EMC VNXe SERIES UNIFIED STORAGE SYSTEMS

The VNXe3300

The VNXe3150

EMC® VNXe® series unified storage systems deliver exceptional flexibility for the small-to-medium-business, combining a unique, application-driven management environment with a complete consolidation solution for all IP storage needs.

Specifications

ARCHITECTURE

EMC VNXe series utilizes a compact system with built-in disk storage to provide multi-protocol IP connectivity for concurrent NAS and iSCSI SANs. The VNXe3150™ is equipped with either one or two controllers, while the VNXe3300™ includes two controllers.

VNXe PHYSICAL SPECIFICATIONS

	VNXe3150 Single	VNXe3150 Dual	VNXe3300
Min/Max Drives	6 to 50	6 to 100	6 to 150
Drive Enclosure Options	12x3.5" Flash/SAS/ NL SAS drives (2U)	12x3.5" Flash/SAS/ NL SAS drives (2U)	15x3.5" Flash/SAS/ NL SAS drives (3U)
	25x2.5" Flash/SAS drives (2U)	25x2.5" Flash/SAS drives (2U)	25x2.5" SAS drives (3U)
CPU/Memory per Controller	1 x Xeon Quad Core/ 4 GB	1 x Xeon Quad Core/ 8 GB	1 x Xeon Quad Core/ 12 GB
Base 1 GB/s IP Ports per Controller	2	2	4
Max Flex IO Modules per Controller	1	1	2
Raid Options	10/5/6	10/5/6	10/5/6
Management Ports	1 x 10/100/1000 GbE	2 x 10/100/1000 GbE	2 x 10/100/1000 GbE

SYSTEM LIMITS AND SUPPORT

Supported LUNs	Up to 128	Up to 256	Up to 512
Maximum LUN Size	2 TB	2 TB	2 TB
Maximum File System Size	16 TB	16 TB	16 TB
Total Raw Capacity	150 TB	300 TB	450 TB
Maximum File Systems	128	256	512

VNXe CONNECTIVITY

The VNXe series provides flexible connectivity options via Flex IO modules for adding Ethernet ports to support additional NAS and iSCSI host connectivity.

FLEX IO MODULE OPTIONS

IO Modules	VNXe3150	VNXe3300
Copper 10/100/1 G BaseT Ethernet Module	NAS/iSCSI, 4 ports per module	NAS/iSCSI, 4 ports per module
Optical 10 Gb/s Ethernet Module	N/A	NAS/iSCSI, 2 ports per module
Copper 10 GBaseT Ethernet Module	NAS/iSCSI, 2 ports per module	NAS/iSCSI, 2 ports per module

MAXIMUM CABLE LENGTHS

SAS Cable Length (enclosure to enclosure): 6 meters

BACK-END (DISK) CONNECTIVITY

Each storage processor includes one 6 Gb/s x 4 Serial Attached SCSI (SAS) port providing connection to additional disk drive expansion enclosures.

SUPPORTED DISK EXPANSION ENCLOSURES (DAES)

Each member of the VNXe family supports one or more of the following DAEs:

	VNXe3150 Disk Expansion	VNXe3300 Disk Expansion
Drive Enclosure Options	3.5" SAS, NL-SAS, Flash (2U)	3.5" SAS, NL-SAS, Flash (3U)
Drive Quantity	12	15
Controller Interface	6 Gb SAS	6 Gb SAS
Drive Enclosure Options	2.5" SAS, Flash (2U)	2.5" SAS, Flash (2U)
Drive Quantity	25	25
Controller Interface	6 Gb SAS	6 Gb SAS

SUPPORTED DISK DRIVES

	100 GB	200 GB	300 GB	300 GB	600 GB	600 GB	900GB	1 TB NL	2 TB NL	3 TB NL
Interface	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS	6 Gb/s SAS
Capacity (RPM)	100 GB (Flash)	100 GB (Flash)	300 GB (15,000)	300 GB (10,000)	600 GB (15,000)	600 GB (10,000)	900 GB (10,000)	1 TB (7,200)	2 TB (7,200)	3 TB (7,200)
Formatted Capacity*	93.1 GB	186.3 GB	272.59 GB	272.59 GB	545.19 GB	545.19 GB	833.4 GB	931.5 GB	1,852 GB	2,795 GB
Form Factor	2.5", 3.5"	2.5", 3.5"	3.5"	2.5"	3.5"	2.5"	2.5", 3.5"	3.5"	3.5"	3.5"
Height	1.0"	1.0"	1.0"	1.0"	1.0"	1.0"	1.0"	1.0"	1.0"	1.0"
Data Buffer	N/A SSD	N/A SSD	16 MB	16 MB	16 MB	16 MB	16 MB	32 MB	32 MB	32 MB
Buffer to/from Media	260 MB/s	260 MB/s	97 MB/s	93 MB/s	150 MB/s	93 MB/s	93 MB/s	42–85 MB/s	84 MB/s	84 MB/s
SP to/from Buffer	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)	600 MB/s (max)
ACCESS TIME										
Average Seek	N/A	N/A	3.5 ms (Read) 4.0 ms (Write)	3.6 ms (Read) 4.2 ms (Write)	3.4 ms (Read) 3.9 ms (Write)	3.7 ms (Read) 4.2 ms (Write)	3.6 ms (Read) 4.2 ms (Write)	8.2 ms (Read) 9.2 ms (Write)	8.2 ms (Read) 9.2 ms (Write)	8.2 ms (Read) 9.2 ms (Write)
Rotation Latency	N/A	N/A	2.0 ms	3.0 ms	2.0 ms	3.0 ms	3.0 ms	4.17 ms	4.17 ms	4.17 ms

* 520 bytes/sector, 1 MB = 1,000,000 bytes

PROTOCOLS SUPPORTED

Certified for Common Criteria EAL3+

CIFS (SMB 1 and SMB 2), NFSv2 and v3, iSCSI

Network Lock Manager (NLM) v3, v4

Routing Information Protocol (RIP) v1-v2

Simple Network Management Protocol (SNMP)

Network Data Management Protocol (NDMP) v1-v4

Address Resolution Protocol (ARP)

Internet Control Message Protocol (ICMP)

Simple Network Time Protocol (SNTP)

Lightweight Directory Access Protocol (LDAP)

SERVER OPERATING SYSTEM SUPPORT

Microsoft Windows Server 2003

Microsoft Windows Server 2008, Windows Server 2008 R2+

Microsoft Windows 7 and Vista

Microsoft Hyper-V

VMware® ESX®

RedHat Enterprise Linux

Novell Suse Enterprise Linux

Solaris 10 x86

Solaris 10 Sparc

HP-UX

IBM AIX

Citrix XenServer

VNXe SOFTWARE

VNXe offers support for a variety of advanced storage features. These features are standard or may be purchased via software packages and suites. More information regarding features, suites, and packages can be found in the VNXe Software Suites data sheet.

EMC Unisphere™ for VNXe—Standard integrated management and monitoring of all aspects of VNXe systems

- Thin Provisioning: enables logical sizing and physical provisioning
- VNXe Deduplication and Compression: file-based deduplication with compression

Local Protection Suite—Snapshots for file systems and iSCSI volumes (standard on VNXe3150)

Remote Protection Suite—Replicate file data over IP for disaster recovery, backup, and/or testing

Application Protection Suite—Application integration and replica management

Security and Compliance Suite—VNXe File-Level Retention—Enterprise, Event Enabler

Optional Software	VNXe3150 Suites	VNXe3300 Suites
	Application Protection	Local Protection
	Remote Protection	Application Protection
Total Value Pack	Security and Compliance	Remote Protection
Total Protection Pack		
		Security and Compliance

CLIENT CONNECTIVITY FACILITIES

File access by NFS, CIFS protocols

Block access by iSCSI

Link Aggregation (IEEE 802.3ad)

Failsafe networking

Virtual LAN (IEEE 802.1q)

Network Status Monitor (NSM) v1

Portmapper v2

Network Information Service (NIS) client

Supports Microsoft DFS as Leaf node or Root Server

Native Windows 2000/2003/2008 R2 support

LDAP signing for Windowso

Microsoft Windows Server 2003 Access-based Enumeration (ABE)

VMWARE INTEGRATION

EMC Virtual Storage Integrator (VSI) for VMware vSphere5: for provisioning, management, cloning, and deduplication

VMware vStorage APIs for Array Integration (VAAI) for NFS: improves performance by leveraging more efficient, array-based operations

VNXe ELECTRICAL SPECIFICATIONS

Requirement	VNXe3150 Processor Enclosure (3.5" Drives)	VNXe3150 Processor Enclosure (2.5" Drives)	VNXe3150 Expansion Enclosure (3.5" Drives)	VNXe3300 Processor Enclosure (3.5" Drives)	VNXe3300 Processor Enclosure (2.5" Drives)	VNXe3300 Expansion Enclosure (3.5" Drives)	VNXe Series Expansion Enclosure (2.5" Drives)
AC Line Voltage	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz
AC Line Current	4.6 A max at 100 Vac, 2.1 A max at 200 Vac	4.8 A max at 100 Vac, 2.3 A max at 200 Vac	2.5 A max at 100 Vac, 1.3 A max at 200 Vac	4.8 A max at 100 Vac, 2.4 A max at 200 Vac	4.6 A max at 100 Vac, 2.3 A max at 200 Vac	2.8 A max at 100 Vac, 1.4 A max at 200 Vac	2.5 A max at 100 Vac, 1.3 A max at 200 Vac
Power Consumption	455 VA (440 W) max	475 VA (460 W) max	250 VA (240 W) max	480 VA (455 W) max	460 VA (450 W) max	280 VA (235 W) max	250 VA (230 W) max
Power Factor	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage
Heat Dissipation	1.58×10^6 J/hr, (1,500 Btu/hr) max	1.66×10^6 J/hr, (1,570 Btu/hr) max	8.64×10^5 J/hr, (820 Btu/hr) max	1.64×10^6 J/hr, (1,560 Btu/hr) max	1.62×10^6 J/hr, (1,540 Btu/hr) max	8.46×10^5 J/hr, (800 Btu/hr) max	8.28×10^5 J/hr, (785 Btu/hr) max
AC Protection	15 A fuse on each power supply, both phases	15 A fuse on each power supply, both phases	15 A fuse on each power supply, both phases	12.5 A fuse on each power supply, both phases	12.5 A fuse on each power supply, both phases	10 A fuse on each power supply, both phases	10 A fuse on each power supply, both phases
AC Inlet Type	IEC320-C14 appliance coupler, per power supply	IEC320-C14 appliance coupler, per power supply	IEC320-C14 appliance coupler, per power supply	IEC320-C14 appliance coupler, per power supply	IEC320-C14 appliance coupler, per power supply	IEC320-C14 appliance coupler, per power supply	IEC320-C14 appliance coupler, per power supply
Ride-through Time	30 ms min	30 ms min	30 ms min	30 ms min	30 ms min	30 ms min	30 ms min
Current Sharing	± 15 percent of full load, between power supplies	± 15 percent of full load, between power supplies	± 15 percent of full load, between power supplies	± 15 percent of full load, between power supplies	± 15 percent of full load, between power supplies	± 10 percent of full load, between power supplies	± 10 percent of full load, between power supplies

VNXe PHYSICAL DIMENSIONS (APPROXIMATE)

	VNXe3150 Processor Enclosure (3.5" Drives)	VNXe3150 Processor Enclosure (2.5" Drives)	VNXe3150 Expansion Enclosure (3.5" Drives)	VNXe3300 Processor Enclosure (3.5" Drives)	VNXe3300 Processor Enclosure (2.5" Drives)	VNXe3300 Expansion Enclosure (3.5" Drives)	VNXe Expansion Enclosure (2.5" Drives)
Dimension (H/W/L)	3.40 in x 17.5 in x 20.0 in/ 8.64 cm x 44.45 cm x 50.8 cm	3.40 in x 17.5 in x 17.0 in/ 8.64 cm x 44.45 cm x 43.18 cm	3.40 in x 17.5 in x 20.0 in/ 8.64 cm x 44.45 cm x 50.8 cm	5.25 in x 17.5 in x 24.0 in/ 13.34 cm x 44.5 cm x 61.0 cm	5.25 in x 17.5 in x 21.25 in 13.34 cm x 44.45 cm x 54.0 cm	5.25 in x 17.5 in x 14.00 in/ 13.34 cm x 44.5 cm x 35.56 cm	3.40 in x 17.5 in x 13.0 in/ 8.64 cm x 44.45 cm x 33.02 cm
Weight (max)	60.5 lb/26.4 kg	48.0 lb/21.8 kg	52.0 lb/23.6 kg	96.4 lb/43.8 kg	73.4 lb/33.3 kg	72 lb/32.66 kg	38.35 lb/17.4 kg

OPERATING ENVIRONMENT

Temperature	50–104 degrees F (10–40 degrees C)
Temperature Gradient	19 degrees F/hr (10 degrees C/hr)
Relative Humidity	20% to 80% (non-condensing)
Altitude	8,000 ft (2,438 m) @ 104 degrees F (40 degrees C) max 10,000 ft (3,048 m) @ 98.6 degrees F (37 degrees C) max

ELECTROMAGNETIC EMISSIONS AND IMMUNITY

FCC Class A EN55022 Class A
CE Mark VCCI Class A (for Japan)
ICES-003 Class A (for Canada) AS/NZS 3548 Class A (for Australia/New Zealand)
EN55024 Immunity, ITE BSMI Class A (for Taiwan)

QUALITY AND SAFETY STANDARDS

UL 60950; CSAC 22.2-60950, EN 60950
Manufactured under an ISO 9000-registered quality system
ETSI EN 300 386

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller—or visit us at www.EMC.com.

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