtain an automatically assigned IP address or set a static IP address.
 - Click **Next**, then **Finish** to complete the setup.

To perform initial BlackArmor NAS configuration, click Manage to launch the browser-based BlackArmor Manager.

On the sign-in screen (not shown), enter "admin" for the user name.

Enter "admin" for the password.



Create customized folders, or shares

The BlackArmor NAS comes with two preconfigured shares: Download and Public. If these are adequate, skip to “Create User Accounts.” You can also create custom shares using the BlackArmor Manager Web interface. You might want to do this if you want to store files by category, such as client files, project files, or financial archive files; or if you want to store files by business team, such as marketing, accounting, or sales. To create custom shares:

1. In the menu bar, select **Storage**, click **Shares**, then click the **Add** icon.
2. Enter a name and description for the new share.
3. Select the share's owner from the drop-down list of all user accounts. (See the next section “Create User Accounts” to create user accounts.)
4. Select the types of protocols you want the share to support.
5. Select the volume in which to create the share, if there is more than one.

You can protect files on the share from being accidentally deleted by adding a recycle bin to the share. Deleted files can be recovered from the recycle bin, if necessary.

6. To add a recycle bin, beside **Recycle Bin Service**, click **Enable**.

You can set the share to download specific types of files into default folders—for instance, all music files into Music.

7. To automatically sort downloaded files, beside **Drag&Sort Service**, click **Enable**.
8. Click the check box for **Share Access** to go to the page on which you set up and customize user and group access to this new share.
9. Click **Submit** to create the share.

Create user accounts and assign access rights

BlackArmor comes with one administrator account set up. Setting up individual user accounts includes assigning access to the default shares or new shares you create. To create a user account:

1. In the menu bar, select **Access**, click **Users**, then click the **Add** icon.
2. Customize the account:
 - **User Name:** The name that the user types to log in
 - **Admin Rights:** Sets the user as a BlackArmor administrator
 - **Full Name:** User's name
 - **Password** and **Confirm Password:** Up to 15 alphanumeric characters that user enters when logging in
 - **Group:** Group of users to which this account belongs, if any

- **Create User Private Share:** Whether or not BlackArmor Manager should create a new private share for this account
 - **Volume:** Which volume (if there is more than one) the private share should be created in
 - **Services:** Which type(s) of file service the private share should support
3. Click **Submit**.

Make BlackArmor Internet accessible (Optional)

You can make the BlackArmor NAS's files and folders accessible over the Web by enabling Global Access in BlackArmor Manager. *Seagate Global Access* is a free service you can use to view, download, share, and work with the files stored on the NAS from anywhere in the world. You can also upload files.

To access the BlackArmor server over the Web, the administrator must enable Global Access on the server using BlackArmor Manager. Doing so allows the server to be accessed remotely. Each user, including the administrator, must have a free Global Access account to use this feature. Anyone who wants to access the BlackArmor server over the Web must have their own free account.

To enable Global Access:

1. In the menu bar, select **Access, Global Access**, and then Click the **Enable** check box. Click **Submit**.

Access to the BlackArmor NAS is now enabled. Next, each user must enable Global Access in their BlackArmor account and also create a free Seagate Global Access account.

To enable access for individual users:

1. The users must log in to the BlackArmor NAS.
2. In the Menu bar, select Global Access, click the Enable check box, then Click Submit.

To create a Seagate Global Access Account (performed by each user):

1. Go to the Seagate Global Access Web site at <http://globalaccess.seagate.com> and click the link to begin.
2. On the Seagate Global Access Sign In page, enter an email address and click Send.
3. The page refreshes to indicate that Seagate has sent the user an email with an invitation. The email contains a link to a Web page. Follow the on-screen instructions to open the account and log in to Global Access.

To Use an individual Seagate Global Access Account:

1. The user logs in to the BlackArmor NAS.
2. In the Menu bar, select **Global Access**, enter the Seagate Global Access user name and password, then click **Submit**.

Optional Features

BlackArmor NAS does much more than simply store files. For details about these capabilities, consult the *BlackArmor User Guide*.

- Share a USB printer
- Connect an Uninterruptable Power Supply
- Enable media server functions

Volumes and RAID


A volume is data storage space that can be composed of part of one or more disk drives, or only part of a single disk drive. The four-drive BlackArmor NAS ships with its four drives defined as one large volume, suitable for a majority of businesses. However, a business can choose to divide the NAS 440 storage space into as many as four volumes. Each one can be a different size.

For example, you could create three volumes that each contain different types of data:

- Volume A: Business Files
- Volume B: Backup File Storage
- Volume C: Media Files

Volumes are created and managed through the Web browser administrative interface. Under the “Storage” pull-down menu, select “Volumes.”

Volumes	Type	Drives	Usage	Size	Status	
 DataVolume	Raid 5		0%	2.62 TB	Good	 

Click  to modify the volume structure.

For details on creating new volumes, see page 17 of the *BlackArmor User Guide*.

By default, the available storage space in your BlackArmor NAS 440 is configured into one volume protected by RAID 5. The unit supports RAID levels 0, 1, 5, 10; and JBOD (Just a Bunch of Disks), which is not RAID protected. Seagate strongly recommends RAID 5, since it provides the best level of protection. However, each volume you create can be defined with different RAID levels.

Shares, Public and Private

A share is simply a folder in a volume that is accessible by several people. Shares store and protect backup files, or can be used as primary storage for files that many people use. The BlackArmor NAS has two shares already defined: “Download” and “Public.” Use the BlackArmor Manager Web interface to define and create additional custom

shares. Reasons to create a custom share might be to store files by category, such as client files, project files, or financial archive files. A small business might set up shares by department, for the marketing, accounting, and sales groups, for example. Access to shares is controlled through access rights.

Following the three-volume example from the previous section, you could create the following shares:

- Volume A: Business Files
 - Share 1: Client Files
 - Share 2: Financial Files
 - Share 3: Human Resources Files
- Volume B: Backup File Storage
 - Share 1: Daily Backups
 - Share 2: Month-end Backups
- Volume C: Media Files
 - Share 1: Music Files
 - Share 2: Photo Files
 - Share 3: Video Files

Shares are created and managed through the Web browser administrative interface. Under the “Storage” pull-down menu, select “Shares.”

To create a share, follow the steps on page 19 of the *BlackArmor User Guide*. While managing shares, you can perform the following actions:

- Add a recycle bin for deleted files
- Configure a share to download specific types of files into default folders—for instance, all music files into Music
- Automatically sort downloaded files with the “Drag&Sort” Service
- Create and customize access at the group and individual levels
- Specify file protocol support, including CIFS, FTP, and NFS
- Set storage space quotas for individual users or user groups and grace periods with an extra 100MB to permit users time to delete files and get back under the quota

Protect Data with File Backups

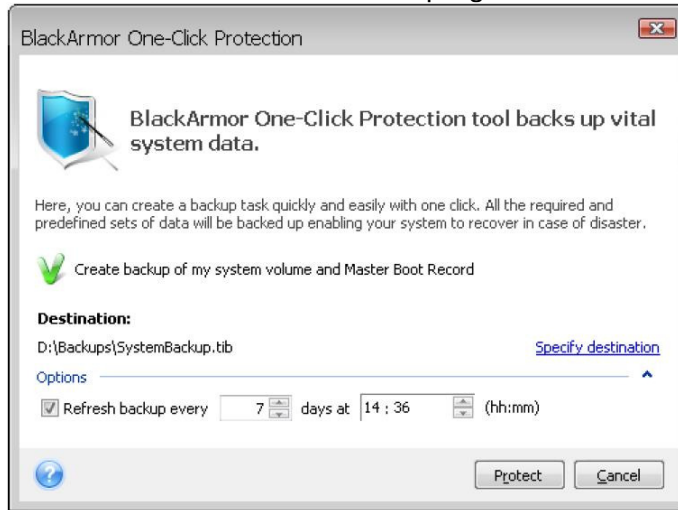
To protect files from loss, corruption, or accidental deletion, regular file backups are vital. Several backup scenarios are available. BlackArmor Backup supports creation of full, incremental, and differential backups.

For complete details on installation and operation, consult the *Seagate BlackArmor Backup User Guide*.

BlackArmor Backup

Seagate BlackArmor Backup is an integrated software suite that ensures security of all information on a PC. (The Macintosh currently is not supported.) It can backup the

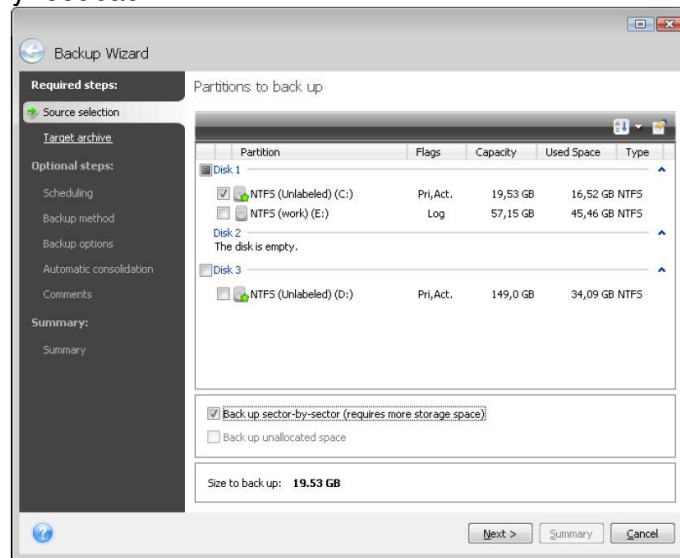
operating system, applications, settings and data, while also securely destroying any confidential data no longer needed. Seagate BlackArmor Backup supports 10 licenses by default. Additional licenses can be obtained (up to the maximum of 50) by clicking the “Get More Licenses” button in the main program window.



To help users begin backing up files immediately, the Once-Click Protection tool performs a full backup of the system volume.

BlackArmor Backup is designed to assist users in setting up a backup schedule and provides helpful user-friendly feedback.

In this Backup Wizard screen, completed steps are marked with green checkmarks and the current step (Source Selection) is indicated with a green arrow. After required steps are completed, the Summary step becomes available.



When creating backup archives, many options are available, including file inclusion and exclusion, automatic consolidation, adding comments, compression, archive splitting, multilevel security, and making reserve copies of backups.

Try & Decide

A powerful Seagate feature, called “Try&Decide” allows for the creation of a secure, controlled temporary workspace on a computer without requiring you to install special virtualization software. With Try&Decide you can perform various system operations without being concerned about accidental damage to the operating system, programs, or data.

Try&Decide feature allows you to perform potentially dangerous operations such as software installation or opening e-mail attachments without putting your PC at risk. It does this by creating essentially a controlled, secure, temporary workspace that is insulated from the rest of your computer.

Replication

With BlackArmor Backup, small business and individual contractors can back up files from their computer(s) to the BlackArmor NAS. But, other types of backup operations, which are accessed through the BlackArmor Manager Web management interface, are available and can be scheduled to run automatically:

- BlackArmor NAS to a second NAS. This is called replication. An Ethernet cable connects the two units directly, avoiding network traffic. This requires a second BlackArmor unit. Replication can also take place through the network, initiated from the BlackArmor Web manager.
- BlackArmor NAS to a USB device (flash drive or hard drive)
- USB device to BlackArmor NAS

These backup operations are managed through the Web browser administrative interface. Under the “Storage” pull-down menu, select “Backup Manager.”

Enable Media and iTunes Server Functions

The Seagate BlackArmor NAS does much more than simply store files. It can also serve as a media server making photos, videos, and music accessible to any DLNA compliant device on your network. Through the BlackArmor Manager Web interface, you can enable media server capabilities, and set it to download media files into default folders automatically. For example, if a user downloads music files, they are directed into that user's Music folder automatically.

The BlackArmor NAS can also function as an iTunes® server so that a BlackArmor user can stream music directly to a network computer that has iTunes installed.

To set up the BlackArmor NAS as a media server, select the Media option in the BlackArmor Manager Web interface.

Power Management

BlackArmor NAS 440 and NAS 420 are both designed to reduce the amount of power being consumed during operation and when the servers are not being accessed. In Seagate's ongoing mission to maintain a high-level of sustainability, BlackArmor NAS has been equipped with a stand-by feature that trims power consumption and allows the servers to run more efficiently while reducing the cost of operation.

This power savings is achieved by enabling a stand-by mode which spins the drive down after a specific idle time of no activity.

Other Functions

BlackArmor NAS features many advanced management capabilities, which should be modified only by someone familiar with these advanced technology concepts:

- Dynamic Domain Name System (DNS)
- File Protocol
- Network Time Protocol (NTP)
- Power Saving
- Secure Socket Layer (SSL)
- Uninterruptible Power Supply (UPS)
- Web Access Protocol
- Workgroup and Domain

Conclusion

While there are many layers to data loss prevention, the Seagate BlackArmor NAS 440 server offers small businesses an array of capabilities that not only secure and backup your critical business data, but also help safeguard businesses from data loss. With the BlackArmor family of business class storage solutions, Seagate hopes that small business professionals can now rest a little easier knowing that their mission-critical data is secure.

Product Specifications

BlackArmor NAS Technical Specifications

Dimensions	6.30" W x 8.15" H x 10.59" D (160.00mm x 207.00mm x 269.00mm)
Weight	NAS440, 13.60lbs (6.16kg); NAS420, 10.55lbs (4.8kg)
Processor	1.2GHz
Memory	256MB RAM
Encryption	128-bit hardware-based
Drive Types	SATA II, 7200 RPM (maximum of four drives)
Drive Capacities	1TB, 1.5TB, or 2TB
Performance	Read speeds up to 50 MB per second in RAID 5 configuration.
Connectivity	4 Internal SATA II ports, 2 RJ45 Ethernet (Gigabit)
Network Protocols	CIFS, NFS, HTTP, HTTPS, FTP, Bonjour, Microsoft RALLY®
Network Authentication	Microsoft Windows® Server Active Directory
File Sharing Protocols	CIFS, NFS, HTTPS, FTP
File System Management	RAID 0, 1, 10, 5; JBOD
Volume Management	<ul style="list-style-type: none"> • Share management • Volume-level hardware encryption
Disk Management	<ul style="list-style-type: none"> • Multi-volume management • SMART status monitor
Backup Management	<ul style="list-style-type: none"> • Local backup(USB device to NAS, NAS to USB device) • Network NAS to NAS replication
Event Management	Event email notification
Media Streaming	<ul style="list-style-type: none"> • iTunes® server • DLNA compliant digital media server
Download Server	Downloader (HTTP and FTP)
Remote Access	Seagate Global Access™ service
System Requirements	<ul style="list-style-type: none"> • Local area network (LAN) • Internet connection (for system updates and web access) • Wired or wireless router with available 10/100/1000 Ethernet Port
Software Requirements	<p>Windows PC on Network</p> <ul style="list-style-type: none"> • Pentium III, 500MHz equivalent processor or higher • Microsoft® Windows® XP or Vista® operating system • Linux Kernel 2.6.7 or later • Internet Explorer 6.0 or later, or Firefox 2.x or later (for management interface and Web access) • 256MB RAM <p>Mac on Network</p> <ul style="list-style-type: none"> • Mac OS X 10.4.11 or later • Apple Safari 3.1 or later
In the Box	<ul style="list-style-type: none"> • BlackArmor NAS 400 series storage server • External power supply and power cords • Seagate drives: four with NAS 440, two with NAS 420 • 2 meter RJ45 Cable, AC Power Cord • Quick Start Guide • Software CD containing - BlackArmor Discovery Software for Windows, BlackArmor Discovery Software for Macintosh, BlackArmor Backup Software for Windows (10 licenses included, additional licenses available), System Recovery Boot for Windows