What’s new

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Timothy Dewin (Veeam Software)

http://teeam.eu
Veeam

Availability Suite

Veeam One

Veeam Management Pack

Veeam Backup & Replication
Agenda

- 9.5 What’s new
- Veeam Agent for Windows
- Veeam Agent for Linux
- Veeam Availability Console
- Veeam Backup for Office 365
- Veeam Orchestrator
V9.5 What’s New
Veeam delivers enterprise scalability and other enterprise enhancements

NEW Enterprise Scalability
Enterprise Scalability

**NEW** Backup acceleration technologies that double I/O performance and shorten backup windows by up to five times – all while reducing load on primary storage, backup storage and vCenter Servers

**NEW** Full VM restore acceleration technologies with custom-tailored logic for raw disk, deduplicating storage and tape, improving VM restore performance by several times

**NEW** Processing engine enhancements to scale for the largest environments and achieve efficient processing of jobs containing thousands of VMs or millions of files
Proxy Affinity Rules

Proxy affinity rules:
Tie backup proxies to simple backup repositories and Scale-out Backup Repository extents

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Enterprise Scalability

Broker Service collects and caches vSphere infrastructure topology in RAM for access at memory speed.
Greater performance and integrity for large-scale datasets

NEW Advanced ReFS Integration
NEW Fast cloning technology enables up to 10x faster creation and transformation of synthetic full backup files, all without physically moving data blocks between files, for even shorter back windows and lower backup storage load.

NEW Spaceless full backup technology allows multiple full backup files residing on the same ReFS volume to share the same physical data blocks, resulting in reduced backup storage capacity consumption that rivals that of a deduplication appliance.

NEW Data integrity streams integration leverages ReFS data integrity scanner and proactive error correction from Storage Spaces to protect backup files from silent corruption for more reliable forever-incremental archiving.
Incremental Backup

- **Full Backup**: A0, B0, C0
- **Incremental Backups**:
  - A1
  - A2
  - C1

Backup Repository

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Synthetic Full Backup (Legacy)

A0
B0
C0
.vbk 1

A1
.vib 1

A2
.vib 2

C1
.vib 3

Synthetic Full
.vbk 2

Backup Repository
60%
70%
80%
90%

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Synthetic Full Backup (ReFS)

Full Backup

A0

B0

C0

.vbk 1

Incremental Backups

A1

A2

.vib 1

.vib 2

Fast clone reference to existing blocks

Synthetic Full

A2

B0

C1

.vib 3

.vbk 2

60%

ReFS Backup Repository

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Initial tests

NTFS -- Forward Incremental
Average time to backup all 7 VMs/day: ~11min (worst case was ~20 min)
Average merge time/day: ~24min (worse case was ~44 min)
Average total time/day: ~35min

NTFS -- Reverse Incremental
Average time to backup all 7 VMs/day: ~45min (worst case was ~70 min)

ReFS -- Forward Incremental
Average time to backup all 7 VMs/day: ~11min (worst case was ~20 min)
Average merge time/day: ~2m: (worse case was ~3 min)
Average total time/day: ~13min

ReFS -- Reverse Incremental
Average time to backup all 7 VMs/day: ~13min (worst case was ~20 min)
Modernize your private cloud platform and enterprise applications

**NEW** Veeam fully integrates with Microsoft 2016 data center technologies
Hyper-V 2016

These updates require your VMs be running the new virtual VM hardware version

Hyper-V hosts installed on Nano Server
Includes support for Storage Spaces Direct to deploy Microsoft’s recommended Hyper-V 2016 architecture to
Reduce data center footprints

Hyper-V’s NEW Resilient Change Tracking (RCT)
Reduces complexity by eliminating the additional filter driver in parent partition for changed block tracking for:

• Backups
• Replicas
• Restores
Windows Server 2016 Platform

1. Install Veeam Backup & Replication Components
2. Protect Guest VMs Running Server 2016 OS
3. PowerShell Direct
NEW Veeam Availability Suite 9.5
Integration with 2016 Microsoft enterprise applications

Application-aware processing for:

- Microsoft Active Directory
- Microsoft Exchange
- Microsoft SQL Server
- Microsoft SharePoint

Application item-level recovery through Veeam Explorers™
Ensuring High-Speed Recovery through fast RTO’s of <15 minutes

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Optimize resource allocation to drive scalability and reduce cost

NEW Cloud restore for ANY Veeam backup
Direct Restore to Microsoft Azure

Take on-premises workloads and restore or migrate them to Microsoft Azure. With Direct Restore to Microsoft Azure you can:

- Quickly restore Windows- and Linux-based VMs, physical servers or endpoints to Azure to minimize business disruption
- Execute planned workload migrations from on-site to the cloud to reduce on-site resource constraints
- Easily create an Azure-based test environment for testing backup reliability, as well as patches and critical updates to mitigate risks associated with application deployment
Direct Restore to Microsoft Azure

Quickly restore Windows- and Linux-based VMs, physical servers or endpoints to Azure to minimize business disruption

Execute planned workload migrations from on-site to the cloud to reduce on-site resource constraints

Easily create an Azure-based test environment for testing backup reliability, as well as patches and critical updates to mitigate risks associated with application deployment

Any backups stored in a Veeam repository…

Veeam Backup & Replication™ - Direct Restore to Microsoft Azure

Veeam Backup™ Free Edition

Veeam Agent for Windows

...can be restored to Azure using the VBR UI.

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NEW Veeam Agents
NEW Veeam Windows and Linux agents deliver Availability to public cloud workloads, as well as physical endpoints, workstations and servers:

- Avoid downtime and data loss
- Enable workload mobility by allowing workloads to move from on-premises to the cloud
- Streamline operations with one trusted solution for virtual, physical and cloud
Veeam Agents

Protect servers and workstations on-premises and in the cloud
Veeam Agent for Microsoft Windows

Free Edition

NEW in v2:

• Instant Recovery to Hyper-V VM
• Direct Restore to Microsoft Azure
• Source-side encryption
• Flexible backup modes
Veeam Agent for Microsoft Windows

NEW Workstation Edition

Free Edition, plus...

• 24.7.365 technical support

• Remote configuration and management API

• Endpoint protection for mobile users

• Back up directly to Veeam Cloud Connect repository
Veeam Agent for Microsoft Windows

NEW Server Edition

Workstation Edition, plus...

FULL server support!
• Application-aware processing
• Transaction log backup
• Guest file system indexing and catalog search
### Veeam Agent for Microsoft Windows

<table>
<thead>
<tr>
<th>Feature</th>
<th>Free</th>
<th>Workstation</th>
<th>Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instant Recovery to Microsoft Hyper-V VM</td>
<td>●</td>
<td>●</td>
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</tr>
<tr>
<td>Direct Restore to Microsoft Azure</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Source-side encryption</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Endpoint protection for mobile users</td>
<td></td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Back up directly to Veeam Cloud Connect</td>
<td></td>
<td>●</td>
<td>●</td>
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<tr>
<td>Remote configuration and management API</td>
<td></td>
<td>●</td>
<td>●</td>
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<tr>
<td>Application-aware processing</td>
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<td>●</td>
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<tr>
<td>Transaction log backup for databases</td>
<td></td>
<td>●</td>
<td>●</td>
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<tr>
<td>Guest file indexing and search</td>
<td></td>
<td>●</td>
<td>●</td>
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<tr>
<td>24.7.365 technical support</td>
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Veeam Agent for Linux

Simple and free backup agent for Linux — anywhere

- Protect entire computer, or create volume-level and file-level backups
- Built-in snapshot and change tracking drivers delivered as a dynamically loadable kernel module
- Integrated directly into Veeam Backup & Replication (backup repository, basic centralized monitoring)
## Veeam Agent for Linux

<table>
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<th>Feature</th>
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<th>Workstation</th>
<th>Server</th>
</tr>
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<tbody>
<tr>
<td>Entire computer, volume-level and file-level image-based backup</td>
<td>☑</td>
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<tr>
<td>Built-in volume snapshot and changed block tracking drivers</td>
<td>☑</td>
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<tr>
<td>File-level, volume-level and bare metal recovery (same or different hardware)</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Backup and recovery using console UI or command line</td>
<td>☑</td>
<td>☑</td>
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</tr>
<tr>
<td>Integration with Veeam Backup &amp; Replication</td>
<td>☑</td>
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<tr>
<td>Support for multiple jobs</td>
<td></td>
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<tr>
<td>Pre-freeze/post-thaw snapshot scripts for application processing</td>
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<td>☑</td>
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<tr>
<td>Guest file indexing, catalog search and restore with Veeam Backup Enterprise Manager</td>
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<td>24.7.365 technical support</td>
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NEW Veeam Availability Console
Veeam Availability Console

Service providers and distributed enterprises share many similar challenges that impact management costs.

- Tenant and Department management
- Remote backup & replica management
- Monitoring/alerting
- Showback/billing

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Veeam Availability Console

Allows service providers to streamline delivery of Veeam-powered BaaS and DRaaS to their customers

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Veeam Availability Console

Veeam Availability Console + Veeam Cloud Connect

Veeam-powered backup & replication services

Primary Enterprise Data Center

Office

Office

Office

Allows enterprises to streamline delivery of Veeam-powered backup & replication services to remote offices

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Microsoft Office 365 email
Maintain email access by securely backing up Office 365 email data back to your environment

Avoid data loss via quick recovery of individual mailbox items with best-of-breed granularity

Satisfy legal & regulatory requirements with efficient eDiscovery of email archives
Veeam Backup for Microsoft Office 365

Securely backup Office 365 email data back to your environment

Quickly recover individual mailbox items with best-of-breed granularity
Veeam Availability Orchestrator
<table>
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<tr>
<th>BUILD</th>
<th>TEST</th>
<th>DOCUMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-site DR plans, role delegation, dynamically managed</td>
<td>Automated plan testing, application verification, detailed reporting</td>
<td>Template-based DR Documentation, automatically updated</td>
</tr>
</tbody>
</table>

Veeam Availability Orchestrator

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VAO Features

Site-based model
- One DR Site
- Multiple Production Sites

Site Roles
- Site Administrators
- Failover Plan Authors

Granular delegation
- VM Groups
- Virtual Labs
- Other Plan components

Delegated access to Veeam B&R

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VAO Features

Built on Veeam Business View
- VM Groups are building blocks of Plans

Dynamic group updates via
- Business View Rules
- vCenter Tags
- Veeam B&R Application-awareness
- 3rd-party CMDB integration
VAO Features

Built on Veeam Virtual Labs
- Veeam SureReplica technology
- Delegate labs per-Site
- Build custom lab environments
- Scheduling engine
- Granular testing and verification
- Dashboards for Failover Plan readiness

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VAO Features

Automated Documentation

DR Template
- Fully customizable in MS Word
- Multiple Templates per-Site

DR Document
- Built from Template + Plan Definition
- Automatically updates as Plan changes
- Emailed to all stakeholders
- Detailed Change Log

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### VAO – Sample Screen

**Alpha Screen shot!**

**GA may not look like this!**

#### PLAN RECOVERY GROUPS
- **Pre-Plan steps**
- **Dev/QA Servers**
- **Corporate AD Servers**
- **Corporate Exchange Servers**
- **Data streaming servers**
- **Other servers**
- **Post-Plan steps**

#### VIRTUAL MACHINES
- **PRODEXCH1**
- **PRODEXCH2**
- **PRODEXCH3**
- **pd2012r2m01**
- **pd2012r2m02**
- **pd2012r2m03**
- **veeamda01**
- **veeamda02**
- **veeamda03**
- **corpdev_csdpt2015design01**
- **corpdev_csdpt2015design02**
- **veeamcom01**
- **corpdev_csdpt2015marketing01**
- **corpdev_csdpt2015marketing02**
- **corpdev_csdpt2015marketing03**

#### STEPS for several selected VMs
- **Recover VM**
- **Check VM heartbeat**
- **Ping VM**
- **Verify VM**
- **Finalization script**
- **vmpreparescript**
- **fixconfig**
- **Verify Ready**
- **Check Disk Space**
- **OverrideDRConf**
- **Send notifications**
Thank you