



## Datasheet

# NetApp FAS2600 Series Hybrid Storage Systems

Simplify your storage with leading data management

### Key Benefits

#### Delivers Best Value for Your IT Investment

- Achieves aggressive price-performance with up to 3x more performance
- Serves SAN and NAS workloads with advanced unified architecture
- Meets more business needs with best-in-class data management
- Increases return on investment with enhanced storage efficiencies

#### Simplifies Storage Operations

- Allows you to upgrade software and add or retire storage with zero downtime
- Handles complicated management tasks with the click of a button

#### Grows with Your Changing Needs

- Lets you start small and grow big, invest in what you need, and add without disruption
- Builds a foundation for a Data Fabric across flash, disk, and cloud

### The Challenge

#### Integrating data management across flash, disk, and cloud

Organizations of all sizes and local offices of larger companies are challenged more than ever by shrinking budgets, overextended staff, and the ever-changing demands caused by data growth. Plus, recently there are flash and cloud adoption to consider. These challenges, coupled with the increasing complexity of your Microsoft Windows, VMware, or server virtualization environment, can quickly eat your budget and affect the productivity of your staff.

### The Solution

#### Hybrid storage with best-in-class data management

Designed to support more of your IT needs, the NetApp® FAS2600 hybrid storage arrays provide more value than other systems in their class. FAS2600 running the NetApp ONTAP® storage software simplifies the task of managing growth and complexity by delivering high performance and providing support for a broader range of workloads, along with seamless scaling of performance and capacity.

And with proven integration with AFF all-flash arrays and the cloud, you can build a foundation for a data fabric that leverages flash acceleration and public cloud storage resources to cost-effectively handle dynamic storage needs. For growing organizations that are concerned about budgets today and meeting challenging IT needs in the future, FAS2600 is the perfect choice.

#### Simplifies storage operations

Free up your time, money, and people. You don't need to be a storage expert to deploy and manage NetApp storage systems. The NetApp FAS2600 series offers a powerful range of technologies to help reduce complexity and increase the efficiency of your storage administrators. Your organization can:

- Manage 2x to 3x more storage. Leading integration with key business applications helps administrators to be more efficient.
- Upgrade software and add or retire storage without downtime. The FAS2600 with nondisruptive operation (NDO) technology lets you dynamically handle more storage tasks during regular work hours without costly interruption to IT.
- Keep operations running at peak efficiency. You can easily tune and troubleshoot your storage environment with NetApp OnCommand® management software. And quickly resolve issues with proactive service diagnostics.

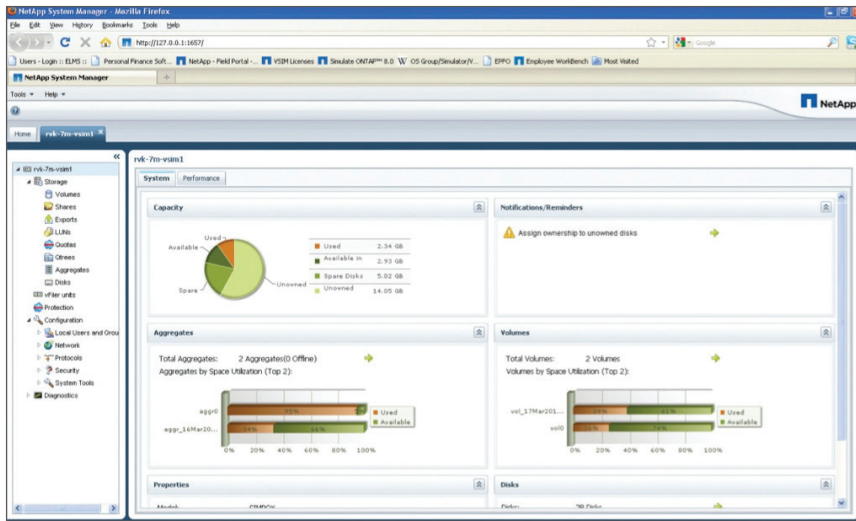


Figure 1) You don't need to be an expert to configure your storage with the simple, easy-to-use NetApp System Manager console.

- Protect your critical data more efficiently with integrated data protection by using NetApp technologies such as RAID-TEC™ (triple-parity), RAID DP®, and Snapshot®.

OnCommand System Manager is a simple but powerful browser-based management tool to simplify ongoing management and administration. Running natively in ONTAP 9.1 (and later versions), it can be accessed using a browser to initialize the cluster and create storage virtual machines (SVMs) for data access. Later, OnCommand System Manager can manage the entire cluster from within ONTAP, eliminating the need for an external management server.

In addition to the standard set of powerful software that comes in the Base Bundle with every FAS2600 system, the optional Premium Bundle and extended value software products offer advanced capabilities such as instant data recovery, instant cloning, data replication, application-aware backup and recovery, Volume Encryption, and data retention.

### Delivers the most value for your IT investment

FAS2600 hybrid storage arrays are built to deliver robust capabilities, so your investment supports the broadest possible set of IT needs. Each FAS2600 delivers:

- Increased price/performance value. Flash Cache™ intelligent data caching, based on NVMe technology, is integrated into all FAS2600 models to accelerate workloads, reduce latency, and deliver up to 3x the performance compared to the previous FAS2500 generation.
- Best-in-class storage efficiency. Enhanced inline compression delivers efficiency and storage savings without compromising performance. Along with inline deduplication, inline compaction, thin provisioning, and other data reduction technologies, these features deliver leading storage efficiency.

- Advanced IT integration options. The enhanced onboard connectivity of the FAS2600 supports a broader set of applications with eight flexible, unified target adapters (UTA2s) and four 10GbE ports, both of which can also be used for cluster interconnectivity.
- Expanded enterprise-class data management. Leverage NDO, quality of service (QoS), and superior virtualization integration, which are usually offered only in the highest end systems, to meet complicated IT needs.
- Security. Easily, efficiently protect your at-rest data by encrypting any volume and any FAS (and AFF) system with NetApp Volume Encryption. No special encrypting disks required.
- Scalable NAS containers. With NetApp FlexGroup, support very large NAS environments in a single namespace that can scale up to 20PB and 400 billion files with consistent high performance and resiliency.

### Built to meet your changing needs

As your business grows and priorities change, it is important to have a storage solution that responds to your changing IT requirements dynamically and cost-effectively. The NetApp FAS2600 series provides multiple ways to support your growing needs:

- Start small and grow big by nondisruptively adding more nodes as needed, without incurring large capital expenses up front.
- Support and consolidate new NAS and SAN workloads with a unified architecture.
- Scale out up to 8 nodes to support your increasing storage requirements.
- Upgrade to higher end NetApp systems while using the same data management software and tools, which reduces administrative overhead by up to 60% by eliminating retraining.
- Get built-in investment protection with the ability to convert your FAS2650 and FAS2620 systems to an external disk shelf when you upgrade to larger NetApp systems.

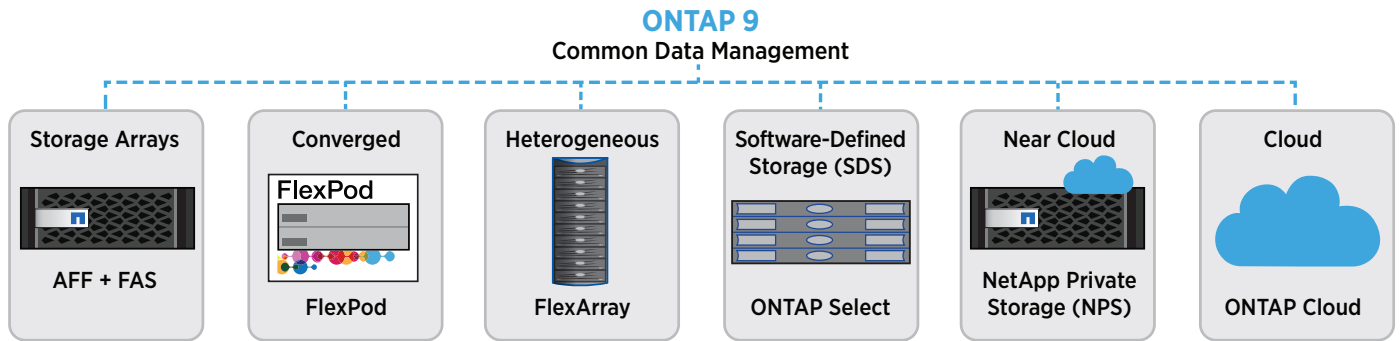


Figure 2) Standardize data management across architectures with a rich set of enterprise data services.

You can also build a foundation of a Data Fabric across flash, disk, and cloud. Move your data to where it's needed and place it on the storage environment that delivers the best combination of flash performance, storage capacity, and cost efficiency. Organizations are increasingly turning to the cloud to be more responsive to user needs and to deliver a level of off-site data protection that up to now has been outside their budgets. If your plans include the cloud, now or in the future, FAS2600 running ONTAP is a great choice.

Your storage can become part of a private cloud by integrating into environments such as OpenStack or Microsoft Private Cloud. The FAS2600 extends the reach of your business by connecting with cloud services, including:

- Hundreds of cloud service providers that have built their services by using NetApp
- NetApp ONTAP Cloud, which is ONTAP software running in the cloud
- Our suite of NetApp Private Storage for Cloud offerings, delivering superior I/O performance and data security

With best-in-class data management and control for the hybrid cloud, NetApp cloud solutions enable seamless movement of data in and out of the cloud.

Visit [netapp.com/cloud](http://netapp.com/cloud) to find out more about our full range of cloud offerings.

### Choosing the Right System

NetApp offers two systems in the FAS2600 family to help you find the balance of price, performance, capacity, and features that best fits your needs.

#### FAS2650

Equipped for higher performance needs, with space for up to 24 internal SFF drives and expansion up to a total of 144 drives, the FAS2650 is a great fit for:

- Midsize organizations and distributed sites of larger organizations
- Windows applications and virtual server consolidation with multiple workloads
- Customers who require higher performance, I/O flexibility, and investment protection for future growth

#### FAS2620

Geared toward value-oriented, larger capacity deployments, with space for up to 12 internal LFF drives and expansion up to a total of 144 drives, the FAS2620 is a good fit for:

- Customers who require cost-effective larger capacity for secondary workloads and backup targets
- Smaller organizations, remote offices, and local storage
- Customers who want I/O flexibility and investment protection for future growth
- Consolidating virtualized environments with a small number of Windows applications or general file-serving workloads

### 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 migrating 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](http://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.

[www.netapp.com](http://www.netapp.com)

## FAS2600 SERIES OVERVIEW

Specifications per HA Pair

	FAS2650	FAS2620
Maximum raw capacity <sup>1</sup>	1243TB	1440TB
Maximum drives	144	144
Controller form factor	2U/24 drives	2U/12 drives
ECC memory	64GB	64GB
Onboard NetApp Flash Cache based on NVMe technology	1TB	1TB
Maximum NetApp Flash Pool™	24TB	24TB
NVMEM/NVRAM	8GB	8GB
Onboard I/O: UTA2 (8Gb FC/16Gb FC/FCoE/10GbE/1GbE2)	8 <sup>2</sup>	8 <sup>2</sup>
Onboard I/O: 10GbE	4	4
Onboard I/O: 12Gb SAS	4	4
OS version	ONTAP 9.1 and later	ONTAP 9.1 and later
Shelves and media	See the Shelves and Media page <sup>1</sup> on NetApp.com for the most current information.	
Storage protocols supported	FC, FCoE, iSCSI, NFS, pNFS, CIFS/SMB	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, Oracle Solaris, IBM AIX, HP-UX, Apple Mac OS, VMware ESX	

**Note: All specifications are for dual-controller, active-active configurations.**

1. Maximum raw capacity depends on the drive offerings. See the Shelves and Media page on NetApp.com (netapp.com/us/products/storage-systems/disk-shelves-and-storage-media/index.aspx) for the most current information.

2. Onboard UTA2 ports for FAS2650 and FAS2620 can be configured as either an 8Gb/16Gb FC port pair or a 10GbE port pair and mixed combinations. Also, GbE supported with SFP+ modules X6567-R6 for optical and X6568-R6 for RJ45.

## SPECIFICATIONS FOR SCALE-OUT CONFIGURATIONS (HYBRID AND DISK-ONLY CONFIGURATIONS)

	FAS2650	FAS2620
NAS/SAN scale-out	1-8 nodes (4 HA pairs)	1-8 nodes (4 HA pairs)
Maximum drives	576	576
Maximum raw capacity	5.0PB	5.7PB
Maximum onboard Flash Cache based on NVMe technology	4TB	4TB
Maximum Flash Pool	96TB	96TB
Maximum ECC memory	256GB	256GB
Cluster interconnect	10GbE: Supported using either 10GbE or UTA2 ports for maximum flexibility	10GbE: Supported using either 10GbE or UTA2 ports for maximum flexibility

## FAS2600 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	<p>The Base Bundle includes the following NetApp technologies:</p> <ul style="list-style-type: none"> <li>Storage protocols: all supported data protocol licenses (FC, FCoE, iSCSI, NFS, pNFS, CIFS/SMB)</li> <li>Efficiency: NetApp FlexVol®, deduplication, compression, compaction, and thin provisioning</li> <li>Availability: multipath I/O</li> <li>Data protection: RAID-TEC, RAID DP, and Snapshot</li> <li>Performance: storage QoS (maximum and minimum resource limits)</li> <li>Scalable NAS container: FlexGroup</li> <li>Management: OnCommand System Manager and OnCommand Unified Manager</li> </ul>
Software included in ONTAP 9 Premium Bundle (optional)	<p>To add capabilities onto the Base Bundle, the optional Premium Bundle includes the following NetApp technologies:</p> <ul style="list-style-type: none"> <li><b>FlexClone®</b>: instant virtual copies of databases or virtual machines</li> <li><b>SnapMirror®</b>: simple, efficient, flexible disaster recovery</li> <li><b>SnapVault®</b>: disk-based backup software for complete backups and online archives to primary or secondary storage in minutes instead of hours or days</li> <li><b>SnapRestore®</b>: restore entire Snapshot copies in seconds</li> <li><b>SnapCenter®</b>: unified, scalable platform and plug-in suite for application-consistent data protection and clone management</li> <li><b>SnapManager®</b> suite: application- and virtual machine-aware backup, recovery, and cloning</li> </ul> <p>See NetApp.com for information about additional software available from NetApp.</p>
Extended value software (optional)	<p>Separate optional software, beyond the Base Bundle and Premium Bundle, is also available:</p> <ul style="list-style-type: none"> <li><b>OnCommand</b> suite of management software: provides the visibility and control to help maximize system utilization, meet storage SLAs, minimize risks, and boost performance</li> <li><b>SnapLock®</b>: compliance software for write once, read many (WORM)-protected data</li> <li>Volume Encryption: granular, volume-level data-at-rest encryption</li> <li><b>SnapCenter Advanced</b>: advanced automation, data protection policies, and file-level search and restore</li> </ul>