

Get advanced capabilities in a midrange storage system and easily respond to future expansion

# NetApp FAS3220

The FAS3200 series delivers the advantages of the NetApp unified storage architecture through one operating system, consistent management software, integrated data protection, multiple tiers of storage, and industry-leading storage efficiency.

- Up to 480 disks (1920 TB)
- Single enclosure HA; 2 controllers in single 3U chassis
- Dual enclosure HA; 2 controllers in two 3U chassis, total of 6U
- 4x4 Gb FC, 4x6 Gb SAS, 4xGbE
- 24 GB memory and maximum 1 TB FlashCache
- 4 PCIe Expansion slots or 12 PCIe Expansion slots
- Storage networking :FC; FCoE; IP SAN (iSCSI); NFS; CIFS; HTTP; FTP

The FAS3200 series is designed for faster performance and more bandwidth with proven NetApp availability.

Combining reliable, high-performance hardware with the world's most popular storage architecture—the NetApp® Data ONTAP® operating system—NetApp FAS3200 series lets you seamlessly scale your storage infrastructure to support demanding business applications and requirements, no matter how quickly your organization changes.

The FAS3200 series is a midrange platform tailored to deliver the performance, expandability, and capacity scaling critical to the needs of your organization. Fully Flash-ready systems support internal Flash, solid-state disks (SSDs), and advanced server cache, so you can achieve optimum performance while minimizing your total investment in Flash. This significantly reduces the total storage capacity you need.

The ability to scale FAS3200 performance and capacity without disrupting operations brings a new level of agility to midrange storage. As capacity requirements grow, NetApp clustering technology allows seamless scaling of devices, storage volumes, and even entire storage systems residing within a cluster.

## Flash performance

Designed to deliver more performance than ever before, new FAS3200 models provide up to 80% more I/O per second, enabling you to drive your organization faster. As needs change you can boost performance further using the broad range of Flash products in the NetApp Virtual Storage Tier. This innovative approach combines the inherent latency and throughput benefits of Flash with intelligent caching capabilities, delivering the performance benefits of Flash while keeping total costs low.

## Highly efficient systems

At NetApp, storage efficiency is part of the DNA. NetApp seeks out every way possible to reduce your cost per effective gigabyte of storage. What's more, the NetApp OnCommand® management suite automates the process. Efficiency technologies can be invoked with the click of a button or—in the case of NetApp Workflow Automation—can be encapsulated in your data management policies. This further reduces administrator time and helps you achieve optimum storage efficiency throughout your data infrastructure.

## Reliability and availability

The FAS3200 models leverage from high-end systems by introducing features such as Alternate Control Path (ACP) and service processor. These enhance our already highly available architecture by enabling additional diagnostics and non disruptive recovery.

HA and cluster configurations support nondisruptive maintenance, upgrade, and other operations to eliminate planned downtime and provide even greater availability to meet your needs. You can further boost data availability and meet stringent service-level objectives by combining the FAS3200 series with the NetApp Integrated Data Protection portfolio. High-speed, space-efficient Snapshot copies let you capture a copy of a data volume in seconds, while advanced synchronous and asynchronous replication for business continuity can protect you against both planned and unplanned outages. Deduplication and compression are leveraged across both primary and secondary storage, reducing capacity consumption and network usage.

## Maximum platform flexibility

For midrange storage, the key to success is platform flexibility.

FAS3200 models scale from a few terabytes to over 2PB of storage capacity to adapt readily to your growing storage demands. For maximum performance density and to decrease consumption of space, power, and cooling, the FAS3200 series is available with the DS2246 disk shelf. This disk shelf utilizes the latest high-performance hard-disk technology, with small-form-factor 2.5" disk drives that double the capacity per rack unit, conserving valuable data center resources. With midrange storage, available expansion slots can be a limiting factor.

The expanded I/O configurations of the FAS3220 model significantly add to the number of PCIe expansion slots available for network cards, Flash cards, and storage connectivity. Should you reach the limits of a FAS3200 system, all models support clustering, providing you with the flexibility to build clustered systems from 2 nodes to 24 nodes—all managed from a single console.



## TECHNICAL HIGHLIGHTS

Form Factor	Single enclosure HA; 2 controllers in single 3U chassis; Dual enclosure HA; 2 controllers in two 3U chassis, total of 6U; 4U 24-slot Disk Shelf Expansion DS424x; 2U 24-slot Disk Shelf Expansion DS2246; 4U 48-slot Disk Shelf Expansion DS4486
Storage Processor	single or dual active/active controllers
Host Connectivity	Maximum: 4x4 Gb FC, 4x6 Gb SAS, 4xGbE and 12 PCIe slots
Cache Memory	Maximum: 24 GB memory, 3.2 GB NVRAM and 1 TB FlashCache
Supported Protocols	FC; FCoE; IP SAN (iSCSI); NFS; CIFS; HTTP; FTP
LUNs	up to 4096 front-end LUNs
Max. Hosts	Up to 512 fan in hosts per HA pair configured Up to 24 directly connected servers per HA pair configuration
Min/Max. Disk Drives	Up to 480
Max. Capacity (raw/formatted)	1920 TB
Drives Supported	1 TB, 2 TB, 3 TB and 4 TB
SATA II 7200rpm	450 GB, 600 GB, 900 GB and 1.2 TB
SAS 10Krpm	450 GB and 600 GB
SAS 15Krpm	200 GB, 400 GB, 800 GB & 1.6 TB
Flash Drives	
RAID Support	RAID 4: FC – 14 (13 data disks plus 1 parity disk), SATA – 7 (6 data disks plus 1 parity disk); RAID 6 (RAID-DP): FC – 28 (26 data disks plus 2 parity disks), SATA – 20 (18 data disks plus 2 parity disks)
Back-end Connectivity Management	6 Gb/s SAS interface Onboard serial console, diagnostic LED, full-duplex 10/100Base-T Ethernet remote LAN Management port with RLM and Onboard Management interfaces, SNMP, telnet, SSH, HTTP, Web (SSL), host scripting, e-mail alerts
Reliability	Redundant hot-swappable controllers, cooling fans, power supplies, optics, and RJ-45 ports, ACP for DS424x & DS2246 & DS4486
Availability	multi-path access mirrored cache, battery-backed non-volatile RAM (NVRAM) Remote LAN Management Module (Optional)

## HOST ENVIRONMENT

Host Operating System	Windows® 2000, Windows Server 2003, Windows Server 2008, Windows XP, Linux®, Sun Solaris, AIX, HP-UX, Mac® OS, VMware®, ESX. Consult NetApp compatibility matrices for full details
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## MANAGEMENT & ADMINISTRATION

Storage Management	Data ONTAP® 8.1.2 and later
Multi-path Management	Yes
Snap Shot	Snapshot, SnapDrive®, SnapValidator, SnapManager, FlexClone™
Local Data Replication	SyncMirror®
Remote Data Replication	SnapMirror®
Other	MultiStore®, SnapVault®, SnapMover®, SnapRestore, SnapLock® Compliance, SnapLock Enterprise®, MetroCluster, FastBoot, FilerView®, FlexVol, FlexCache™, FlexShare™, Clustered failover, Nearstore, Advanced Single Instance storage, Single Mailbox Recovery, Protection Manager, Operations Manager (OnCommand)

## PHYSICAL SPECIFICATIONS

Dimensions (HxWxD)	3 EIA U (5.12", 13 cm) x19" IEC rack-compliant (17.6", 44.70 cm) x 23.9" (60.70 cm)
Storage Controller Enclosure	
Disk Shelf Enclosure	DS424x : 4 EIA U(7", 17.8 cm) x 19" IEC rack-compliant (19", 48.3 cm) x 24" (61 cm); DS2246 : 2 EIA U(3.4", 8.5 cm) x 19" IEC rack-compliant (19", 48.0 cm) x 19.1" (48.4 cm); DS4486: 4 EIA U (7", 17.8cm) x 19" IEC rack-compliant ( 19", 48.3cm) x 28" (71cm)
Weight	
Storage Controller Enclosure	147.84 lb (67.2 kg) dual controller with IOXM
Disk Shelf Enclosure	DS424x : 110 lb (49.9 kg) fully loaded; DS2246 : 49 lb (22.2 kg) fully loaded; DS4486 : 160 lb (72.6 kg) fully loaded

## ENVIRONMENT

Temperature	Operating : 10° C to 40° C (50° F to 104° F); non-operating : -40° C to 65° C (-40° F to 149° F)
Humidity	Operating : 20% to 80% relative humidity, non-condensing (28° C wet bulb temperature) Non-operating : 5% to 95% relative humidity, non condensing, in original container
Altitude	<= 3,000 m (at <= 10,000' feet) elevation;
Acoustic	< 61 dBA sound pressure (Lpa) @ normal operating conditions (at 22° C and at sea level)

## POWER

Power consumption	
Storage Controller Enclosure	200VAC = 606 W Typical dual controller with IOXM
Disk Shelf Enclosure	DS424x : 100 to 120 VAC, 6.3 A; 200 to 240 VAC, 3.2 A; DS2246 : 100 to 120 VAC, 3.6 A; 200 to 240 VAC, 1.9 A; DS4486 : 100 to 120 VAC, 8.71 A; 200 to 240 VAC, 4.59 A
Heat Dissipation	
Storage Controller Enclosure	2806 BTU/hr (max), 2000 BTU/hr (typical) dual controller with IOXM
Disk Shelf Enclosure	DS424x : 2180 Btu/hr (fully loaded shelf); DS2246 : 1181 Btu/hr (fully loaded shelf); DS4486 : 3137 Btu/hr (fully loaded shelf)

## REGULATORY & SAFETY

Safety	EN 60950, CE, CSA 60950, UL 60950, CB IEC60950-1 (all national deviations), EN60825-1, IRAM, GOST-R, BSMI, SONCAP, NRCS LOA
Electromagnetic Compatibility (EMC)	FCC Part 15 Class A, ICES-03, CE, KCC, VCCI, AS/NZS CISPR 22, EN55022, EN55024, EN61000-3-2, EN61000-3-3, SABS COC, BSMI

## WARRANTY

Standard warranty	3 years, Parts Exchange - Next Business Day
Extended Warranty	4 hour, 24x7 depending on location

NOTE 1: RAID-DP is a high Performance RAID-6 implementation. SyncMirror is a high resiliency RAID-1 implementation

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