Backup Built for Your Virtual Environment

EMC Avamar: Optimized for Microsoft Hyper-V and VMware vSphere
Agenda

- Market Landscape
- Hyper-V Backup and Recovery
- VMware Backup and Recovery
- Q&A
Virtualization Leading IT Transformation

Phase 1
IT PRODUCTION
Cost Efficiency

- IT-owned applications
  - Consolidation
  - Server utilization
  - Hardware costs
  - Operating expenses

Phase 2
BUSINESS PRODUCTION
Quality of Service

- Business-critical applications
  - Improved IT production
  - Business productivity
  - Flexibility

Phase 3
IT AS A SERVICE
Business Agility

- Run IT as a business
  - Cloud

Virtual Environment

- 0%
- 50%
- 100%

DATA CENTER REQUIREMENTS INCREASE

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Top Ten IT Priorities for 2013

Which of the following would you consider to be your organization’s most important IT priorities over the next 12 months? (Percent of respondents, N=540, ten responses accepted)

- Information security initiatives: 29%
- Improve data backup and recovery: 27%
- Increased use of server virtualization: 26%
- Manage data growth: 25%
- Data center consolidation: 24%
- Desktop virtualization: 22%
- Use cloud infrastructure services: 22%
- Major application deployments or upgrades: 22%
- Regulatory compliance initiatives*: 20%
- Business continuity/disaster recovery programs*: 20%

* five way tie at 20%

Purdue Pharma Selects VCE Vblock™ and EMC® Avamar®

- Dramatically improve their data center
  - More agile
  - Comprehensive backup optimized for VMware
- Unmatched reliability

"Optimized backup for VMware; Avamar does it unbelievably well."
Backup & Recovery for Hyper-V
Avamar for Hyper-V Protection

• Full virtual server protection
• Guest level backup and recovery
  – Application-aware protection ensures consistency of recovery for Microsoft, Oracle, SAP and IBM
• Hyper-V Image backup and recovery
  – Federated Hyper-V CSV backup and recovery
  – Recover VM’s to alternate Hyper-V servers
  – Granular Level Recovery (GLR) for faster restores
Image Backup for Hyper-V

- Complete Hyper-V Protection
  - Protects OS, System State, Data & Configs
- Full Image Backups of Hyper-V VMs offering DR and granular protection
  - Supports all Hyper-V Guest Operating Systems
  - OS and application consistency
- Flexible Hyper-V Backup Options
  - Support for stand-alone Hyper-V Servers
  - Federated Hyper-V Cluster Shared Volumes
  - Backup to Avamar Data Store or Data Domain
  - Multi-stream backups for higher performance
Federated Hyper-V
Clustered Shared Volume (CSV)

- Federated Hyper-V CSV backup enables load-balancing
  - Fully automated
  - Scheduled from the CSV Cluster
  - Supports live migration of VMs to different Hyper-V CSV node

- Flexible CSV backup scheduling
  - Backup all VMs in the CSV cluster
Hyper-V Image Recovery

- Flexible Hyper-V Image Recoveries
  - Restore to Original VM in original location
  - Restore to Original VM in new location
  - Restore to a Different Hyper-V Server
  - Initial Store Restore
    - Hyper-V configuration file is protected
Hyper-V Granular Level Recoveries (GLR)

- Avamar Hyper-V GLR Proxy
  - Mount Hyper-V Image backups quickly from within Avamar & Data Domain savesets to recover files or folders
  - Faster recovery
  - Easy to use
Coming Soon: Hyper-V 2012 Support

Benefits
• Better performance for Hyper-V over Clustered Shared Volume (CSV)
  – Proxy node
  – I/O redirection eliminated
  – Concurrent backups
• In Guest backup enhancements
  – Copy (No Log Truncation) or Full
• Exclude VMs from backup
• Client configuration wizard

Faster backups
No impact to Hyper-V servers during backup
Simplified configuration and management
Increased operational flexibility
Optimized VMware Backup & Recovery
Avamar for VMware

Optimized for VMware Backup and Recovery

- Application consistency
- Unique Changed Block Tracking for faster image-level backups and restores
- Self-service file-level recovery
- Streamlined management with vCenter
- Qualified for VCE Vblock and VSPLEX
Business Critical Application Backup

Avamar agents ensure application consistency

Virtual Infrastructure
VMware Image-Level Backup
Integration with VMware vStorage API for Data Protection

- Changed Block Tracking (CBT) reduces backup time and recovery time
- File-level recovery from image backup
- Flexible restore
- Universal proxy server load balancing

Avamar deduplication backup runs on a universal proxy VM
Universal Proxy Server Load Balancing

- Automatic backup job assignment
- Distributed evenly
- Faster backups
Faster Image-Level Recovery

Changed Block Restore

- Changed block backup
  - Minimizes backup times
  
  *30x Faster than Full Restore*

- Changed block restore
  - Transfer delta blocks between backup set and virtual machine
Avamar with Data Domain Systems

Avamar Agents

Remote Office, Desktop/Laptop

Avamar Management

DD Boost

VMware Images, Hyper-V Images, Exchange, SharePoint, SQL Server, Oracle, SAP, Sybase, IBM DB2, File Systems, NDMP, Lotus Notes

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Instant Access to Virtual Machine on Data Domain System

Critical time access & Rapid recovery through vMotion

1. Data Domain system is presented as a VMware datastore via NFS

2. VM is “instantly” accessed by booting from NFS datastore

3. vMotion VM to production storage while VM is running

Consumes existing ESX CPU and memory resources
Run Avamar from vSphere Web Client

- Easy to Use
- Manage Backups
- Self-Service File-Level Restore
As Easy as 1,2,3,4

Select the VMs for Backup
Set Backup Schedule
Define Retention Period
Name Backup Job
Self-Service Restore

• Intuitive web portal for simple and fast recovery
• Reduced overhead for backup admins
Dynamic Policies

- Apply a backup policy to a folder, an ESX server or to an entire cluster
  - Virtual Machines added within each group automatically inherit the backup policy
- Much faster backup assignment
- Consistency across VM groups
- Ensures all VMs are always protected
Enhanced VMware Proxy
Multi-Threaded

- Up to 8 simultaneous backups/restores per proxy
- Fewer proxies required to manage
  - Faster setup, less to deploy
  - Easier management, reduced overhead
Increased Capacity up to 4TB for Avamar Virtual Edition (AVE)

- Ideal for use at remote offices
- Excellent for use in the data center in combination with Data Domain Systems
- Easier deployment
- Less hardware
Backup and Recovery for VCE Vblock
Integrated, Optimized, Comprehensive

- Optimized for the VCE Vblock
  - Higher performance
  - Deploy faster, with less effort
  - Single vendor support

EMC Avamar and Data Domain Systems integrated in the VCE Vblock

7.8 TB RAIN Avamar Data Store
Data Domain 670 or 890
EMC VSPEX AND EMC BACKUP

- EMC Backup Part Of Every VSPEX
  - Avamar, Data Domain, NetWorker
- Deploy Faster With Complete Virtualization Protection Assurance
- 7 Month Average Payback
Services for Every Stage of the Technology Deployment Lifecycle

Accelerating Backup/Recovery/Archive Technology Transformation

- **Planning Services**
  Guidance and recommendations to help build your backup infrastructure

- **Deployment Services**
  Design and implement your backup infrastructure

- **Optimization Services**
  Optimize the performance and reliability of your backup infrastructure

- **Education Services**
  Training and certification programs to develop knowledge and skills

- **Managed Services and Support**
  Manage infrastructure operations, fill knowledge and resource gaps, connect for proactive remote monitoring and repair
Customer Success

VCE Vblock Backup & Recovery with EMC Avamar

- Why? Urgency, opportunity, speed, support
- Vblock 300FX, Avamar 39TB Grid
- Backup via NDMP for CIFS, Agent-based for supported systems
- Deduplication is awesome!
- 90% of our servers back up in under an hour – 60TB of CIFS in under 30 minutes
Backup Built for Your Virtual Environment

Get a Backup/Archive Assessment.

Contact Your EMC or Partner Sales Representative.