

# SAN Storage D3i



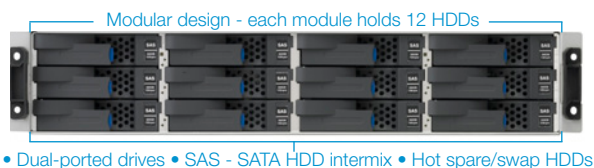
## At a Glance

- Superior Dependability
- High Efficiency
- Virtualization-compatible
- Linear Scalability

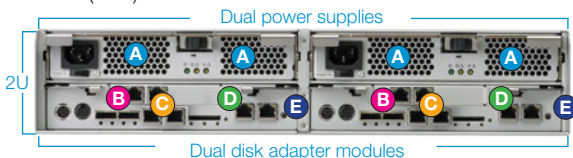
## Overview

NEC D3i storage arrays deliver compelling value by combining balanced performance, dependability, scalability, efficiency and reliability. The D3i-10 iSCSI SAN arrays are used by organizations for primary, high capacity secondary, or tiered storage infrastructure. D-Series arrays are well-suited for virtualized environments, cloud storage, databases, data warehouses, disk-to-disk backup, messaging, file storage, and other block-level storage applications.

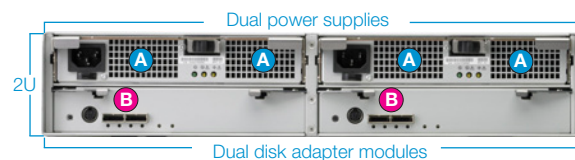
Base Unit/Disk Enclosure (front)



Base Unit (rear)



Disk Enclosure (rear)



- A** Dual fans per power supply
- B** Dual SAS back-end ports (24 Gbps wide-link)
- C** iSCSI front-end connectivity
- D** Redundant management ports
- E** ECC cache memory (mirrored, battery-backed)

## Solution

- **Fully redundant** system architecture delivers 99.999% availability
- **Active-active controllers** provide highest performance and dependability through multipathing
- **Snapshots and replication** enable robust data protection
- **Self-healing**, patented Phoenix technology decreases the number of RAID rebuilds by 30%-50% and reduces HDD failures by repairing hard drives before they fail
- **Eliminates silent data corruption** in disk drives that is not detected by other systems
- **RAID groups span enclosures** for maximum reliability
- **Global hot spares** and hot swappable hard drives
- **Mirrored ECC cache** is also battery-backed
- **Background disk & cache scrubbing** immunizes applications from receiving corrupt data
- **SAS and SATA HDDs intermix** in the same enclosure to maximize cost-efficiency enabling economical storage of both primary and secondary data in the same array
- **Power off RAID groups** when not in use to reduce energy use
- **Expand RAID groups** dynamically by adding HDDs one at a time or in groups; data remains online and accessible
- **Up to 144 HDDs** in a single RAID group
- **Grow LUNs online** without reconfiguring RAID groups
- **Increase front-end bandwidth** by expanding up to 4 ports and supporting unlimited host connections
- **No FC switch required** to connect up to 2 servers supported by dynamic dual-pathing software.
- **Command Line Interface (CLI)** allows automated control
- **Email notification and SNMP traps** proactively alerts you
- **Browser-based GUI** allows remote management of up to 32 arrays in a 'single pane of glass'

## Hardware Specifications

Model		D3i	
<b>Host Ports</b>		2 iSCSI ports at 1 Gbps (Single Controller) 4 iSCSI ports at 1 Gbps (Dual Controllers)	
<b>Number of Controllers</b>		Single or Dual controllers (active-active)	
<b>Configuration</b>		1 to 12 2U enclosures, 12 drives per enclosure, SAS – SATA Intermix within an enclosure	
<b>Cache Memory</b>	Capacity	2 or 4 GB (2 GB per controller)	
	Battery Backup Time	24 hours	
	Optional BBU Time	72 hours	
<b>Supported RAID Levels</b>	SAS	0,1, 10, Triple Mirror, 3, 3DP (3 Double Parity), 5, 50, 6	
	SATA	Triple Mirror, 5, 50, 6	
<b>Maximum Capacity</b>	SAS	86.4 TB	
	SATA	288 TB	
<b>Disk Drives</b>	Capacity	SAS	300 GB, 450 GB, 600 GB rotating at 15,000 rpm 300 GB, 450 GB, 600 GB rotating at 10,000 rpm 1 TB, 2 TB rotating at 7,200 rpm(NearLine)
		SATA	1 TB, 2 TB rotating at 7,200 rpm
<b>Number of Disk Drives</b>		3 – 144	
<b>Disk Enclosure Connections</b>		24 Gbps wide-link SAS	
<b>Supported Operating Systems</b>		Microsoft® Windows Server® 2003 & 2008 (x86, x64), Hyper-V, Red Hat® Enterprise Linux®, VMware®	
<b>Base Unit/Enclosure Dimensions</b>		2U: 18.9" W x 21.3" D x 3.4" H (480 x 540 x 86.5 mm)	
<b>Weight</b>	Base Unit	68.3 lbs. (31kg) or less	
	Disk Enclosure	63.9 lbs. (29kg) or less	
<b>Power Requirements</b>		AC 100 – 240V single phase 50/60Hz	

## Software Specifications

Objective	NEC Storage Software	Function
<b>Simple Operation</b>	StorageManager (ISM)	Core storage management functionality
<b>High Availability</b>	PathManager	Multi-pathing for failover and load balancing
<b>Data Protection</b>	DynamicDataReplication (DDR)*	Data replication within same array
	DynamicSnapVolume (DSV)*	On-demand snapshots
	ReplicationControl SQL Option*	Transaction-consistent protection for MS SQL Server
<b>Performance Management</b>	PerformanceMonitor	Performance monitoring & alerts
	PerformanceNavigator	Analysis of performance data over time
	PerformanceOptimizer	Automates performance tuning
<b>Energy Conservation</b>	PowerConserver	Turn off HDDs when not needed
<b>Compliance</b>	VolumeProtector	Prevent unauthorized modification of data

\*Single Controller model does not support

## Environmental Specifications

	Maximum Watts		BTUs/Hour	
	All SAS	All SATA	All SAS	All SATA
<b>D3i Base Unit</b>	610 W	540 W	2,081 BTU/hr	1,843 BTU/hr
<b>Disk Enclosure</b>	430 W	370 W	1,462 BTU/hr	1,258 BTU/hr
	Operating		Storage	
<b>Temperature</b>	41 - 104° F (5 - 40° C)		14 - 140° F (-10 - 60° C)	
<b>Humidity</b>	10 - 80%		5 - 80%	