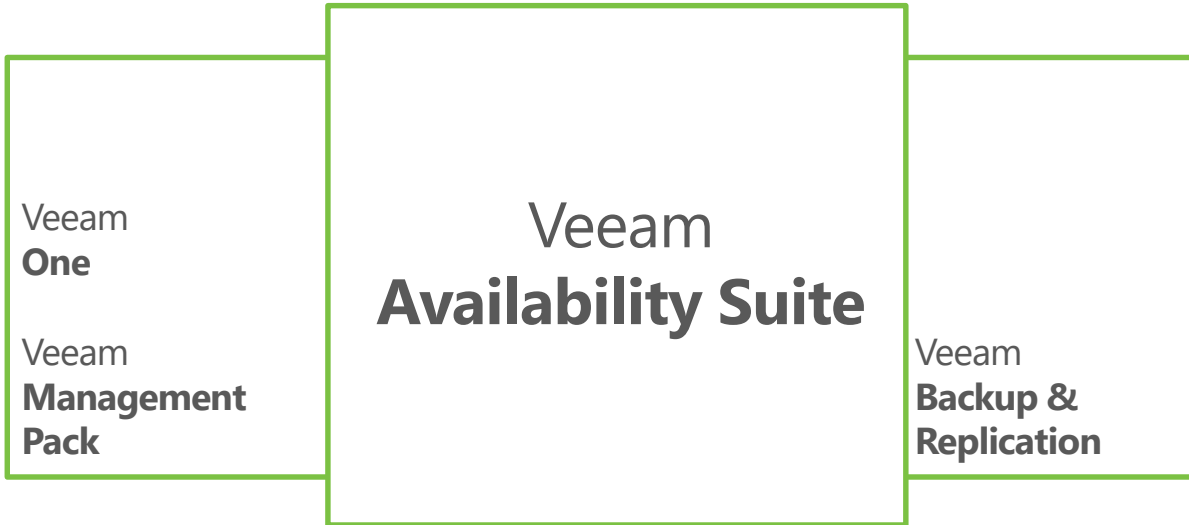


# What's new

James De Clercq (RealDolmen)  
Timothy Dewin (Veeam Software)

<http://teeam.eu>



# 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

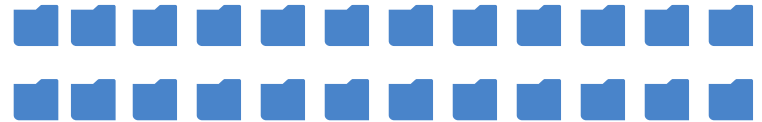
# Proxy Affinity Rules

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

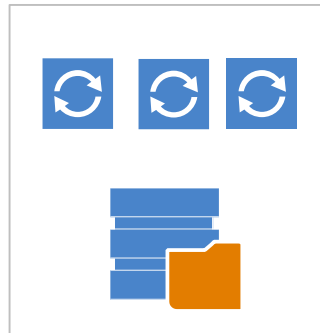
Veeam Backup &  
Replication Server



Backup Jobs

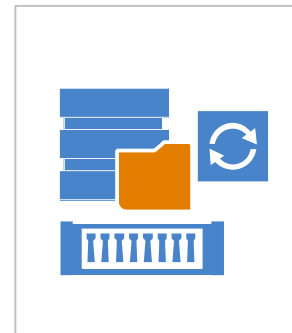


Proxy Affinity:  
3 proxies to a repository



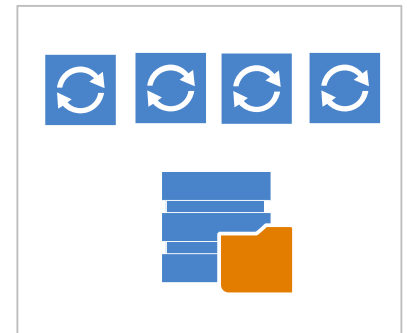
Repository 1

Proxy Affinity:  
Proxy & Repository as  
same system



Repository 2

Proxy Affinity:  
4 proxies to a repository

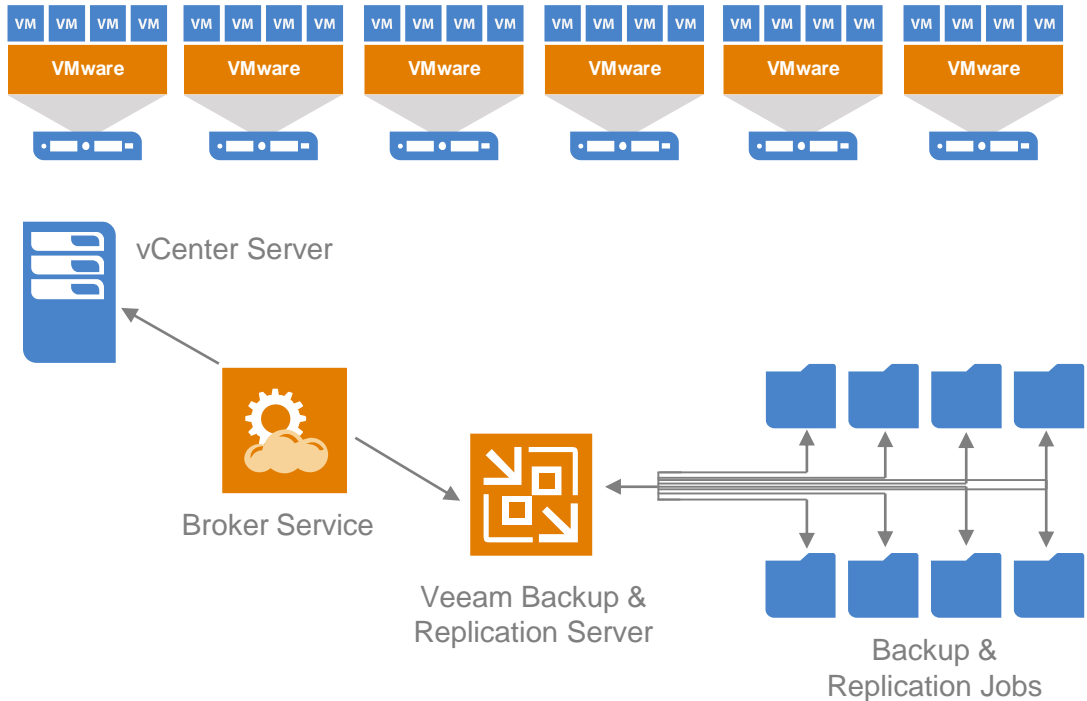


Repository 3


# 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

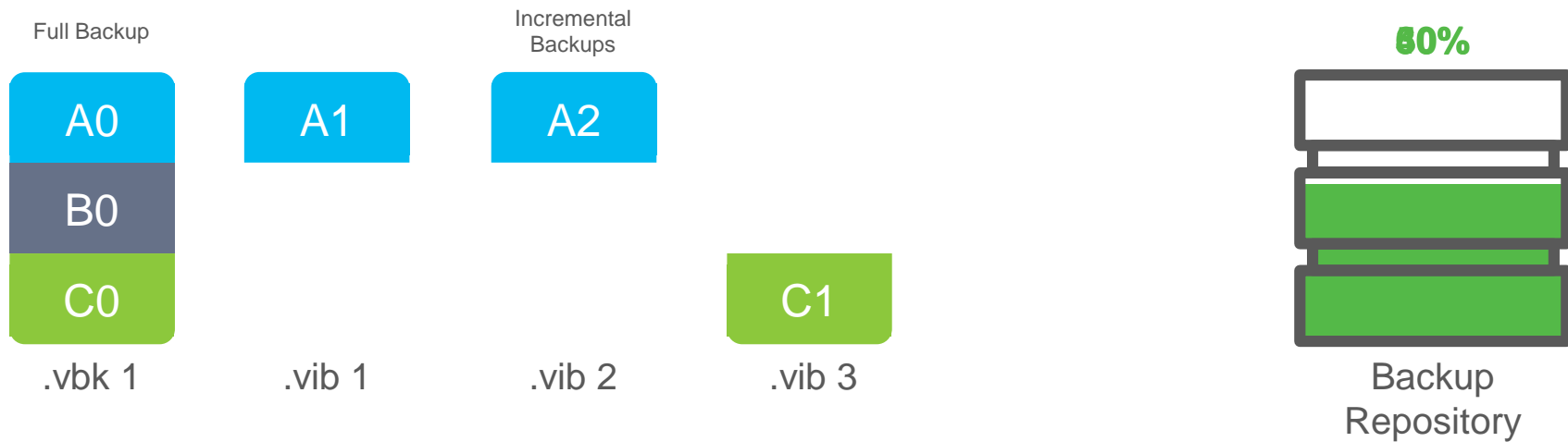
# Advanced ReFS Integration

**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

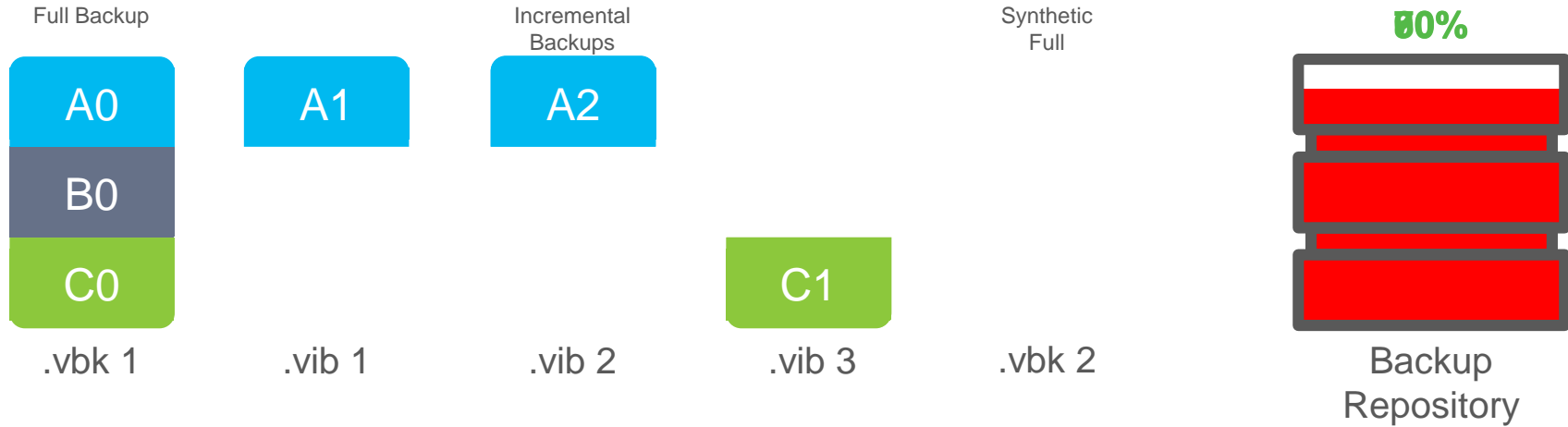
**NEW Spaceless full backup technology** allows multiple full backup files residing on the same ReFS volume to share the same physical data blocks, resulting in reduced backup storage capacity consumption that rivals that of a deduplication appliance

**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

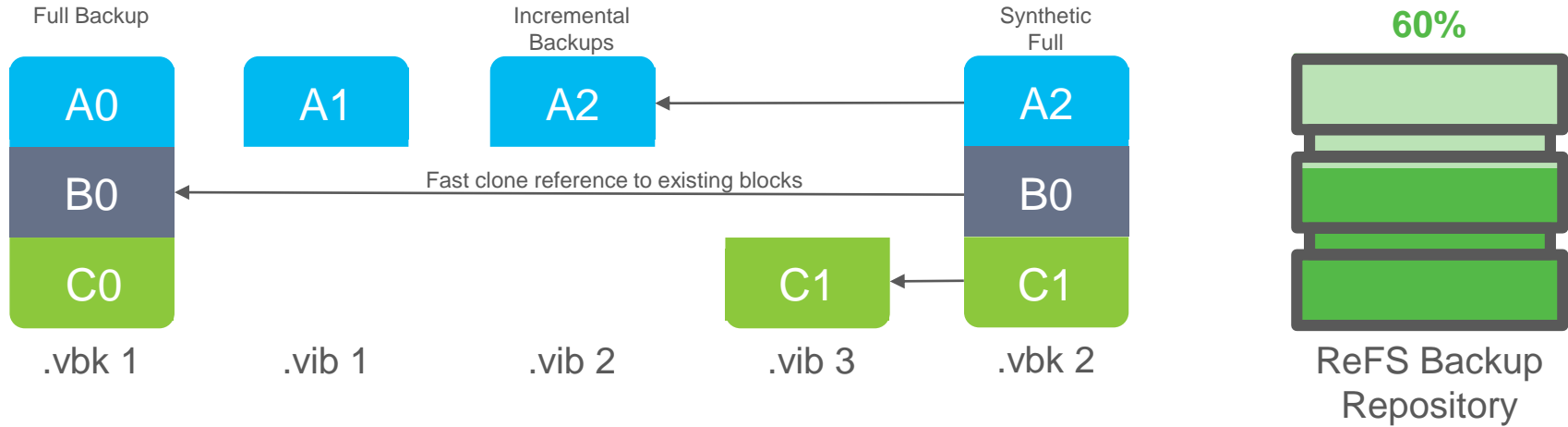
# Incremental Backup



# Synthetic Full Backup (Legacy)



# Synthetic Full Backup (ReFS)



# 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

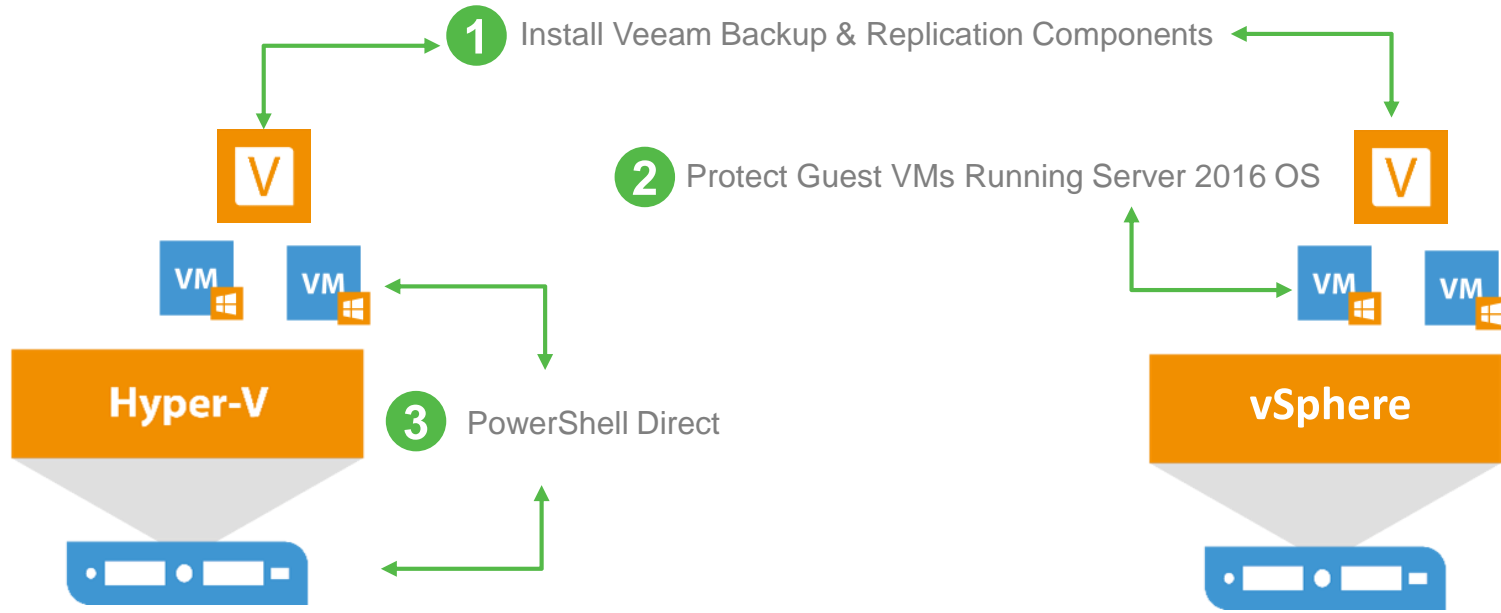
## Hyper-V's NEW Resilient Change Tracking (RCT)

Reduces complexity by eliminating the additional filter driver in parent partition for changed block tracking for:

- Backups
- Replicas
- Restores



# Windows Server 2016 Platform



# **NEW** Veeam Availability Suite 9.5

## Integration with 2016 Microsoft enterprise applications

Application-aware processing for:



Microsoft  
Active Directory



Microsoft  
Exchange



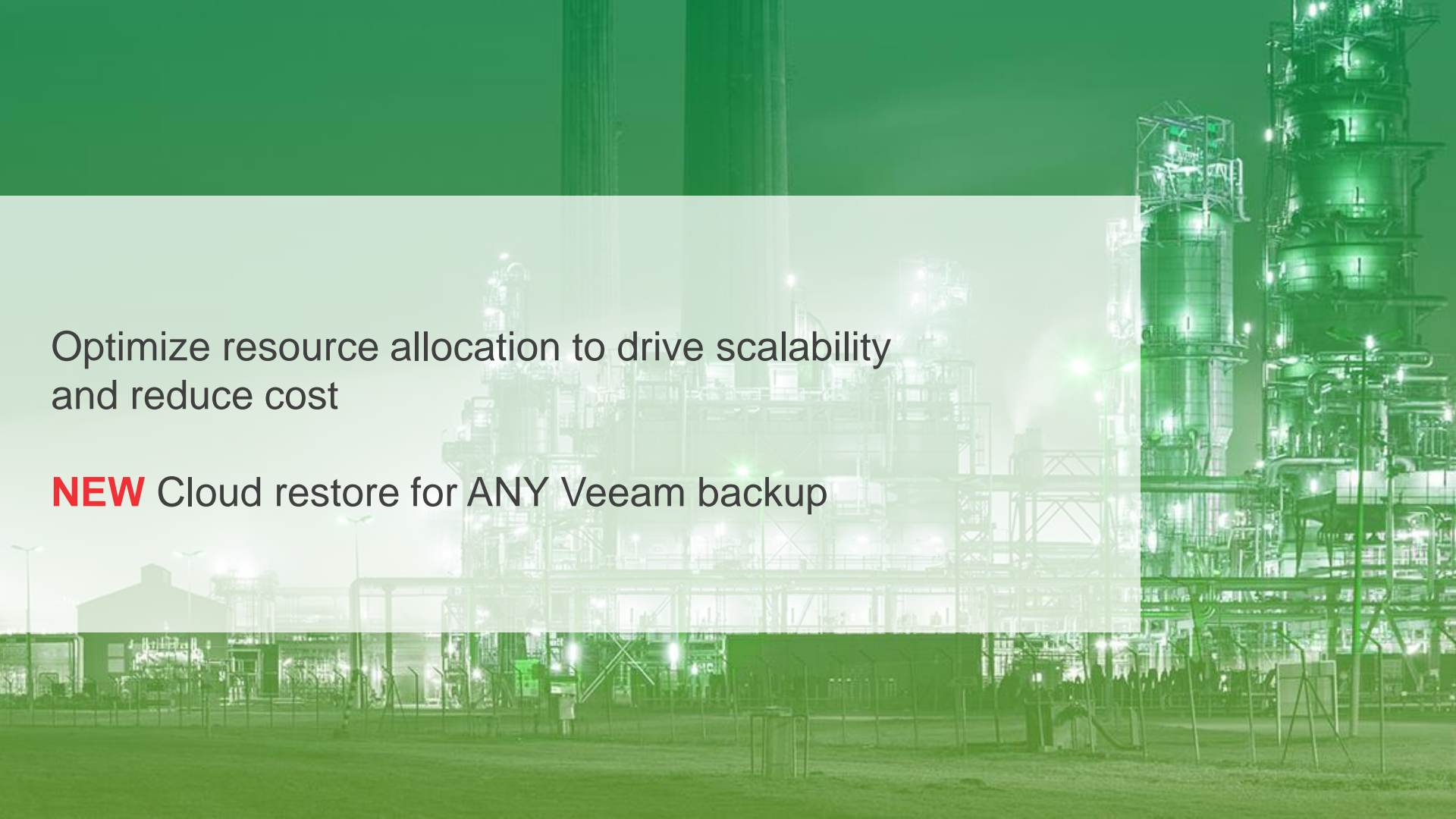
Microsoft  
SQL Server



Microsoft  
SharePoint

**Application item-level recovery through Veeam Explorers™**

Ensuring High-Speed Recovery through fast RTO's of <15 minutes



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:

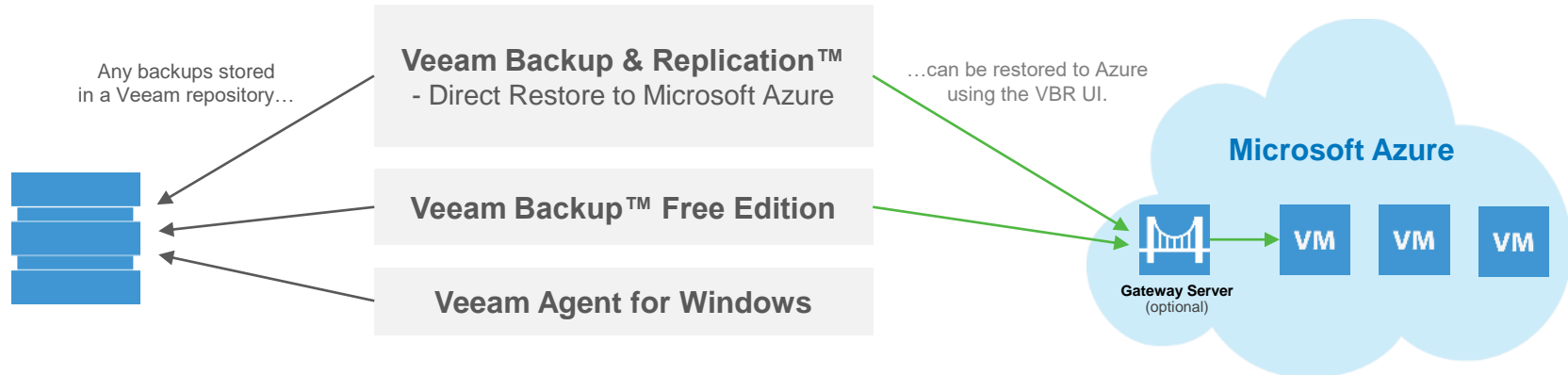
- *Quickly restore Windows- and Linux-based VMs, physical servers or endpoints to Azure to minimize business disruption*
- *Execute planned workload migrations from on-site to the cloud to reduce on-site resource constraints*
- Easily create an Azure-based test environment for testing backup reliability, 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



**NEW** Veeam Agents

# Availability for ALL your workloads

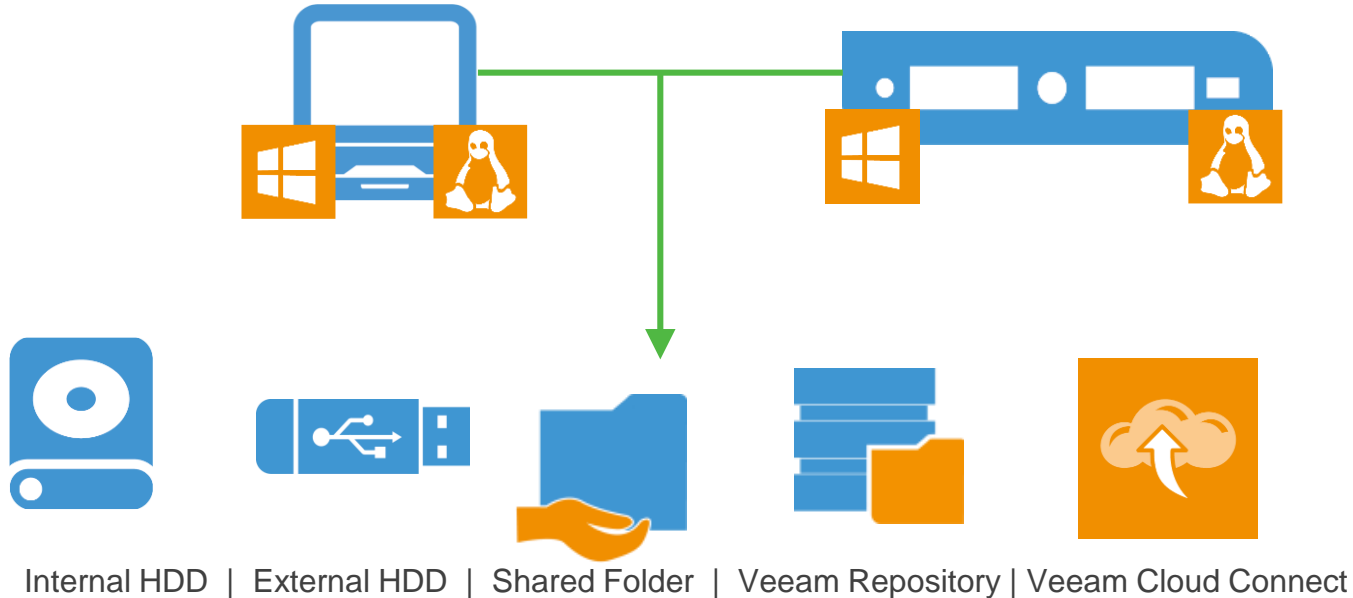
**NEW** Veeam Windows and Linux agents deliver Availability to public cloud workloads, as well as physical endpoints, workstations and servers:

- 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



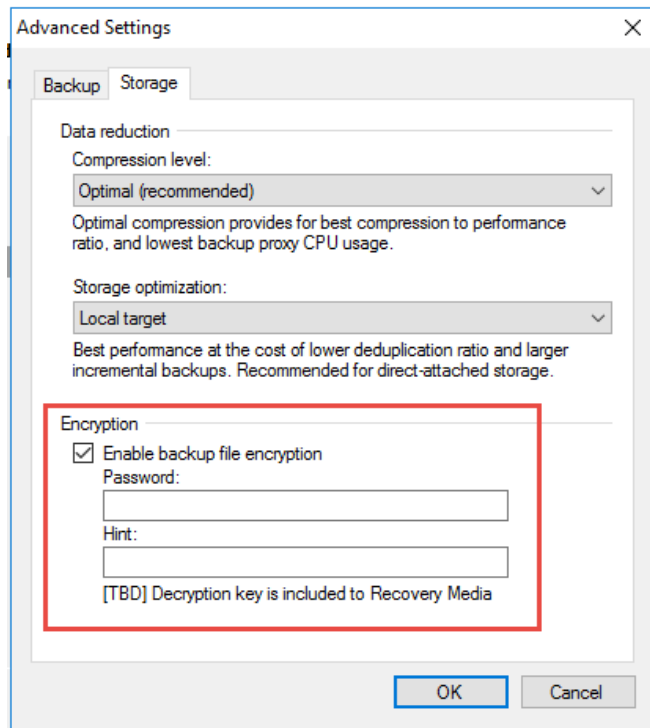


# Veeam Agent for Microsoft Windows

## Free Edition

### NEW in v2:

- Instant Recovery to Hyper-V VM
- Direct Restore *to Microsoft Azure*
- Source-side encryption
- Flexible backup modes

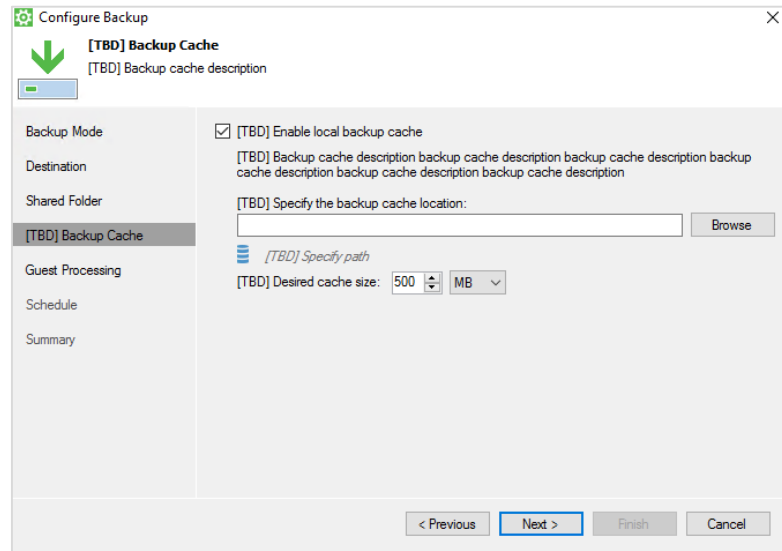


# Veeam Agent for Microsoft Windows

## **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



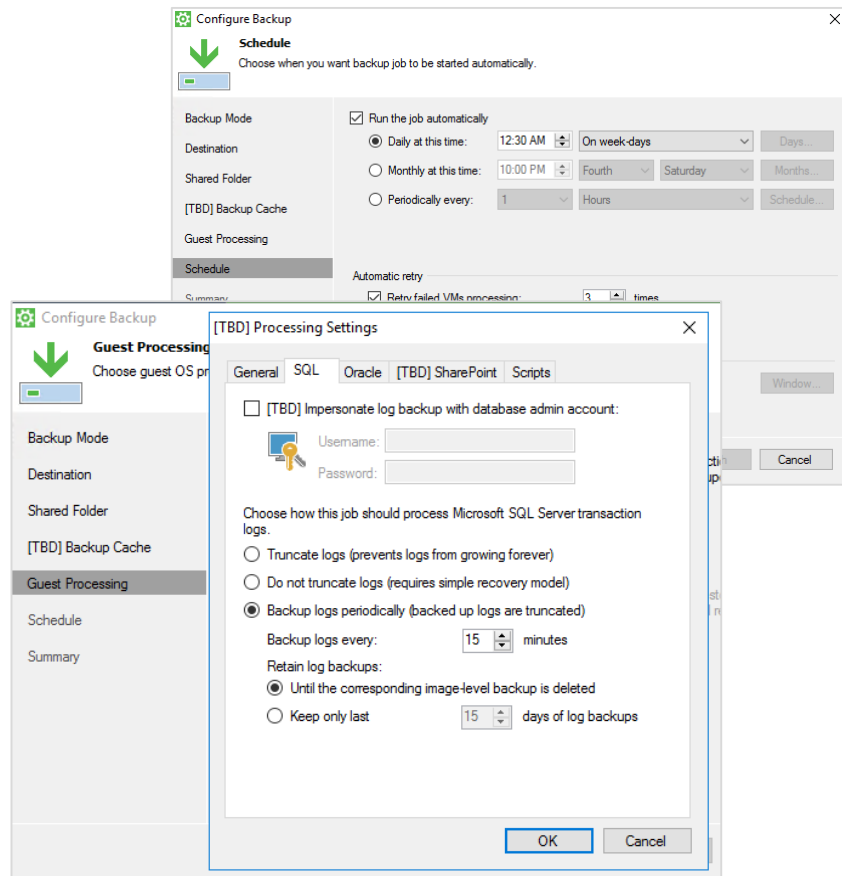
# Veeam Agent for Microsoft Windows

**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

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

# 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

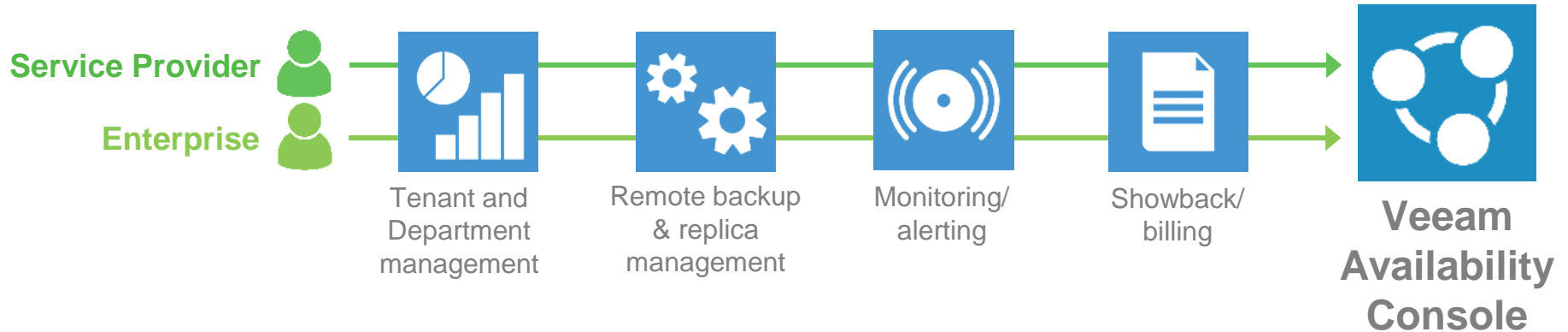
	Free	Workstation	Server
Entire computer, volume-level and file-level image-based backup	●	●	●
Built-in volume snapshot and changed block tracking drivers	●	●	●
File-level, volume-level and bare metal recovery (same or different hardware)	●	●	●
Backup and recovery using console UI or command line	●	●	●
Integration with Veeam Backup & Replication	●	●	●
Support for multiple jobs			●
Pre-freeze/post-thaw snapshot scripts for application processing			●
Guest file indexing, catalog search and restore with Veeam Backup Enterprise Manager			●
24.7.365 technical support		●	●

**NEW** Veeam

Availability Console

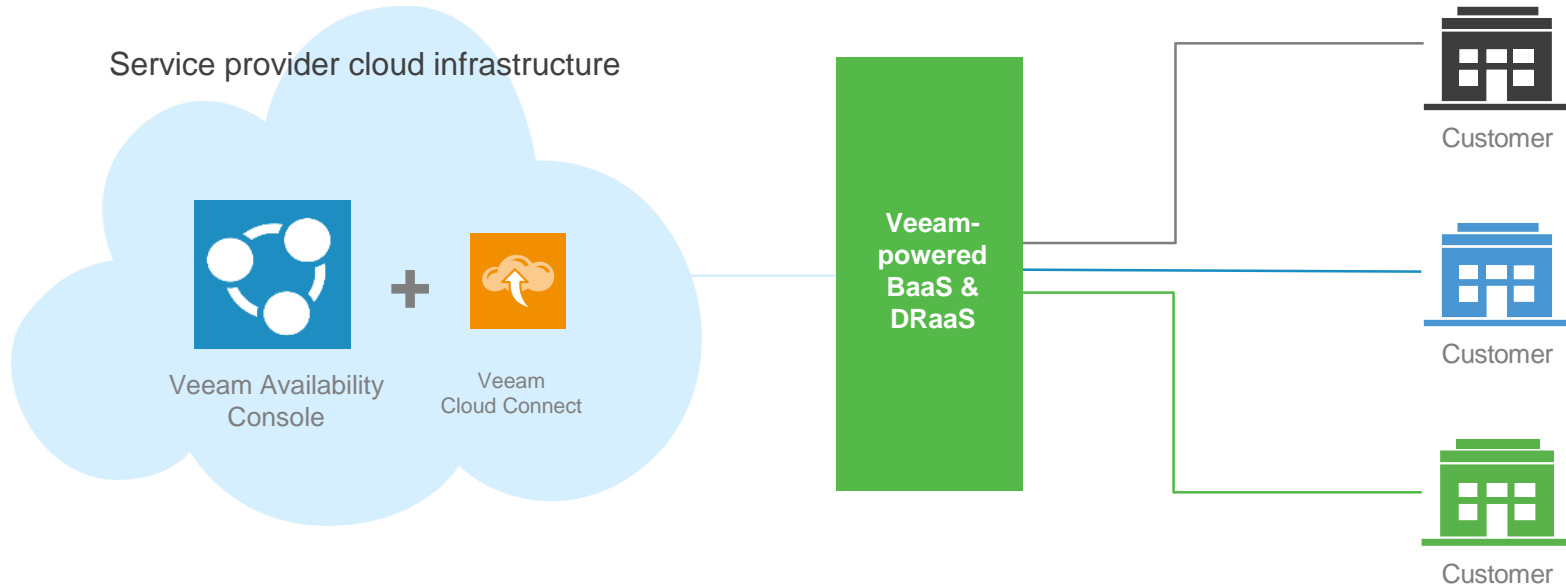
# Veeam Availability Console

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



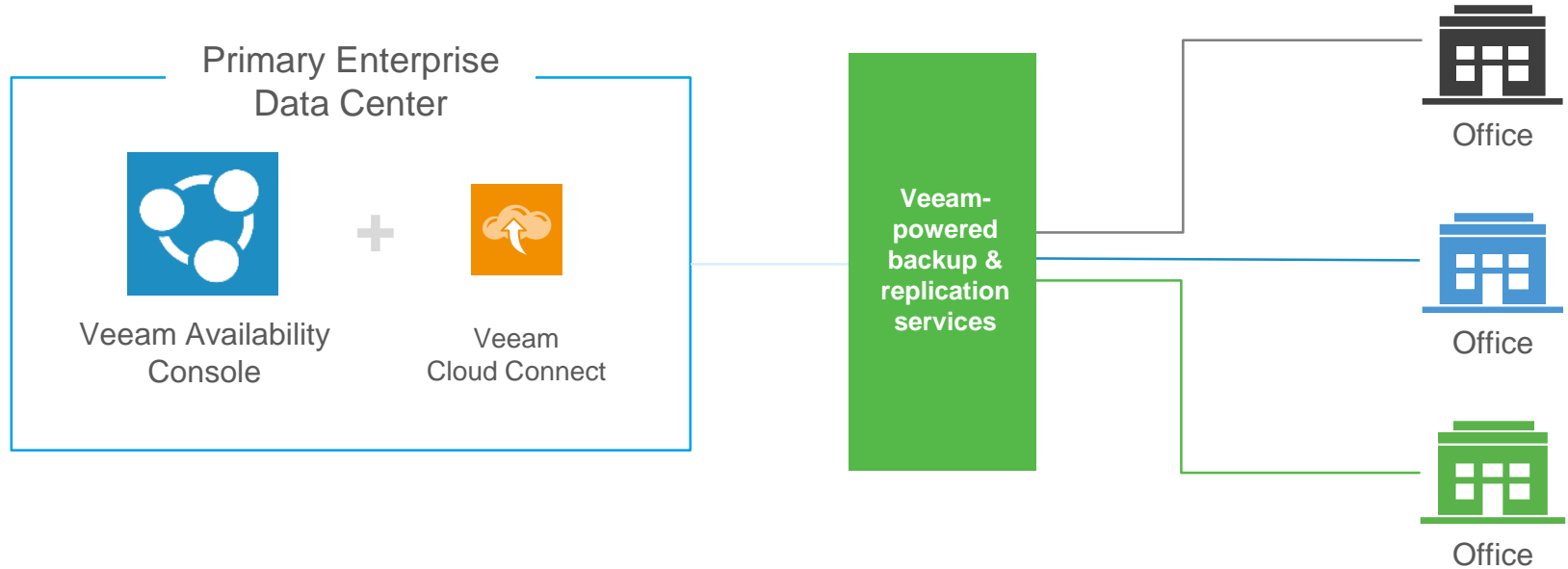


# Veeam Availability Console



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

# Veeam Availability Console



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

Microsoft Office 365 email

# Veeam Backup *for Microsoft Office 365*



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

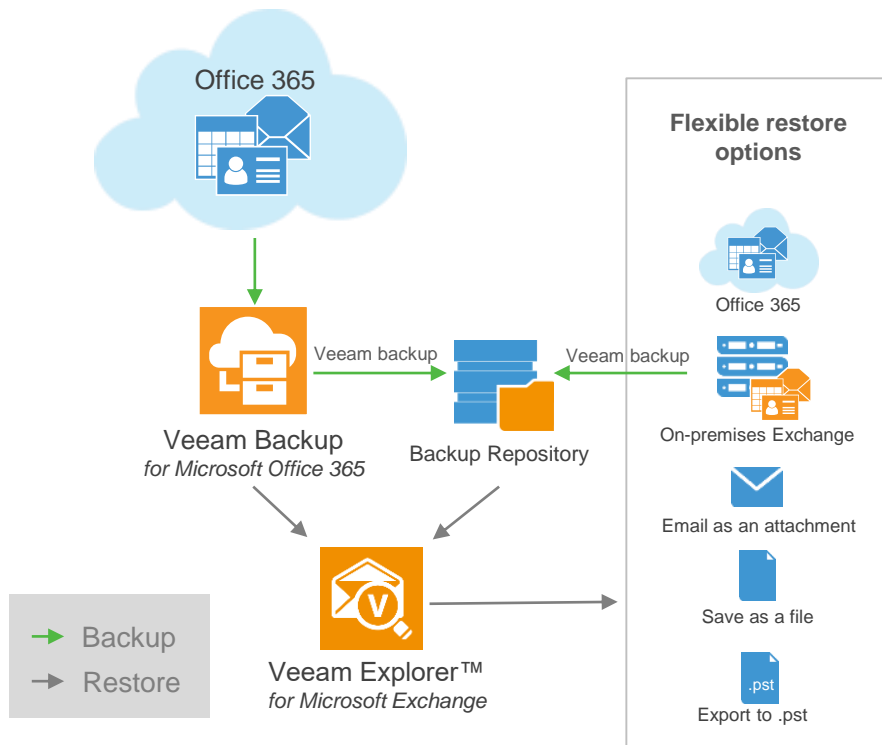


Satisfy legal & regulatory  
requirements with  
efficient eDiscovery of  
email archives

# 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

# Veeam Availability Orchestrator



## BUILD

Multi-site DR plans,  
role delegation,  
dynamically managed



## TEST

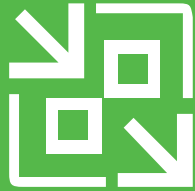
Automated plan testing,  
application verification,  
detailed reporting



## DOCUMENT

Template-based DR  
Documentation,  
automatically updated

# VAO Features



**Delegated access  
to Veeam B&R**

## **Site-based model**

- One DR Site
- Multiple Production Sites

## **Site Roles**

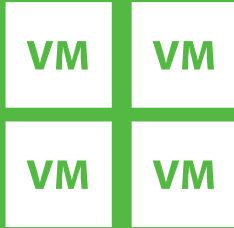
- Site Administrators
- Failover Plan Authors

## **Granular delegation**

- VM Groups
- Virtual Labs
- Other Plan components



# VAO Features



**Dynamic virtual  
machine groups**

## **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
- 3<sup>rd</sup>-party CMDB integration

# VAO Features



## Automated Testing

### 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

# 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

- WELCOME
- DASHBOARD
- Failover Plans
- BUILD AND RUN
- TEST
- DR Documentation
- GENERATE DOCUMENTS
- MANAGE TEMPLATES
- PLAN HISTORY



## Failover plan details CORE\_EXCH

Current state:

**FAILOVER IN PROGRESS**  37%



Search for VM group  by name Q

### PLAN RECOVERY GROUPS

Pre-Plan steps	Complete	✓
Dev/QA Servers	Complete	✓
Corporate AD Servers	Complete	✗
Corporate Exchange Servers	Complete	⚠
Data streaming servers	Complete	✓
Other servers	Running...	🔄
Post-Plan steps	Pending	⏸

### VIRTUAL MACHINES

Success: 12 Warning: 3 Error: 1

PRODEXCH1	Complete	✓
PRODEXCH2	Complete	✓
PRODEXCH3	Complete	✗
pd2012r2rm01	Complete	⚠
pd2012r2rm02	Complete	✓
pd2012r2rm03	Complete	✓
pd2012r2rm01	Complete	✓
veeamda01	Complete	✓
veeamda02	Complete	⚠
veeamda03	Complete	⚠
corpdev_csdpt2015design01	Complete	✓
corpdev_csdpt2015design02	Complete	✓
veeamcom01	Complete	✓
corpdev_csdpt2015marketing01	Complete	✓
corpdev_csdpt2015marketing02	Complete	✓
corpdev_csdpt2015marketing03	Running...	🔄

### STEPS for several selected VMs

Success: 4 Warning: 1 Error: 0

Recover VM	Complete	✓
Check VM heartbeat	Complete	✓
Ping VM	Complete	✓
Verify Exchange	Complete	⚠
finalizationScript	Complete	✓
vmprepareascript	Running...	🔄
fixconfig	Pending	⏸
Verify Ready	Pending	⏸
Check Disk Space	Pending	⏸
overrideDftConf	Pending	⏸
Send notifications	Pending	⏸

VAO – Sample Screen

Alpha Screen shot!  
GA may not look like this!

Thank you

