A fully integrated mainframe tape replacement solution

A major challenge in the area of batch processing and backup is the growth of information throughout the enterprise. Some analysts believe it’s as high as 60 percent per year. While tape has always provided the most inexpensive, yet accessible, storage available for batch backups, disaster recovery, and long-term archives, it has its limitations. Today’s data centers face demand for better SLAs, long backup and restore operations, complex and costly tape management processes, and the risk of missing information due to lost or damaged tapes. In addition to classic backup and recovery, mainframe environments use tape for extended online storage of information such as billing records and call center data.

EMC® Disk Library for mainframe (DLm) addresses the challenges of the mainframe data center and delivers industry-leading scalability, performance, and availability to tape operations, while working seamlessly with the current host and applications. DLm combines low-cost SATA drives, RAID 6 protection, hot-standby disks, tape emulation, hardware compression, and optional deduplication functionality for backups. All essential capabilities to provide your enterprise with a high-capacity mainframe tape replacement solution in the smallest possible footprint.

Works seamlessly with mainframe applications

DLm connects directly to the mainframe host using FICON or ESCON channels and it appears to the mainframe operating system as 3480/3490/3590 tape drives. All tape commands are supported by the DLm and respond as real tape drives so existing work processes, tape management systems and applications can run without any modifications. With DLm, the retrieval time of information is reduced from minutes via tape to just seconds via disk.

Performance: Faster batch, backups, and restores

Volumes of data continue to increase while batch windows are shrinking and backup windows and recovery-time objectives continue to decrease. DLm gains an advantage over tape by eliminating physical tape mounts, robotic movements, tape rewinds, and drive contention. Batch and backup operations that took hours can now run faster and finish in minutes. The EMC Disk Library for mainframe operating system as 3480/3490/3590 tape drives. All tape commands are supported by the DLm and respond as real tape drives so existing work processes, tape management systems and applications can run without any modifications. With DLm, the retrieval time of information is reduced from minutes via tape to just seconds via disk.

Recoverability: Leverage remote replication for better recoverability

With DLm remote replication, you can copy all or part of your tape information to up to two remote sites, ensuring that you can recover your information at a remote site in case of a primary site shutdown. You can perform all of your disaster recovery tests without the need to stop replication. Your information will continue to be protected at all times, even during your disaster recovery tests.

Manageability: Several ways to manage your DLm systems

You can easily submit commands to the EMC Disk Library for mainframe and retrieve information about their DLm systems to their mainframe host. EMC Disk Library for mainframe provides the option of sending an SNMP alert to an external monitoring tool. DLm allows you to log in securely to the DLm system and manage, monitor, and query the system online.

The Big Picture

- Reduces or eliminates physical tapes from the mainframe data center
- Addresses the limitations of traditional tape handling such as manual intervention, physical movement to tape cartridges, and eliminates single points of failure
- Works seamlessly with existing applications using tape management processes to automate tape vaulting
- Accelerates batch, backups, and DFHSM operations by leveraging disks instead of tapes
- Employs remote replication for maximum protection
- Performs disaster recovery tests without the need to shut off replication
- Lowers host CPU cycle usage
- Leverages SATA disk technology with RAID 6 protection
- Scales easily as workloads increase without the complexity of adding additional subsystems, libraries, network connections, etc.
- Extends storage capability with Deduplication Storage Expansion option for reduced footprint, longer onsite retention, and efficient replication for disaster recovery

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Lower total cost of ownership: Reduce CPU usage and remove the need for tape-sharing software

With DLm, you can reduce CPU cycles by moving ML0 information directly to ML2 without the need to have ML1, leveraging the disk-based performance and compression DLm offers and reducing your mainframe host CPU usage. DLm enables you to share tape drives between 64 active LPARs and SYSPLEX systems without the need for additional tape-sharing software.

Availability: No single point of failure

The DLm offers a fully robust system with no single point of failure. DLm includes redundant switches and all virtual tape engines can see all tape volumes in the DLm. The internal storage controllers include a hot standby and the disk drives are protected with RAID 6 protection and include hot-spare drives.

Deduplication for backup: Deduplication Storage Expansion option

The Deduplication Storage Expansion option for the DLm 960 reduces storage footprint, increases backup application performance and allows backup data to be retained onsite longer and replicated efficiently for disaster protection. Based on the EMC Data Domain DD880 deduplication storage system, it provides:

- 10-30x reduction in backup data for cost effective long-term onsite retention
- Up to 99 percent bandwidth reduction for optimized replication for disaster recovery
- Continuous recovery verification, fault detection, and healing
- RAID 6 protection with hot standby drives
- Starts at 23 TB and can grow to 71 TB usable in the same rack supporting up to 1 PB of logical stored data.

The Deduplication Storage Expansion option integrates into the mainframe environment seamlessly by just pointing the backup and archive applications to simulated Volumes on the DD880 system. Existing DLm 960 customers can upgrade to the Deduplication Storage Expansion option.

World-class support: secure remote support

EMC maintains a strong and highly visible commitment to protecting your information infrastructure through the 24x7 availability of remote technical support resources and automated secure remote support solutions. The EMC Secure Remote Support (ESRS) Gateway provides a secure, IP-based, distributed remote service support solution giving you command, control, and visibility of remote support access.

Using ConnectEMC simplifies and standardizes the way you can set “call home” or have DLm send an e-mail alert to the tape administrator in case of failure. It is also a method EMC products use to transport event files—error, informational, configuration, and others—from a service workstation to EMC back-office support systems.

Maximize EMC Disk Library for mainframe with EMC Global Services

EMC Global Services provides expert plan, build, and management services to ensure that your EMC Disk Library for mainframe performs optimally in your environment and exceeds your business objectives. These services include the Design and Implementation Service, which provides expert installation and integration of the EMC Disk Library for mainframe into your mainframe environment to ensure the success of your implementation and accelerate the business impact of your investment.

Ask your EMC sales representative about the full spectrum of services from EMC that can benefit your organization, including strategic consulting services and point and custom solutions—from consolidation of your current resources to a transformation of your environment.

DLm scalability: Start small and grow over time

<table>
<thead>
<tr>
<th>System</th>
<th>Usable Capacity</th>
<th>Virtual Tape Engines</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLm 120</td>
<td>9.5 – 96.5 TB1</td>
<td>1 – 2</td>
</tr>
<tr>
<td>DLm 960</td>
<td>19.3 TB – 1.2 PB1</td>
<td>1 – 6</td>
</tr>
</tbody>
</table>

1 Before compression
2 Scalable in increments of 9.5 TB