Empowered by Innovation NEC

SAN Storage D3i

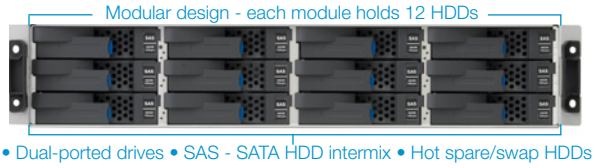
At a Glance

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

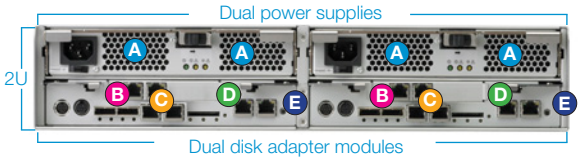
Overview

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.

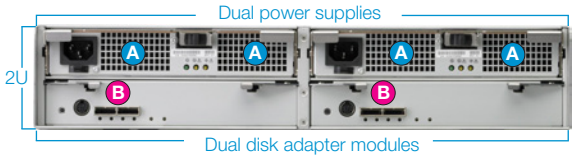
Base Unit/Disk Enclosure (front)



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'

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Hardware Specifications

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

Software Specifications

Objective	NEC Storage Software	Function
Simple Operation	StorageManager (iSM)	Core storage management functionality
High Availability	PathManager	Multi-pathing for failover and load balancing
Data Protection	DynamicDataReplication (DDR)*	Data replication within same array
	DynamicSnapVolume (DSV)*	On-demand snapshots
	ReplicationControl SQL Option*	Transaction-consistent protection for MS SQL Server
Performance Management	PerformanceMonitor	Performance monitoring & alerts
	PerformanceNavigator	Analysis of performance data over time
	PerformanceOptimizer	Automates performance tuning
Energy Conservation	PowerConserver	Turn off HDDs when not needed
Compliance	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
D3i Base Unit	610 W	540 W	2,081 BTU/hr	1,843 BTU/hr
Disk Enclosure	430 W	370 W	1,462 BTU/hr	1,258 BTU/hr
	Operating		**Storage**	
Temperature	41 - 104° F (5 - 40° C)		14 - 140° F (-10 - 60° C)	
Humidity	10 - 80%		5 - 80%	

Corporate Headquarters (Japan)
NEC Corporation
www.nec.com

Oceania (Australia)
NEC Australia Pty Ltd
www.nec.com.au

North America (USA & Canada)
NEC Corporation of America
www.necam.com

Asia
NEC Corporation
www.nec.com

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