

Partner Brief

Key Benefits

- > Backup process is automated, requiring zero manpower
- > The backups are replicated to a remote DR facility utilizing 99% less bandwidth and eliminating tapes on trucks
- > Recovery is enhanced using disk, instead of tape. Many months worth of backups are now online in a small 3U appliance and instantly available
- > Tape robotics are replaced by disk storage for less than \$0.35/GB
- > Enhanced data integrity – Continuous data verification and recoverability



Luminex and Data Domain

Optimize Data Protection for Your Mainframe Environment

For decades, tape libraries have been the de facto solution for the backup and archival of enterprise data. While tape has historically had its share of efficiency and long-term reliability issues, no one questioned its superiority on a cost-per-gigabyte basis. However, while corporate and regulatory requirements for data management and protection have increased exponentially in recent years, tape technology has not kept pace. Today, disk-based backup and recovery solutions provide far superior operational efficiency and time to recovery. And now, with the addition of data deduplication technology, these disk-based solutions present compelling cost advantages compared to tape in open systems environments.

Today's Challenges

In mainframe environments as well as in open systems, the amount of data keeps growing exponentially and with it the storage and tape costs. Regulatory compliance has required that large amounts of data be kept for long periods of time which required disaster recovery and business continuity scenarios to maintain data safety.

Most mainframe customers use manual off-site tape vaulting which is very costly, time consuming, and problematic due to lost tapes, time to recover data from tapes, and data corruption on tape media. Retrieving tape media from off-site locations makes restores more difficult and delay the recovery process. To utilize existing replication technologies pose different disadvantages since the required bandwidth to replicate large

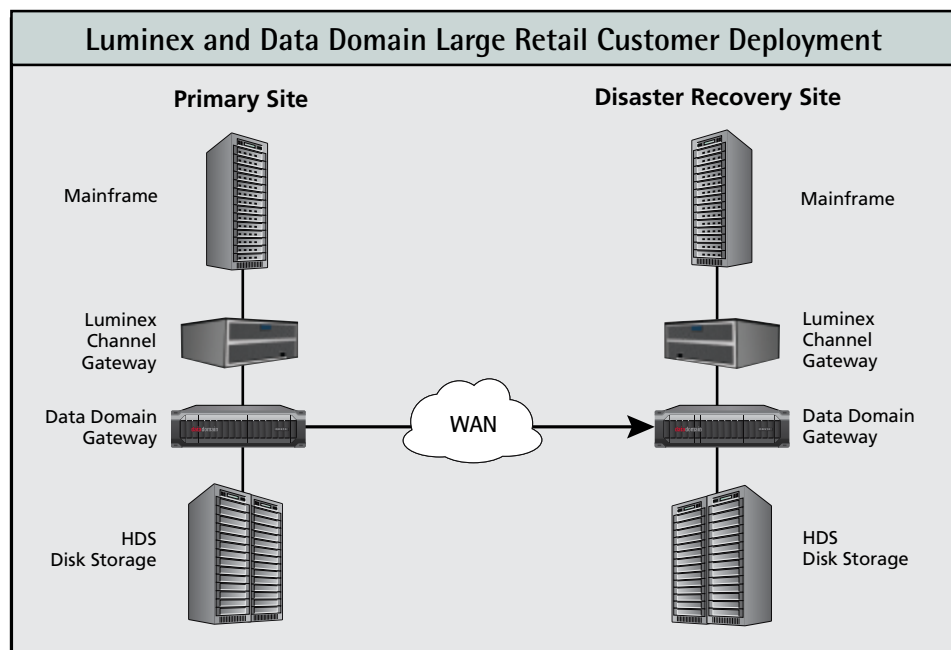
data sets to a disaster recovery site are limited or very expensive.

Mainframe customers seek a solution to backup and recover their mainframe data quickly, replicate to a disaster recovery site cost effectively and in a timely manner, and ensure their data integrity is maintained.

The Luminex / Data Domain Solution

Luminex and Data Domain have developed a powerful solution which allows mainframe users to reap the benefits of data deduplication. By combining Data Domain deduplication storage systems with Luminex Channel Gateway products, mainframe customers can reduce or eliminate their tape systems and adopt streamlined data protection processes.

Data Domain's industry-leading deduplication technology eliminates redundant data



before it is backed up, so you can dramatically reduce the amount of required storage space – by an average factor of 20. With this much smaller backup footprint, you can now replicate the data offsite over existing WAN infrastructures without incurring expensive bandwidth costs. And with all your backup data on disk, you can recover files in seconds, not hours.

Luminex Channel Gateways support both ESCON and FICON channel connectivity. Your existing mainframe backup software simply sees the Channel Gateway as a native 3480, 3490, 3490E or 3590 mainframe tape device. Channel Gateway provides connectivity to open systems Ethernet and Fibre Channel storage systems without requiring any software changes. The Channel Gateway enables mainframe customers to non-disruptively attach Data Domain's deduplication storage systems.

Luminex and Data Domain boast a proven track record in successful data protection solutions for enterprise customers around the globe. The combination of Luminex Channel Gateways with Data Domain deduplication storage systems delivers the most cost-effective, scalable and highest-throughput mainframe data protection solution on the market today. Mainframe enterprises can now retain months of full and incremental mainframe backup data in nearline storage, lowering the overall price/GB, accelerating data recovery and simplifying management.

Reducing Mainframe Backup Data

Data Domain deduplication storage systems are the industry's highest throughput, most cost-effective and scalable protection storage

solutions for mainframe disk backup and network-based disaster recovery (DR).

Data Domain systems store each unique data sequence only once and save significant physical storage capacity by substituting small references for each identical redundant sequence. Mainframe backup data is ideal for this technology, and Data Domain is the only vendor to offer the benefits of data reduction and the throughput to meet backup windows.

Data Domain systems offer an average of 20x data reduction for enterprise mainframe data, enabling cost-efficient retention on disk for faster, more reliable recoveries. Local backups can now be effectively stored on local, highly available disk using a mere fraction of the capacity previously required. These backups will be online and available for immediate recovery should the need arise. The vastly reduced data storage requirements can make it cost effective to keep weeks or months worth of mainframe backup data stored locally on the Data Domain storage systems.

Easy Integration Into Existing Infrastructures

Data Domain storage systems are qualified with Luminex Channel Gateways and easily integrate into the existing mainframe backup infrastructure without requiring changes at either the data center or distributed office. Existing backup and recovery software applications (BMC, FDR, DFdss, Syncsort, etc.) will continue to operate without any modifications.

Scalable Data Protection

Data Domain storage systems offer data protection capacities from 15 TB to 1.25 PB of logical storage per appliance for a typical enterprise mainframe data set and backup policy. With its high performance system architecture, Data Domain storage systems offer hundreds of GB/hour of inline deduplication throughput, significantly exceeding LTO-4 performance.

Multi-Site Disaster Recovery and Local Backup

The Luminex Channel Gateway is connected to the mainframe as a Virtual Tape solution over ESCON or FICON. Data Domain systems can connect to the Luminex Channel Gateway as a NFS file server via Ethernet. It takes just minutes to start backing up and recovering mainframe data.

Data Domain Replicator software is also ideal for WAN replication to another site for disaster recovery, remote office data protection or multi-site tape consolidation. With Data Domain deduplication technology, mainframe backup data sets are effectively shrunk by up to 99%, to a size where WAN replication is operationally feasible. This eliminates the need for expensive, high bandwidth connections, as well as the need to move tapes offsite on trucks. With far less data to deliver, remote network-based backup and replication becomes a viable and cost-effective solution for maintaining active backups at multiple locations.

Ultra-Safe Mainframe Backup Storage for Reliable Recovery

Data Domain's Data Invulnerability Architecture provides the industry's best defense against data integrity issues. Unlike other enterprise backup solutions, Data Domain provides continuous recovery verification to detect and protect against data integrity issues during the initial backup as well as throughout the life cycle of the backup data. Data Domain storage systems are configured with dual disk parity RAID-6, so two disks can fail simultaneously and the system will remain healthy. Fans and power supplies (N+1) are redundant and easy to replace for added system resilience.

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