Datasheet

NetApp FAS8200 Hybrid Flash System

Quickly respond to changing storage needs across flash, disk, and cloud with industry-leading data management

Key Benefits

Simplify Your Storage Environment

Run SAN and NAS workloads with unified scale-out storage.

Accelerate Enterprise Applications

Reduce latency and speed operations with up to 50% higher performance than previous generation.

Maximize Uptime

Eliminate planned downtime to add, upgrade, or retire storage with no disruptions.

Consolidate Infrastructure

Scale up to 57PB, cluster with AFF all-flash systems, and integrate existing third-party storage arrays.

Optimize for the Hybrid Cloud

Easily implement a service-oriented IT architecture that spans on-premises and cloud resources.

The Challenge

Enabling the data-driven business

As the role of technology has expanded to cover key business operations as well as back-office functions, IT leaders have had to rethink the way they architect storage. Traditional requirements such as storage uptime, scalability, and cost efficiency are still critical, but so are factors such as flash acceleration, cloud integration, unified support for SAN and NAS, and simplified data mining for competitive advantage.

Many enterprises struggle, held back by structural limitations in legacy storage and data architectures. Traditional storage arrays might deliver on basic needs, but are divided into separate silos or are incapable of meeting advanced service requirements and leveraging the cloud.

The Solution

Accelerate business operations with unified scale-out storage

The demands of a data-driven business require a new approach to storage with an integrated combination of high-performance hardware and adaptive, scalable storage software. It needs to support existing workloads as well as adapt and scale quickly to address new applications and evolving IT models.

FAS8200 hybrid storage systems are engineered specifically to address these needs. Powered by NetApp® ONTAP® data management software, the FAS8200 unifies your SAN and NAS storage infrastructure. When FAS8200 systems are clustered with NetApp AFF all-flash arrays and integrated with the cloud, you have the control to easily move your data to where it's needed for your business and place it in the storage environment that delivers the best combination of flash performance, storage capacity, and cost efficiency. With proven agility and data management capabilities, the FAS8200 has the flexibility to keep up with changing business needs while delivering on core IT requirements.

Unlock the power of flash

Flash-accelerated FAS8200 hybrid storage systems deliver up to 50% more performance than our previous generation FAS storage, boosting throughput, lowering latency, and meeting stringent service levels. The base configuration of each HA pair includes 2TB of onboard Flash Cache™ based on NVMe technology, which can be expanded up to 4TB of integrated Flash Cache and up to 48TB of total flash per HA pair when leveraging Flash Pool™ intelligent data caching. Hot data is automatically promoted to flash in real time, so you get the full benefit of flash performance.

NetApp®

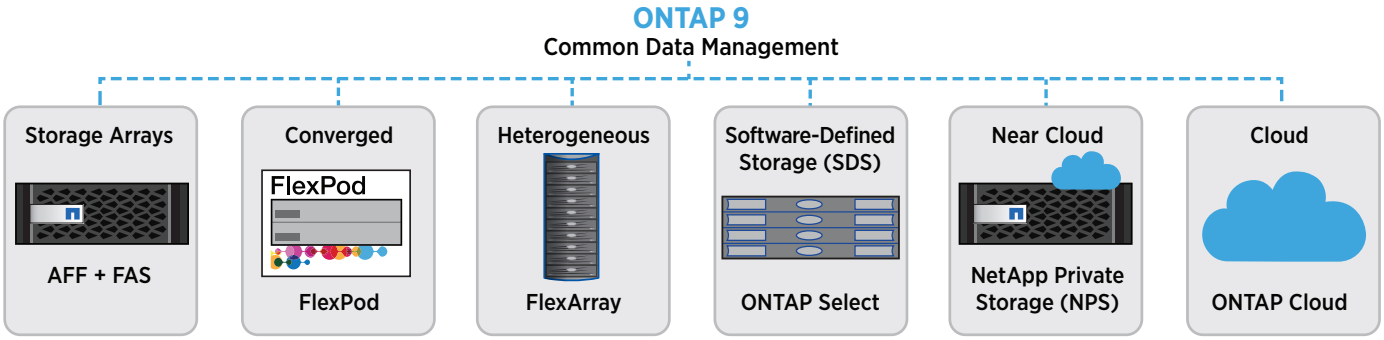

Figure 1) Standardize data management across architectures with a rich set of enterprise data services.

Scale and adapt to meet changing needs
Optimize and accelerate your storage environment as performance and capacity requirements change. Scale up by adding capacity, adding more flash acceleration, and upgrading controllers. Scale out by growing from 2 nodes up to a 24-node cluster with 57PB of capacity, including combinations of different FAS and AFF models.

FAS8200 systems also support massive NAS containers, which are easy to manage. With the NetApp FlexGroup feature of ONTAP 9, a single namespace can grow to 20PB and 400 billion files while maintaining consistent high performance and resiliency.

With nondisruptive addition and replacement of storage systems and components, scaling occurs without maintenance windows or the challenge of coordinating downtime across teams. Perform your updates during regular work hours.

Achieve unparalleled availability and nondisruptive operations.
FAS8200 enterprise storage is engineered to meet demanding availability requirements. All models are designed to deliver 99.9999% availability or greater through a comprehensive approach that combines highly reliable hardware, innovative software, and sophisticated service analytics.

Software and firmware updates, hardware repair and replacement, load balancing, and tech refresh happen without planned downtime. NetApp Integrated Data Protection technologies protect your data, accelerate recovery, and integrate with leading backup applications for easier management.

Advanced service analytics software prevents issues from becoming outages. Risk signatures are constantly monitored, and your administrators and/or NetApp service staff are alerted to proactively address issues that might affect operations.

NetApp MetroCluster™ expands data protection to eliminate risk of data loss by synchronously mirroring data between locations for continuous availability of information. A MetroCluster storage array can exist in a single data center or in two different data centers that are located across a campus, across a metropolitan area, or in different cities. No matter what happens, your data can be protected from loss and is continuously available to meet the most business-critical needs. Plus, MetroCluster solutions based on the FAS8200 offer enhanced configuration flexibility from the new controller architecture, which moves Flash Cache intelligent data caching from the PCIe slots to the motherboard and adds FCVI connectivity to the onboard UTA2 ports.

Get more from existing storage array investments
Simplify your IT operations and deliver more value from existing third-party arrays by using them as additional storage capacity behind FAS8200 systems. FlexArray® virtualization software running on FAS8200 extends ONTAP to include storage capacity from EMC, Hitachi, HP, IBM, and NetApp E-Series arrays. Consolidate management of your existing storage to increase efficiency, add support for SAN and NAS workloads, and provide superior data management functionality.

Optimize hybrid cloud deployment
Organizations today are focusing on service-oriented IT architectures where cloud IT models are leveraged to enhance return on investment and assets. FAS8200 running ONTAP is optimized for private and hybrid cloud with secure multitenancy, quality of service (QoS), nondisruptive operations, and easily defined tiers of service.

A FAS8200 tightly integrated with the industry-standard OpenStack cloud infrastructure enables an organization to build a private cloud that delivers a leading service-oriented IT architecture and meets the demanding needs of enterprise applications.

For organizations that need an enterprise-class hybrid cloud with predictable performance and availability, the FAS8200 can be used in a NetApp Private Storage (NPS) for Cloud solution. With NPS for Cloud, you can directly connect to multiple clouds using a private, high-bandwidth, low-latency connection. Connect to industry-leading clouds such as Amazon Web Services (AWS), Microsoft Azure, or IBM Cloud and switch between them at any time, all while maintaining complete control of your data on your dedicated, private FAS8200. You get the elasticity of the public cloud and protect your data with NetApp technologies that you understand and trust.

For maximum flexibility, ONTAP Cloud is a version of ONTAP that runs in AWS and Azure. Providing the storage efficiency, availability, and scalability of ONTAP, it allows quick and easy movement of data between your on-premises FAS8200 and AWS/Azure environments with NetApp SnapMirror® data replication software.

Build the right long-term platform

When it comes to long-term storage infrastructure investments, it is critical to focus on flexibility for adapting to future requirements, simplification of your storage environment, and total cost of ownership. FAS8200 provides a significant price/performance benefit. Plus it delivers industry-leading storage efficiency technologies such as inline deduplication, inline compression, inline compaction, thin provisioning, and space-efficient Snapshot® copies to reduce your cost per effective gigabyte of storage.

It is also critical to look at the security of your data environment, With the NetApp Volume Encryption feature on ONTAP, you can easily and efficiently protect your at-rest data by encrypting any volume and any FAS (and AFF) system. No special encrypting disks required.

In a data-driven business, you also need the ability to leverage data for competitive advantage and to assign resources dynamically for more effective operations. The NetApp OnCommand® storage management software portfolio is composed of a range of products for use with the FAS8200, including automation, integration, device-level management, and enterprise storage resource management.

Get It Right from the Start Using NetApp Expertise and Tools
Realize the most out of your investment by engaging professional services experts from NetApp or our Services Certified partners. When moving data into your new environment, smooth the transition and mitigate risks by using proven NetApp methodologies, tools, and best practices. Learn more at netapp.com/services.

About NetApp

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.
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TABLE 1) FAS8200 TECHNICAL SPECIFICATIONS

Scale-Out	
	FAS8200
NAS scale-out: 1–24 nodes (12 HA pairs)	
Maximum drives (HDD/SSD)	5,760/2,880
Maximum raw capacity	57PB
Maximum onboard Flash Cache™ based on NVMe technology	48TB
Maximum Flash Pool	576TB
Maximum memory	3072GB
SAN scale-out: 1–12 nodes (6 HA pairs)	
Maximum drives (HDD/SSD)	2,880/1,440
Maximum raw capacity	28PB
Maximum onboard Flash Cache based on NVMe technology	24TB
Maximum Flash Pool	288TB
Maximum memory	1536GB
Cluster interconnect	2 10GbE

Per HA Pair Specifications (Active-Active Dual Controller)	
	FAS8200
Maximum drives (HDD/SSD)	480/480
Maximum raw capacity	4800TB
Maximum onboard Flash Cache based on NVMe technology	4TB
Maximum Flash Pool	48TB
Controller form factor	3U
ECC memory	256GB
NVRAM	16GB
PCIe expansion slots	4
Onboard I/O: UTA 2 (8Gb/16Gb FC, GbE/10GbE, or FCVI ports [MetroCluster only])	8
Onboard I/O: 10GbE	4
Onboard I/O: 10GbE Base-T	4
Onboard I/O: 12Gb SAS	8
OS version: ONTAP 9.1 RC1 and later	
Shelves and media	See the Shelves and Media page[1] on NetApp.com for the most current information.
Storage protocols supported	FC, FCoE, iSCSI, NFS, pNFS, CIFS/SMB
Host/client operating systems supported	Windows 2000, Windows Server 2003, Windows Server 2008, Windows Server 2012, Windows Server 2016, Windows XP, Linux, Sun Solaris, AIX, HP-UX, Mac OS, VMware, ESX

1. netapp.com/us/products/storage-systems/disk-shelves-and-storage-media/index.aspx.

TABLE 2) NETAPP FAS8200 SERIES SOFTWARE

	The ONTAP 9 Base Bundle includes a set of software products that deliver leading data management, storage efficiency, data protection, and high performance. The optional Premium Bundle and extended value software products provide advanced capabilities, including instant cloning, data replication, application-aware backup and recovery, volume encryption, and data retention.
Software included in ONTAP 9 Base Bundle	The Base Bundle includes the following NetApp technologies: • Storage protocols: all supported data protocol licenses (FC, FCoE, iSCSI, NFS, pNFS, CIFS/SMB) • Efficiency: NetApp FlexVol®, deduplication, compression, compaction, and thin provisioning • Availability: multipath I/O • Data protection: RAID-TEC™, RAID DP®, and Snapshot • Performance: storage QoS • Scalable NAS container: FlexGroup • Management: OnCommand System Manager and OnCommand Unified Manager
Software included in ONTAP 9 Premium Bundle (optional)	To add capabilities to the Base Bundle, the optional Premium Bundle includes the following NetApp technologies: • FlexClone®: instant virtual copies of databases or virtual machines • SnapMirror: simple, efficient, flexible disaster recovery • SnapVault®: disk-based backup software for complete backups and online archives to primary or secondary storage in minutes instead of hours or days • SnapRestore®: restore entire Snapshot copies in seconds • SnapCenter®: unified, scalable platform and plug-in suite for application-consistent data protection and clone management • SnapManager® suite: application- and virtual machine–aware backup, recovery, and cloning See NetApp.com for information about additional software available from NetApp.
Extended value software (optional)	Separate optional software, beyond the Base Bundle and Premium Bundle, is also available: • OnCommand suite of management software: provides the visibility and control to help maximize system utilization, meet storage SLAs, minimize risks, and boost performance • SnapLock®: compliance software for write once, read many (WORM) protected data • Volume Encryption: granular, volume-level data-at-rest encryption • FlexArray: virtualization of existing third-party storage arrays into an ONTAP environment to leverage the array storage capacity behind a NetApp FAS

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