



**NetApp®**  
Go further, faster



Systems

# NetApp FAS6200 Series

Flexibility meets performance, scalability, and availability to satisfy the most demanding needs of your applications and virtualization workloads

## KEY BENEFITS

### Ready for your most demanding business applications.

The FAS6200 series has the performance and scale to take on your most demanding storage challenges. These systems are built on the NetApp® industry-leading unified storage architecture for ease of management, increased efficiencies, and reduced storage costs.

### Availability for your mission-critical applications.

The FAS6200 series is designed for enterprise-class availability to meet your most stringent requirements. High-availability features include Alternate Control Path (ACP), persistent NVRAM write logs, and service processor.

### Flexibly expand into the future with your evolving data center.

The FAS6200 series delivers extensive amounts of integrated, high-bandwidth connectivity; multiprotocol support; and a range of capacity, performance, and density choices that empower you to deliver optimized storage now and in the future.

## CHALLENGES

Today's data centers have large physical and virtual server deployments that won't tolerate storage performance bottlenecks. They support extensive virtualized environments and enterprise applications with varied workloads. Your enterprise storage systems must meet the rigors of these demanding compute environments, keep pace with data growth and future expansion, while containing capacity and management costs.

## SOLUTION

The NetApp FAS6200 series is an enterprise-class storage system combining powerful scalability, availability, and flexibility. These systems help you confidently meet service levels, drive operational excellence, and respond to future growth.

The FAS6200 series includes three performance points to tailor-fit a solution that's right for today and tomorrow: FAS6210, FAS6240, and FAS6280. They are adaptable and ideal for business and technical applications, as well as rapidly changing virtualized environments.

These highly resilient systems deliver industry-leading storage efficiency through the NetApp unified storage architecture running Data ONTAP®, helping lower your costs. Plus, you can maximize productivity with our

integrated suite of manageability software while saving on power, cooling, and floor space with the latest generation of energy efficient disk shelves.

## SATISFY YOUR MOST DEMANDING WORKLOADS

Enterprise-class storage on a petabyte scale with high performance and availability makes the FAS6200 series capable of satisfying your most demanding business and technical applications as well as consolidated virtualized environments. The FAS6200 series architecture is designed for high performance with 24 cores and 192GB of memory in the FAS6280 system to take full advantage of the 64-bit Data ONTAP 8 operating system. These storage systems support end-to-end high-speed connectivity, including 10GbE and 8Gb FC to hosts and 6Gb SAS on the storage side. You can further boost system performance by adding up to 8TB of Flash Cache, which are intelligent caching modules that can automatically increase read rates and reduce average latency without adding more disk drives.

# The FAS6200 series enables you to build a flexible and efficient shared infrastructure today as your foundation for future-ready IT.



Figure 2) NetApp FAS6200 controller.

## INCREASE YOUR AVAILABILITY

The FAS6200 series is designed to meet the most demanding data center HA requirements. Frame-array-class features such as Alternate Control Path (ACP) and persistent NVRAM write logs enhance our already highly available architecture. Add to that a service processor for diagnostics that helps you address impending issues well before affecting availability, and you have an enterprise-class storage infrastructure that you can rely on.

Further extend availability by combining the FAS6200 series with our MetroCluster™ solution. Designed for continuous data availability across distances of up to 100km, it delivers transparent failover with protection from hardware plus power, network, and environmental faults. MetroCluster also reduces planned downtime by enabling you to perform hardware and software maintenance and upgrades nondisruptively so access to data remains available.

## EXPAND YOUR FLEXIBILITY

Scaling to nearly 3PB, the FAS6200 series has the flexibility to meet your diverse and evolving storage challenges. What's more, you'll get extensive amounts of integrated, high-bandwidth connectivity for 10GbE, 8Gb FC, and 6Gb SAS.

Extending NetApp's Ethernet leadership, the FAS6200 series supports the unified target adapter with NetApp Unified Connect. This enables flexible, efficient storage infrastructure through multiprotocol data access over a shared network port.

Plus, FAS6200 systems support Data ONTAP in both standard and cluster modes, enabling you to expand up to 24 nodes. Our robust systems are cluster-ready with integrated 10GbE connectivity paving the way for I/O consolidation.

Moreover, the NetApp unified storage architecture can handle your diverse workloads and growing virtualized environments. We provide you with multiprotocol storage networking, which increases flexibility and reduces business risk. With support for high-capacity disk shelves with SATA drives, high-density disk shelves with small-form factor SAS drives, high performance disk shelves with 3.5" SAS drives, and lightning fast SSDs and Flash Cache, the FAS6200 family is ready to be tailored to your data requirements and budget.

## INDUSTRY-LEADING STORAGE EFFICIENCY

The FAS6200 series provides advanced storage efficiency, data protection, and data

management features across the NetApp unified storage architecture.

- Thin provisioning helps keep costs in check by largely eliminating the need to preallocate storage based on forecasted demand and improving the utilization of your existing storage.
- NetApp deduplication is the industry's best answer to ever-increasing storage capacity demands, while data compression adds another efficiency dimension, helping to further reduce data and network bandwidth usage.
- Our low-overhead double-parity RAID-DP® offers better data protection and capacity utilization than traditional RAID implementations.
- High-efficiency NetApp Integrated Data Protection includes Snapshot™ technology, which enables you to create point-in-time copies of file systems using very little space.
- Additionally, thin replication enables backup and recovery, disaster recovery, and archival using minimal storage capacity and network resources.
- FlexClone® technology instantly creates virtual copies, enabling development and test for your most demanding enterprise applications and databases at a lower cost.

## FAS6200 SERIES TECHNICAL SPECIFICATIONS

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

	FAS6280	FAS6240	FAS6210
<b>Maximum Raw Capacity</b>	2880TB	2880TB	2400TB
<b>Maximum Disk Drives</b>	1440	1440	1200
<b>Controller Form Factor</b>	Dual enclosure HA; 2 controllers in two 6U chassis, total of 12U	Dual enclosure HA; 2 controllers in two 6U chassis, total of 12U	Single enclosure HA; 2 controllers in single 6U chassis
<b>Memory</b>	192GB <sup>1</sup>	96GB	48GB
<b>Flash Cache (maximum)</b>	8TB	6TB	3TB
<b>PCIe Expansion Slots</b>	24	24	8
<b>Onboard I/O: 10GbE</b>	8	8	8
<b>Onboard I/O: 8Gb FC</b>	8–32	8–32	8–16
<b>Onboard I/O: 6Gb SAS</b>	0–24	0–24	0–8
<b>Storage Networking Supported</b>	FC; FCoE; IP SAN (iSCSI); NFS; CIFS; HTTP; FTP		
<b>OS Version</b>	Data ONTAP 8		
<b>Supported Configurations</b>	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 SA620		
<b>Disk Shelves Supported</b>	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)		
<b>Maximum RAID Group Sizes</b>	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) RAID 6 + RAID 1 or RAID 4 + RAID 1 (SyncMirror®)		
<b>Operating Systems Supported</b>	Windows® 2000, Windows Server 2003, Windows Server 2008, Windows XP, Linux®, Sun Solaris, AIX, HP-UX, Mac® OS, VMware®, ESX		
<b>Max Number of LUNs</b>	4096		
<b>Number of Supported SAN Hosts</b>	Up to 512 hosts per HA pair Up to 24 directly connected servers per HA pair		
<b>FlexVol® Volumes</b>	Up to 500 per controller		
<b>Snapshot Copies</b>	Up to 127,000		
<b>Maximum Volume/Aggregate Size</b>	100TB	100TB	70TB
<b>Maximum Port Count Includes Integrated Ports and PCIe Expansion Slots</b>			
<b>FC Target ports (8Gb/4Gb) (max)</b>	48/48	48/48	32/48
<b>FCoE Target ports, UTA (max)</b>	48	48	32
<b>10GbE Ports (max)</b>	40	40	24
<b>GbE Ports (max)</b>	52 <sup>2</sup>	52 <sup>2</sup>	36
<b>6Gb SAS Ports (max)</b>	72	72	40
<b>FC Initiator Ports (max)</b>	128	128	48
<b>Maximum Adapters</b>			
<b>Dual 10GbE (optical or copper)</b>	16	16	8
<b>Quad GbE (copper)</b>	12 <sup>2</sup>	12 <sup>2</sup>	8
<b>Dual 10GbE FCoE SAN Unified Target Adapter (optical or copper)</b>	24	24	8
<b>8Gb FC Target</b>	24	24	8
<b>Dual 8Gb VI FC for SnapMirror®</b>	8	8	6
<b>Flash Cache (PAM II)</b>	16	12	6
<b>Quad 6Gb SAS Storage HBA</b>	12	12	8
<b>Quad 4Gb FC Storage/Tape HBA (fiber)</b>	24/16	24/16	8/8

<sup>1</sup>192GB of physical memory; actual memory allocated depends on the Data ONTAP release in use

<sup>2</sup>Maximum number of GbE ports & adapters depends on the Data ONTAP release in use

## FAS6200 SERIES SOFTWARE

The FAS6200 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/V6200 system, delivering unmatched value through greater flexibility, availability, and automation:

Capability	Product/Feature	Description
<b>Core Storage Management</b>	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.
<b>High Availability</b>	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.
<b>Storage Efficiency</b>	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.
<b>Data Protection</b>	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.
<b>Secure Multi-tenancy</b>	MultiStore	Secure partitioning of network and storage resources enables consolidation of multiple domains on a single system.
<b>Performance</b>	FlexCache	Enables NetApp systems to be used as caches.
	FlexShare	Automatically allocates storage resources to higher priority workloads.
<b>Storage Protocols</b>	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
<b>Application Integration</b>	SnapManager® Suite	Enables application aware and virtual machine aware backup, recovery, and cloning (for Oracle, Exchange, SharePoint, SQL, SAP, Virtual Infrastructure, and Hyper-V).
<b>System Recovery</b>	SnapRestore®	Restore LUNs and file systems from previously backed-up snapshot copies in seconds, irrespective of size or number of files.
<b>Disaster Recovery</b>	SnapMirror®	Synchronous, semi-synchronous, and asynchronous data replication software that delivers simple, efficient, and flexible disaster recovery for business-critical applications.
<b>Virtual Cloning</b>	FlexClone®	Instantly create transparent virtual copies of production databases or virtual machines, without needing any additional storage capacity or compromising performance.
<b>Disk-to-disk Backup</b>	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.
<b>Storage Protocols</b>	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.
<b>All Extended Value Software</b>	Complete Bundle	All of the Extended Value software above, together in a single bundle for all-inclusive convenience.

## FAS6200 SERIES QUICK CHECKLIST FOR ORDERING

<b>Models</b>	FAS6280 FAS6240 FAS6210
<b>Flash Cache (PAM II)</b>	512GB modules
<b>I/O Options</b>	Configurable onboard ports (FC or SAS) Optional NICs and HBAs
<b>Disk Shelves</b>	DS2246 (24 drives – 2.5" SAS SFF) DS4243 (24 drives – 3.5" SATA/SAS/SSD) DS14mk2 and DS14mk4 (for MetroCluster configurations; 14 drives – 3.5" FC/SATA)
<b>Storage Protocols</b>	FC, IP SAN (iSCSI), NFS, CIFS
<b>Optional Software</b>	Refer to FAS6200 series software tables
<b>Professional Services</b>	Storage System Installation Service, RDS+ Implementation Services, Storage Controller Upgrade Service, Assessment Services, Consulting Services, Deployment/Implementation Services, Managed Services, Solution Suites
<b>Support</b>	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](http://netapp.com). For more information go to:

- FAS6200 system: [www.netapp.com/us/products/storage-systems/fas6200/](http://www.netapp.com/us/products/storage-systems/fas6200/)
- Additional products and software: [www.netapp.com/us/products/](http://www.netapp.com/us/products/)
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