Datasheet

NetApp E2800 Series

Gain affordable performance and simplicity with our cost-effective hybrid flash arrays

KEY BENEFITS

Affordable Performance
Leverage flash in an affordable hybrid system for a wide range of mixed workloads.

Cloud Connectivity
Enable flexible and cost-effective backup and recovery to the cloud from a NetApp® E2800 Series system with NetApp SANtricity® Cloud Connector.

Proven Simplicity
A modern, on-box, browser-based GUI enables you to get access to your data in under 10 minutes, with simple, flexible administration.

Worry-Free Reliability
The NetApp E2800 is an entry-level product with enterprise-level redundancy, automated management, and field-proven availability.

The Challenge

Many small and medium-sized organizations are seeking new ways to manage growing data requirements with minimal cost and maintenance. Consistent performance and cost-effective delivery are imperative. Yet managing data is increasingly more complex and costly, especially with limited resources, space, and power.

The Solution

The NetApp E2800 is a hybrid flash storage system with a low acquisition cost and even lower cost of ownership. With the E2800, you can streamline your IT infrastructure and drive down costs. Pay-as-you-grow flexibility makes the E2800 an excellent solution for companies of all sizes that are facing rapid, unpredictable growth.

Unlike other storage systems that add file or virtualization layers in the I/O data path, E2800 hybrid arrays are purpose-built to optimize performance for mixed workloads. The E2800 improves IOPS and throughput to help you extract value from your data and take action faster. The intuitive, on-box graphical interface simplifies configuration and maintenance while providing enterprise-level storage capabilities to deliver consistent performance, data integrity, reliability, and security.

Affordable Performance

The E2800 storage system optimizes price and performance to support any workload. Higher performance with solid-state drives (SSDs) enables the E2800 to maximize storage density, requiring fewer disks to meet your performance objectives. The E2800 delivers over 300K sustained IOPS and supports a broad range of high-speed host interfaces, including 32Gb Fibre Channel (FC), 25Gb iSCSI, and 12Gb SAS, to protect investment in storage networks.

The SSD cache feature provides intelligent analytics-based caching capabilities for read-intensive workloads. Hot data is cached by using higher-performance, lower-latency SSDs in the drive shelves, with the full dataset being stored on HDDs. You don't need to set up complicated policies to define the trigger for data movement between tiers. You can simply set it and forget it. The SSD cache is expandable to up to 5TB per storage system.

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Proven Simplicity

The E2800 modular design and simple management tools make it easy to scale without adding management complexity. The on-box, browser-based SANtricity System Manager GUI enables you to streamline deployment and start working with your data in under 10 minutes.

Simplicity does not preclude flexibility. NetApp SANtricity software offers a combination of comprehensive features and ease of use. You can use SANtricity System Manager to walk you through workload-appropriate provisioning, or you can provision workloads on your own. NetApp Dynamic Disk Pools (DDP) technology dramatically simplifies RAID management by distributing data, parity, and spare capacity across a pool of drives, with intelligent defaults, minimal decision making, and no stranded capacity after deletions. A single E2800 system can support both DDP and traditional RAID volumes if your workloads require it.

The SANtricity Cloud Connector software solution, part of the NetApp Data Fabric, provides a cost-effective basic backup approach with backup and recovery to the cloud from E-Series systems.

Advanced Data Protection

NetApp SANtricity DDP technology enables storage administrators to simplify RAID management, improve data protection, and maintain predictable performance under all conditions. DDP technology evenly distributes data, protection information, and spare capacity across the entire pool of drives, simplifying setup and maximizing use. This innovative technology minimizes the performance impact of a drive failure and can return the system to optimal condition up to 8x faster than traditional RAID. With shorter rebuild times and patented technology to prioritize reconstruction, DDP capabilities significantly reduce exposure to multiple disk failures, offering a level of data protection that simply can't be achieved with traditional RAID.

With SANtricity software, all management tasks can be performed while the storage remains online with complete read/write data access. Storage administrators can make configuration changes, conduct maintenance, or expand the storage capacity without disrupting I/O to attached hosts. SANtricity software online capabilities include:

- DDP drive allows additions and reductions.
- Dynamic volume expansion enables administrators to increase the capacity of an existing volume.
- Dynamic segment size migration enables administrators to change the segment size of a given volume.
- Dynamic RAID-level migration changes the RAID level of a RAID group on the existing drives without requiring the relocation of data. Supported RAID levels are 0, 1, 5, 6, and 10.
- All firmware updates (controller, drive, IOM) are nondisruptive, with no interruption to data access.

To protect against data loss and downtime events, both locally and over long distances, the E2800 offers advanced data protection that is common to enterprise storage. These features include:

- **NetApp Snapshot™ technology.** Create and restore point-in-time copies of datasets in less than a second to protect against accidental data loss on the local array.
- **Volume copy.** Create a complete physical copy (clone) of a volume for applications that require a full point-in-time copy of production data.
- **Asynchronous mirroring.** Volume replication over FC or IP long distance to remote site keeps your business operations running no matter what happens.
- **Synchronous mirroring.** Continuous volume replication is enabled over FC at campus distances.
- **Cloud backup.** SANtricity Cloud Connector enables flexible and cost-effective backup and recovery from on-premises storage to the cloud.

With the E2800 array, you can easily replicate data to another E2800 or other NetApp E-Series system. With this capability, you can create a high-speed, low-latency recovery system that runs at the same speed as your production operations. You can also choose to fail over to a consolidated E-Series system with more cost-effective disk storage. This flexibility in design allows you to choose the profile of performance and cost to meet your business requirements.

High Availability and Enterprise Reliability

The E2800 is based on a field-proven architecture that delivers high reliability and 99.9999% availability when NetApp best practices are followed. The E2800 offers a secure, reliable foundation for your valuable data.

Designed to have no single point of failure, the E2800 has fully redundant I/O paths with automated failover and extensive diagnostic capabilities that alert on and actively help resolve failures. SANtricity Data Assurance (based on the T10 PI industry standard) validates data integrity and protects against silent data corruption. The E2800 also offers data management features such as Snapshot copies, volume copy, and mirroring. All management tasks are performed while the storage remains online with complete read/write data access. Storage administrators can make configuration changes and conduct maintenance without disrupting application I/O.

One of the most critical aspects of an enterprise solution is the ability to detect and resolve issues. In this area, the E2800 all-flash array offers significant depth of capabilities, including:

- Extensive capturing of diagnostic data provides comprehensive fault isolation and simplifies analysis of unanticipated events.
- Background monitoring proactively scans media and tracks drive health against defined thresholds.
- Integrated Recovery Guru diagnoses problems and provides the applicable procedure to use for recovery.
- With DDP technology and RAID 6, a drive rebuild continues even when an unreadable sector or second failure is encountered.
- NetApp Active IQ® telemetry is built into the E2800, so you can take advantage of Active IQ hybrid cloud services to optimize your environment.

Secure Data, Secure Management

NetApp SANtricity drive encryption* combines local key management with drive-level encryption for comprehensive security for data at rest with no impact to performance. Because all drives eventually leave the data center through redeployment, retirement, or service, it's reassuring to know that your sensitive data isn't leaving with them. Customers can choose to manage the drive authentication keys natively for a simple lowest-cost solution or use a KMIP-compliant external key manager for centralized administration.

Management access to the E2800 is protected with role-based access control, LDAP/Active Directory integration, and digital certificate management. The security administrator manages user privileges and password requirements. The exportable audit log gives visibility into management actions taken on the array. All management communication is over HTTPS. In addition, SAML support is available to optionally enable multifactor authentication for further protection against threats.

*   Hardware and software for at-rest data encryption are not available in certain countries, including Russia, Belarus, Kazakhstan, and other Eurasian Customs Union countries

Modular Flexibility

With the E2800 flexible configuration options, you build just one architecture to support a multitiered data model. This feature is particularly suited for intensive analytics applications such as Splunk, which uses hot, warm, cold, and frozen tiers.

E2800 systems offer multiple form factors and drive technology options to meet your requirements:

- The ultradense 60-drive system shelf supports up to 720TB in just 4U and is optimal for environments with vast amounts of data and limited floor space, with either 2.5-inch or 3.5-inch drives.
- The 24-drive system shelf combines low power consumption and exceptional performance density with its high-performance 2.5-inch drives.
- The 12-drive shelf is a great fit for cost-conscious organizations that need to provide both performance and capacity, with either 2.5-inch SSDs or 3.5-inch drives.

Maximum Storage Density

Today's storage must keep up with continuous growth and must meet the most demanding capacity requirements. The E2800 is designed for capacity-intensive environments that also require efficient data center space, power, and cooling utilization. The system's ultradense, 60-drive, 4U disk shelf provides industry-leading performance and space efficiency to reduce rack space by up to 60%. Its high-efficiency power supplies can lower power and cooling use by up to 40%.

DevOps-Ready System

To enable the automation and agility that are required in the DevOps-based IT revolution, the E2800 supports a full-featured on-box REST API, SANtricity Web Services. Ansible modules are available for open-source orchestration and configuration management. And for easy integration and automation in traditional IT and Windows ecosystems, the E2800 also supports Windows PowerShell and SMI-S 1.6.

ENERGY STAR Certification

All E-Series systems use "85% PLUS" power supplies, exceeding the EPA ENERGY STAR requirement of 80% efficiency. See the latest EPA ENERGY STAR–certified E-Series configurations.

ASHRAE Compliance

All E-Series systems meet the certification requirements of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers), a global society that advances human well being through sustainable technology built for the environment:

- E2812, E2824, DE212C, and DE224C are ASHRAE A4 compliant
- E2860 and DE460C are ASHRAE A3 compliant

About NetApp Services

Gain greater business value from your investment

Whether you're planning your new storage system, need specialized know-how for a major storage deployment, or want to optimize the operational efficiency of your existing infrastructure, NetApp Services and NetApp certified partners can help. Learn more about NetApp Services.

For more information

- NetApp E2800 hybrid flash storage systems

About NetApp

NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation and optimize their operations. For more information, visit **www.netapp.com**. #DataDriven

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