Utilizing Virtual Tape for Mainframe and Open Systems Backups and Recovery

Brad Rice and Rick Summers
SecureAgent Software

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Agenda

• Who is SecureAgent?
• SecureAgent VTL
• Customers’ Experiences with SecureAgent VTL
• Differentiators of SecureAgent VTL Technology
Who is SecureAgent?

SecureAgent products including the VTL enjoy patent protections in the US and Europe. It’s not just another VTL.

The VTL is a Managed Recovery Suite that uses VTL(s) with HDS disk to provide:

- Tape Replacement
- VTL Replacement & Migration
- Multi-Platform Support
- FIPS Compliant Security
- Remote Business Continuity & Disaster Recovery Tools
- One Button Recovery

- Privately Held
- More than 25 years experience in the Industry
- Offices in Zurich, Stuttgart, Various US Locations
- Test Facilities in Oklahoma, Pennsylvania, and Zurich
- Fortune 500 Customer Base

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SecureAgent Customers

GRZ  VISA  Medicare  SUNGARD

NORTHROP GRUMMAN  HITACHI  DELL

aMaDEUS  GLOBAL TRAVEL DISTRIBUTION

AMTRAK  FARM BUREAU GEORGIA  BlueHill  citi  verizon

Disney  HP  EDS  an HP company  AMERICAN EXPRESS

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Three Integrated Tools, **Adding Value!**

- **Automated One Button Recovery**
  - SuperVision

- **Emulated Encrypted Gateway**
  - IDG 9074

- **VTL and Offsite Disaster Recovery**
  - HDS SecureAgent VTL

Automates One-Button Remote Recovery of Mainframe, iSeries, and Open Systems

Provides Remote Encrypted Mainframe, iSeries, and Open System Connectivity for DR

Provides All-in-One, Multi-System VTL for Mainframe, iSeries and Open Systems

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A Multi-Platform VTL for all Environments

Production Site

Disaster Recovery Site

SecureAgent Catalog

SecureAgent Catalog

DASD

SecureAgent Channel Emulation

SecureAgent Storage Interface

FICON & FC/SCSI

SecureAgent Channel Emulation

SecureAgent Storage Interface

FC/SCSI

SecureAgent Channel Emulation

SecureAgent Storage Interface

FC/SCSI

TCP/IP Network

DASD

• Mainframe
• UNIX
• LINUX
• iSeries

• Windows
• Backup Exec
• Net Backup
• TSM

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Blue Hill Data Services

- Established in 1994
- Pearl River, NY
  - Uptime Institute Tier III/IV Classification
  - SSAE16 Type 2 (formerly SAS70 Type 2) Compliant, PCI-DSS, EU Safe Harbor Certified
- High-Availability Disaster Recovery Centers – Branchburg, NJ; Shelton, CT; Atlanta, GA; Irvine, CA
- Grown to become a leading Mid Tier provider of IT outsourcing solutions –
  - Mainframe, Open Systems, iSeries/Mid-Range, Application Services; Dedicated Disaster Recovery, Business Continuity and 24x7 Colocation & Managed Hosting Infrastructure services
- Onshore service delivery
- Global reach (22 time zones)
Blue Hill Mainframe Backups for DR

- The SDS VTL Supports
  - IBM (3480, 3490, 3590, 3592), STK (9490, 9840, 9940)
    - Backup disk volumes to SDS VTL
    - Transmit backups to remote SDS VTL at one of our DR data centers
  - Physical Tape backup offsite method – to store on LTO4 media
    - For physical backups offsite use the SDS VTL to backup the volumes
    - Move them to the ADIC tape library with LTO4 drive
    - Send the LTO tapes offsite

- Reduce RPO and RTO Method
  - We combine the SDS VTL with Point-in-Time technology
  - Take snapshots and backups throughout the day
  - Transmit from the SDS VTL in the primary data center to our DR data center
Blue Hill VTL Configuration
Benefits Using SDS VTL

- Reduced external media purchases
- Reduced external tape drive purchases and maintenance
- Reduced power and floor space consumptions
- Faster RTO (Recovery Time Objectives)
- Improved Recovery Point Objectives
- Encryption
- Data Compression
- Support for multiple tape media (LTO, 3590-2, STK, 3490)
Georgia Farm Bureau

- IBM Z/10 BC
- IBM P595
- STK SL3000 silo with 6 9840-C drives and 500 tape library
- 8 STK 4490 drives with autoloaders
- At project time approximately 24,000 4490 cartridges ranging from 1 – 20+ years old
- They were taking approximately 40 tapes offsite per day
- They had roughly 5000 tapes in their offsite storage facility
- BMC Control-T tape management
- DR site 100 miles away in Atlanta area
Georgia Farm Bureau -- Finding the Right Size Solution

Evaluated several of the best known solutions in that space.

• Some were too large and complex for their needs

• Some didn’t provide adequate redundancy

• Some didn’t scale
  - Appliances typically couldn’t add storage without adding a whole new appliance

• Most did not provide support for both Z/OS and AIX in a single solution

• Most focused on de-duplication technology for the replication

• They were very interested in encrypting the data that went offsite

• Their DR provider introduced SecureAgent to Georgia Farm Bureau

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Georgia Farm Bureau configuration (after Phase II upgrade)
Georgia Farm Bureau –

Comparison of compressed and uncompressed file sizes of DFDSS backups

<table>
<thead>
<tr>
<th>Uncompressed size</th>
<th>Compressed size</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.68GB</td>
<td>10.64GB</td>
</tr>
<tr>
<td>78.23GB</td>
<td>20.80GB</td>
</tr>
<tr>
<td>77.91GB</td>
<td>16.23GB</td>
</tr>
<tr>
<td>51.38GB</td>
<td>12.49GB</td>
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<tr>
<td>32.50GB</td>
<td>15.06GB</td>
</tr>
<tr>
<td>45.39GB</td>
<td>19.71GB</td>
</tr>
<tr>
<td>87.49GB</td>
<td>28.46GB</td>
</tr>
</tbody>
</table>

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Georgia Farm Bureau (cont.)

They also have data that is already compressed by the application that they were concerned would not compress well on the SDS. Below were the original (before SDS compression but after application compression) sizes and the sizes after SDS compression.

As you can see they are being compressed further.

<table>
<thead>
<tr>
<th>Original size</th>
<th>Compressed size on SDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 MB</td>
<td>1800 KB</td>
</tr>
<tr>
<td>251 MB</td>
<td>58 MB</td>
</tr>
<tr>
<td>753 MB</td>
<td>172 MB</td>
</tr>
<tr>
<td>994 MB</td>
<td>255 MB</td>
</tr>
<tr>
<td>2018 MB</td>
<td>446 MB</td>
</tr>
</tbody>
</table>
Lessons Learned by Georgia Farm Bureau

After a couple of years–
- They have 29,189+ tapes in the virtual tape catalog.

- They began with 18TB of capacity and have since upgraded to 36TB. They are using approximately 50-60% of the 36TB of capacity.

- They have 128 tape devices defined to their production lpar – far more than they could ever have been able to have with physical tape. Device availability is no longer a constraint on their scheduling.

- Administrative tasks, maintenance, and reporting are all very easy using the admin client. Minimal ongoing administration required.

- They’ve conducted a number of DR tests utilizing the SDS.

- In one of their DR tests they restored approx. 180 MOD-9 DASD volumes in an hour and a half. When they were using physical tapes this was a 4 hour process.

- They were able to use the built in TN3270 and z/OS console session support to perform the majority of their DR test from their office.

- They have a tape pool defined on the DR side that they write to during their DR test. All of that data is kept separate from their production volumes but is still available for review back home after their test.
Hastings Mutual Insurance Company

- Headquartered in Hastings, MI
- HMIC’s backup system consisted of a StorageTek 9740 Library Storage Module and Hitachi 7490E cartridge module tape unit. Tape-based backup systems were beginning to be unreliable and restores/retrievals were impacting productivity. As HMIC grew and data storage increased, tape operations started to become more complex and costly to maintain.
- HMIC’s existing business continuation procedure required shipment of tapes from Iron Mountain to their business continuity site with a potential to lose 24 hours worth of data.
- Their then current backup processes had increased to the point where they were not meeting their maintenance windows.
- DR site is 5 hours away in Indianapolis, IN

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What were Hasting’s Objectives of Upgrading their Then Current Mainframe Tape Backup System

• Eliminate resources required to mount and un-mount physical tapes
• Eliminate annual supply costs of tapes
• Reduce annual maintenance costs
• Reduce Power consumption costs
• Eliminate cost associated with transportation and storage of Tape Library
• Increase program execution times to stored data
Hasting’s Realized Benefits of Virtual Tape

• Elimination of tape rotations and pickup schedules for Iron Mountain
  – Reducing costs for these services by over $20,000.00 a year

• Eliminated over 2,600 tapes

• Reduced Foot Print of Hardware
  – Two units supporting the VTL system taking up 4U’s in a 19 inch cabinet replaced 2 Refrigerator sized units taking up 32 Square feet of floor space

• Elimination of Manual Processes
  – Daily Tape Mounts on the two conventional Tape units Averaged 114 of which 32 required Manual intervention.
    – 48.9% were scratch mounts (Temporary Data)
    – Eliminated 1 FTE Hour daily of Manual Intervention
    – Eliminated 5 ½ FTE Hours for Saturday Backups

• Power Consumption Reductions
  – 3 Conventional Units running on 240 Volt 50 Amp circuits, Versus 2 VTL units running on 120 Volt 20 Amp circuits
  – Power consumption reduced yearly by over $3,000.00
Hastings Total Benefits of using the SecureAgent VTL

• **Tangible Benefits:**
  
  – Annual maintenance costs reduced $ 9,522.24
  – Annual Tape costs eliminated $ 969.90
  – Annual Power consumption reduced $ 3,036.00
  – Operator man-hours reduced (annual avg) $14,040.00
  – Iron Mountain costs eliminated (annual avg) $ 21,000.00
  – Total average yearly savings $ 48,568.14

• **Intangible Benefits:**
  
  – Ease of getting Disaster Recovery site ready for actual use/testing
  – File recovery made easier and faster
  – Elimination of Manual tape mounts
Some other SecureAgent VTL Users

- County of Ventura, California
  - Supporting VSE environment between California and Colorado for DR

- Furniture Brands
  - Supporting VSE, z/OS and AS400 environments between North Carolina and Mississippi
    - article in 2012 IBM Systems Magazine

- Centers for Medicare and Medicaid Services
  - Supporting z/OS and open systems environments between two large locations for DR
Differentiators – FIPS Security and Encryption!

Do You Allow Data To Be Stored Or Transferred Unencrypted???

ENCRIPTION!

It’s NOT Enough To Offer Only Compression

Large Companies Today Demand Encryption At All Points, in motion and at rest

More And More Companies Require Multiple Encryption Keys To Protect Different Types Of Data

Large US Banks Are Now Requesting Unique Encryption Keys For Each and Every VOLSER

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Redundancy

Unplug Any component with no Production Impact

Problems in One Area of Functionality WILL NOT Affect Other Units

Reduce Production Downtime
Upgrade and Scale with no Downtime
Differentiators – Integrated Alerting

Remote Alerting

Automatically Alerts Ops with WTO Msgs

Integrated Alerts Through SuperVision DR

HDS and SecureAgent are working on Future Customizations
Integrated Multi-Site Recovery VTLs
Differentiators - One Button Recovery

Integrated Console Tools and Virtual Tape – A Powerful Combination

2. Remote Hardware & System Console Access

3. Integrated Automation
For more information please visit:

http://www.secureagent.com

Brad Rice
brad.rice@mail.secureagent.com

Rick Summers
rick.summers@mail.secureagent.com