

EMC Disk Library for Mainframe

A fully integrated mainframe tape replacement solution

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
- Accelerates batch, backups, and HSM operations by leveraging disks instead of tapes
- Works seamlessly with existing applications using tape management processes to automate tape vaulting
- Scales easily as workloads increase without the complexity of adding additional subsystems, libraries, network connections, etc.
- Upgrades non-disruptively
- Leverages ATA disk technology with RAID 6 protection

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.

The 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 ATA drives, RAID 6 protection, hot-standby disks with tape emulation and hardware compression, and the functionality necessary to provide enterprises with a high-capacity mainframe tape replacement solution that delivers increased application availability.

DLm connects directly to the IBM System z using FICON or ESCON channels and it appears to the mainframe operating system as FICON or ESCON-attached 3480/3490/3590 tape drives. All tape commands are supported by the DLm and respond as real tape drives so existing work processes and applications can run without any modifications.

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 robotic movements, tape rewinds, and drive contention. Restore operations that once took hours or even days, now take only minutes or seconds.

Scalability: Start small and grow over time

The EMC DLm allows you to start with a system containing two virtual tape engines (VTEs) and 9.5 TB of useable capacity (before compression) in one cabinet. As workloads increase, you can add up to four VTEs and up to 190 TB of useable capacity. Adding VTEs and storage to the DLm is a non-disruptive operation and can be done without the need for downtime.

Availability: Your information is available when you need it

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. With DLm, the retrieval time of information is reduced from minutes via tape to just seconds via disk.

Maximize EMC Disk Library for mainframe with EMC Global Services

EMC Global Services provides expert plan, build, and manage services that ensure that the DLm will perform optimally in your business environment so that you can meet your internal service-level agreements. Ask your EMC representative about the full spectrum of services from EMC that can benefit your organization.

Specifications

Disk Library Connectivity

Number of VTEs	2 VTEs	4 VTEs
ESCON	6	12
FICON Multi Mode	4	8
FICON Single Mode	4	8

Drive Interface

Disk Drives	1 TB (7,200)
Form Factor	3.5"
Height	1.0"
Rotational Speed	7,200 rpm
Interface	SATA
Data Buffer	32 MB
Maximum Number of Disk Drives	300
Maximum Usable Capacity	190 TB
RAID Protection	RAID 6 (12+2)

Transfer Rates

2 VTEs	300 MB/s
4 VTEs	600 MB/s

Dimensions (approximate)*

Model	EIA Units	Height (inches)	Width (inches)	Depth (inches)	Max. Weight (lbs)
Base Cab	19"x40U	74.9	24.02	41.16	1,388
Storage Cab	19"x40U	74.9	24.02	41.16	1,384
Expansion Cab	19"x40U	74.9	24.02	41.16	1,466
VTE	19"x2U	3.44"	16.93" (without rails)	33.0" (with CMA)	65
Add-on DAE-ATA	19"x3U	5.25	17.72	14	68

Power

	Base Cab	Storage Cab	Expansion Cab	Add-on DAE-ATA
Frequency	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz
AC Voltage		200-240 VAC +/- 10%	Single phase	
Power Factor (typical)	0.98	0.98	0.98	0.98
Power Consumption Watts (maximum)*	5,498	5,200	6,136	325
Heat Dissipation BTU/hr (maximum)*	18,699	17,748	20,942	1110

* calculated

AC Power Capability

40U Cabinet	
AC Voltage	200-240 VAC +/- 10%
Frequency	47-63 Hz
Power Configuration	Two power domains (base, storage and expansion), each redundant
Power Inlet Count	Four plugs per cabinet
Plug Type	NEMA L6-30P or IEC309-332 P6 or IP57 (Australia)
Input Power Capacity	4,800VA @200VAC, 5,760VA @240VAC (w/two plugs) 9,600VA @200VAC, 11,520VA @240VAC (w/four plugs)
AC Protections	20A circuit breakers internally on each power branch

Operating Environment

Temperature	50-104 degrees F (10-40 degree C)
Temperature Gradient	10 degrees C/hr
Relative Humidity	20% to 80% (non-condensing)
Altitude	8,000 ft. (2438.4 m) @ 104 degrees F (40 degreesC) max.

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