

Divide and Conquer

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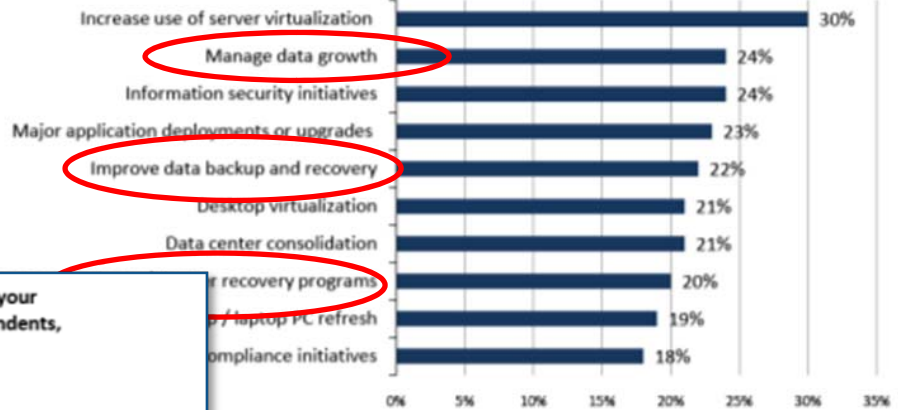
Quantum®



Performance and Productivity Problems

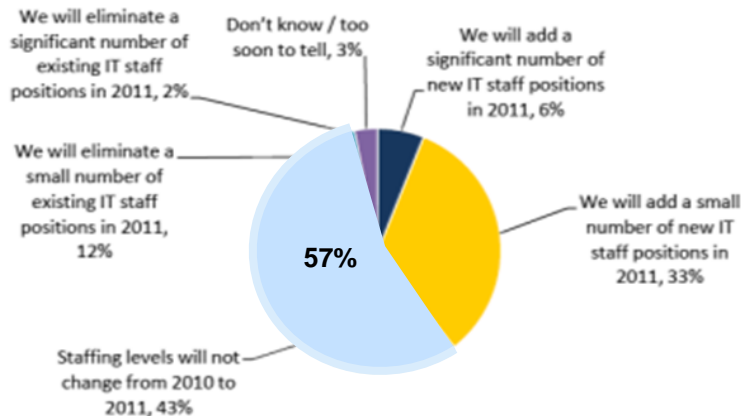
Backing up growing data
is top priority across
the industry

Which of the following would you consider to be your organization's most important IT priorities over the next 12-18 months? (Percent of respondents, N=611, ten responses accepted)



Source: Enterprise Strategy Group, 2011.

Which of the following do you think best describes the changes – if any – in your organization's 2011 total IT staffing level compared to 2010? (Percent of respondents, N=561)



Source: Enterprise Strategy Group, 2011.

But most IT departments
won't have any more
people

And there aren't any more hours in a day

Typical Complaints



What We Usually Call Backup Has Looked Like

Which is more important:
DR Recovery points....Or
restore response?

Division



Remote



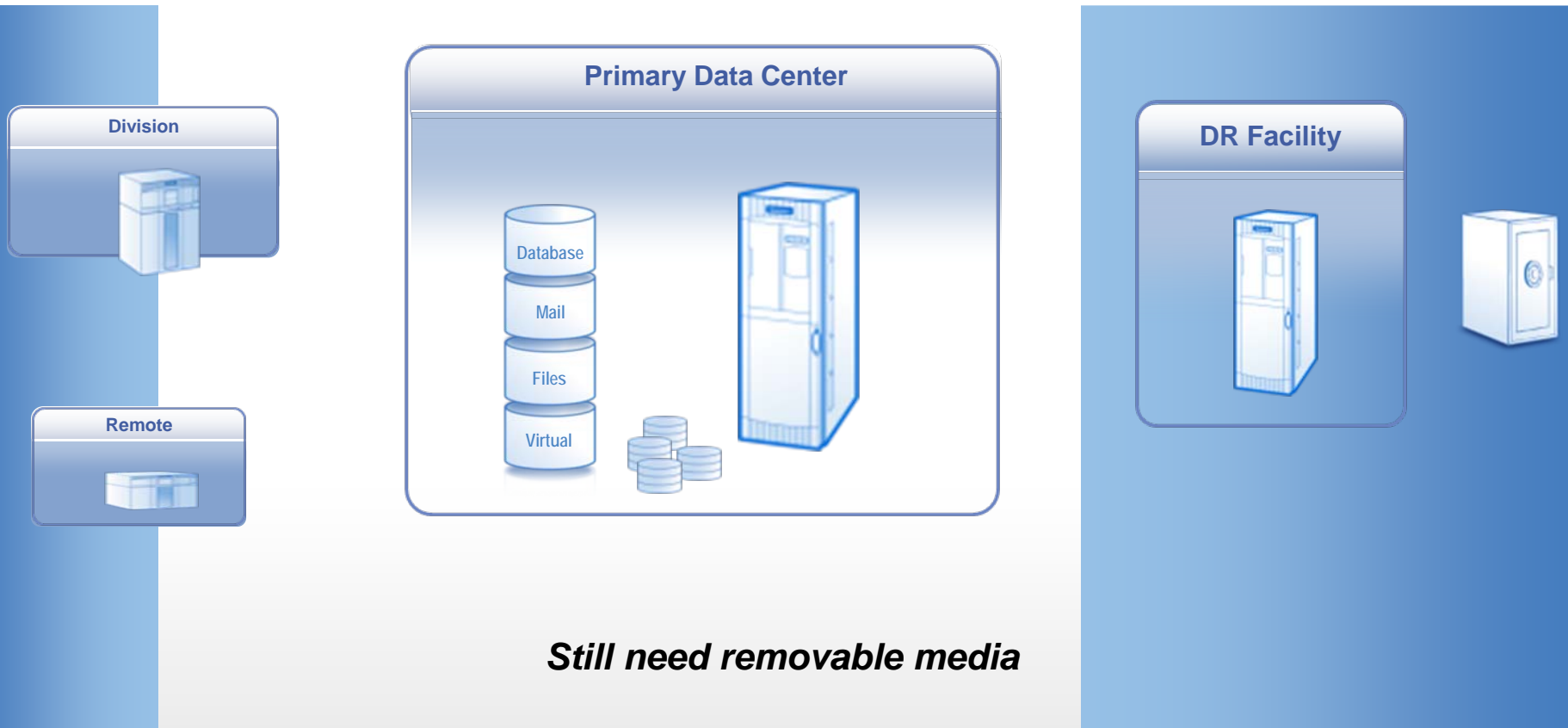
DR Facility



Isolated sites

|

Effect of Adding Disk



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Let's Divide Backup into Four Related Tasks

Backup

Restore

Off-site DR

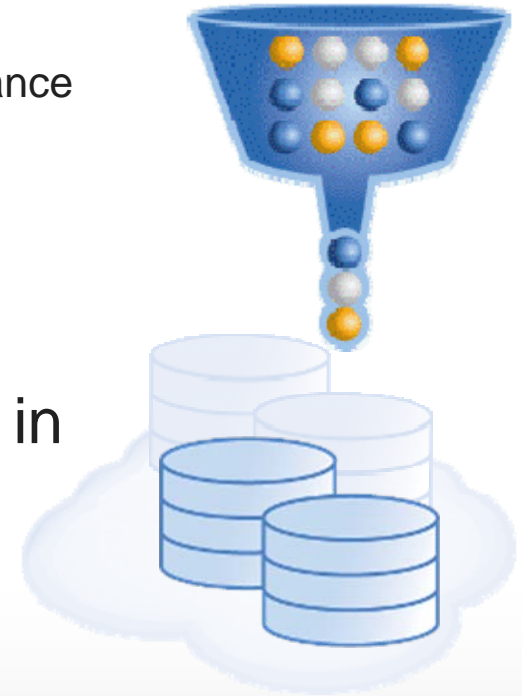
Long Term
Retention

How Traditional Backup Treats Those Tasks

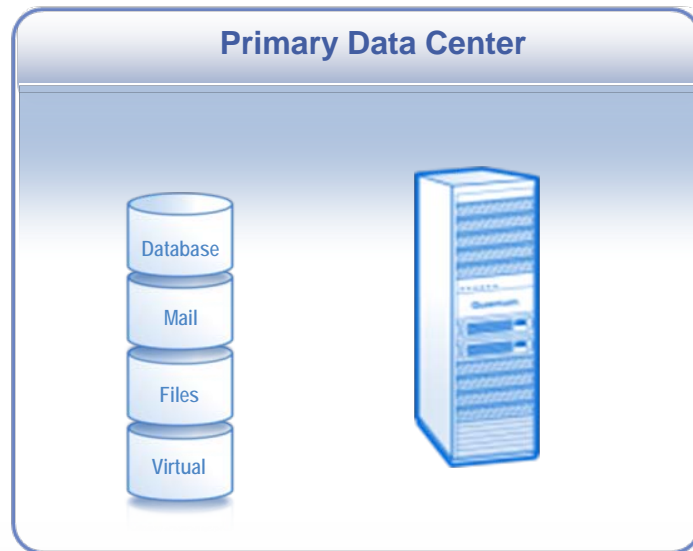
	Backup	Restore	DR Off-site	Retention
Traditional Backup	Local tape	Local or remote tape	Transported media	Subset of transported media
Add disk layer	Local disk—and usually tape	Local disk or remote tape	Transported media	Subset of transported media

Deduplication Is Changing the Options

- Based on sub-file data blocks
 - More powerful than whole-file approaches, like single-instance store, or fixed block approaches
- When a block is repeated, only a pointer is stored or transmitted
- Most effective finds variable-sized blocks in different locations, across different files, over an extended time period
- Changes role of disk
- Enables replication of backup data

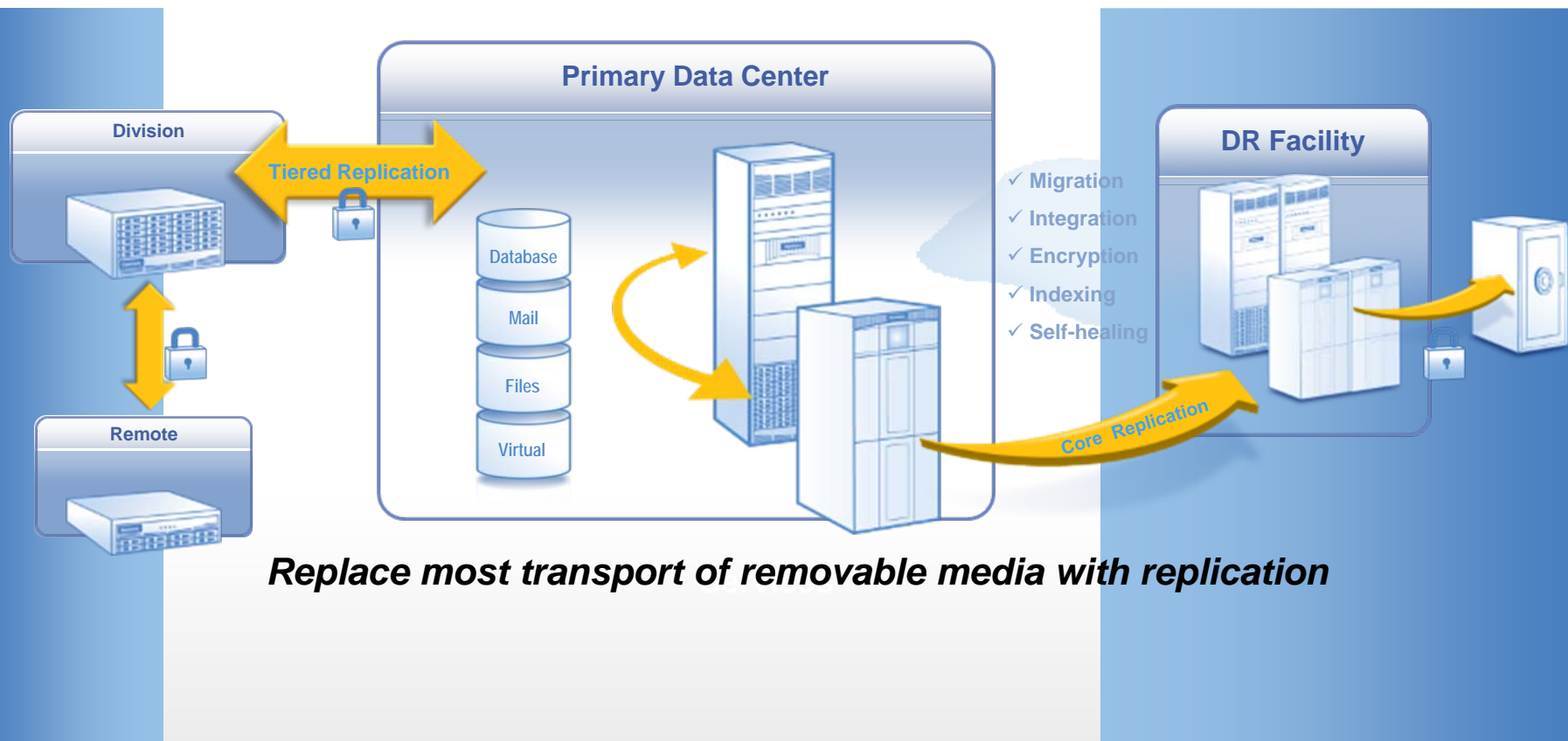


Effect of Adding Dedupe Disk on Backup/Restore



***Increase disk capacity for backups by factor of 10, 20, 30
Backups now stay on disk for months***

The Effect of Adding Deduplication and Replication



Adding the Dedupe Appliance Alternative

	Backup	Restore	DR Off-site	Retention
Traditional Backup	Local tape	Local or remote tape	Transported media	Subset of transported media
Add disk layer	Local disk—and usually tape	Local disk or remote tape	Transported media	Subset of transported media
Add dedupe appliances	Local disk	Local disk	Replicated files	Transported media

Common to see retention copies written to tape monthly

What Kinds of Outcomes to Expect

DXi Appliance Survey Results

125% average performance increase

87% average reduction in failed backups

48% average reduction in total media purchases

97% average reduction in tape recall costs

63% average reduced backup management time

Note: Results include non-replicating customers

“We have more than tripled our backup speeds...and since we have implemented the DXi solution, every night has been a successful backup.”

-DXi customer, Medical Association

“Our backups complete in minutes instead of hours...I have complete confidence that the data is there and I can restore anything in minutes”

-DXi customer, US Military

“We’re saving over \$130,000 per year.”

-DXi customer, Municipal Government

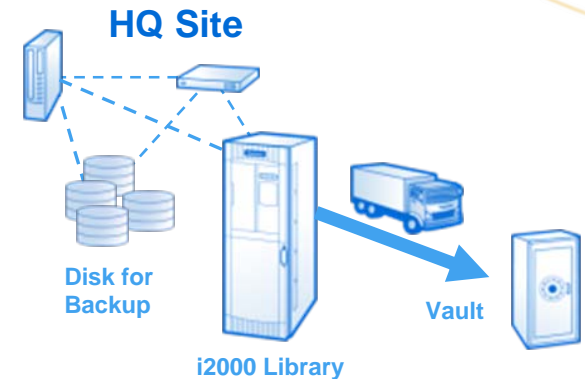
Dedupe Appliance Case Study

■ Original Approach & Challenges

- Single site backup to disk, copy to tape
- Limited restore capacity & DR capability
- Cost of plain disk for backup was untenable

■ Business Objectives

- Reduce media management & increase security
- Retain more on disk without the primary storage costs
- Deploy 2nd site to meet new SLAs and avoid human intervention

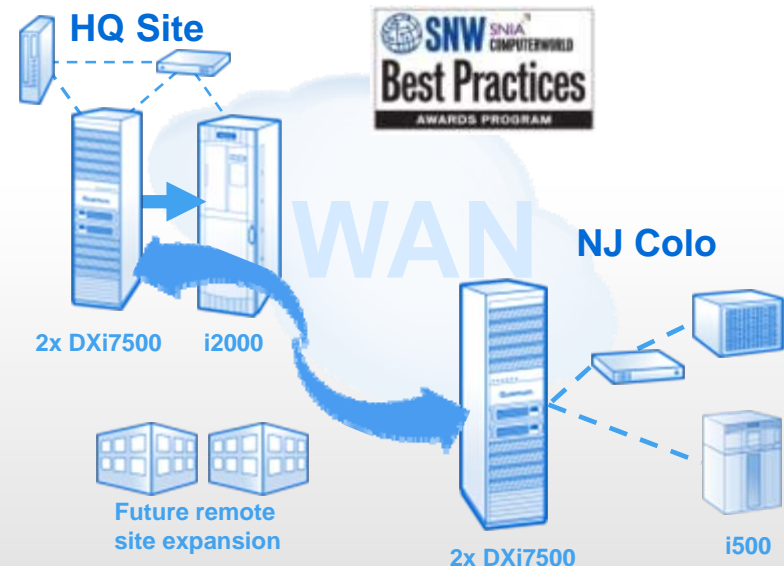


■ Solution with DXi dedupe appliances

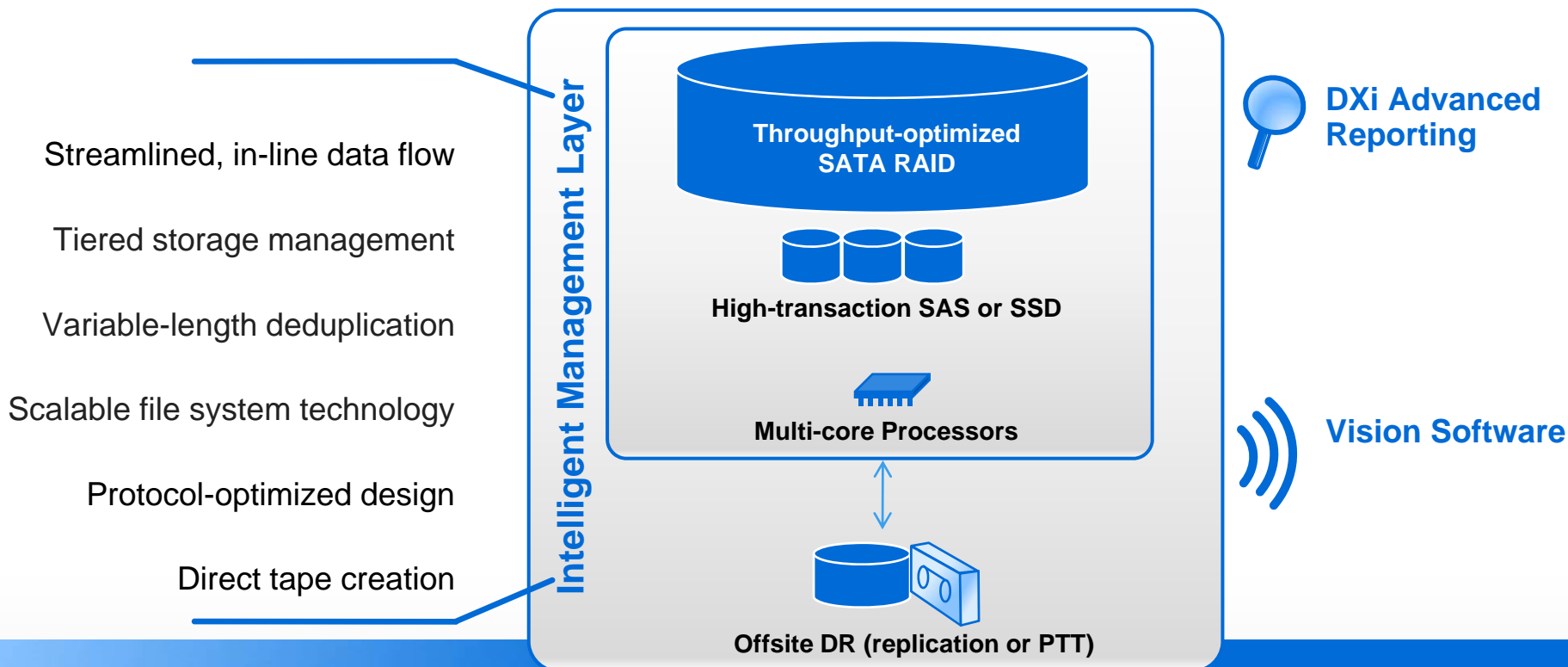
- Four DXi7500's (66TB) replicating in pairs
- i2000 at primary site, i500 at 2nd site
- Q-EKM tape encryption & key management
- Added NJ lights-out hot site for HA apps and DR

■ Results

- 77% reduction in media costs
- Eliminated risk associated with tapes in transit
- 85% reduction in management hours
- 68% offsite storage cost reduction
- ROI in 12 months



Quantum Deduplication: Purpose-Built, Performance Optimized Appliances



Integrates advanced hardware and software technology to **maximize performance, scalability, and disk savings**, while reducing complexity for customers

Quantum DXi-Series Overview

DXi systems share a common software foundation for ease of use and interoperability across customer environments.



DXi4500

For remote offices and smaller data centers



DXi6000 Appliances

For midrange deduplication



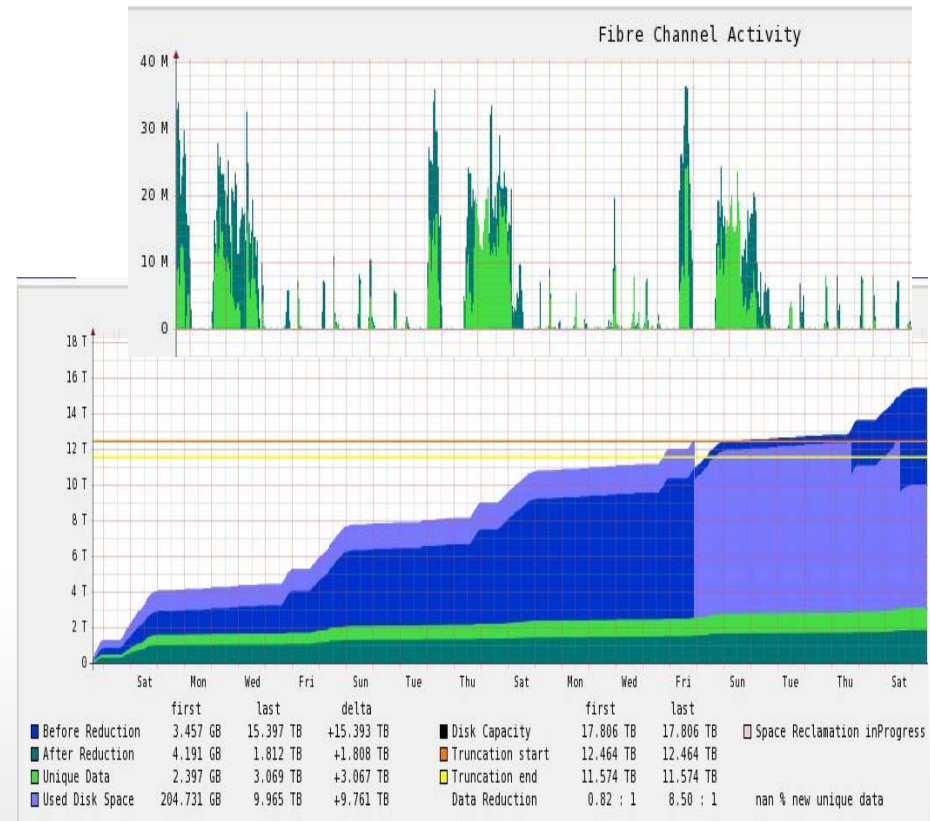
DXi8500

For demanding enterprise data centers

	DXi4500	DXi6000 Appliances	DXi8500
Capacity (TB)	2.2 or 4.4	8 to 56 (6500) 24 to 56 (6700)	20 to 200
Performance	Up to 1.7 TB/hr	Up to 4.6 TB/hr	Up to 6.4 TB/hr
Presentations	NAS & OST	NAS & OST (6500), VTL (6700)	NAS, VTL, OST
Software licenses	All relevant software licenses included		

DXi Advanced Reporting: Onboard Intelligence for Smarter Operations, Lower Costs

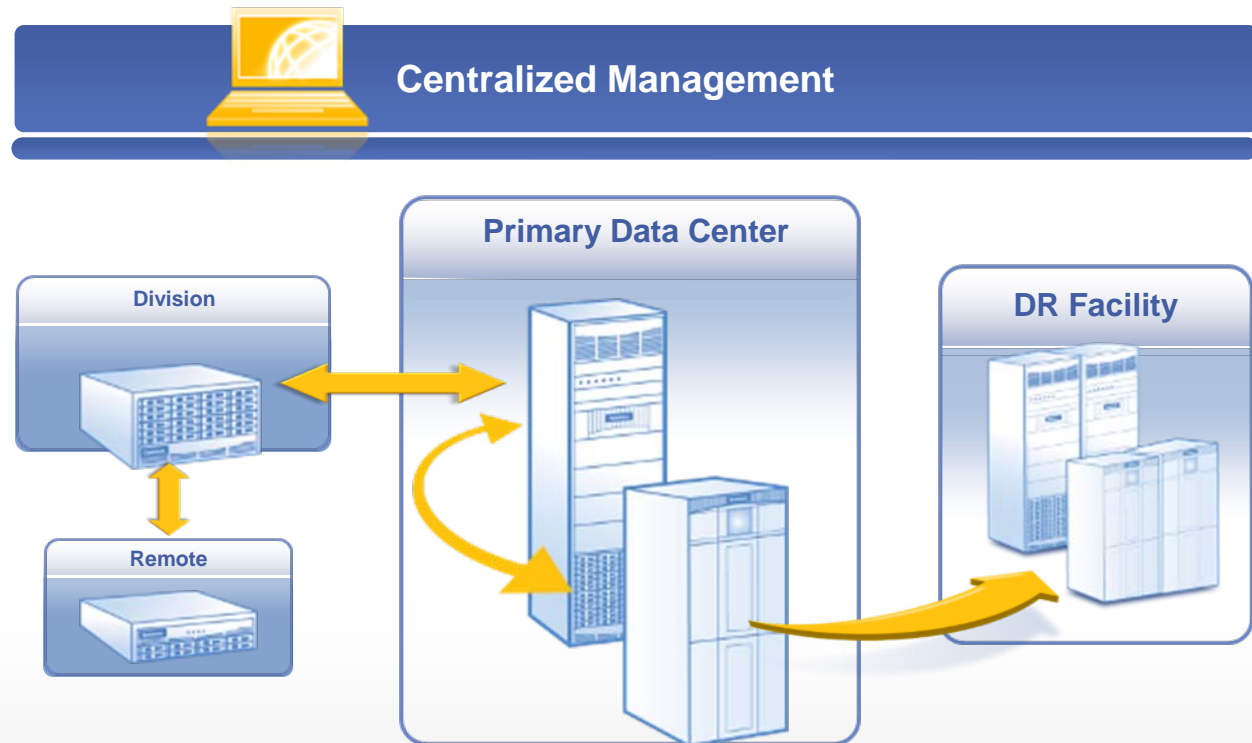
- Standard on all DXi-Series solutions
- Detailed operational views
- Flexible trend analysis
- Maximize system value
 - Chart deduplication performance
 - Support performance tuning
 - Optimize capacity planning
 - Streamline troubleshooting



Quantum Vision 4.0

Central Console for Global Management of Disk and Tape

- **Single, at-a-glance view of global backup resources**
- **Single point of management for disk, tape, replication**
- **Proactive monitoring, alerting, and reporting in graphical form**
- **Consolidates analysis with custom reports**
 - Capacity utilization
 - Media pool analysis





Questions?