NetApp®

Network Appliance™ Enterprise Storage Systems

Reliable, fast, versatile systems that consolidate enterprise storage and simplify data management.

Key Features

- **RELIABLE**
  Continuous data availability and system-level redundancy meeting the needs of business- and mission-critical applications
- **FAST**
  High throughput and fast response time demanded by transaction processing, database, and technical/scientific applications
- **VERSATILE**
  Single, integrated architecture enables concurrent block and file serving over Fibre Channel and Ethernet networks
- **SCALABLE**
  Nondisruptive capacity expansion and quick performance upgrades from entry-level to high-end configurations
- **SIMPLE**
  Easily installed, configured, managed, and maintained

The Challenge: Managing Data for Maximum Business Advantage

The ability of an enterprise to manage business information can determine its degree of success. Ensuring that information is available anytime, anywhere gives employees, partners, and customers the up-to-the-minute information they need to do their jobs, make decisions, and drive revenue.

Enterprises of all sizes encounter similar data storage issues. They need to consolidate storage from many servers and applications over any storage fabric and must manage storage effectively in a mixed-server environment. They need to control the costs of data center operations. They must put in place disaster recovery plans and ensure business continuance under a variety of scenarios. They must provide timely information to the remote locations of their distributed enterprises. And they need to unify and streamline their storage infrastructures to provide access to all their organizations' data while minimizing costs.

The Solution: Network Appliance Storage Systems

Network Appliance storage systems address all those issues. Running the highly efficient Data ONTAP™ microkernel operating system, NetApp systems are designed to consolidate UNIX®, Windows®, NAS, Fibre Channel and iSCSI SAN, and Web data in central locations. A scalable suite of highly available, field-proven networked storage systems, NetApp enterprise storage systems are easy to install, configure, and manage and deliver, dependant on the customer's system, one of the lowest total costs of ownership (TCOs) and highest returns on investment (ROIs) in the industry.

Delivering Seamless, Rapid Access to Multiprotocol Data

NetApp systems offer seamless access to a full range of enterprise data for users on a variety of platforms. FAS900 and FAS200 series fabric-attached storage systems support NFS and CIFS for file access, as well as FCP and iSCSI for block-storage access, you can easily integrate NetApp storage systems into NAS or SAN environments and help protect legacy information. The NetApp design optimizes and consolidates high-performance data access for individuals in multiuser environments as well as for application servers and server clusters with dedicated access.

Reducing TCO, Increasing ROI

With field-proven data availability greater than 99.998%, NetApp storage systems help reduce costly downtime, both planned and unplanned, and help maximize access to mission-critical data. They offer data manageability, scalability, interoperability, and availability in a simple, easy-to-use environment, thereby reducing your total cost of ownership that can result in a strong competitive advantage.

Business Continuance

Working in concert with your existing network infrastructure, NetApp systems help provide comprehensive disaster readiness. With NetApp systems you can implement remote site mirroring and disaster recovery plans that meet your specific needs quickly and effectively and that are flexible enough to change as needs change.

Network Appliance hardware gives you the industry's most flexible, reliable, and scalable storage solutions, with easy administration and built-in redundancy for maximum data availability and protection.

NetApp fabric-attached storage (FAS) solution, FAS900 series and FAS3000 series

High Reliability and Availability

Network Appliance offers a total data management solution consisting of hardware, software, and services. With its appliance design and built-in backup and recovery software, Network Appliance addresses the entire spectrum of data availability challenges and helps keep enterprise data accessible.

Key features that enhance the reliability and availability of NetApp storage systems include:

- Built-in RAID for protection from data loss due to disk failures
- Spare disks for fast failure recovery
- Redundant pluggable power supplies and cooling fans
- Battery-backed nonvolatile RAM for guaranteed writes and improved performance

Unifying Enterprise Storage Infrastructures

The FAS900 series and FAS200 series systems function as true unification engines that allow simultaneous support of both file- and block-level data access—procedures that previously required multiple systems. The storage access protocols include NFS, CIFS, iSCSI, FCP, and HTTP running over the standard connection types: GbE, Fibre Channel, and SCSI (for backup).

This capability enables enterprises to manage all data under one infrastructure and offers users features for managing their block-level data that were previously available only for file-level data. These features include the ability to allocate storage between volumes and logical unit numbers (LUNs), dynamically expandable LUNs, and near-instantaneous replication and restoration of LUNs.

FAS900 Series Enterprise Storage Systems

The FAS900 series is the flagship FAS line, providing performance, scalability, and resiliency to address the challenging storage needs of large corporate data centers and technical applications. The high-end FAS980 scales to 100TB and can be deployed for performance-intensive applications such as online reservation and ordering, seismic processing, and image rendering. The FAS960 is a solution for core business applications such as CRM, ERP, and supply chain integration, as well as large enterprise e-mail and database applications.

Storage Systems for Every Enterprise

NetApp storage systems are deployed in the largest enterprises, in small departments, and everywhere in between. The enterprise-class NetApp FAS900 and FAS200 series systems have served as the key building blocks for open storage networking environments for enterprise customers. The NetApp product line ranges from the entry-level FAS250 model, targeted at distributed enterprises and small to medium-sized deployments, up to the FAS980 and FAS980c series, our highest-performance single and clustered storage systems, which is capable of supporting thousands of users with up to 64TB of raw data.

NetApp FAS3000 Series Enterprise Storage Systems

The newly introduced FAS3000 series has the potential to deliver exceptional storage value for midtier enterprise data centers and medium-sized businesses, including use for database applications, e-mail, and network storage shares. Its compact, modular design delivers integrated FC SAN, iSCSI, and NAS data serving in dual active-active systems scaling to 84TB. The FAS3050 delivers the performance, flexibility, and manageability essential to stable and productive IT operation. The FAS3020 is capable of providing superb storage price/performance for smaller data centers, midsized business, and large department deployments.

FAS200 Series Enterprise Storage Systems

The NetApp FAS200 series provides enterprise-class storage for distributed enterprise deployment and small to medium-sized businesses and organizations. FAS200 systems have the same integrated block- and file-level data access and data protection capabilities as the FAS900 and FAS3000 series, packaged to meet the needs of smaller installations. The FAS270 has dual active controller configurations of up to 56 disk drives and 8TB, and the FAS250 squeezes up to 4TB in a single 3U enclosure. Both are easily upgraded to the larger FAS series with minimal need to migrate data or replace disk storage.

NetApp FAS900 Series System

NetApp FAS3000 Series System

NetApp FAS200 Series System

Data ONTAP Software Is Optimized for Data Management

All NetApp storage systems are configured with Data ONTAP software, an operating system that simplifies management and optimizes storage utilization by combining patented file system technology and a microkernel design, enabling such features as flexible data management, superior scalability, and heterogeneous access. Data ONTAP software integrates seamlessly into UNIX, Windows, and Web environments and provides the foundation to build your storage infrastructure and an enterprise-wide data fabric for mission-critical business applications.

NETAPP SOFTWARE:

SOFTWARE	FUNCTION	SOLUTION	BENEFIT
ApplianceWatch™	Centrally manages and administers NetApp appliances using standard management frameworks.	Data Center Operations	Integration into standard management frameworks
Clustered Failover	Ensures high data availability for business-critical environments by eliminating any single point of failure.	Business Continuance	High availability
DataFabric® Manager	Manages multiple storage systems from a single administrative console.	Distributed Enterprise	Rapid deployment of storage network
Data ONTAP*	Operating system software that optimizes data serving and allows multiprotocol data access.	Data Center Operations	Seamless integration with UNIX and Windows
FilerView®*	A Web-based administration tool that allows IT administrators to fully manage storage systems from remote locations.	Distributed Enterprise	Remote and easy access to storage systems
FlexCache	Enables customers to cache Data ONTAP volumes in multiple filers in compute farm environments.	Distributed Enterprise	Improves performance and enhances data access time and availability
FlexVol™ and FlexClone™	FlexVol creates multiple flexible volumes on a large pool of disks. FlexClone enables instant replication of data volumes/sets without requiring additional storage space at the time of creation.	Storage Consolidation	Storage space savings
LockVault™	Integrates NetApp SnapLock™ and NetApp SnapVault® technologies to create the only solution specifically designed to address regulatory compliance requirements for unstructured data.	Data Center Operations	Unifies backup and compliance
MetroCluster	An integrated high-availability and disaster recovery solution designed for the campus and metropolitan area.	Business Continuance	Site failure protection with minimal downtime
MultiStore®	Permits an enterprise to consolidate a large number of Windows or UNIX file servers onto a single storage system.	Storage Consolidation	Simplifies tiered storage
SnapDrive™	Simplifies management and increases availability and reliability of the application data.	Storage Consolidation	Simplifies SAN management
SnapLock™	Provides data permanence storage that enables compliance with government records retention regulations.	Data Center Operations	Data permenence for improved business record retention
SnapManager®	Application-specific data management software that provides online backup and recovery.	Data Center Operations	Automated backups and restores
SnapMirror®	Remote mirroring software that enables automated file system replication between sites.	Distributed Enterprise	Transport replication
SnapMover®	Migrates data among NetApp storage systems with no impact on data availability and no disruption to users.	Business Continuance	Data migration with no user disruption
SnapRestore®	Allows rapid restoration of a file system to an earlier point in time, typically in only a few seconds.	Data Center Operations	Instant file/volume recovery
Snapshot™*	Enables online backups, providing near-instantaneous access to previous versions of data without requiring complete, separate copies.	Data Center Operations	Near-instantaneous on-disk backup
SnapValidator™	Detects and prevents potential corruptions of Oracle® data by adding intelligence and database awareness to modular storage systems.	Data Center Operations	Detects and prevents potential corruptions of Oracle data
SnapVault®	Provides disk-based backup for FAS systems by periodically backing up a Snapshot copy to another system.	Data Center Operations	Faster restores at a lower cost
SyncMirror®	Ensures data is available and up-to-date at all times by maintaining two copies of data online.	Business Continuance	Continuous access to data
VFM™ (Virtual File Manager)	A file virtualization solution for managing distributed storage—direct-attached (DAS) or network-attached (NAS)—in Windows environments.	Distributed Enterprise	Easy-to-manage data

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