EMC VNXe SERIES UNIFIED STORAGE SYSTEMS

The EMC VNXe3300

The EMC VNXe3100

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

Specifications

ARCHITECTURE

EMC VNXe utilizes a compact system with built-in disk storage to provide multi-protocol IP connectivity for concurrent NAS and SANs. The VNXe3100™ is equipped with either one or two controllers, while the VNXe3300™ includes two controllers.

VNXe PHYSICAL SPECIFICATIONS

	VNXe3100	VNXe3300
Min/Max Drives	6 to 96	7 to 120
Drive Enclosure Options	12 x 3.5" SAS/NL SAS drives–2U	15 x 3.5" SAS/NL SAS/Flash* drives–3U
CPU/Memory per Controller	1 x Core 2 Duo 1.6 GHz/4 GB	1 x Core 2 Quad 1.6 GHz/8 GB
Base 1 GB/s IP Ports per Controller	2	4
Max Flex IO Modules	1	2
RAID Options	10/5/6	10/5/6
Management	LAN 2 x 10/100/1000 Copper GbE	LAN 2 x 10/100/1000 Copper GbE

LIMITS AND SUPPORT

Supported SAN Hosts	128	256
Supported LUNs	Up to 256/128	Up to 512
Maximum LUN Size	2 TB	2 TB
Maximum File System Size	16 TB	16 TB
Total Raw Capacity	192 TB	240 TB

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	VNXe3100	VNXe3300
Copper 10/100/1000 Base T 1 Gb/s Module	NAS/iSCSI, 4 ports per module	NAS/iSCSI, 4 ports per module
Optical 10 Gb/s Ethernet	N/A	NAS/iSCSI, 2 ports per module

MAXIMUM CABLE LENGTHS

Maximum cable length CAT5/5E and CAT6 Copper: 100 meters (1 Gb/s)

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 ADD-ON ENCLOSURES (DAES)

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

	VNXe3100 Disk Expansion	VNXe3300 Disk Expansion
Drive Types Supported	3.5" SAS, NL-SAS	3.5" SAS, NL-SAS, and 3.5" Flash
Drive Quantity	12	15
Format	Single Depth	Single Depth
Controller Interface	6 Gb/s SAS	6 Gb/s SAS

SUPPORTED DISK DRIVES

Available on:	**100 GB Flash**	**300 GB**	**600 GB**	**1 TB NL**	**2 TB NL**
VNXe3300	X	X	X	X	X
VNXe3100		X	X	X	X
Interface	6.0 Gb/s SAS	6.0 Gb/s SAS	6.0 Gb/s SAS	6.0 Gb/s SATA	6.0 Gb/s SATA
Capacity (RPM)	100 GB (Flash)	300 GB (15,000)	600 GB (15,000)	1 TB (7,200)	2 TB (7,200)
Formatted Capacity (520 Bytes/Sector) 1 MB–1,000,000 Bytes	93.16 GB	272.59 GB	545.195 GB	931.5 GB	1,852 GB
Form Factor	3.5"	3.5"	3.5"	3.5"	3.5"
Height	1.0"	1.0"	1.0"	1.0"	1.0"
Data Buffer	N/A	16 MB	16 MB	32 MB	32 MB
Buffer to/from Media	260 MB/s	97 MB/s	150 MB/s	42–85 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)
Access Time:					
Average Seek	N/A	3.5 ms Read 4.0 ms Write	3.4 ms Read 3.9 ms Write	8.2 ms Read 9.2 ms Write	8.2 ms Read 9.2 ms Write
Rotational Latency	N/A	2.0 ms	2.0 ms	4.17 ms	4.17 ms

VNXe OE PROTOCOLS AND SOFTWARE FACILITIES

VNXe offers support for a wide variety of protocol and advanced features. These features are either included or purchased via various software packages and suites.

PROTOCOLS SUPPORTED

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 SPARC
VNX for File Core Software Capabilities

VNXe SOFTWARE

VNXe offers support for a variety of advanced 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—Integrated management and monitoring of all aspects of VNXe systems
- Automated Volume Management (AVM): File system provisioning
- 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

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

Optional Software	VNXe3100 Suites	VNXe3300 Suites
	Application Protection	NFS Protocol
	Remote Protection	Local Protection
Total Value Pack	Security and Compliance	Application Protection
Total Protection Pack		Remote Protection
		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 2000/20 03/2008 R2 support
LDAP signing for Windows
Microsoft Windows Server 2003 Access-based Enumeration (ABE)

OPTIONAL VMWARE FACILITIES

- VNX Plug-ins for VMware: For provisioning, management, cloning, and file deduplication
- EMC PowerPath®/VE: Path management for iSCSI

VNXe ELECTRICAL SPECIFICATIONS

Requirement	VNXe3100 Processor Enclosure	VNXe3100 Expansion Enclosure	VNXe3300 Processor Enclosure	VNXe3300 Expansion Enclosure
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
AC Line Current	4.0 A max at 100 Vac, 2.0 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	2.8 A max at 100 Vac, 1.4 A max at 200 Vac
Power Consumption	395 VA (380 W) max	250 VA (240 W) max	480 VA (455 W) max	280 VA (235 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
Heat Dissipation	1.37 x 106 J/hr, (1,300 Btu/hr) max	8.64 x 105 J/hr, (820 Btu/hr) max	1.64 x 106 J/hr, (1,560 Btu/hr) max	8.46 x 105 J/hr, (800 Btu/hr) max
AC Protection	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	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
Ride-through Time	30 ms min	30 ms min	30 ms min	30 ms min
Current Sharing	± 15% of full load, between power supplies	± 15% of full load, between power supplies	± 10% of full load, between power supplies	± 10% of full load, between power supplies

VNXe PHYSICAL DIMENSIONS (APPROXIMATE)

	VNXe3100 Processor Enclosure	VNXe3100 Expansion Enclosure	VNXe3300 Processor Enclosure	VNXe3300 Expansion Enclosure
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 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./ 13.3 cm x 44.5 cm x 61.0 cm	5.25 in. x 17.5 in. x 14.00 in./ 13.34 cm x 44.5 cm x 35.56 cm
Weight (max)	60.5 lb/26.4 kg	52.0 lb/23.6 kg	96.4 lb/43.8 kg	72 lb/32.66 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, FN 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.

12/10 Specification Sheet H8515.1

EMC Corporation
Hopkinton, Massachusetts 01748-9103
1-508-435-1000 In North America 1-866-464-7381
www.EMC.com

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