CISCO MDS 9000 NETWORK-ACCELERATED SERVERLESS BACKUP—BRIEF

Enterprises today need to back up increased amounts of data in shorter backup windows. Network-Accelerated Serverless Backup (NASB) facilitates this by shifting the data movement from multiple backup servers to the Cisco® MDS 9000 Series Multilayer Switch, enabling high-performance backups, reducing the number of unwieldy backup servers, and freeing up storage area network (SAN) resources.

HIGHLIGHTS

Reduces Capital Expenditures
Consolidates backup hardware resources and increases resource usage by minimizing number of backup servers, host bus adapters (HBAs), and burned SAN ports

Improves Backup Performance
Protects more data in smaller backup windows with purpose-built data mover ASICs in the Cisco MDS 9000

Reduces Management Costs
Simplifies the backup environment, obviating the need to manage multiple backup servers, install and replace HBAs and cabling, or upgrade backup server operating systems

Minimizes Security Risks
Simplifies policy management and reduces user errors associated with cabling, zoning, permission settings, logins, and software upgrades

Increases Operational Flexibility
Provides investment protection with standards-based Extended-Copy, facilitating backup of any Fibre Channel disk to any Fibre Channel tape

Increased amounts of data need to be backed up in shorter backup windows. With larger and faster disks holding more data, faster tape drives, and larger SAN pipes, coupled with shorter backup windows, backup environments are becoming unwieldy. Backing up your enterprise requires more and larger backup servers. In addition to the capital expense of the servers, the burning of more SAN ports, and the increase of your SAN traffic, there are additional operational expenditures in managing your backup environment.

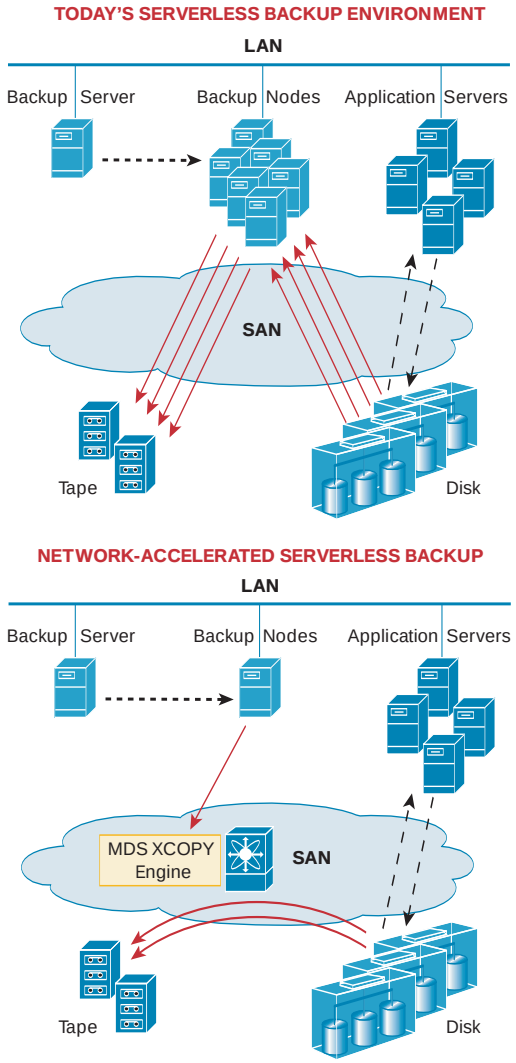
Network-Accelerated Serverless Backup (NASB) overcomes these obstacles. The following trends are accelerating the need for high-performance NASB solutions:

- Increased regulations and compliance
- Shrinking backup windows
- Faster tapes
- Backup consolidation
- Data mobility requirements to support Information Life Cycle Management

The Cisco MDS 9000 provides a high-port-count, multiprotocol, intelligent SAN solution. You can enable Cisco MDS 9000 NASB by inserting a 32-port storage services module (SSM) into any modular Cisco MDS 9000 chassis. This solution provides the scalability and the performance necessary to consolidate, simplify, and optimize your backup environment. The SSM provides data mover functionality in the SAN via standard XCOPY engines.

Figure 1 illustrates the capital expenditure savings and operational expenditure savings with NASB.

Figure 1. Comparison of Backups with and without the Cisco MDS XCOPY Engine



The primary benefits of implementing a Cisco MDS 9000 NASB solution include:

- Reduced number of servers required to perform backups
- Reduced cost and management of HBAs, cabling, OS
- Improved performance of backups
- Easy integration with the existing backup environment
- Enterprise scalability

CONSOLIDATION OF BACKUP ENVIRONMENT

To reduce the complexity and cost associated with backups, the Cisco MDS 9000 offloads the data movement from the backup servers. This significantly reduces the number of backup servers and simplifies the management and reliability of enterprise backups. The backup servers can now be purposed for other business-critical applications. Having fewer backup servers reduces the total components required for your backup environment, removing the costs associated with the HBAs and the burned ports to which they connect.

Simplifying the backup environment in turn reduces the risk associated with having too many components to manage. Fewer components simplify policy management and reduce user errors associated with cabling, zoning, permission settings, logins, and software upgrades.

Integrating the data movement into the Cisco MDS 9000 combines the backup capabilities with the intelligent SAN services inherent in the Cisco MDS 9000. You can consolidate your backup environment with the SAN extension capabilities, acceleration capabilities, and SAN routing capabilities of the Cisco MDS 9000.

OPTIMIZE PERFORMANCE

NASB is enabled by inserting a 32-port SSM into any modular Cisco MDS 9000 chassis. Each SSM contains purpose-built ASICs for data movement and provides you with the ability to move more than 5 TB per hour. Having 32 Fibre Channel ports enables optimum connectivity and high port density, maximizing your SAN investment.

By delegating the data movement into the fabric, the SAN traffic patterns are optimized, removing latency associated with additional hops and I/O flow through servers. With NASB, the I/O can now go directly from disk to tape (or vice versa), no longer having to go up into a server, be stored in its memory, or use its backplane and processing power.

EASY INTEGRATION WITH EXISTING BACKUP ENVIRONMENT

Cisco MDS 9000 NASB easily integrates into your existing backup environment. Some data movers sit in front of specific disks or tape drives, requiring you to build out a new backup environment. With the Cisco solution, you are able to back up from any Fibre Channel-connected disk to any Fibre Channel-connected tape. This solution works with many of the backup vendors' serverless options and is ready to implement.

In summary, the intelligent fabric applications offered on the Cisco MDS 9000 facilitate data center consolidation by helping enable the networked storage applications that provide accelerated serverless backup, acceleration of applications across a distance, and heterogeneous storage pooling with networked virtualization. NASB addresses challenges at the data center where there are growing amounts of data and a shrinking backup window. Rather than adding more servers, you can use your existing Cisco MDS 9000 SAN infrastructure to provide data movement, optimizing the backup traffic patterns and reducing the number of backup servers.

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