Cloud Data

Backup for what's next

Leader in Cloud Data Management

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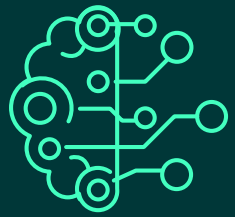
Data is changing everything

Cloud

Mobile

Edge/IoT



AI/ML

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Threats facing your data today are costly

Growth

Complexity

Compliance

Security

$20M/year cost of downtime to the average business

73% of organizations unable to deliver uninterrupted access to apps and data

38% say downtime has damaged brand

54% experience loss of customer confidence

Source: Veeam Cloud Data Management Report July 2019

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Legacy backup is not meeting your business needs

Limited

Complex

Inflexible

Expensive

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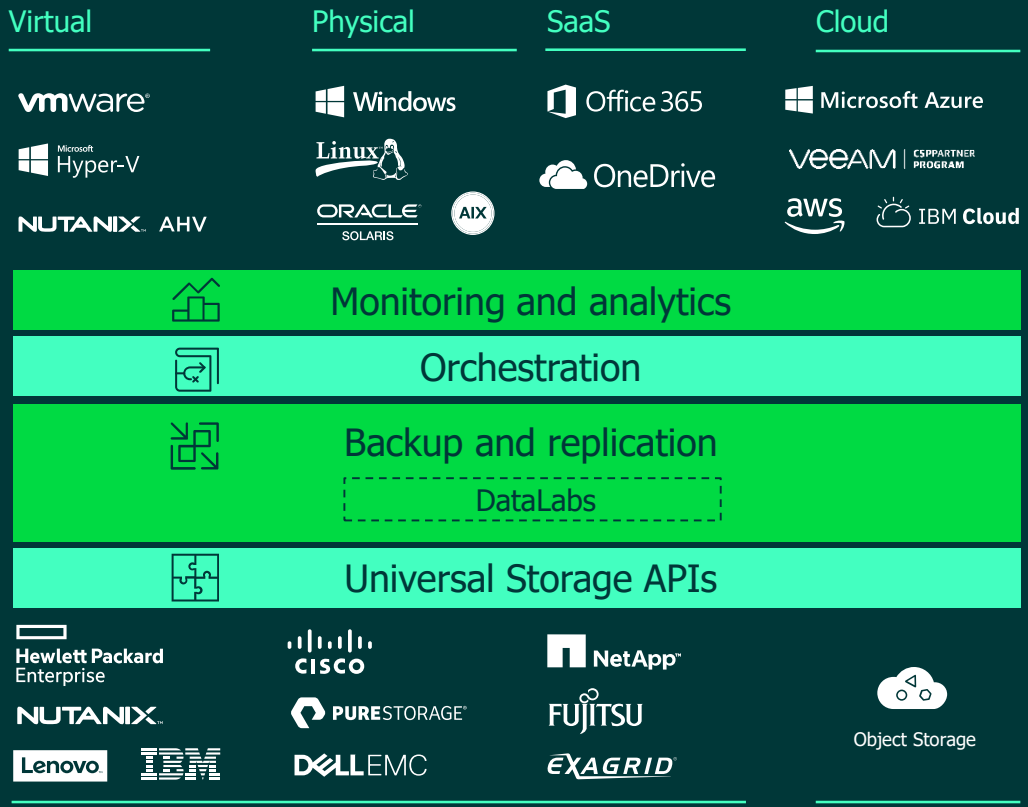
vision

A Single Platform for Cloud, Virtual and Physical



Why Veeam?

Simple

Built-in intelligence
Actionable insights
100% verified recovery
Scalable architecture

Flexible

Software defined
Hardware agnostic
Copy data management
Cloud ready

Reliable

"It Just Works"
Portable data format
Instant recovery
Strong support

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Disasters happen all the time

Earthquakes

Storms and floods

Accidental (or was it?) Fire

Malicious attacks from inside

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Business Continuity is Key

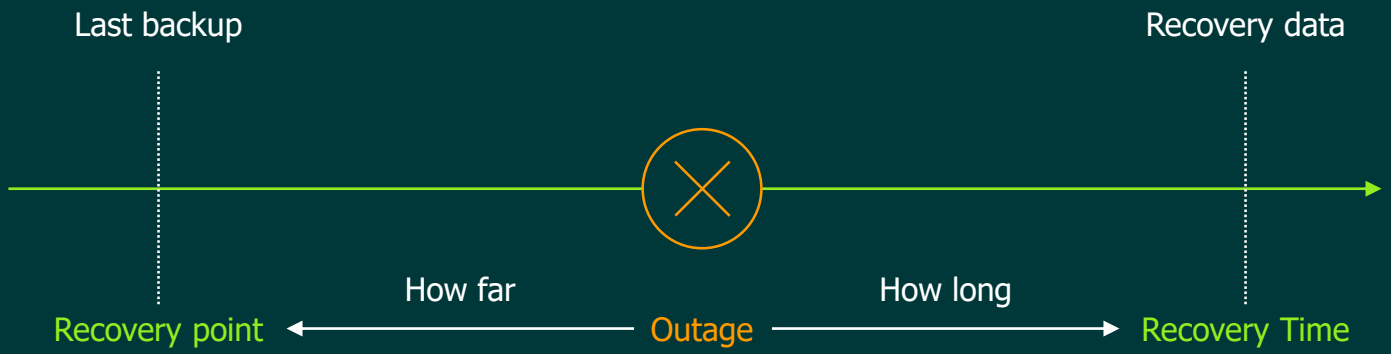
How much time it takes to recover your data and how recent the backup to restore is are defined in RTO and RPO.

Recovery Point Objective (RPO)

Point in time to which system's data must be recovered after an outage

Recovery Time Objective (RTO)

The amount within which a system must be recovered after an outage



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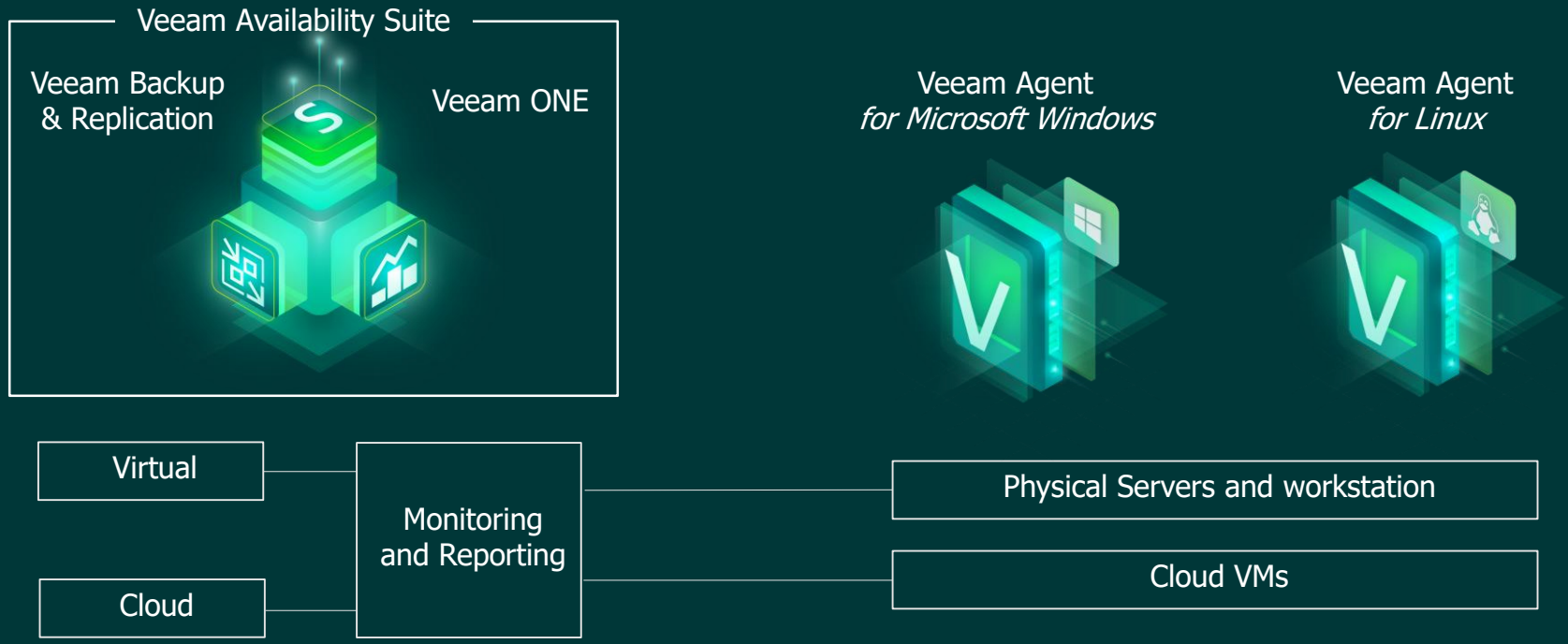
Veeam Availability Suite Overview

Any app, Any data, Any cloud



Maintain Availability

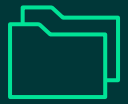
Continuously reduce unplanned downtime and gain the ability to readily recover and restore your backup data

Instant VM Recovery

Quickly recover service by restoring an entire VM in minutes, running it directly from the backup file

Veeam Explorers

Easily explore, discover and restore individual application items for mission critical business applications and storage snapshots



Instant-File Level Recovery

Effortlessly restore guest OS files and folders directly from an image-based backup without any preliminary steps

Veeam Restore to Azure and AWS

Affordable, advanced and fast recovery of Veeam backups directly into Microsoft Azure and AWS EC2 as an on-demand recovery site

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Workload Mobility

Cloud Mobility

Veeam Cloud Mobility

- Recover workloads to the cloud in 2 steps
- Maintain portability of workloads to the cloud

Cloud Data Protection

- Backup, restore, and DR for cloud native workloads
- Consolidates backup data in a central Veeam repository

Veeam Cloud Tier

- Infinite capacity for long-term data retention
- Air-gapped data protection

Veeam Cloud Connect

- Data protection as a service using certified providers
- Managed BaaS and DRaaS offers substantial benefits

- No vendor lock-in
- Cloud-native backup, restore, and DR
- Continuity and availability across hybrid-cloud
- Automated data retention in the cloud

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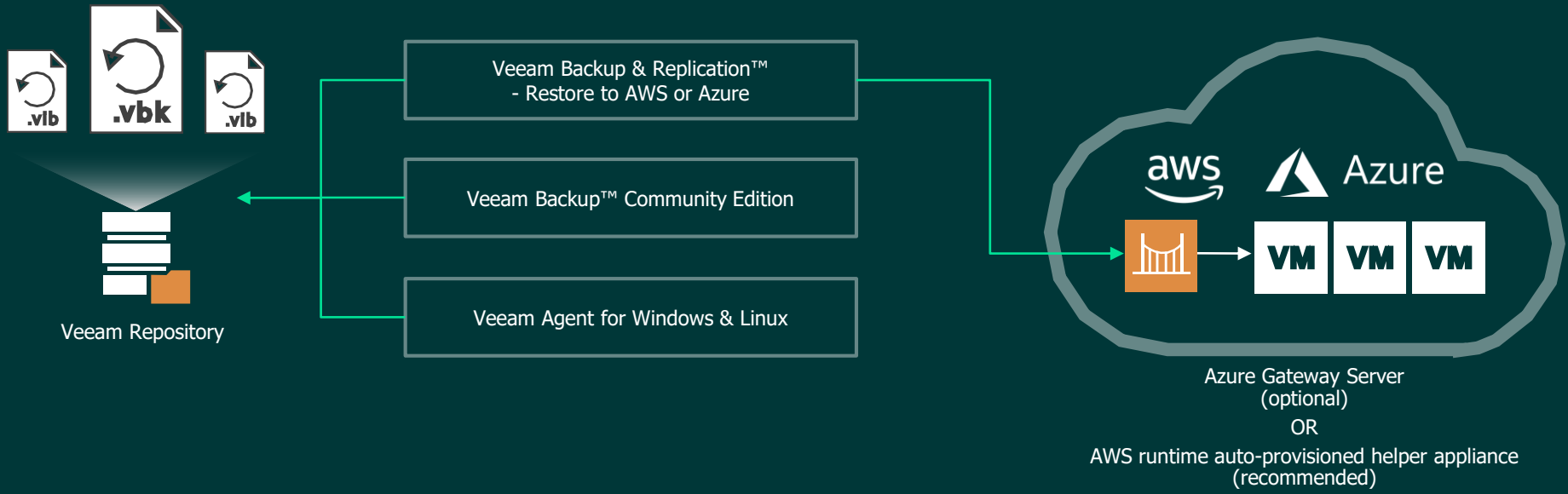
Easy workload mobility

Any Veeam backup stored in any Veeam backup repository can be easily be restored as a cloud-based workload in AWS, Azure, and Azure Stack



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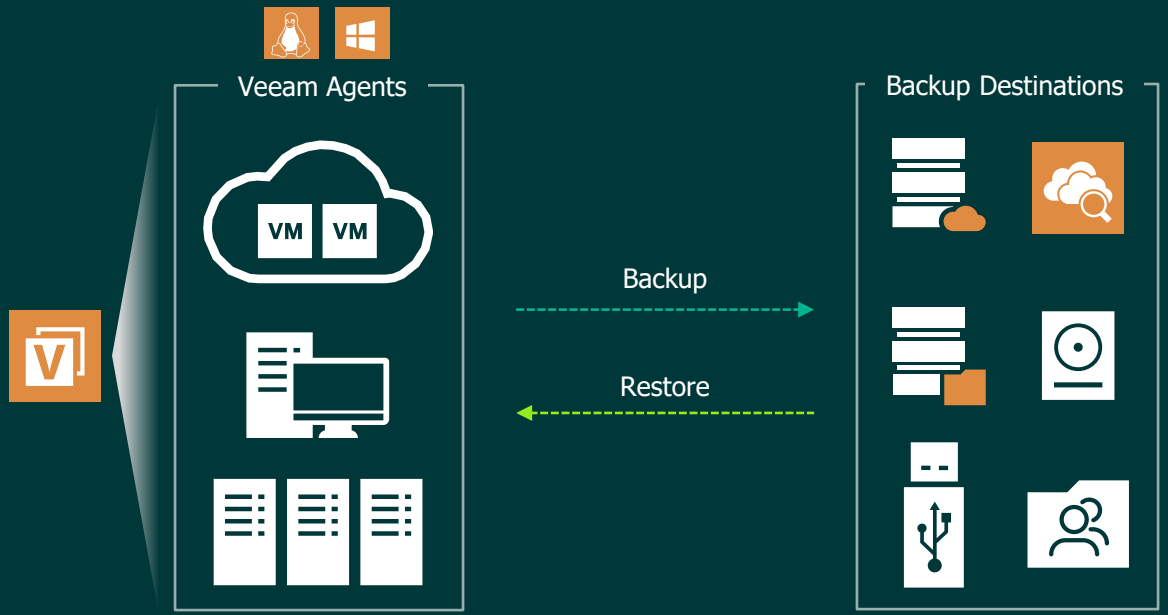
Veeam Agents

Windows and Linux Agents

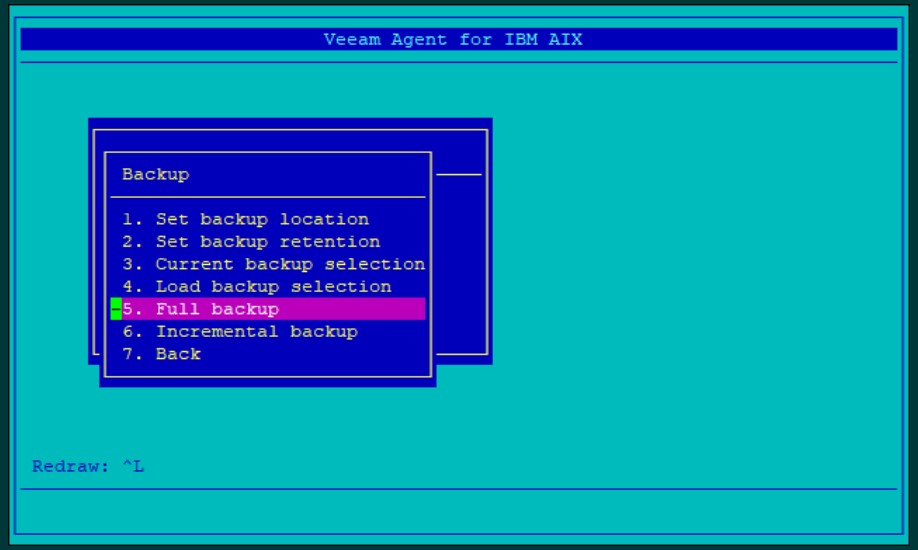
Create image level backups of physical and cloud servers directly from within Veeam Backup and Replication, or as stand-alone solution



Protect AIX and Solaris workloads

Perform file-level backups and restores of your AIX and Solaris workloads, allowing a quick restore of a corrupted, lost or damaged physical system to the same or dissimilar hardware.

Allow for the migration of servers from older to newer or different server hardware.



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Backup of Cloud VMs

Backup of Cloud IaaS

Challenge

- Where to store a backup?
- Where to can be restored?
- Original platform location not available
- Vendor lock-in and exit strategy?
- Future platform migrations?

Solution

- Portable backup files that can move across clouds
- Cloud Mobility to provide restore location of choice
- Simple DR to a different cloud with automatic conversion
- Restore flexibility due to portable backup format
- Portable backup files that can move across clouds

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Why backup outside the cloud?

Exit strategy

Multi cloud strategy

To be in control of your own data

Testing on a different platform

One backup strategy

Cost

Why backup inside the cloud?

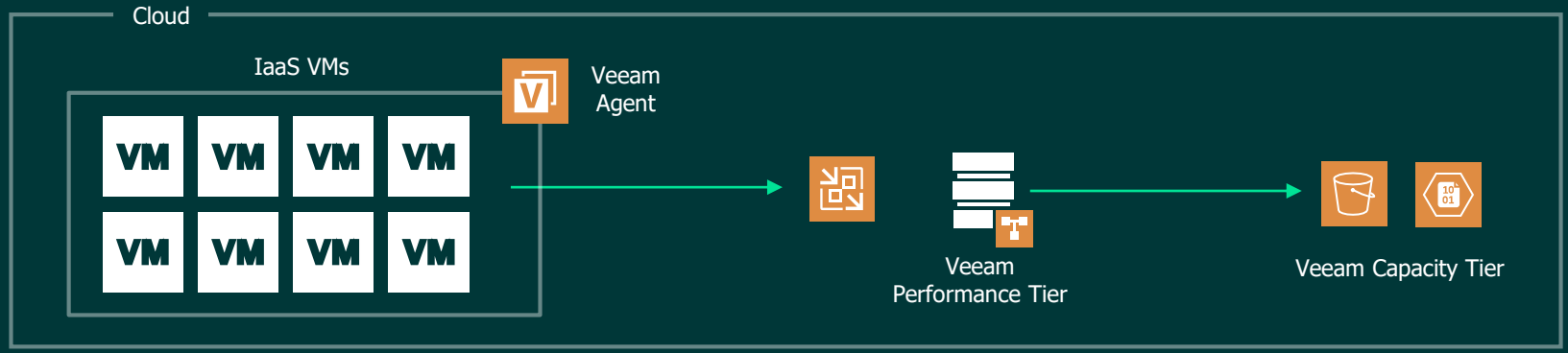
Quick restore – short term retention

Part of 3-2-1 rule

No cost for data out

Long term retention possible in Object storage

Backup VMs with Veeam Agents



NEW
Veeam Backup *for AWS*

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AWS-native

AWS-native design automates Amazon EBS snapshots for more frequent backups and faster restores and copy to Amazon S3 repositories for long-term retention

Ease-of-use is built-in with turnkey deployment via the AWS Marketplace and a simple, web-based management UI to reliably protect all of your valuable workloads

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Veeam Capacity Tier

Capacity Tier

Offloaded backup files remain on the Performance Tiers extents

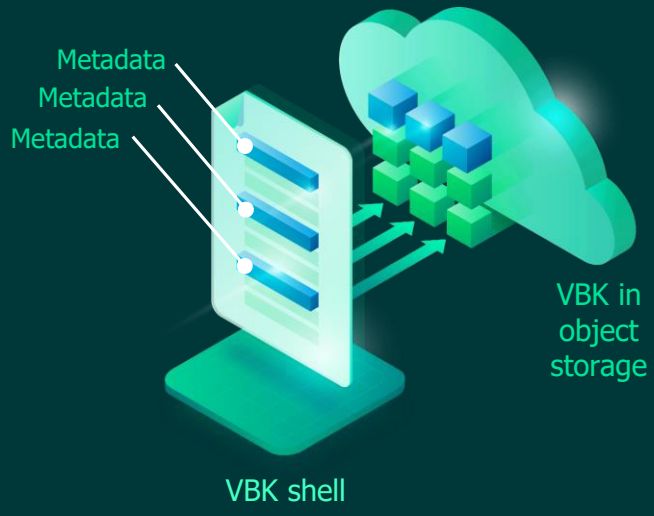
- These are now in the form of a "shell" only: metadata and pointers to contents in object storage
- Shells help to reduce cloud I/O charges

All Veeam restore functionality works transparently with shells

- Instant recovery
- Entire computer and disk-level restore
- File-level and item-level restore

Intelligent block recovery

- Restores use the closest non-offloaded restore point to source data blocks which are unchanged between the two points
- This improves efficiency and speed of restore functions, and reduces egress charges



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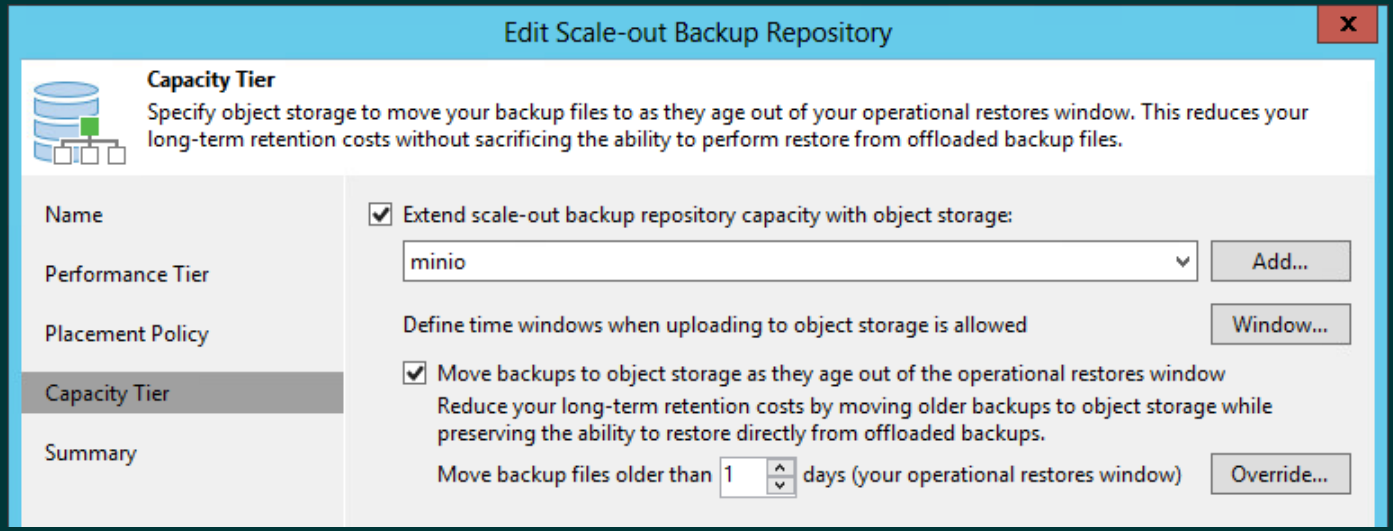
When does data get moved?

Restore Points can be offloaded when they outside the operational restore window and to free up space on the storage extents.



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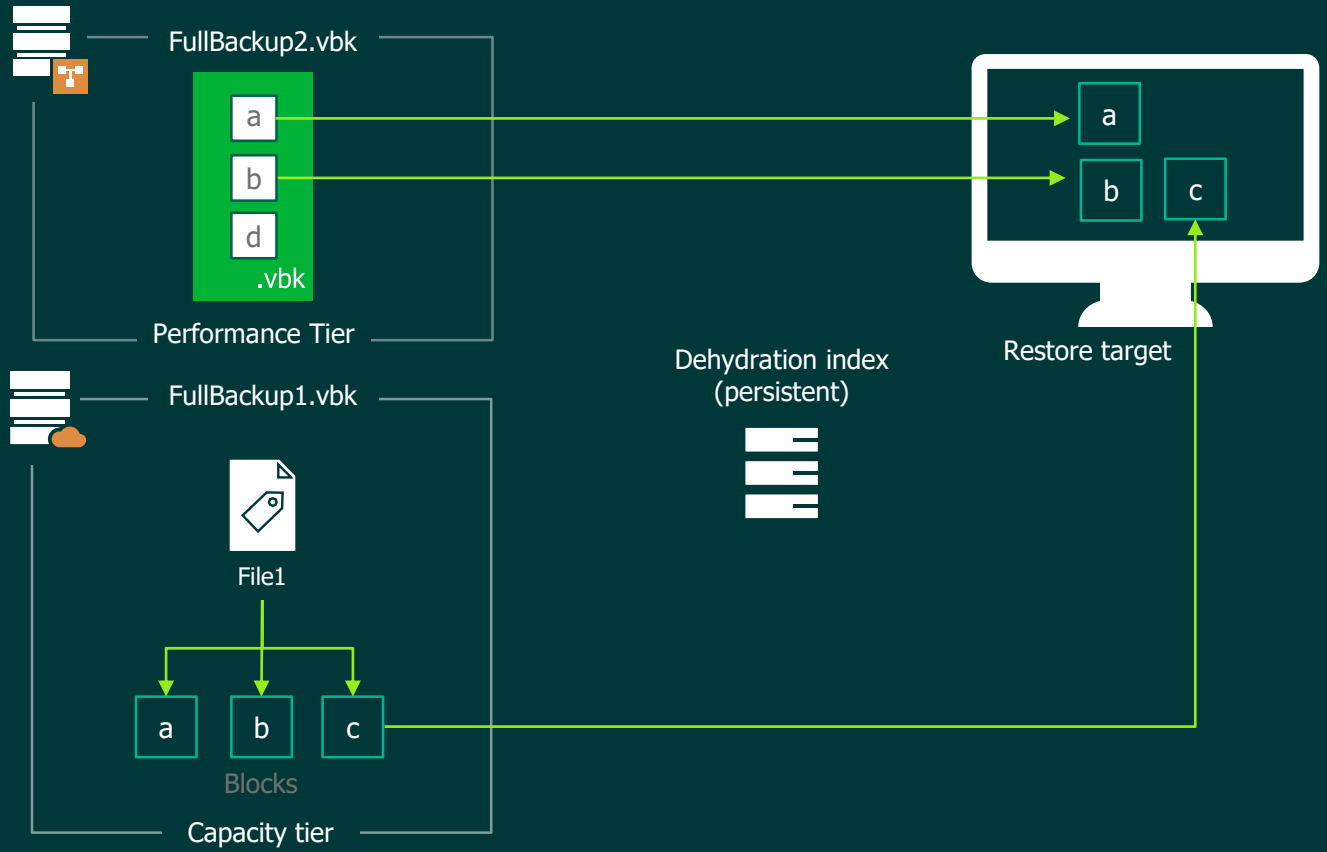
Intelligent Restore



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Veeam Availability Orchestrator

Disaster Recovery is Key

To maintain your business when a disaster happens

3
Different copies of data

2
Different media

1
of which is off-site

1
is offline

0
No errors after backup recoverability verification

Avoiding recovery failure

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Orchestration Automation

Challenge

- Improve DR and migration success
- Maximize application development
- Maintain service continuity
- Prove reliability of platform

Solution

- Intelligent orchestration for DR and migration operations
- Deploy test and sand-box environments from backup
- Automated testing of DR and migration plans
- Showcase SLA attainment with documented outcomes

Non-stop operations and business acceleration

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Dynamic documents

Satisfy compliance requirements with automated documentation that makes it easy to build and update DR plans as the environment changes

Fully customizable and template-based, including dynamic variables

Satisfy legal and compliance requirements

Automatically maintained with up-to-date data

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Automated testing

Proven recoverability while reducing costs through automated DR plan testing and readiness checks that avoid expensive manual processes, with zero impact on production systems

Easily execute on-demand and scheduled testing

Access real-time reports and dashboards

Regularly test plan readiness with zero impact on production

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Reliable recovery

Ensure IT service continuity and minimize service disruption through the failover and failback of multi-site DR plans for planned migrations, disaster avoidance and disaster recovery

VM, service and application verification

Remotely control and integrate into other business continuity tools

Regulate access with role-based access control

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Not only when Disaster strikes

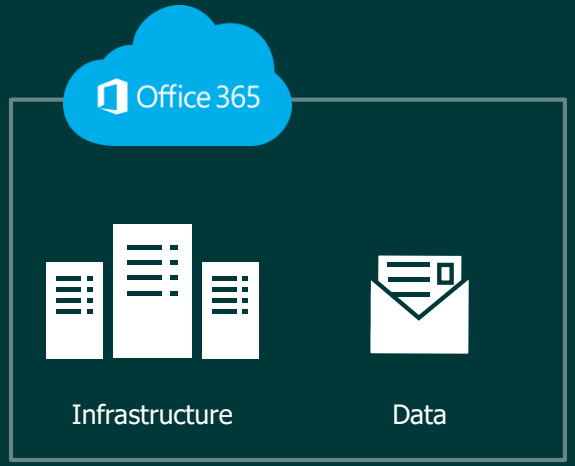
- Planned migrations
- Patch testing
- Application upgrade testing
- Security audit testing
- DevOps
- Analytics

Veeam Backup for Microsoft Office 365

Why do I need a backup?

Microsoft takes care of it.

Customer perception
Microsoft takes care of everything



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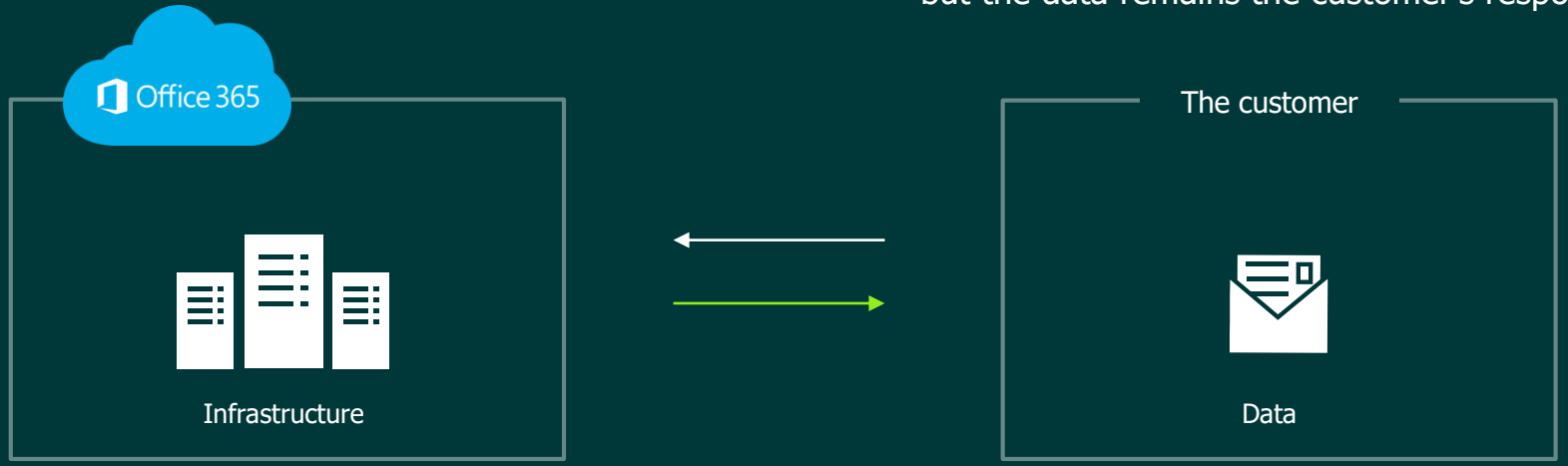
Why do I need a backup?

Microsoft takes care of it.

Customer perception
Microsoft takes care of everything

Customer reality
Microsoft takes care of the infrastructure, but the data remains the customer's responsibility.



Uptime of Office 365

Protection and long-term retention of Office 365 data

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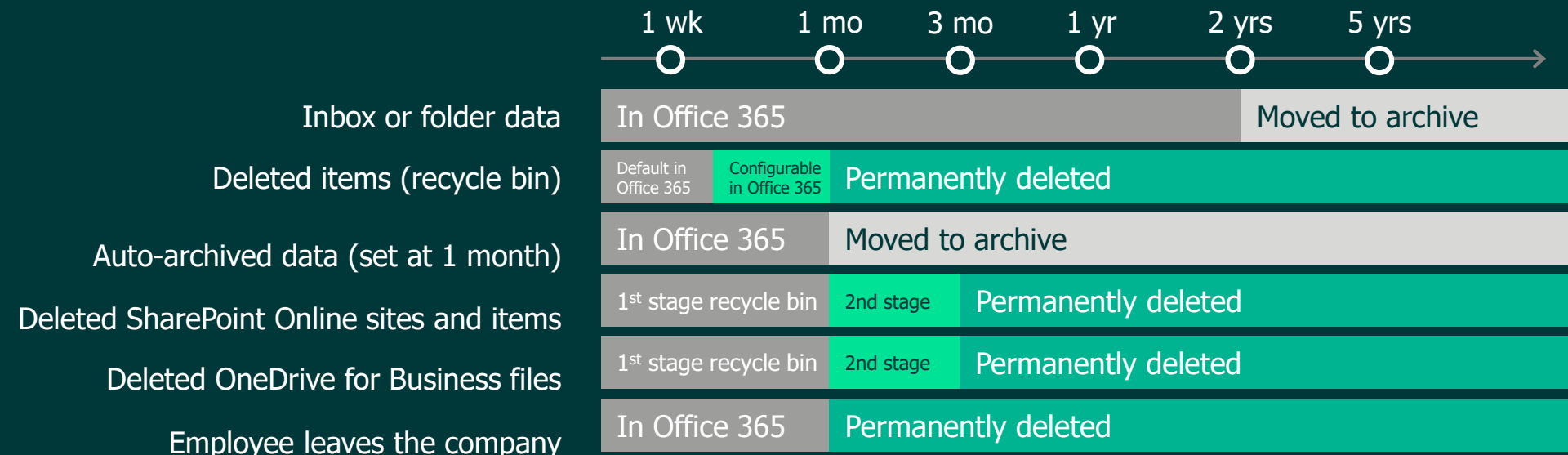
The Office 365 Shared Responsibility Model

	Primary Responsibility	Supporting Technology	Security	Regulatory
Microsoft's Responsibility Learn more from the Office 365 Trust Center	Microsoft global infrastructure Uptime of the Microsoft Office 365 Cloud Service	Office 365 Data Replication DC to DC geo-redundancy Recycle Bin Limited, short term data loss recovery (no point-in time recovery)	Infrastructure-Level Physical Security Logical Security App-level Security User/Admin Controls	Role as data processor Data Privacy Regulatory Controls Industry certifications *HIPPA, Sarbanes-Oxley*
YOUR Responsibility	Your office 365 data Access and control of your data residing in Office 365	Office 365 Backup Copy of your data stored in a different location Full Data Retention ST & LT retention filling any/all policy gaps *granular & point-in time recovery options*	Data-Level *Internal:* Accidental Deletion Malicious Insiders Employee Retaliation Evidence Tampering *External:* Ransomware Malware Hackers Rogue Apps	Role as data owner Answer to corporate and industry regulations Demands from internal legal and compliance officers

Retention policies: What exactly does Microsoft back up?



Office 365 backup and retention policies can **only protect you from data loss in a limited way** and are not intended to be a complete backup solution.

Retention policies are always evolving and tend to be **very complicated to manage and monitor**. Commonly, Admins believe they are covered, only to find that in fact certain items are gone.

Sources: Exchange Online information above is based on Microsoft's default MRM Policy. SharePoint Online information above is based on Microsoft's support article. OneDrive for Business information is based on Microsoft's support article. In some cases, these defaults can be customized by the IT Admin, but often require certain licenses and/or additional fees, and also carry the risk which allows Microsoft to automatically delete data ahead of retention policy dates if the recycle bin is full.

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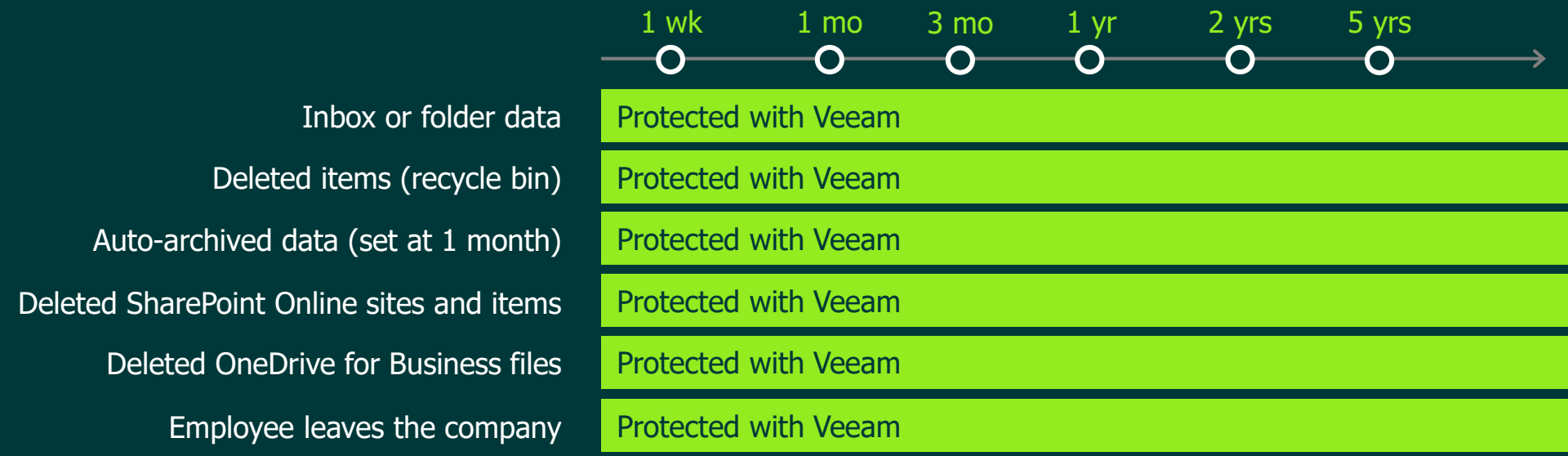
Retention policies: What exactly does Veeam back up?



Veeam Backup *for Microsoft Office 365* is more than simply filling gaps.

It's about providing access and control to ALL

Exchange Online, SharePoint Online and OneDrive for Business data and **storing it in one location, making recovery fast, easy and reliable.**

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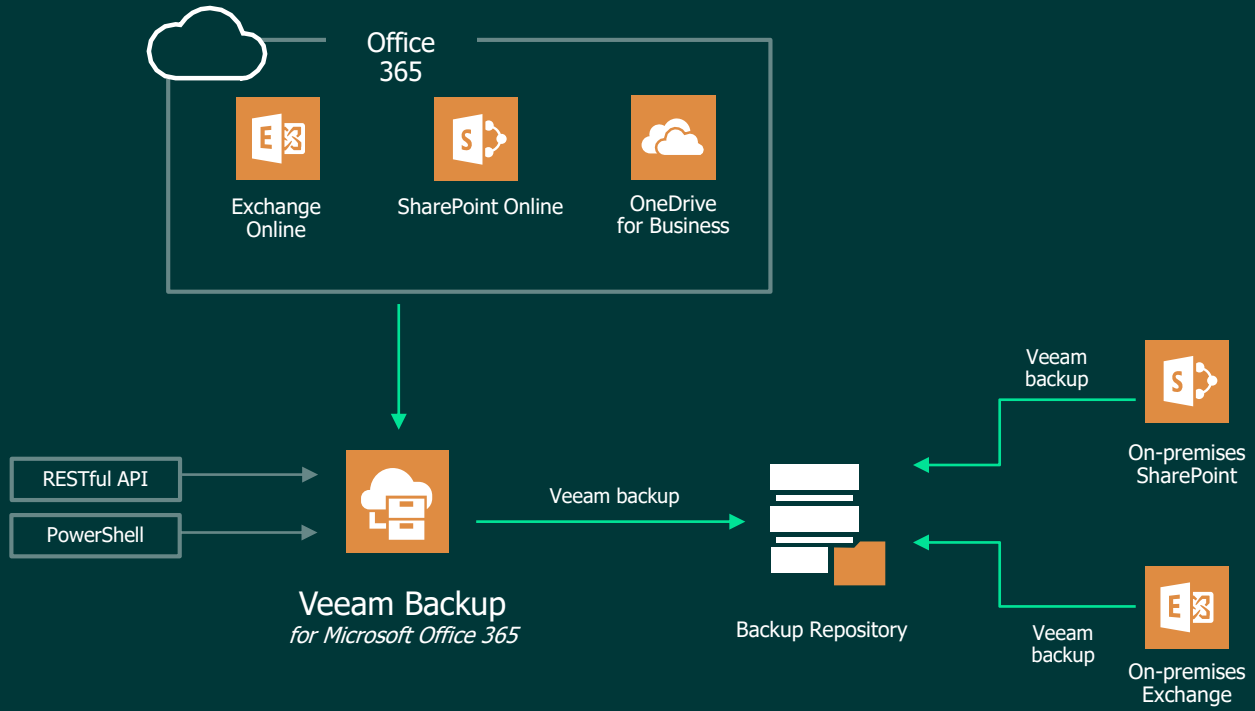
Veeam Backup *for Microsoft Office 365*

Enables backup and recovery from on-premises and Microsoft Office 365 services



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Veeam V10 Sneak Peak

Disclaimer

This presentation may contain product features that are currently under development

Technical feasibility and market demand will affect final delivery

Pricing and packaging for any new technologies or features discussed or presented have not been determined

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Veeam Availability Suite v10 - Peaks

Cloud Tier

NAS Backup

Direct Restore to VMware

Data Integrations

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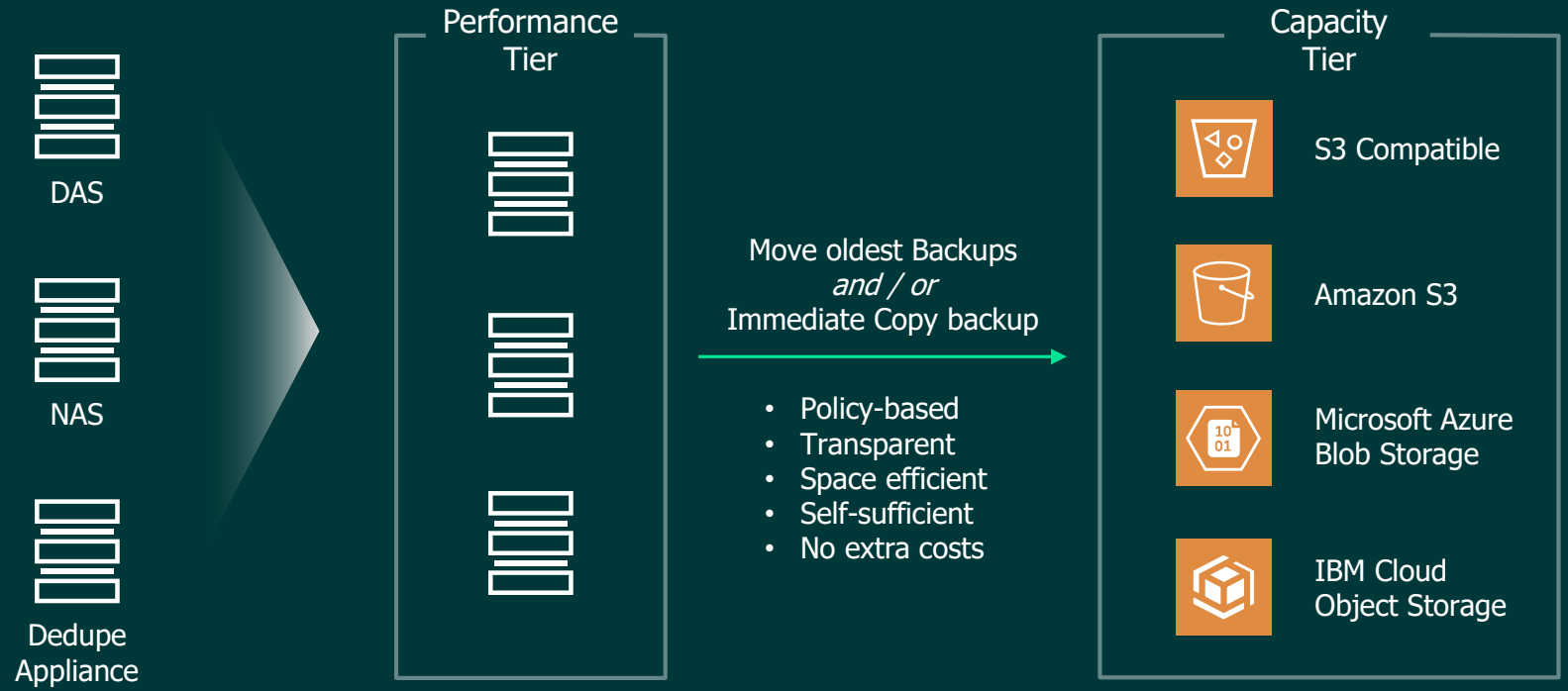
Veeam Capacity Tier



Veeam Availability Suite v10

Cloud Tier

NAS Backup

Direct Restore to VMware

Data Integrations

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NAS Backup

Before V10

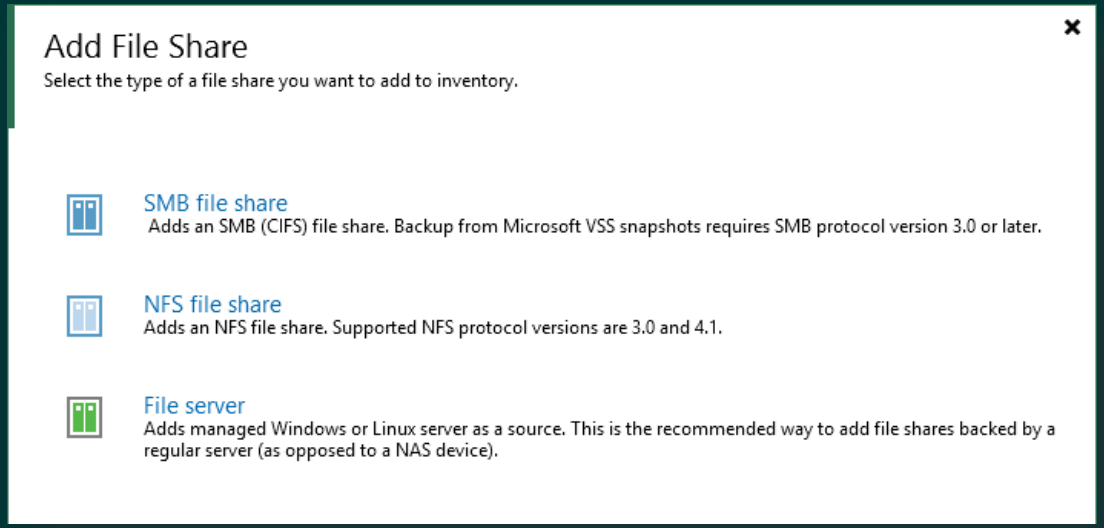
No backup option for NAS to disk before

File-to-tape not scalable

No single file restore from NDMP backups

What Can Veeam Backup?

- SMB (CIFS) file shares
  - Versions 1, 2 and 3
- NFS file shares
  - Versions 3 and 4.1
- Veeam managed servers (Windows & Linux)



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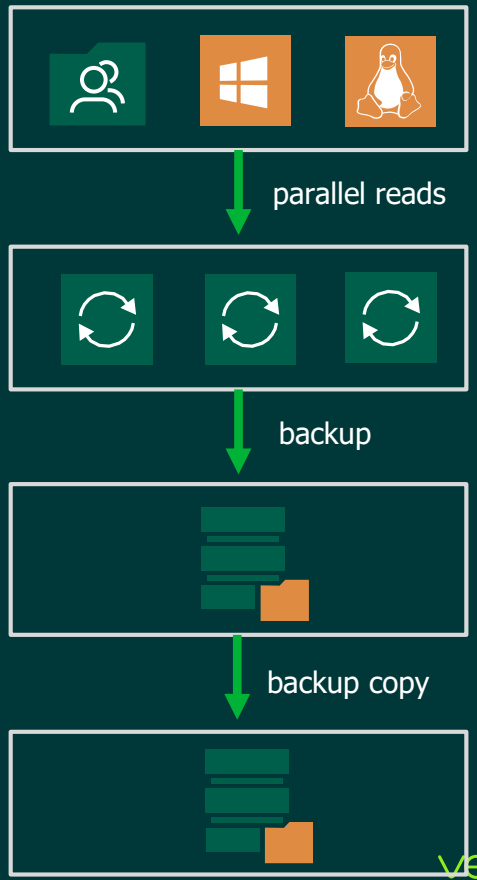
Simplified Technical Overview

- File based backup
- Massive parallel processing
- Incremental backup is fast because we only look at folder attributes
  - We do not read the backups!

- New backup file format
  - Scale to billions of files and PBs of data
- Data compression built-in



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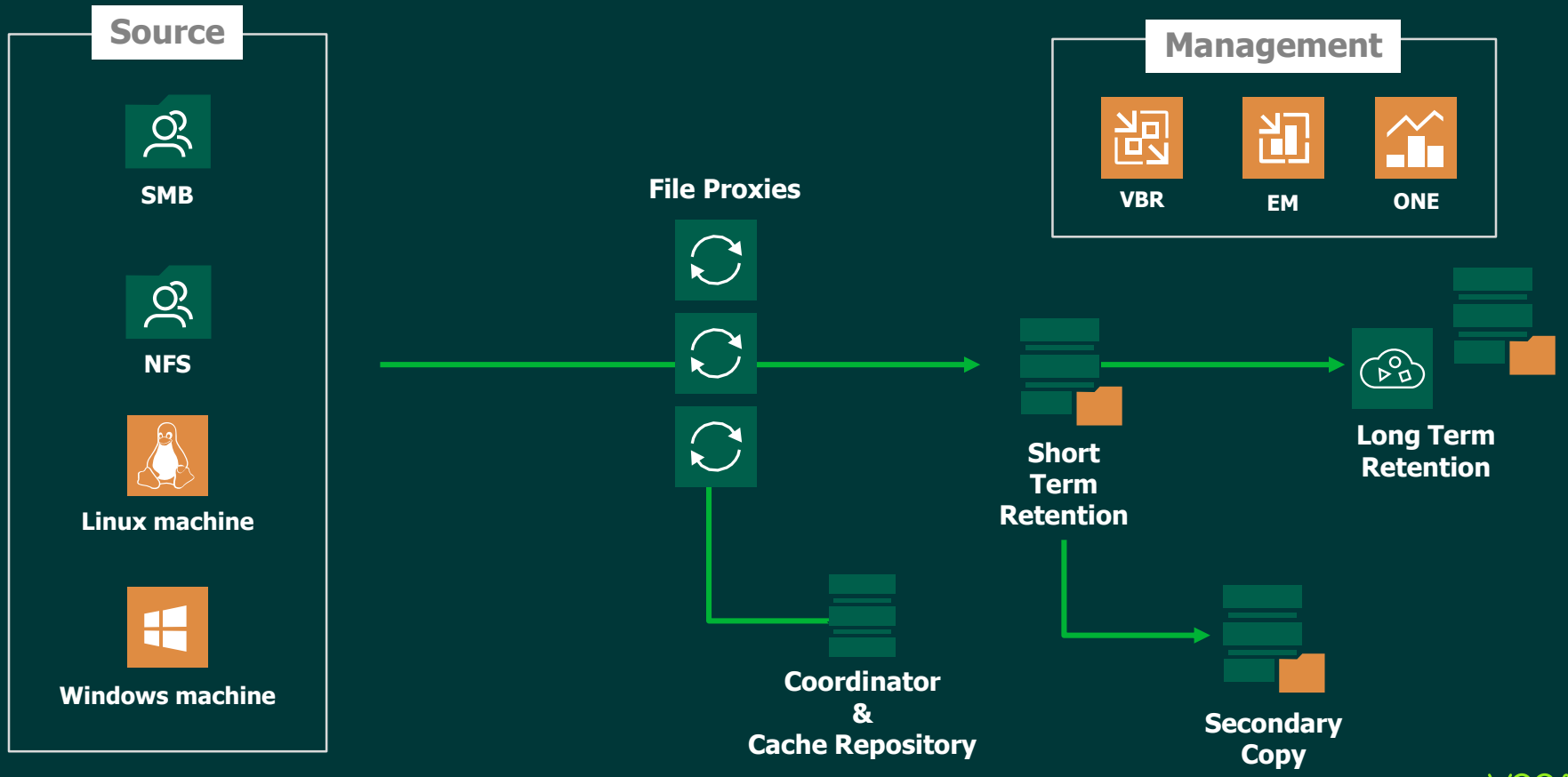
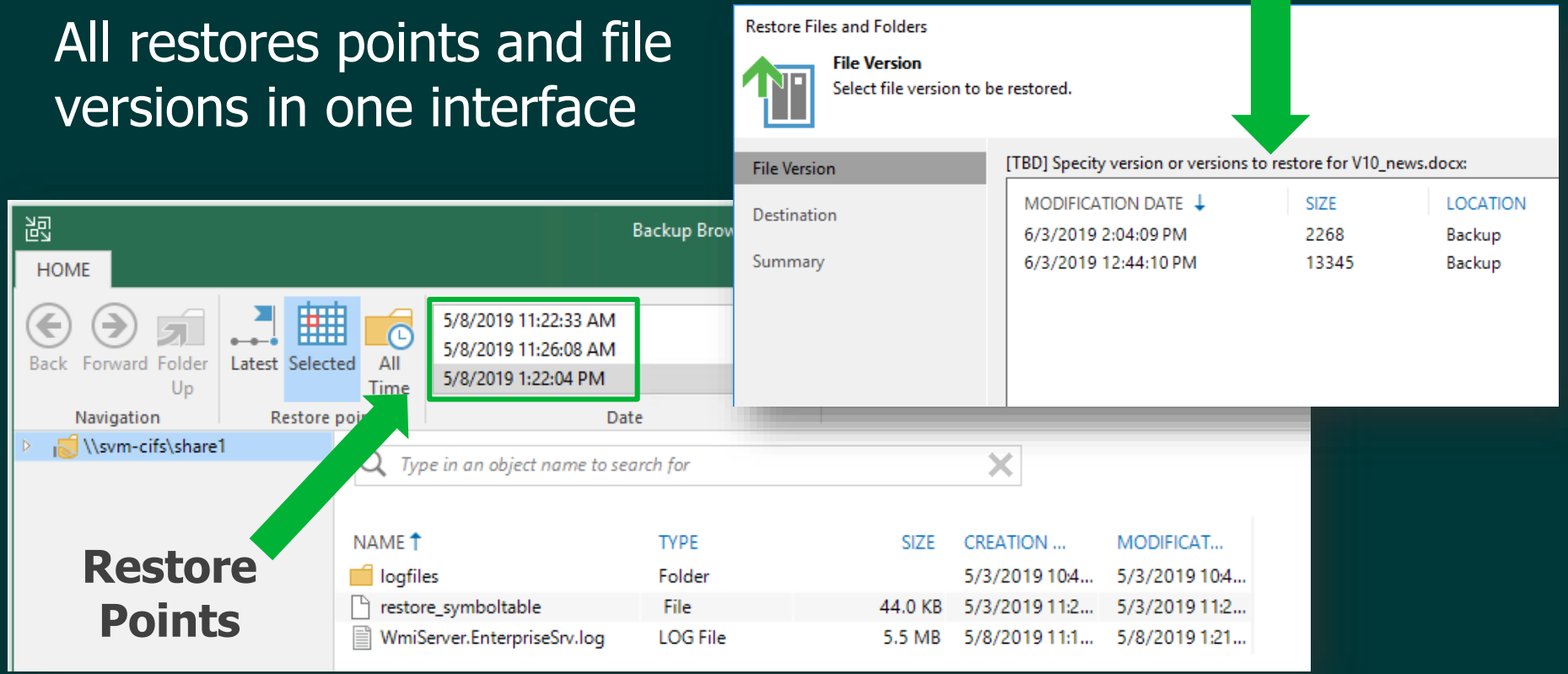
Simplified Technical Scheme



Easy To Use File Restore

All restores points and file versions in one interface



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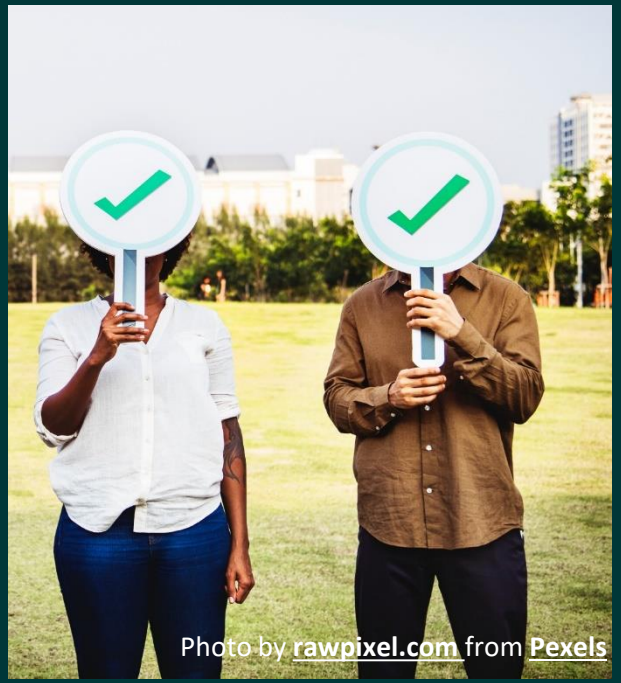
Yes, We Can!

- Backup copy
- Encryption
- Mapping
- Security attributes & permissions backup
- SACL/ DACL backup
- NTFS alternative data streams backup
- Location tagging
- Configuration backup/restore
- PowerShell



Veeam Availability Suite v10

Cloud Tier

NAS Backup

Direct Restore to VMware

Data Integrations

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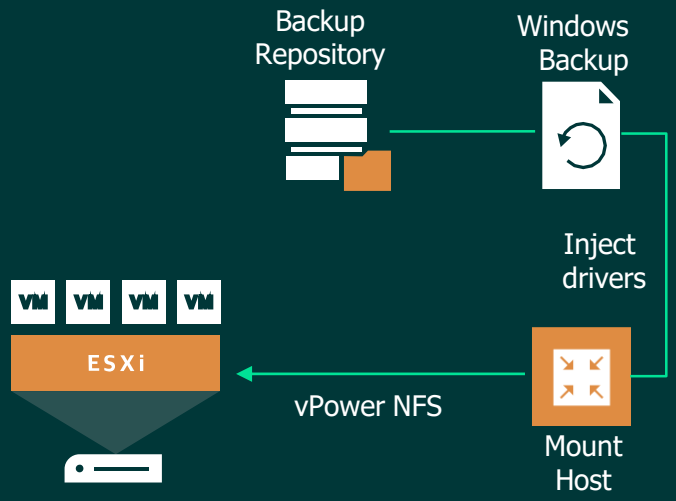
Instant Recovery to vSphere

Restores any backup to vSphere using Automatic P2V conversion (driver injection.

Simplified steps:

- Update drivers to run as a vSphere VM
- Add low-level Veeam tools (similar to replication tools for failover)
- Optionally pass network reconfiguration



Veeam Availability Suite v10

Cloud Tier

NAS Backup

Direct Restore to VMware

Data Integrations

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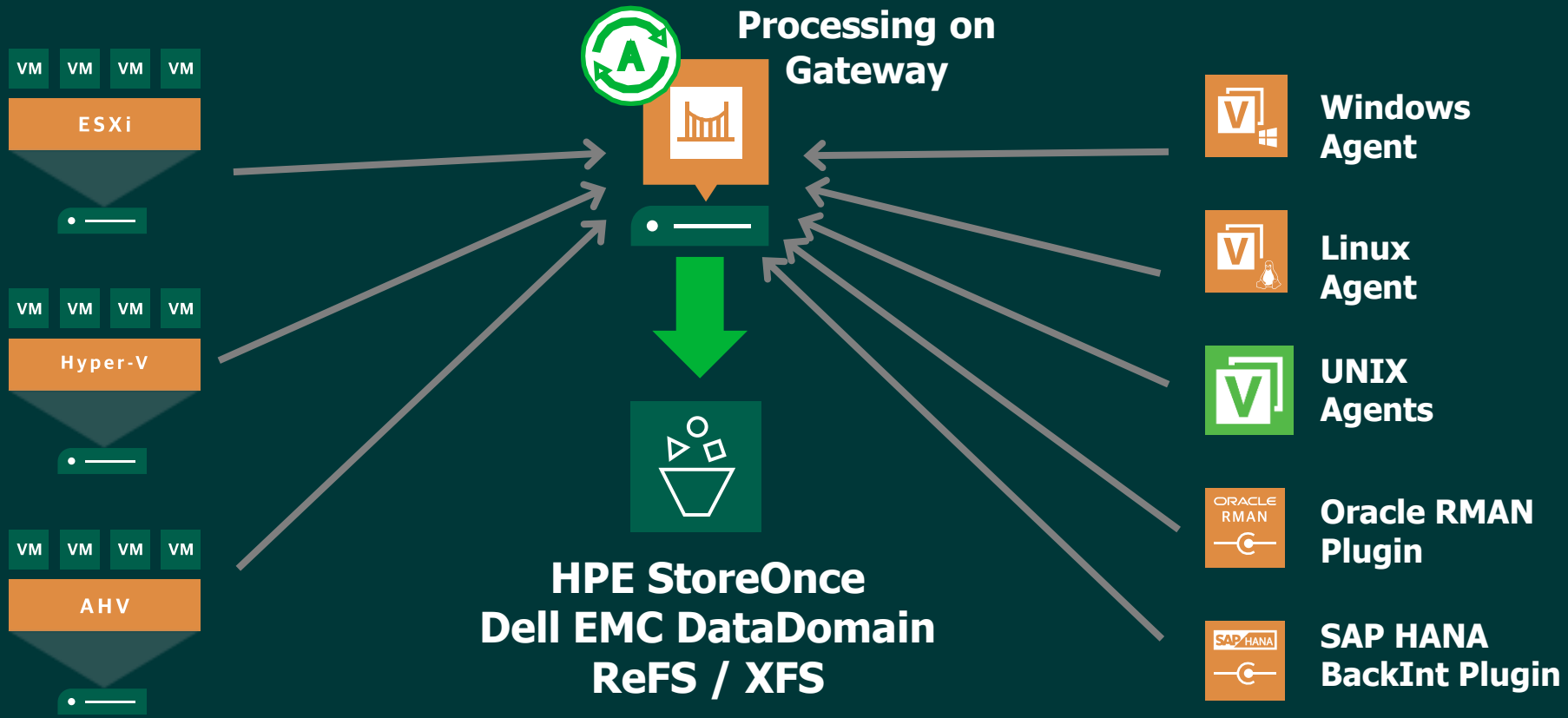
Improved StoreOnce, DataDomain And REFS Support



Why Is It Important?

Better performance

StoreOnce and DataDomain systems perform badly if not used with Catalyst / DDboost

HPE StoreOnce Catalyst Copy

Why?

Performance challenging for Backup Copy Job between two StoreOnce systems

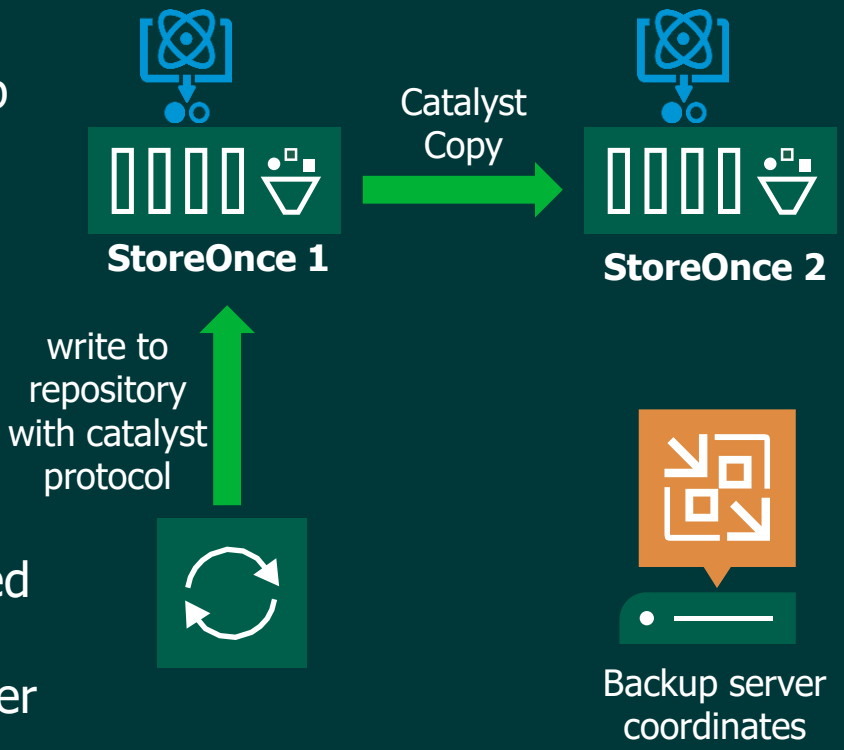
- data rehydration
- amount of data to be transferred between Storages

Solution

Use built-in StoreOnce copy functionality (Catalyst Copy)

No Veeam data transport components involved for copy process.

Catalyst Copy will transport only the delta after deduplication (very efficient)



Thank You

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