Datasheet

\Orchestrating a brighter world NEC

NEC SNA800 Series

Achieve field-proven and reliable performance

Key Benefits

01 Extreme Performance

Accelerate performance, boost IOPS, and increase density with a hybrid system that is perfectly suited for modern enterprise applications, such as big data analytics, technical computing, video surveillance, and backup and recovery.

02 Unmatched Value

Customize configurations to optimize performance and capacity requirements with three distinct disk system shelves, multiple drive types, and a complete selection of SAN interfaces.

Address always changing business requirements with the industry's most flexible, enterprise-grade storage system.

NetApp®

The Challenge

Your organization relies on core applications that are critical to business success. Getting value and insights quickly and reliably from a range of mixed workload environments can differentiate your organization from the competition and accelerate time to market. To compete today, you need data storage systems that can deliver exceptional application performance with nonstop data availability.

The Solution

Your enterprise must have storage that can meet your performance and capacity demands without sacrificing simplicity and efficiency. That is why the NEC SNA800 system was designed with SANtricity OS adaptive caching algorithms, which address a large range of application workloads. Those workloads range from high-IOPS or bandwidth-intensive streaming applications to a mixture of workloads that deliver high-performance storage consolidation.

Requiring just 2U of rack space, the NEC SNA800 hybrid array combines extreme IOPS, sub-100 microsecond response times, and up to 21GBps of read bandwidth and 14GBps of write bandwidth. With fully redundant I/O paths, advanced data protection features, and extensive diagnostic capabilities, the NEC SNA800 storage systems enable you to achieve greater than 99.9999% availability and provide data integrity and security.

Achieve field-proven and reliable performance efficiency for modern HPC and enterprise applications

Extreme Performance

The NEC SNA800 storage system continues NEC SNA' long-standing heritage of balanced performance that is designed to cost-effectively address the storage requirements of a broad range of workloads. High-performance file systems and data-in-tensive bandwidth applications benefit from the ability of the SNA800 to sustain high read and write throughput. Database-driven transactional applications benefit from the system's high IOPS and low latency. Regardless of the application workload, the SNA800 is designed to support maximum performance efficiency.

Designed specifically for performance-intensive workloads environments, including big data analytics, the SNA800 delivers over 1M sustained IOPS and response times in microseconds. Bandwidth-oriented workloads, such as video surveillance and technical computing, also benefit from the capability of the SNA800 to provide up to 21GBps of throughput.

Unmatched Value

The NEC SNA800 system offers multiple form factors and drive technology options to best meet your requirements. The ul-tradense 60-drive system shelf supports up to 720 TB in just 4U and is optimal for environments with vast amounts of data and limited floor space. The 2U, 24-drive system shelf combines low power consumption and exceptional performance density with its cost-effective 2.5-inch drives. All shelves support SNA800 controllers, or they can be used for expansion, helping you optimize configurations to best meet performance, capacity, and cost requirements.

The SNA800 hybrid array offers the world's best price/ perfor-mance ratio with a mix of media, including NL-SAS HDDs for capacity, SAS HDDs for cost-effective performance, and SAS SSDs for ultraperformance. The SNA800 provides investment protection to meet future demands without forklift upgrades through the ability to independently scale to 1.8PB of raw SSD capacity and 1.0M IOPS of performance or up to 4.8PB of raw HDD capacity and up to 21GBps of throughput performance.

Proven Simplicity

The SNA800 modular design and simple management tools make it easy to scale without adding management complexity. The modern, on-box, browser-based SANtricity System Manager GUI enables you to simplify deployment and start working with your data in under 10 minutes.

The NEC SNA800 hybrid array runs on the enterprise-proven SANtricity OS software platform. SANtricity software allows storage administrators to maximize performance and use of their SNA800 through extensive configuration flexibility, custom performance tuning, and complete control over data placement. SANtricity System Manager's graphical performance tools pro-vide key information about storage I/O from multiple viewpoints, allowing administrators to make informed decisions about con-figuration adjustments to further refine performance.

Flexible Interface Options

NEC SNA800 supports a complete set of host or network interfaces that are designed for either direct server attach or network environments. With multiple ports per interface, the rich connectivity provides ample options and bandwidth for high throughput. The interfaces include SAS, iSCSI, FC, and InfiniBand to connect with and protect investments in storage networking. The InfiniBand host interface protocol support includes SRP, iSER, and the new NVMe over Fabrics protocol for the lowest latency connectivity. SNA800 also supports mixed FC ports and dual iSCSI ports for multiprotocol connectivity and mirroring.

Maximum Storage Density

Today's storage must keep up with continuous growth and meet the most demanding capacity requirements. The SNA800 is purpose-built for capacity-intensive environments that require efficient space, power, and cooling utilization. The system's ultradense 60-drive 4U disk shelf provides industry-leading performance and space efficiency that reduce rack space by up to 60%. Its high-efficiency power supplies and intelligent design can lower power use by up to 40% and can lower cooling require-ments by up to 39%. Pull-out drawers improve serviceability, and the system remains operational and available, enhancing uptime.

High Availability and Enterprise Reliability

NEC SNA800 storage system delivers high-speed, continuous data access. With over 20 years of storage development exper-tise behind it, the SNA800 is based on a proven architecture that provides six nines availability with appropriate configura-tions and service plans.

The NEC SNA800 keeps data accessible through redundant components; automated path failover; online administration, in-cluding nondisruptive SANtricity OS and drive firmware updates; active drive recovery mechanisms; and user-directed drive data evacuation. The system's advanced protection features deliver high levels of data integrity, including data assurance (T10 PI industry standard) to protect against silent data corruption.

One of the most critical aspects of an enterprise solution is early detection and resolution of issues. In this area, the SNA800 provides 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 and RAID 6, a drive rebuild continues even when encountering an unreadable sector or second failure.

Software Defined Storage (Dynamic Disk Pools)

Dynamic Disk Pools (DDP) technology simplifies the management of traditional RAID groups by distributing data parity information and spare capacity across a pool of drives. With the DDP feature, there are no idle spares to manage, and you do not need to reconfigure RAID when you expand your system. The DDP technology enhances data protection by enabling faster rebuilds after a drive failure, protecting against potential data loss if additional drive failures occur. DDP dynamic rebuild technology uses every drive in the pool to rebuild more quickly and reduce the exposure window to another failure.

A key feature of DDP technology is the capability to dynamically rebalance data across all the drives in the pool when drives are added or removed. Unlike the rigid configuration of a traditional RAID volume group, which has a fixed number of drives, the DDP feature lets you add or remove multiple drives in a single operation. DDP technology dynamically rebalances across the

remaining (or additional) drives more quickly than traditional RAID does. This faster rebalancing also applies to a rebuild case. If additional drives fail, faster rebuilds on failed drives can reduce the exposure window for data loss from days to minutes.

SSD Cache

The SSD cache feature provides intelligent analytics-based caching capability for read-intensive workloads. Hot data is cached by using higher-performance, lower-latency solid-state drives (SSDs) in the drive shelves. 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. SSD cache is expandable to up to 5TB per storage system.

ENERGY STAR Certification

All NEC SNA systems use "85% PLUS" power supplies, exceeding the EPA ENERGY STAR requirements of 80% efficiency.

	NEC SNA860 SystemShelf NEC SNA060c Disk Shelf 4U/60 drives (both 2.5" and 3.5")	NEC SNA824 SystemShelf NEC SNA024c Disk Shelf 2U/24 drives (2.5")
Maximum raw capacity	720TB (using 60 x 12TB NL-SAS HDDs) 4.8PB with expansion shelves (total of 480 x 12TB NL-SAS drives)	286.2TB (6 x 1.8 TB + 18 x 15.3TB SSDs) 345.6TB (total of 19 2x 1.8TB SAS HDDs)
Maximum drives	480 HDDs total 120 SSDs total	192 HDDs (limit of 8 shelves total) 120 SSDs total
Drives supported[1]	4/8/10/12TB NL-SAS[2] 10/12TB NL-SAS FIPS[3] 900GB, 1.2/1.8TB SAS 1.8TB SAS FIPS 800GB, 1.6/3.2/15.3TB SSD 1.6TB SSD FIPS	900GB, 1.2/1.8TB SAS 1.8TB SAS 10K FIPS 800GB, 1.6/3.2TB SSD 1.6TB SSD FIPS
System memory	32GB/128 GB	32GB/128 GB
Height	6.97" (17.70 cm)	3.47" (8.81 cm)
Width	19" (48.26 cm)	19" (48.26 cm)
Depth	38.25" (97.16 cm)	19.27" (48.95 cm)
Weight[4]	SNA860: 226lb (102 kg) SNA060c: 221.014lb (99.46 kg)	SNA824: 55.16lb (25 kg) SNA060c: 50.064lb (22.53 kg)

	NEC SNA860 SystemShelf NEC SNA060c Disk Shelf 4U/60 drives (both 2.5" and 3.5")		NEC SNA824 SystemShelf NEC SNA024c Disk Shelf 2U/24 drives (2.5")	
POWER	**NEC SNA860 System Shelf[5]**		**NEC SNA824 System Shelf6[6]**	
	Typical	**Maximum**	**Typical**	**Maximum**
kVA	0.587	0.701	0.587	0.701
Watts	581.79	694.15	581.79	694.15
BTU	1985.15	2368.54	1985.15	2368.54
POWER	**NEC SNA060c Disk Shelf[5]**		**NEC SNA024c Disk Shelf[6]**	
	Typical	**Maximum**	**Typical**	**Maximum**
kVA	1.102	1.501	0.313	0.426
Watts	1090.84	1485.62	309.7	422.06
BTU	3722.1	5069.15	1056.74	1440.13

1 Hardware and software for at-rest data encryption are not available in certain countries, including Belarus, Kazakhstan, Russia, and other Eurasian Customs Union countries.
2 12TB NL-SAS drives are expected to be available in December 2017.
3 12TB NL-SAS FIPS drives are expected to be available in January 2018.
4 SNA860 and SNA060 weight and power numbers are based on 6TB/8TB NL-SAS drives.
5 The SNA860 and SNA060c nominal voltage range is between 200VAC and 240VAC.
6 The SNA824 and SNA024c nominal voltage range is between 100VAC and 240VAC.

Software Features

Operating system and system management	SANtricity System Manager 11.40	
High-availability features [1]	Dual active controller with automated I/O path failover Automatic load balancing and path connectivity monitoring Dynamic Disk Pools technology and traditional RAID levels 0, 1, 5, 6, and 10 Redundant, hot-swappable storage controllers, disk drives, power supplies, and fans Automatic rebuild after a drive failure Mirrored data cache with battery-backed destage to flash Proactive drive health monitoring that identifies problems before they create issues Up to six-nines availability (with appropriate configuration and service plans)	
Host operating systems	Apple Mac OS CentOS Linux IBM AIX Microsoft Windows Server Novell SUSE Linux Enterprise Server	Oracle Enterprise Linux Oracle Solaris Red Hat Enterprise Linux Ubuntu Linux VMware ESX
Included software features	SANtricity synchronous and asynchronous mirroring SANtricity volume copy SANtricity Cloud Connector SANtricity Snapshot SANtricity SSD cache SANtricity thin provisioning	Dynamic Disk Pools technology Data assurance (T10 PI ANSI standard) Role-based access control and audit log LDAP support Native drive encryption key management External (KMIP-compliant) key management
Optional software feature	**SANtricity Drive Encryption[1]**	
System capabilities	Full Stripe Write Acceleration (FSWA) to accelerate system write performance Dynamic volume expansion Dynamic capacity expansion and contraction Dynamic RAID-level migration Dynamic segment-size migration	Embedded system event monitoring NetApp AutoSupport for proactive maintenance Online SANtricity OS upgrades and drive firmware upgrades VMware vSphere Storage APIs—Array Integration (VAAI) Microsoft Windows Offloaded Data Transfer (ODX)
Application plug-ins [2]	NetApp SANtricity Plug-In for VMware vCenter NetApp SANtricity Performance App for Splunk Enterprise NetApp SANtricity Plug-In for Nagios	
Open management	NetApp SANtricity Web Services embedded REST API NetApp PowerShell Toolkit NetApp SANtricity Secure CLI	

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