

Product Bulletin



Product Bulletin: FAS2000 Series

Revision History	Summary of Changes
29 May 2007	Initial Version .1
10 July 2007	Add FRU list and revise Discount Category codes
4 December 2007	Add SATA internal drive configuration part numbers Remove part number: FAS2020A-1.75TB-STRG-R5 and FAS2020A-1.75TB-BASE-R5 Update discount cat codes
14 December 2007	Add special note to maximum aggregate support in section 2
4 March 2008	Update for 1TB internal SATA drive support and new FAS Easy-Start Wizard for iSCSI
2 June 2008	Announcing SnapLock® Support with Data ONTAP® 7.2.5 release Remove 250GB drive option
November 2008	Add configured shelves with 450GB SAS drives and drive FRU Updated max raw internal capacities (Section 1)

This product bulletin informs NetApp sales and NetApp partners about new or changed NetApp® products or services.

CONFIDENTIAL Restricted to NetApp employees & channel partners under NDA. Copyright © 2008 NetApp. All rights reserved.

1. [Summary](#)
2. [What's New?](#)
3. [Sales Tools](#)
4. [Customer-Ready Tools](#)
5. [System Requirements](#)
6. [Product Information](#)
7. [Regulatory Compliance](#)
8. [Warranty and Service](#)
9. [Additional Information](#)

1. Summary

NetApp is pleased to announce significant enhancements to the FAS2000 series: high-capacity, low-cost SATA drives internal to the base controller system; increased total system storage scalability; and new configuration options (SAS/FC common aggregate and so on) that enable better deployment flexibility for our customers.

There are two FAS2000 models in the series: the FAS2020 and the FAS2050. FAS2000s are scalable, real-estate-efficient, value-based systems that can be deployed in a variety of IT environments as both SAN (iSCSI and FC) and NAS storage.

Product highlights:

	FAS2020	FAS2050
Controller Enclosure Form Factor	2U high, 19-inch rack mountable	4U high, 19-inch rack mountable
Max. Raw Internal Storage	5.4TB SAS (12x450GB 15k rpm SAS) or 12TB SATA (12x1TB 7.2k rpm SATA)	9TB (20x450GB 15k rpm SAS) or 20TB SATA (20x1TB 7.2k rpm SATA)
External Expansion Storage	Up to four DS14mk4 FC or DS14mk2 AT shelves	Up to six DS14mk4 FC or DS14mk2 AT shelves
Max. System Spindle Scalability	68 total: 12 internal + 56 expansion shelf disk drives	104 total: 20 internal + 84 expansion shelf disk drives
Max. System Capacity	68TB with SATA expansion shelves (12TB SATA in controller shelf + 56TB SATA in DS14mk2AT) 20.4TB with FC expansion shelves (3.6TB SAS in controller shelf + 16.8TB FC in DS14mk4FC)	104TB with SATA expansion shelves (20TB SATA in controller shelf + 84TB SATA in DS14mk2AT) 31.2TB with FC expansion shelves (6TB SAS in controller shelf + 25.2TB FC in DS14mk4FC)
H/A Capable	Yes	Yes
I/O Connectivity per Controller	1Gb Ethernet: 2 ports, copper 4Gb FC: 2 ports, target or initiator	1Gb Ethernet: 2 ports, copper 4Gb FC: 2 ports, target or initiator 1 open PCIe slot
Remote Management	Yes, via dedicated Ethernet port	Yes, via dedicated Ethernet port
FC SAN, iSCSI, NAS Support	Yes	Yes
Memory per Controller	1GB	2GB

Note: FAS2000 systems require, and will be shipped with, Data ONTAP 7.2.4L1. FAS2000 only runs on this L release.

Note: SFPs ship with the FAS2050 only when FCP software or attached storage is selected.

2. What's New?

3 November 2008: Added 450GB internal SAS drives for both FAS2020 and FAS2050.

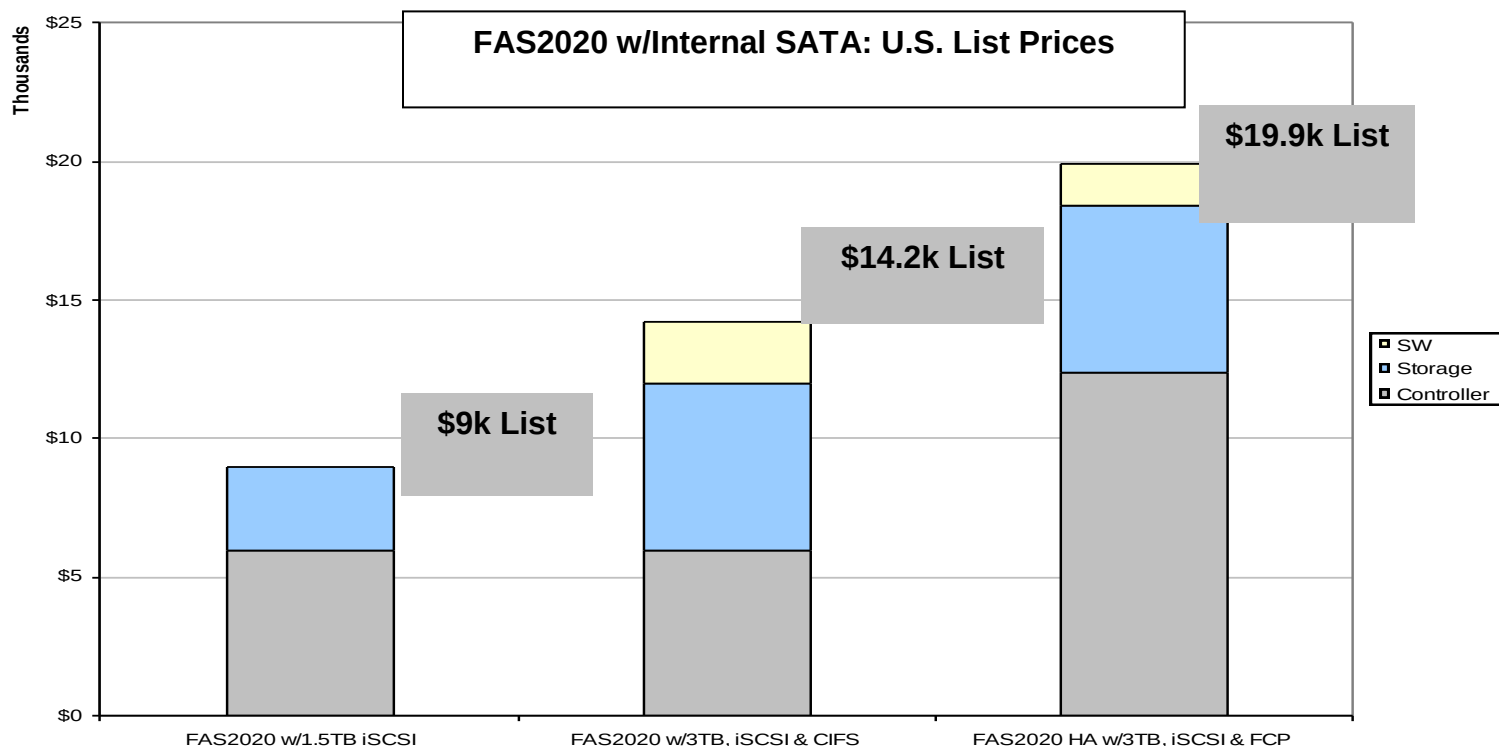
2 June 2008: Announcing Data ONTAP 7.2.5 and availability of SnapLock compliance licenses, 1TB internal SATA drives, and new FAS Easy-Start Wizard for simplified iSCSI setup.

Product Positioning

FAS2020

Since the original launch of the SAS-equipped FAS2020 in June 2007, customer and field acceptance of this platform has been overwhelmingly positive.

Now also available with integrated high-capacity, low-cost SATA drives, the FAS2020 enables NetApp customers to deploy enterprise-class reliability and functionality at extremely aggressive entry price points.



The above FAS2020 U.S. list price examples:

- Are configured with 7.2K RPM 250GB SATA drives.
- Include protocols as specified.

With enhanced storage expandability (68TB via four DS14mk2AT SATA expansion or 20.4TB via four DS14mk4FC expansion), the FAS2020 can scale to meet customers' growing storage requirements.

Other improvements include:

- SyncMirror® support that adds enhanced storage resiliency
- Concurrent DS14mk2AT and DS14mk4FC on a FAS2020, as long as they are on separate FC loops
- The ability to create a common aggregate between (1) internal SAS drives and external FC drives in DS14mk4FC and (2) internal SATA drives and external SATA drives in DS14mk2AT

FAS2050

FAS2050 has been well accepted in smaller enterprise-center deployment environments in which total solutions pricing and storage scalability are driving factors.

With the introduction of internal SATA, we have taken this opportunity to add other enhancements, such as:

- SyncMirror support that adds enhanced storage resiliency
- Concurrent DS14mk2AT and DS14mk4FC on a FAS2050, as long as they are on separate FC loops
- The ability to create a common aggregate between (1) internal SAS drives and external FC drives in DS14mk4FC and (2) internal SATA drives and external SATA drives in DS14mk2AT

internal SATA drives and external SATA drives in DS14mk2AT

- PCIe SCSI controller for legacy tape (x2028A)
- PCIe 4-port 4Gb FC initiator for storage (x2054A)
- PCIe 2-port iSCSI target, copper (x1129A)
- PCIe 2-port iSCSI target, optical (x1136A)

New FAS Easy-Start Wizard for iSCSI Setup

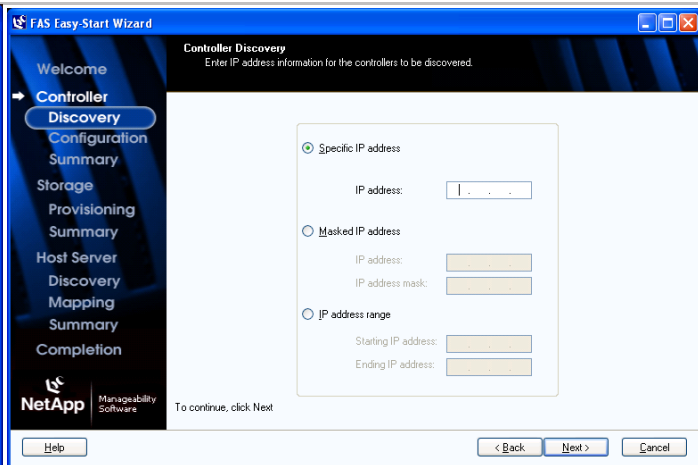
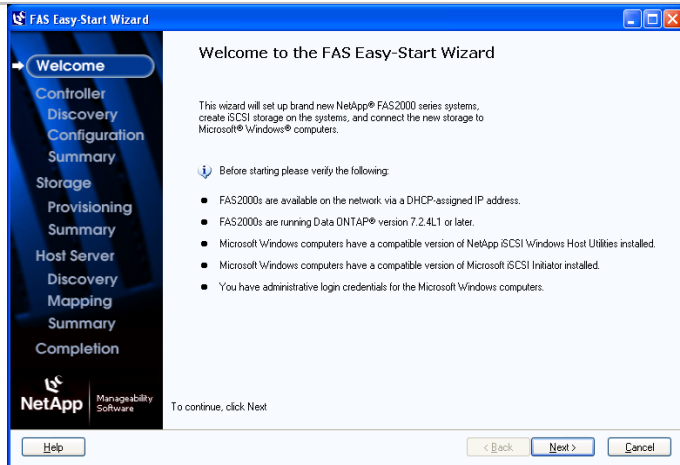
Designed specifically for FAS2000, the new FAS Easy-Start Wizard for iSCSI enables:

- <15 minutes for new system setup for iSCSI deployments
 - GUI-based utility for initial setup and configuration
 - Does not require special training/certification
 - End-to-end provisioning of
 - iSCSI LUNs and hosts in a Windows® environment
 - CD-based utility, ships standard with all FAS2000 systems
 - No additional licenses required
- System requirements for running FAS Easy-Start Wizard:
- Windows XP Professional SP2, 2003 EE (32bit), 2000 (latest service pack)
 - 5MB free disk space
 - 1GB RAM
 - .NET 2.0 framework
- Host server requirements:
- Windows 2003 EE (32 and 64 bit), 2000 (latest service pack)
 - Hosts running supported Windows operating systems within VMware® ESX server (3.0.1)
 - Microsoft® iSCSI Software Initiator 2.0.6 (recommended)
 - NetApp iSCSI Windows Host Utilities 4.0
- Other requirements:
- Supports Data ONTAP 7.2.4.L1 and higher
 - NetApp FAS2000 series only
 - iSCSI storage protocol only
 - Supports iSCSI Software Initiator on hosts only (no HBA or TOE support)
 - Valid NetApp iSCSI licenses for FAS2000

The following are sample screen captures of the FAS Easy-Start Wizard for iSCSI:

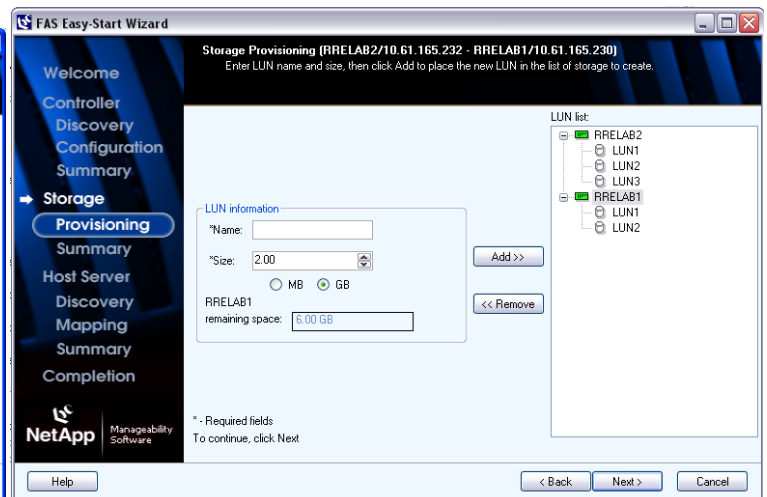
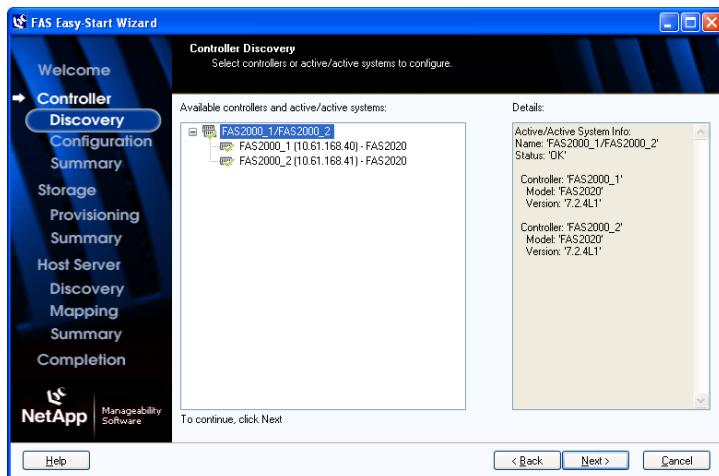
1) Welcome screen.

2) FAS2000 controller discovery.



3) FAS2000 controller discovery, cont'd.

4) Storage provisioning.



Remote Manageability

Each FAS2000 controller has a dedicated Ethernet port for remote management. This new functionality brings the remote management capability of the FAS3000 and FAS6000 series systems to entry FAS platforms for the first time.

Embedded baseboard management controller (BMC):

- 10/100Base-T Ethernet port
- RJ-45 connector on the PCM
- RLM-compatible interface

Standards-based baseboard management controller:

- Remote console access
 - Data ONTAP CLI and system diagnosis
 - Secure network interface (SSH)
- Call home and down system notifications
- Remote power cycle, system core dump, system reset
- Access to system logs from a down system:
 - Nonvolatile HW system event logs
 - Captured console log history

- Software events

Storage Architecture

With the FAS2000, NetApp has incorporated SAS (Serial Attached SCSI) architecture and high-performance 15k rpm SAS drives in either 144GB or 300GB capacities. These 15k rpm SAS drives are comparable in performance, reliability, and pricing to existing 15K RPM FC drives.

Now also available with high-capacity, low-priced SATA drives internal (in 500GB, 750GB, or 1TB 7200RPM), the FAS2050 brings total system scalability up to 104TB (via six DS14mk2AT shelves), while the FAS2020 scales up to 68TB (via four DS14mk2AT shelves).

Configurations

To enable efficient order-to-ship lead times, FAS2000 systems are offered in the following standard configurations:

	Internal 7200RPM SATA	Internal 15000RPM SAS	Maximum Aggregate Support
FAS2020 Single Controller	6x500GB 12x500GB 6x750GB 12x750GB 6x1TB 12x1TB	6x300GB 12x144GB 12x300GB 6x450GB 12x450GB	8TB
FAS2020 Dual Controller	12x500GB 12x750GB 12x1TB	12x144GB 12x300GB 6x450GB 12x450GB	8TB
FAS2050 Single Controller	12x500GB 12x750GB 20x500GB 20x750GB 12x1TB 20x1TB	12x144GB 20x144GB 12x300GB 20x300GB 12x450GB 20x450GB	16TB
FAS2050 Dual Controller	12x500GB 12x750GB 20x500GB 20x750GB 12x1TB 20x1TB	12x144GB 20x144GB 12x300GB 20x300GB 12x450GB 20x450GB	16TB

Notes:

- 1) Customers in the field who have deployed diskless FAS2000 systems can upgrade their systems to have integrated/internal SATA drives by purchasing the FAS2000-specific SATA drive FRUs and upgrading their systems to 7.2.4L1.
- 2) The new FAS2020 8TB aggregate size limit is measured in the following manner:
1TB = 10^{12} bytes = raw capacity.

NearStore Personality and NetApp Deduplication

FAS2000 systems support both NearStore® personality and NetApp deduplication license options.

3. Sales Tools (Sales Guides, Training Presentations, SE Presentations)

N/A

4. Customer-Ready Tools (Customer Presentations, Datasheets)

N/A

5. System Requirements

- Refer to the NOW™ (NetApp on the Web) site to access and order product documentation:
<http://now.netapp.com/NOW/knowledge/docs/docs.cgi>.
- FAS2000 systems will be supported with the Data ONTAP 7.2.5 release. The Data ONTAP 7.2.5 release is required for SnapLock support on FAS2000 systems.
 - FAS2000 does not support MetroCluster licenses.
 - V-Series versions of FAS2000 models will NOT be offered.
 - DC power versions of FAS2000 models will NOT be offered.

6. Product Information

System

Part Number	Description	Discount Category Code
FAS2020-BASE-R5-C	FAS2020 Base Appliance,-C,R5	A
FAS2020A-BASE-R5	FAS2020A,ACT-ACT Base,R5	A
FAS2020-6-X287A-R5-C	FAS2020,Disk Shelf,6x300GB SAS,-C,R5	B
FAS2020-12-X286A-R5-C	FAS2020,Disk Shelf,12x144GB SAS,-C,R5	B
FAS2020-12-X287A-R5-C	FAS2020,Disk Shelf,12x300GB SAS,-C,R5	B
FAS2050-BASE-R5-C	FAS2050 Base Appliance,OS,-C,R5	A
FAS2050A-BASE-R5	FAS2050 Active/Active SubModel,R5	A
FAS2050-12-X286A-R5-C	FAS2050,Disk Shelf,12x144GB SAS,-C,R5	B
FAS2050-12-X287A-R5-C	FAS2050,Disk Shelf,12x300GB SAS,-C,R5	B
FAS2050-20-X286A-R5-C	FAS2050,Disk Shelf,20x144GB SAS,-C,R5	B
FAS2050-20-X287A-R5-C	FAS2050,Disk Shelf,20x300GB SAS,-C,R5	B
FAS2020-1.75TB-BASE-R5	FAS2020 1.75TB System Controller,R5	A
FAS2020-1.75TB-STORAGE-R5	FAS2020 1.75TB Storage Bundle,R5	B
FAS2020-3.5TB-BASE-R5	FAS2020 3.5TB System Controller,R5	A
FAS2020-3.5TB-STORAGE-R5	FAS2020 3.5TB Storage Bundle,R5	B
FAS2020A-3.5TB-BASE-R5	FAS2020A 3.5TB System Controller,R5	A
FAS2020A-3.5TB-STORAGE-R5	FAS2020A 3.5TB Storage Bundle,R5	B
FAS2020-12-X282B-R5-C	FAS2020,Disk Shelf,12x500GB SATA,-C,R5	B

FAS2020-12-X283B-R5-C	FAS2020,Disk Shelf,12x750GB SATA,-C,R5	B
FAS2020-6-X282B-R5-C	FAS2020,Disk Shelf,6x500GB SATA,-C,R5	B
FAS2020-6-X283B-R5-C	FAS2020,Disk Shelf,6x750GB SATA,-C,R5	B
FAS2050-12-X282B-R5-C	FAS2050,Disk Shelf,12x500GB SATA,-C,R5	B
FAS2050-12-X283B-R5-C	FAS2050,Disk Shelf,12x750GB SATA,-C,R5	B
FAS2050-20-X282B-R5-C	FAS2050,Disk Shelf,20x500GB SATA,-C,R5	B
FAS2050-20-X283B-R5-C	FAS2050,Disk Shelf,20x750GB SATA,-C,R5	B
FAS2050-12-X298A-R5-C	FAS2050,Disk Shelf,12x1.0TB SATA,-C,R5	B
FAS2050-20-X298A-R5-C	FAS2050,Disk Shelf,20x1.0TB SATA,-C,R5	B
FAS2020-6-X298A-R5-C	FAS2020,Disk Shelf,6x1.0TB SATA,-C,R5	B
FAS2020-12-X298A-R5-C	FAS2020,Disk Shelf,12x1.0TB SATA,-C,R5	B
FAS2050-12-X289A-R5-C	FAS2050,Disk Shelf,12x450 SAS,-C,R5	B
FAS2050-20-X289A-R5-C	FAS2050,Disk Shelf,20x450 SAS,-C,-R5	B
FAS2020-6-X289A-R5-C	FAS2020,Disk Shelf,6x450 SAS,-C,-R5	B
FAS2020-12-X289A-R5-C	FAS2020,Disk Shelf,12x450 SAS,-C,-R5	B

Field Replaceable Units (FRUs)

Part Number	Description	Discount Category Code
FAS2020		
X1848A-R5	Battery,NVMEM,2 Cell,R5	A
X3199A-R6	DIMM(2),512MB,ECC,Sys Memory,FAS2020,R6	A
X3249A-R5	FAS2020,Motherboard,with MEM,R5	A
X509A-R6	PCM Filler Blank,FAS2020,R6	A
X513A-R5	PSU W/Fans,675W,AC,FAS2020,R5	A
X5518A-R6	Rack Mount Kit,FAS2020,R6	A
X565A-R5	Chassis Assy,W/O PSU,FAS2020,R5	A
X80061A-R6	Bezel,FAS2020,R6	A
X1413A-R6	Compact Flash,256MB,Blank,R6	A
FAS2050		
X3198A-R6	DIMM(2),1GB,ECC,Sys Memory,FAS2050,R6	A
X1849A-R5	Battery,NVMEM,4 Cell,R5	A
X3248A-R5	FAS2050,Motherboard,with MEM,R5	A
X507A-R6	PCM Filler Blank,FAS2050,R6	A
X515A-R5	PSU W/Fans,855W,AC,FAS20x0,R5	A
X5519A-R6	Rack mount kit,FAS2050	A
X5000A-R5	Storage Shelf,4U,24 Drive,Empty,R5	A
X508A-R6	STRG,CARR,SUBASSY,BLANK,DS24,R6	A
X80060A-R6	Bezel,FAS2050/V2050,R6	A
Drives *		
X286A-R5	DSK DRV,144 GB,15K RPM,3Gb,SAS,R5	B
X287A-R5	DSK DRV,300 GB,15K RPM,3Gb,SAS,R5	B
X282B-R5	DSK DRV,500GB,7.2K RPM,SATA,B,R5	B
X283B-R5	DSK DRV,750GB,7.2K RPM,SATA,B,R5	B
X298A-R5	DSK DRV,1.0TB,7.2K RPM,SATA,R5	B
X289A-R5	DSK DRV,450GB,15K RPM,3Gb,SAS,R5	B

***Note:** For internal use with FAS2000 systems only. Drives cannot be used in DS14MK2.

Product Availability

The FAS2000 systems are shipping in volume now.

7. Regulatory Compliance

Products need to be validated against the NetApp Safety/EMI Regulatory Compliance List prior to order submission. This is required to make sure that products are being sold only in the countries in which NetApp has received regulatory compliance certification.

8. Warranty and Service

The FAS2000 series is fully supported through NetApp SupportEdge and ConsultingEdge services. Check [NetApp Global Services](#) for details on how the NetApp Global Services team can help.

9. Additional Information

Contact information: Contact your NetApp sales or channel partner representative with questions concerning this bulletin.

© 2008 NetApp. All rights reserved. Specifications are subject to change without notice. NetApp, the NetApp logo, Go further, faster, Data ONTAP, NearStore, NOW, SnapLock, and SyncMirror are trademarks or registered trademarks of NetApp, Inc. in the United States and/or other countries. Microsoft and Windows are registered trademarks of Microsoft Corporation. VMware is a registered trademark of VMware, Inc. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.