HP Virtual TapeServer: Update 2008

Larry Mendoza, Product Manager, HP VTS NonStop Enterprise Division, Hewlett Packard
Topics:
HP Virtual TapeServer
What is it?
New Product Releases
New Features
HP VTS Interoperability
The Road Ahead
Q & A
HP Virtual TapeServer

What Is It?

• It’s an electronic, automated tape drive or library
  – Emulates tape DRIVES, not libraries
    • Why does this matter?
    • SDLT, DAT (all), LTO, 3480/90
  – Presents software ABSTRACTIONS on RAID disk
    • Virtual Tape Drives
    • Virtual Cartridges
    • Virtual Libraries

• It is FLEXIBLE in its approach to connectivity
  – Practically all SANs
  – Practically all tape environments for archives
  – Practically all BMA’s

• Many types of hosts supported
HP Virtual TapeServer
What Is It? A Simple Picture

HP NonStop Server

External Disk Storage Options

MSA Storage

MSL Library

Archival or Interchange Physical Tape Options
HP VTS – New Product Release

New Enterprise Server

• VT5900-G Server
  – Pure FC, no SCSI at all
    • Means no SCSI VTDs, and no SCSI physical tape support
    • NS-Series, HP NonStop BladeSystem
    • Up to 4 VTDs per connection (total of 16 VTDs)
      – Fewer FCSA’s required with 4 VTDs on each port
  – Joins the VT5900-E server
    • Both HVD SCSI and FC connections
    • Mixture of NS and S Series systems
HP VTS – New Product Release

New Storage Array Options

- VT5915 SAN array
  - MSA1500 based
  - Includes 9TB raw storage capacity
    - Est. 6.8TB usable RAID5.
    - Uses 12 X 750GB, 7200rpm SATA disk
    - 2U rack space
  - Dual 2Gbps FC controllers
    - Supports Active/Active control
    - Can be configured for HP VTS path fail-over

- VT5916 is a 9TB add-on tray
  - MSA20 based
    - Up to 3 additional VT5916’s can be added per VT5915
    - 2U rack space
HP VTS – New Product Release

VT5915 Sample View – Active/Active Configuration
HP VTS – New Features

Simplified Tape Library Management

• VT5900-LMF Library Migration Facility
  – Only for use with commercial Library attach to HP VTS
  – For users wanting to Manually Migrate to a BMA (Not VTSPolicy) without the headaches of installing & learning intricacies of a selected BMA
    • “keyboard” Migrate commands, vs. automated via VTSPolicy
  – Enables simple, powerful tape features such as Tape Stacking
HP VTS – New Features

HP VTS – Tape Management Integration

- EMS issues “HP VTS Policy command
- HP VTS creates backup instructions
- HP VTS sends backup instructions to BMA Master Server’s command line interface
- BMA acts on instructions from HP VTS, writes to tape
HP VTS – New Features

New Tape Encryption, Key Management Option

• VT5900-SV, SecureVTS
  – First HP Branded Encryption Solution!
  – Integrated Software Solution for
    • Encryption for tape libraries attached to back end of HP VTS
    • Key Management for all encryption/decryption for local HP VTS
    • Interoperates with any HP VTS running SecureVTS
  – Two Encryption Choices
    • “on-the-fly” as data is backed up
    • “after-the-fact” on an existing cartridge
  – Encrypting and decrypting can be specified on the cartridge or at the pool level
    • Can encrypt/decrypt a cartridge any time it is not in use
  – Exported data is first decrypted
  – Data is passed from NonStop “in the clear”
    • NonStop is not aware that data is encrypted
HP VTS – New Features

SecureVTS Encryption Module

- DATA ENCRYPTION Software
  - Device based encryption
    - Plug and Play installation requires no changes to the NonStop server environment
    - Intuitive GUI based configuration with On/Off settings for Virtual Pools and Cartridges
    - Supports ‘On-the-fly’ Compression
    - Access controls and user level privileges
  - Industry standard 256-bit AES encryption
    - Data on disk remains encrypted when migrating backups to physical tape
- Integrated Key Server and Database
  - Full Key Management lifecycle including generation, distribution, storage & recovery
  - Key database is securely encrypted
  - Digital certificates are used to ensure keys are only accessed by authorized users
- Key database changes can be backed up
Can set either Virtual Pools or Cartridges as encrypted at the time it is created or anytime the cartridge is not mounted
  - Enables ability to support customer specific security policies

Metadata header for the file contains an ID which is used to retrieve the encryption key from the key server
  - Secure Flag
  - Key ID reference

When writing to physical tape
  - Data remains encrypted with a backup migration
  - Data is unencrypted when performing an export

Best Practice
  - Encryption Key Database can (and SHOULD) always be backed up!
HP VTS – New Features

SecureVTS Deployment Architecture

- HP NonStop Server
- Encryption Engine
- Key Server
- Key Database
- SecureVTS Encryption Module

Symmetric key is randomly generated and securely stored in the Key Server Database for each file encrypted.

HP VTS

Virtual Tape Pools and Cartridges

Individual Cartridges are configured as encrypted.

Migrations to Physical Tape Are Securely Encrypted

Automated Tape Library or Dedicated Drives
HP VTS – New Features

SecureVTS – Intuitive User Interface

- Configuring encryption is easy and only a click away
  - Can encrypt an individual or an entire pool of cartridges
- Entry to specify the location of key server backup file
- Entry to specify the locations of trusted key databases when installed in a clustered GFS environment
- Logs available to review any encryption related event
HP VTS – New Features

SecureVTS – Designating Backup Hosts

• Once license keys are validated, select Add New Host from SecureVTS Setup page

• Add backup host’s information and click Submit button

• Record the values submitted and keep in a VERY safe place ready to use in case the Disaster Recovery Procedure must be used
HP VTS – New Features

SecureVTS – Specifying Encryption by Pool

Pool Manipulation: Operation buttons are enabled depending on the combination of items selected or entered. To change pool attributes or to delete a pool, select only the pool name. Changing attributes enables the APPLY button. To enable the CREATE, RENAME and MOVE buttons, two selections (or a selection and an entry) are required.

Vault: VAULT00
Pool: Pool
New Pool: TOH-March06

Cartridge Size: unlimited
Retention: unlimited

Autoloading: Recycle: Encrypted:

File system information: show...

Ready To Proceed
HP VTS – New Features

HP VTS – Specifying Encryption by Cartridge
HP VTS – New Features
Replication & Sharing in HP VTS only environment

Main Site

- HP NonStop Server
- VTS
- Key Server
- Key Database
- External Key Server
- Secure Key Sharing
- Secure Key Replication
- Encrypted Tape Backup
- Direct Attach Tape Drive(s)
- Automated Tape Library

DR Site

- HP NonStop Server
- VTS
- Key Server
- Key Database
- Restored Key Server
- Secure Key Sharing
- Secure Key Replication
- Direct Attach Tape Drive(s)
- Automated Tape Library

18 17 April 2008
HP VTS – Interoperability

• HP VTS is fully compatible with all S-Series systems
• HP VTS is fully compatible with all NS-Series systems
• HP VTS is fully compatible with the new HP NonStop BladeSystems coming this summer
The Road Ahead

**HP VTS Roadmap 2008**

<table>
<thead>
<tr>
<th>Software Releases</th>
<th>Hardware Platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HP VTS 6.03.42</strong> March 2008</td>
<td>ProLiant DL385G2</td>
</tr>
<tr>
<td>General Release</td>
<td>ProLiant DL585</td>
</tr>
<tr>
<td>Includes:</td>
<td>ProLiant DL380</td>
</tr>
<tr>
<td>6.03.41 functionality</td>
<td>StorageWorks MSA2000</td>
</tr>
<tr>
<td>MSA1500cs qualified</td>
<td></td>
</tr>
<tr>
<td>Multiple VTDs per FC bus</td>
<td></td>
</tr>
<tr>
<td>SecureVTS Encryption</td>
<td></td>
</tr>
</tbody>
</table>

| **HP VTS 6.03.42 IR's** Aug 2008 | ProLiant DL385G5 |
| Interim Release | |
| Includes: | |
| 6.03.42 functionality | |
| Bug fixes | |

| **HP VTS 6.04.01** Nov 2008 | |
| General Release | |
| DL385G5 platform | |
| Includes: | |
| 6.03.42 functionality | |
| Linux 5.x, 2.6 kernel | |
| GFS update (DLM) | |
| Update OS utilities | |
| Larger Vault sizes | |
| Update to BMA versions | |
| MSA2000 Disk Array | |
| LTO4 tape drive support | |

| **HP VTS 6.04.01 IR** Feb '09 | |
| Interim Release | |
| Includes: | |
| 6.04.01 functionality | |
| Bug fixes | |

**Q1 CY08**

Q2 FY08 / Q3 FY08

Q4 FY08

Q1 CY08

Q2 FY08
The Road Ahead

HP VTS Marketing Push

• You should see an advertising push for HP VTS in the near future
  – Advertisement in Connections Magazine
  – Presentation at HPTF (ITUG)
  – More to come…

Tape backup, now with 100% less tape.

[Image of HP VTS advertisement]

Alternative thinking to cutting through the tape.
HP Virtual TapeServer Slashes Costs & Keeps Your Data Safe

HP Virtual TapeServer (VTS) delivers a powerful, scalable backup and disaster recovery solution that automates your operations and dramatically reduces the cost of media. Shortens backup windows, restores data at lightning-fast speeds. And works under the control of the industry-standard backup management applications you already trust.

This new ServerProtect option provides a simple, cost-effective approach to protect your data by using a combination of high-performance tape drives and VTS. This approach helps you manage data with cost-effective software and hardware.

Just think of it, you get the security and control you need without impacting performance — it’s just for HP VTS customers. And enough savings to help you achieve 100% ROI in 3 to 12 months.

Technology for better business outcomes.

[HP VTS product image]

[Contact information and website URL]
Technology for better business outcomes