Data Center Relocation – No Physical Tapes Means No Problem!
Session #10930

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Agenda – Data Center Relocation

- Relocation planning is a good time to “organize” and consider the end-result
- Physical Tape vs. Virtual Tape
  - Inventory of tapes
  - Shipping
  - Legal and Audit
  - Datacenter floor space
  - Summary
- Agribank – A Customer’s Perspective
  - Steve Schwietz, Senior Systems Programmer
- Q&A
Data Center Relocation with Physical Tape
Data Center Relocation with Physical Tapes

Inventory of Tapes

- Scan or manually record **every single tape**
  - Are your tapes barcoded?
  - Do you own a scanner?
- Example
  - 18,000 physical tapes
  - Scan, box and shrink wrap
  - 2 full days, non-stop just to prepare for shipping
  - X full day(s) just to check the tapes in at the new location
  - Reconcile list with your TMC
- Main Problems
  - Wasted time and effort
  - A high probability of error
Data Center Relocation with Physical Tapes Shipping

• Logistics – Example
  • Shipping from New Jersey to Texas
  • 2 person crew, minimum
  • No stop longer than 10 minutes

• Some shippers will only transport tapes between your data center and their warehouse
  • No direct shipping between 2 customer sites
Data Center Relocation with Physical Tapes

What Happens if a Box of Tapes Gets Lost?

• Fines and Expenses
  • Possible regulatory fines
  • Millions of dollars on credit reports

• Example
  • In most cases of lost data the remediation actions taken are to provide 1 credit report for each affected customer.
  • Now imagine 1 million customers affected
  • Most shippers will not accept that liability
    • Most will only refund you the $100 cost to replace the tape
    • If they do, how much more does that add to their fees?
Data Center Relocation with Physical Tapes
What Happens if a Box of Tapes Gets Lost?

- Damage to:
  - Reputation
  - Stock Price
  - Customer Confidence
Data Center Relocation with Physical Tapes

Legal and Audit

- Lawyers – goal to limit liability of company
  - Lengthy review process
  - Focus on chain of custody
- Auditors – their job is to find issues
  - Tape transport is an easy target
- Auditors will require:
  - Meetings
  - Diagrams
  - Proof of Compliance
  - Change Control Tickets
Data Center Relocation with Physical Tapes
Legal and Audit

• Be prepared to provide a plan and documentation:
  • Is your data encrypted?
  • Is this the only copy of your data?
  • If you lost a tape, can you find out exactly which of our customers are affected?
  • Will the tapes ever be left alone during shipping?
  • What happens if the driver goes to the restroom?
  • Is there a tamper proof SEAL on the boxes?
  • How do you know you’re not missing any tapes?
    • Did you compare your list to the mainframe TMC? (What are the chances that they will even match?)
  • How do you know the tapes didn’t get damaged in shipment?
    • Are you going to READ all of the tapes to prove it?
Data Center Relocation with Virtual Tape
Data Center Relocation with Virtual Tapes
Relocation – Option 1

- Small foot print, can be packed and shipped in 1 day
- Data can be encrypted on storage system
- Significantly lowers risk of data loss and cost of shipping
Data Center Relocation with Virtual Tapes

Relocation – Option 2

- Only need to ship the storage, data replicated via WAN
- Data can be encrypted on storage system or WAN links
- Significantly lowers risk of data loss
Data Center Relocation with Virtual Tapes
Legal and Audit

• Satisfy legal and audit concerns
• No chain of custody issues
• Replication logs
• VOLSER-level monitoring
• Detailed reporting
Luminex MVT Environment
How the Solution Works

- NFS or Fibre Channel attached
- Mainframe Tape Volumes stored as standard files
- Replication for backup/DR
- RAID Data Protection
- Application transparent – non-intrusive
- No MIPS required
- z/OS, MVS, VM, VSE and OS/390 supported
- Works well with all major tape management systems
- SMS, MTL or Esoterics can be used
- Emulates 3490 or 3590 mainframe tape drives
- DataStream Intelligence optimizes deduplication
- Active – Active with NSPOF
- Dual PS, Fans & Mirrored OS
- No tape data on gateways
- Multipathing for HA configurations
- NFS or Fibre Channel attached
- Mainframe Tape Volumes stored as standard files
- Replication for backup/DR
- RAID Data Protection

Mainframe

Luminex Channel Gateways

Enterprise Storage System
Ensure a Smooth Transition from Physical Tape to Virtual Tape

Tape Migration Services

- Elegantly designed to work with TMACS to move tape data without touching the tape catalogs
- Current VOLSER #’s and all historical information are retained in the new environment as well
- Supports all existing tape library and virtual tape environments

TMACS

- Tape Monitoring and Allocation Control System
- Optional host-based software to automate allocation steering
- Integrates with z/OS subsystem allocation interface and co-exists with other allocation control software
Data Center Relocation with Virtual Tapes

Summary

• Data center relocations are difficult with physical tape
• There is increased scrutiny of physical tapes
• Virtual tapes take the difficulty out of relocating
• Customers are combining data center moves with going tapeless to reduce risks associated with relocating physical tape
• Consider the “cost of retrieval” for maintaining offsite tape archives
• Data center relocations can help you justify the investment in virtual tape
• The time to go tapeless is now
A Customer’s Experience
The Company

Background

• Over 300 years of history and expertise in banking
• A major global financial services provider engaged in retail banking, credit cards, corporate and investment banking and wealth management
• Operates in over 50 countries
• Serves over 48 million customers worldwide
• Employs 147,500 people
What were our Goals and Objectives?

Challenges/Goals:

- Consolidate mainframe operations
- Shipping tape library deemed too risky
- Maintain remote access to archives from UK to US without expensive channel extenders
- Mainframe lease term expiring, need to migrate 380,000 VOLSERS in 60 days (or faster)
Previous Mainframe Environment

- Mainframe
- IBM TS7740
- Tape Library
- FICON
New Environment

Deduplicated Storage

Luminex Channel Gateway

Mainframe

WAN

FICON
How Did We Do?

We Achieved Our Goals:

☑ Tape migration completed within 60 days
☑ Eliminated cost of channel extenders with deduplication and low cost WAN
☑ Eliminated risk of physically moving the tape library
☑ Eliminated expense of keeping multiple frames vs. a single rack solution:
  ☑ Power
  ☑ Cooling
  ☑ Physical floor space
A Customer’s Experience

Steve Schwietz
*Senior Systems Programmer*
Agribank
The Company

- AgriBank, FCB is one of the largest four banks within the national Farm Credit System, with $71 billion in total assets, representing the 7th Farm Credit District.
- As the district hub, Agribank provides IT services for associations across 16 states in the Midwest.
- Agribank employs 225 people in their St. Paul MN corporate office.
- Mainframe Software:
  - z/OS, DB2 (Image Copy), DFDs for backup & recovery, HSM ML2, batch processing and RMM
What were our Goals and Objectives?

Challenges/Goals:

- Improve disaster recovery time
- Eliminate the delays that physical tape imposes on the DR plan
- Replace their aging IBM 3494 tape library
- Replace the tape library before relocating Agribank's data center.
Previous Tape Environment

- 12 frames!
- 8x 3590 tape drives
- 4x 3592 tape drives with encryption
New Tape Environment

Production Site
- zSeries Mainframe
- Luminex Mainframe
- Virtual Tape
- Channel Gateways
- Deduplication Storage

Disaster Recovery Site
- Luminex Mainframe
- Virtual Tape
- Channel Gateway
- Deduplication Storage

WAN
How Did We Do?

Benefits/Achievements

☑ We're completely tapeless!
☑ Reduced floor space - From 12 IBM frames to a single 19" rack
☑ Recovery time went from 3 days, to 4 hours
☑ Several DR test have been successfully completed
☑ Replaced and removed the 3494 tape library, before the data center relocation, which saved significant $ and floor space
Thank You

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