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NA-1400 Network-Attached Storage Appliance Release Notes

S06703, Revision A06

March 27, 2007

REVISION HISTORY				
Rev	Date	Description	ECO#	Changed By
1.0	2/20/06	Initial release	N/A	S. Griffith
1.0	2/28/06	Updated	N/A	S. Griffith
1.1	05/31/06	Expanded HDD AVL.	N/A	J. Hornig
A01	6/15/05	Placed under ECO control, added RTC fix notes.	A-001171	J. Hornig
A02	7/21/06	Added Western Digital to HDD AVL.	A-001236	J. Hornig
A03	8/17/06	Added Hitachi 500GB HDD to AVL.	A-001262	J. Hornig
A04	11/07/06	Updated to include new 5.4.1 OS	A-001384	J. Hornig
A05	2/28/07	Expanded HDD AVL.	A-001499	J. Hornig
A06	3/26/07	Added 750GB HDD to AVL, added new features & defects resolved.	A-001524	J. Hornig

March 2007

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If you have questions, concerns, or need assistance, see the Technical Support contact information provided by your system supplier.

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Product Documentation

Document	Purpose
<i>NA-1400 Network Attached Storage Appliance Release Notes</i>	Information about system requirements, supported versions and platforms, and known issues and work-arounds.
<i>Newisys NA-1400 Network Attached Storage Appliance Quick Start Guide</i>	Information about how to set up and configure the NA-1400, how to find it on your network, and how to access the Web-based administrative tool.
<i>NA-1400 Network Attached Storage Appliance User Guide</i>	Instructions for the installation and configuration of the NA-1400, how to manage settings, how to configure storage settings and advanced settings, and how to use the Web-based administrative tool.
<i>NA-1400 Safety and Regulatory Information</i>	Safety precautions, regulatory notices, and end user system agreements for the product.

Supported Hard Disk Drives

The NA-1400 supports the following Serial ATA (SATA) hard disk drives.

Capacity	RPM	NPN	HDD Mfr.	Mfr Model #	Mfr Part Numbers	Firmware
250GB	7200	S05259	Seagate	ST3250823AS	Not Available	3.AAD
		LFS06486	Seagate	ST3250824AS ST3250624AS	9BD133-304 9BD133-303 9BD133-301 9BD143-304 9BD143-303 9BD143-301	3.AAD thru 3.AAJ
					Western Digital	WD2500BS
		LFS07361	Seagate	Not Available	9BJ13E-505 ① 9BJ14E-505 ①	3.AAD
400GB	7200	LFS05266	Seagate	ST3400833AS ST3400633AS	9BD135-303 9BD135-301 9BD145-303 9BD145-301	3.AAD thru 3.AAJ
			Western Digital	WD4000KS	WD4000KS-22MNB0	2E07
		LFS07362	Seagate	Not Available	9BJ134-505 ① 9BJ144-505 ①	3.AAD
500GB	7200	LFS05919	Seagate	ST3500841AS ST3500641AS	9BD138-304 9BD138-303 9BD138-301 9BD148-304 9BD148-303 9BD148-301	3.AAD thru 3.AAJ
					Western Digital	WD5000KS
			Hitachi	HDS725050KLA360	0A32993	K2A0AD1A
		LFS07363	Seagate	Not Available	9BJ136-505 ① 9BJ146-505 ①	3.AAD
750GB	7200	LFS07384	Seagate	Not Available	9BJ138-505 ① 9BJ148-505 ①	3.AAD

① The 7200.10 series of HDD's comes from Seagate with Spread-Spectrum Clock (SSC) enabled. SSC must be disabled in order for the HDD to work in the NA-1400. A jumper across pins 1 & 2 of the jumper block must be installed to disable SSC.

Supported Media Devices

The Universal Serial Bus (USB) ports on the front of the NA-1400 are intended for use with mass storage devices only. Mass storage devices are items such as memory cards/sticks and USB hard drives. The USB ports will not support direct connection of cameras or other such devices. To store photos or similar media, first download the media to your computer; then store the media in the NA-1400.

USB Device	Name and/or Description
Viking InterWorks	256MB USB flash drive
Viking InterWorks	512MB USB flash drive
Hammer Storage	Desk Hammer Express external USB 80GB hard drive, HSE308072P
SanDisk	Cruzer Mini 256MB USB flash drive
SanDisk	Cruzer Micro 1.0 GB USB flash drive

Supported Browser Versions

The Web-based administrative tool is accessible via:

- Microsoft Internet Explorer 5.0 or later.
- Mozilla Firefox 1.0 or later.

Contents

	Quantity
NA-1400	1
External power supply	1
Power cord (Units ship without power cords in some countries.)	1
Hard disk drive carrier (and HDD option)	4
Discovery CD	1
Documentation Package	1

Features

Features of the NA-1400	
Storage Capacity	Four pre-configured models have capacity totals of 1.0 TB, 1.6 TB, 2.0 TB and 3.0 TB. The RAID level selected determines available capacity.
Processor	Intel® Xscale® 80219 600 Processor
Memory	Single 256MB DDR SDRAM w/ECC
Cache	32KB data cache
Disk Configuration	RAID0, RAID1, RAID5, and Linear (single large volume, no striping) ¹
Supported Hosts	Up to 20 with base memory configuration
Client OS Support	Microsoft® Windows® 9.X, Windows ME, Windows 2000, Windows 2000 Server, Windows XP Professional, Windows XP Home Edition, RedHat®, Mandrake®, SUSE®.
Supported File Systems	SMB, CIFS, NFS, CIM Client, Anonymous FTP
Supported Media Devices	USB ports support up to two USB 2.0-compliant memory and storage devices at the same time; downward compatible to USB 1.1

¹ In Linear RAID, chunks are allocated sequentially. This offers no performance benefit or redundancy and decreases reliability. If any drive fails, the entire array is unusable. Capacity is the total of all disks.

Features of the NA-1400			
Connectivity	Two 1Gbps Ethernet RJ45 connectors on rear panel Two USB 2.0 connectors on front panel		
Configurations and Supported Drives	1.0TB	4 x 250GB SATA I drives	
	1.6TB	4 x 400GB SATA I drives	
	2.0TB	4 x 500GB SATA I drives	
	3.0TB	4 x 750GB SATA I drives	
Operating System	Linux-based operating system. User-friendly GUI for configuration and management activities		
	Standard features	External USB storage disk	
		Access control list	
		File sharing	
		System monitoring and reporting	
		Web-based user interface	
Journaling file system			
External power supply	Input	90 – 264VAC, 47 – 62 Hz 3.2A @ 115VAC, 1.7A @ 230VAC	
	Output	19V, 6.3A, 120W maximum	
Dimensions (All configurations)	Height	220 mm (8.7 in)	
	Width	170 mm (7.2 in)	
	Depth	260 mm (10.2 in)	
	Weight	3.6 kg (7.9 lbs) for open bay 6.8 kg (14.95 lbs) with 4 hard disk drives and 4 hard disk drive carriers	
Environmental (All configurations)	FCC Rating		Class B
	Temperature	Operating	0 to 35° C
		Packaged	-40 to 65° C
	Humidity Range	Operating	8% to 80% RH non-condensing
		Packaged	5% to 95% RH non-condensing
	Altitude	Operating	Up to 3,048 m (10,000 ft)
		Packaged	Up to 10,600 m (35,000 ft)
	Mechanical Vibration	Operating	0.25G at 5Hz to 500Hz in all axes
		Non-operating	1.0G at 5Hz to 500Hz in all axes
		Packaged	ISTA Random Vibration specification
	Mechanical Shock	Operating	5G, 11msec duration, ½ sine, all 6 faces
		Non-operating	30G, 11msec duration, ½ sine, all 6 faces
		Packaged	ISTA Impact specification
ESD		15,000V human body model	

Important Points

Firmware Updates

Firmware updates will be available from the reseller from whom you purchased your NA-1400.

Hard Disk Drives, Damaged

Ensure that all hard disk drives are in good condition. A damaged hard disk drive can hang the NA-1400.

Hostname Default

If the network is configured for DHCP, but no DHCP is available, the hostname defaults to localhost, rather than to HOSTxxxxxxx, where xxxxxxxx represent the last 8 digits of the MAC address.

Limit Changes to HDD Carriers and Location

The NA-1400 works best and most reliable if you limit changes such as removal and replacement of an HDD carrier, change in location, changes to settings, and so on.

Do not remove a hard disk drive (HDD) carrier unless you must replace a faulty disk. If the unit is on and you have a RAID volume, do not remove more than one HDD carrier at a time. A RAID volume handles only a single drive removal.

Online Help and Inactivity Timer

The online help pages are linked to the inactivity timer. If a help page is open for longer than approximately five minutes without mouse or keyboard activity the system will log off the user.

Power Switch Functions

See the *NA-1400 Users Guide*, available from your system supplier, for details about power switch and LED functions.

The table below contains a summary of the functions.

Function	Steps
Power on ²	Press the power switch 1 time. (Do not press and hold the power switch.)
Power off	When the power up is complete, press the power switch 1 time. (Do not press and hold the power switch.) ³
Reset network settings (Can be disabled in 5.4.1 software)	Press the power switch 1 time to power on. When the power up is complete, quickly press and release the power switch two times. The IP restore process begins and completes in a few seconds. Quickly press and release the power button one time to power down the NA-1400. When the power down is complete, press the power switch one time to power up with the correct network settings. Note: This also resets the passwords to secret and admin . To reset or synchronize the Web interface and root passwords, in the Web interface go to Maintenance, Administrator , and check the box beside Synchronize with root password .
System Level Restore	With power off, insert the USB device that contains the saved data into one of the USB ports. Press the power switch 1 time to power on. After about 2 minutes, the status LED blinks 2 times. Immediately press the power switch 1 time. The status LED blinks 2 times. This indicates that the data restore will begin.

System Partition, Corrupted

You can restore data via the USB Save/Restore procedure, unless the system partition is corrupted. In that case, attempts to restore data via the USB Save/Restore procedure will fail.

² Total time to power on after you press the power switch can be 10 minutes for the first power on. Subsequent power ons can take up to seven minutes. Blue LEDs on the hard disk drive carriers flicker during power on and illuminate during data read and write.

³ A hard power off is not recommended. If it becomes necessary, press and hold the power switch.

Updates

You must have Web access from the NA-1400 in order to update it. You cannot “point” at a file on the local network.

Troubleshooting Guide

Ethernet Port Use

If one Ethernet cable is attached to one of the Ethernet ports on the back of the NA-1400 and you attach a second Ethernet cable to the other Ethernet port, the NA-1400 will not automatically enable the second port. Open the Web-based Admin UI to enable the second port.

- Ethernet port 0 defaults to IP address: 192.168.0.100
- Ethernet port 1 defaults to IP address: 192.168.1.100

Hard Disk Drives, Deactivation, Reactivation

On rare occasions, deactivation and reactivation of a drive can hang the NA-1400. To remedy this, reboot the NA-1400.

RAID, Degraded

Since system partitions are mirrored, a degraded system RAID will not bring down the NA-1400. If the user partitions are in a RAID 1 or RAID 5 configuration, a degraded user RAID will not corrupt user data. If the system reports that a RAID is degraded, the problem may be remedied by adding the partition back to the NA-1400 as a spare. It may be necessary to first delete the unrecoverable RAID that is still on the drive that was removed from the RAID. The system will fail to operate only if all four system partitions have been corrupted.

Drives/partitions may be removed from a RAID set if 1) the drive has failed or is failing, or 2) if the system was powered off abruptly (drives in RAID were out of synch when power loss occurred).

Errata for 5.4.0 Software

Note: these errata items are applicable to the 5.4.0 release (as noted) and *do not apply to the 5.4.1 Software* release. (Contact your system supplier regarding updating to 5.4.1.)

Linux System Clock is Fast by 15 Minutes per Day (5.4.0-162)

The system clock maintained by the Linux operating system runs fast approximately 15 minutes per day. This may cause timestamps of new or modified file to be incorrect which may lead to issues with backup utilities, file synchronization applications, etc. The defect has been root caused and fixed. An update is available on the support web site. Application of this update is strongly urged for all systems running software version 5.4.0-162.

Linux System Clock is Set Incorrectly and RTC is Corrupted (5.4.0-162)

The system clock maintained by the Linux operating system is initialized at boot up to the time of the last power off. When the NA-1400 is shutdown, Linux overwrites the correct time in the RTC with the incorrect time. This is a software defect that has been root caused and fixed. An update is available on the support web site. Application of this update is strongly urged for all systems running software version 5.4.0-162.

Adding a User

If a user is added with a name that contains one of the illegal, special characters, an error message displays to indicate that the data is invalid. In spite of this error message, the user is added, but no description is added. (See the NA-1400 User Guide for a complete list of illegal special characters.)

Connections Lost

Under heavy load from multiple clients, the NA-1400 may drop a connection. In general, the NA-1400 can handle up to 20 clients. However, under heavy load, connections may be lost with as few as 4 clients. In most cases, the client can re-connect. If the issue persists, reboot the NA-1400.

Errata for 5.4.1 Software

Note: these errata items are applicable to the 5.4.1 release and *do not apply to the 5.4.0 Software* release.

There is an update available on the support web site to incorporate the new DST rules as well as other feature updates/bug fixes. Application of this update is strongly urged for all systems running software version 5.4.1-064.

Feature Updates

- Capability to disable “reset network settings” via the power switch. Reference User’s Guide for detail.
- Discovery locator feature: Reference User’s Guide for detail.
- Auto-refresh for Log Viewer page: The NA-1400 now updates the Log Viewer page approximately every 30 seconds.

Defects Resolved

- Cannot locate configured appliance with a static IP address: This has been resolved.
- Changing security mode with IO running fails: A notification window pops up to warn the user.
- RHEL3 with Discovery cannot locate an appliance: This has been resolved.
- New Daylight Savings Time (DST) rules for 2007 have been implemented.
- Deleting a Volume does not delete the share or data: This has been resolved.
- The time can now be changed via the GUI interface.
- Removing the partition for SearchIn does not remove the partition: This has been resolved.

Recovery/Usage of Free-Space

In the RAID5 configuration, there is a block of approximately 130GB of disk space that was reserved for a software option that will be added in the future. Should the user desire to use this space as part of the RAID5 storage area, the following steps may be followed to resize the logical volume.

- 1) Click **Storage** on the main menu.
- 2) On the **Volume** tab, click the appropriate volume name. The **Properties** page displays.
- 3) Click **Resize**. A dialog window displays.
- 4) Type in the amount of disk space that you want to add to the existing volume.
- 5) Click **OK**. The logical volume is resized.

Flash Compatibility Matrix

NA-1400 Flash Compatibility Matrix - March 2007				
Code	Build Version	Flash Version	Manual Re-flash Required?	Comments
5.4.0	162	162	No	Original Release
5.4.0	162+RTC	162b/163	No	Web-based update only, no re-flash required
5.4.1	064	064	Yes	Re-flash required when going from 5.4.0 to 5.4.1
5.4.1	084	084	No	Automatic re-flash during OS update

Technical Support

If you have questions, concerns, or need assistance, refer to the Technical Support contact information provided by your system supplier.

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