



NetApp®

Datasheet

NetApp FlexArray Virtualization Software

The industry's only unified SAN and NAS storage virtualization platform



KEY BENEFITS

Do More with Your Existing Storage

Deliver advanced data management and software-defined storage capabilities.

Unify SAN and NAS

Serve a broader range of SAN and NAS workloads without complex add-on components.

Eliminate Downtime

Perform maintenance and updates with no disruption; provide continuous data availability for mission-critical applications.

Enable Cloud Deployments

Manage and maintain control of your data across private, public, and hybrid clouds.

Simplify IT Operations

Move data easily from older storage and standardize storage management.

Deliver Proven Storage Efficiency

Reduce storage needs by 35% or more and get full ROI in nine months—guaranteed.*

The Challenge

Expanding IT capabilities while reducing complexity

You have made substantial investments in your existing infrastructure, but IT requirements are changing. You're being asked to increase uptime, improve application performance, and consider new cloud strategies. You would like to satisfy these operational requirements with the storage you already own, but, unfortunately, many platforms cannot extend to meet new IT requirements.

Adding new data storage architectures to your environment is one way to solve this challenge. But that creates silos of storage that increase complexity, and retiring existing storage assets can be costly.

The Solution

NetApp FlexArray virtualization software

Simplify your IT operations and deliver more value from existing investments with the only unified storage virtualization solution. NetApp® FlexArray virtualization software enables FAS8000 systems to virtualize existing EMC, HP, Hitachi, and NetApp E-Series arrays. This creates a single storage management architecture that overcomes the limitations of existing arrays, expands the capabilities of your IT infrastructure, and delivers the benefits of software-defined storage.

FlexArray software helps meet your changing business requirements through increased uptime with non-disruptive operations and continuous data availability, superior cost control with proven efficiency technologies, and improved performance with flash acceleration—all with the advantages of the NetApp Data ONTAP® operating system. Clustered Data ONTAP provides the data control you need in a single platform that spans private, public, and hybrid clouds.

How NetApp FlexArray Works

FlexArray connects your existing storage arrays to FAS8000 controllers by using a Fibre Channel SAN. Array LUNs are provisioned to the FAS8000 and collected into a storage pool from which NetApp volumes are created and shared out to SAN hosts and NAS clients. Foreign LUN Import simplifies the process of transitioning existing data to the FlexArray environment.

The new volumes, managed by the FAS8000, benefit from the full suite of NetApp capabilities, such as Integrated Data Protection and storage efficiency. You can provision the entire array to the FAS8000 or allow some hosts to continue to access the array directly.

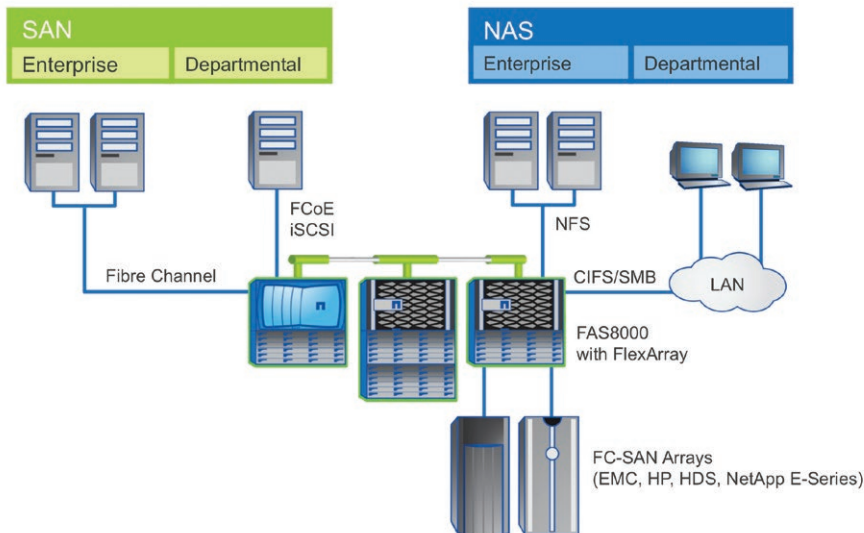


Figure 1) How FlexArray on FAS8000 works.

FlexArray gives you the flexibility to add new capacity either to existing arrays or to NetApp FAS disk shelves (SSDs and HDDs). When you're ready to retire older storage arrays, you can simply move data to disk shelves on the FAS8000 with no user or application disruptions.

FAS8000 storage systems are engineered to deliver high performance and quickly adapt to evolving IT models. Powered by Data ONTAP and optimized for scale-out, the FAS8000 series has the flexibility to keep up with changing business needs while delivering on core IT requirements for uptime, scalability, and cost efficiency. Plus, FAS8000 systems with FlexArray can be deployed in FlexPod® converged infrastructure solutions, integrating your existing arrays with best-in-class NetApp and Cisco® components in a validated enterprise-class IT platform.

FlexArray on FAS8000 delivers virtualization capabilities similar to those of the NetApp V-Series open storage controller that customers have been successfully deploying for over 10 years. Rather than requiring a separate hardware platform, FlexArray software has the advantage of being installable at any time, either at initial system purchase or after a FAS8000 has been deployed.

The Benefits

Simplify IT operations and improve productivity

FlexArray has the flexibility to serve both SAN and NAS protocols at the same time without any complex add-on components, making the FAS8000 the ideal storage virtualization platform. You can serve NAS workloads from your existing SAN array or support additional SAN protocols.

When existing storage is virtualized by FlexArray, you create a single storage management architecture with an easy-to-learn set of tools for provisioning, performance management, and data protection that is tightly integrated with application providers such as Microsoft, VMware, Oracle, and others. NetApp backup, recovery, and replication options protect your data. NetApp [MetroCluster™](#) software can deliver continuous data availability for your most critical applications.

Full software-defined storage capabilities can be used to automate all provisioning and data management tasks. REST APIs let you initiate tasks through your existing management tools or directly from applications. Your IT team can reduce operational overhead and spend less time on day-to-day tasks such as backup and disaster recovery.

Eliminate planned downtime

With IT now integral to your business, the impact of downtime goes beyond dollars or productivity lost. Data ONTAP non-disruptive operations capabilities eliminate the need for outages during upgrades, component replacements, capacity additions, and other activities. Essential tasks—even full storage refreshes—can occur during normal business hours without affecting applications or users.

Provide an on-ramp to the cloud

Your current storage arrays may be unable to effectively span private, public, and hybrid clouds. FlexArray software eliminates these constraints by incorporating your storage under Data ONTAP, delivering best-in-class data management and control for the cloud.

Your storage can become part of a private cloud using options such as OpenStack or Microsoft® Private Cloud. FlexArray and the FAS8000 extend the reach of your business by connecting with cloud services, including:

- Hundreds of cloud service providers who have built their services on NetApp
- NetApp Cloud ONTAP—Data ONTAP software running in the cloud
- Our suite of NetApp Private Storage for Cloud offerings, delivering superior I/O performance and data security

FLEXARRAY VIRTUALIZATION SOFTWARE

SUPPORTED CONFIGURATIONS

FAS models	FAS8020, FAS8040, FAS8060, FAS8080 EX: Purchase and activate FlexArray at any time
Data ONTAP versions	Data ONTAP 8.2.1 or later (clustered Data ONTAP and Data ONTAP operating in 7-Mode)
Arrays	EMC, HP, Hitachi, NetApp E-Series (see Interoperability Matrix Tool for details); also supports NetApp FAS disk shelves (SSDs and HDDs)
Protocols	FC SAN, FCoE, iSCSI, NFS, CIFS/SMB
Additional software	Supports all Data ONTAP software except SnapLock® Compliance (see the FAS8000 software page for more details)
Number of disks plus array LUNs	FAS8020: up to 480 FAS8040: up to 720 FAS8060: up to 1,200 FAS8080 EX: up to 1,440
Flash portfolio	Flash Cache™: With FAS8000/FlexArray plus external arrays or NetApp FAS disk shelves Flash Pool™: With FAS8000/FlexArray plus NetApp FAS disk shelves

Table 1) FlexArray virtualization software supports a broad range of storage arrays, protocols, flash, and scalable configurations.

Visit netapp.com/cloud to find out more about our full range of cloud offerings.

Accelerate a broad range of workloads with flash

FlexArray hybrid storage configurations boost the throughput of your existing storage, decrease latency, and meet service-level agreements. Data ONTAP and the FAS8000 simplify flash management, delivering the full potential of both SSDs and HDDs.

Flash can be configured as persistent storage in NetApp FAS shelves or as self-managing hybrid storage, with up to 144TB of cache per HA pair and 1.7PB per cluster.

Improve efficiency and return on investment

By using our leading storage efficiency technologies such as deduplication, compression, thin provisioning, and space-efficient Snapshot™ copies, you can dramatically increase disk utilization and reclaim stranded storage capacity.

This helps reduce pressure on storage budgets and increases total return on investment. Virtual server and virtual desktop infrastructure (VDI) environments benefit significantly from NetApp efficiency improvements. These environ-

ments have a high degree of duplication, with dozens or even hundreds of copies of the same operating systems. NetApp guarantees at least a 35% reduction in storage requirements with FlexArray in virtualized environments.*

Get guaranteed savings

Your investment in NetApp storage virtualization will pay for itself in nine months or less, or we will make up the difference.* This guarantee covers your FAS8000 system plus FlexArray software, as well as the required software and support.

Get More Business Value with Services

Whether you are planning your next-generation environment, need specialized know-how for a major deployment, or want to get the most from your current storage, NetApp and our certified partners can help.

We collaborate with you to enhance your IT capabilities through a full portfolio of services that covers your IT lifecycle with:

- **Strategy services**—to align IT with your business goals
- **Design services**—to architect your best storage environment

- **Deploy and transition services**—to implement validated architectures and prepare your storage environment
- **Operations services**—to deliver continuous operations while driving operational excellence and efficiency

In addition, NetApp provides in-depth knowledge transfer and education services that give you access to our global technical resources and intellectual property.

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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