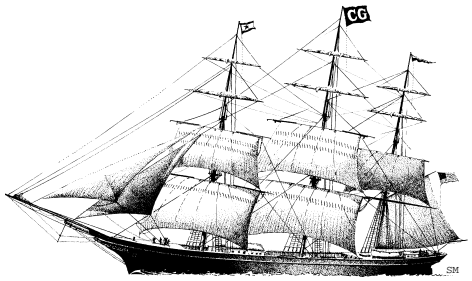
THE CLIPPER GROUP
Navigator™



Navigating Information Technology Horizons℠

Published Since 1993 Report #TCG2011004 January 31, 2011

EMC VNXe Unified Storage — Minutes to Provision, Enterprise-Class Features, and Starting Under $10K

Analyst: Michael Fisch

Management Summary

EMC recently unleashed a spate of 41 new product announcements at a launch event marked by unusual fanfare and drama. The show included fitting 26 people inside a *Mini Cooper* to set a world record onstage – as a way to emphasize EMC's theme of "record breaking" performance and capabilities. Showmanship aside, one of the most significant announcements was the new EMC *VNX* family of unified storage. The *VNXe3100* and the *VNXe3300* are the two entry-level models and the larger *VNX5100/5300/5500/5700/7500* span the midrange and reach a maximum capacity of 1,000 drives and 1,974 TB.

For small and midsized businesses (SMBs), the real gem here is the VNXe series. Unified storage means simultaneous support for SAN and NAS, block and file. To this versatile base EMC added enterprise-class features for performance, high availability, data protection, resource efficiency, and centralized management. Then EMC capped it off with streamlined, wizard-driven, application-centric provisioning. If users want a new directory to share files or the Microsoft Exchange Server needs additional mailboxes, all the administrator has to do – borrowing from Nike – is "just provision it." No longer does he or she have to worry about the intricacies of file systems and LUNs and *mega-this* and *giga-that* to provide the storage needed to run the business.

EMC clearly intends to be price-competitive since the VNXe starts at $9,499 for a usable configuration. Please read on for more details.

EMC VNXe Unified Storage Family

The new EMC VNX family of unified storage is an integration of the EMC *CLARiiON* and EMC *Celerra* platforms – two established and mature networked storage product lines (see *Evolution of EMC VNX* in the sidebar below). VNX brings together the software intelligence of CLARiiON and Celerra and delivers SAN and NAS in a single platform. This new product line offers two VNXe models at the entry level and five VNX models spanning the midrange.

The VNXe 3100/3300 are designed for organizations with modest scalability requirements and limited IT budgets and staffing, but who still want high availability, fast performance, and enterprise-class software features for data protection, disaster recovery, and storage efficiency. The unified storage approach allows SMBs to answer the question, "What are your storage requirements?" with a straightforward reply, "Yes, I need it." They avoid having to over-think and over-plan a storage purchase because the platform offers both block and file storage in flexible configurations.

Architecture

The VNXe series has an integrated and modular architecture in 2U or 3U form factors that fit into standard 19" racks.

IN THIS ISSUE

- EMC VNXe Unified Storage Family 1
- Conclusion 3

- 1 or 2 storage controllers[1] that run an integrated version *FLARE/DART* operating environment for delivering block and file access in the same controller.
- Disk Processor Enclosures for adding storage capacity.

The system has redundant components for high availability, including dual active/active controllers, automatic failover and failback, mirrored write cache with de-stage to flash in the event of power failure, RAID 10, 5, and 6. In addition, administrators can upgrade the system hardware and software while it is running.

The VNXe is an IP storage platform. Supported protocols are *iSCSI*, *NFS*, and *CIFS* over 1 Gb/s and 10 Gb/s Ethernet connections (see *VNXe Models and Specifications* in Exhibit 1, on the next page). iSCSI provides block storage suitable for applications like Microsoft *Windows Server 2008*, *Exchange*, *SQL Server*, and *SharePoint*; CIFS is a file sharing protocol for *Windows* systems; and NFS provides file sharing for *UNIX* and *Linux*. Supported host operating systems are Windows, Linux, and *Solaris* and supported virtual environments are *VMware* and *Hyper-V*.

The back-end drive connections are 6 Gb/s SAS. Supported drives are 15,000 RPM SAS for high performance and 7,200 RPM SAS for high capacity (i.e., nearline). Maximum capacity is 120 drives (240 TB).

Software

The base software capabilities include:

- ***Unisphere*** for centralized monitoring and management of VNXe systems.
- **Thin provisioning** for efficient capacity utilization.
- **File deduplication and compression** for up to 50% space reduction.
- **Snapshots** for data protection and recovery, test and development, and data repurposing.[2]

Optional software features are included in the *Total Protection Pack* for the VNXE3300 and the *Total Value Pack* for the VNXe3100:

- **Remote replication** over IP for disaster recovery
- **Application integration** for creating application-consistent, restartable snapshots and backups
- **Security and compliance capabilities** – File-level retention with WORM (Write-Once, Read-Many) capacity, anti-virus integration, and alerting.

Storage provisioning is streamlined for extreme ease of use and optimized for application contexts. The VNXe offers graphical wizards with default settings for capabilities such as snapshots. According to EMC, an administrator can set up hundreds of Exchange mailboxes in less than 10 clicks, a VMware or Hyper-V datastore in less than 10 minutes, and an iSCSI volume or CIFS/NFS file share in minutes. Hence, EMC's new tagline:

Storage. Click. Done.

Evolution of the EMC VNX

The EMC VNX unified storage family represents an integration of the very successful EMC *CLARiiON* and *Celerra* networked storage platforms. CLARiiON is the midrange SAN platform that EMC acquired from Data General in 1999 and continued to develop and promote. CLARiiON runs the *FLARE* (*Fibre Logic Array Runtime Environment*) operating environment. Celerra is the NAS platform that EMC enhanced in recent years with SAN storage access to create a unified storage platform. Celerra runs the *DART* (*Data Access in Real Time*) operating environment.

EMC watchers have noted the increasing overlap between the CLARiiON and Celerra platforms. Celerra NAS added iSCSI and then Fibre Channel SAN connectivity. CLARiiON added iSCSI to its traditional high-performance Fibre Channel SAN. At this point, a convergence of the two platforms into the one VNX unified storage family appears to be a natural evolution and culmination. By integrating the FLARE and DART, the VNX series inherits two solid and proven operating environments to deliver a best-of-both-worlds solution.

[1] VNXe3100 has an option for one controller. VNXe3300 comes with two controllers only.

[2] Snapshots are included in the base software for the VNXE3100. Snapshots are bundled in the optional Total Protection Pack for the VNXe3300.

Exhibit 1 — VNXe Models and Specifications

Model	# of Storage Controllers	# of Drives	Drive Types	Max. Capacity	Max. Host Ports	Storage Protocols	Enclosure Size
VNXe3100	1 or 2	6 to 96	• 300 GB, 600 GB SAS; • 1 TB, 2 TB NL-SAS	192 TB	• 4 x GbE	• iSCSI, • CIFS, • NFS	2U
VNXe3300	2	7 to 120	• 300 GB, 600 GB SAS; • 1 TB, 2 TB NL-SAS	240 TB	• 8 x GbE	• iSCSI, • CIFS, • NFS	3U

Source: EMC

Warranty and Pricing

The VNXe3100 includes a 3-year basic warranty with next-business day parts replacement and 5 days by 9-hour support. The VNXe3300 includes a 3-year enhanced warranty with next-business day onsite support and 24x7 remote support.

Pricing starts at $9,499 for an entry-level system configuration, which is value-priced for storage solutions in this range. EMC has assembled an extensive channel program for the VNXe, so it will likely be available through your preferred reseller or VAR.

Conclusion

The EMC VNXe unified storage platform has a combination of price, features, and ease of use that will make it popular among small and midsized businesses and branch offices of large organizations. If your organization has moderate-to-middling capacity requirements and needs a solid storage platform to support your applications and users without much hassle, consider the new VNXe.

About The Clipper Group, Inc.

The Clipper Group, Inc., is an independent consulting firm specializing in acquisition decisions and strategic advice regarding complex, enterprise-class information technologies. Our team of industry professionals averages more than 25 years of real-world experience. A team of staff consultants augments our capabilities, with significant experience across a broad spectrum of applications and environments.

- ***The Clipper Group can be reached at 781-235-0085 and found on the web at www.clipper.com.***

About the Author

Michael Fisch **is a Senior Contributing Analyst for The Clipper Group.** He brings 15 years of experience in the computer industry working in marketing, sales, and engineering, the last nine of which he has been an analyst with Clipper. Before Clipper, Mr. Fisch worked at EMC Corporation as a marketing program manager focused on service providers and as a competitive market analyst. Before that, he worked in international channel development, manufacturing, and technical support at Extended Systems (since acquired by Sybase). Mr. Fisch earned an MBA from Babson College and a Bachelor's degree in electrical engineering from the University of Idaho.

- ***Reach Michael Fisch via e-mail at mike.fisch@clipper.com at 781-235-0085 Ext. 211. (Please dial "211" when you hear the automated attendant.).***

Regarding Trademarks and Service Marks

Disclosure

Officers and/or employees of The Clipper Group may own as individuals, directly or indirectly, shares in one or more companies discussed in this bulletin. Company policy prohibits any officer or employee from holding more than one percent of the outstanding shares of any company covered by The Clipper Group. The Clipper Group, Inc., has no such equity holdings.

After publication of a bulletin on *clipper.com*, The Clipper Group offers all vendors and users the opportunity to license its publications for a fee, since linking to Clipper's web pages, posting of Clipper documents on other's websites, and printing of hard-copy reprints is not allowed without payment of related fee(s). Less than half of our publications are licensed in this way. In addition, analysts regularly receive briefings from many vendors. Occasionally, Clipper analysts' travel and/or lodging expenses and/or conference fees have been subsidized by a vendor, in order to participate in briefings. The Clipper Group does not charge any professional fees to participate in these information-gathering events. In addition, some vendors sometime provide binders, USB drives containing presentations, and other conference-related paraphernalia to Clipper's analysts.

Regarding the Information in this Issue

The Clipper Group believes the information included in this report to be accurate. Data has been received from a variety of sources, which we believe to be reliable, including manufacturers, distributors, or users of the products discussed herein. The Clipper Group, Inc., cannot be held responsible for any consequential damages resulting from the application of information or opinions contained in this report.