

כנס הטכנולוגיות השנתי לניהול מידע

**Make IT Double**



יום א', 25.11.08  
Avenue, Airport City

## EMC Celerra NS-120 and NS-480

Simple and Reliable Unified Storage  
with Advanced Functionality

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Sr. Technology Consultant  
EMC



# IT Challenges



- Gain control over a distributed environment
- Rein in spending on servers and storage
- Improve backup and restore
- Increase availability and provide disaster recovery
- Investment protection



# Information Challenges: Business Perspective

## Availability

I want the information  
when I need it



## Simplicity

I want to use information,  
not have to hire multiple  
specialists to manage it

## Scalability

How can I react quickly  
enough to changing business  
requirements?

## Costs

My information is growing at more  
than 50 percent per year, but I cannot  
afford a 50 percent increase in costs

# Information Challenges: IT Perspective



## Backup

Backup windows keep growing, recovery takes longer, and it's too expensive to keep adding backup hardware and software



## Consolidation

I want to consolidate distributed file servers and application data onto a centralized storage solution to drive down costs



## Flexibility

The solution needs to leverage my current infrastructure and adapt to tomorrow's technology



## Disaster Recovery

I need to protect these critical assets just like everything else



# Storage and File Server Consolidation

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## Increase storage utilization

- Scale servers separately from storage
- Allocate storage to applications when needed

## Improve backup and restore

- Eliminate downtime caused by backups
- Dramatically reduce recovery time

## Raise availability

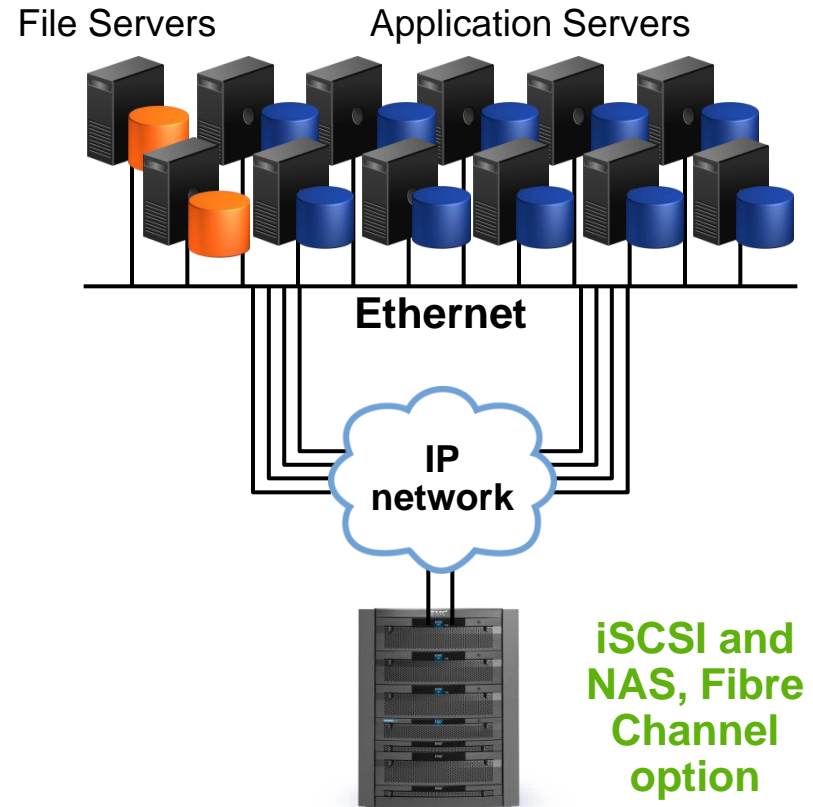
- Local replication
- Disaster recovery

## Provide flexibility

- Leverage storage replicas for testing
- Fibre Channel option

## Enable virtualization

- Eliminate servers
- Improve utilization



**Eliminate “islands of storage” and physical servers using a unified storage solution**



# Improve Backup and Restore

## Centralized backup is nondisruptive

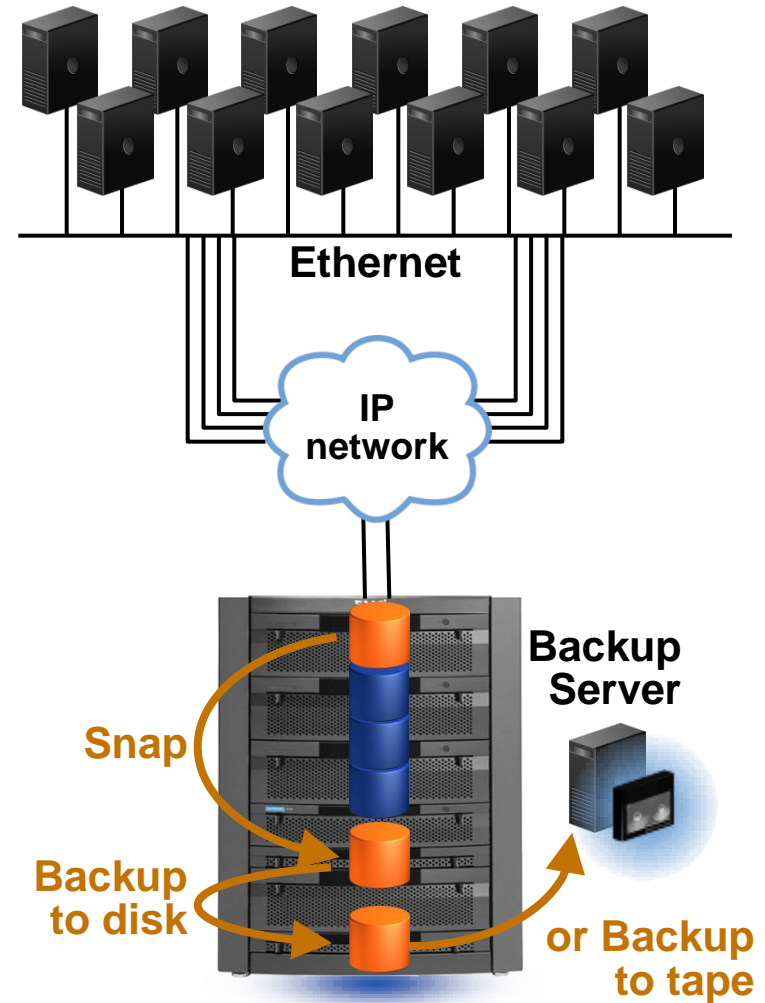
- Backups performed on snapshots, not production
- No network impact
- Eliminate backup window—improves service level agreements

## Dramatically reduce recovery time

- Restore in minutes instead of hours
- Back up incremental to ATA for fast recovery
- Back up to tape weekly

## Centralized backup lowers total cost of ownership

- Reduced number of tape drives
- Reduced backup software licenses





# Implement Disaster Recovery

Complete copy of your data in another location

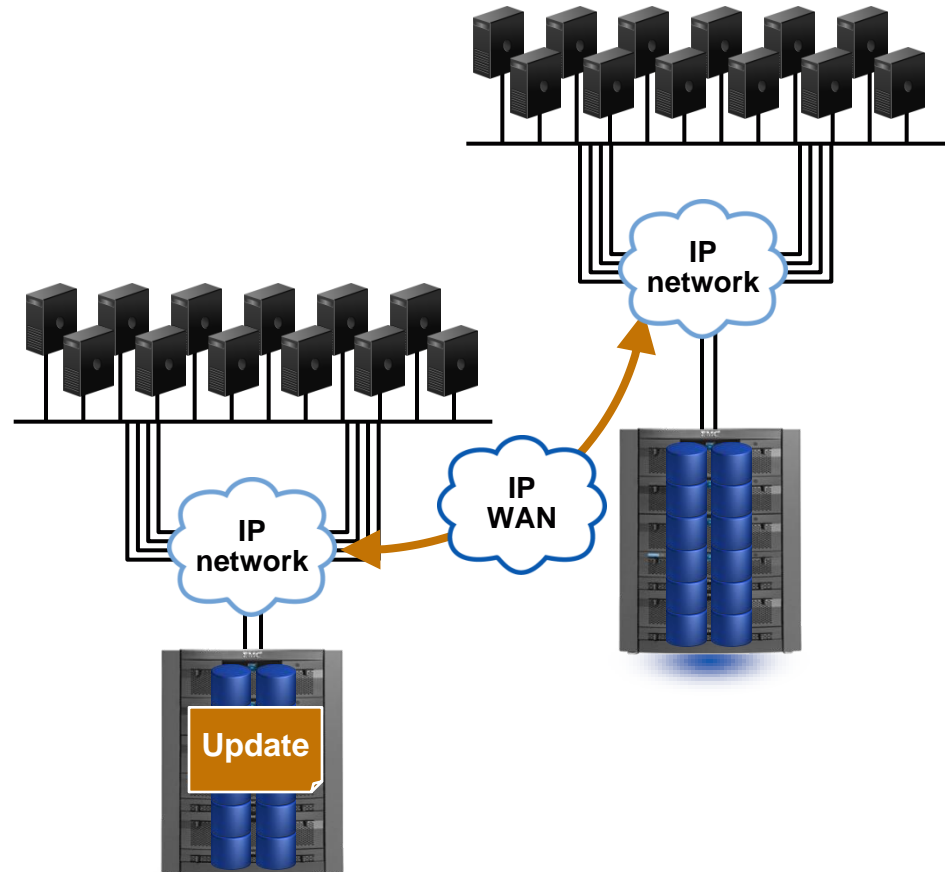
- Business continuity—fast restore to full operation

Minimize lost production time

- Restore from offsite tapes can take weeks

Leverage second site for...

- Application testing, development, and training (productive protection)
- Relocate your tape backups to a second site





# Celerra NS-120 and NS-480 Unified Storage Platforms



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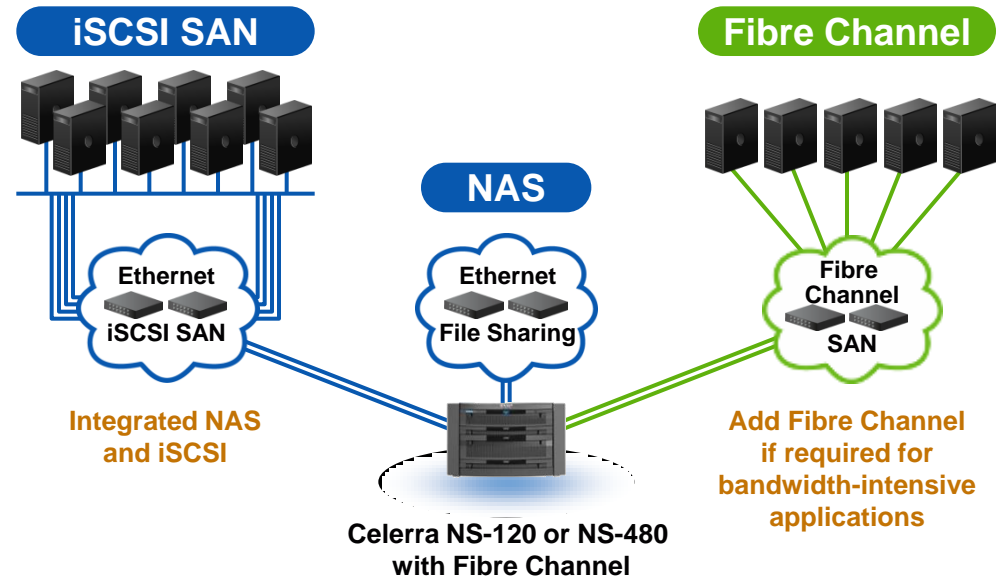
Integrated NAS, iSCSI, Fibre Channel

## Benefits

- Storage and file server consolidation via existing IP skills
- Extends consolidation benefits to stranded servers
- Option to leverage Fibre Channel as needed

## Ideal when you have:

- Multiple Windows and UNIX/Linux file servers
- Exchange, SQL, Oracle application servers
- Web servers
- Virtual Server environments



## Celerra NS-120

Four or eight IP ports  
Eight Fibre Channel ports  
Scalable to 120 drives  
64 high-availability hosts

## Celerra NS-480

- Eight IP ports
- Eight Fibre Channel ports
- Scalable to 480 drives
- 64 high-availability hosts



# Celerra NS-120 and NS-480 Features



## NAS plus iSCSI

- VMware certified
- Microsoft-certified iSCSI
- Upgradeable to Fibre Channel

## Fibre Channel connectivity

- **NS-120:** Eight optional Fibre Channel host connections, access capacity to 120 disks
- **NS-480:** Eight optional Fibre Channel host connections, access capacity to 480 disks

## Integrated high availability

- Dual blades with automatic failover
- Dual storage processors

## Simplified installation

- Celerra Startup Assistant
- Celerra Tools Web page on EMC Powerlink
- Installation placemat

## Support Options

- Enhanced, Premium



### Each Celerra NS-120 blade:

Dual 2.8 GHz processors  
Four 10/100/1000 Ethernet ports  
32 TB usable NAS plus iSCSI capacity



### Each Celerra NS-480 blade:

Dual 2.8 GHz processors  
Four 10/100/1000 Ethernet ports  
64 TB usable NAS plus iSCSI capacity



# Celerra NS-120 and NS-480 Simplified Installation



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## 10-Screen Installation

- Celerra Startup Assistant
- Software pre-loaded
- Cable setup verification
- Celerra Tools Web page on EMC Powerlink

The image shows two overlapping windows. The top window is the 'Celerra Startup Assistant' application, which displays a 'Welcome' screen. The text on the screen reads: 'Welcome to Celerra Startup Assistant', 'Thank you for purchasing a Celerra IP Storage System from EMC Corporation!', and 'At this point your Celerra should be:'. A 'Steps:' list on the left includes 'Welcome', 'Initialization', 'Health Check', 'Mount', and 'Pre-'. The bottom window is a web browser displaying the 'EMC Powerlink' website. The browser's address bar shows 'http://www.emc.com'. The website's navigation menu includes 'Products', 'Support', 'Services', 'Training', and 'Solutions'. The main content area is titled '\S20 Celerra Tools' and contains a table of links organized into four quadrants: 'Plan', 'Install', 'Maintain', and 'Support'. The 'Plan' quadrant includes links for 'Pre-sales Planning Tools', 'Hardware Information', 'EMC Interoperability Navigator', 'Course Training', 'Documentation', and 'Course Simulator'. The 'Install' quadrant includes links for 'Installation Overview', 'Step 1: Order Product and Prepare site', 'Step 2: Assemble Product or Site', 'Step 3: Install with Celerra Startup Assistant', 'Step 4: Register with Service Provider', 'Step 5: Update/Enable Software', 'Step 6: Configure Additional Hosts', 'Step 7: Configure for Production', and 'Reporting Missing Parts'. The 'Maintain' quadrant includes links for 'Access Celerra Forum', 'Upgrade Celerra', and 'Replace Failed Hardware'. The 'Support' quadrant includes links for 'Support Policy', 'Troubleshooting', 'Open a Service Request', 'Celerra Technical Advisories / Alerts', and 'Search EMC Knowledgebase'.

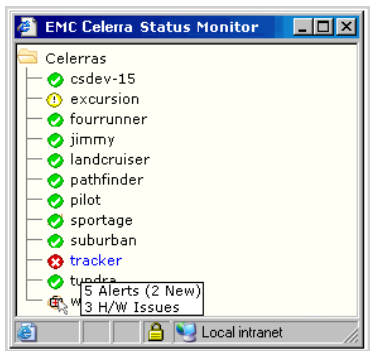


# Celerra NS-120 and NS-480: Ease-of-Use Capabilities



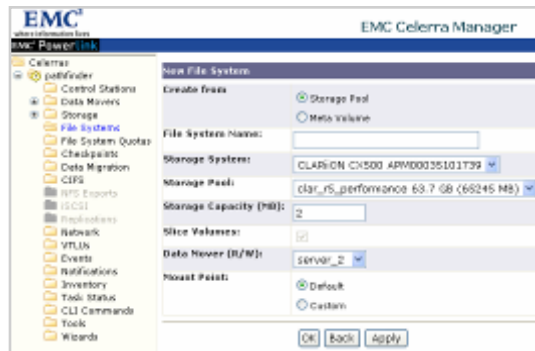
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**Intuitive Web-based management**



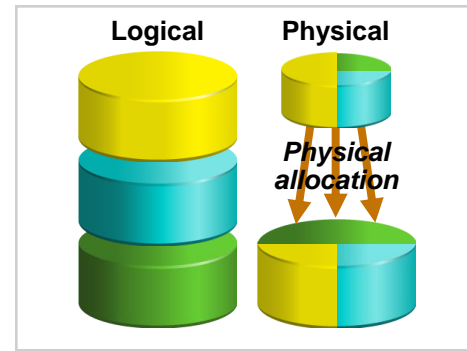
**Celerra Manager**

**Provision file systems in four clicks**



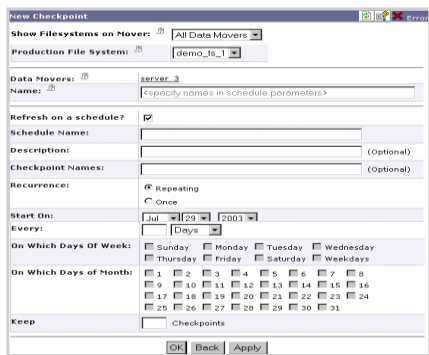
**Automated Volume Management**

**Built-in Thin Provisioning**



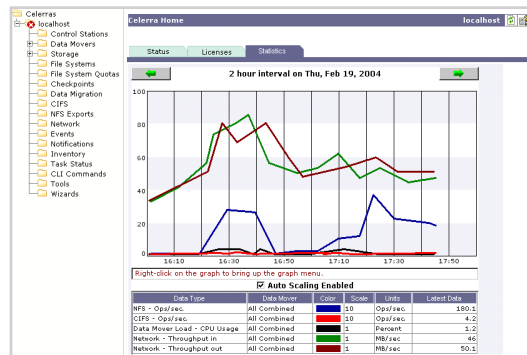
**Celerra Virtual Provisioning**

**Simple snaps**



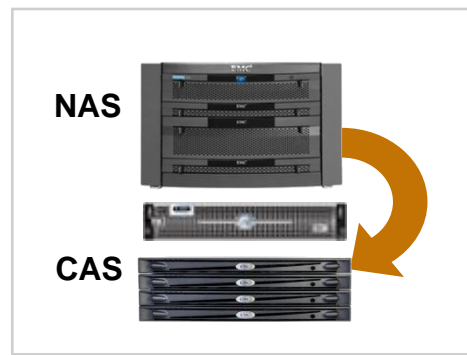
**Celerra SnapSure**

**At-a-glance system status**



**Celerra Monitoring**

**Move and migrate online**



**Celerra FileMover**



# CLARiiON CX4 Series Advanced Functionality inside



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Available to Fibre-Channel Attached Hosts

## UltraFlex technology

Dual protocol, hot pluggable, and future-ready

## Concurrent local and remote (CLR) replication

Integrated RecoverPoint splitter to simplify deployments

## Drive Spin Down, low power SATA II drives, Adaptive Cooling

New energy-efficiency technologies

## 64-bit FLARE and multi-core processors

Up to twice the performance and scale

## Flash drives

Tier "0" storage with 30 times more IOPS

## Virtual Provisioning

Increased utilization and easy provisioning



**Celerra NS-120**



**Celerra NS-480**



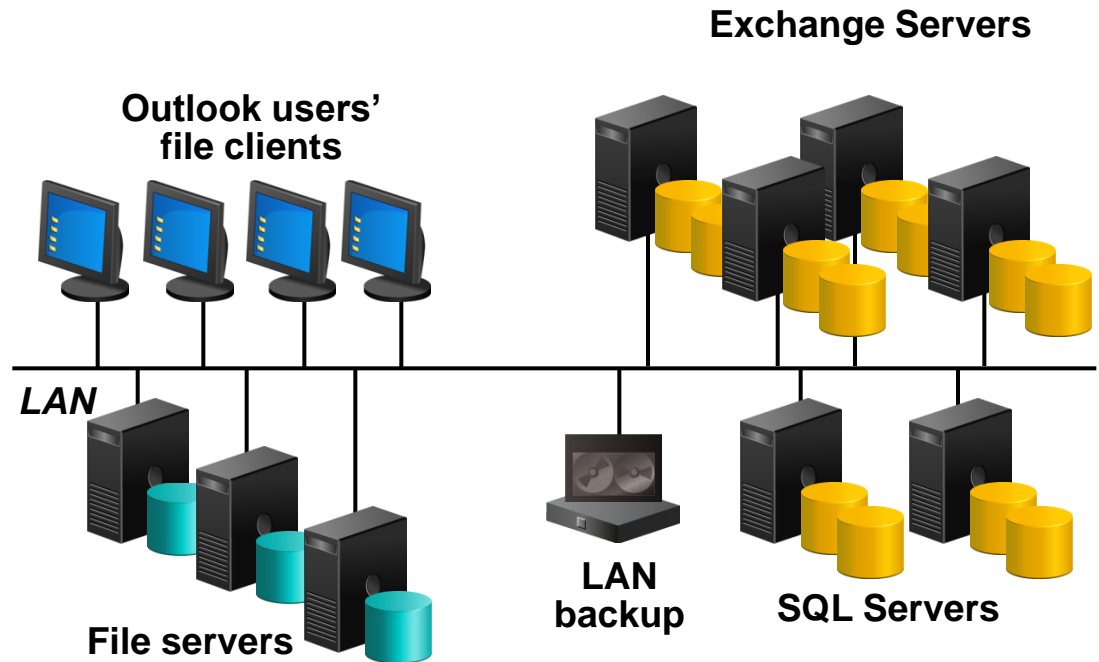
# Application and File Servers: *Before*

## Current deployment

- Several thousand mailboxes on multiple Exchange servers
- Multiple file servers
- NFS and/or CIFS clients
- Terabytes of direct-attached storage

## Issues

- Poor utilization
- Difficult to scale
- High management cost
- Inefficient backups





# Application and File Servers: *After*

EMC<sup>2</sup>  
where information lives<sup>®</sup>

vmware<sup>®</sup>

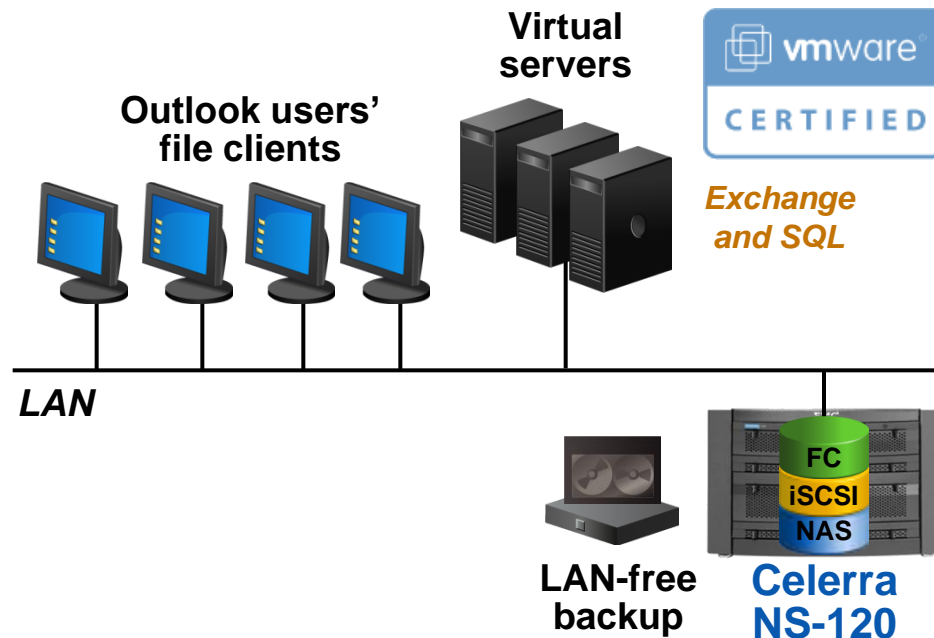
USE CASE

## Celerra unified storage consolidation with server virtualization

- Consolidated all servers
- Consolidated all storage
- Eliminated all file servers

## Benefits

- Improved utilization
- Improved data availability
- Leverages the existing LAN infrastructure
- Simplified management
- LAN-free backups
- Lower total cost of ownership
- Utilize server virtualization



**Add Fibre Channel if required for bandwidth-intensive applications**



# Celerra NS-120 and NS-480 Support Option Choices



## Enhanced

Three-year Enhanced warranty includes 5x9, next-business-day, onsite response; customer replacement of specified parts; and around-the-clock remote technical support

## Premium

Upgrade to Premium Support Option for 7x24 mission-critical coverage, four-hour response objective, and EMC replacement of all parts

Available Professional Services include installation and implementation

## Flexibility to match Support Option to your requirements



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# Celerra NS-120 and NS-480 Support Options



Three-Year "Enhanced" Warranty Included

	PREMIUM	
<b>Onsite Support</b>	Installation of operating system updates	<b>ENHANCED</b>
	Installation of replacement parts	
	4-hour onsite response for hardware	
<b>Proactive Service</b>	Root-Cause Analysis	Next business day: onsite response for hardware
	Secure Remote Support	Monitoring for hardware
	Critical Account Case Escalation Management	
<b>Technical Support</b>	7x24 hardware and software technical support and remote troubleshooting	
	Cooperative Support	Escalation Processes
	Customer Managed	Case Severity Level
<b>Secure Self-Help</b>	7x24 access to Powerlink eService support tools	
	<b>Mission-Critical Support</b>	<b>Rapid Resolution</b>



# EMC Celerra Family

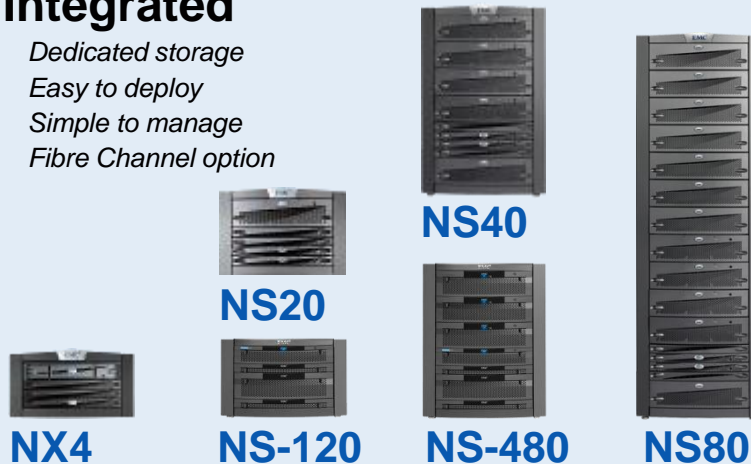
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## The Industry-Leading IP Storage Platform



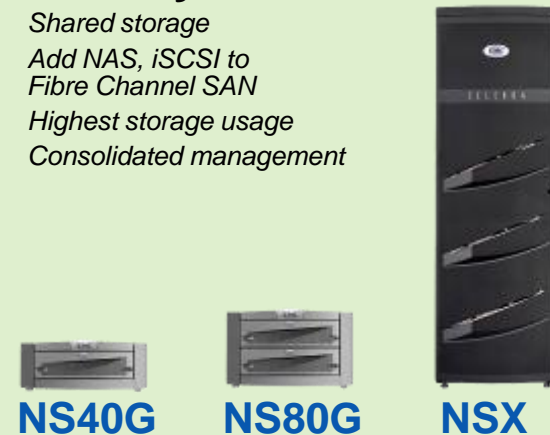
### Integrated

Dedicated storage  
Easy to deploy  
Simple to manage  
Fibre Channel option



### Gateway

Shared storage  
Add NAS, iSCSI to  
Fibre Channel SAN  
Highest storage usage  
Consolidated management



	NX4	NS-120	NS-480	NS80	NS40G	NS80G	NSX
<b>Availability</b>	Failover	Failover	Failover	Advanced clustering	Failover	Advanced clustering	Advanced clustering
<b>Number of blades</b>	1 or 2	1 or 2	1 or 2*	2-4	1 or 2	2-4	4-8
<b>Connectivity</b>	NAS, iSCSI, Fibre Channel option	NAS, MPFS, iSCSI, Fibre Channel option	NAS, MPFS, iSCSI, Fibre Channel option	NAS, iSCSI, Fibre Channel option	NAS, MPFS, iSCSI, Fibre Channel	NAS, MPFS, iSCSI, Fibre Channel	NAS, MPFS, iSCSI, Fibre Channel
<b>Storage</b>	CLARiiON	CLARiiON	CLARiiON	CLARiiON	CLARiiON, Symmetrix	CLARiiON, Symmetrix	CLARiiON, Symmetrix
<b>Maximum usable IP storage capacity (blade/system)</b>	16 TB/ 32 TB	32 TB/ 64 TB	64 TB/ 128 TB	128 TB/ 384 TB	64 TB/ 128 TB	128 TB/ 384 TB	128 TB/ 896 TB

\* NS-480 supports dual blade only



# Why EMC Celerra

## CELERRA IP Storage Leadership



## #1 in NAS

(IDC, Q1 2008)

### No-compromise availability

- Five 9s (99.999 percent) availability, integrated advanced clustering, managed as a single device

### Advanced functionality at no extra cost

- Most comprehensive suite of built-in features

### Price/performance leadership

- Up to 46 percent better price/performance

### Improved performance over traditional NAS

- Patented Celerra Multi-Path File System (MPFS) combines iSCSI/Fibre Channel with file serving to deliver accelerated performance for clients

### Advanced information lifecycle management for IP networks

- File server consolidation, file virtualization, file archiving, network management, policy-based management

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