Converged Mainframe Solutions: Consolidating Your Data Across Processes and Platforms

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Discussion Topics

- “Converged” Defined
- About Luminex
- How Mainframe Data is Used
- Components of Converged Mainframe Solutions
- Features
- Benefits
“Converged” Defined

past tense of converge

\textit{verb} | \textit{con·verge} | \text{\textbackslash k\textepsilon n-\textbackslash v\textepsilon rj}\textbackslash

From Merriam-Webster:

\textit{“to move toward one point and join together; to come together and meet”}

Luminex’s heritage and vision:

\textit{“to bring disparate platforms and processes together…”}
Luminex At A Glance

- Luminex is an enterprise-class solution vendor of mainframe virtual tape
- 25+ years delivering mainframe data solutions worldwide
- Installed in all major industries on 6 continents
- Solutions scale seamlessly from entry level to the most demanding multi-PB datacenters
- A leading provider of tape-less solutions for mainframes
  - No physical tape is required
Luminex’s Heritage of Converged Solutions

1987 – DWE: Mainframe report data on optical media
1996 – Channel (Bus & Tag and ESCON) for peripheral solutions
2003 – VB 3990: Mainframe DASD
2004 – Mainframe virtual tape
2005 – Channel (ESCON) OEM for mainframe host solutions
2011 – Channel (FICON) OEM for peripheral solutions
2012 – CloudTAPE: Cloud connectivity for virtual tape
2015 – P2V: Off-host physical-to-virtual tape conversion
2015 – MBI: Mainframe batch interface
2016 – T2S: Tier 2 ECKD DASD
How Mainframe Data is Used

- Primary Operational
- Data Sharing
- Backup & Recovery
- Archive & Compliance
Luminex’s Vision of a Converged Mainframe Storage Environment
<table>
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<th>Feature</th>
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<td>Virtual Tape Control Unit</td>
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<td>Mainframe Batch Interface for Off-host ETL</td>
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<td>T2S</td>
<td>Tier 2 Storage ECKD DASD Controller</td>
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CGX: Mainframe Virtual Tape

- Industry-leading solution
- Control unit, emulating 3490 and 3590
  - Integrated storage, starting at 2U
  - Attached Fibre Channel or NFS storage
- Robust feature set addressing all performance and availability requirements
"Mainframe" Storage Systems?

- HDS HUS
- HDS VSP
- HDS AMS
- HDS HNAS
- IBM ProtecTIER
- IBM DS4000
- IBM Storwize
- IBM XIV
- HP 3Par
- HP StoreOnce

- EMC Data Domain
- EMC VNX
- EMC Isilon
- Oracle 4540
- Quantum DXi
- NetApp FAS
- NetApp E-Series
- NEC HydraStor
- Exagrid
- SoftLayer Object Storage
- Next??
“Mainframe” Storage Systems?

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- SoftLayer Object Storage
- Next??

Converged by Luminex!
Converging Platforms for Virtual Tape
VTG Gateway/Direct Connect Configuration with DR Replication

Production Site

Mainframe

FICON

VTL Gateway

1/10G

Storage System

1/10G or FC

Backup Server

Open Systems

DR Site

Mainframe

FICON

VTL Gateway

1/10G

Storage System

1/10G or FC

Backup Server

Open Systems

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Converging Storage for Virtual Tape
VTI Gateway/Direct Connect Configuration with DR Replication

Production Site
Mainframe
FICON
Storage System
SAN/LAN
Open Systems

Fibre Channel
VTI Gateway
Backup Appliance

Fibre Channel
VTI Gateway
Backup Appliance

Fibre Channel
VTI Gateway
Backup Appliance

Fibre Channel
VTI Gateway
Backup Appliance

DR Site
Mainframe
FICON
Storage System
SAN/LAN
Open Systems
CloudTAPE: Cloud Gateway

- Leverage private or public cloud services for tape archiving
  - Softlayer, AWS, Google, Azure, etc.
- Tape-to-Cloud storage tiering
- CGSafe encryption integrated
P2V: Physical-to-Virtual Tape Conversion

- Convert physical tapes to virtual tapes, on demand
- No mainframe intervention, completely off-host
- Local or remote ingest, anywhere an IP connection is available
- Ideal for bringing physical tape data from
MBI: Mainframe Batch Interface

- Connect your mainframe data to Enterprise Stream Compute Appliances for high-speed, efficient data transformation and analytics
- “Big Data Meets Big Value Data”
  Wednesday @ 3:15 PM
  Oceanic 3
Data Transformation

Mainframe

Mainframe-Resident Application for Coordination

Luminex Channel Gateways

Transformation Appliance

FICON

CGX

1/10 GbE
Data Analytics

Mainframe

Luminex Channel Gateways

NFS Storage

Mainframe-Resident Application for Coordination

FICON

1/10 GbE

Analytics Appliance

1/10 GbE
T2S: Tier 2 Storage for Mainframe

- DASD controller with flexible storage options
  - Integrated storage, starting at 2U of rack space
  - Attached Fibre Channel or NFS storage
  - Expanded memory, flash, SSD

- Early Adopter Program
  - Begins Q4 2015
  - Limited availability
  - Visit Booth #223 for more details
Benefits of Converged Mainframe Solutions
Enhancing the Value of Your Mainframe Investment

- Cost savings
  - One storage solution to acquire and manage vs. many separate systems
  - Configured to meet your existing needs, engineered to expand to your future needs
  - Reduce floor space and environmental expenses
- Simplified management... just one solution!
- Integration with ETL and analytics appliances
  - Exploit the value of your company’s Big Data without the MIPS
- Future-proof, modular architecture
  - Eliminates “fork lift” upgrades
  - Easily add functionality, capacity or throughput
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