NetApp
Go further, faster

Systems

NetApp FAS3200 Series

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

KEY BENEFITS

Best value with unmatched efficiency.
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.

Increase flexibility and expand your environment.
The FAS3200 series scales to nearly 2PB plus has the extra PCIe slot connectivity you need to adapt to growing storage workloads.

Confidently deploy diverse workloads with enterprise-class availability and performance.
The FAS3200 series is designed for faster performance and more bandwidth with proven NetApp availability.

THE CHALLENGE

There is an ongoing challenge to efficiently meet the growing storage needs of business applications such as messaging, collaboration, file services, Web, office productivity, databases, and more. What is needed is storage that is both efficient and flexible with high-end availability and performance to effectively meet the challenges of virtualized and traditional IT environments.

THE SOLUTION

With the NetApp FAS3200 series you can cost-effectively meet the storage needs of business applications in both virtual and traditional environments. Handle today's workloads with industry-leading storage efficiency through the NetApp unified architecture running our Data ONTAP® storage operating system. Consolidate diverse data sets plus be ready to respond to change more easily and non-disruptively with the extra PCIe slots, high performance, and enterprise-class availability of the FAS3200 series.

Midsize environments can gain high-end benefits without the budget or space required to support frame-array-class systems. Regional data centers, replicated sites, and departmental systems that need full-featured, yet efficient, storage with advanced availability and performance capabilities can benefit too.

The FAS3200 series spans three models to enable you to tailor-fit a solution that's right for your environment: FAS3210, FAS3240, and FAS3270. Our systems are simple to install, provision, and upgrade to meet your needs. Plus you can maximize productivity with our common suite of application-aware management software. The FAS3200 systems, with the best value for mixed workloads, can give you an edge that other midrange storage platforms simply cannot match.

LOWER COSTS WITH OUR HIGHLY EFFICIENT SYSTEMS

NetApp delivers a truly unified storage architecture that uses a single platform with common software and processes across all tiers of storage. You can consolidate your diverse workloads with multi-protocal support and also benefit from integrated data protection, one operating system across the entire family, and heterogenous disk array support with V-series. This helps you maximize the efficiency of your virtual servers by delivering storage when and where it's needed.

What's more, common management across our unified storage architecture assists in consolidation of diverse data sets and data-in-place controller upgrades to more powerful FAS systems. This lowers your administrative costs and makes it easier for you to deploy new capabilities across your enterprise.

The FAS3200 series enables you to build a flexible and efficient shared infrastructure today as your foundation for future-ready IT.

Figure 2) NetApp FAS3200 controller.

If you are looking to dramatically decrease your consumption of space, power, and cooling, then deploy your FAS3200 series system with our DS2246 disk shelf. This leading-edge disk shelf features the latest SAS technology using small-form-factor SAS 2.5" disk drives capable of doubling capacity per rack unit, conserving your valuable data center resources.

INCREASE FLEXIBILITY

The FAS3200 series scales to nearly 2PB of versatile storage that adapts readily to your growing storage demands. If your environment needs extra connectivity, the expanded I/O configurations of the FAS3240 and FAS3270 models significantly add to the number of PCIe expansion slots available. Moreover, all FAS3200 systems support Data ONTAP in both standard and cluster modes, providing you with the flexibility of up to 24 nodes.

GET PROVEN AVAILABILITY AND PERFORMANCE

The FAS3200 series is built on the proven enterprise-class availability of the NetApp storage infrastructure. 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.

You can further boost data availability and get zero planned and unplanned downtime by combining the FAS3200 series with our MetroCluster™ solution, which promotes continuous access to data and prevents data loss. MetroCluster delivers distance array-based clustering to protect against outages within your data center, across campus, or citywide due to hardware failures, power, network, and environmental faults.

The FAS3200 series features leading-edge technology for high-performance storage. Use our DS4243 with solid state drives (SSDs) when every I/O read must be fast. Or boost system performance by adding up to 2TB of Flash Cache. These intelligent caching modules automatically increase read rates and reduce average latency for your frequently accessed data, without adding more disk drives. Our Flash Cache combined with hard disk drives is an effective and typically more affordable alternative to SSDs.

INDUSTRY-LEADING STORAGE EFFICIENCY WITH DATA ONTAP

Data ONTAP is our storage operating system that delivers industry-leading storage efficiency across our unified architecture.

- Expand or contract LUNs or volumes instantly with thin provisioning to keep storage operations as lean as possible.
- High-efficiency NetApp Integrated Data Protection reduces the cost and complexity of safeguarding your business.
- Space-efficient Snapshot™ copies enable more frequent local backups and restores in minutes.
- Thin replication enables backup and recovery, disaster recovery, and archival using minimal storage capacity and network resources.
- Likewise, our low-overhead double-parity RAID-DP® offers better data protection and capacity utilization than traditional RAID implementations.
- Add to this our NetApp deduplication and data compression, which provide the industry's best answer to ever-increasing storage capacity demands, and you can dramatically increase the efficiency of your storage and lower TCO.

FAS3200 TECHNICAL SPECIFICATIONS

All data in this table applies to active-active dual controller configurations.

	FAS3270 with Expanded I/O	FAS3270	FAS3240 with Expanded I/O	FAS3240	FAS3210
Maximum Raw Capacity	1920TB	1920TB	1200TB	1200TB	480TB
Maximum Disk Drives	960	960	600	600	240
Controller Form Factor	Dual enclosure HA; 2 controllers in two 3U chassis, total of 6U	Single enclosure HA; 2 controllers in single 3U chassis	Dual enclosure HA; 2 controllers in two 3U chassis, total of 6U	Single enclosure HA; 2 controllers in single 3U chassis	Single enclosure HA; 2 controllers in single 3U chassis
Memory	32GB	32GB	16GB	16GB	8GB
Flash Cache (maximum)	2TB	2TB	1TB	1TB	512GB
PCIe Expansion Slots	12	4	12	4	4
Onboard I/O: 4Gb FC	4	4	4	4	4
Onboard I/O: 6Gb SAS	4	4	4	4	4
Onboard I/O: GbE	4	4	4	4	4
Storage Networking Supported	FC; FCoE; IP SAN (iSCSI); NFS; CIFS; HTTP; FTP				
OS Version	Data ONTAP 8				
Supported Configurations	Highly available controller configurations: Active-active controller with controller failover and multi-path HA storage Active-active controller with stretch (nonswitch) and fabric-attached MetroCluster V-Series Storage Acceleration Appliance SA320				
Disk Shelves Supported	DS2246 (2U; 24 drives – 2.5" SAS SFF) DS4243 (4U; 24 drives – 3.5" SATA/SAS/SSD) DS14mk2 and DS14mk4 (3U; 14 drives, 3.5" FC/SATA)				
Maximum RAID Group Sizes	RAID 6 (RAID-DP): FC – 28 (26 data disks plus 2 parity disks) SATA – 20 (18 data disks plus 2 parity disks) RAID 4: FC – 14 (13 data disks plus 1 parity disk) SATA – 7 (6 data disks plus 1 parity disk)				
Operating Systems Supported	Windows® 2000, Windows Server 2003, Windows Server 2008, Windows XP, Linux®, Sun Solaris, AIX, HP-UX, Mac® OS, VMware®, ESX				
Maximum Number of LUNs	4096				
Number of Supported SAN Hosts	Up to 512 hosts per HA pair Up to 24 directly connected servers per HA pair				
FlexVol® Volumes	Up to 500 per controller				
Snapshot Copies	Up to 127,000				
Maximum Volume/Aggregate Size	70TB	70TB	50TB	50TB	50TB
Maximum Port Count Includes Integrated Ports and PCIe Expansion Slots					
FC Target Ports (8Gb/4Gb) (max)	24/52	8/20	24/52	8/20	8/20
10GbE, FCoE Target Ports (max)	24	8	24	8	8
GbE Ports (max)	52[1]	20	52[1]	20	20
6Gb SAS Ports (max)	52	20	52	20	20
FC Initiator Ports (max)	52	20	52	20	20
Maximum Adapters					
Dual 10GbE (optical or copper)	12	4	12	4	4
Quad GbE (copper)	12[1]	4	12[1]	4	4
Dual 10GbE FCoE SAN Unified Target Adapter (optical or copper)	12	4	12	4	4
8Gb FC Target (optical)	12	4	12	4	4
Dual 8Gb VI FC for SnapMirror®	2	2	2	2	2
Flash Cache (PAM II) (512GB)	4	4	2	2	N/A
Flash Cache (PAM II) (256GB)	N/A	N/A	4	4	2
Quad 6Gb SAS Storage HBA	12	4	12	4	4
Quad 4Gb FC Storage/Tape HBA	12	4	12	4	4

[1] Maximum number of GbE ports & adapters depends on the Data ONTAP release in use

FAS3200 SERIES SOFTWARE

The FAS3200 includes a simplified software structure that offers more value and enhanced simplicity while maintaining a flexible foundation for building custom solutions.

As reflected below, enhancements include:

- More software value is now included standard with every system via Data ONTAP Essentials
- A-la-carte structure of add-on software simplified to five key software products
- Customers have the flexibility to select one protocol of their choice to be included with the base system (other protocols can be added separately)
- A Complete Bundle of all NetApp Extended Value software is available for all-inclusive functionality and convenience

DATA ONTAP ESSENTIALS

The following software is included with every FAS/V3200 system, delivering unmatched value through greater flexibility, availability, and automation:

Capability	Product/Feature	Description
Core Storage Management	System Manager	Windows OS–based management tool for single system deployment
	Operations Manager	Deploy, provision, monitor and manage multiple NetApp storage systems.
	Provisioning Manager	Policy-based automation software for provisioning NetApp SAN and NAS.
	Protection Manager	Policy-based automation software for backup and recovery operations.
High Availability	SyncMirror	Maintains two local, online copies of data. Protects against all types of hardware outages.
	MetroCluster	Combines array-based clustering with synchronous mirroring; provides continuous availability at a low cost.
Storage Efficiency	Deduplication	Transparently removes duplicate data at the block level, for all storage tiers.
	Thin provisioning	Enables on-demand storage provisioning to achieve maximum utilization across multiple applications.
	FlexVol	Enables virtual volumes that you can manage and move independently from physical storage.
Data Protection	RAID-DP	Safeguards your data from double disk failure, with no performance penalty.
	Snapshot	Enables quick point-in-time copies of file systems or LUNs; NetApp Snapshot uniquely carries no performance penalty.
	Open Systems SnapVault	Backup of DAS connected to Windows or UNIX servers; maintains online archive of backup copies.
Secure Mult-tenancy	MultiStore	Secure partitioning of network and storage resources enables consolidation of multiple domains on a single system.
Performance	FlexCache	Enables NetApp systems to be used as caches.
	FlexShare	Automatically allocates storage resources to higher priority workloads.
Storage Protocols	Included SAN or NAS protocol	One SAN or NAS protocol of your choice (iSCSI, FC, NFS, CIFS) is included with your system.

Extended-Value Software:

Affordable, easy to buy add-on software modules are available to enhance base system functionality.
These can be purchased individually, or all of these products can be purchased together via the NetApp Complete Bundle.

Capability	Product/Feature	Description
Application Integration	SnapManager® Suite	Enables application aware and virtual machine aware backup, recovery, and cloning (for Oracle, Exchange, SharePoint, SQL, SAP, Virtual Infrastructure, and Hyper-V).
System Recovery	SnapRestore®	Restore LUNs and file systems from previously backed-up snapshot copies in seconds, irrespective of size or number of files.
Disaster Recovery	SnapMirror®	Synchronous, semi-synchronous, and asynchronous data replication software that delivers simple, efficient, and flexible disaster recovery for business-critical applications.
Virtual Cloning	FlexClone®	Instantly create transparent virtual copies of production databases or virtual machines, without needing any additional storage capacity or compromising performance.
Disk-to-disk Backup	SnapVault®	Disk-to-disk backup software for complete back-ups and online archives to primary or secondary storage in minutes instead of hours or days.
Storage Protocols	Optional SAN and NAS protocols	Native support for all key SAN/NAS protocols (iSCSI, FC, NFS, CIFS), makes NetApp systems ideal for consolidating your mixed IT environment. One protocol of your choice is included standard with your system; others can be added as desired.
All Extended Value Software	Complete Bundle	All of the Extended Value software above, together in a single bundle for all-inclusive convenience.

FAS3200 SERIES QUICK CHECKLIST FOR ORDERING

Models	FAS3270 FAS3240 FAS3210
Flash Cache (PAM II)	512GB and 256GB modules
I/O Options	Optional NICs and HBAs
Disk Shelves	DS2246 (24 drives – 2.5" SAS SFF) DS4243 (24 drives – 3.5" SATA/SAS/SSD) DS14mk2 and DS14mk4 (for MetroCluster and DC configurations; 14 drives – 3.5" FC/SATA)
Storage Protocols	FC, IP SAN (iSCSI), NFS, CIFS
Optional Software	Refer to FAS3200 series software tables
Professional Services	Storage System Installation Service, RDS+ Implementation Services, Storage Controller Upgrade Service, Assessment Services, Consulting Services, Deployment/Implementation Services, Managed Services, Solution Suites
Support	SupportEdge Services

PROFESSIONAL SERVICES

Modular offerings customized for you
NetApp Professional Services can assist you in any and every phase of the storage lifecycle. Whether you need help planning your next-generation storage system, need an extra set of hands for a major storage deployment, or want to upgrade your existing infrastructure, NetApp Professional Services personnel have the skills and expertise. NetApp offers a complete portfolio of services. In summary, NetApp Professional Services offerings include:

- **Solution Suites:** These customized solutions are designed to address your business-level challenges holistically.
- **Assessment Services:** Enlist NetApp to identify and document business, storage, and infrastructure requirements and receive recommendations for improvements.
- **Consulting Services:** Reduce the complexity of your networked storage implementation when you enlist our experts to design, document, and implement a range of applications and solutions.
- **Deployment/Implementation Services:** Reduce risk as we prepare your site, install and connect systems, set up your software, and perform complete verification.
- **Managed Services:** Have NetApp experts on site to perform storage management services so you can focus on core business initiatives.

GLOBAL SUPPORT

SupportEdge services
NetApp Global Support delivers the highest availability for your enterprise data environment and helps you optimize your storage investments. Let NetApp mitigate support issues and drive operational best practices. NetApp's innovative, proactive support means you'll have fewer and less-severe support cases. But if a problem arises, our award-winning technical centers and field support staff—delivering in over 100 countries—won't rest until it's solved.

As an industry leader in innovation, NetApp Global Support provides tools and technology to enable business continuity. AutoSupport™, NetApp's suite of automation tools, is delivered as a service to help you proactively manage your systems and quickly resolve issues. AutoSupport functions as a "virtual staff" to protect critical data, save time, and reduce impact on your IT resources.

ABOUT NETAPP

NetApp creates innovative storage and data management solutions that help you accelerate business breakthroughs and achieve outstanding cost efficiency. Discover our passion for helping companies around the world go further, faster at netapp.com. For more information go to:

- FAS3200 system: *www.netapp.com/us/products/storage-systems/fas3200/*
- Additional products and software: *www.netapp.com/us/products/*
- Professional Services: *www.netapp.com/us/services/professional/*
- Support: *www.netapp.com/us/support/*

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