

Modernizing Mainframe Backup for Healthcare Payers

Luminex Software and Pure Storage collaborate to enhance and simplify mainframe data protection.

Healthcare payers rely heavily on mainframe computing. Payers' high-volume transaction processing plus the exceptional reliability, security, and scalability of mainframe systems has kept the technology firmly in place. Moving away from mainframes is a challenge and a lengthy process, but modernization is easy and available for mainframe data protection.

The partnership between Luminex Software and Pure Storage® offers a simple, high-performance replacement of legacy tape storage systems for mainframe backups. The result is better performance, greater reliability, and the ability to rapidly restore data for improved RTO.

Mainframe Virtual Tape Solutions

Virtual tape is a simple concept: A server is used to emulate a physical tape drive. The mainframe backup tools recognize it as a tape drive and back up data accordingly. However, Luminex offers many more features and capabilities besides just replacing tape. By adding Pure Storage to the solution, you gain exceptional levels of performance, reliability, and scale.

The mainframe is connected via FICON/ESCON to one or more Luminex CGX controllers, which emulate both 3490 and 3590 mainframe tape drives. The mainframe source can be z/OS, z/VM or z/VSE. The CGX is connected to a Pure Storage FlashArray™ or FlashBlade® appliance via Fibre Channel (FC) or NFS.

Because all-flash storage has greater performance capabilities than physical tape, the end result is improved performance for all tape operations. This includes the critical attributes of recovery point objectives (RPOs) and recovery time objectives (RTOs). Faster recovery time means a quicker return to service in the aftermath of a data loss event, minimizing customer and patient impacts.

In addition, Pure Storage appliances are extremely dense and can fit petabytes of storage capacity into a small footprint, freeing up rack and floor space and reducing electrical costs and HVAC requirements. And because "tapes" are virtual, there is never a need to retrieve a tape either locally or from a remote location. Tape management and transport costs are eliminated.



Improved RPO and RTO

Virtual tape provides faster time to recovery, allowing payers quicker return to service.



Disaster Recovery

Resilient and redundant solution offers multi-site disaster recovery options.



A Greener Solution

Luminex plus the industry leading efficiency of Pure Storage dramatically reduces power and space consumption.



FIGURE 1 A basic virtual tape conceptual diagram. The mainframe is connected via FICON/ESCON to the Luminex GCX which emulates tape drives. The “virtual tape” data is stored on the Pure Storage device.

Disaster Recovery and Redundancy

While the diagram above is a simple representation, the virtual tape solution can be deployed with both redundancy and disaster recovery features. The CGX servers can be deployed in N+1 configurations for redundancy. They also support replication across sites. Even greater levels of resiliency are available in a Luminex Synchronous Tape Matrix (STM) configuration, which provides continuous availability that can survive multiple component failures across networking, compute and storage. The multi-path configuration is fully active: All paths are available during daily operations, not only during a failure scenario.

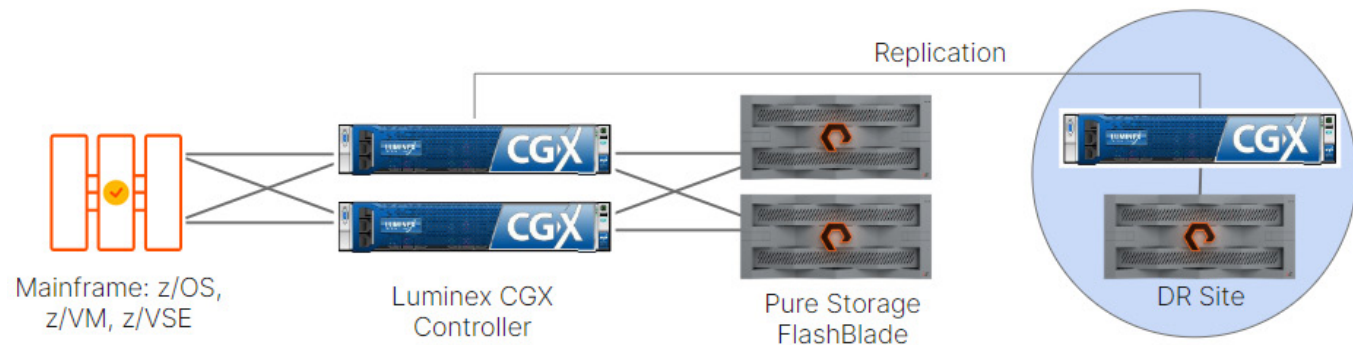


FIGURE 2 In an expanded configuration, the setup can be fully redundant, as well as adding off-site replication for disaster recovery.

What Storage Do I Choose?

The Luminex CGX can work with both Fibre Channel or NFS connections. Pure Storage provides multiple options across a range of price and capacity points. The storage you choose will ultimately depend on your specific network, performance and retention requirements. The following is a high-level guide to different options.

FlashBlade Platform

FlashBlade is a massively parallel storage system that supports file (NFS, SMB) and object (S3) protocols. It is an ideal platform for high speed backup and recovery at scale. [FlashBlade//S™](#) is optimized for high performance and scales up to 30PB of raw capacity. For less performance intensive scenarios, [FlashBlade//E™](#) is capacity oriented and available at a price point lower than spinning disk. It also scales to 30 PB and makes a perfect repository for longer-term backup storage or DR site storage.



FlashArray Platform

FlashArray is a unified block and file storage platform that supports both FC connections as well as NFS. The [FlashArray family](#) has four distinct product lines. FlashArray//XL™ and FlashArray//X™ are designed for extremely low-latency workloads such as databases and may not be ideal for backup scenarios. However, FlashArray//C™ and FlashArray//E™ are capacity optimized and offer a good mix of price/performance. FlashArray//C scales to 2.5PB and FlashArray//E scales to 4PB.

Pure Storage provides flexible purchasing options, including full [storage subscriptions](#) (OpEx) that allow you to easily scale capacity up and down as needed, paying only for what you use. For CapEx purchases, Pure offers a range of [financing options](#) that can help with cash flow.

All Pure Storage arrays offer exceptional reliability, ease of management and industry leading power and space efficiency. To determine your best storage options, please consult with a Pure data protection specialist.

Additional Capabilities

The Luminex solution offers many benefits beyond tape replacement. These include [CloudTAPE](#) for archiving data to the public cloud, data sharing features, and easy disaster recovery testing. Luminex also offers tape migration services that let you seamlessly transition physical tapes with exact copies of original VOLSER numbers and labels.

About Luminex

Luminex delivers the world's most advanced mainframe storage and connectivity solutions, backed by nearly 30 years of continuous engineering and technical innovation. We have built our reputation as a valuable and strategic partner with customers who require only the best performance, features quality, and proven reliability.

Additional Resources

- Learn more about Pure solutions for [healthcare payers](#).
- Learn more about [Luminex](#).