LUMINEX™
MODERN MAINFRAME DATA SOLUTIONS

MDI SLP™ for Data Analytics & Reporting

FICON-ATTACHED MAINFRAME COPROCESSING

Use Your Key Applications More Efficiently with Off-Host Processing

- Reclaim mainframe MSUs and DASD for use by other critical workloads
- Run more applications more frequently for more timely analytics and reporting
- Maintain mainframe control of job scheduling, security and report distribution
- Simplify development and ad-hoc reporting
- Modernize your SAS applications with new tools and languages such as R and Python

Mainframe data centers are re-evaluating applications and workloads that consume the most mainframe MSUs, memory and DASD. These applications are often referred to as "heavy hitters", because they contribute heavily to the mainframe's monthly operating costs and impact the availability of mainframe resources for other workloads.

SAS programs are often both heavy hitters and critical to business operations. Applications coded in the SAS programming language, such as MXG, offer comparable capability in non-mainframe (ASCII) environments. MXG provides unique advantages in the ASCII version, making MXG a great candidate for off-host processing.

Luminex Mainframe Data Integration (MDI) enables customers to securely and more efficiently transfer, share, process and leverage data, between mainframes and distributed systems, for better business insights. MDI SLP extends the capability of MDI to co-process applications written in the SAS language, such as MXG, saving valuable mainframe resources and promoting application modernization without sacrificing performance.

FICON Makes It Practical

Other approaches that rely on mainframe TCP/IP to move SAS workloads off-host introduce unintended performance bottlenecks and security risks while increasing MSUs associated with data movement. By leveraging the mainframe's native FICON I/O channels for communication and data movement, MDI SLP avoids these pitfalls. And, as demand for access to mainframe data increases, MDI SLP can scale throughput and availability without impacting mainframe resources and avoiding costly mainframe upgrades.

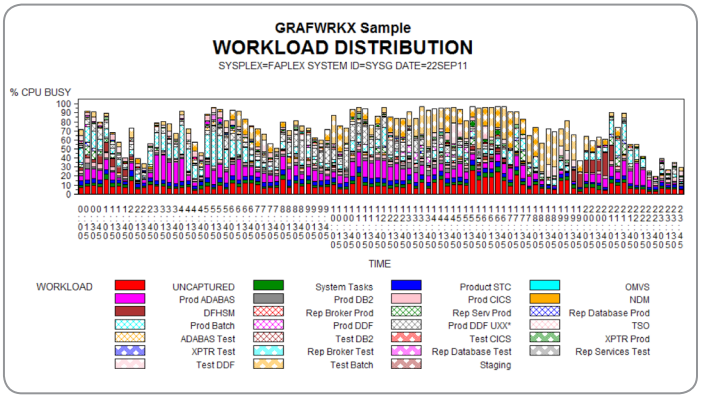
MDI SLP Use Case Examples

SAS Language + MXG Use Case

Mainframe clients know that SMF reporting is integral to system performance and capacity planning. Many use MXG (Merrill's Expanded Guide) for this reporting. MXG processes and organizes raw SMF records into the MXG Performance Database (PDB), using SAS language code to produce a variety of performance measurement graphs and charts.

MXG is an excellent use case for off-host processing as the raw SMF data is often large and building the PDB on the mainframe can be quite costly in terms of CPU, memory and disk (DASD) usage. Some clients report that MXG processing is the largest user of MIPS in their mainframe environment, followed closely by other SAS language processing.

MDI SLP moves SMF data off the mainframe quickly and economically using native FICON channels. Once it is off the mainframe, MDI SLP initiates the ASCII version of MXG to build the PDB used for system measurement reporting.



MDI SAS Language Processor enables efficient off-host processing of SAS language-based processes, such as SMF reporting with MXG.

Co-processing SAS language applications with MDI SLP offers an opportunity for modernization, including the ability to integrate new languages such as Java, R and Python into your SAS application environment and improving code maintenance.

More MDI Solutions

The Luminex MDI product line enables limitless data integration, transfer and off-host processing capabilities via task-specific solutions.

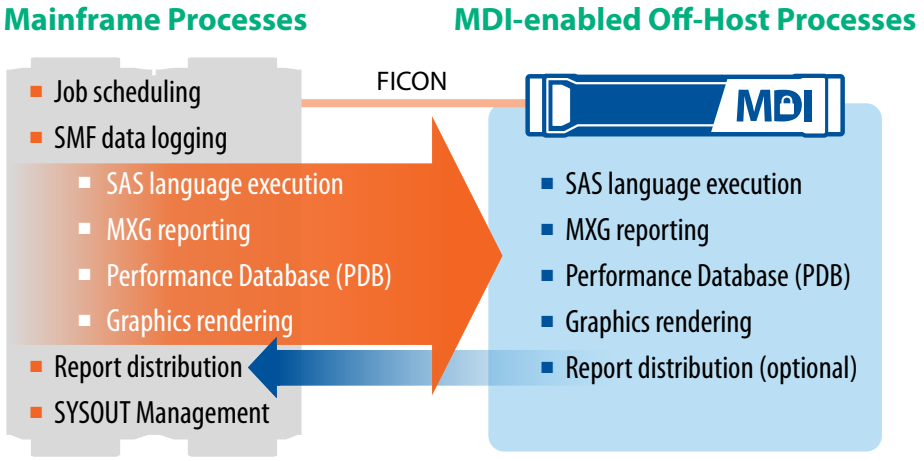
- **MDI SecureTransfer™**
  Leverage native FICON to transfer data to and from the mainframe faster, more efficiently and more securely than TCP/IP. Significantly reduce MSUs by offloading compression, encryption and data conversion processing. Ease the transition with JCL conversion services and eliminate the need to install digital certificates.
- **MDI BigData Transfer™**
  Integrate mainframe Big Value Data with Big Data Analytics and Data Lakes using more efficient FICON I/O channels. Greater efficiency and faster data movement enables more frequent access to data for better business intelligence, decision-making and competitive advantage.
- **MDI Cross-Platform Data Sharing™**
  Provide integration with other computing platforms and grids by transferring mainframe data to the platform/grid and, when processing is complete, transferring the data back to the mainframe, triggering downstream batch processing.
- **MDI zKonnect™ for Kafka**
  Publish mainframe system and application data to Kafka.

The phrases "SAS", "SAS language" and "SAS application(s)" are used in this document to refer to the computer programming language typically referred to in these ways and do not in any way refer to SAS Institute, Inc.'s SAS® System.

About Luminex

Luminex serves as a trusted advocate helping enterprise customers protect, manage, and leverage corporate data assets by developing and delivering high quality, innovative technology solutions.

Luminex Software, Inc. 1.888.LUMINEX
871 Marlborough Ave. 1.951.781.4100
Riverside, CA 92507 www.luminex.com



SAS Language Use Case

Batch processes that execute SAS language programs can easily be converted to use MDI SLP with a simple JCL change. As the batch job processes the SAS language step, the SAS language code and data to be processed are transferred via the MDI Platform, using the FICON channel, to a SAS-on-Linux server. MDI SLP then coordinates report processing and returns the results to the awaiting batch job on the mainframe. This seamless integration allows mainframe applications to take advantage of low-cost off-host processing with very little development cost.

By significantly reducing mainframe overhead for SAS language processing, data centers can "Do More" with their mainframes, such as increasing the frequency and variety of SAS analytics and reporting, and satisfying latent demand for other workloads… all without the need for a mainframe upgrade.

Professional Services

Luminex Professional Services will handle the heavy lifting, from discovery through migration. Our team will review your current SAS language usage and work with you to design and implement more cost-effective, modern strategies around SAS language-based applications.

Luminex MDI: Mainframe Data Integration

MDI SLP is based on the MDI Platform which is a mainframe coprocessor that provides the secure interchange of data between mainframes and distributed systems, via FICON channels, and off-host processing. MDI enables mainframe integration with enterprise-wide business applications and systems such as Big Data applications, computing grids, low-cost NFS, SAN or object storage. The MDI family of products all offer the secure interchange of data between mainframes and distributed systems using the secure and fast FICON channel. The platform consists of a core transport system, based on Luminex's heritage of mainframe connectivity technologies, directing bi-directional work flows for data sharing, transformation and movement wherever mainframes and distributed systems need to securely and efficiently exchange data.

Now, enterprises can take full advantage of all of the data that is stored in mainframes and non-mainframe environments for competitive advantage.