

## EMC Celerra Family Specifications November 2007

**Celerra** is the family name for [EMC's](#) Network Attached Storage ([NAS](#)) products. It comes in either a gateway or integrated configuration in 3 different models. Physically, a Celerra system occupies from 2U up to a full standard size rack enclosure and consists of one or two Celerra Control Stations, (1U servers running EMC's hardened [Linux](#) variant), and one or more Celerra X-Blades (also called Data movers,) which are the "NAS heads" running the DART (Data Access in Real Time) operating system that serve data.

The Celerra can be attached to one or more EMC storage systems, either the [CLARiiON](#) or [DMX](#). The Celerra X-Blades are themselves SAN-attached to the storage system and take the place of an actual SAN attached file server; they then present file shares to the network environment using [CIFS](#), [NFS](#), or [FTP](#). For high performance applications [EMC Celerra Multi-Path File System \(MPFS/MPFSi\)](#) can be used. Beside the file sharing capabilities the Celerra can also provide [iSCSI LUNs](#). The Celerra Data Movers have multiple copper gigabit Ethernet ports (some have optical gigabit Ethernet ports), for handling requests from multiple customer VLANs; Multiple HBAs, for storage access or for backup traffic using [NDMP](#). Depending on model, each data mover can typically control up to 36 [TB](#) of [FC](#) and [ATA](#) disk before beginning to degrade in responsiveness. A fully-built Celerra NSX can present a maximum of approximately 168 terabytes of storage and support thousands of simultaneous connections to users; to expand beyond this, multiple Celerras can be managed as a single system.

The X-Blades have no administrative services presented on their customer-facing network interfaces; they are administered by the control station via a private back-end network. All administration is done through a Java-based graphical web interface, running on the control station, or through an SSH or telnet connection to the control station. This enhances the Celerra's security by effectively separating the administrative interface (control station) from the X-Blades, thus making it harder to exploit any security flaws in the DART OS and gain unauthorized access to the hosted data. The Celerra uses an external anti-virus server to check the Data Movers files, to prevent performance degradation normally associated with using an anti-virus product on a busy file server. The Celerra Anti-virus Agent server (CAVA) fulfills this role by securing a tunnel between the X-Blade and the anti-virus server.

### EMC Celerra Systems: How They Compare

IP Storage Systems



EMC Celerra NS Series/Integrated



EMC Celerra NS



EMC Celerra NSX Gateway

**Series/Gateway**

<b>Applications profile</b>	Distributed file server environments with specific performance, availability, and scalability requirements in a multi-protocol environment where SAN infrastructure is not a requirement	Environments with existing SAN infrastructure, growing deployments of file servers, and specific multi-protocol performance, availability, and scalability requirements	Data center-class server environments that require the highest levels of performance, scalability, and availability to support high-performance file-serving applications
<b>NAS servers</b>	<p><b>NS20</b></p> <p style="padding-left: 40px;">1-2 Blades</p> <p><b>NS40</b></p> <p style="padding-left: 40px;">1-2 Blades</p> <p><b>NS80</b></p> <p style="padding-left: 40px;">2-4 Blades</p>	<p><b>NS40G</b></p> <p style="padding-left: 40px;">1-2 Blades</p> <p><b>NS80G</b></p> <p style="padding-left: 40px;">2-4 Blades</p>	<p><b>NSX</b></p> <p style="padding-left: 40px;">4-8 Blades</p>
<b>Packaging</b>	Integrated solution with up to 4 X-Blades and CLARiiON storage	Gateway solution with up to 4 X-Blades	Enterprise gateway solution with 4 to 8 X-Blades
<b>Number of control stations</b>	1 (1-2 for NS80)	1 (1-2 for NS80G)	2

<b>Maximum storage capacities</b>	<b>NS20</b>	<b>NS40G</b>	<b>NSX</b>
	Up to 32 TB usable (16 TB maximum per active data blade), FC and ATA drives	Up to 48 TB usable (24 TB maximum per active data Blade), FC and ATA drives	Up to 224 TB usable (32 TB maximum per active data Blade), FC and ATA drives
	Up to 60 drives raw capacity		
	<b>NS40</b>		
	Up to 48 TB usable (24 TB maximum per active data Blade), FC and ATA drives	Up to 96 TB raw based on RAID 1 configuration	Up to 448 TB raw based on RAID 1 configuration
	Up to 240 drives total raw capacity		
	<b>NS80</b>	<b>NS80G</b>	
	Up to 96 TB usable (32 TB maximum per active data Blade), FC and ATA drives	Up to 96 TB usable (32 TB maximum per active data Blade), FC and ATA drives	
	Up to 480 drives raw capacity	Up to 192 TB raw based on RAID 1 configuration	

<b>Network access</b>	<b>NS20</b>	<b>NS40G</b>	<b>NSX</b>
	4 Copper GigE ports per Blade	4 Copper GigE ports per Blade or 2 Copper and 2 Optical GigE per Blade	6 Copper and 2 Optical GigE ports per X-Blade 60 (additional 1x10 GigE Optical for X-Blade 65)
	Maximum 8 Ethernet ports	Maximum 8 Ethernet ports	Maximum 64 ports (72 ports for X-Blade 65)
	8 Optional Fibre Channel ports for host connectivity		
	<b>NS40</b>	<b>NS80G</b>	
	4 Copper GigE ports per Blade or 2 Copper and 2 Optical GigE per Blade	6 Copper and 2 Optical GigE ports per Blade (additional 1x10 GigE Optical for X-Blade 65)	
	Maximum 8 ports		
	4 Optional Fibre Channel ports for host connectivity		
	<b>NS80</b>		
	6 Copper and 2 Optical GigE ports per Blade (additional 1x10		

	GigE Optical for X-Blade 65) Maximum 32 ports (36 ports for X-Blade 65)	Maximum 32 ports (36 ports for X-Blade 65)	
<b>Network protocols</b>	NFS v2, v3, & v4, CIFS, FTP, SNMP, NDMP, NTP, SNTTP, TFTP, iSCSI, Fibre Channel Option	NFS v2, v3, & v4, CIFS, FTP, SNMP, NDMP, NTP, SNTTP, TFTP, iSCSI	NFS v2, v3, & v4, CIFS, FTP, SNMP, NDMP, NTP, SNTTP, TFTP, iSCSI
<b>Operating environments</b>	UNIX, Windows, Linux, Novell (iSCSI only), Mac (NAS only)	UNIX, Windows, Linux, Novell (iSCSI only), Mac (NAS only)	UNIX, Windows, Linux, Novell (iSCSI only), Mac (NAS only)
<b>Software</b>	EMC Celerra Anti-Virus EMC Celerra Automated Volume Management EMC Celerra Replicator EMC SnapSure EMC Celerra FileMover EMC OnCourse EMC File Level Retention EMC Celerra MPFS	EMC Celerra Anti-Virus EMC Celerra Automated Volume Management EMC Celerra Replicator EMC SnapSure EMC OnCourse EMC File Level Retention EMC Celerra MPFS	EMC Celerra Anti-Virus EMC Celerra Automated Volume Management EMC Celerra Replicator EMC SnapSure EMC OnCourse EMC File Level Retention EMC Celerra MPFS
<b>Management options</b>	EMC Celerra Manager (Basic or Advanced Edition), Microsoft Management Console, Command Line Interface (CLI)	EMC Celerra Manager (Basic or Advanced Edition), Microsoft MMC	EMC Celerra Manager (Basic or Advanced Edition), Microsoft MMC