



VBR 核心概念和最佳 实践

议程

1. 简介
2. 架构和核心组件
3. 高级功能和可选组件
4. 常规产品配置
5. 作业概念和配置
6. 恢复功能
7. 安全
8. 提示和技巧
9. 其他附加资源

第01节

简介

核心功能、支持的平台、许可证授权

Veeam Data Platform

恢复编排

监控和分析

备份和恢复

原生 API

平台扩展

aws AWS

Azure

Google Cloud

Kubernetes



云



虚拟



物理



应用



SaaS

Microsoft 365

Salesforce

内部 · 云端 · XaaS

支持的平台

通过Veeam Backup & Replication v12.1

无代理（虚拟环境）

- VMware vSphere 6.x – 8.0U2
- VMware Cloud Director 10.1 – 10.5.x
- Microsoft Windows Server Hyper-V 2012 – 2022
- Azure Stack HCI
 - *支持 Microsoft Hyper-V Server（免费虚拟机管理程序）
 - *全面支持服务器核心安装
- Red Hat Virtualization 4.4 SP1
- Nutanix AOS 6.5 and later

支持的平台

通过Veeam Backup &
Replication v12.1



代理（物理或虚拟工作负载）

- Microsoft Windows Server 2008 R2 SP1 – 2022
- Microsoft Windows 7 SP1 – 11
*支持服务器核心安装
- 大部分的 Linux 发行版 ([完整列表](#))
- Mac OS 10.13.6 High Sierra – 14 Sonoma
- IBM AIX 7.1 – 7.3 TL1
- Oracle Solaris 10 1/13, 11.0 – 11.4
*SPARK and x86 也支持

支持的平台

通过 Veeam Backup & Replication v12.1



非结构化数据 Unstructured data

- 文件共享（SMB 和 NFS）
*包括企业 NAS 系统：NetApp Data ONTAP、联想Lenovo ThinkSystem DM 系列、Dell PowerScale（原前Isilon）、Nutanix Files Storage
- 对象存储库：
 - S3 兼容的对象存储库
 - Amazon S3 对象存储
 - Microsoft Azure Blob 存储

许可

两种许可型号

按插槽计算(CPU)

传统型号。仍然可供现有客户使用

Veeam Backup & Replication 根据受保护主机上的 CPU 插槽数量授权。

仅源主机（即您备份或复制的虚拟机所在的主机）需要许可。目标主机（用于复制和迁移作业）无需许可。

基于实例 Instance-based (VUL)

新型号。可以在不同的产品中使用。

实例是可以用来保护虚拟、物理或基于云的工作负载的单元。

您必须获得计划在Veeam备份和复制中保护的工作负载的实例总数的许可证。

许可

两种许可型号

永久的Perpetual

永久许可证。支持和维护期包含在许可证中，以月或年为单位。

永久许可包括第一年的生产或基本支持和维护协议。

永久许可证的支持和维护最长预付期限为三年。

订阅 Subscription

在订阅期限结束时到期的许可证。

订阅许可证包括许可证有效期内的生产支持和维护协议。

订阅许可证的期限通常为自许可证颁发之日起的1-3年。

订阅许可证的最长预付期限为五年。

第02节

架构和核心组件

Architecture & Core Components

组件概述、安装过程回顾、备份工作流程、深入的组件分解、设计

组件概述

Components Overview

架构和核心组件

概述



VBR
控制台管理



备份代理



备份服务器



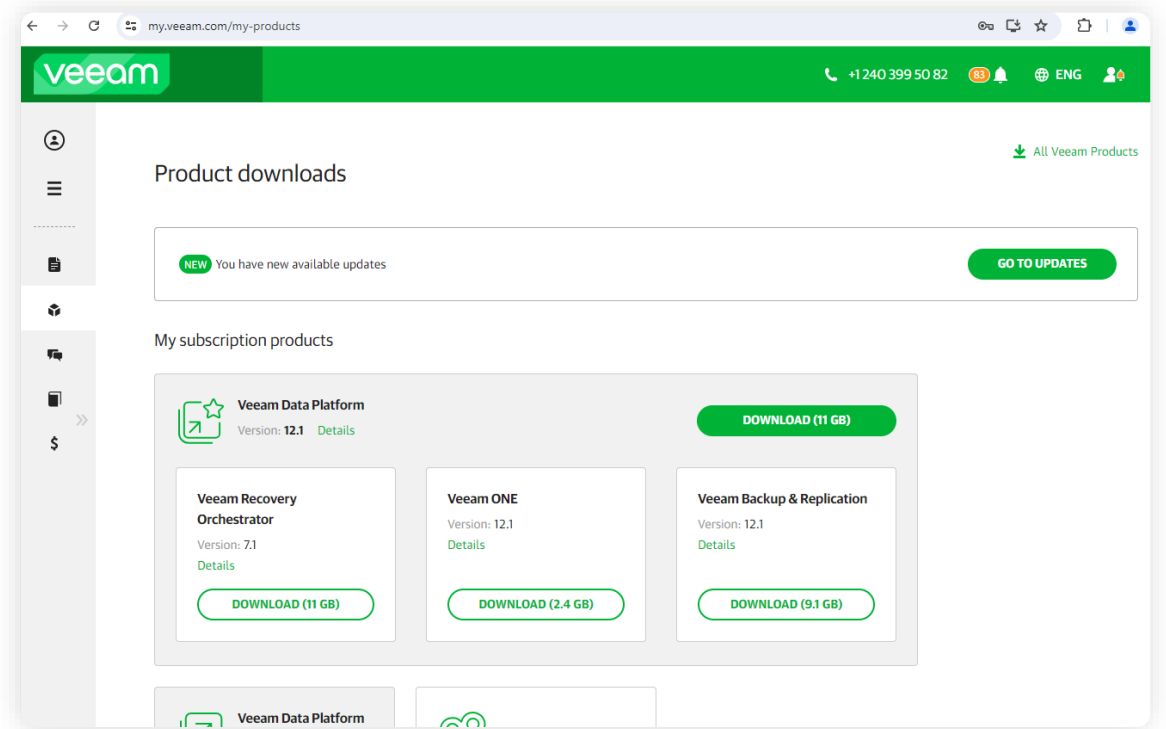
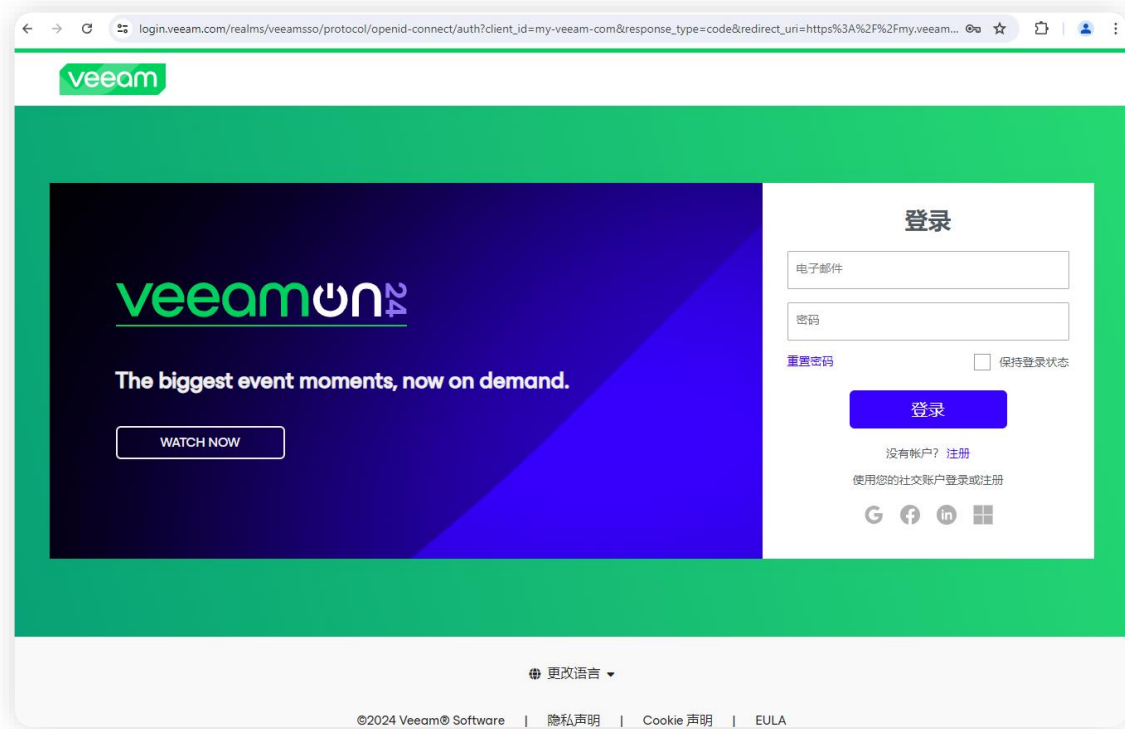
备份存储库

安装 Installation

架构和核心组件

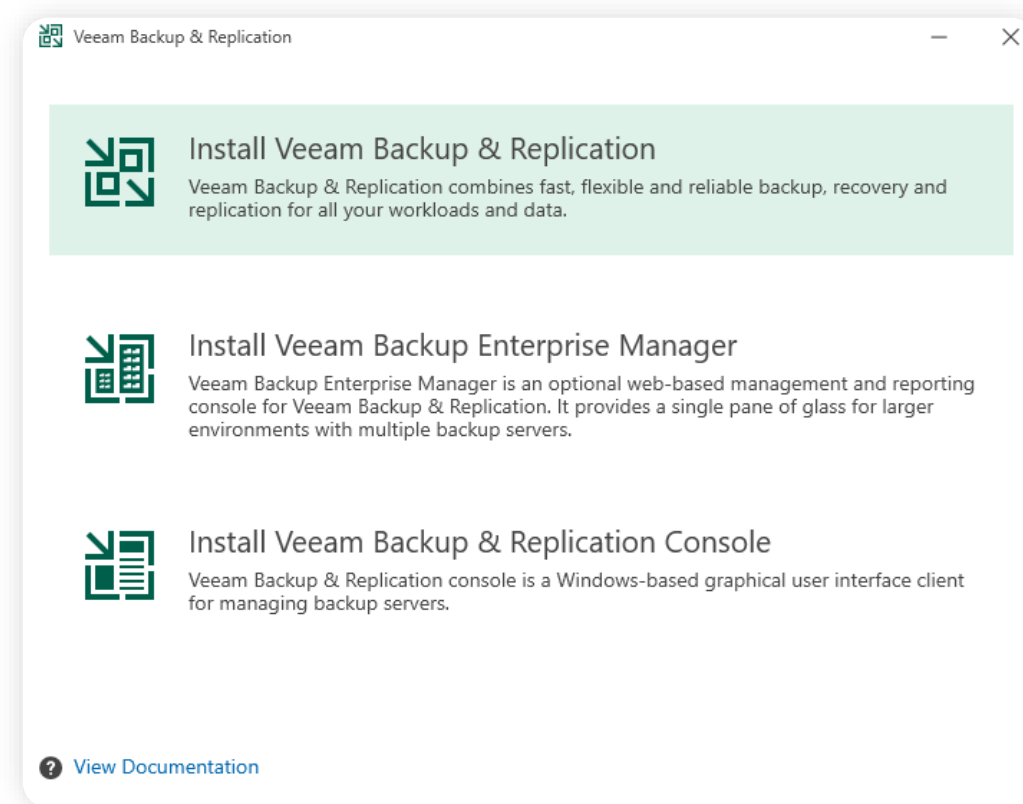
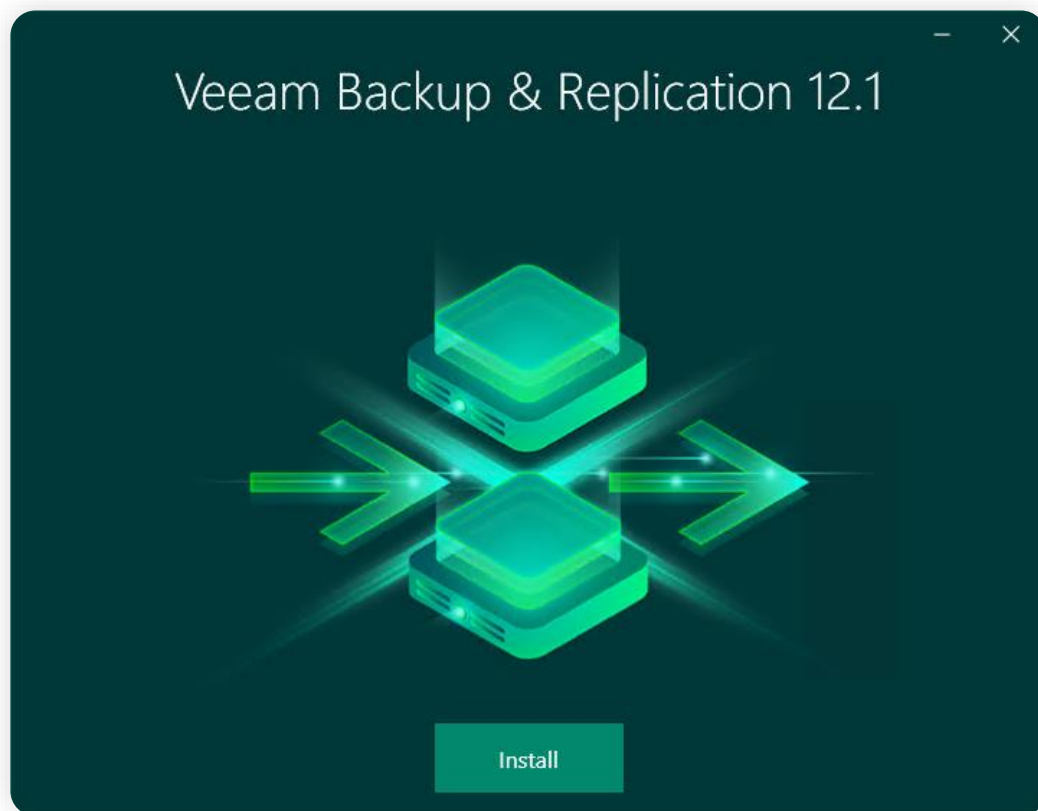
安装

从 <https://my.veeam.com/my-products> 下载最新版本的 .ISO 文件。如有必要，请登录帐号。



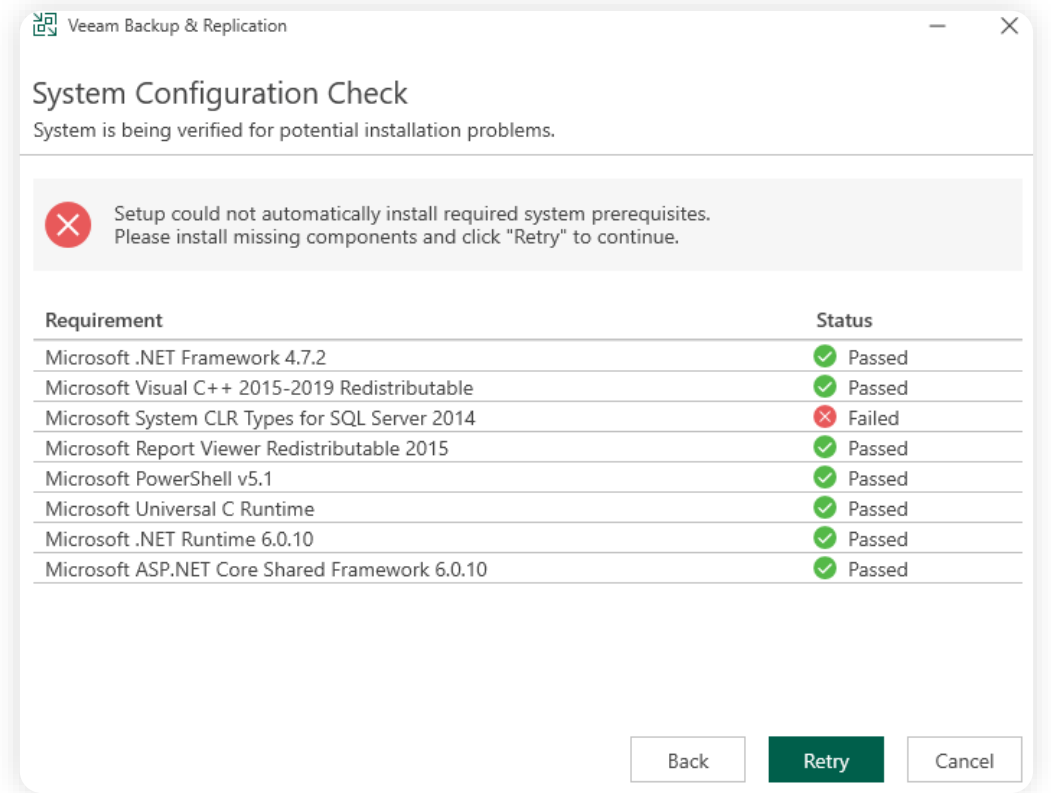
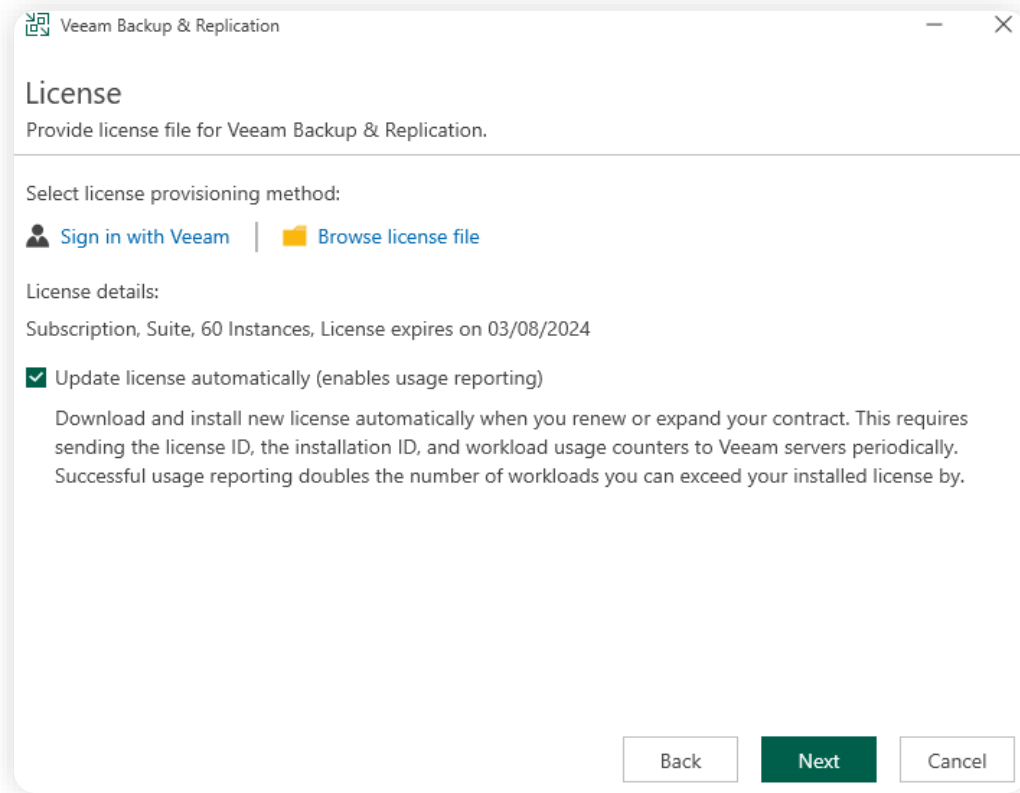
架构和核心组件

安装



架构和核心组件

安装



架构和核心组件

安装

Veeam Backup & Replication

Ready to Install

Installation will begin with the following settings.

Installation folder:	C:\Program Files\Veeam\Backup and Replication
vPower cache folder:	C:\ProgramData\Veeam\Backup\IRCache
Guest catalog folder:	C:\VBRCatalog
Service account:	LOCAL SYSTEM
Database engine:	PostgreSQL
SQL Server:	repo32:5432
Database name:	VeeamBackup
Catalog service port:	9393
Service port:	9392
Secure connections port:	9401
REST API Service Port:	9419
Check for updates:	Automatically

Customize Settings

Back Install Cancel

Veeam Backup & Replication

Database

Choose database engine and instance for Veeam Backup & Replication.

Use following database engine: PostgreSQL

Install new instance

Use existing instance (HOSTNAME:PORT)

repo32:5432

Database name:
VeeamBackup

Connect to PostgreSQL server using:

Windows authentication credentials of service account

Native authentication using the following credentials:

Username: postgres

Password:

Back Next Cancel

配置数据库

Configuration database

配置数据库

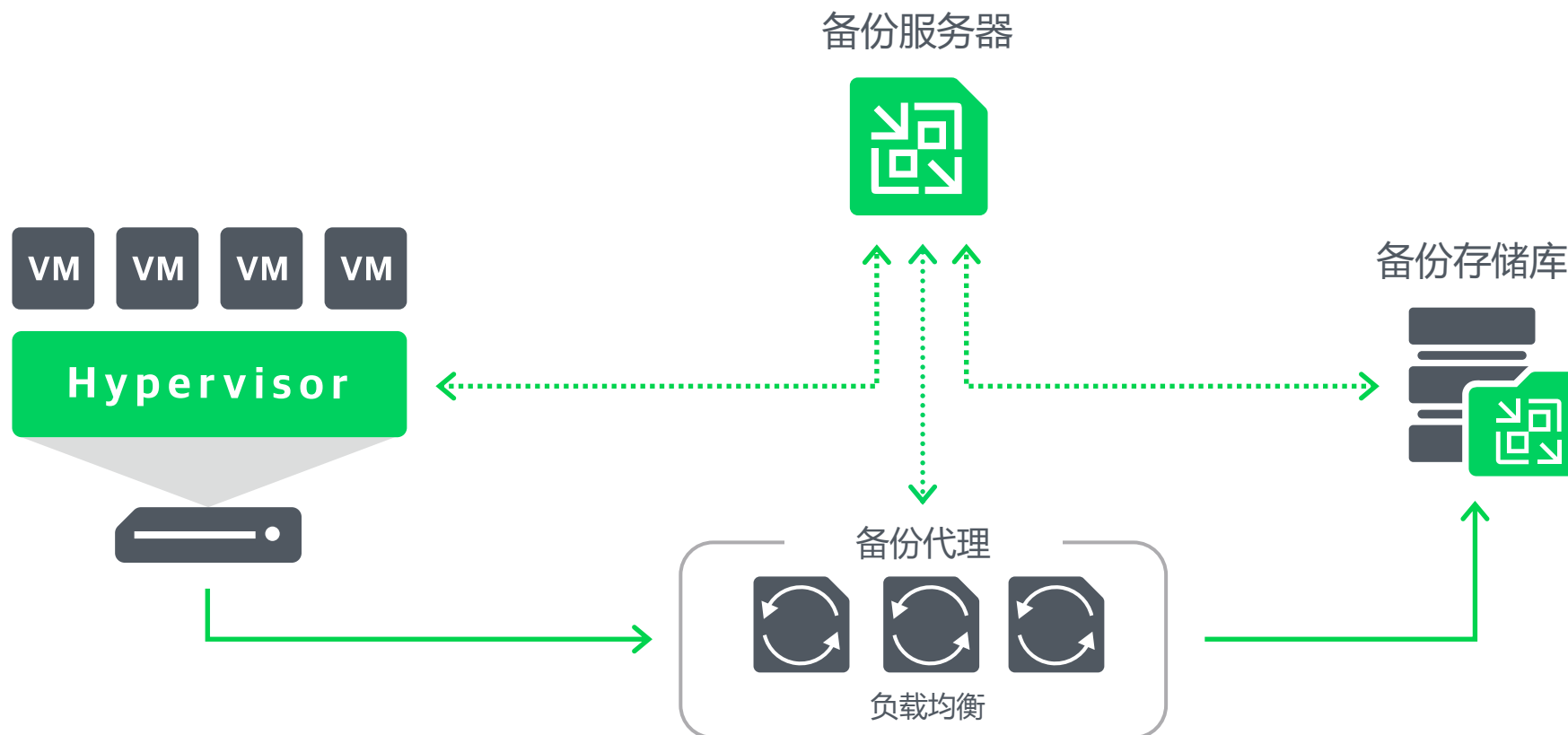
- 储存有关备份基础架构、作业、程序的数据。
- 从v.12开始，VBR 安装程序默认安装 PostgreSQL。可以将其更改为 Microsoft SQL。
- DB 可以从 MSSQL 迁移到 PostgreSQL，反之亦然。
- DB 可以安装在本地（与备份服务器在同一台机器上）或远程。
- 配置数据库备份是 VBR “自我备份” 的方式。
- 数据库备份可以恢复到另一个 VBR 服务器。

深入分析组件

In-depth Components Breakdown

架构和核心组件

备份工作流程示例



→ 备份流量
←·····→ 流量管理

备份代理

Backup Proxy

架构和核心组件

备份代理 Backup Proxy

Types

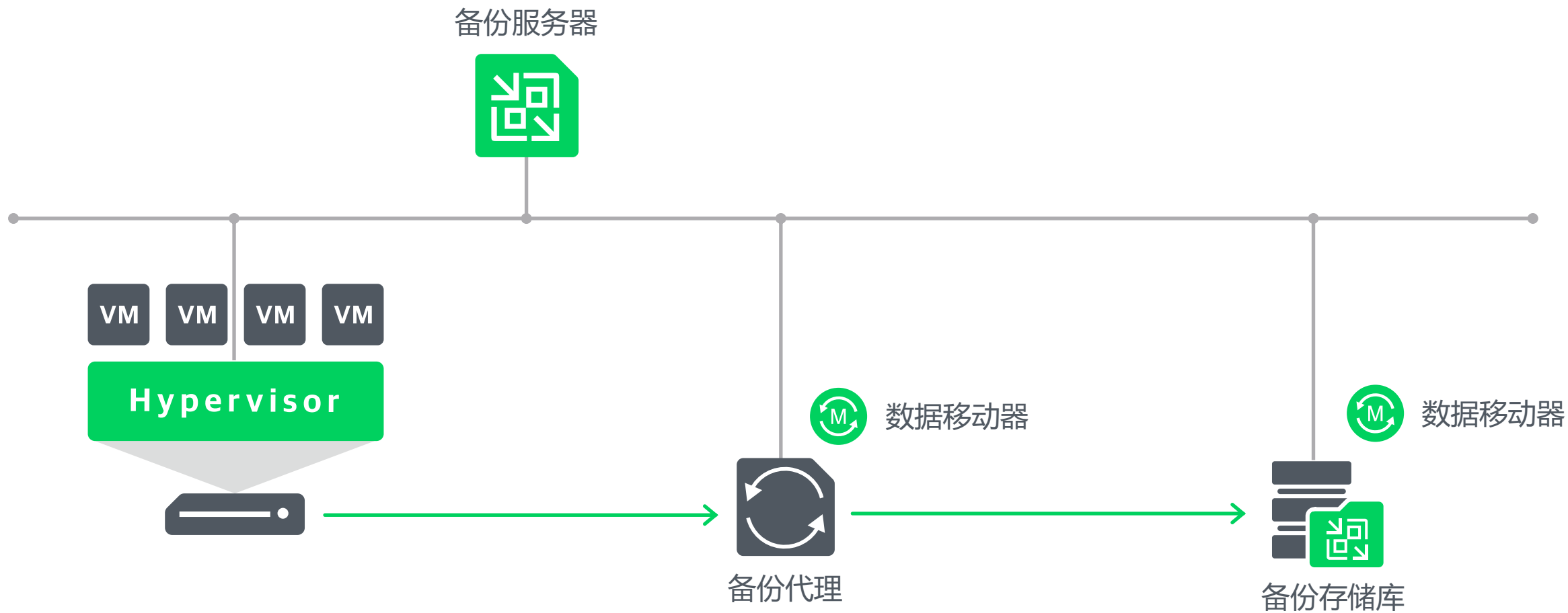
- VMware
- VMware CDP
- Hyper-V 主机内
- Hyper-V 主机外
- Nutanix AHV (设备)
- Red Hat 虚拟化 (设备)
- 通用 (NAS、文件共享、物理服务器主机外备份)

主要岗位描述

- 从生产存储中检索虚拟机数据
- 压缩
- 重复数据删除 Deduplicating
- 加密
- 将其发送到备份存储库 (备份) 或其他备份代理 (复制)

架构和核心组件

备份代理 Backup Proxy



备份代理 (VMware)

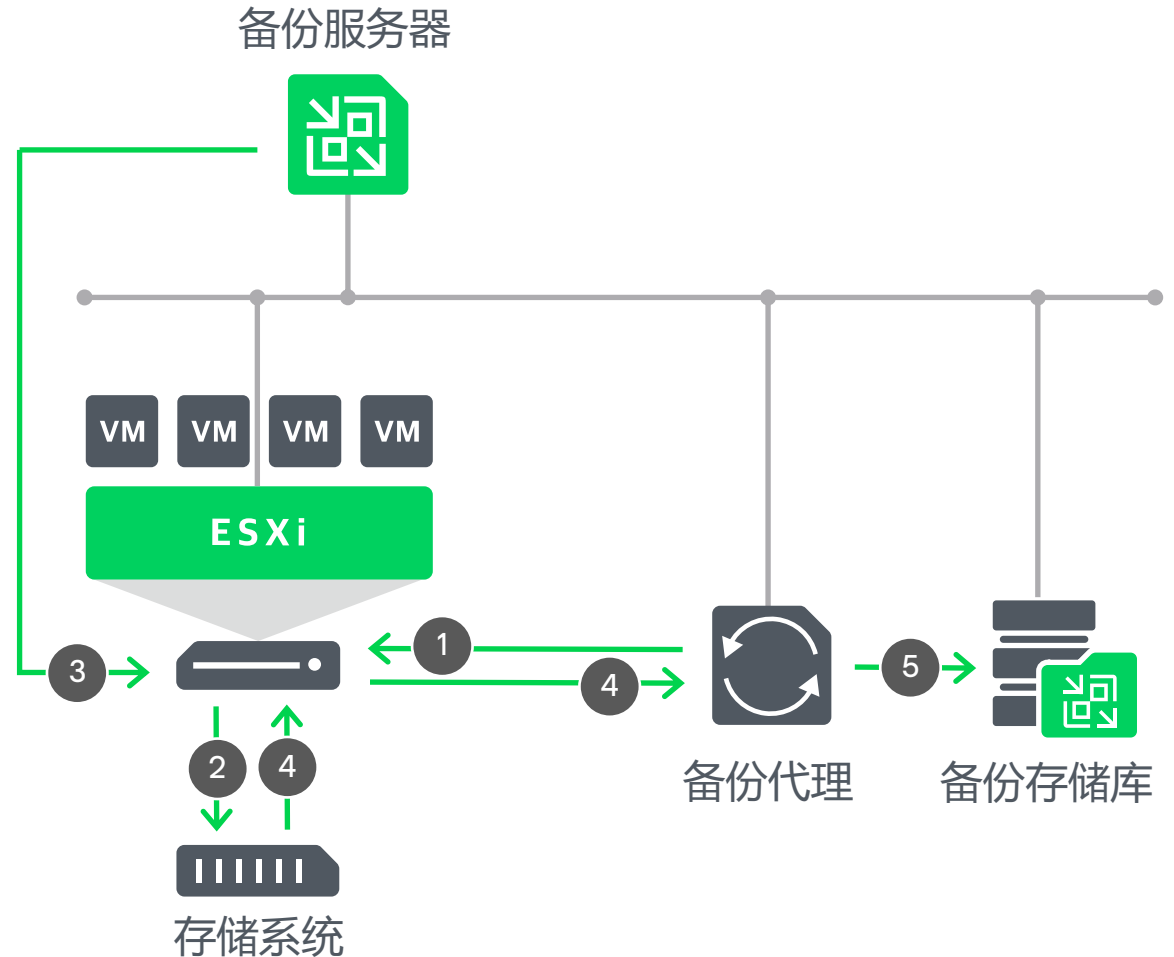
架构和核心组件

VMware 备份代理传输模式

网络模式(Network Mode)

在此模式下，Veeam 将从 ESXi 主机使用网络块设备协议 (NBD) 通过 LAN 检索数据。

1. 代理向 ESXi 主机发送请求以在数据存储上定位虚拟机。
2. ESXi 主机定位虚拟机。
3. VBR 指示 VMware vSphere 创建虚拟机快照。
4. ESXi 主机从源存储复制虚拟机数据块并通过 LAN 将其发送到代理。
5. 代理将数据发送到存储库。



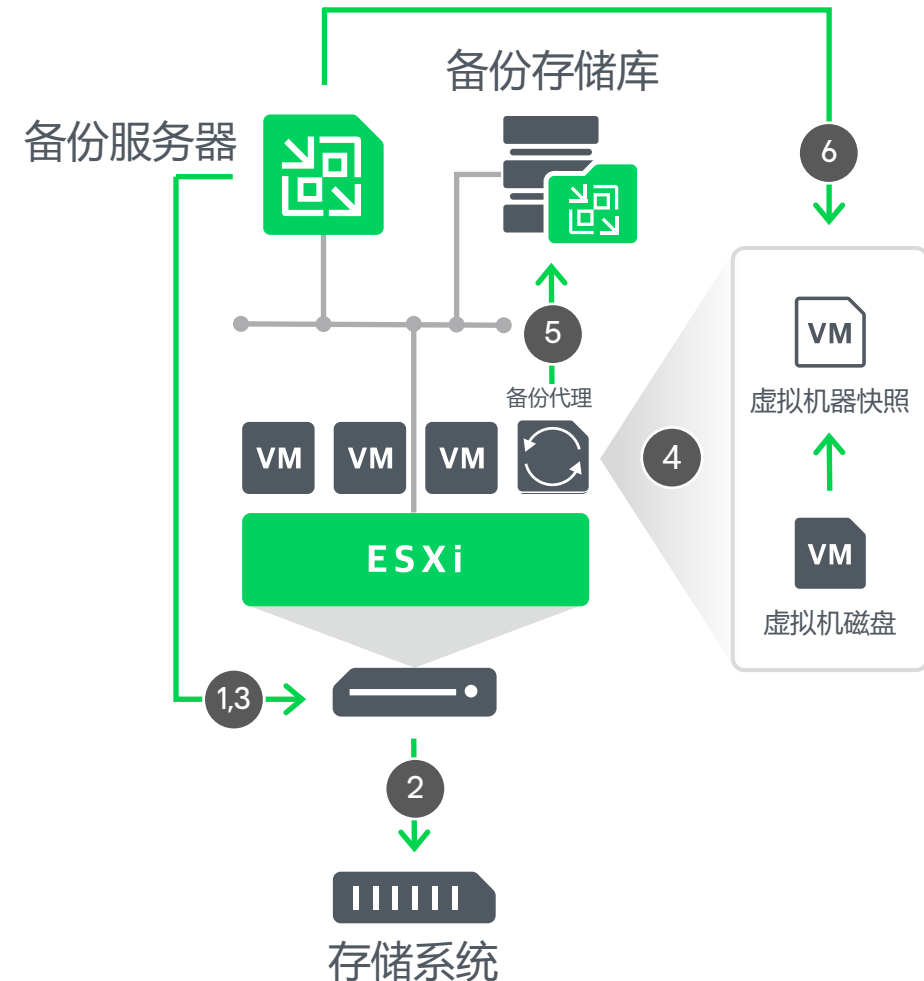
架构和核心组件

VMware 备份代理传输模式

虚拟设备模式 (Virtual Appliance)

此模式比网络模式提供更好的性能。

1. 备份服务器向 ESXi 主机发送请求，在数据存储 (datastore) 上定位虚拟机。
2. ESXi 主机定位虚拟机。
3. VBR 指示 VMware vSphere 创建虚拟机快照。
4. 虚拟机磁盘将连接（热添加(hot-added)）到代理。
5. VBR 从连接到代理的磁盘读取数据。
6. 备份完成后，虚拟机磁盘将与代理分离，然后虚拟机快照将被删除。



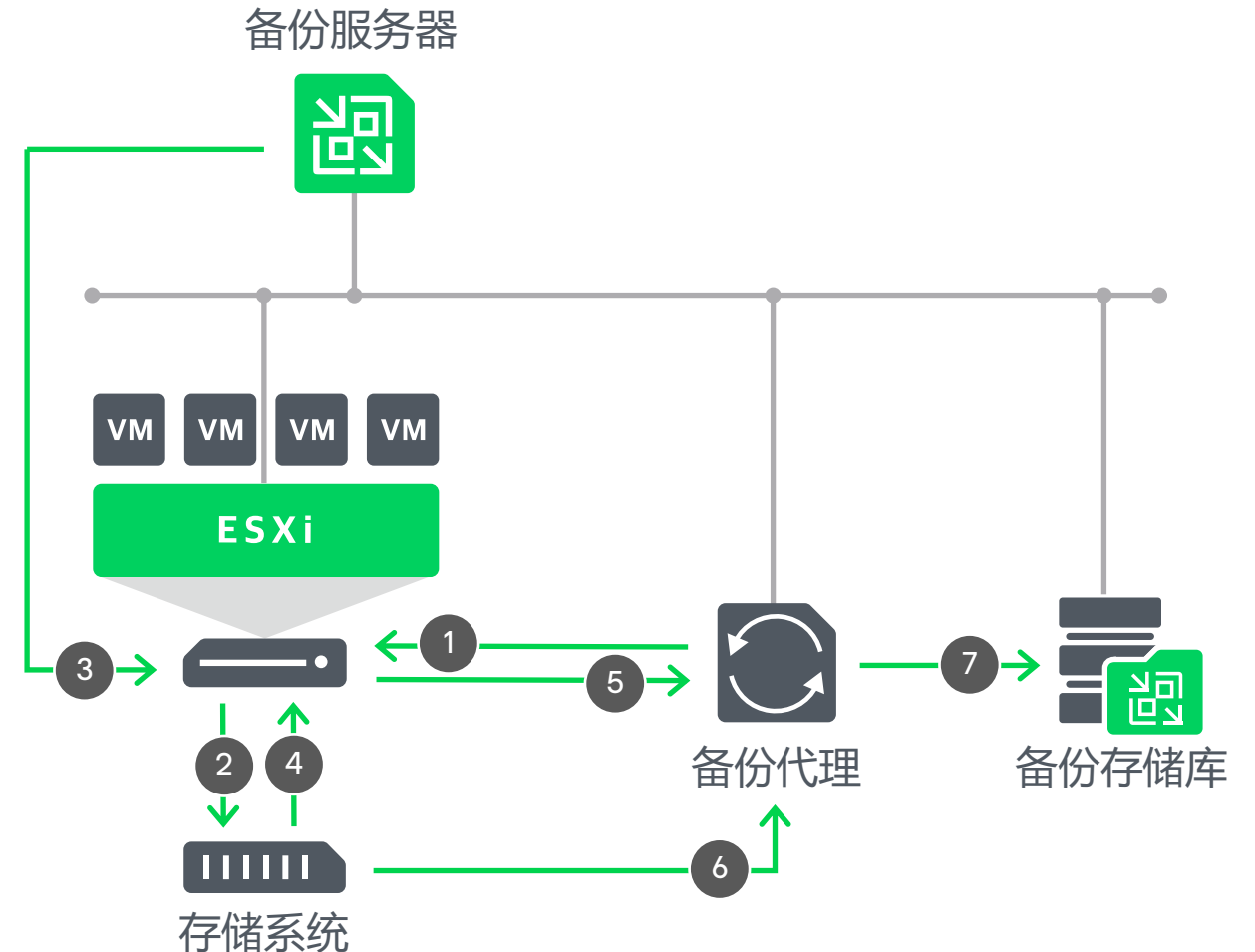
架构和核心组件

VMware 备份代理传输模式

直接存储访问(Direct Storage Access)

在此模式下，VBR 使用 VMware VADP 通过 SAN（FC、FCoE、iSCSI）直接传输虚拟机数据。

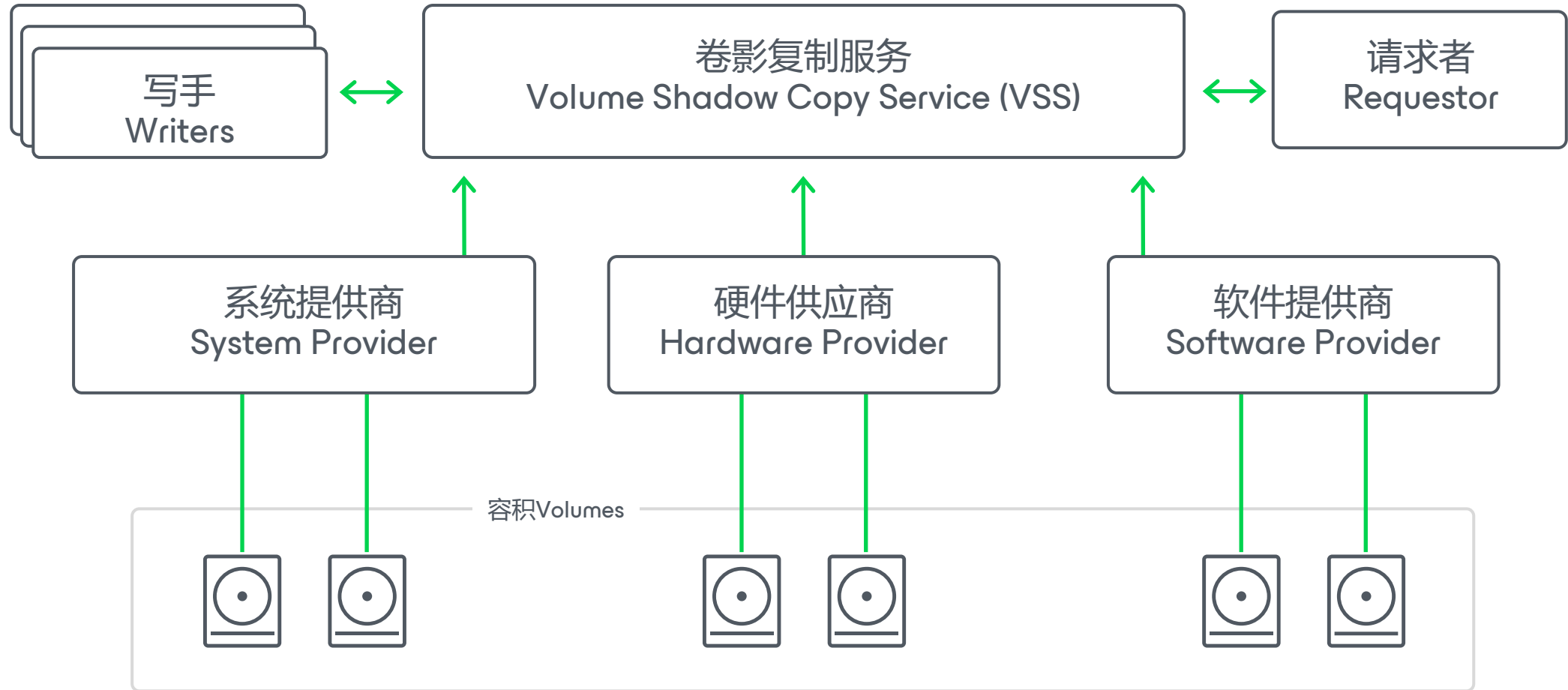
1. 代理从 ESXi 请求虚拟机位置。
2. ESXi 主机定位虚拟机。
3. VBR 触发虚拟机快照。
4. ESXi 主机检索有关存储上虚拟机磁盘布局的元数据。
5. ESXi 主机将元数据发送到代理。
6. 代理使用元数据直接从源存储复制虚拟机数据块。
7. 代理处理复制的数据块并将其发送到目标(备份存储库)。



备份代理 (Hyper-V)

架构和核心组件

卷影复制服务 Volume Shadow Copy Service (VSS)



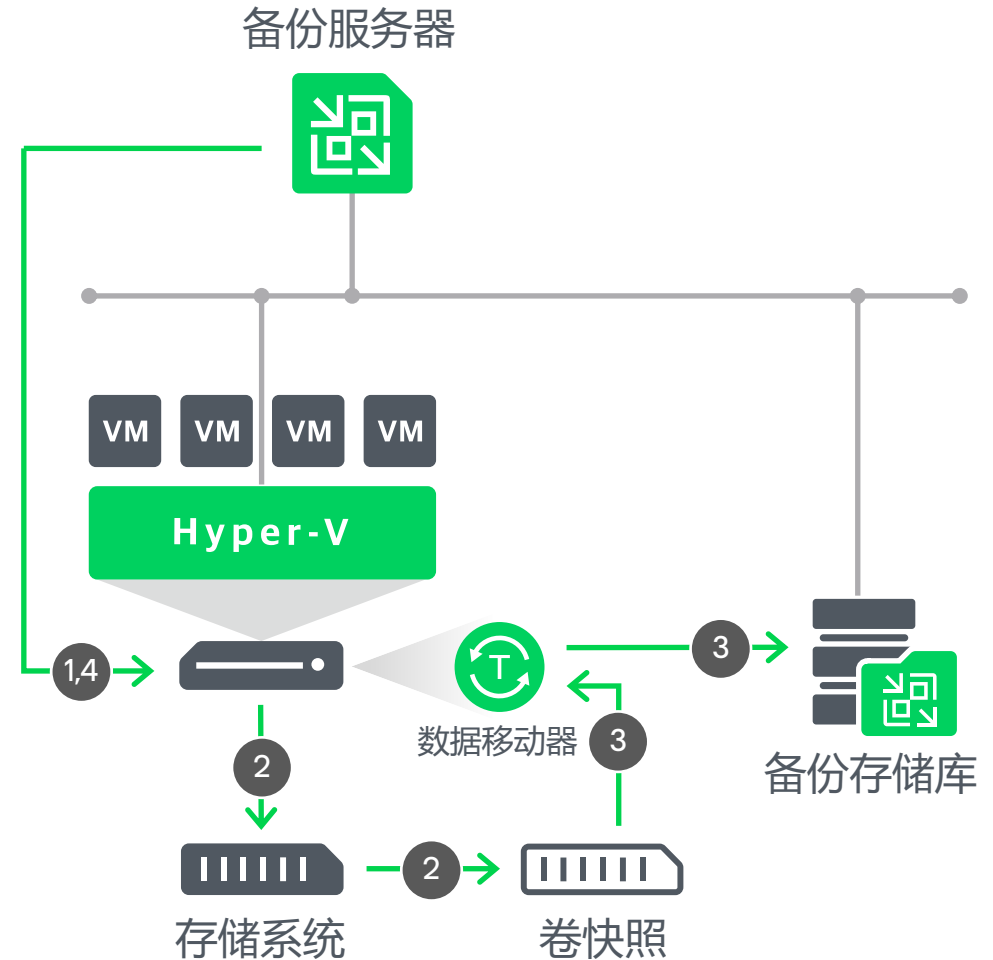
架构和核心组件

Hyper-V 备份模式

Hyper-V 主机内

通过使用软件 VSS 提供程序，利用不可传输的卷影副本，备份数据的处理发生在托管虚拟机的 Hyper-V 节点上。

1. VBR 从 Microsoft Hyper-V 查询虚拟机和主机详细信息。
2. VBR 指示 Microsoft Hyper-V VSS 使用卷快照或虚拟机检查点创建时间点(point-in-time)虚拟机副本。
3. Veeam 传输服务从快照或检查点读取虚拟机数据并将其传输到备份存储库。
4. 数据传输后，VBR 提示 Microsoft Hyper-V VSS 进行清理操作。



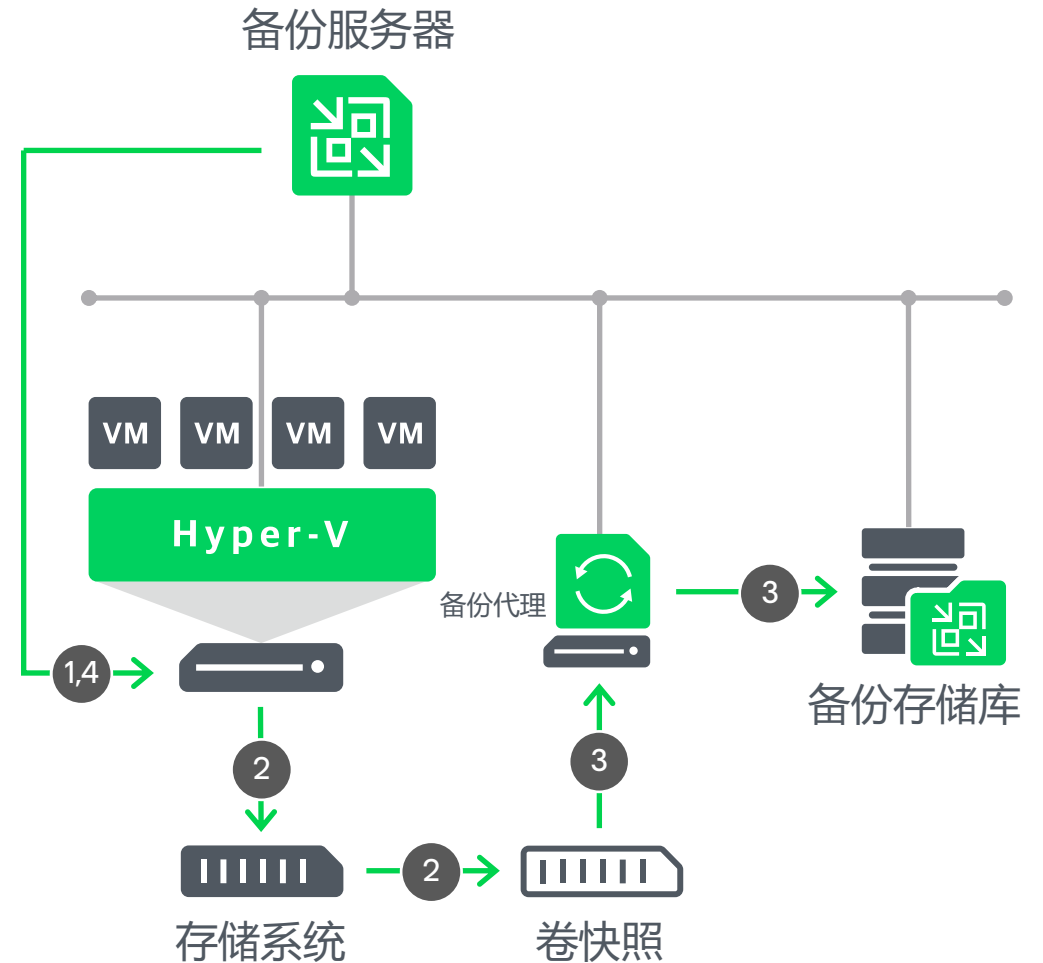
架构和核心组件

Hyper-V 备份模式

Hyper-V 主机外

备份的数据处理委托给单独的非集群 Hyper-V 节点，通过 SAN 存储供应商提供的硬件 VSS 提供程序利用可传输的影子副本。

1. 备份的数据处理委托给单独的非集群 Hyper-V 节点，通过 SAN 存储供应商提供的硬件 VSS 提供程序利用可传输的影子副本。
2. VBR 指示 Microsoft Hyper-V VSS 使用卷快照或虚拟机检查点创建时间点虚拟机副本。
3. Veeam Off-host Proxy(主机外) 从快照或检查点读取虚拟机数据并将其传输到备份存储库。
4. 数据传输后，VBR 提示 Microsoft Hyper-V VSS 进行清理操作



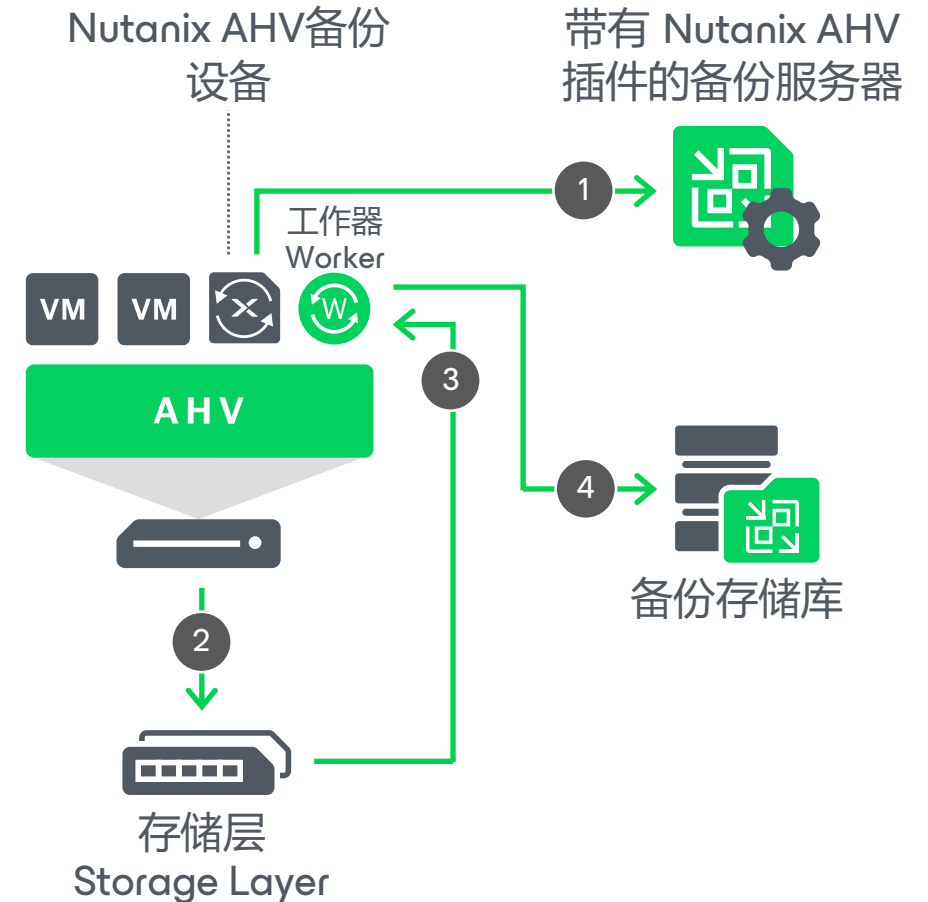
备份设备 (AHV & RHV)

架构和核心组件

Nutanix AHV

Veeam Backup for Nutanix AHV 使用 Nutanix AHV 的原生功能来创建映像级备份，并且不会在虚拟机内安装代理软件来检索数据。

1. Nutanix AHV 备份设备启动备份作业，将会话数据传输到 VBR。
2. 利用 Nutanix REST API，它与 Nutanix AHV 集群链接，为所有指定的虚拟机或保护域生成快照。之后，它在 Nutanix AHV 集群上建立一个卷组。
3. Nutanix AHV 备份设备部署一个工作器，通过 iSCSI 将虚拟机磁盘安装到工作器。
4. 工作器在块级别检索虚拟机数据，应用压缩和重复数据删除，并将数据传输到备份存储库。

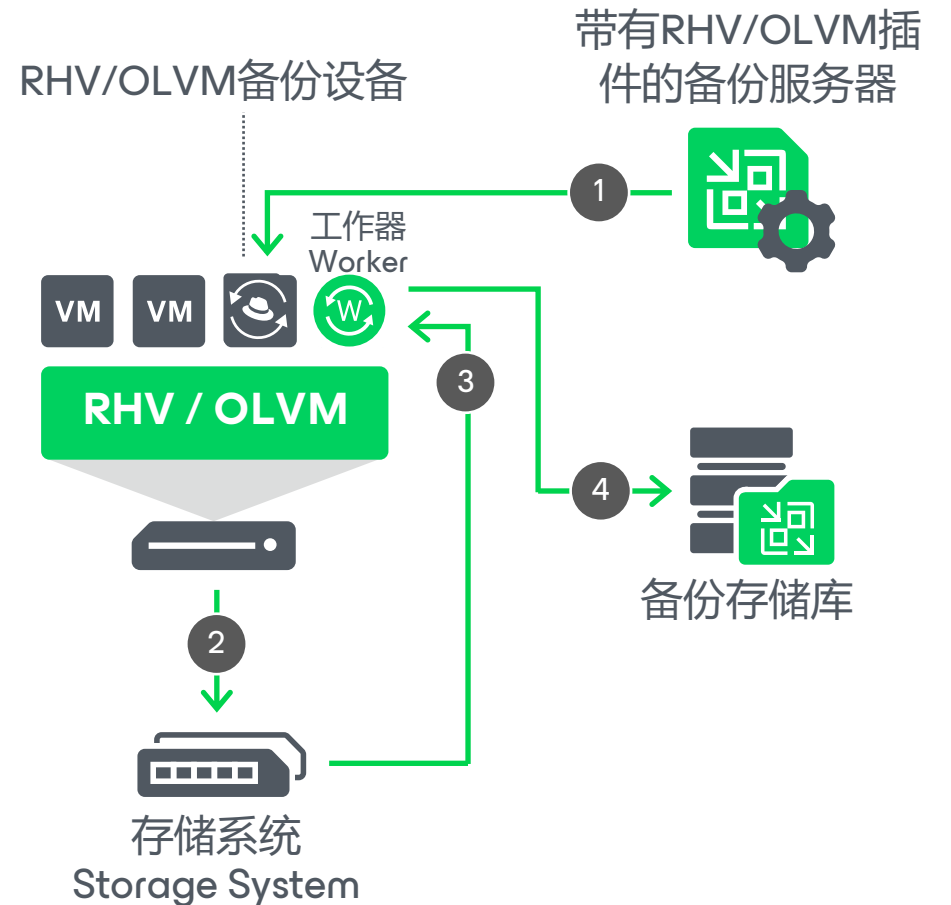


架构和核心组件

Red Hat Virtualization & Oracle Linux Virtualization Manager (oVirt)

Veeam Backup for RHV/OLVM 使用原生 oVirt 功能来创建映像级备份，并且不会在虚拟机内安装代理软件来检索数据。

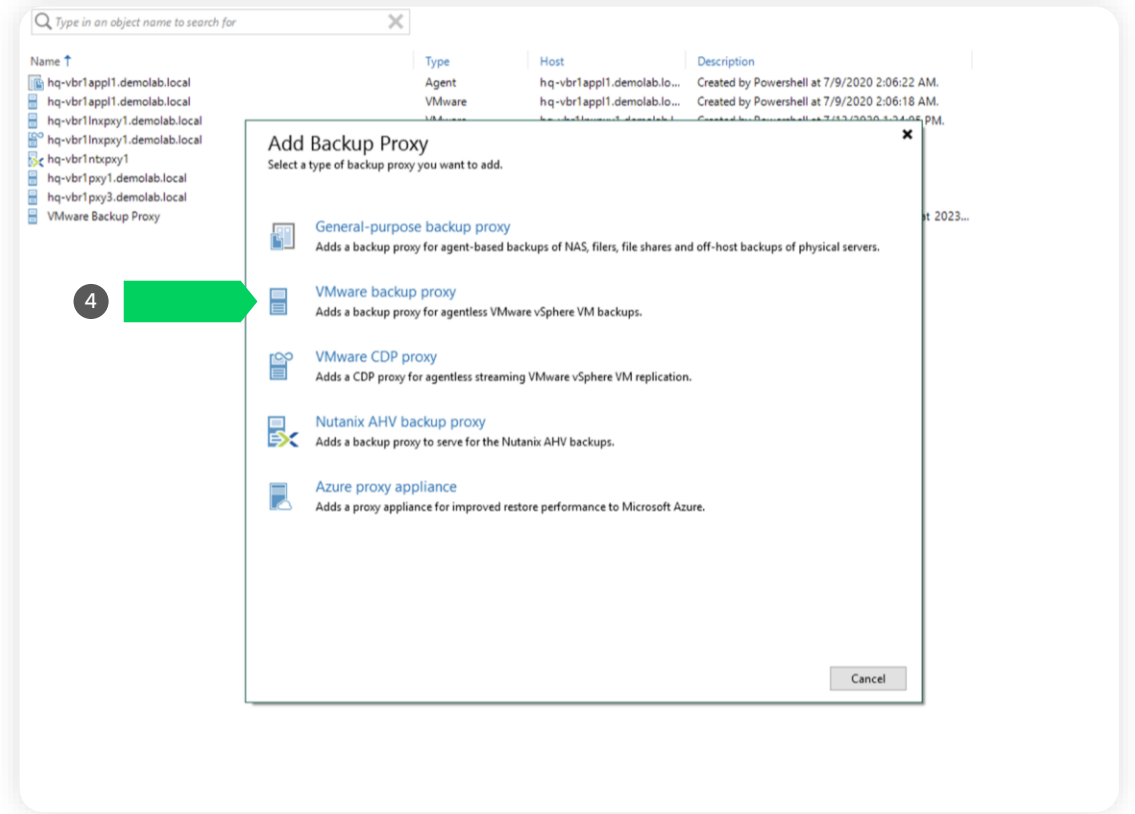
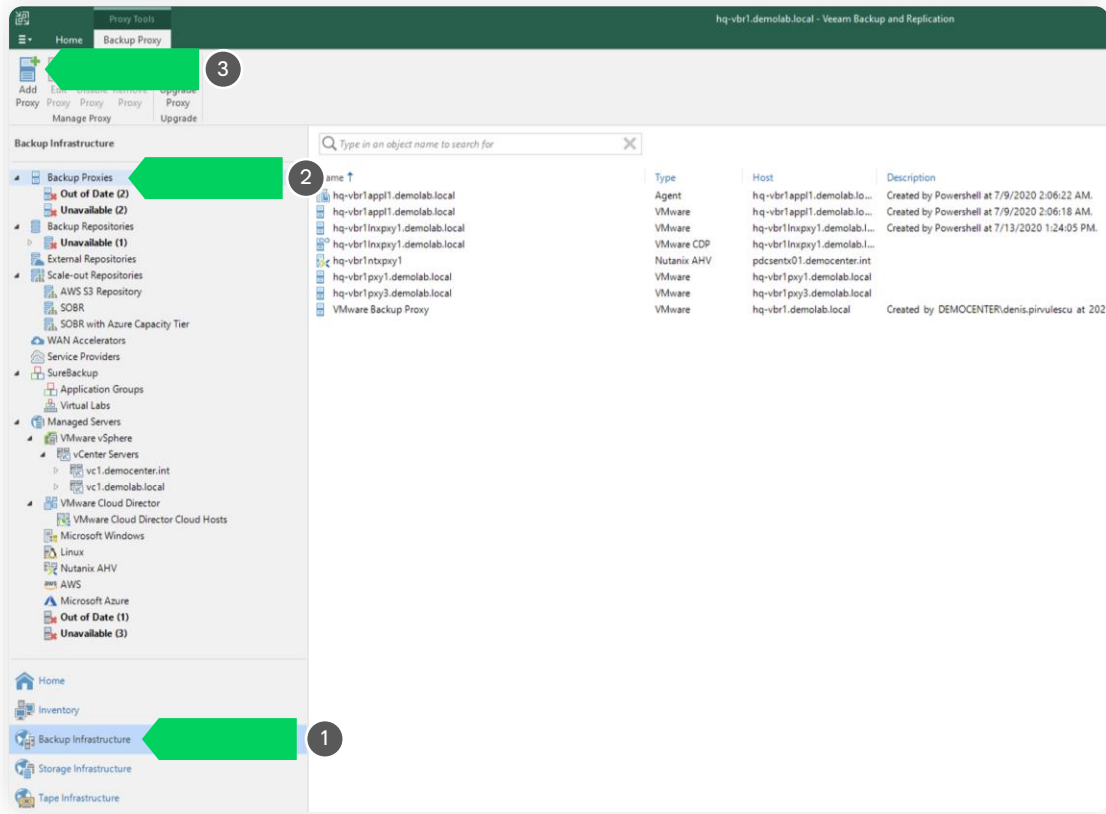
1. VBR 启动备份任务，将会话数据传输到备份设备。
2. 备份设备通过 REST API 与虚拟化管理器交互，为指定的虚拟机生成快照。随后，它建立映像传输会话，提供相应的 URL。
3. 备份设备部署一个工作器，利用提供的 URL 来检索虚拟机数据。
4. 工作器对虚拟机数据传输到指定备份存储库之前，应用压缩和重复数据删除



如何添加备份代理?

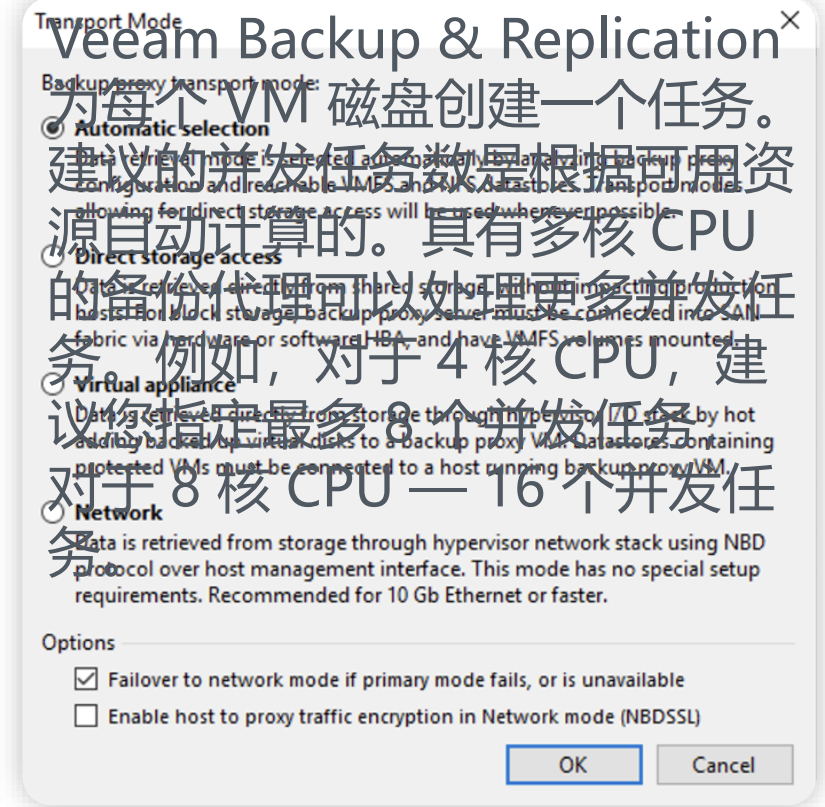
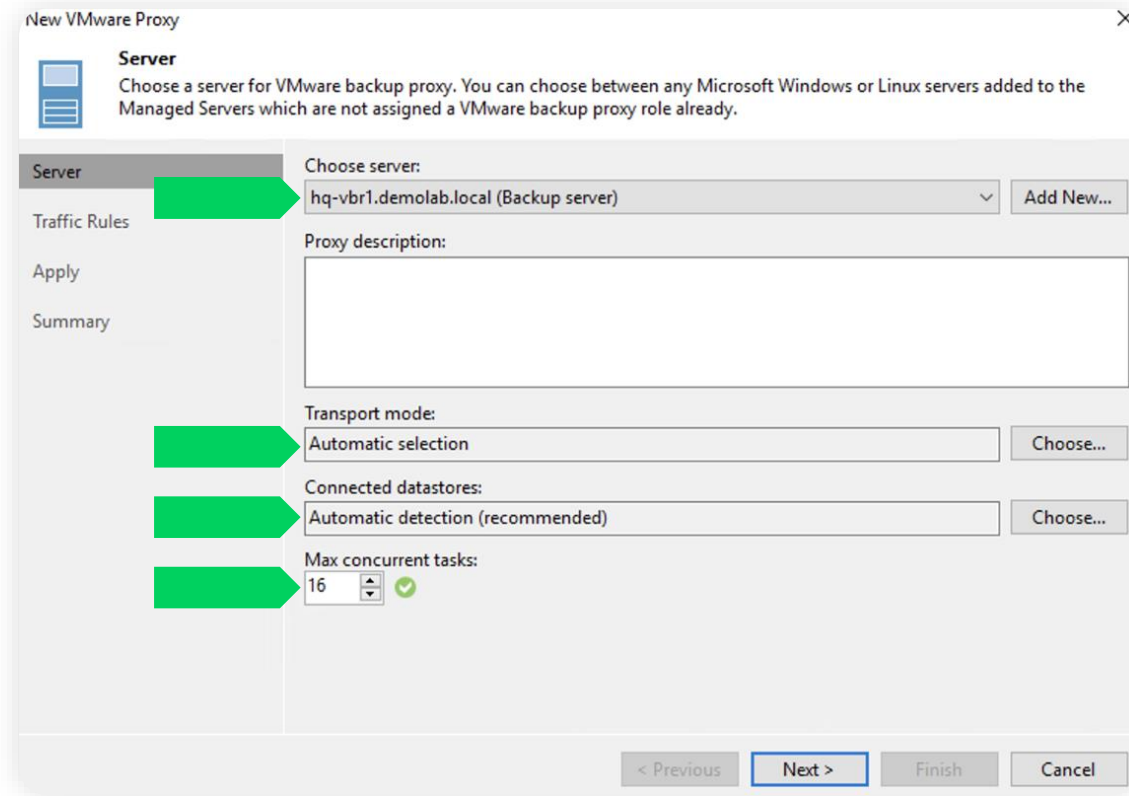
架构和核心组件

如何添加代理？ VMware 示例。



架构和核心组件

如何添加代理？ VMware 示例。



备份存储库

架构和核心组件

备份存储库

存储库是存储备份文件、虚拟机数据副本以及恢复所需的元数据的存储位置。

存储库可以是本地或远程位置，它可作为备份和复制数据的集中存储空间。

直连存储

Direct Attached Storage

- Microsoft Windows server
- Linux server
- Hardened Repository(加固存储)

网络连接存储

Network Attached Storage

- SMB (CIFS) share
- NFS share

去重存储设备

Deduplicating Storage Appliances

- Dell Data Domain
- ExaGrid
- Fujitsu ETERNUS CS800
- HPE StoreOnce
- Infinidat InfiniGuard
- Quantum Dxi

对象存储

Object Storage

- S3 Compatible
- Amazon S3
- Google Cloud Storage
- IBM Cloud Object Storage
- Microsoft Azure Storage
- Wasabi Cloud Storage

架构和核心组件

备份存储库

您可以在备份存储库中找到多种文件类型。以下是最常用的文件类型列表：

.vbm – 备份链元数据文件

.vbk – 完整备份文件

.vib – 增量备份文件

.vrb – 反向增量备份文件(reverse incremental)

.bco – 配置备份文件

.vsb – 磁带虚拟完整备份

.vlb – 归档日志备份文件

.vsm – Microsoft SQL 事务日志备份

.vom – Oracle 数据库日志文件

.vpm – PostgreSQL 事务日志备份

.vab – 企业插件备份文件

.vasm – 企业插件备份元数据文件

.vacm – 企业插件备份作业元数据文件

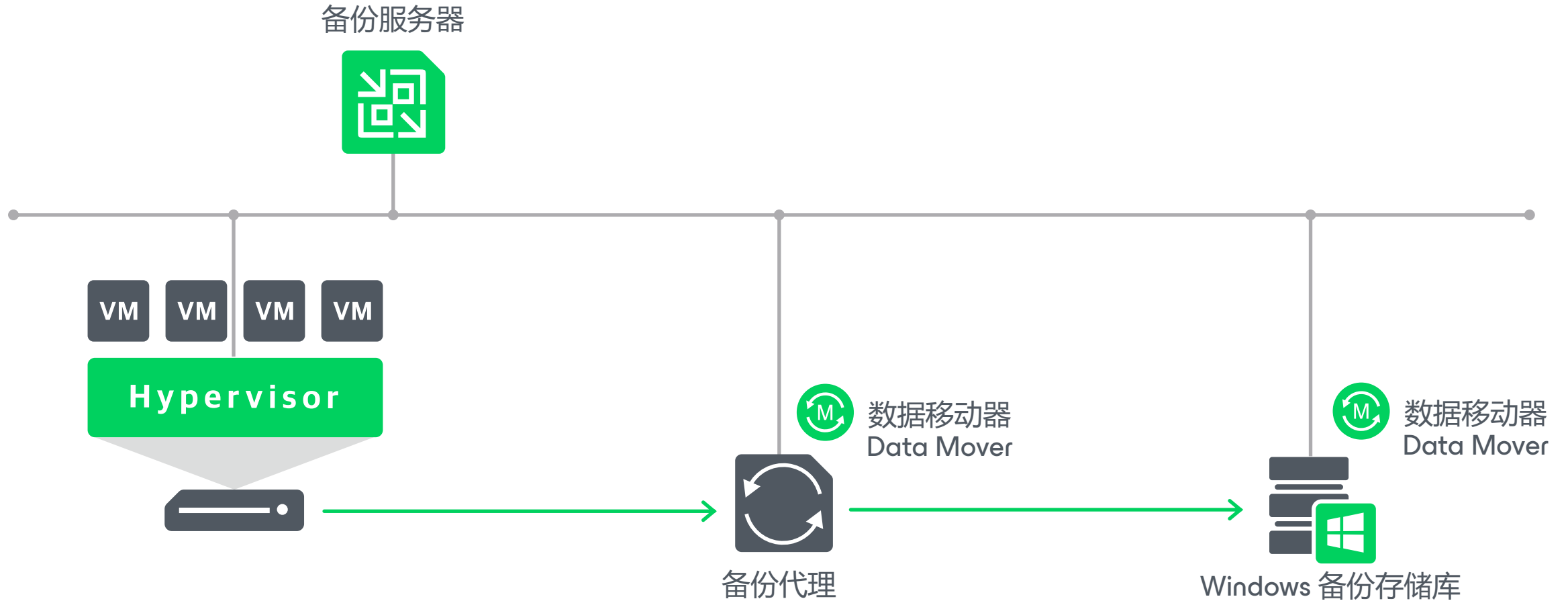
.vblob – 存储文件共享 (NAS) 备份作业数据的文件

.vindex – 描述文件共享备份作业的备份文件（名称和版本）的二进制元数据文件

.vslice – 描述 VBLOB 备份文件中数据分配的二进制元数据

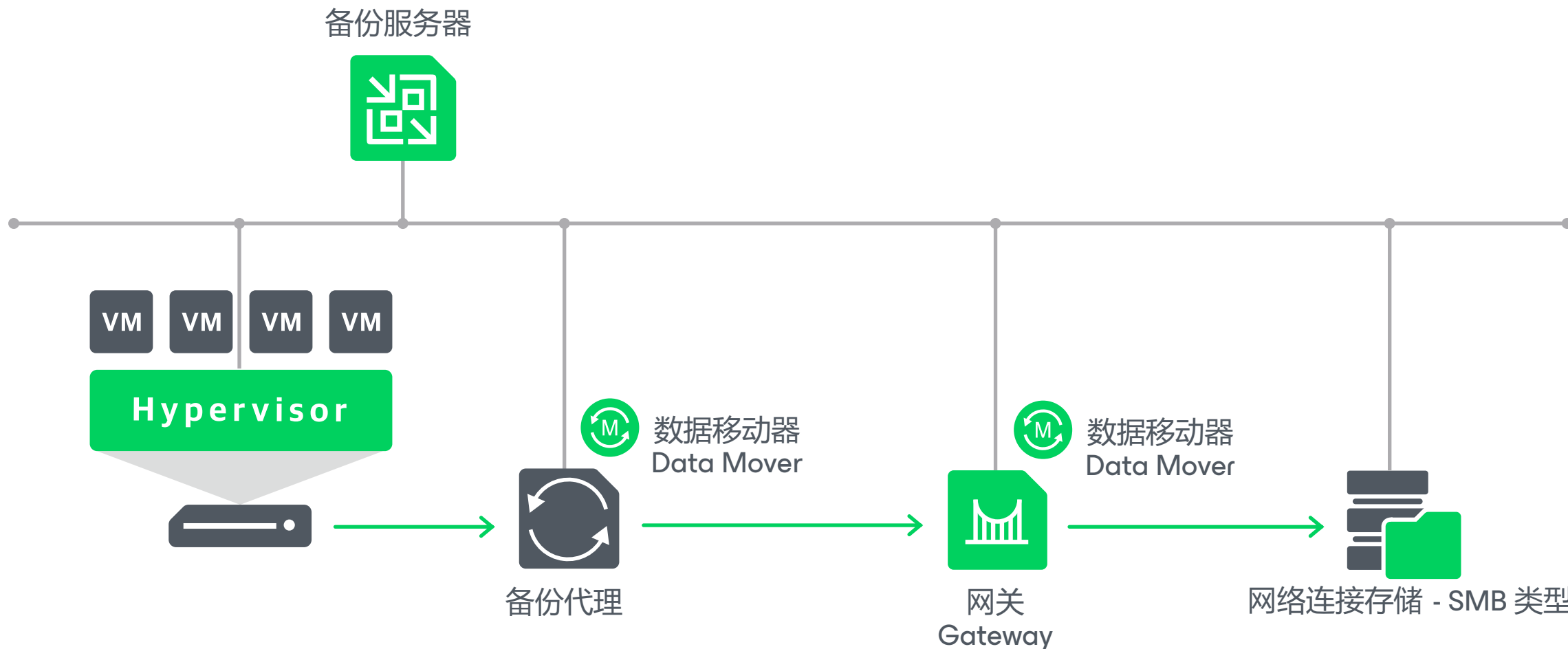
架构和核心组件

Windows 备份存储库示例



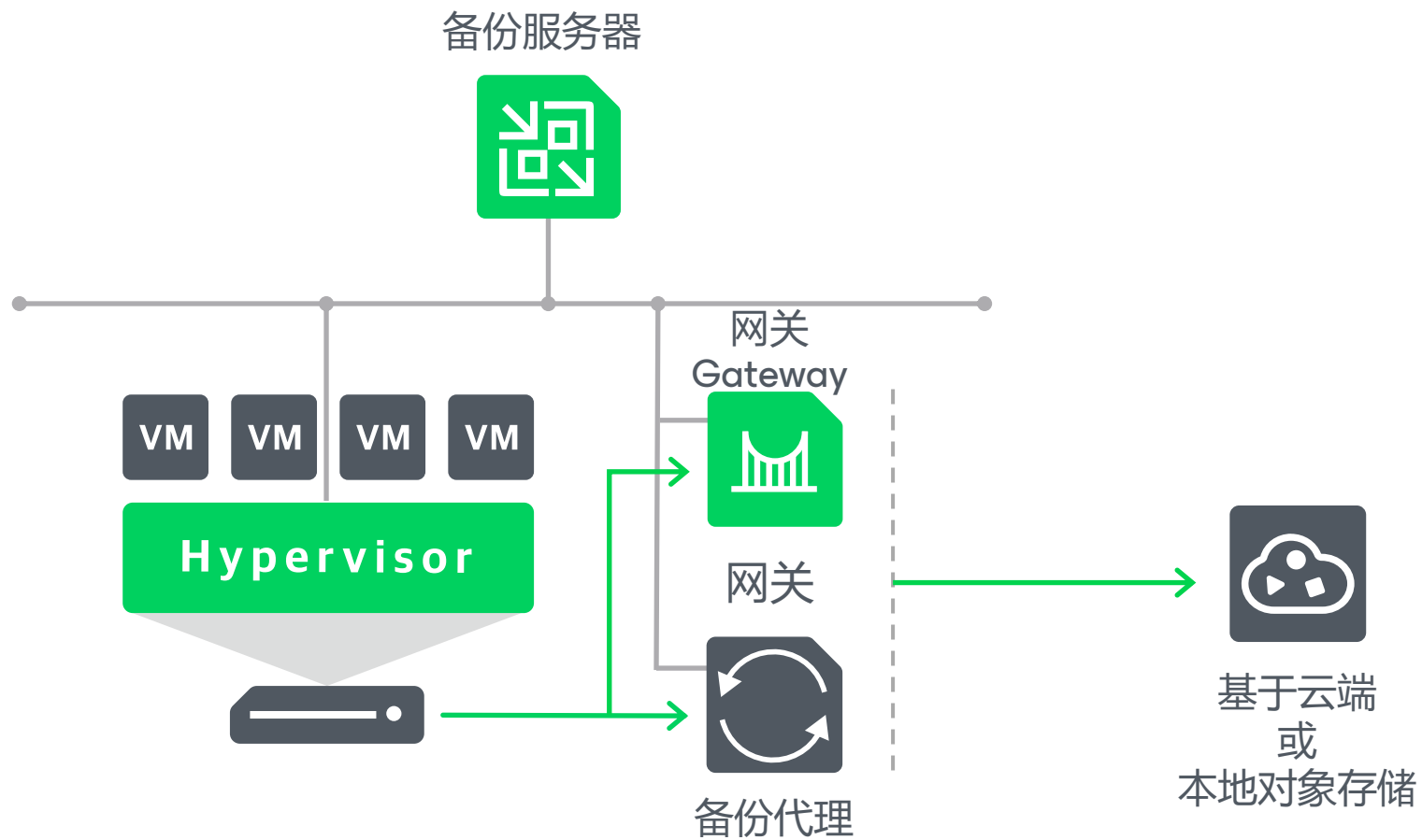
架构和核心组件

网络连接存储-SMB类型示例



架构和核心组件

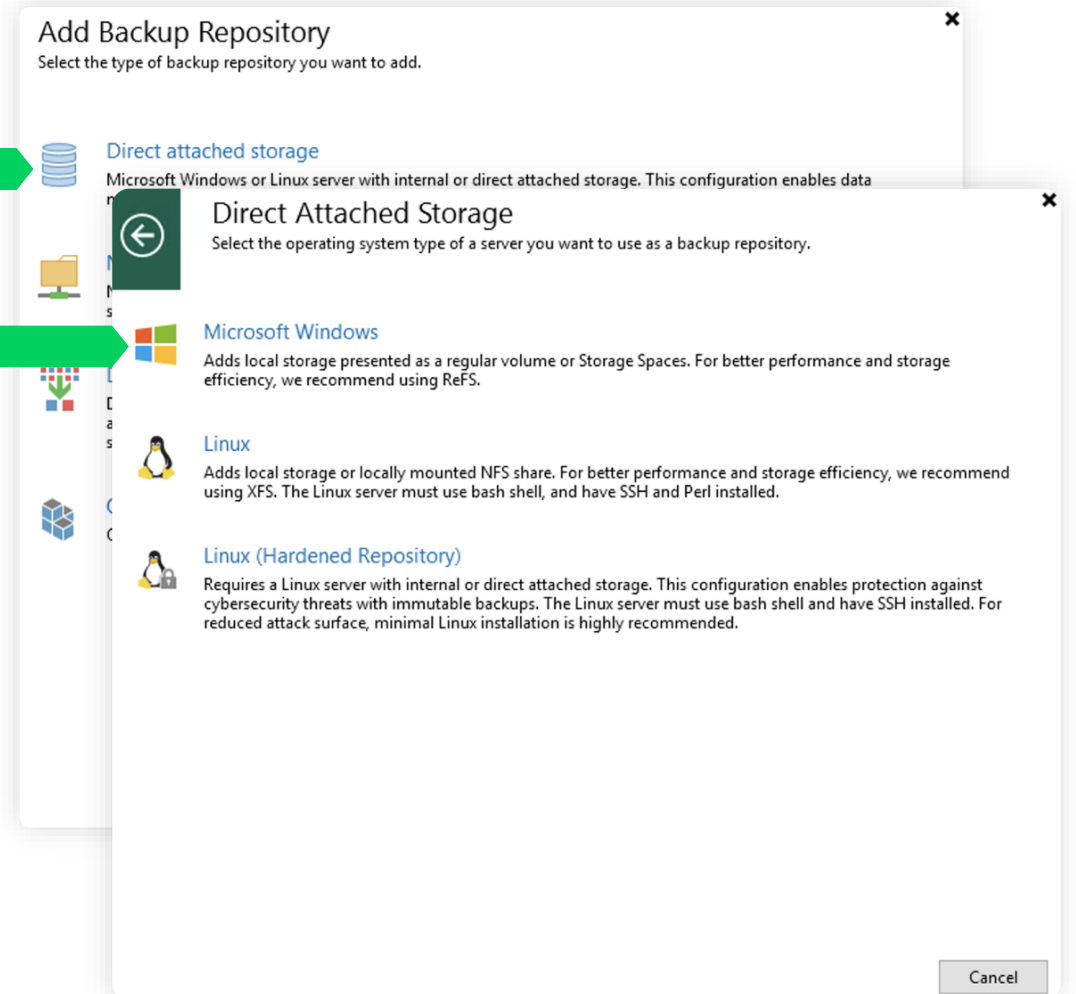
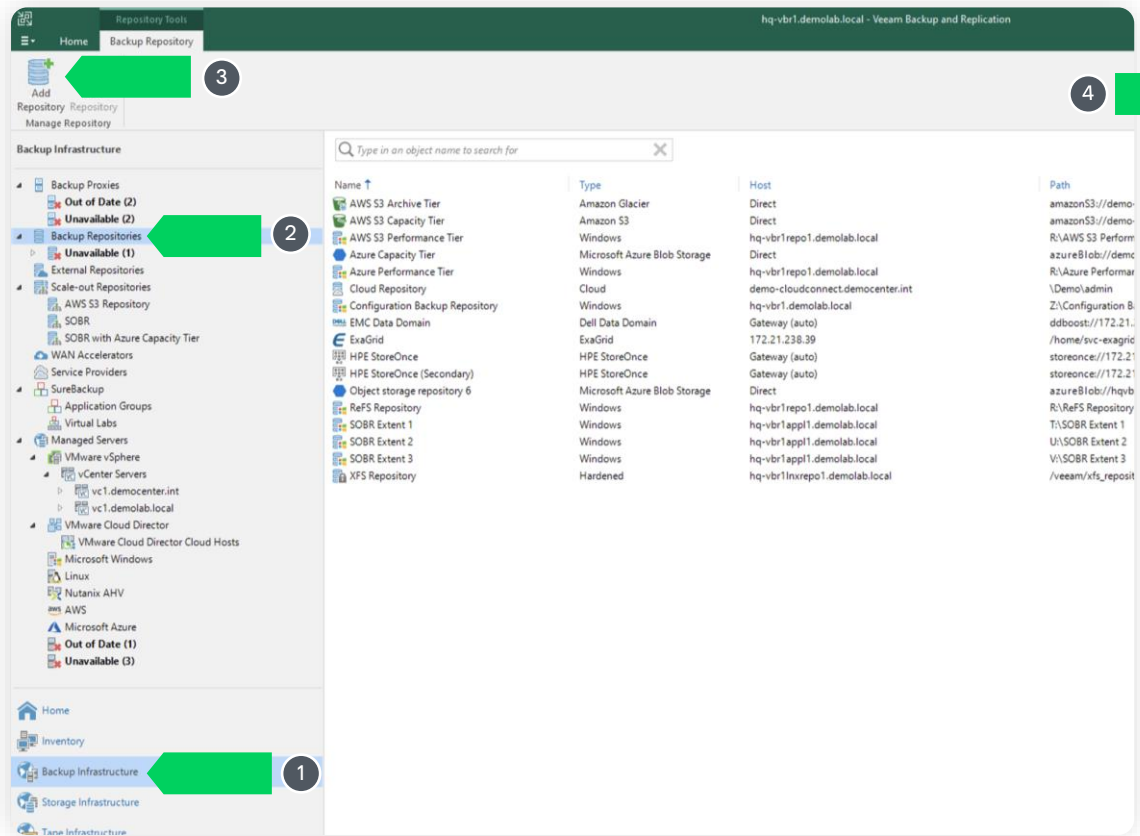
对象存储示例



如何添加备份存储库

架构和核心组件

如何添加备份存储库?直连存储备份存储库(Direct Attached Storage)示例



架构和核心组件

如何添加备份存储库?直连存储备份存储库(Direct Attached Storage)示例

New Backup Repository

Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Name

Server [Redacted] →

Repository [Selected]

Mount Server

Review

Apply [Redacted] →

Summary [Redacted] →

Location

Path to folder: C:\ [Redacted] → [Browse...]

Capacity: <Unknown>

Free space: <Unknown>

[Populate]

Load control

Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

Limit maximum concurrent tasks to: 4

Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings. [Redacted] → [Advanced...]

< Previous Next > Finish Cancel

Storage Compatibility Settings

Align backup file data blocks (recommended)
Significantly improves backup and restore performance while reducing storage CPU usage by avoiding unaligned I/O. Increases backup size by less than 2%.

Decompress backup file data blocks before storing
Source data mover compresses data according to the backup job compression settings to minimize LAN traffic. Uncompressing the data before storing allows for better deduplication ratio on most deduplicating storage appliances.

This repository is backed by rotated drives
Backup jobs pointing to this repository will tolerate the disappearance of previous backups by creating a new full, and track the repository volume location across unintentional drive letter changes.
When a drive is changed:
Continue existing backup chains (if present)

Use per-machine backup files (recommended)
Improves backup performance for storage devices benefiting from multiple I/O streams, such as enterprise grade block storage and deduplicating storage appliances. Enables additional backup management functionality.

[OK] [Cancel]

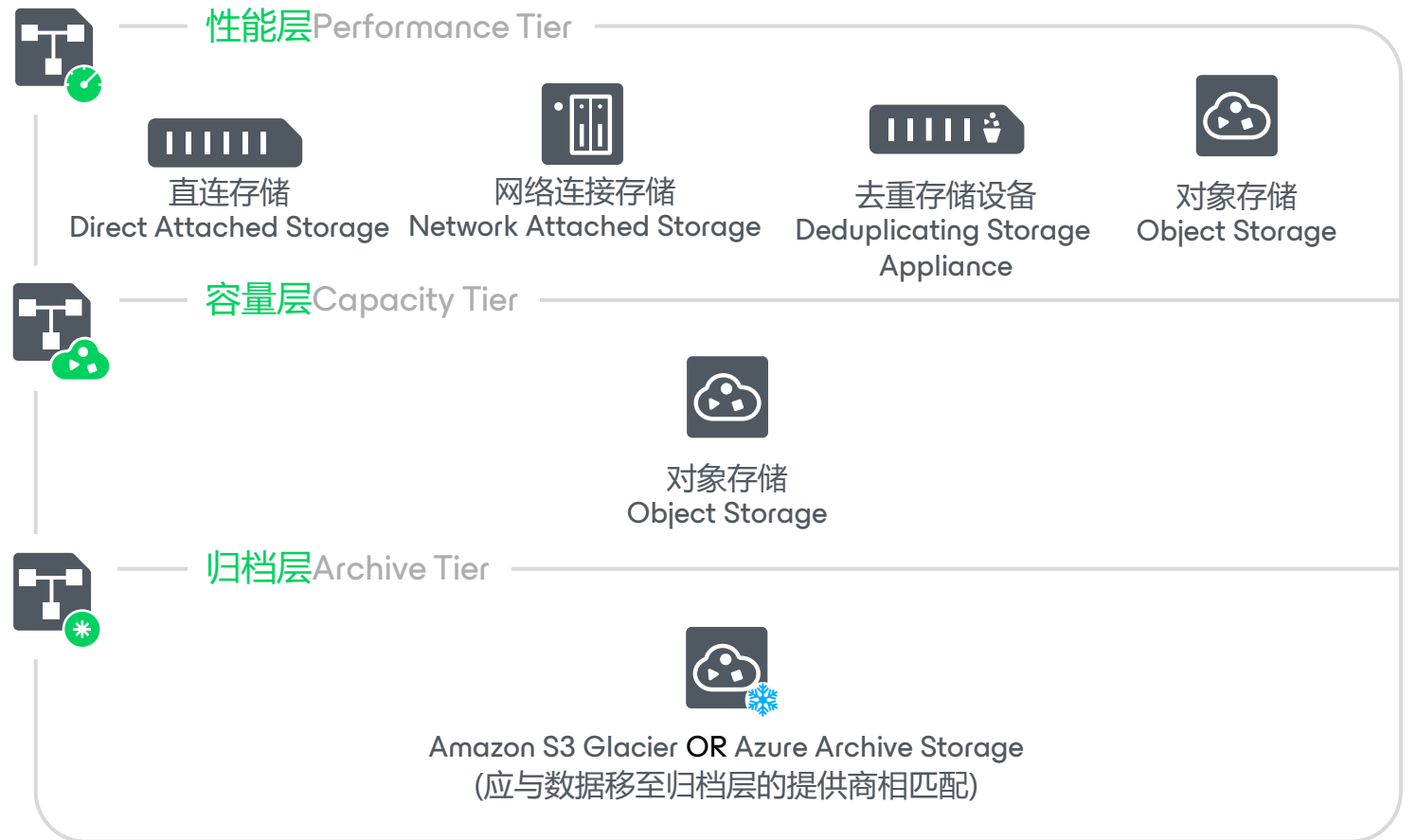
横向扩展备份存储 库(SOBR) Scale-Out Backup Repository

架构和核心组件

横向扩展备份存储库(SOBR)- Scale-Out Backup Repository

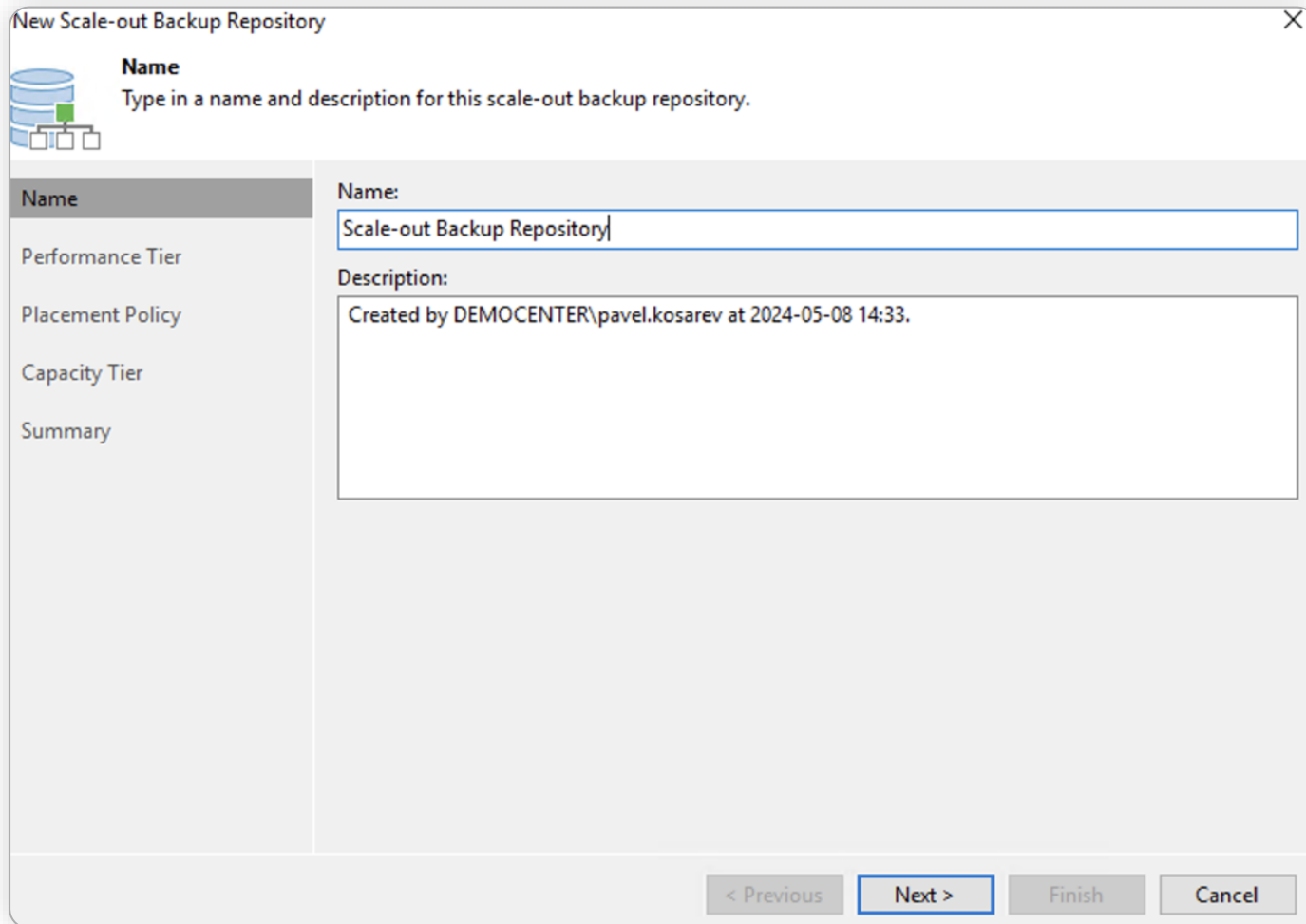
具有**多层**存储支持的可扩展存储库系统。

包括**性能层**（本地或共享存储），并且可以通过**容量**和**归档层**进行扩展，为不同的存储需求提供水平扩展。



架构和核心组件

如何添加/配置 (SOBR)Scale-Out Backup Repository ?



New Scale-out Backup Repository

Name
Type in a name and description for this scale-out backup repository.

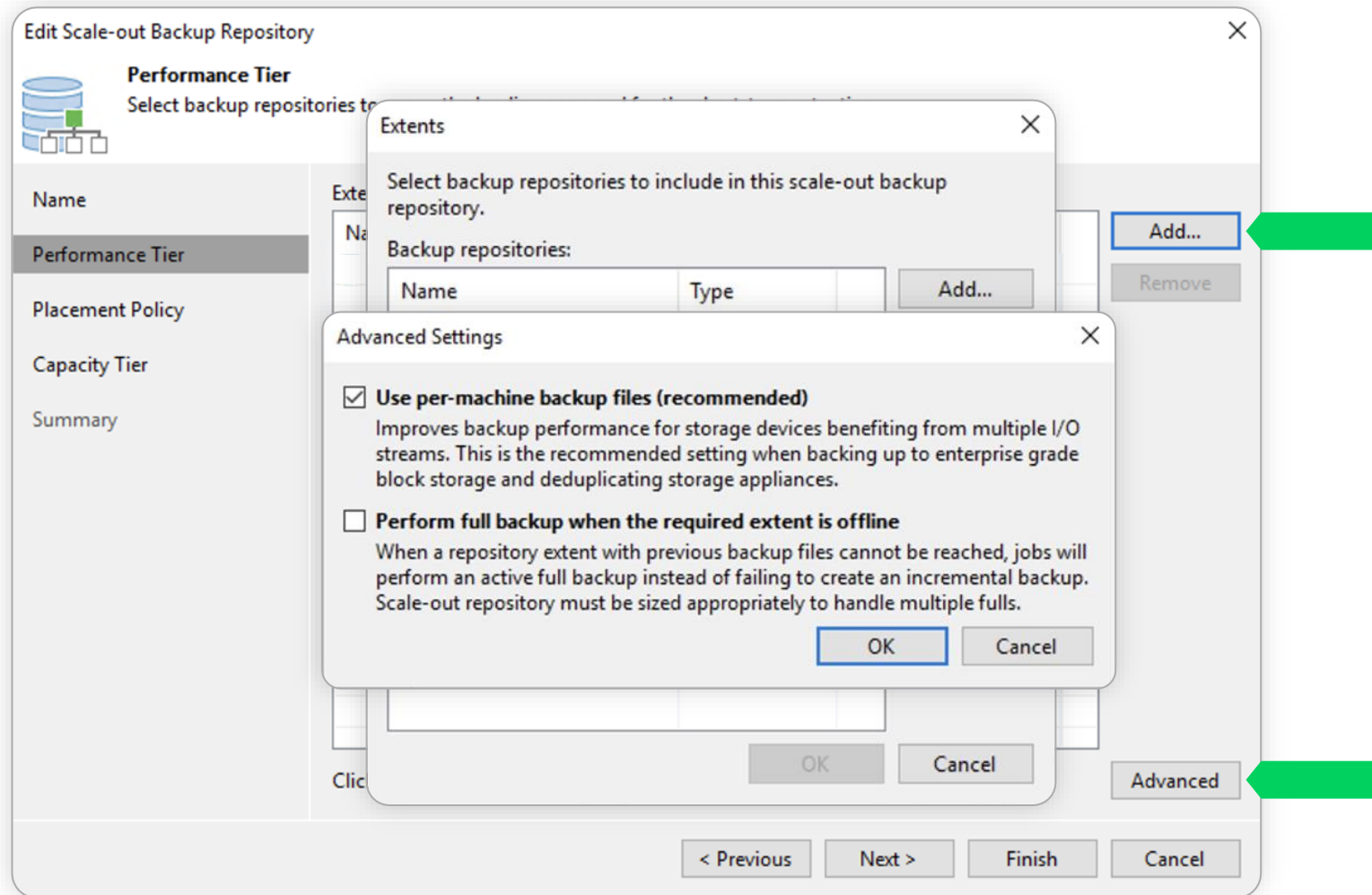
Name:
Scale-out Backup Repository

Description:
Created by DEMOCENTER\pavel.kosarev at 2024-05-08 14:33.

< Previous **Next >** Finish Cancel

架构和核心组件

如何添加/配置 (SOBR) Scale-Out Backup Repository?



架构和核心组件

如何添加/配置 (SOBR)Scale-Out Backup Repository?

Edit Scale-out Backup Repository

Capacity Tier
Specify object storage to copy backups to for redundancy and DR purposes. Older backups can be moved to object storage completely to reduce long-term retention costs while preserving the ability to restore directly from offloaded backups.

Name: [Redacted] Extend scale-out backup repository capacity with object storage:
Performance Tier: <Click Choose to pick object storage> Choose...
Placement Policy: [Redacted] Copy backups to object storage as soon as they are created

Capacity Tier
Override: [Redacted] Offload backup files sooner if scale-out backup repository is reaching capacity
Offload until used space is below: 90 %
OK Cancel

Override... (highlighted with green arrow)

Password: [Redacted] Add... Manage passwords

Offload window: Any time Health check: Disabled

< Previous Apply Finish Cancel

备份, 复制验证 & 虚拟实验室

SureBackup, SureReplica & Virtual Lab

高级功能

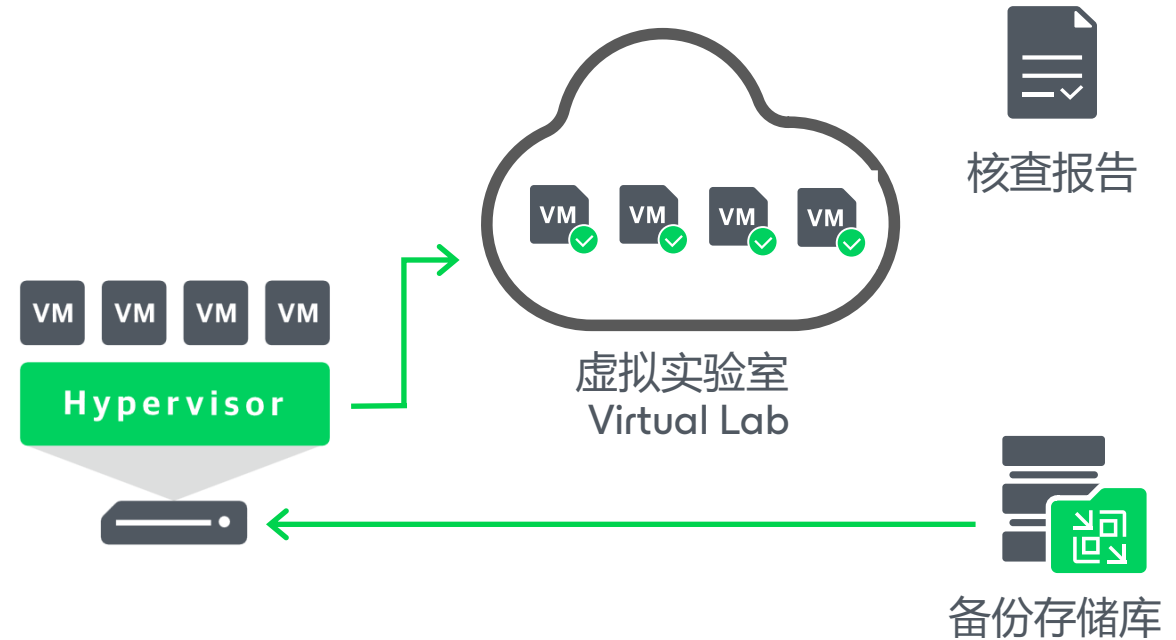
备份, 复制验证 SureBackup, SureReplica & On-Demand Sandbox

确保备份 SureBackup

允许您对成功执行的备份自动执行可恢复性测试、验证和内容扫描。

如何?

1. 在隔离的虚拟实验室环境中启动虚拟机。
2. 执行一组测试
3. 将状态报告发送到您的邮箱。



高级功能

SureBackup 验证模式

全面可恢复性测试 **Full recoverability testing**

Veeam Backup & Replication 在隔离环境中发布了机器并根据所选的脚本执行验证。

仅备份验证和内容扫描 **Backup verification and content scan only**

无需将机器发布到虚拟实验室，Veeam Backup & Replication 就会执行备份完整性检查及其内容分析，以检测恶意软件或任何其他不需要的或敏感数据的痕迹。

New SureBackup Job

Name
Type in a name and description for this SureBackup job.

Name

Virtual Lab

Application Group

Linked Jobs

Settings

Schedule

Summary

Name: Exchange SureBackup Job Full

Description: Daily Verification Job

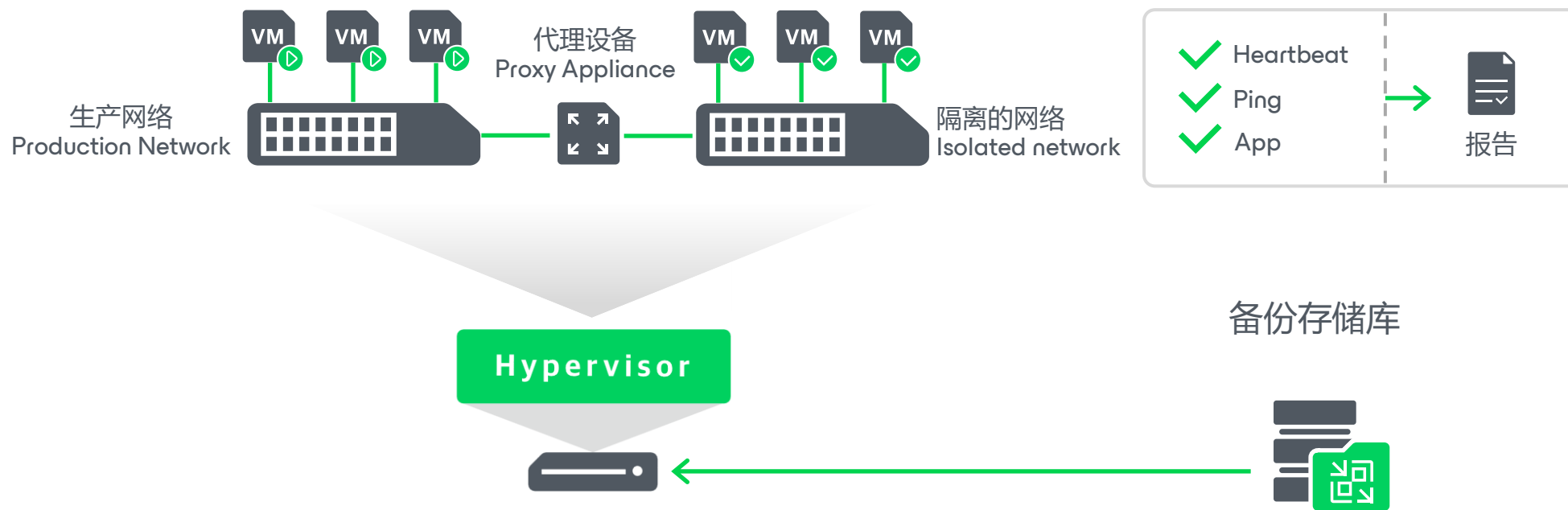
Backup verification mode:

- Full recoverability testing (recommended)
Runs machines in an isolated environment directly from backup and performs tests against live applications. This ensures recoverability of your production workloads in a DR event.
- Backup verification and content scan only
Performs backup integrity check and its content analysis to detect traces of malware or any other unwanted or sensitive data. These tests do not require setting up a virtual lab.

< Previous Next > Finish Cancel

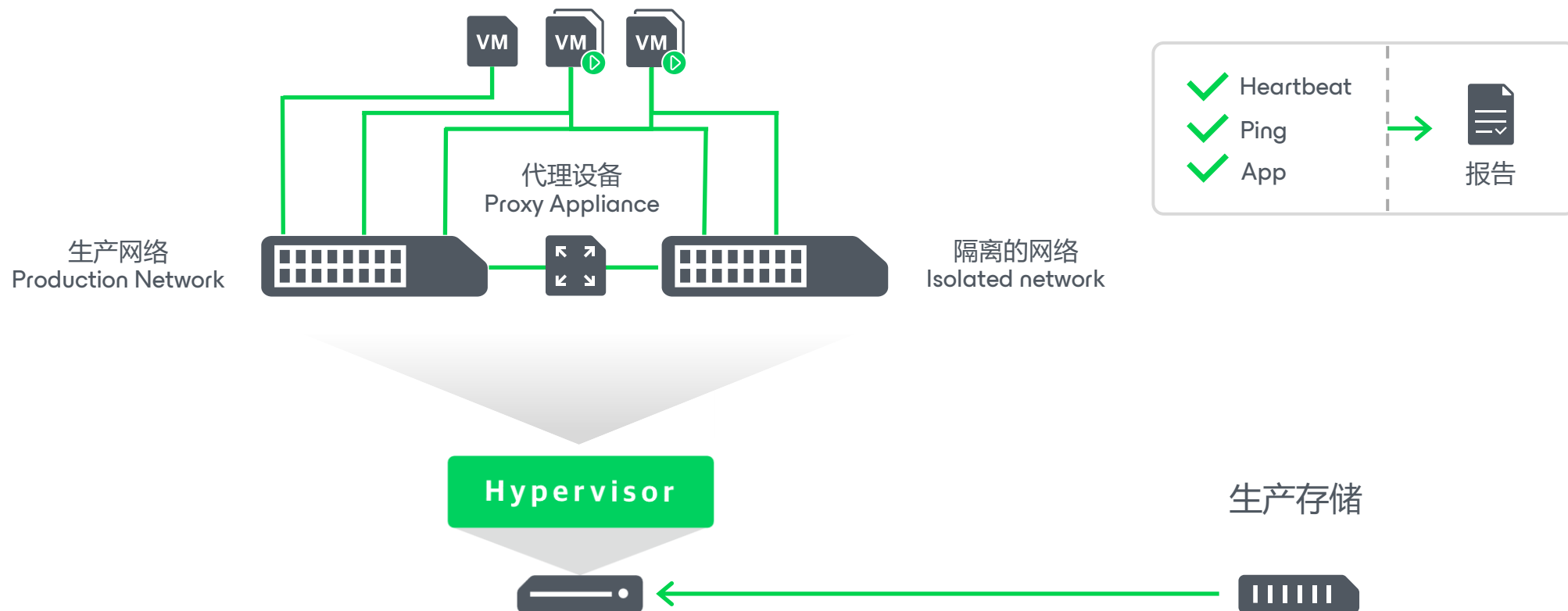
高级功能

SureBackup 工作流程



高级功能

SureReplica 工作流程 (仅限 VMware)

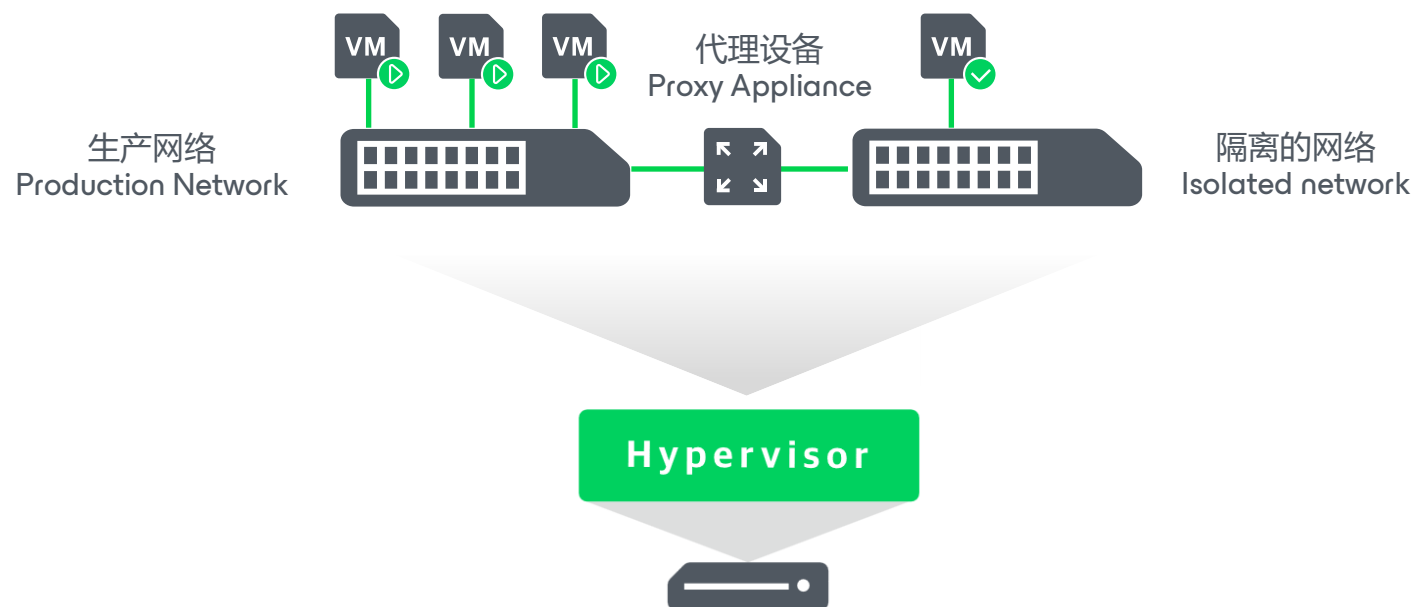


高级功能

On-Demand Sandbox

随时启动生产环境的副本以用于各种**测试、安全、培训或故障排除目的**。

对虚拟机所做的所有更改都将写入重做日志（用于虚拟机备份和存储快照）或保存到增量文件（用于虚拟机副本）。使用完按需沙盒并关闭后，重做日志和增量文件将被删除。



不可变更 Immutability

不可变更

不可变更的定义：

不可变更是指数据的状态不能被修改或删除。

不可变更的好处：

- 确保数据完整性和安全性。
- 提供针对勒索软件和意外删除的保护

支持的不可变存储库类型

- Amazon, S3-compatible and Azure object storage repositories.
- Hardened Repository.
- HPE StoreOnce.
- Dell Data Domain

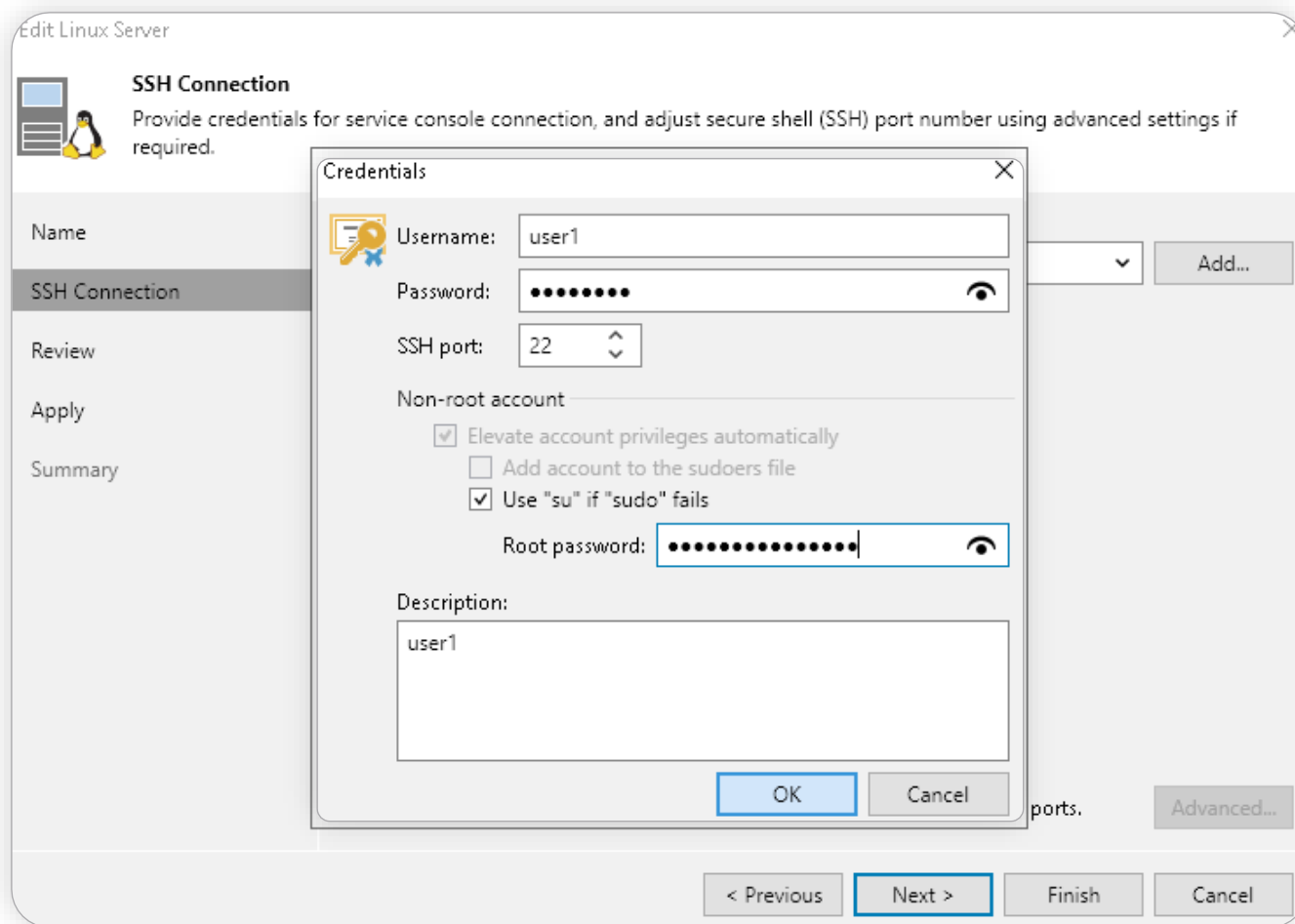
不可变更

添加 Linux 加固存储库

在向导的 SSH 连接步骤中，指定**一次性凭据** **single-use credentials** 以连接到 Linux 服务器并部署 Veeam Data Move。

Veeam Backup & Replication **不会将这些凭据存储**在配置数据库中。

注意：您使用的用户帐户必须是非 root 帐户。此外，它必须在 Linux 服务器上创建**主目录**。

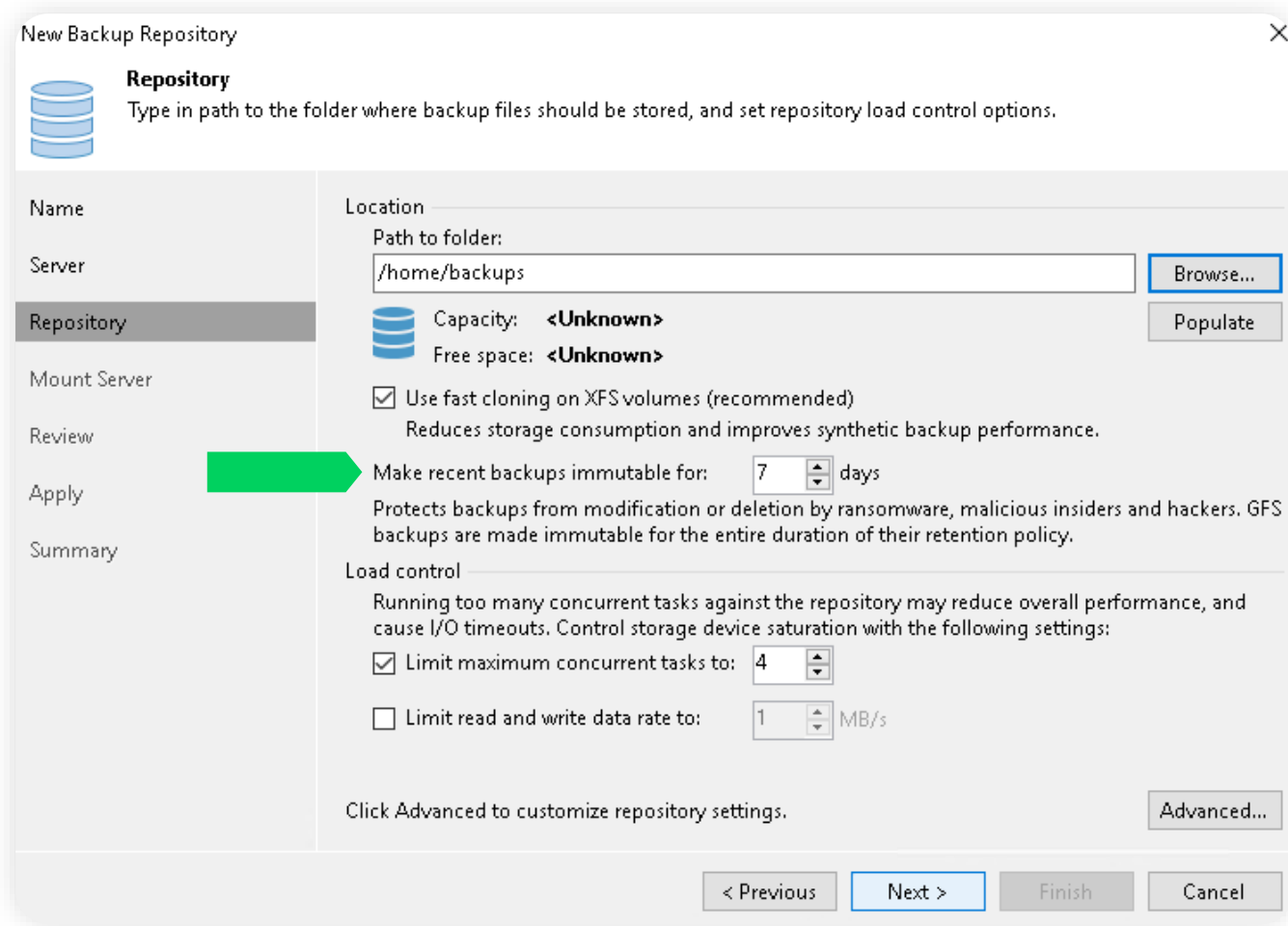


不可变更

使备份不可变@ Linux 加固存储库

当您添加强化存储库时，您需要指定备份文件必须不可变的时间段。

在此期间，存储在此存储库中的备份文件不能被修改或删除。



New Backup Repository

Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Name

Server

Repository

Mount Server

Review

Apply

Summary

Location

Path to folder:
/home/backups Browse...

Capacity: <Unknown> Populate

Free space: <Unknown>

Use fast cloning on XFS volumes (recommended)
Reduces storage consumption and improves synthetic backup performance.

Make recent backups immutable for: 7 days
Protects backups from modification or deletion by ransomware, malicious insiders and hackers. GFS backups are made immutable for the entire duration of their retention policy.

Load control

Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

Limit maximum concurrent tasks to: 4

Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings. Advanced...

< Previous Next > Finish Cancel

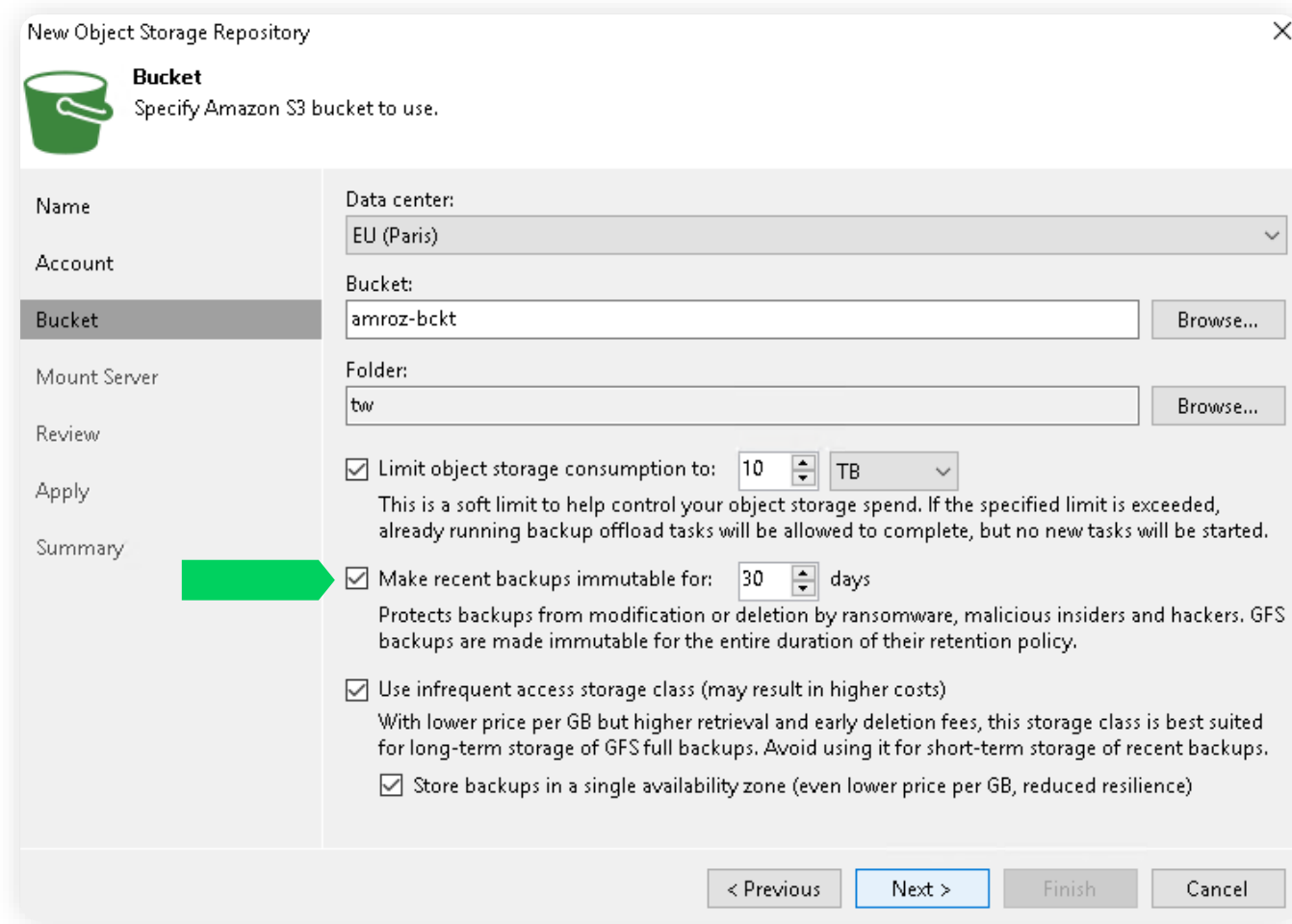
不可变更

使备份不可变@对象存储

为了使数据不可变，Veeam Backup & Replication 采用了防止数据删除的技术，并允许您保留对象的多个版本。

所选技术取决于对象存储的类型：

- 对象锁和版本控制 Object lock – 对于 Amazon S3 Storage, S3 Compatible, IBM Cloud, Wasabi Cloud.
- 版本级 WORM 和 blob 版本控制 – 对于 Azure Storage.



New Object Storage Repository

Bucket
Specify Amazon S3 bucket to use.

Name

Account

Bucket

Mount Server

Review

Apply

Summary

Data center:
EU (Paris)

Bucket:
amroz-bckt

Folder:
tw

Limit object storage consumption to: 10 TB
This is a soft limit to help control your object storage spend. If the specified limit is exceeded, already running backup offload tasks will be allowed to complete, but no new tasks will be started.

Make recent backups immutable for: 30 days
Protects backups from modification or deletion by ransomware, malicious insiders and hackers. GFS backups are made immutable for the entire duration of their retention policy.

Use infrequent access storage class (may result in higher costs)
With lower price per GB but higher retrieval and early deletion fees, this storage class is best suited for long-term storage of GFS full backups. Avoid using it for short-term storage of recent backups.

Store backups in a single availability zone (even lower price per GB, reduced resilience)

< Previous Next > Finish Cancel

存储集成 Storage Integration

存储集成

集成类型

VMware 集成

备份 VMware vSphere VMs.

在存储阵列之间编排快照。

使用 Veeam Backup & Replication 从存储快照恢复数据。

NAS 集成

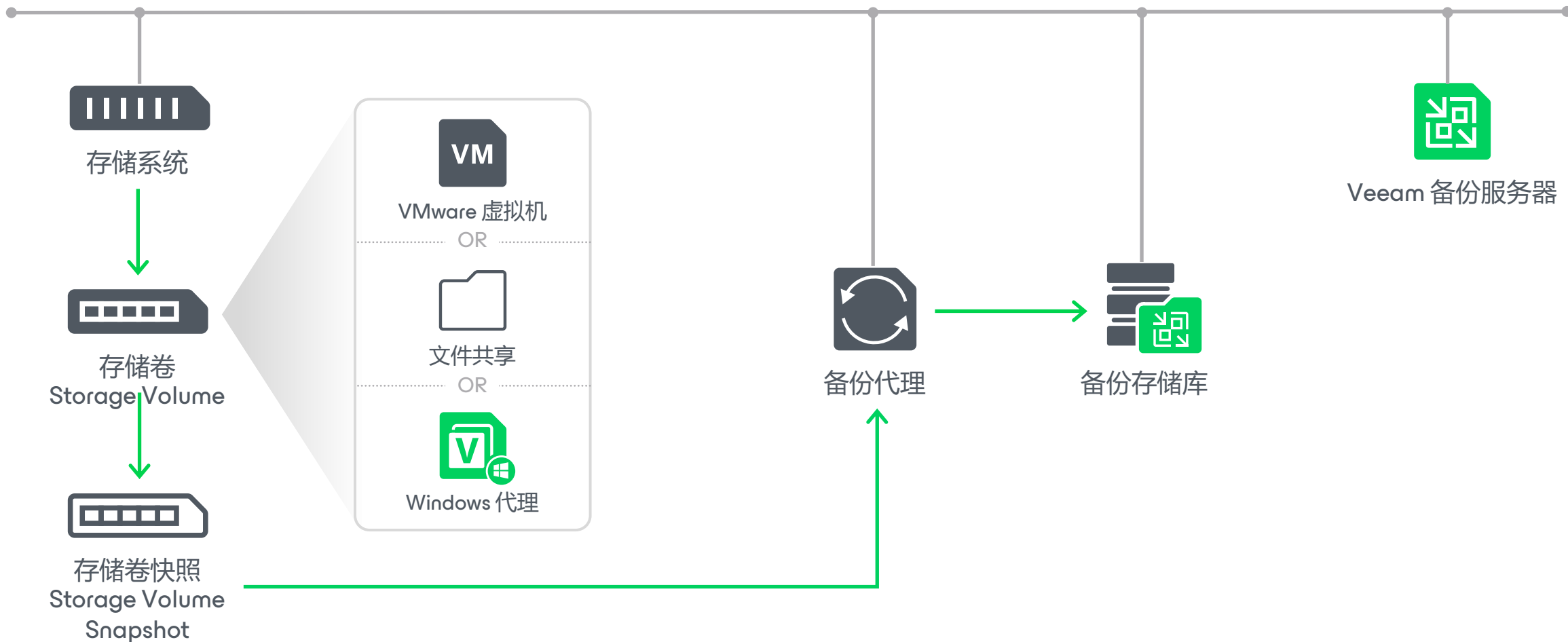
轻松备份 NAS 文件共享。

Veeam 代理 for Windows 集成

为 Windows 计算机创建 Veeam 代理备份。

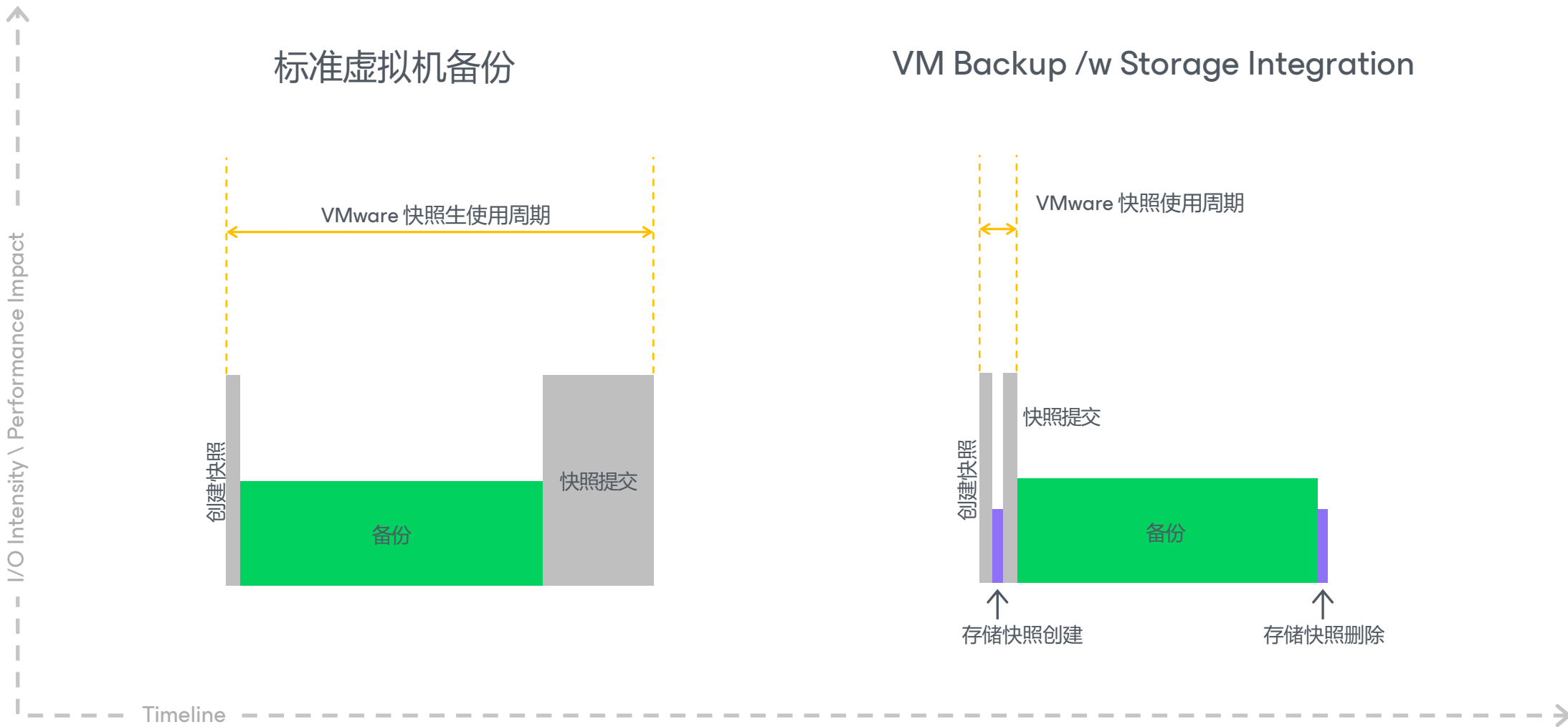
存储集成

基础设施概述



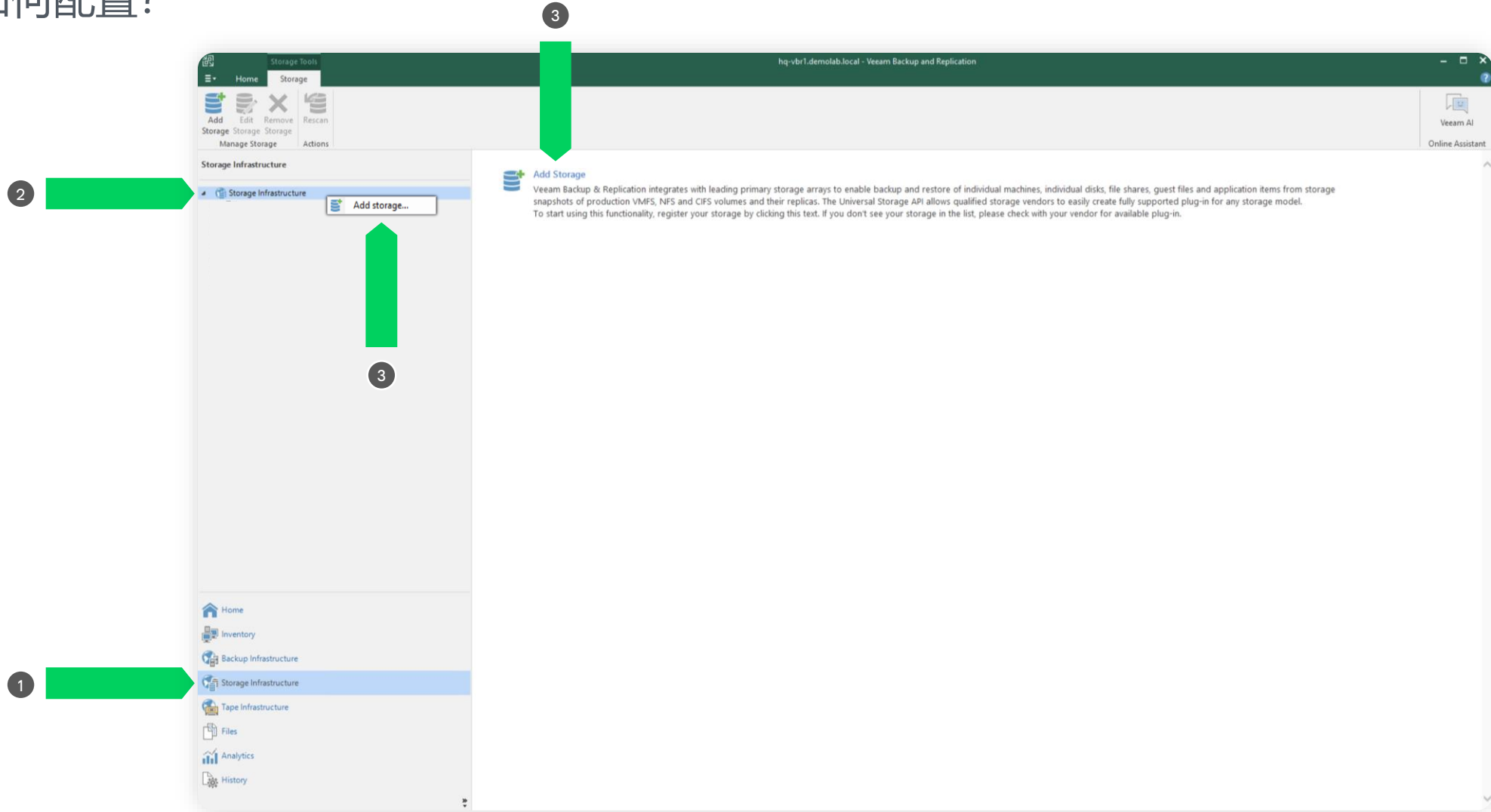
VMware集成

时间轴表示Timeline Representation



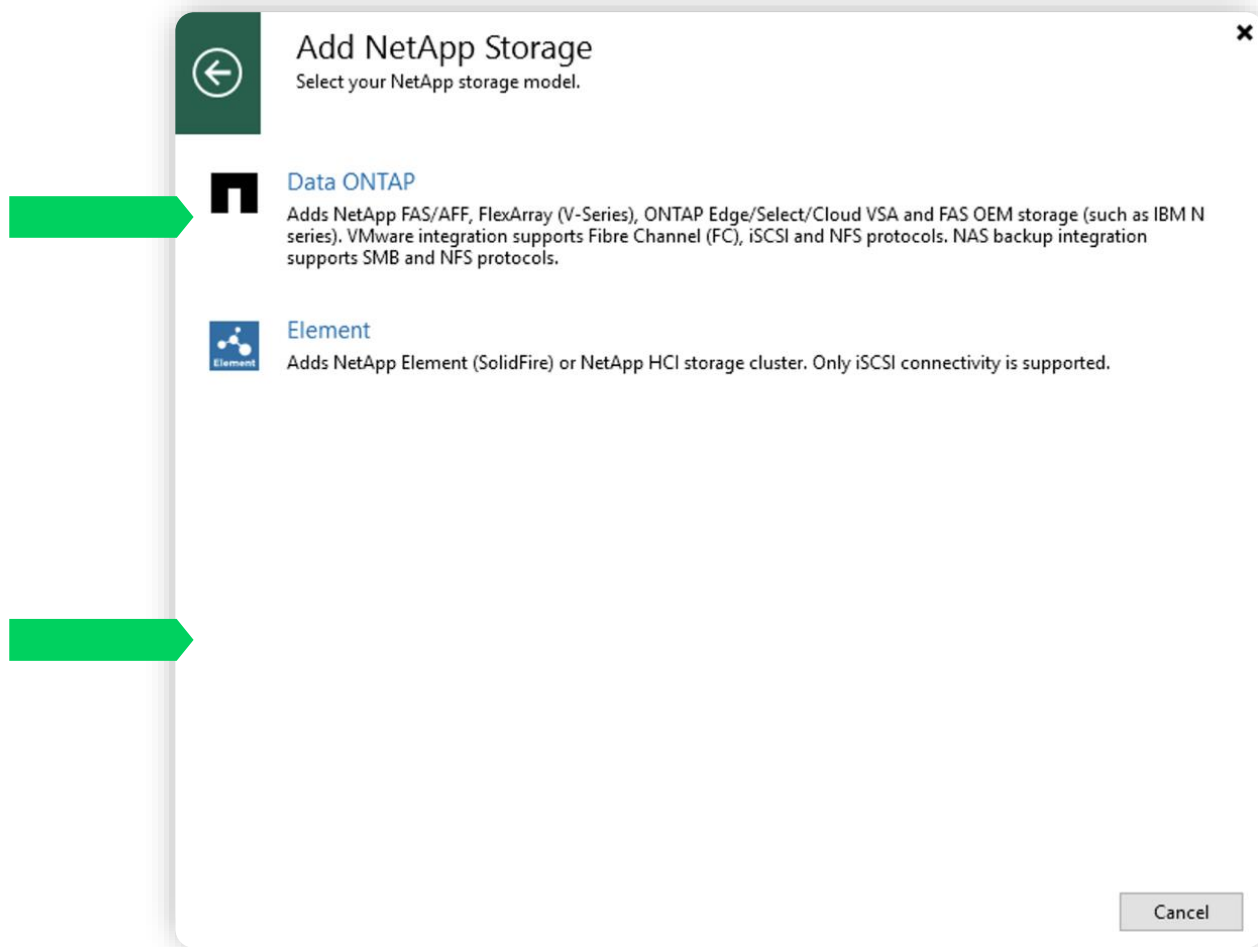
存储集成

如何配置？



存储集成

如何配置？



存储集成

如何配置？

Edit NetApp Data ONTAP Storage

Name
Register NetApp Data ONTAP storage by specifying DNS name or IP address.

Name Management server DNS name or IP address:
172.21.238.72

Credentials

VMware vSphere

NAS Filer

Apply

Summary

Description:

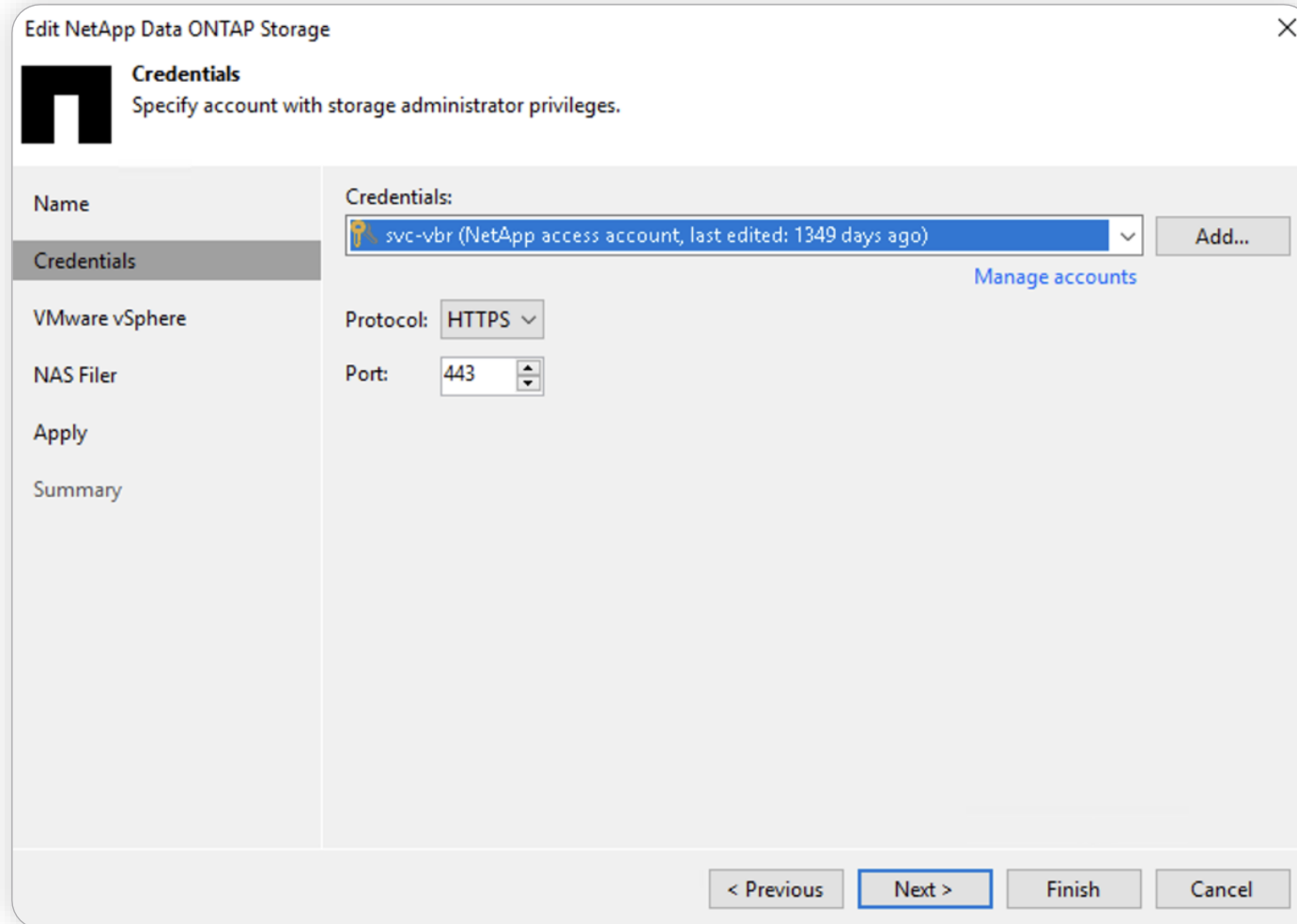
Role:

- Block or file storage for VMware vSphere
- Block storage for Microsoft Windows servers
- NAS filer

< Previous **Next >** Finish Cancel

存储集成

如何配置？



Edit NetApp Data ONTAP Storage

Credentials
Specify account with storage administrator privileges.

Name

Credentials

VMware vSphere

NAS Filer

Apply

Summary

Credentials:

svc-vbr (NetApp access account, last edited: 1349 days ago) Add...

Manage accounts

Protocol: HTTPS

Port: 443

< Previous Next > Finish Cancel

Storage Integration

如何配置?

Edit NetApp Data ONTAP Storage

VMware vSphere
Specify how this storage can be accessed by VMware vSphere backup jobs.

Name

Credentials

VMware vSphere

NAS Filer

Apply

Summary

Protocol to use:

- Fibre Channel (FC)
- iSCSI
- NFS
 - Create required export rules automatically

Volumes to scan:

All volumes Choose...

Backup proxies to use:

hq-vbr1appl1.demolab.local Choose...

Mount server:

hq-vbr1appl1.demolab.local (Created by Powershell at 7/9/2020 2:05:00 AM.) Add New...

< Previous **Next >** Finish Cancel

存储集成

如何配置？

Edit NetApp Data ONTAP Storage

NAS Filer
Specify how this storage can be accessed by file backup jobs.

Name

Credentials

VMware vSphere

NAS Filer

Apply

Summary

Protocol to use:

SMB

NFS

Create required export rules automatically

Volumes to scan:

All volumes

Backup proxies to use:

Automatic selection

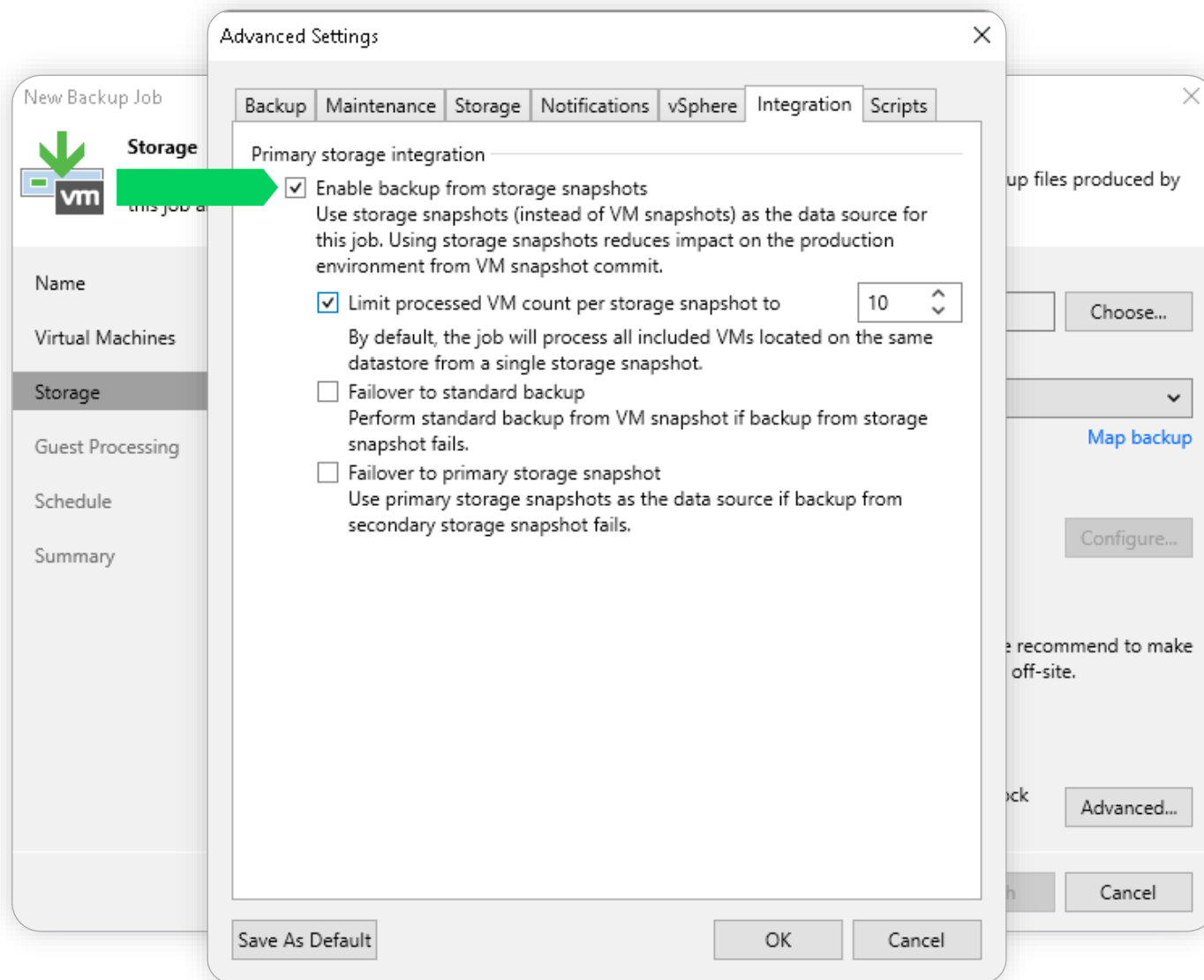
< Previous **Apply** Finish Cancel

存储集成

备份作业设置中的“集成”选项卡允许您确定是否要使用存储快照备份技术来创建备份。默认情况下启用该功能。

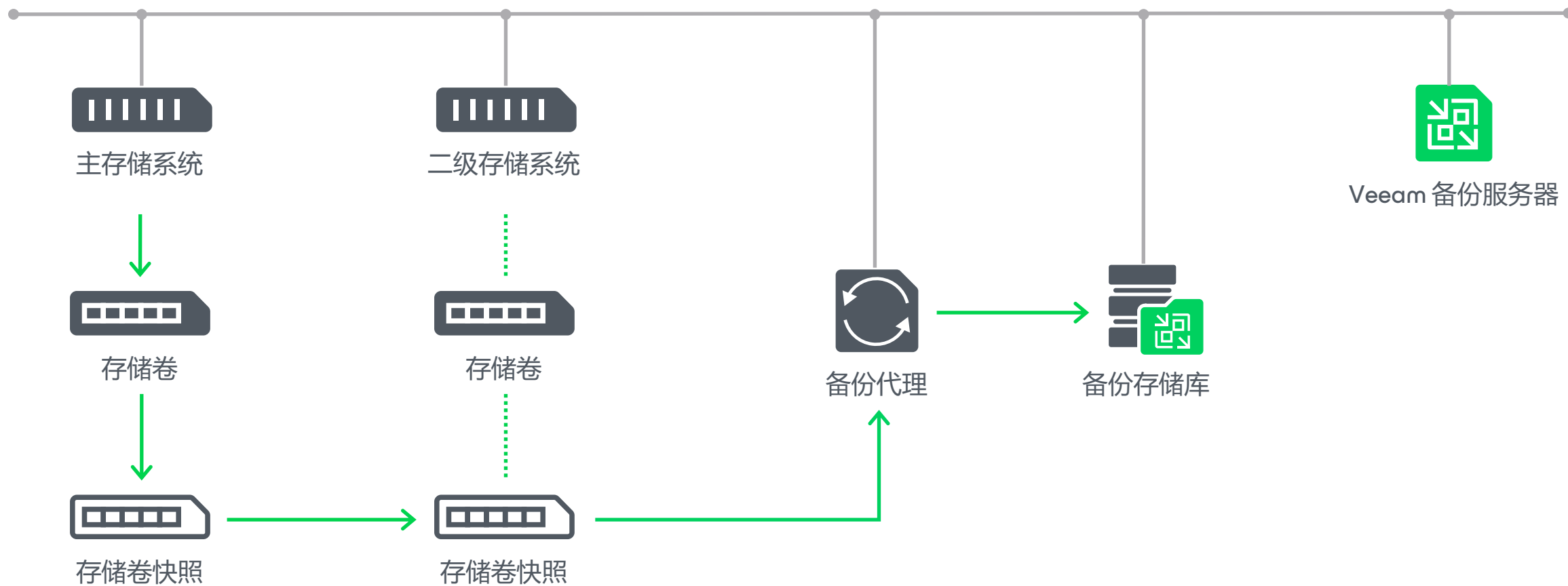
通过存储快照备份，您可以利用存储快照进行虚拟机数据处理。

该技术提高了恢复点目标 (RPO)，并减少了备份活动对生产环境的影响。

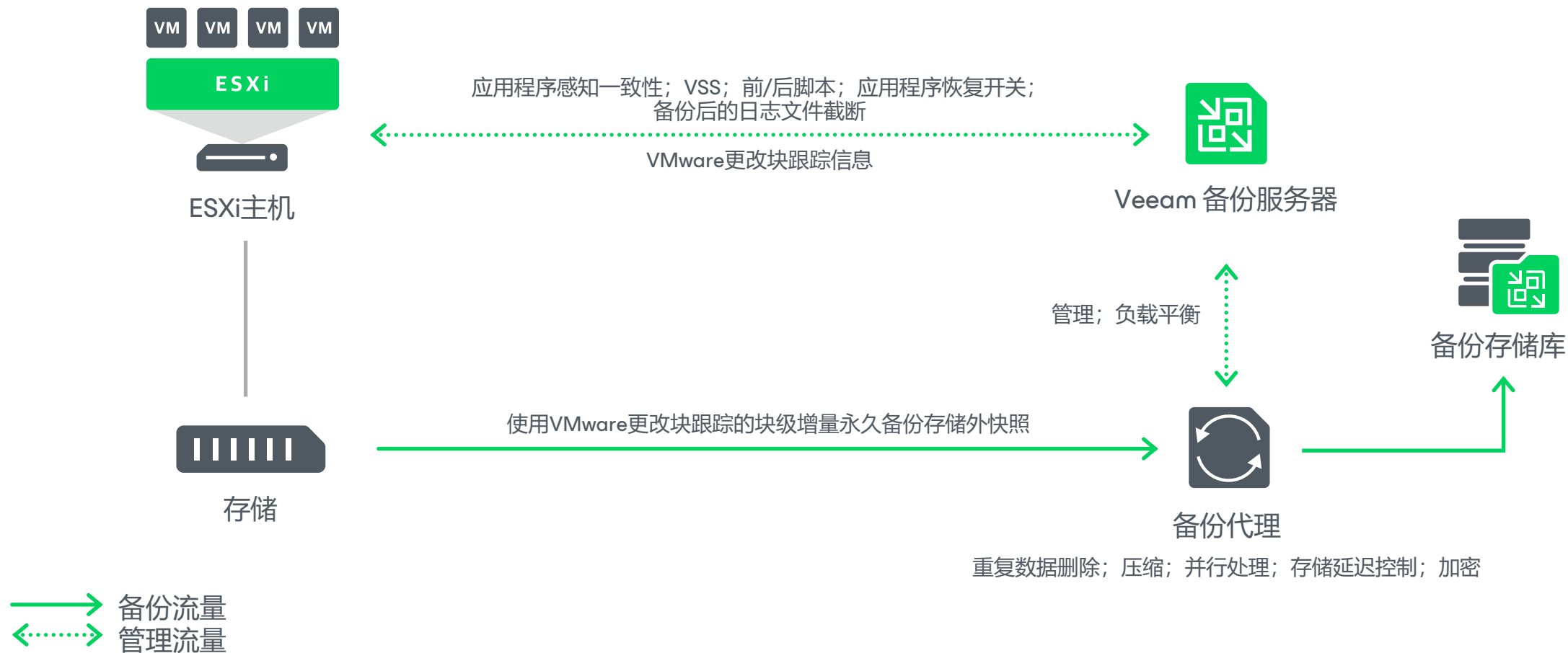


存储集成

从二级存储快照备份



基于存储快照的备份



磁带 (简要)

磁带

Veeam Backup & Replication 支持本机磁带操作。

支持的磁带设备： Linear Tape-Open (LTO3 – LTO9) 和 IBM 3592 (TS1160 和 TS1170) 库。

目的： 长期数据存档和/或合规性要求。

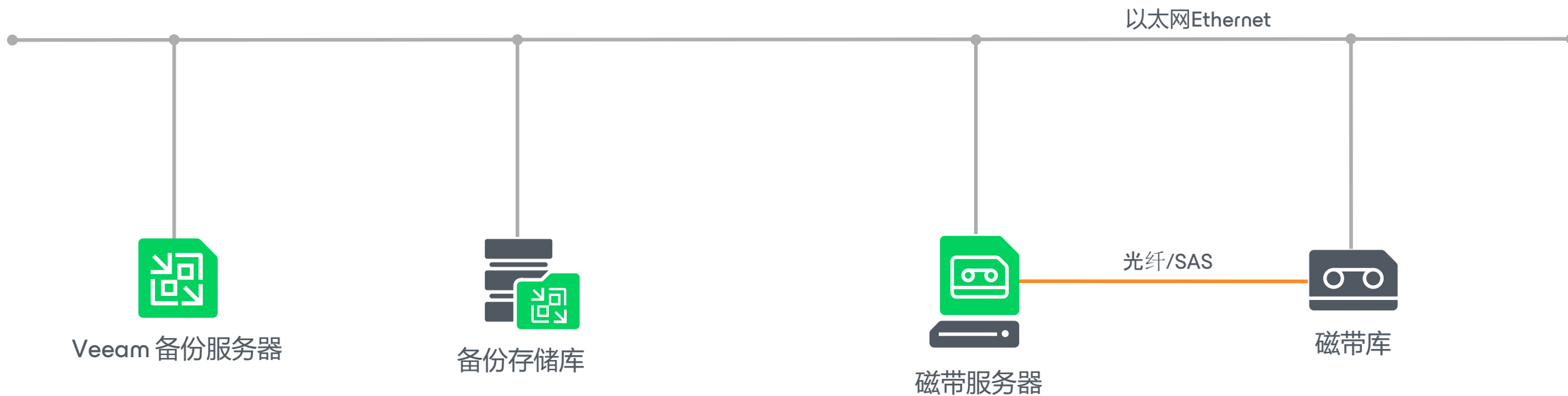
备份策略： 遵循 “3-2-1”备份原则：3 个副本、2 种介质类型、1 个异地位置。

支持的存档数据类型：

- 虚拟机备份
- Veeam 代理备份
- 整个备份存储库，包括加固 Linux 存储库
- 非结构化数据：
 - 通过 NDMP 的存储设备卷
 - SMB 和 NFS 文件共享
 - 对象存储

磁带

基础设施概述



WAN加速器

WAN Accelerator

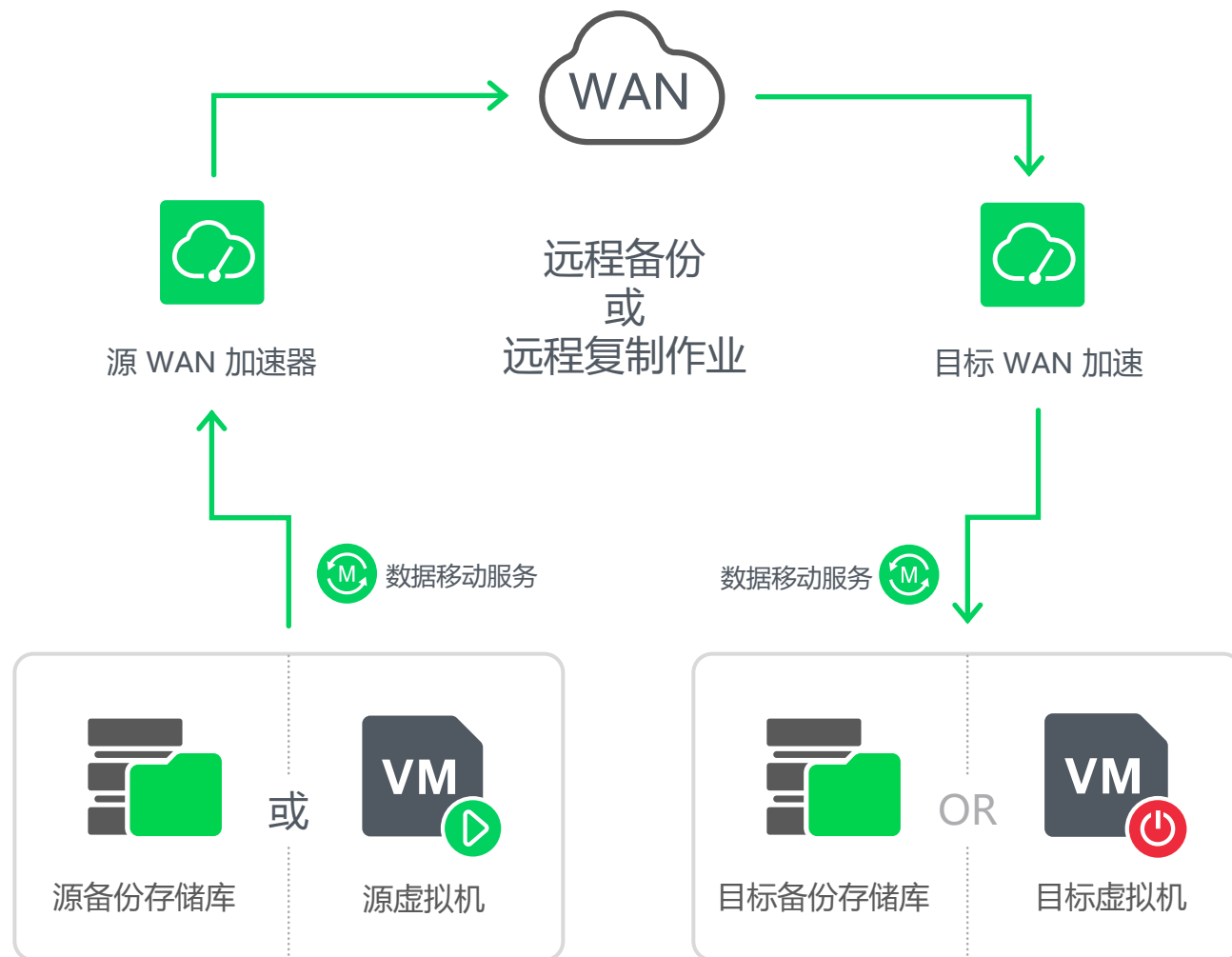
WAN加速器

Veeam Backup & Replication 提供结合了以下特性的 WAN 加速技术：

- 网络流量压缩
- 多流上传
- 全局数据去重
- 可变块大小去重

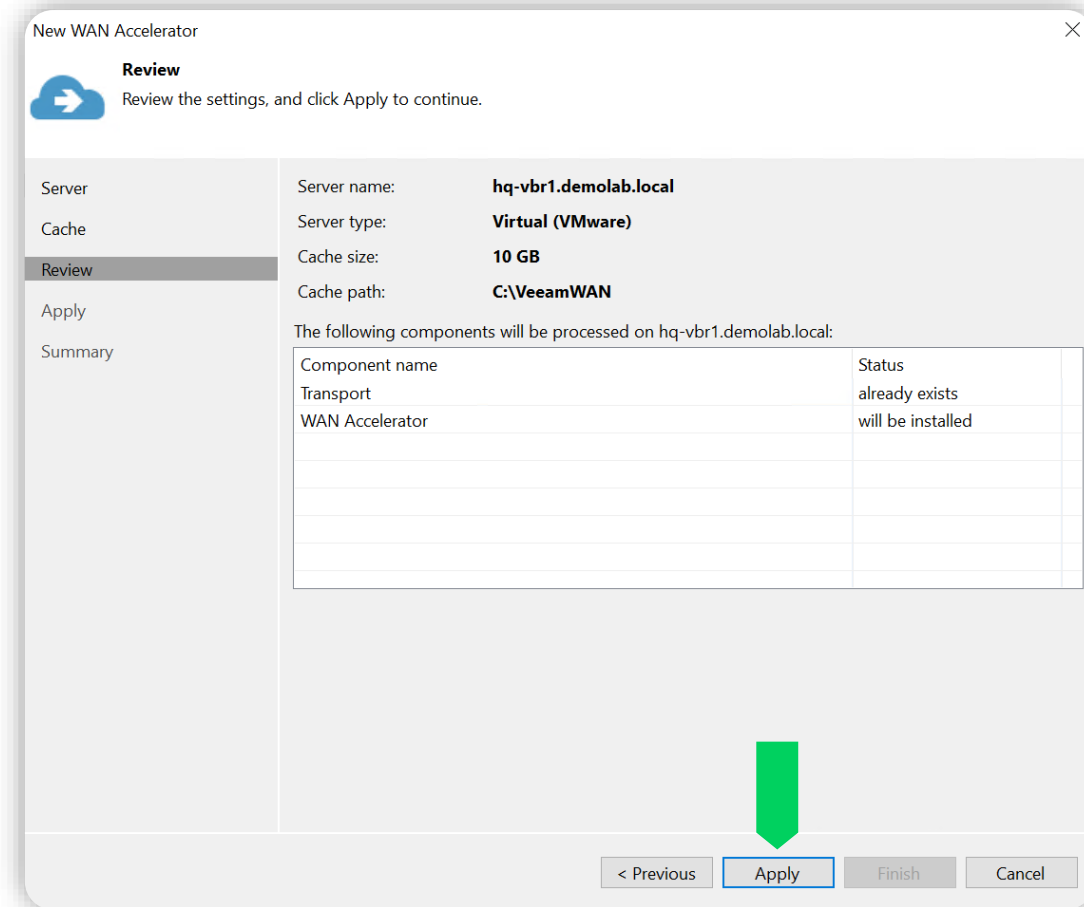
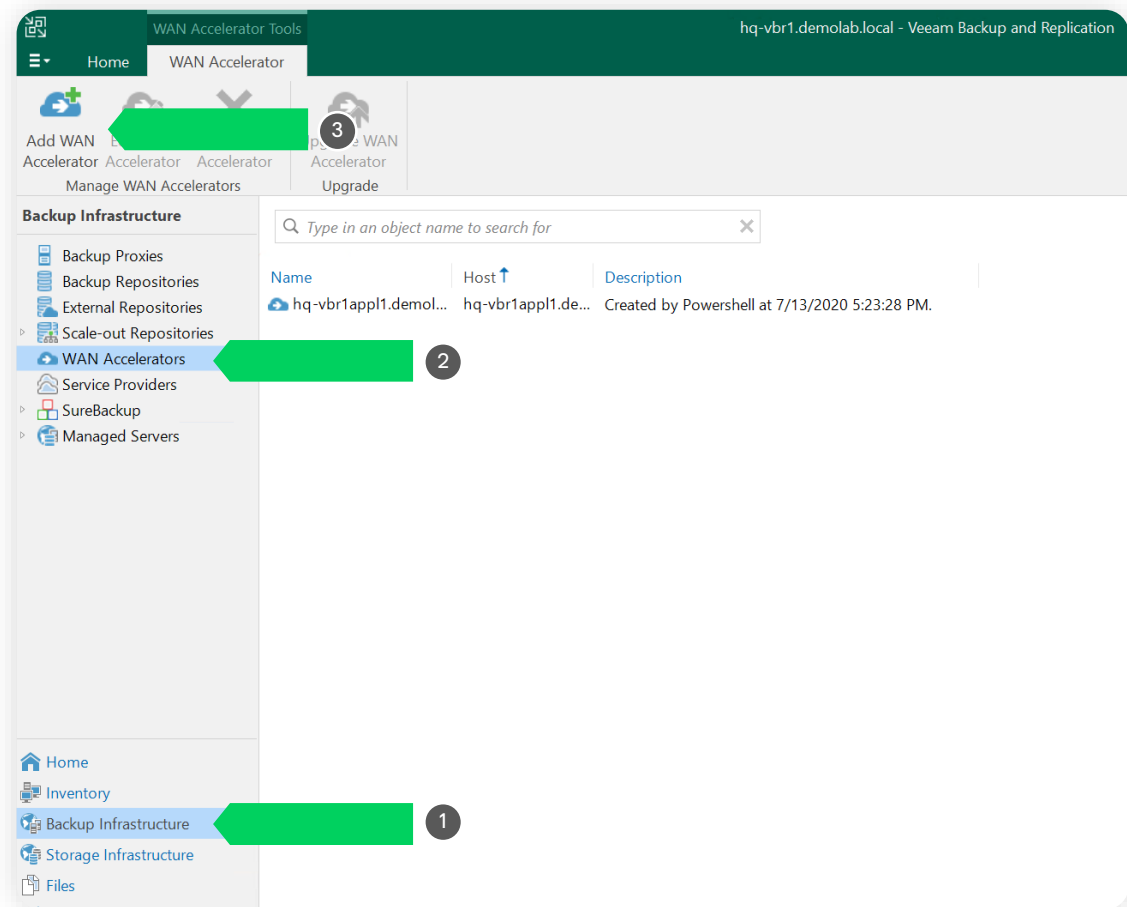
这种技术组合减少了传输的数据量，有助于更快地传输数据。

- 高带宽模式专为速度超过 **100Mbps** 的 **WAN** 连接而设计。
- 低带宽模式专为速度低于 **100Mbps** 的 **WAN** 连接而设计。



WAN加速器

如何部署?



WAN加速器

如何开始使用它?

The image shows two overlapping dialog boxes in the Veeam Backup & Replication interface. The background dialog is 'Edit Backup Copy Job' and the foreground dialog is 'Edit Replication Job'. Both have a 'Data Transfer' section. In the 'Edit Backup Copy Job' dialog, the 'Through built-in WAN accelerators' option is selected, indicated by a green arrow. In the 'Edit Replication Job' dialog, the 'Direct' option is selected, but a green arrow points to the 'Through built-in WAN accelerators' option, suggesting it should be selected for WAN acceleration. The 'Edit Replication Job' dialog also includes fields for 'Source proxy' and 'Target proxy', both set to 'Automatic selection', and dropdown menus for 'Source WAN accelerator' and 'Target WAN accelerator'. Navigation buttons '< Previous', 'Next >', 'Finish', and 'Cancel' are visible at the bottom of the foreground dialog.

Edit Backup Copy Job

Data Transfer
Choose how object data should be transferred from source to target backup repository.

Direct
Object data will be sent directly from source to target repository, copying backups on-site, and off-site over a fast link.

Through built-in WAN accelerators
Object data will be sent to target repository through built-in WAN accelerators at both source and target sites. This mode provides significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

Edit Replication Job

Data Transfer
Choose how VM data should be transferred to the target site.

When replicating between remote sites, we highly recommend that you deploy at least one backup proxy server locally in both sites to allow for direct access to storage.

Source proxy:

Target proxy:

Direct
Best for local and off-site replication over fast links.

Through built-in WAN accelerators
Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

< Previous Finish

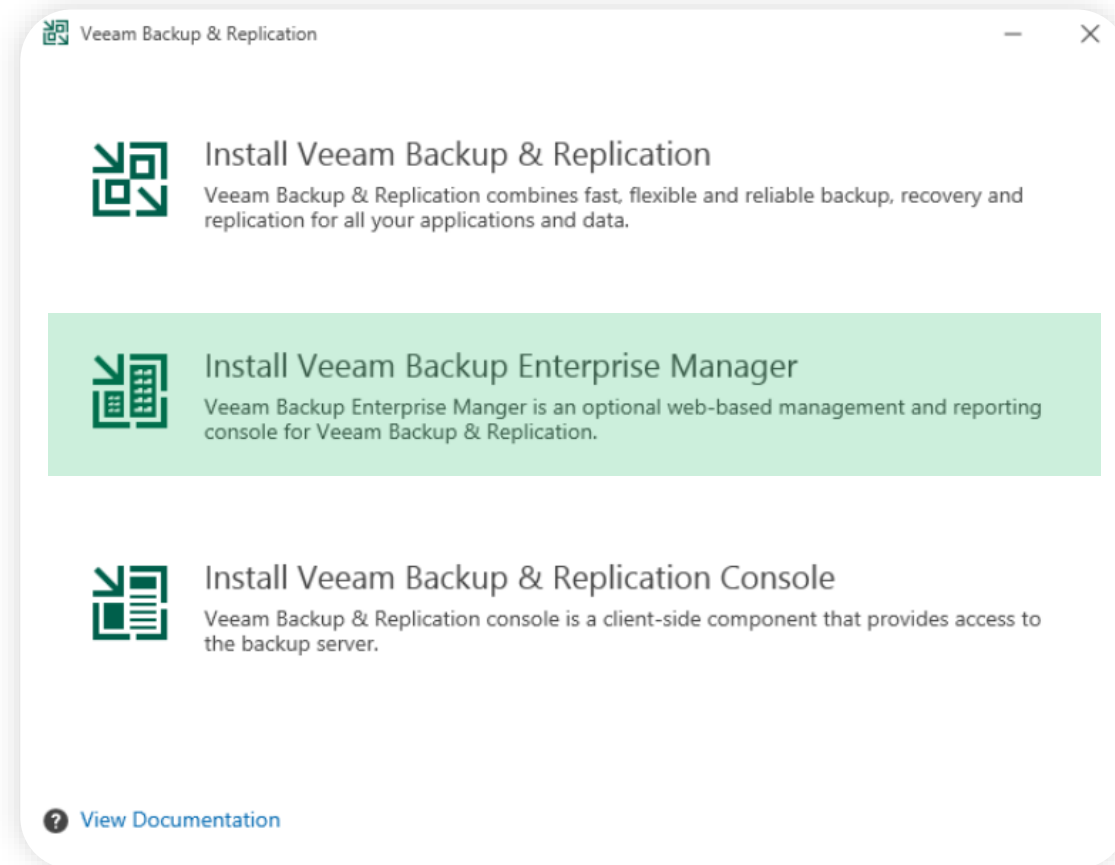
企业管理器

Enterprise Manager

Veeam企业管理器

安装

Veeam Enterprise Manager 与 Veeam Backup & Replication 包含在同一个 .ISO 中。




Veeam企业管理器

安装

Veeam Backup Enterprise Manager

System Configuration Check

System is being verified for potential installation problems.

 To finalize required components installation, system reboot is required. Installation process will continue automatically.

Requirement	Status
Microsoft .NET Framework 4.7.2	✔ Passed
Microsoft Visual C++ 2015-2019 Redistributable	⚠ Reboot required
Microsoft System CLR Types for SQL Server 2014	✔ Passed
IIS URL Rewrite Module 2	✔ Passed
Microsoft IIS	✔ Passed
Default Document Component	✔ Passed
Directory Browsing Component	✔ Passed
HTTP Errors Component	✔ Passed
Static Content Component	✔ Passed
Windows Authentication Component	✔ Passed
WebSocket Protocol Component	✔ Passed
ASP.NET 4.5 Component	✔ Passed



[Back](#) [Reboot](#) [Cancel](#)

Veeam Backup Enterprise Manager

License

Provide license file for Veeam Backup Enterprise Manager.

Select license provisioning method:

 [Sign in with Veeam](#) |  [Browse license file](#)

License details:
Subscription, Suite, 100 Instances, License expires on 31/12/2024

Update license automatically (enables usage reporting)

Download and install new license automatically when you renew or expand your contract. This requires sending the license ID, the installation ID, and workload usage counters to Veeam servers periodically. Successful usage reporting doubles the number of workloads you can exceed your installed license by.

[Back](#) [Next](#) [Cancel](#)

Veeam企业管理器

安装

Veeam Backup Enterprise Manager

Ready to Install

Installation will begin with the following settings.

Installation folder:	C:\Program Files\Veeam\Backup and Replication
Guest catalog folder:	C:\VBRCatalog
Service account:	LOCAL SYSTEM
Database engine:	PostgreSQL
Database name:	VeeamBackupReporting
SQL server:	winsrv88:5432
Catalog service port:	9393
Service port:	9394
Web UI ports:	9080 (HTTP), 9443 (HTTPS)
REST API service ports:	9399 (HTTP), 9398 (HTTPS)
Certificate:	Self-signed certificate will be generated automatically
Check for product updates:	Automatically

Customize Settings

Back **Install** Cancel

Veeam Backup Enterprise Manager

Database

Choose database engine and instance for Veeam Backup Enterprise Manager.

Use following database engine: PostgreSQL Server

Install new instance

Use existing instance (HOSTNAME:PORT)

winsrv88:5432

Database name:
VeeamBackupReporting

Connect to PostgreSQL Server using:

Windows authentication credentials of service account

Native authentication using the following credentials:

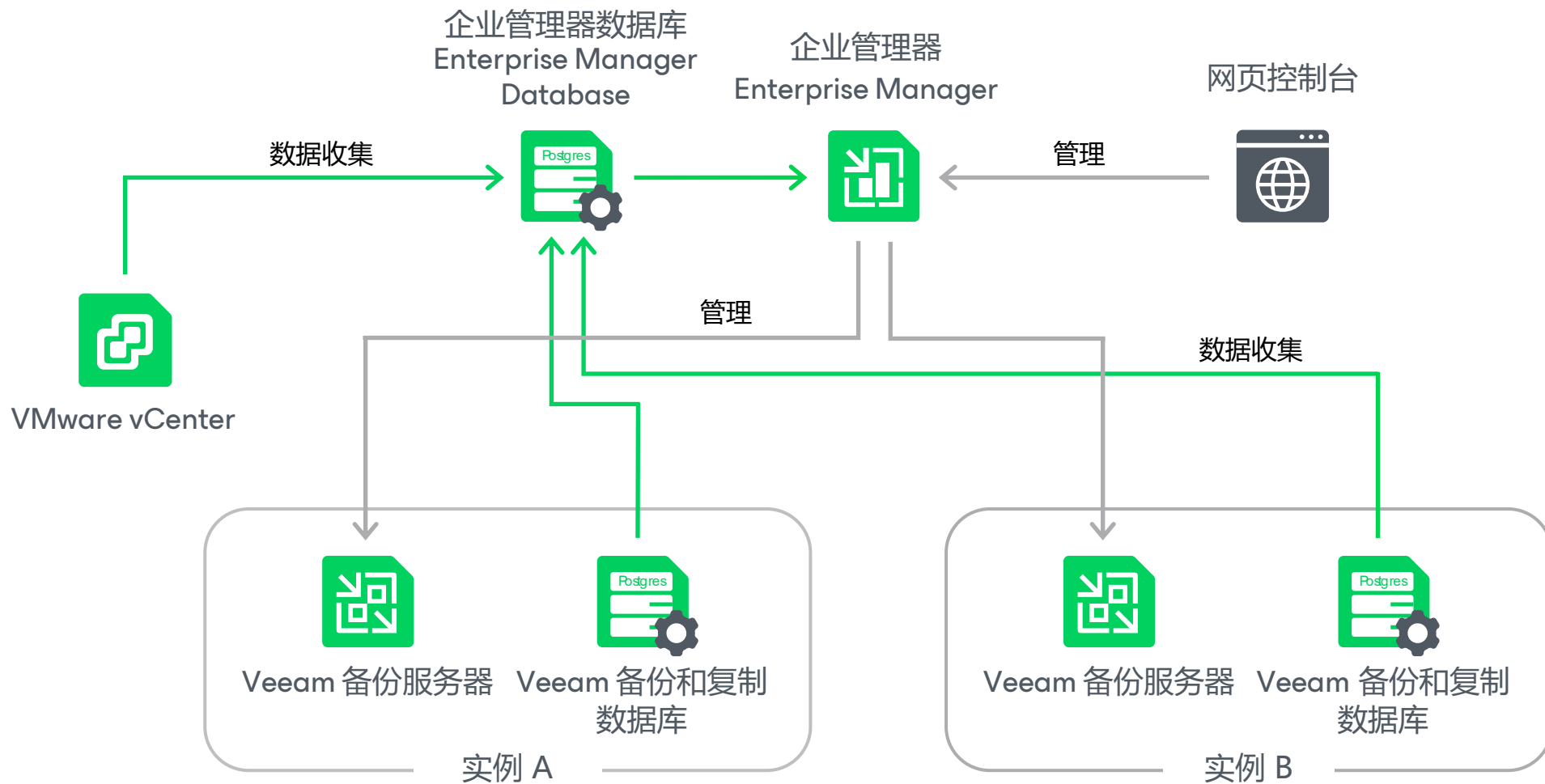
Login: postgres

Password:

Back **Next** Cancel

Veeam企业管理器

部署示例 (逻辑关系)



Veeam企业管理器

功能。

The screenshot displays the Veeam Enterprise Manager web interface. The top navigation bar includes 'Dashboard', 'Reports', 'Jobs', 'Policies', 'Unstructured Data', 'Machines', 'Files', 'Items', and 'Requests'. The user is logged in as 'DEMOCENTER\achraf.akrou' and has access to 'Configuration' settings. The 'Items' tab is active, showing sub-tabs for 'Mailbox Items', 'SQL Database', 'Oracle Database', and 'PostgreSQL Instance'. The 'Mailbox Items' sub-tab is selected. On the left, there is a 'Username:' field with a search icon and a list of 'Accounts' with a message: 'Available accounts will be shown after specifying a username'. On the right, there is a 'History' button, a 'Restore point:' section with 'No restore point selected', an 'Items:' section with checkboxes for 'Mail', 'Calendar', and 'Contacts', and a checkbox for 'Only restore missing items created or received' with a 'Yesterday' dropdown menu. A 'Restore' button is located at the bottom.

Veeam企业管理器

功能\配置。

The screenshot displays the Veeam Enterprise Manager configuration interface. The top navigation bar includes Dashboard, Reports, Jobs, Policies, Unstructured Data, Machines, Files, Items, and Requests. The user is logged in as DEMOCENTER\achraf.akrou. The left sidebar shows navigation options: Exit Configuration, Backup Servers, vCenter Servers, Self-Service, Sessions, Roles, Settings, Licensing, Notifications, and About. The main area shows a search bar for account names and a list of account types. A green arrow points to the 'Add' button. A modal window titled 'Add' is open, showing fields for Type, Account, Repository, Quota, Job scheduling, Job priority, vCenter scope, and vSphere tags. A 'Delegation Mode' dialog is also open, showing three options: vSphere tags (selected), vSphere role, and VM privilege. A table on the right shows account details with columns for Quota and Per-user.

	Quota	Per-user
	100 GB	No
	100 GB	No
	200 GB	No
	20 GB	No
	10 GB	No
	100 GB	No
	100 GB	No
	100 GB	No
	100 GB	No
	100 GB	No

Veeam企业管理器

功能\配置。

Dashboard Reports Jobs **Licenses** Unstructured Data Machines Files Items Requests

Exit Configuration Summary **Instances**

Backup Servers vCenter Ser Self-Servic Sessions Roles Settings **Licensing** Notification About

Install license

hq-vbr1.demolab.local (46 instances)

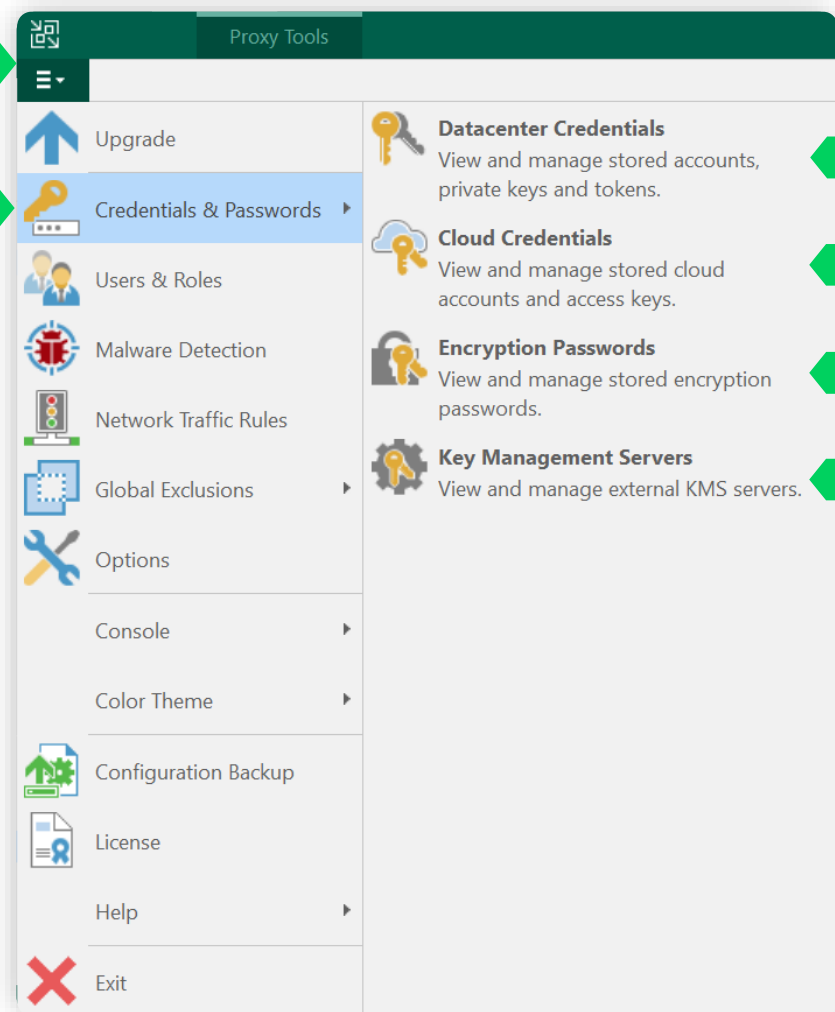
Virtual Machines (22 instances)

Name	Instances	Type	Job name	Last processed
demo-linuxvm101	1	vSphere	VMware - Backup from 3PAR Snapshot	01/08/2024
demo-linuxvm102	1	vSphere	VMware - Backup from IBM Snapshot	01/08/2024
demo-linuxvm103	1	vSphere	VMware - Backup from NetApp Snapshot	01/08/2024
demo-linuxvm107	1	vSphere	VMware - Backup from VNX Snapshot	01/08/2024
demo-linuxvm109	1	vSphere	VMware - Backup from ETERNUS Snapshot	01/08/2024
demo-sql106	1	vSphere	VMware - Backup from Pure Snapshot	01/08/2024
demo-winvm101	1	vSphere	VMware - Backup from 3PAR Snapshot	01/08/2024
demo-winvm102	1	vSphere	VMware - Backup from IBM Snapshot	01/08/2024
demo-winvm103	1	vSphere	VMware - Backup from NetApp Snapshot	01/08/2024
demo-winvm105	1	vSphere	VMware - Backup from Nimble Snapshot	01/08/2024
demo-winvm106	1	vSphere	VMware - Backup from Pure Snapshot	01/08/2024
demo-winvm107	1	vSphere	VMware - Backup from VNX Snapshot	01/08/2024
demo-winvm108	1	vSphere	VMware - Backup from VSAN	01/08/2024
demo-winvm109	1	vSphere	VMware - Backup from ETERNUS Snapshot	01/08/2024
exch1	1	vSphere	VMware - Backup to XFS Repository	01/08/2024
fc1	1	vSphere	VMware - Backup to XFS Repository	01/08/2024

主目录

主目录

凭证和密码 Credentials & Passwords



您可以使用此选项创建和维护您计划用于连接备份基础架构中的组件的凭据记录列表。

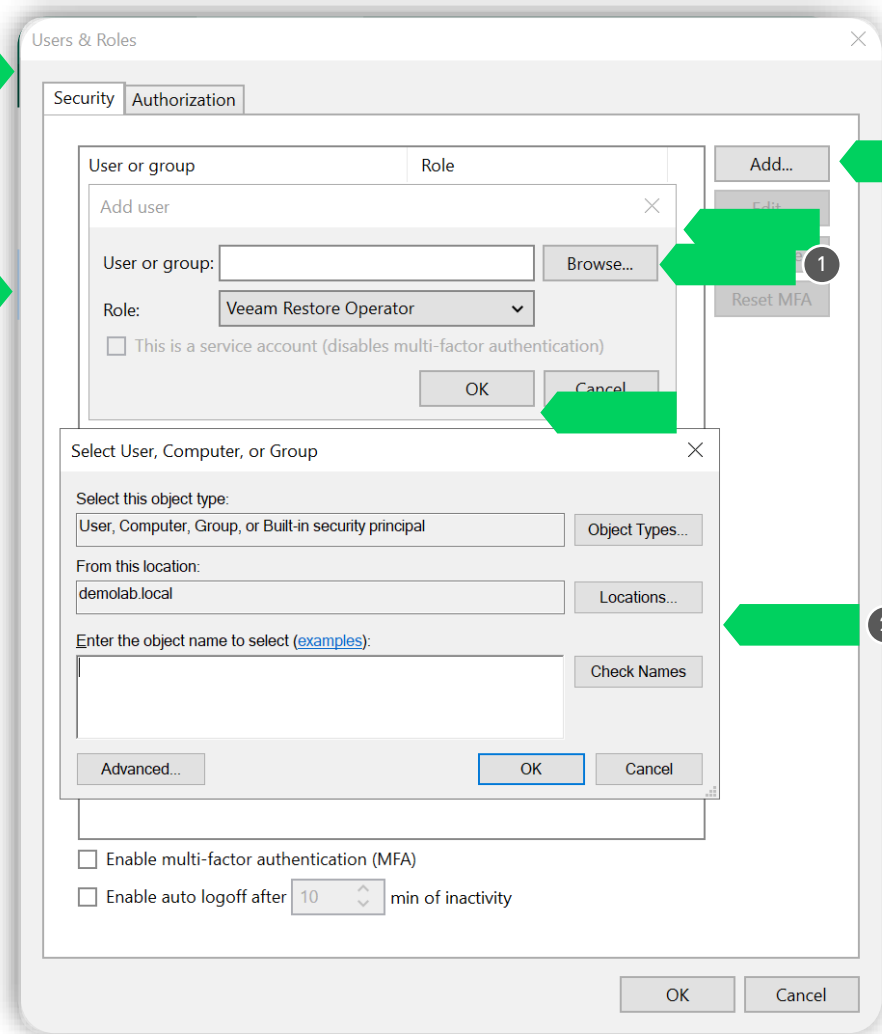
您可以使用此选项来创建和维护您计划用于连接云服务的凭据记录列表。

您可以使用此选项来创建并维护您计划用于数据加密的密码列表。

您可以使用此选项添加 KMS 服务器并使用 KMS 密钥。s.

主目录

用户和角色Users & Roles



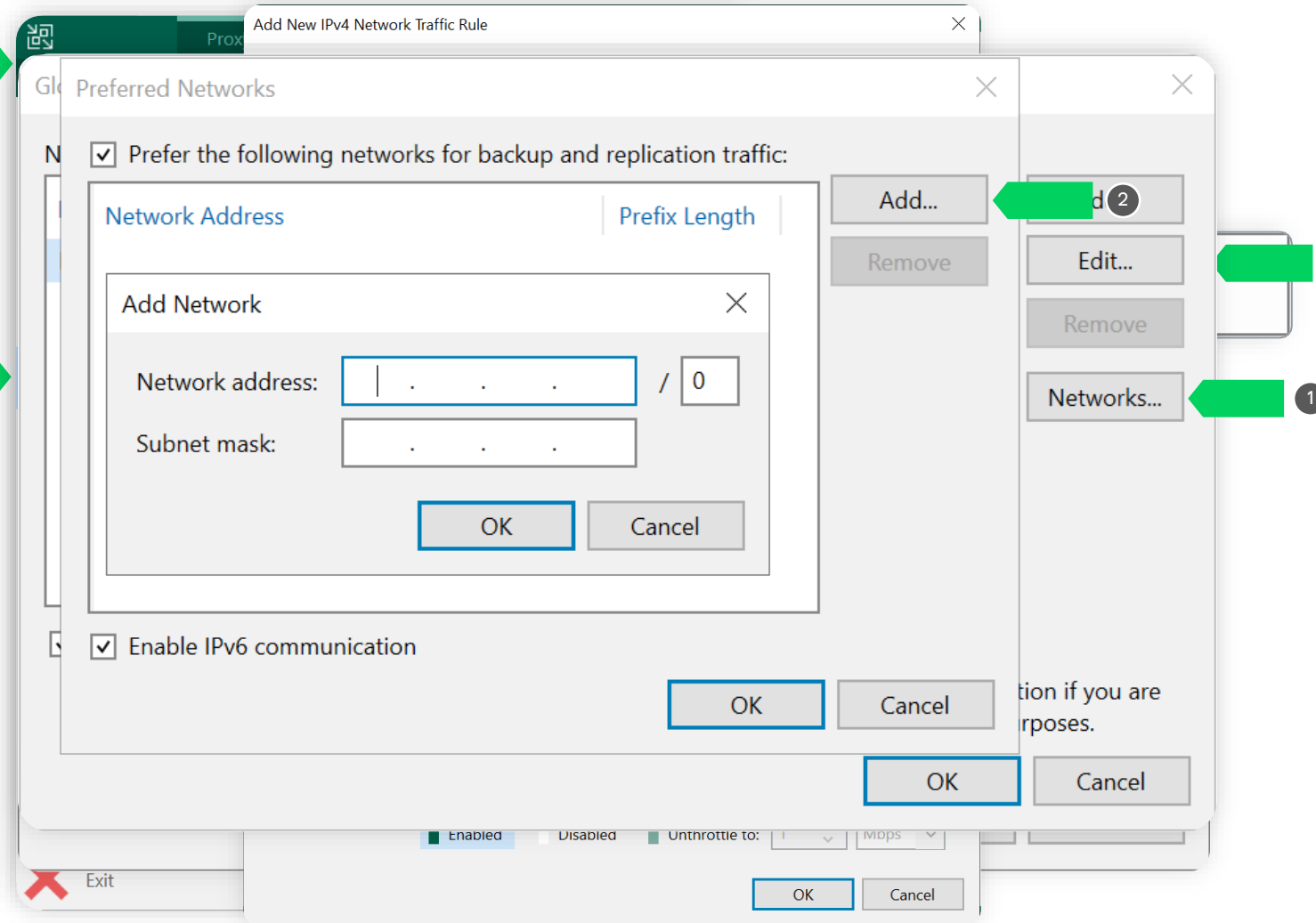
编辑现有列表或添加新用户或角色并指定角色的列表，角色格式和角色定义他们有权执行的 Veeam Backup & Replication 操作。

我们有五种角色可供选择：

- **Restore operator** –特定允许用户/用户（user/user group）组执行恢复过程
- **Backup operator** –负责启动和停止备份作业，以及导出和复制备份以及创建 VeeamZIP 备份
- **Backup administrator** –能够通过指定管理来添加并拥有对用户或网络备份基础设施的所有内容的完全访问权限
- **Tape operator** –负责任何磁带操作以及启动或停止磁带作业
- **Backup viewer** –具有对控制台的“只读”访问权限

主目录

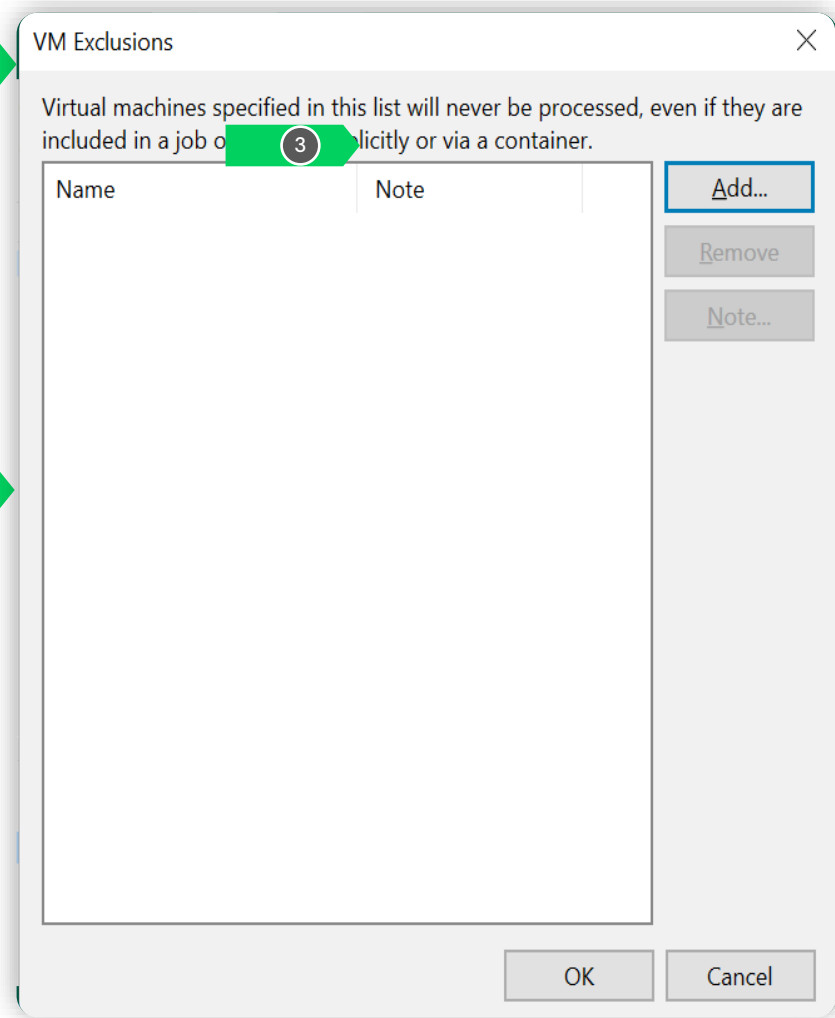
全球网络规则 Global Network Rules



默认情况下通过指定源和目标的范围并强制加密网络流量或在特定使用多线程数据传输制通过不同的IP连接从源传输数据指定首选网络还可以为备份和复制流量指定首选网络，如果您安排多个作业同时运行，网络负载可能会很重。如果网络容量不足以支持多个数据传输连接，您可以禁用多线程数据传输或更改 TCP/IP 连接数。

主目录

虚拟机排除VM Exclusions



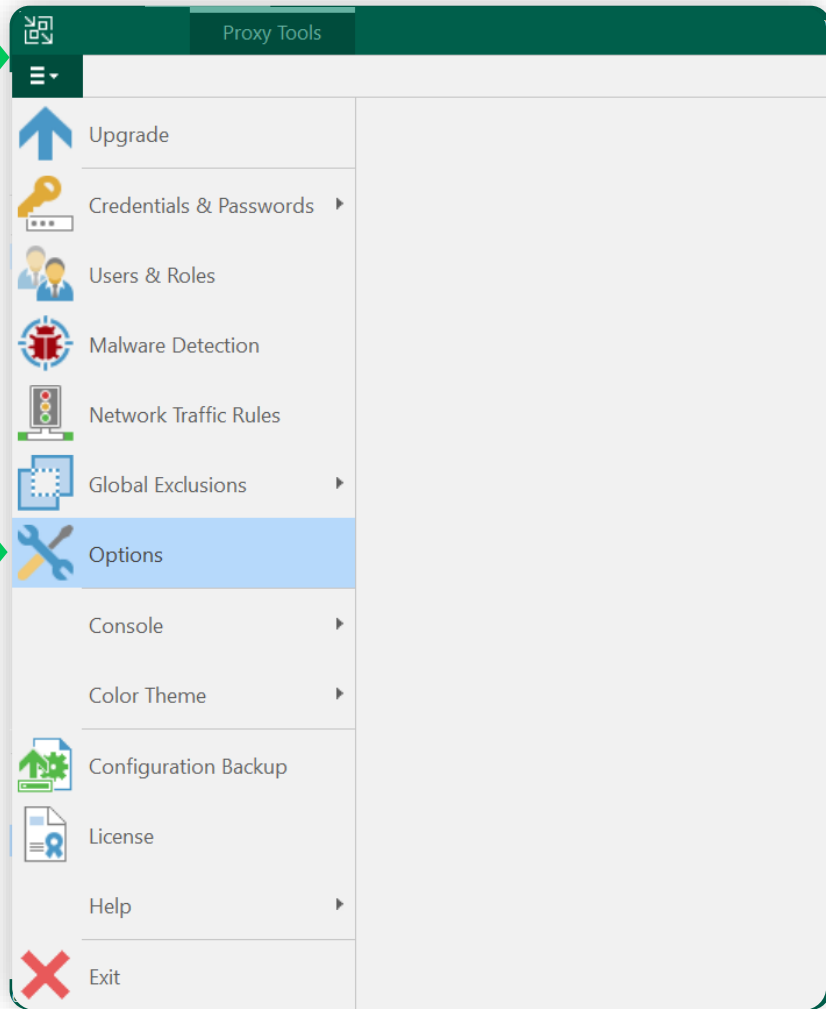
Veeam Backup & Replication 可以将虚拟机添加到排除列表。

此列表中的虚拟机将不会在任何类型的作业中处理，备份复制作业和 SureBackup 作业除外。

为了恢复虚拟机的处理，首先需要将它们从此列表中删除。

主目录

选项-Options



主目录

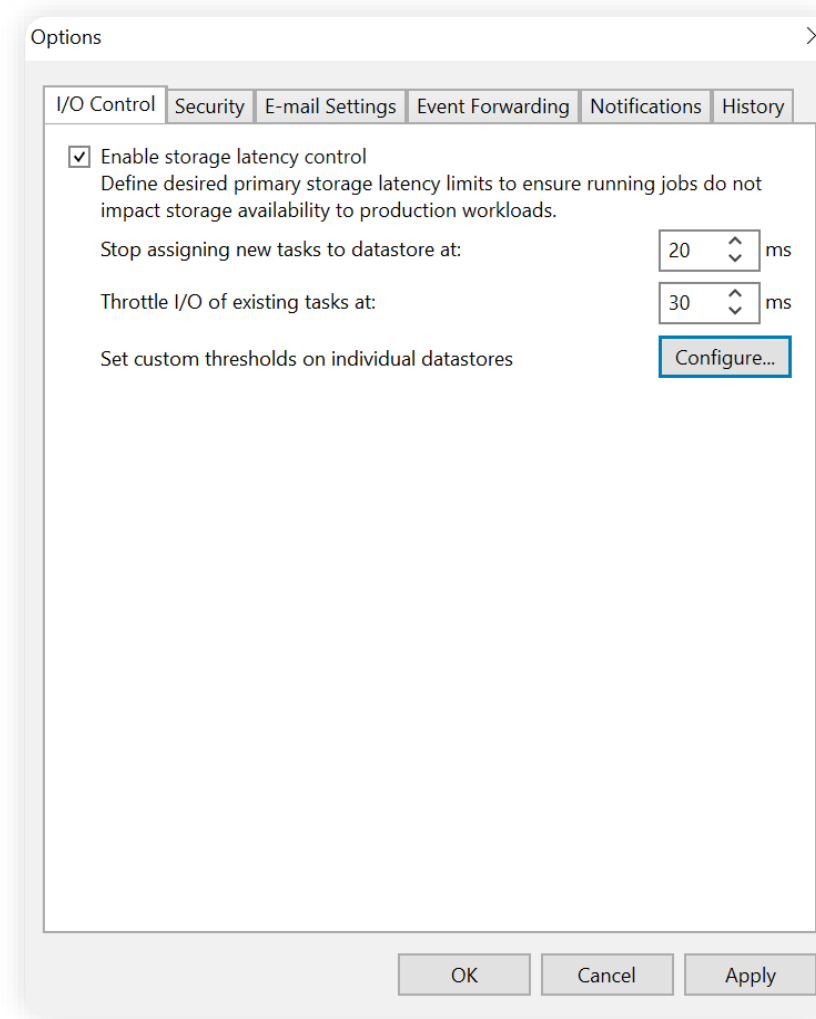
选项- I/O Control.

启用存储延迟控制后，Veeam Backup & Replication 会在数据保护和灾难恢复活动期间监控生产数据存储上的存储读取延迟。为了监控存储延迟，Veeam Backup & Replication 使用虚拟机所在的虚拟机管理程序的实时指标。

停止将新任务分配给数据存储（Stop assigning new tasks to datastore at） – I/O 延迟限制，在此限制下 Veeam Backup & Replication 不得将新任务分配给数据存储。

限制现有任务的 I/O（Throttle I/O of existing tasks at） – I/O 延迟限制，Veeam Backup & Replication 必须降低数据检索或写入数据存储的速度。

可以为单个数据存储配置相同的选项。



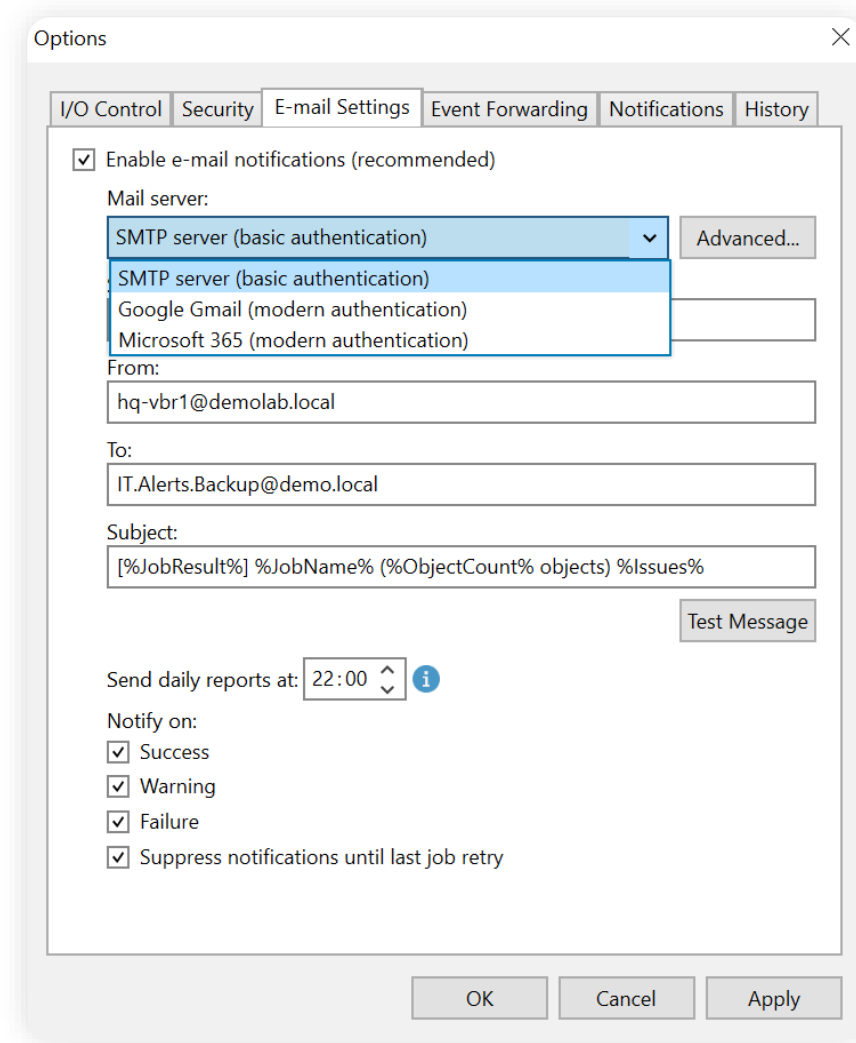
主目录

选项-电子邮件设置E-mail Settings.

Veeam Backup & Replication 还提供了发送包含备份作业最新状态每日报告的电子邮件的可能性。

目前，我们支持 SMTP、Google Gmail 和 Microsoft 365 作为可用于此目的的邮件服务器。

电子邮件的主题、收件人、发件人的电子邮件地址以及报告中应包含的最新状态都可从此选项卡进行配置。

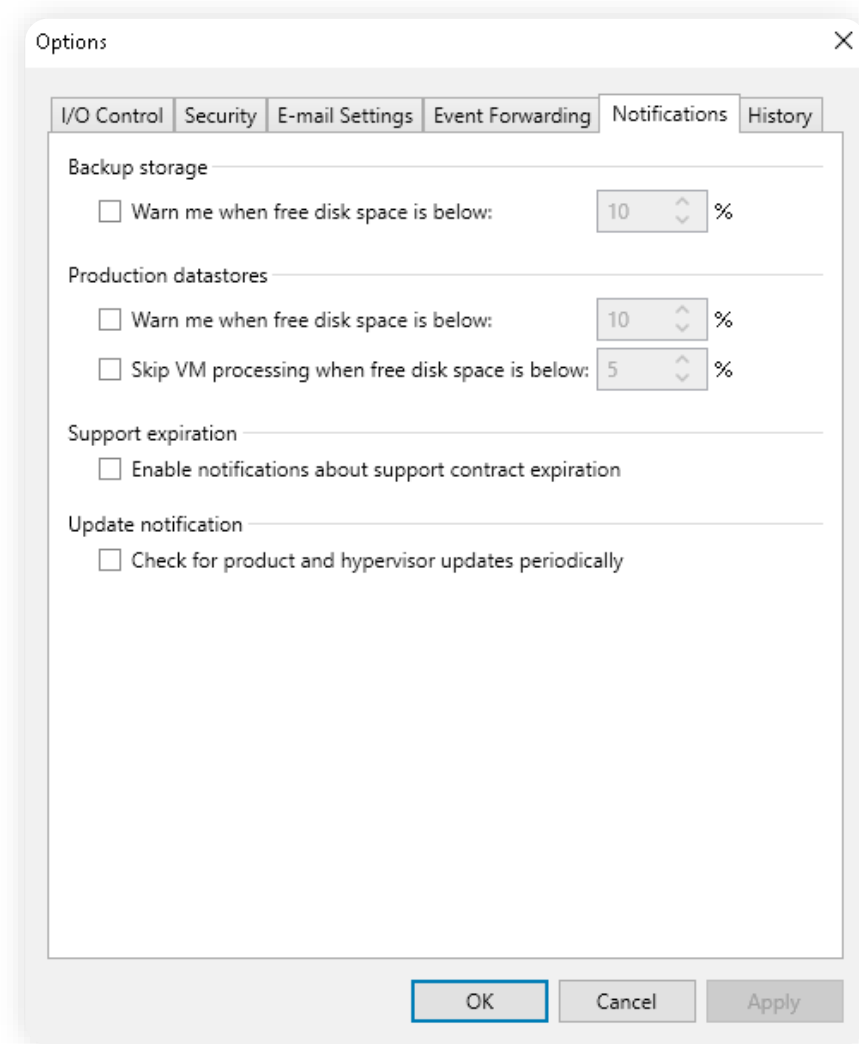


The screenshot shows the 'Options' dialog box with the 'E-mail Settings' tab selected. The 'Enable e-mail notifications (recommended)' checkbox is checked. The 'Mail server' dropdown menu is open, showing three options: 'SMTP server (basic authentication)', 'Google Gmail (modern authentication)', and 'Microsoft 365 (modern authentication)'. The 'From:' field is set to 'hq-vbr1@demolab.local', the 'To:' field is 'IT.Alerts.Backup@demo.local', and the 'Subject:' field is '[%JobResult%] %JobName% (%ObjectCount% objects) %Issues%'. There is a 'Test Message' button. The 'Send daily reports at:' field is set to '22:00' with an information icon. The 'Notify on:' section has four checked options: 'Success', 'Warning', 'Failure', and 'Suppress notifications until last job retry'. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

主目录

选项 - 通知 Notifications.

每当存储库或生产数据存储上的备份存储达到阈值时，Veeam Backup & Replication 还可以在控制台内显示通知，在已安装许可证的支持结束之前还有 14 天，并且可以更新虚拟机管理程序。

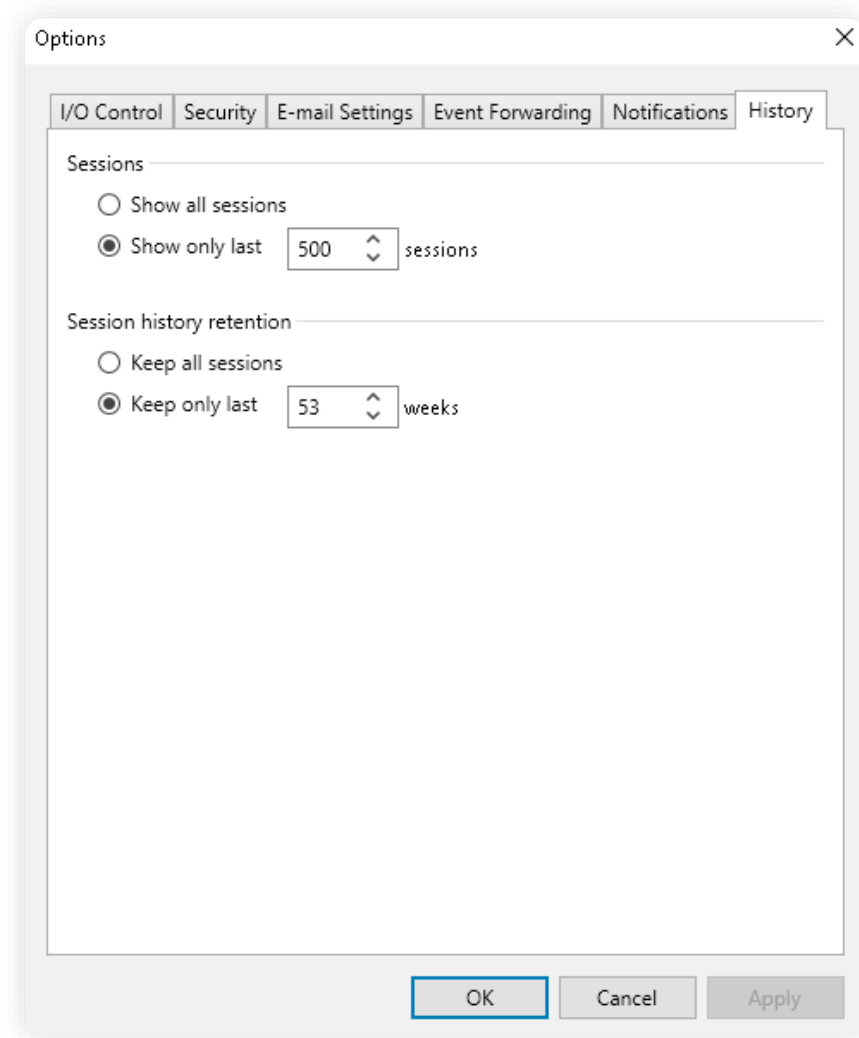


主目录

选项 – History历史记录。

Sessions 区域控制在 Veeam 备份与复制控制台的“历史记录”选项卡中应显示多少条目。

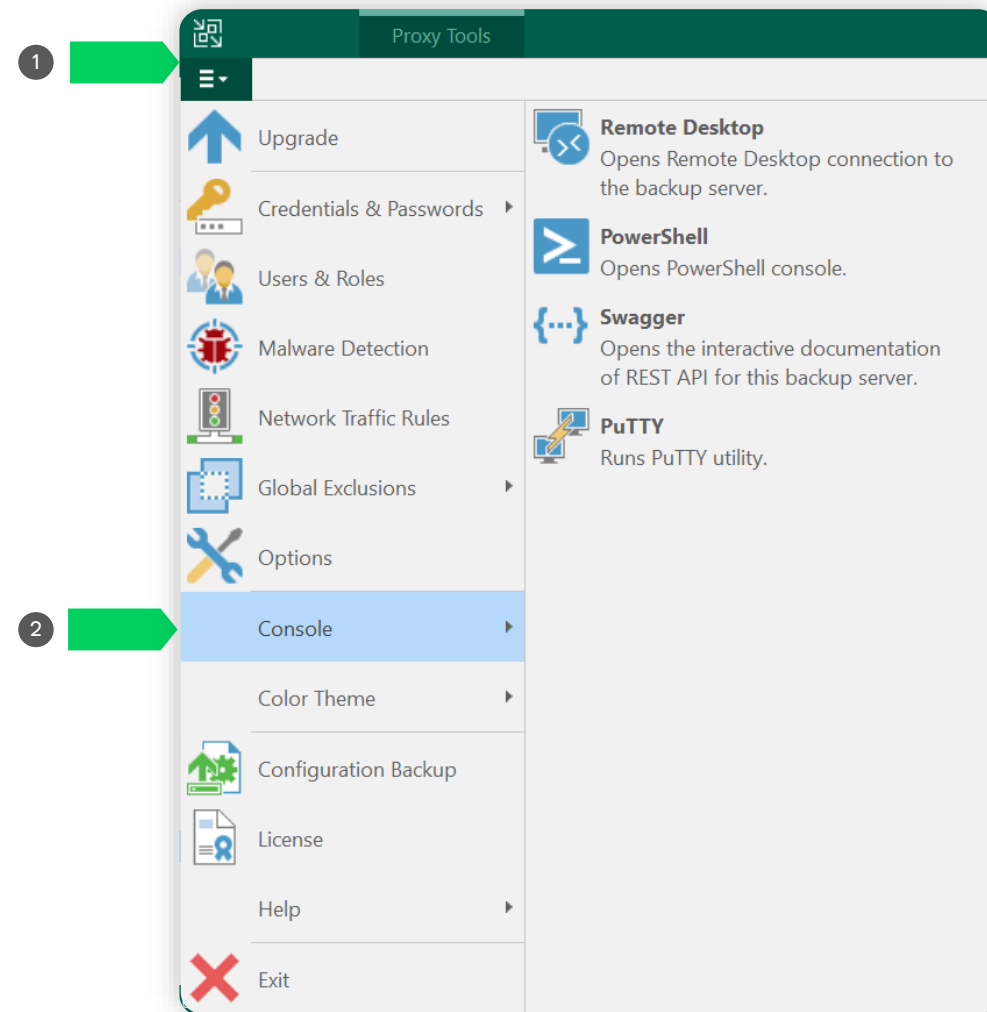
Session history retention历史记录保留区域决定记录阶段信息应在数据库中保留多长时间



主目录

控制台- Console.

Veeam Backup & Replication 可以打开与备份服务器的远程桌面连接、打开 PowerShell 控制台、运行 PuTTY 实用程序并直接从控制台打开备份服务器的交互式文档或 REST API。



主目录

配置备份 - Configuration Backup.

Configuration Backup Settings

Backup

Enable configuration backup to the following repository:

Configuration Backup Repository (Created by Ansible)

7.9 GB free of 10 GB

Restore points to keep: 10

Perform backup on: Daily at 10:00

Last successful backup: No backup

Enable configuration backup file encryption

Password: Configuration backup password (Last edited: 284 days ago)

Loss protection enabled [Manage passwords](#)

Restore

Restore the configuration backup to this server: Restore...

OK Cancel Apply

为了存储配置备份，必须选择一个存储库。Veeam Backup & Replication 将特定服务器上控制台内所做的所有更改存储为配置备份，可以自动发送配置备份的 SNMP 和电子邮件通知。还有一个好的做法是安排自动执行备份，而不是如果主 Veeam Backup & Replication 服务器依赖手动备份。由于某种原因发生故障，则可以使用配置备份快速将配置恢复为新配置。另一个好的做法是通过加密来保护配置备份。如果加密密码丢失，只有 Veeam Backup Enterprise Manager 可以帮助找回。如果将来需要再换或更改 Veeam Backup & Replication 服务器，也建议使用此方法。

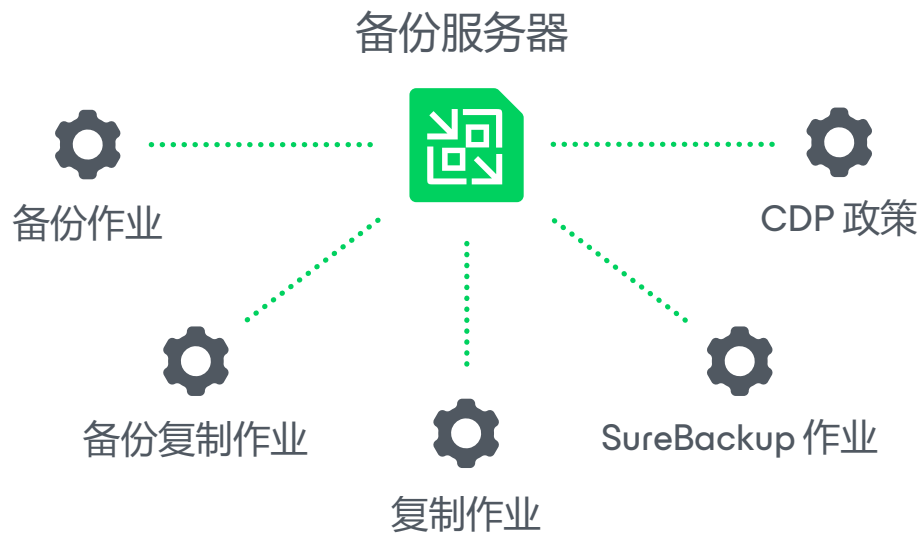
只能从此窗口执行配置备份的恢复，以便将配置上传到新服务器。

作业 Jobs

工作的概念

在 Veeam Backup and Replication 中，作业包含一系列数据管理任务，包括备份、复制和恢复操作。配置完成后，作业将自动执行该过程，确保定期可靠地保护关键数据，防止丢失或损坏。

在备份基础设施资源分配方面，Veeam Backup & Replication 中的资源调度服务会根据等待可用资源的作业的类型、优先级和计划开始时间确定其优先级。



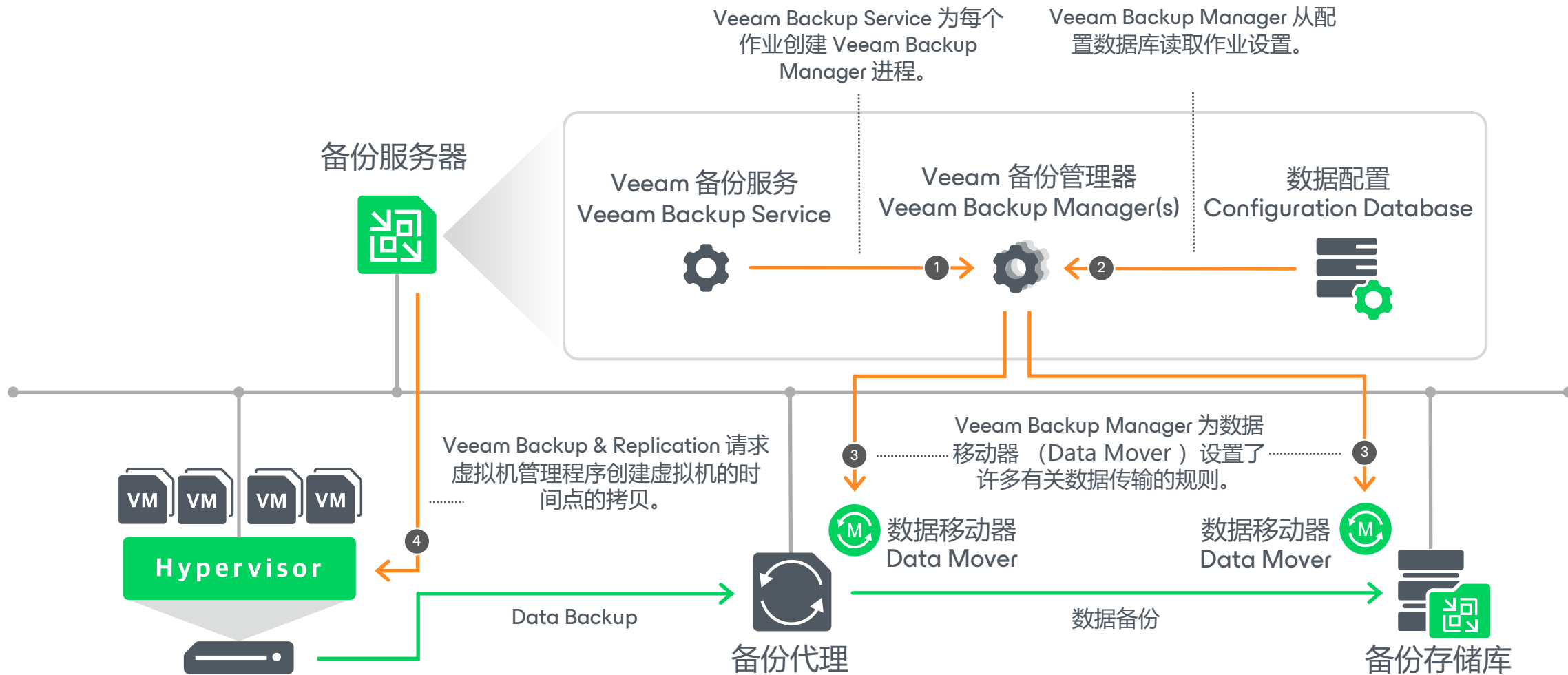
工作优先级

以下是按优先级从高到低的顺序列出的简化列表:

1. 数据恢复作业 — 这些作业具有最高优先级，并最先获得免费的系统资源。
2. 持续数据保护政策Continuous Data Protection policies。
3. 后台系统作业（例如 SnapshotDeleter）。
4. 快速备份作业 — 这些作业具有第二高优先级。
5. 高优先级作业 — 启用“高优先级”选项的作业具有第三高优先级。可以为以下作业启用“高优先级”选项：
备份作业、复制作业、备份服务器管理的代理作业、文件备份作业。
6. 备份复制作业和存档作业 — 这些作业的优先级最低，并且最后获得可用的系统资源。

作业


备份过程示例



作业

备份作业创建过程的示例

New Backup Job

 **Name**
Type in a name and description for this backup job.

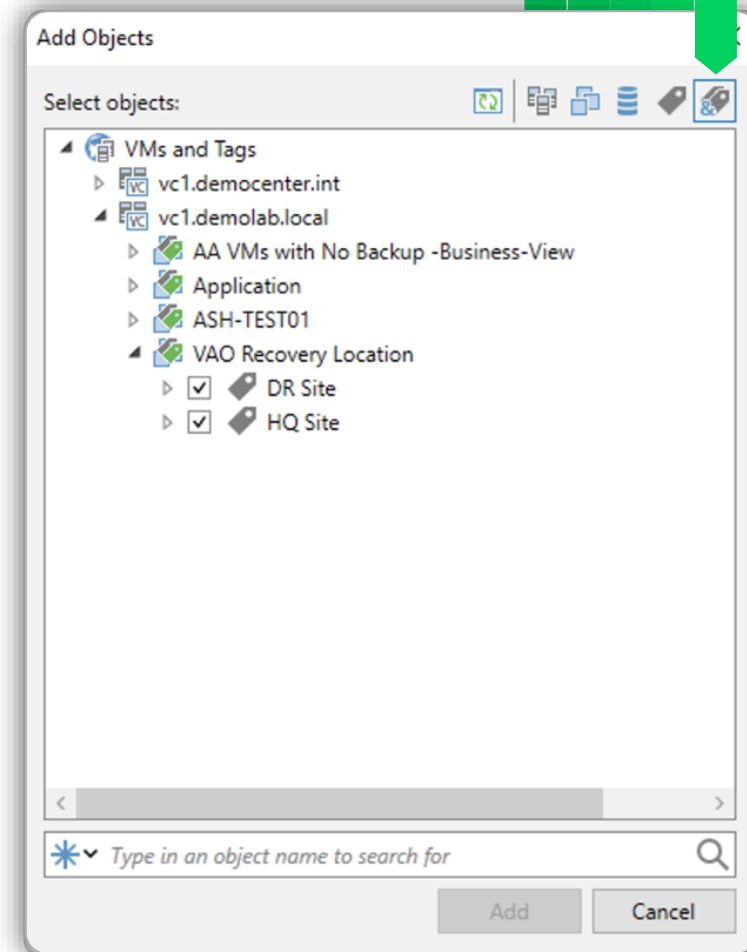
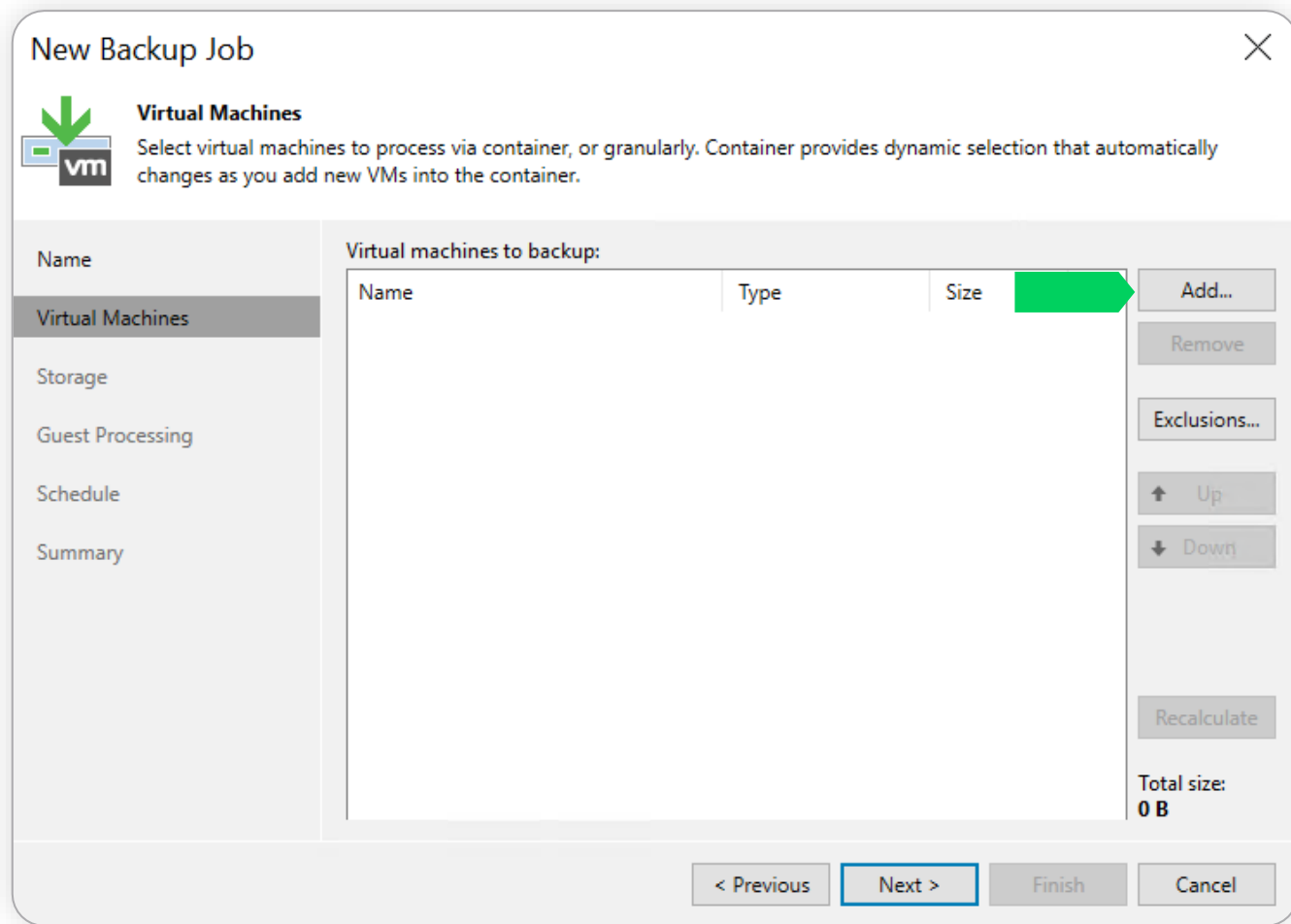
Name	Name: Backup Job Example
Virtual Machines	Description: Created by DEMOCENTER\User at 2024-04-09 15:54.
Storage	
Guest Processing	
Schedule	
Summary	

High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

< Previous Next > Finish Cancel

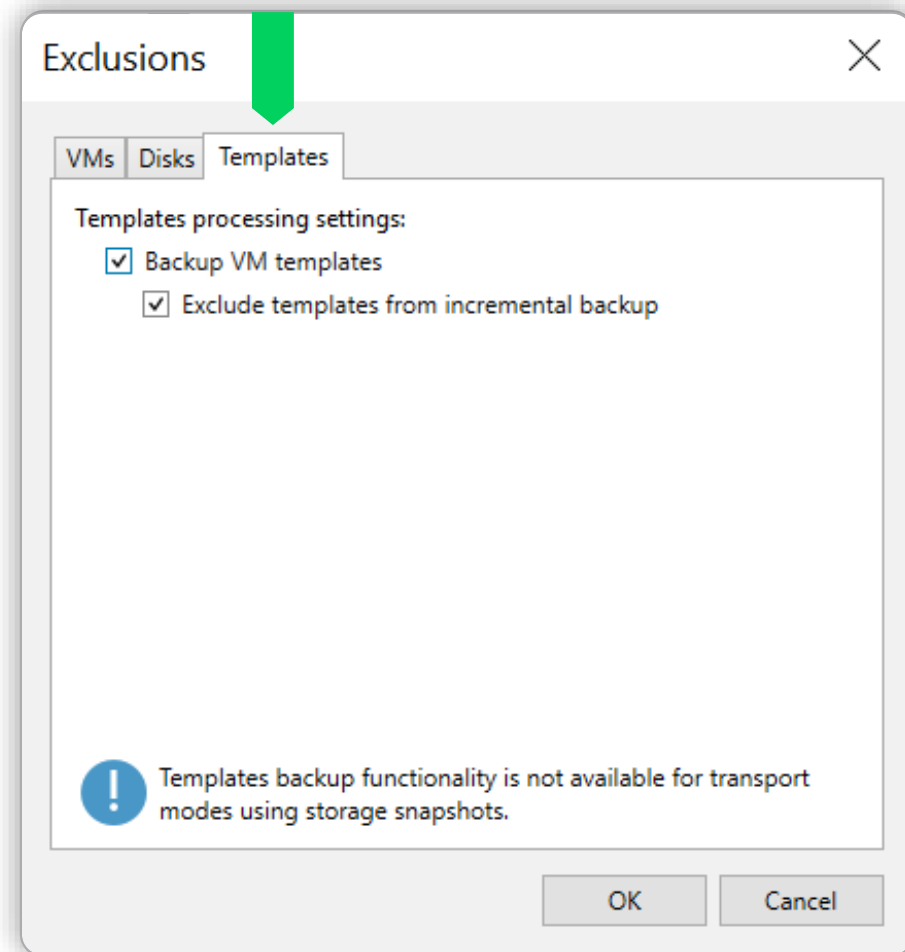
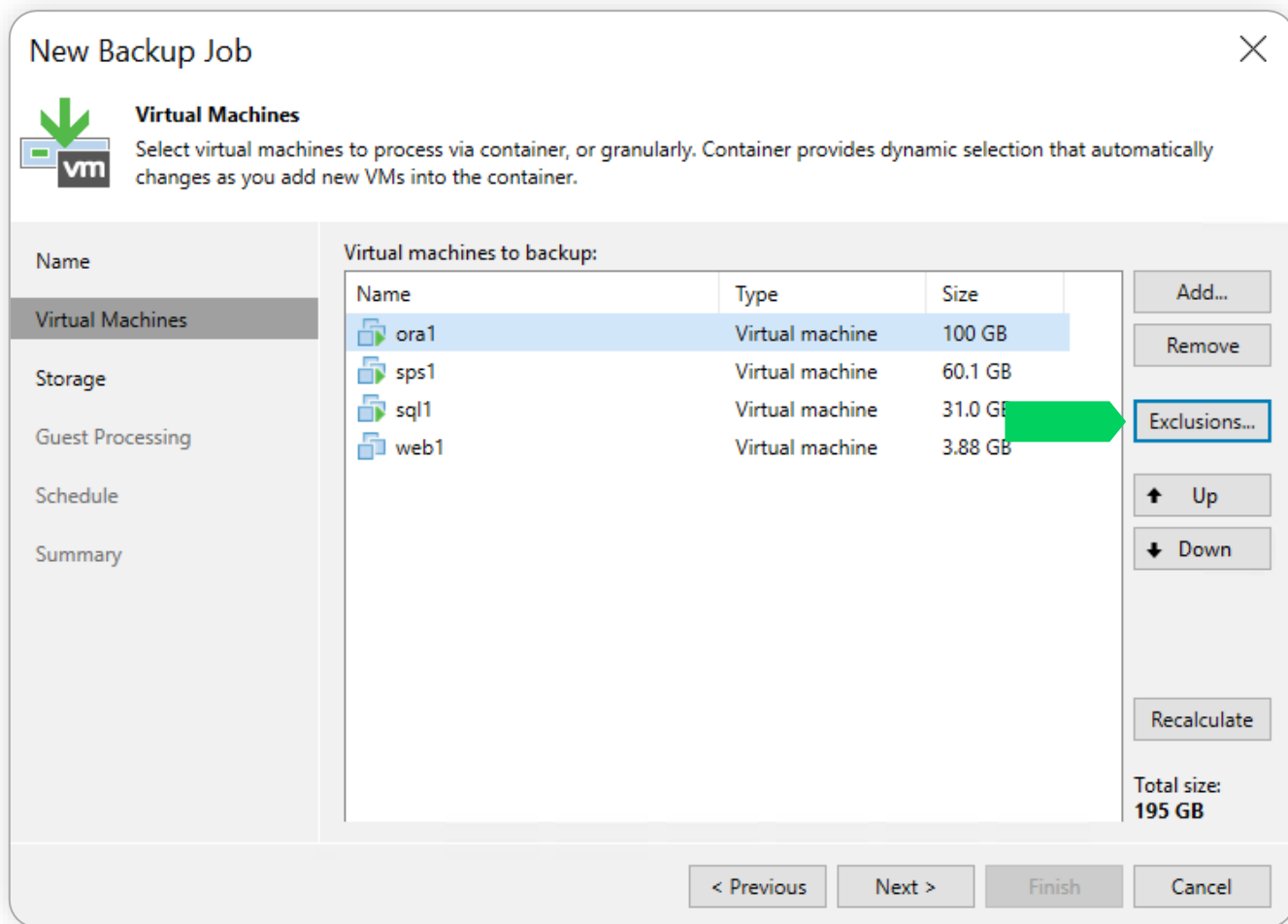
作业

备份作业创建过程的示例



作业

备份作业创建过程的示例



作业

备份作业创建过程的示例

New Backup Job

Storage
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name Backup proxy: Automatic selection

Virtual Machines

Storage AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.)
1.63 TB free of 1.99 TB

Guest Processing

Schedule Retention policy: 14 days

Summary Keep certain full backups longer for archival purposes 12 monthly
 Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

< Previous Next > Finish Cancel

Backup Proxy

Choose backup proxy servers for this job. For redundancy, we recommend to select at least two proxies. When multiple proxies are available, selection will be performed on per-VM basis, taking into account proxy connectivity and current load.

Automatic selection
The job will automatically select the most suitable backup proxy server from all available backup proxy servers.

Use the selected backup proxy servers only
The job will automatically select the most suitable backup proxy server from the following list of proxy servers.

Name	<input type="checkbox"/>	<input type="checkbox"/>
hq-vbr1appl1.demolab.local	<input type="checkbox"/>	<input type="checkbox"/>
hq-vbr1lnxpxy1.demolab.local	<input type="checkbox"/>	<input type="checkbox"/>
hq-vbr1pxy1.demolab.local	<input type="checkbox"/>	<input type="checkbox"/>
hq-vbr1pxy3.demolab.local	<input type="checkbox"/>	<input type="checkbox"/>

作业

备份作业创建过程的示例

New Backup Job

Storage
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Backup proxy:
Automatic selection Choose...

Backup repository:
AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.) Map backup

1.63 TB free of 1.99 TB

Retention policy: 14 days !

Keep certain full backups longer for archival purposes
12 monthly Configure...

Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, notification settings, automated post-job activity and other settings. Advanced...

< Previous Next > Finish Cancel

Advanced Settings

Backup Maintenance Storage Notifications vSphere Integration Scripts

Backup mode

Reverse incremental (slower)
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

Incremental (recommended)
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

Create synthetic full backups periodically on:
Saturday Configure...

Active full backup

Create active full backups periodically on:
Saturday Configure...

Reverse incremental mode will become deprecated in vNext. It will continue to work but will not be available for newly created jobs.

Save As Default OK Cancel

作业

备份作业创建过程的示例

New Backup Job

Storage
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Backup proxy:
Automatic selection

Backup repository:
AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.)
1.63 TB free of 1.99 TB

Retention policy: 14 days

Keep certain full backups longer for archival purposes
12 monthly

Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, retention policy, backup size, notification settings, automated post-job activity and other settings.

Advanced Settings

Backup Maintenance Storage Notifications vSphere Integration Scripts

Storage-level corruption guard
 Perform backup files health check (detects and auto-heals corruption) on:
At 22:00 on Last Friday of every month

Full backup file maintenance
 Remove deleted items data after 3 days
 Defragment and compact full backup file on:
Last Saturday of every month

作业

备份作业创建过程的示例

New Backup Job

Storage
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Backup proxy:
Automatic selection Choose...

Backup repository:
AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.) Map backup

1.63 TB free of 1.99 TB

Retention policy: 14 days !

Keep certain full backups longer for archival purposes
12 monthly Configure...

Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, size, notification settings, automated post-job activity and other settings. Advanced...

< Previous Next > Finish Cancel

Advanced Settings

Backup **Maintenance** **Storage** **Notifications** **vSphere** **Integration** **Scripts**

Data reduction

Enable inline data deduplication (recommended)

Exclude swap file blocks (recommended)

Exclude deleted file blocks (recommended)

Compression level:
Optimal (recommended)

Provides for the best compression to performance ratio, lowest backup proxy CPU usage and fastest restore.

Storage optimization:
1MB (recommended)

Delivers the optimal combination of backup speed, granular restore performance and repository space consumption.

Encryption

Enable backup file encryption

Password: Add...

Manage passwords

Save As Default OK Cancel

作业

备份作业创建过程的示例

New Backup Job

Storage
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name
Virtual Machines

Storage
Backup proxy: Automatic selection
Backup repository: AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.)
1.63 TB free of 1.99 TB
Retention policy: 14 days
 Keep certain full backups longer for archival purposes 12 monthly
 Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, backup size, notification settings, automated post-job activity and other settings.

< Previous Next > Finish Cancel

Advanced Settings

Backup Maintenance Storage Notifications vSphere Integration Scripts

Send SNMP notifications for this job

Send e-mail notifications to the following recipients:
Type in one or more e-mail addresses separated by semicolon

Use global notification settings

Use custom notification settings specified below:
Subject: [%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

Notify on success

Notify on warning

Notify on error

Suppress notifications until the last retry

Set successful backup details to this VM attribute:
Notes

Append to the existing attribute's value

Save As Default OK Cancel

作业

备份作业创建过程的示例

New Backup Job

Storage
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Backup proxy:
Automatic selection Choose...

Backup repository:
AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.) Map backup

1.63 TB free of 1.99 TB

Retention policy: 14 days !

Keep certain full backups longer for archival purposes
12 monthly Configure...

Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, backup size, notification settings, automated post-job activity and other settings Advanced...

< Previous Next > Finish Cancel

Advanced Settings

Backup Maintenance Storage Notifications vSphere Integration Scripts

Guest quiescence

Enable VMware Tools quiescence
Native quiescence will only be used for virtual machines with application-aware image processing disabled.

Changed block tracking

Use changed block tracking data (recommended)

Enable CBT for all protected VMs automatically
Changed Block Tracking (CBT) is a VMware feature that allows for faster incremental backup and replication. For CBT to be enabled, VM must have no existing snapshots.

Reset CBT on each Active Full backup automatically
Provides safety net against potential CBT issues at the cost of slightly increased backup window.

Save As Default OK Cancel

作业

备份作业创建过程的示例

New Backup Job

Storage
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Backup proxy:
Automatic selection Choose...

Backup repository:
AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.) Map backup

1.63 TB free of 1.99 TB

Retention policy: 14 days !

Keep certain full backups longer for archival purposes
12 monthly Configure...

Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, notification settings, automated post-job activity and other settings. Advanced...

< Previous Next > Finish Cancel

Advanced Settings

Backup Maintenance Storage Notifications vSphere Integration Scripts

Primary storage integration

Enable backup from storage snapshots
Use storage snapshots (instead of VM snapshots) as the data source for this job. Using storage snapshots reduces impact on the production environment from VM snapshot commit.

Limit processed VM count per storage snapshot to 10

By default, the job will process all included VMs located on the same datastore from a single storage snapshot.

Failover to standard backup
Perform standard backup from VM snapshot if backup from storage snapshot fails.


Failover to primary storage snapshot
Use primary storage snapshots as the data source if backup from secondary storage snapshot fails.

Save As Default OK Cancel

作业

备份作业创建过程的示例

New Backup Job

 **Storage**
Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Name

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Backup proxy:
Automatic selection Choose...

Backup repository:
AWS S3 Repository (Created by Powershell at 7/17/2020 1:05:23 PM.)
1.63 TB free of 1.99 TB Map backup

Retention policy: 14 days !

Keep certain full backups longer for archival purposes
12 monthly Configure...

Configure secondary destinations for this job
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, backup size, notification settings, automated post-job activity and other settings. Advanced...

< Previous Next > Finish Cancel

Advanced Settings

Backup Maintenance Storage Notifications vSphere Integration **Scripts**

Job scripts

Run the following script before the job:
 Browse...

Run the following script after the job:
 Browse...

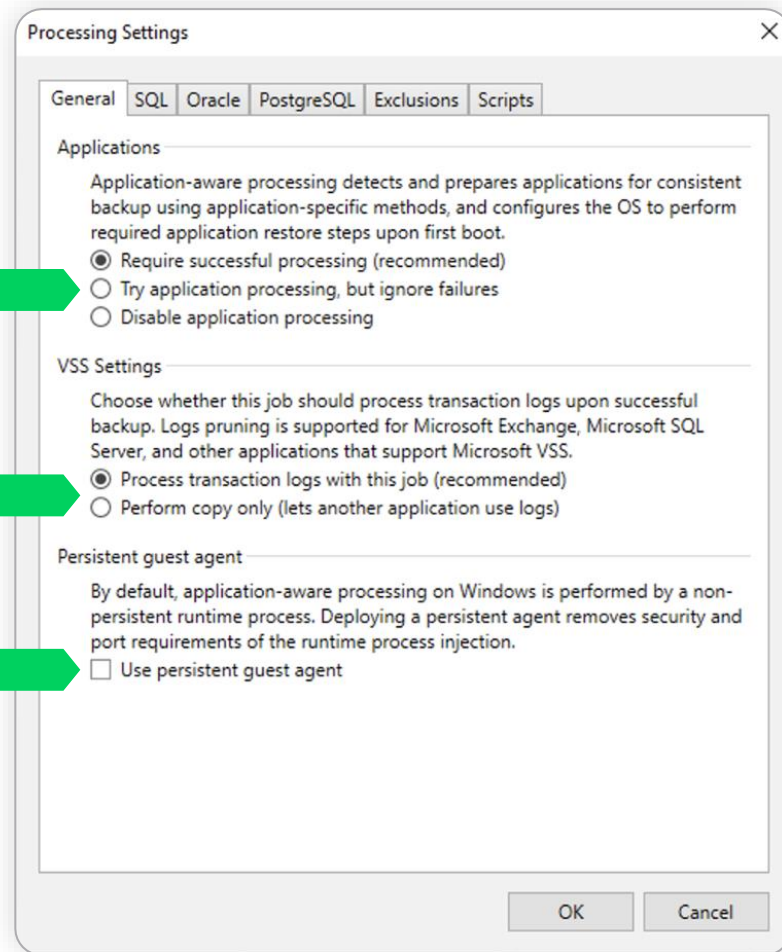
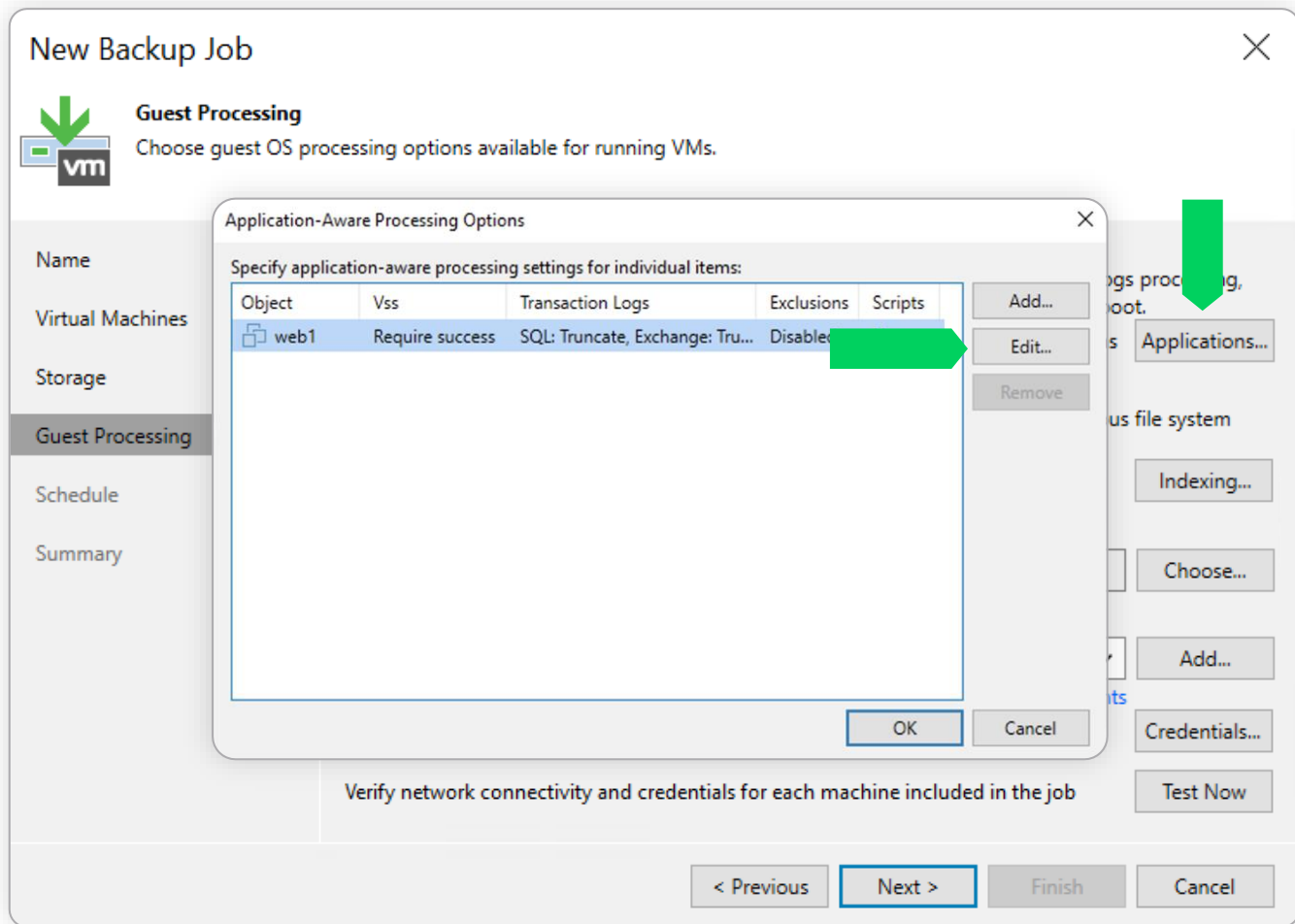
Run scripts every 1 backup session

Run scripts on the selected days only
Saturday Days...

Save As Default OK Cancel

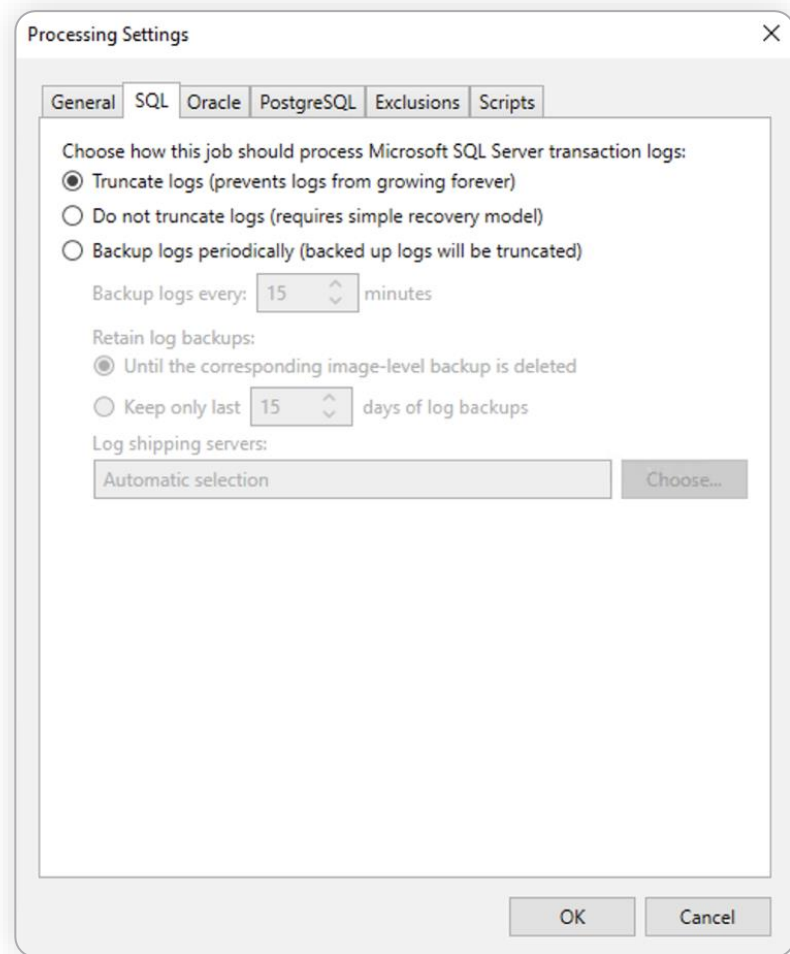
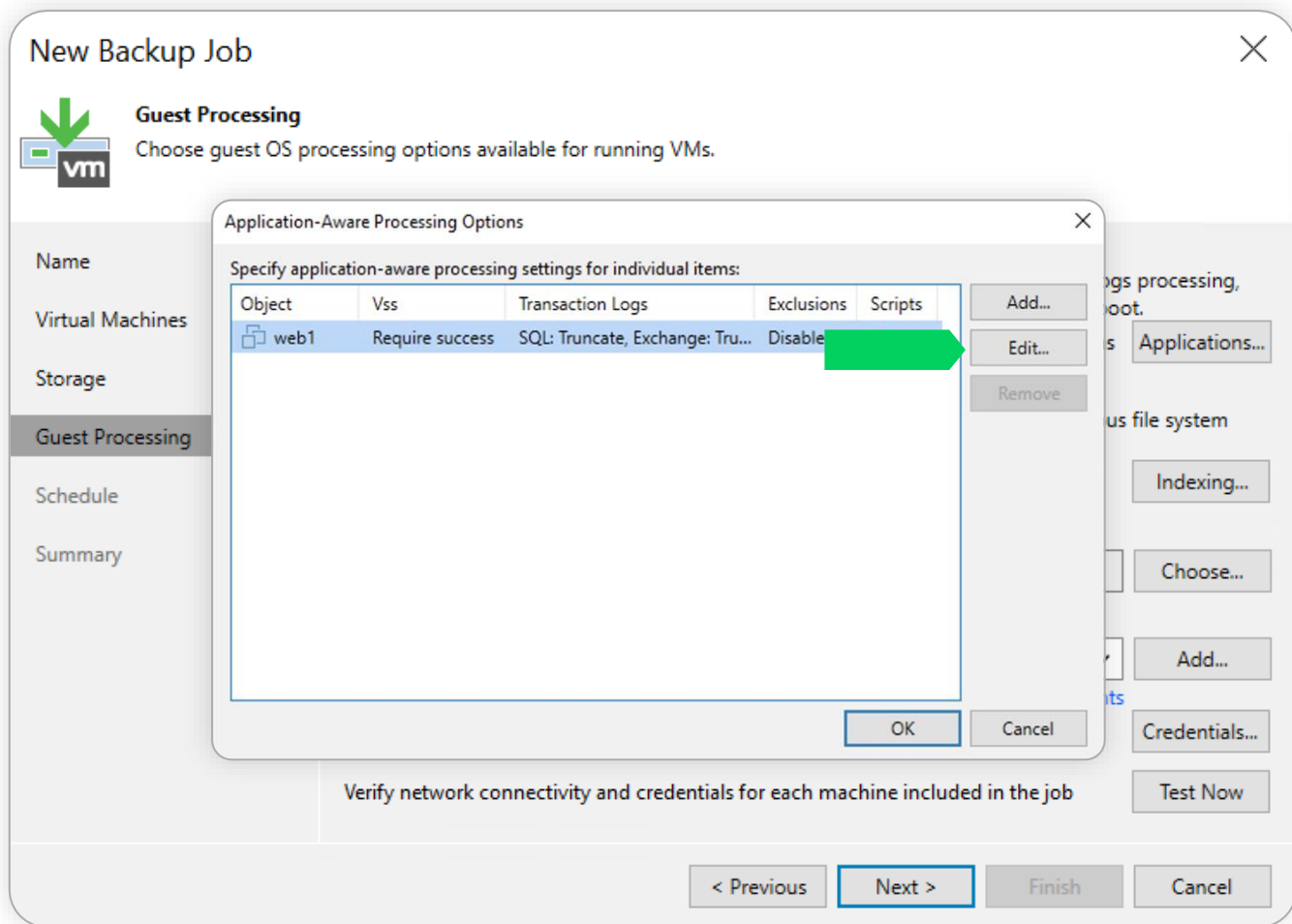
作业

备份作业创建过程的示例



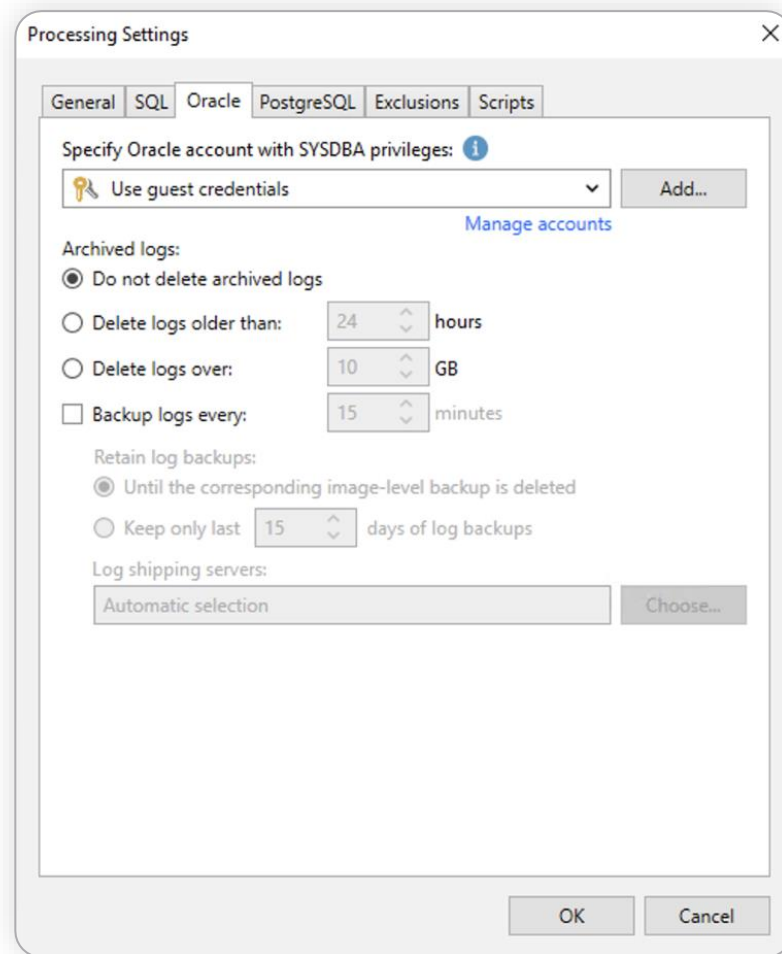
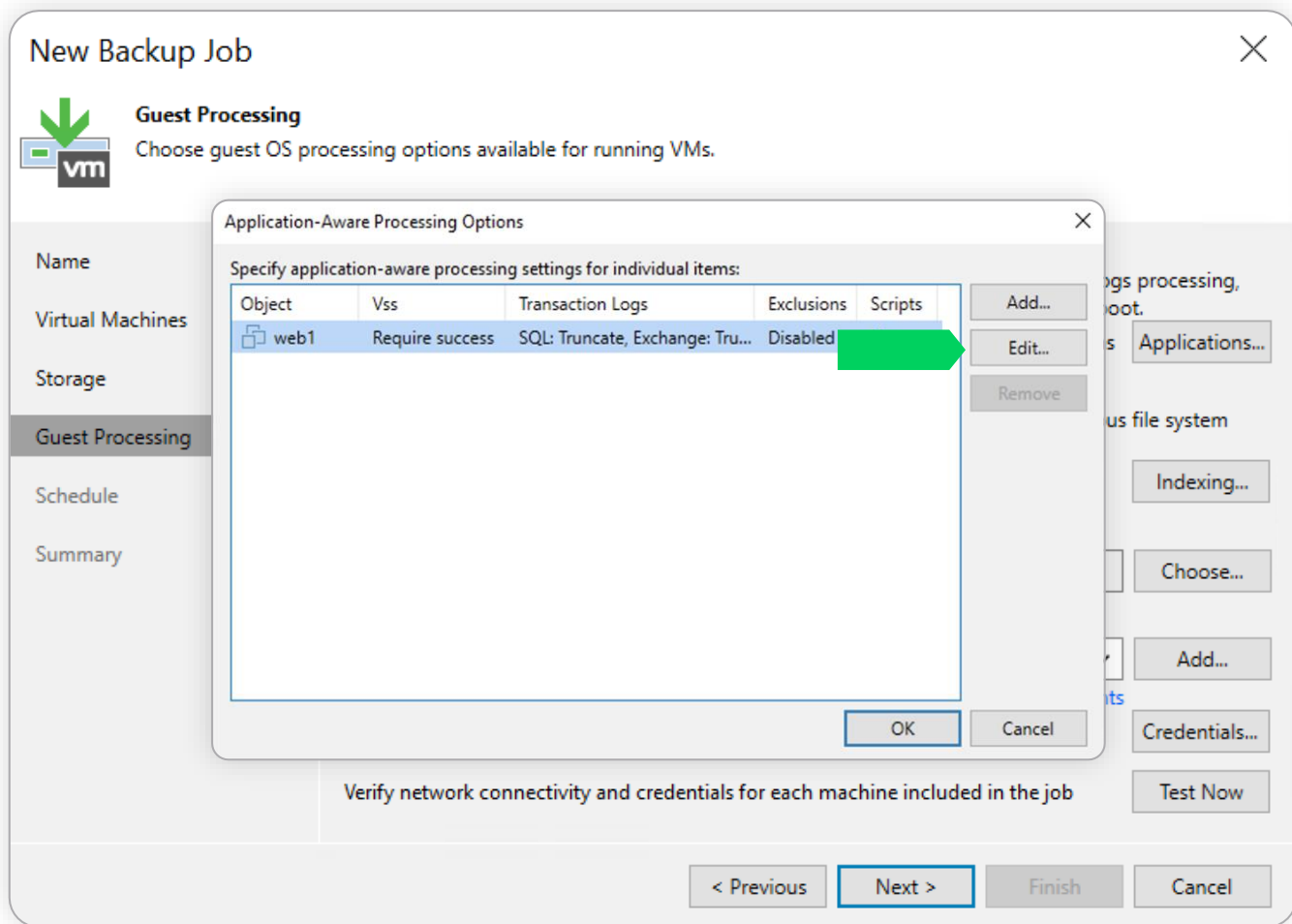
作业

备份作业创建过程的示例



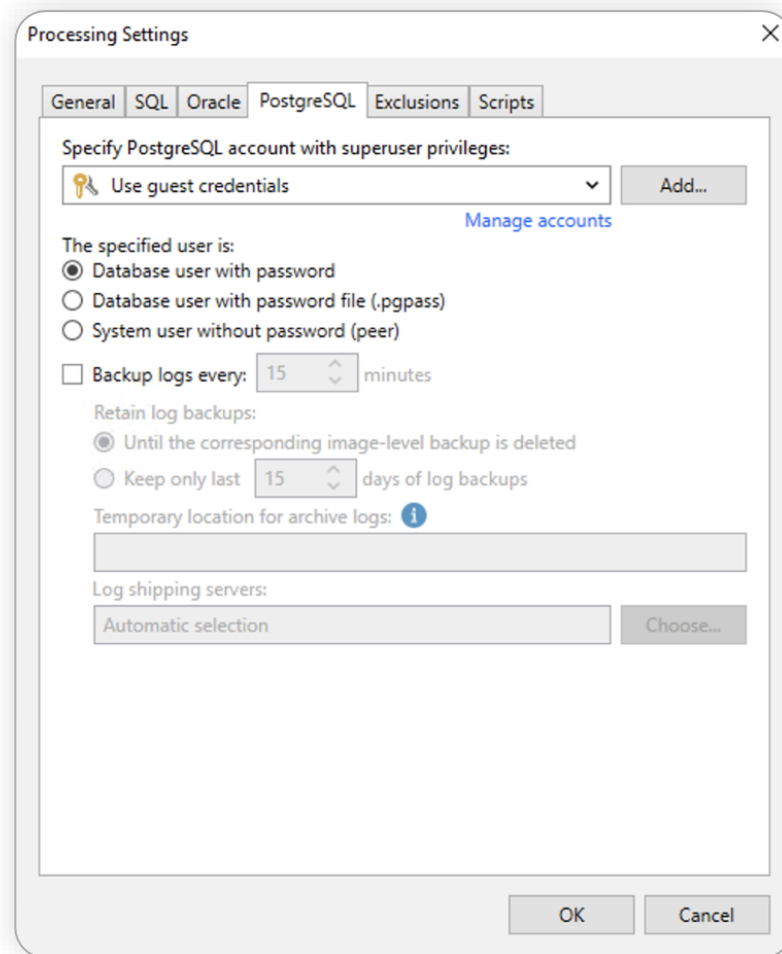
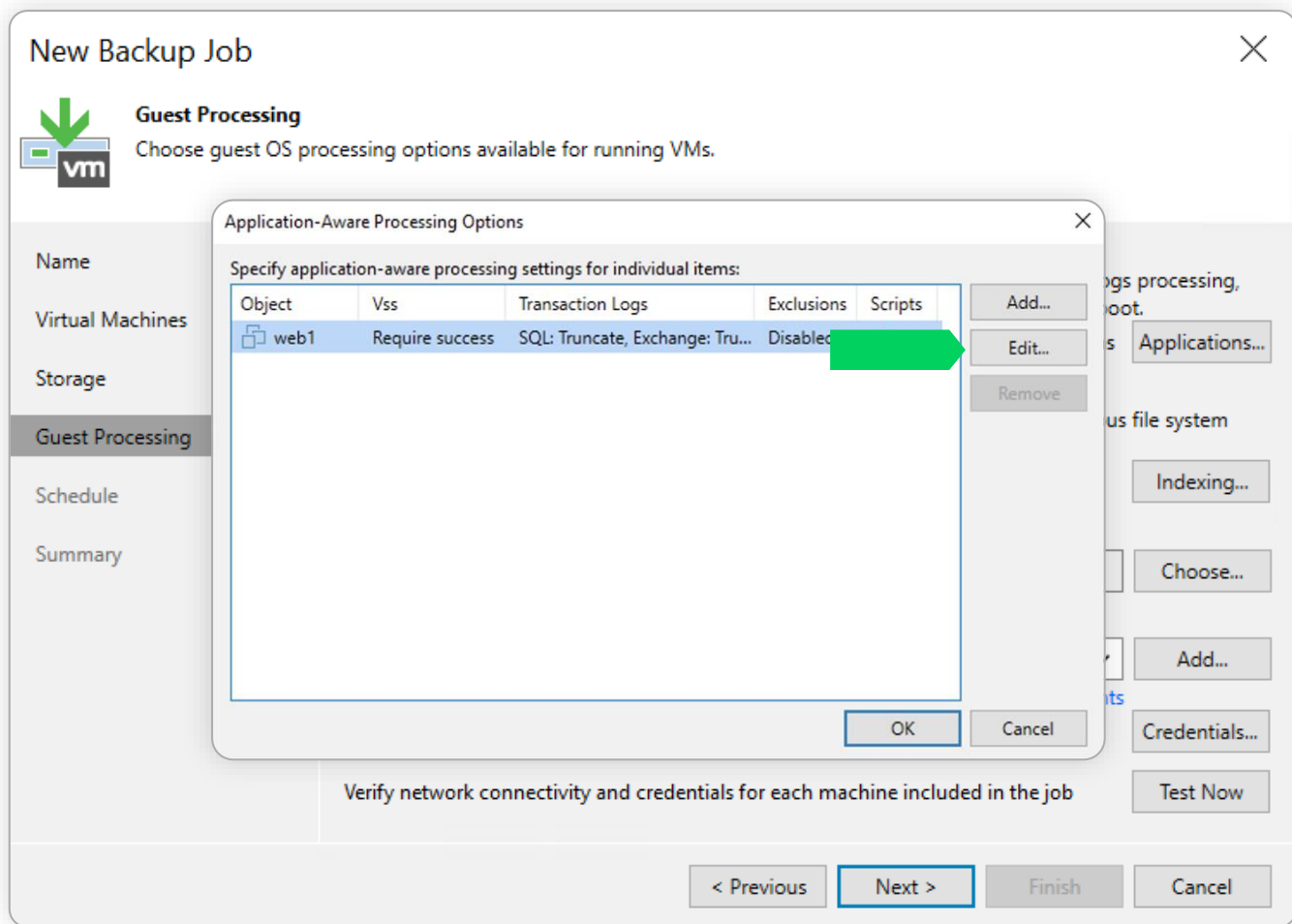
作业

备份作业创建过程的示例



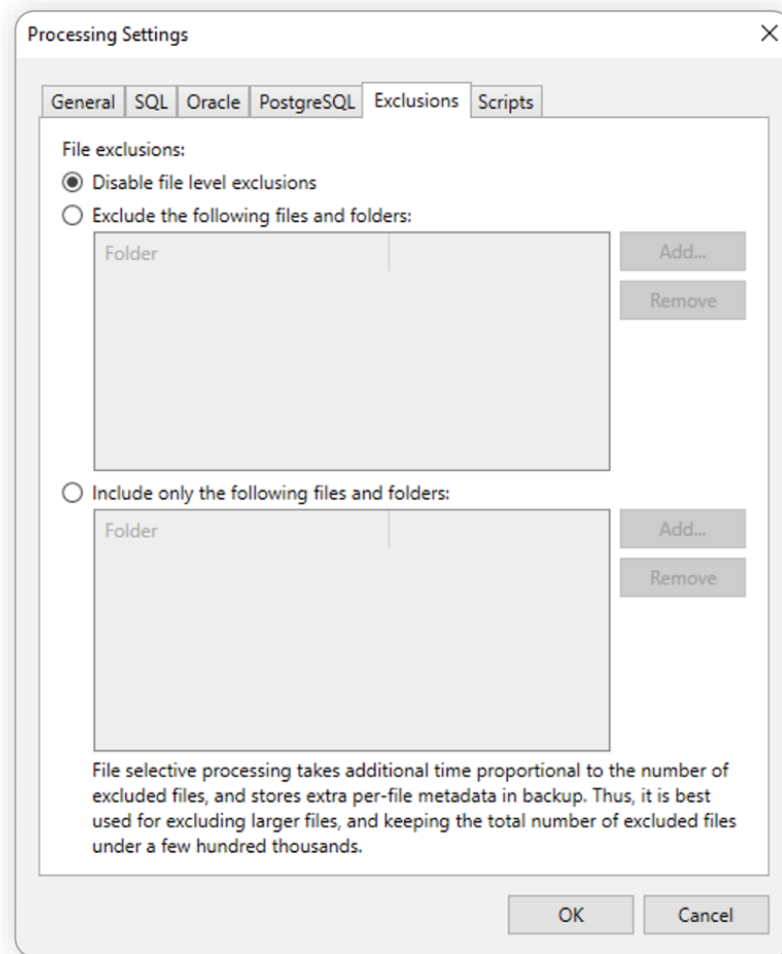
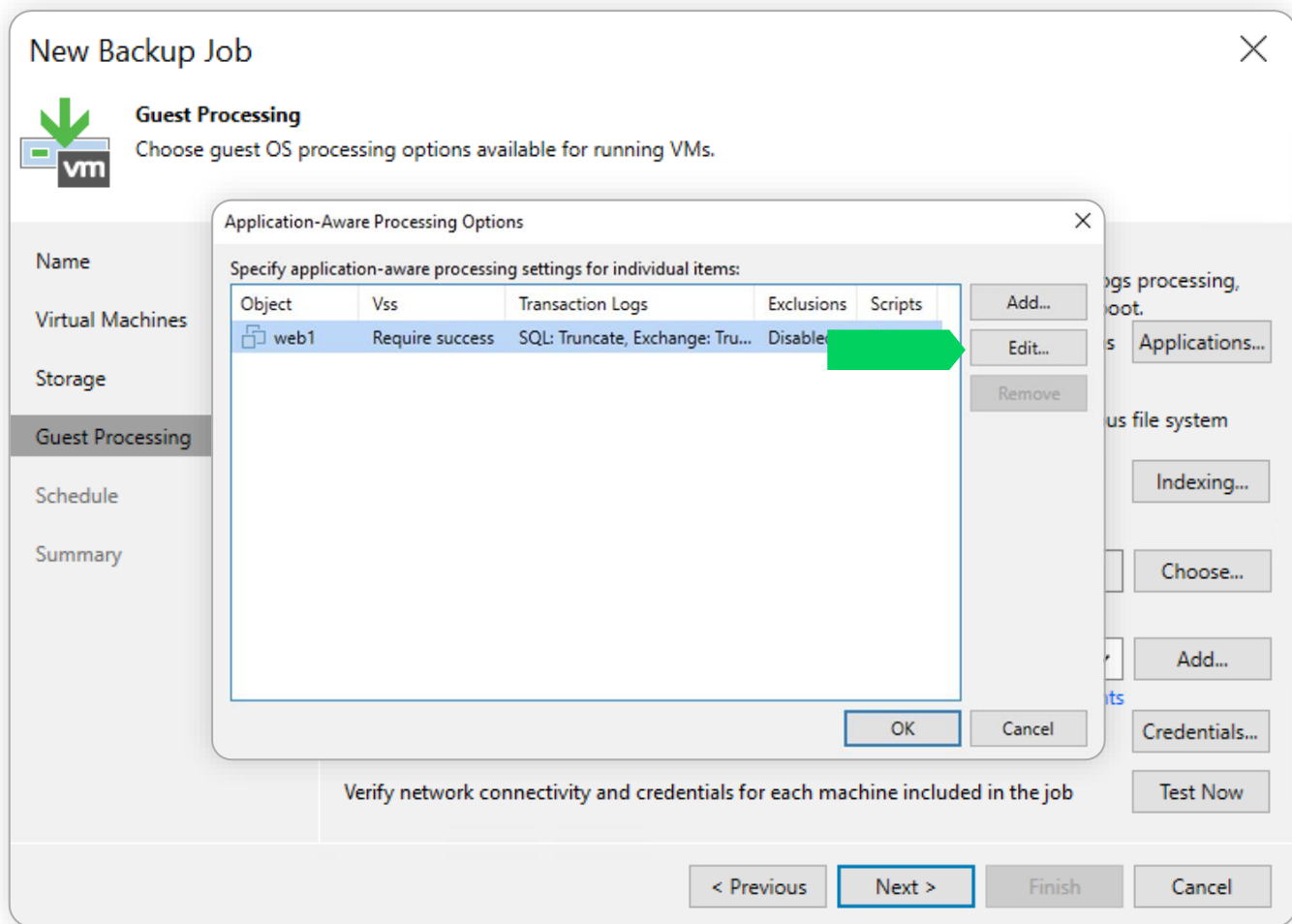
作业

备份作业创建过程的示例



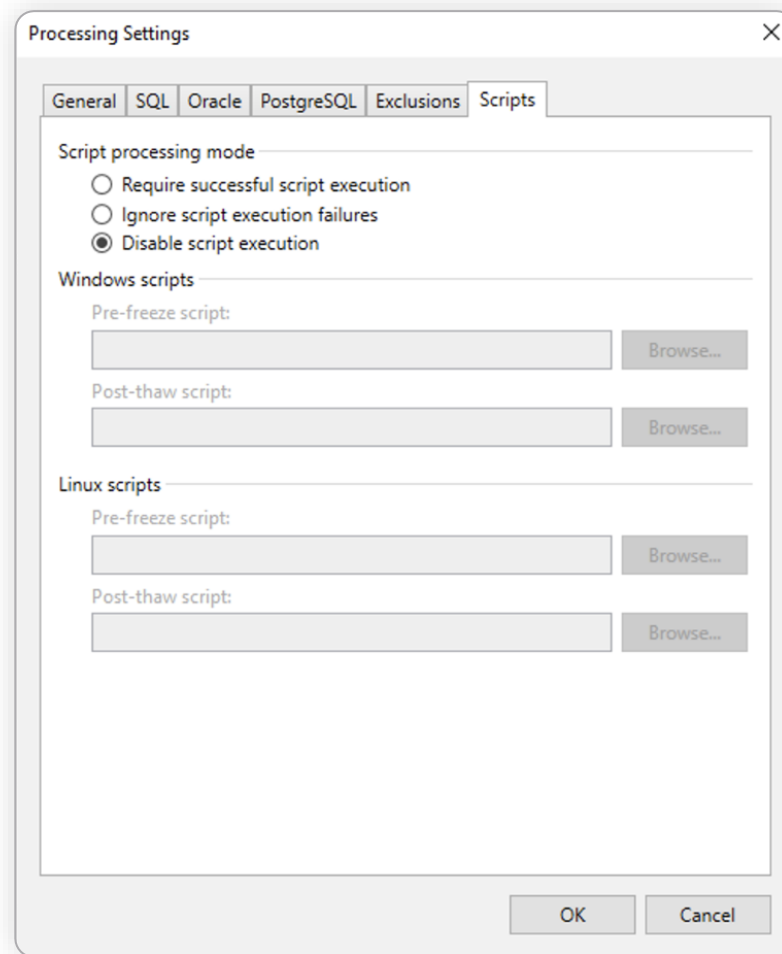
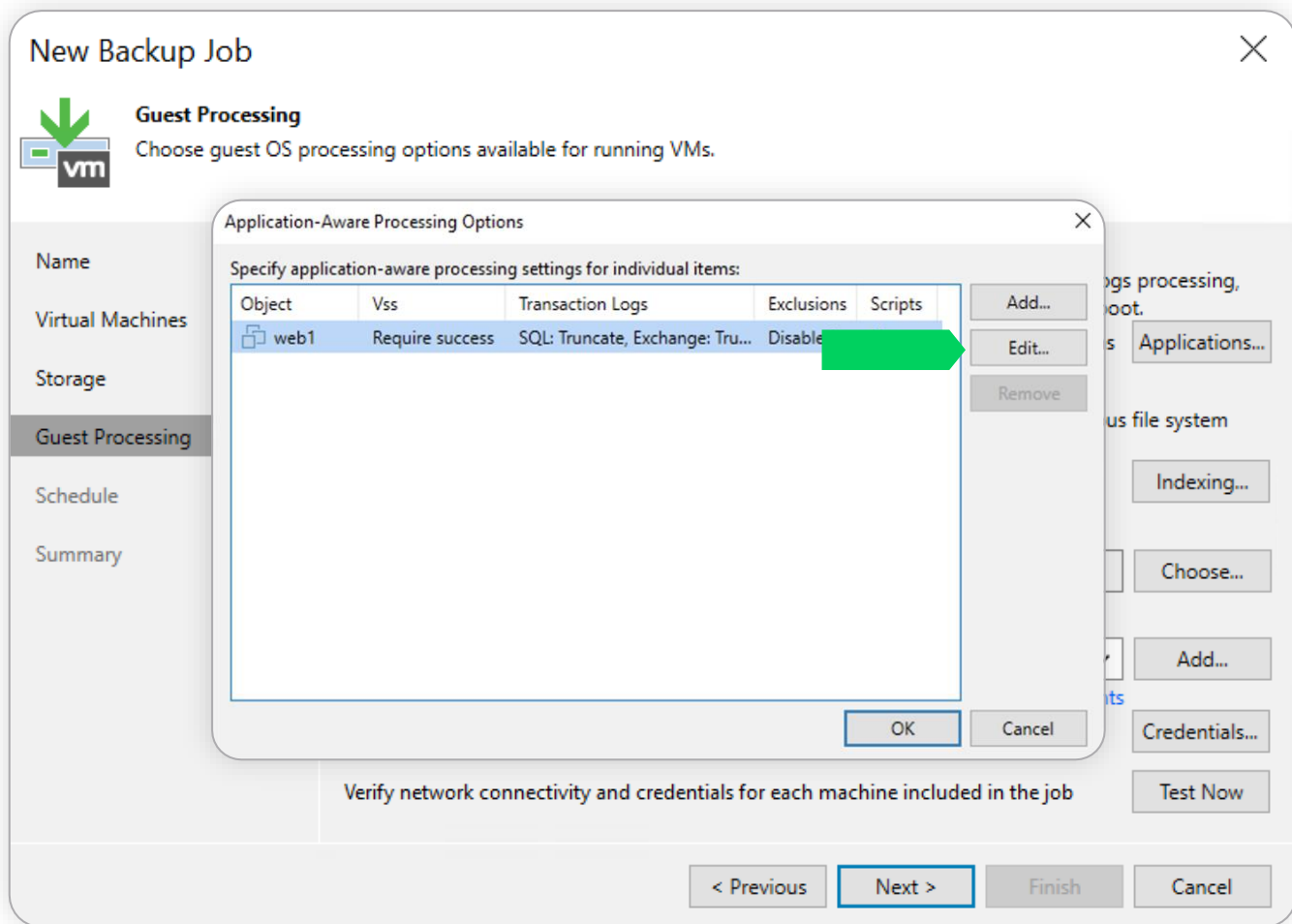
作业

备份作业创建过程的示例



作业

备份作业创建过程的示例



作业

备份作业创建过程的示例

New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

Name

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Enable application-aware processing
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications [Applications...](#)

Enable guest file system indexing and malware detection
Indexing enables global file search functionality, automatic detection of suspicious file system activity and known malware files.
Customize advanced guest file system indexing options for individual machines [Indexing...](#)

Guest interaction proxy:
 [Choose...](#)

Guest OS credentials:
 [Add...](#)
[Manage accounts](#)

Customize guest OS credentials for individual machines and operating systems [Credentials...](#)

Verify network connectivity and credentials for each machine included in the job [Test Now](#)

< Previous **Next >** Finish Cancel

作业

备份作业创建过程的示例

New Backup Job

Schedule
Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

Name: [Redacted]

Virtual Machines

Storage

Guest Processing

Schedule

Summary

Days...
Months...
Schedule...
of MS SQL S

Window...

< Previous Apply Finish Cancel

Time Periods

All None

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

0 2 4 6 8 10 12 14 16 18 20 22 24

1 3 5 7 9 11 13 15 17 19 21 23

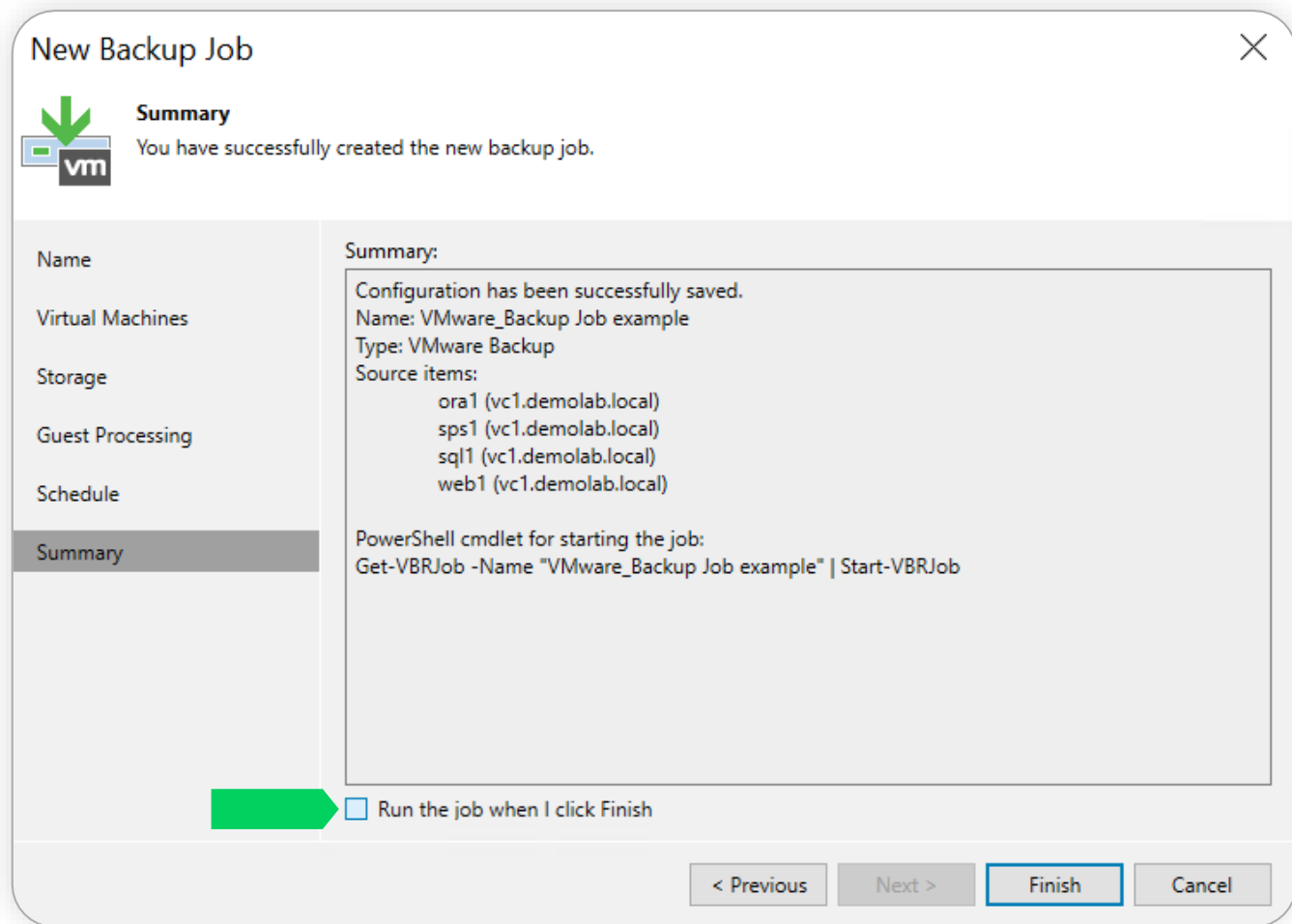
Permitted
Denied

OK Cancel

Long running or accidentally started jobs will be terminated to prevent impact on your production infrastructure during busy hours.

作业

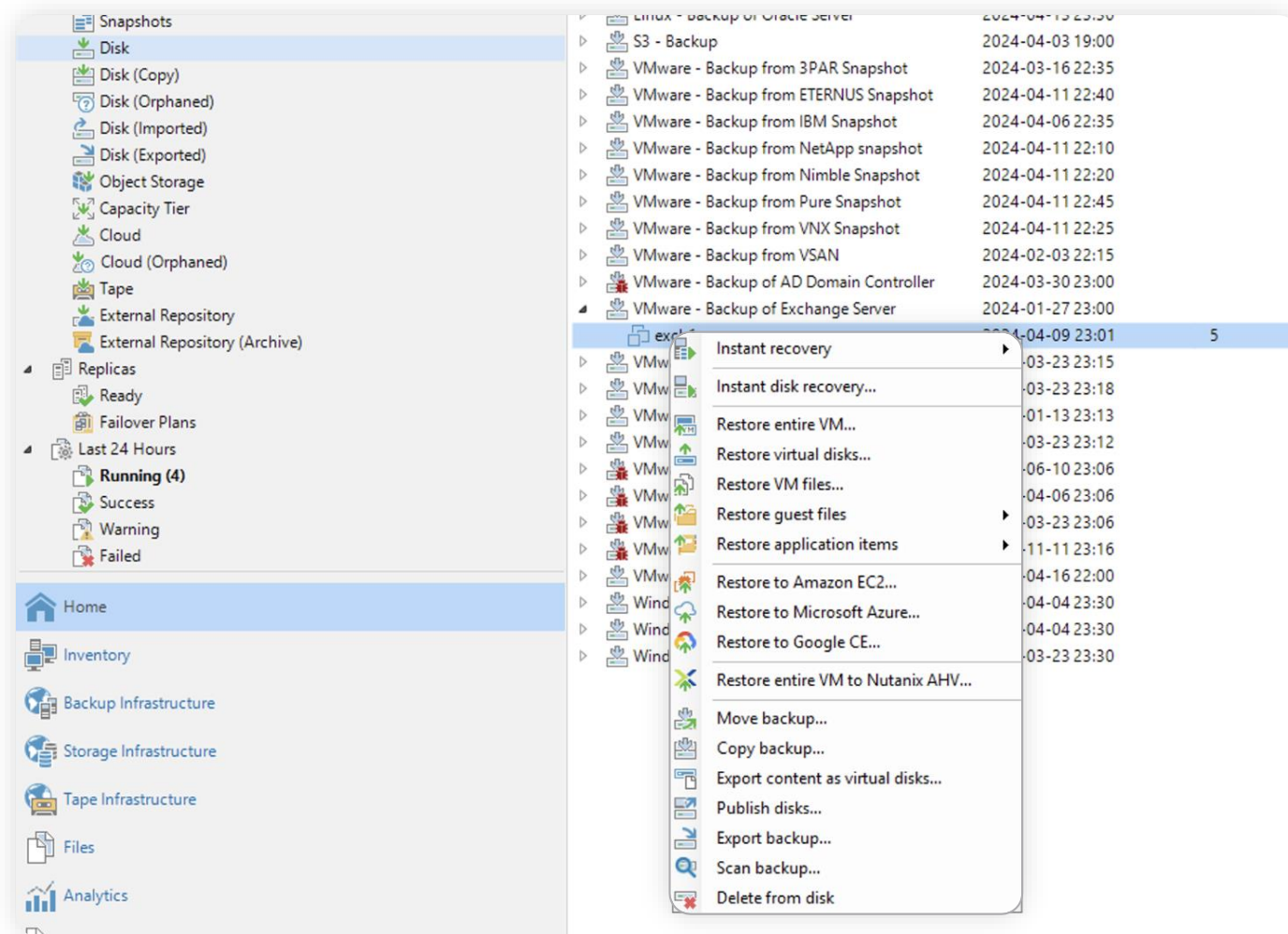
备份作业创建过程的示例



恢复Restore

恢复

多种恢复选项可减少恢复时间。



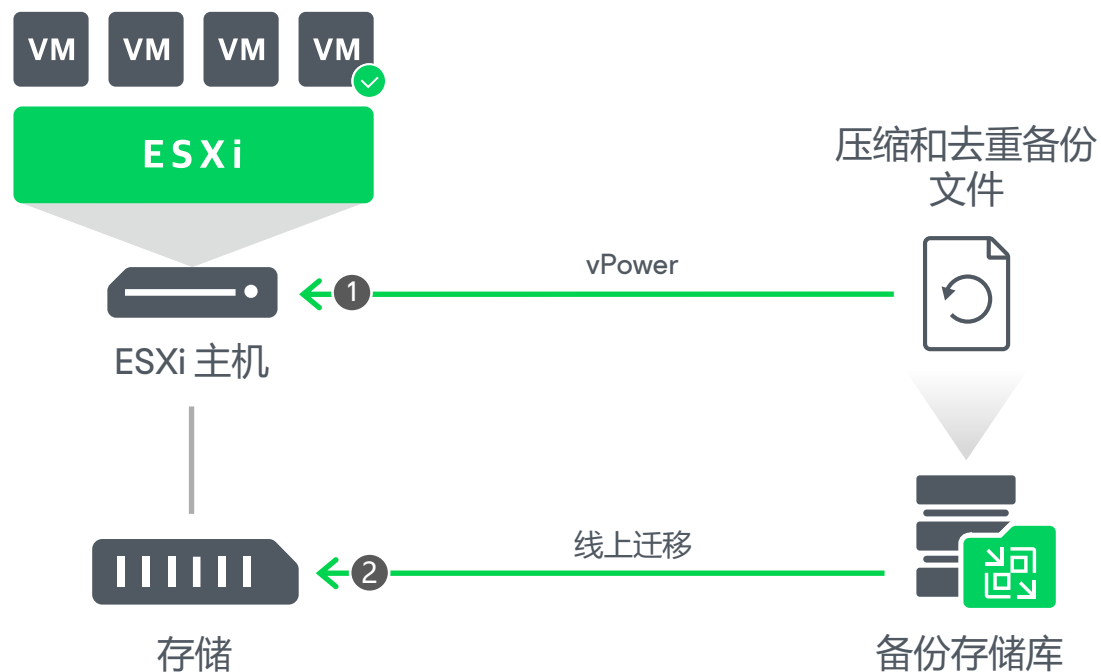
- 整个虚拟机恢复Entire VM restore
- 即时恢复Instant recovery
- 虚拟磁盘恢复Virtual disks restore
- 即时磁盘恢复Instant disk recovery
- 虚拟机文件恢复VM files restore
- 访客文件恢复Guest files restore
- 应用项目恢复Application items restore
- 恢复到Amazon EC2; Azure; Google CE
- 恢复到Nutanix AHV
- 将内容导出为虚拟磁盘Export content as virtual disks
- 发布磁盘Publish disks

即时恢复 Instant Recovery

借助即时恢复，您可以几乎**立即**将虚拟机恢复到生产环境中，方法是直接从压缩和重复数据删除的备份文件中运行虚拟机。

即时恢复有助于改善恢复时间目标，最大限度地减少生产虚拟机的中断和停机时间。

即时恢复可用于以**跨虚拟机**管理程序的方式恢复数据，以及从**物理服务器**恢复到虚拟机。

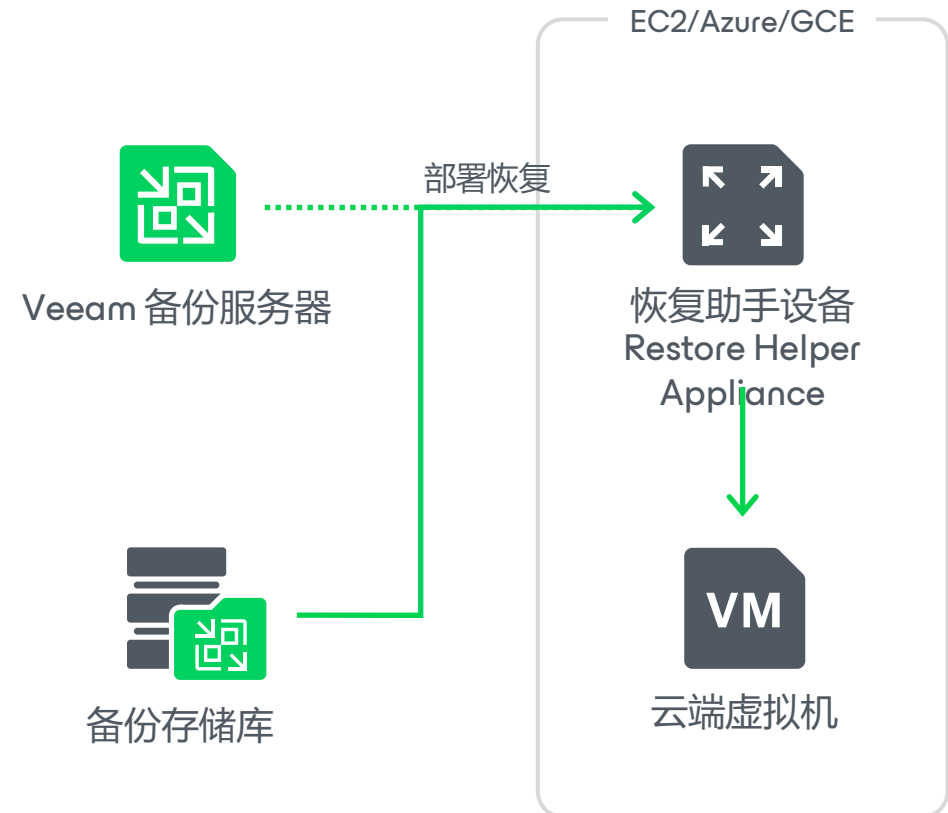


恢复到Amazon EC2/Azure/Google CE

允许您将**虚拟机**和**物理服务器**迁移或恢复到云中。

对于 **Amazon EC2** 和 **Google CE**，VBR 仅在恢复过程期间自动部署辅助设备，并在恢复过程结束后立即将其删除。辅助设备是**可选的**，但它**可以显著提高恢复性能**。

Azure 辅助设备是**强制性的和持久性的**。恢复过程完成后，辅助设备将关闭并保留在 Azure 中。设备将保持关闭状态，直到您启动新的恢复过程。



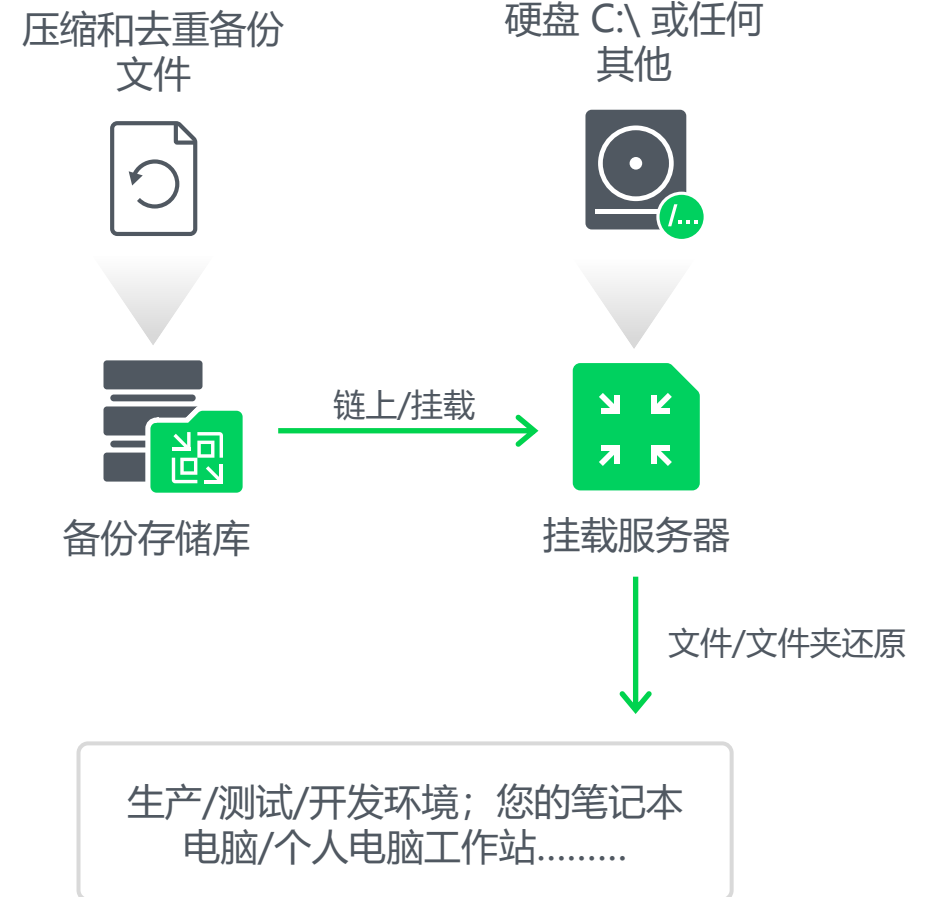
访客文件恢复 Guest files restore (FLR)

可以直接从客户操作系统**恢复特定文件**，而无需恢复整个虚拟机或物理服务器。

支持的恢复源：备份、副本、存储快照、Nutanix AHV 快照。

支持的文件系统：

- Windows: FAT, FAT32, NTFS, ReFS
- Linux: ext2, ext3, ext4, ReiserFS, JFS, XFS, Btrfs, NTFS
- BSD, Mac, Solaris 也支持



应用项目恢复Application Items restore

Explorer 适用于以下应用程序：

Microsoft Active Directory

Microsoft SQL Server

Oracle PostgreSQL

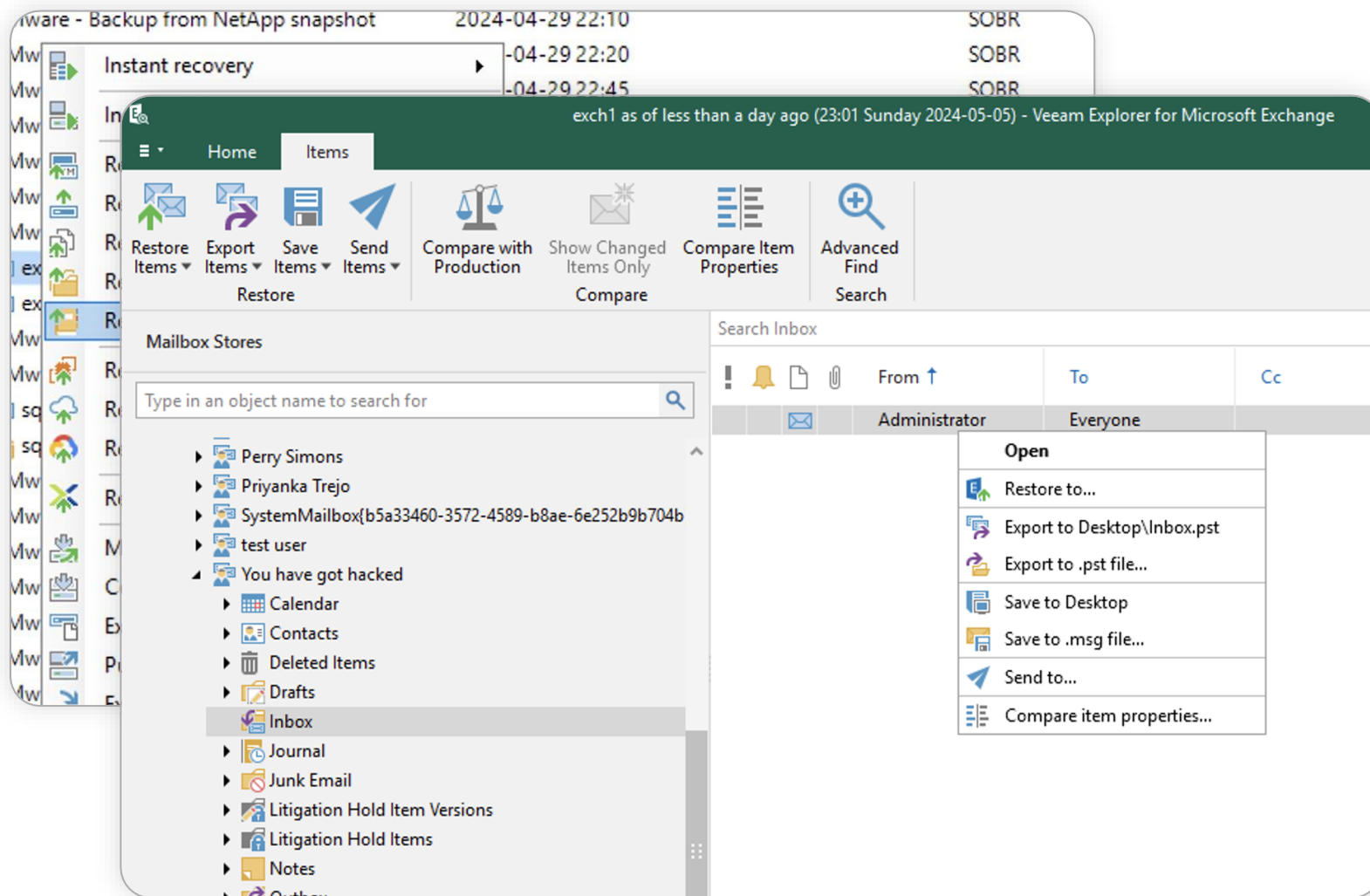
Microsoft Exchange

Microsoft SharePoint

Microsoft OneDrive for Business

Microsoft Teams

要使用它们，请确保您的备份和复制是在启用应用程序感知处理的情况下创建的。



如何恢复虚拟机?

The screenshot displays the Veeam Backup & Replication console. The interface is divided into several sections:

- Home:** A navigation pane on the left with a search bar and a list of categories. A green arrow labeled '1' points to the 'Backups' category.
- Jobs:** A list of backup jobs. A green arrow labeled '2' points to the 'Entire VM' job.
- Table:** A table listing backup jobs with columns for Job Name, Creation Time, and Restore Points. The job 'sql1 - SQL Server transaction log backup' is selected.
- Context Menu:** A menu is open over the selected job, showing various restore options. A green arrow labeled '2' points to the 'Restore entire VM...' option.

Job Name	Creation Time	Restore Points
Agent Backup Policy AIX	2024-04-17 22:00	
Oracle RMAN		
Agents		
AHV - Backup	2023-08-22 22:00	
Files - Backup	2024-03-27 19:00	
Linux - Backup of MySQL Server	2024-04-13 23:30	
Linux - Backup of Oracle Server	2024-04-20 23:30	
Linux - Backup of PostgreSQL Server	2024-04-13 23:30	
S3 - Backup	2024-04-09 19:00	
VMware - Backup from 3PAR Snapshot	2024-03-23 22:35	
VMware - Backup from ETERNUS Snapshot	2024-04-17 22:40	
VMware - Backup from IBM Snapshot	2024-04-13 22:35	
VMware - Backup from NetApp snapshot	2024-04-17 22:10	
VMware - Backup from Nimble Snapshot	2024-04-17 22:20	
VMware - Backup from Pure Snapshot	2024-04-17 22:45	
VMware - Backup from VNX Snapshot	2024-04-18 22:25	
VMware - Backup from VSAN	2024-02-03 22:15	
VMware - Backup of AD Domain Controller	2024-04-06 23:00	
VMware - Backup of Exchange Server	2024-01-27 23:00	
VMware - Backup of File Server	2024-03-30 23:15	
VMware - Backup of MS SQL Server	2024-03-30 23:18	
sql1 - SQL Server transaction log backup	2024-04-24 12:59	10120
sql1	2024-04-23 23:19	19

如何恢复虚拟机?

Entire VM Restore

Virtual Machines
Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded into plain VM list).

Restore Points

Available restore points for sql1:

Job	Type	Location
VMware - Backup of MS SQL Server - sql1 (SOBR)		
less than a day ago (23:19 Tuesday 2024-04-23)	Increment	Performance Tier
1 day ago (23:19 Monday 2024-04-22)	Increment	Performance Tier
2 days ago (23:19 Sunday 2024-04-21)	Increment	Performance Tier
3 days ago (23:19 Saturday 2024-04-20)	Full (W)	Performance Tier
4 days ago (23:19 Friday 2024-04-19)	Increment	Performance Tier
5 days ago (23:19 Thursday 2024-04-18)	Increment	Performance Tier
6 days ago (23:19 Wednesday 2024-04-17)	Increment	Performance Tier
7 days ago (23:23 Tuesday 2024-04-16)	Increment	Performance Tier
8 days ago (23:19 Monday 2024-04-15)	Increment	Performance Tier
9 days ago (23:19 Sunday 2024-04-14)	Increment	Performance Tier
10 days ago (23:19 Saturday 2024-04-13)	Full (W)	Performance Tier
11 days ago (23:28 Friday 2024-04-12)	Increment	Performance Tier
12 days ago (23:19 Thursday 2024-04-11)	Increment	Performance Tier
13 days ago (23:19 Wednesday 2024-04-10)	Increment	Performance Tier
14 days ago (23:21 Tuesday 2024-04-09)	Increment	Performance Tier
15 days ago (23:20 Monday 2024-04-08)	Increment	Performance Tier
16 days ago (23:21 Sunday 2024-04-07)	Increment	Performance Tier

Buttons: Add..., Point..., Remove, OK, Cancel

Navigation: < Previous, Next >, Finish, Cancel

如何恢复虚拟机?

Entire VM Restore

Restore Mode
Specify whether selected VMs should be restored back to the original location, or to a new location or with different settings.

Virtual Machines

Restore Mode

- Host
- Resource Pool
- Datastore
- Folder
- Network

Secure Restore

Reason

Summary

Restore to the original location
Quickly initiate the restore of selected VM to its original location, with the original name and settings. This option minimizes the chance of user input error.

Restore to a new location, or with different settings
Customize the restored VM location, and change its settings. The wizard will automatically populate all controls with the original VM settings as the defaults.

Staged restore
Run the selected VM directly from backup files in the isolated DataLab to make changes to the guest OS or applications prior to placing the VM into production environment.

[Pick proxy to use](#)

Quick rollback (restore changed blocks only)
Allows for quick VM recovery in case of guest OS software problem, or user error. Do not use this option when recovering from disaster caused by hardware or storage issue, or power loss.

< Previous Next > Finish Cancel

如何恢复虚拟机?

Entire VM Restore

Datastore
By default, original datastore and disk type are selected for each VM file. You can change them by selecting desired VM file, and clicking Datastore or Disk Type. Use multi-select (Ctrl-click and Shift-click) to select multiple VMs at once.

Virtual Machines

Restore Mode

Host

Resource Pool

Datastore

Folder

Network

Secure Restore

Reason

Summary

Files location:

File	Size	Datastore	Disk type
sql1			
Configurati...	[688.1 GB f...		
Hard disk 1	[688.1 GB f...		Same as source
Hard disk 2	[688.1 GB f...		Same as source
Hard disk 3	[688.1 GB f...		Same as source

Disk Type Settings

Restored VM disk type:

- Same as source
- Thin
- Thick (lazy zeroed)
- Thick (eager zeroed)

OK Cancel

Select multiple VMs to apply changes in bulk.

Datastore... Disk Type...

< Previous Next > Finish Cancel

如何恢复虚拟机?

Entire VM Restore

Folder
By default, original VM folder is selected as restore destination for each VM. You can change folder by selecting desired VM and clicking Folder. Use multi-select (Ctrl-click and Shift-click) to select multiple VMs at once.

Virtual Machines

Restore Mode

Host

Resource Pool

Datastore

Folder

Network

Secure Restore

Reason

Summary

VM Folder:

Name	New Name	Folder
sql1	sql1	vm


Select multiple VMs to apply settings change in bulk.

Restore VM tags
Select this option to restore VM tags that were assigned to the VM when backup was taken.

< Previous Next > Finish Cancel

如何恢复虚拟机？

Entire VM Restore ✕

 **Secure Restore**
Scan the selected backup for malware, such as computer viruses or ransomware, prior to performing the restore. This requires a compatible antivirus installed on the mount server specified for the corresponding backup repository.

Virtual Machines Content scan

Restore Mode Scan the restore point with an antivirus engine
 Scan the restore point with the following YARA rule:

Host

Resource Pool [Copy YARA rules location to clipboard](#)

Datastore If malware is found

Folder Proceed with recovery but disable network adapters
 Abort VM recovery

Network Continue scanning all remaining files after the first occurrence

Secure Restore


Reason

Summary

< Previous **Next >** Finish Cancel

如何恢复虚拟机？

Entire VM Restore ✕

 **Reason**
Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

Virtual Machines

Restore Mode

Host

Resource Pool

Datastore

Folder

Network

Secure Restore

Reason

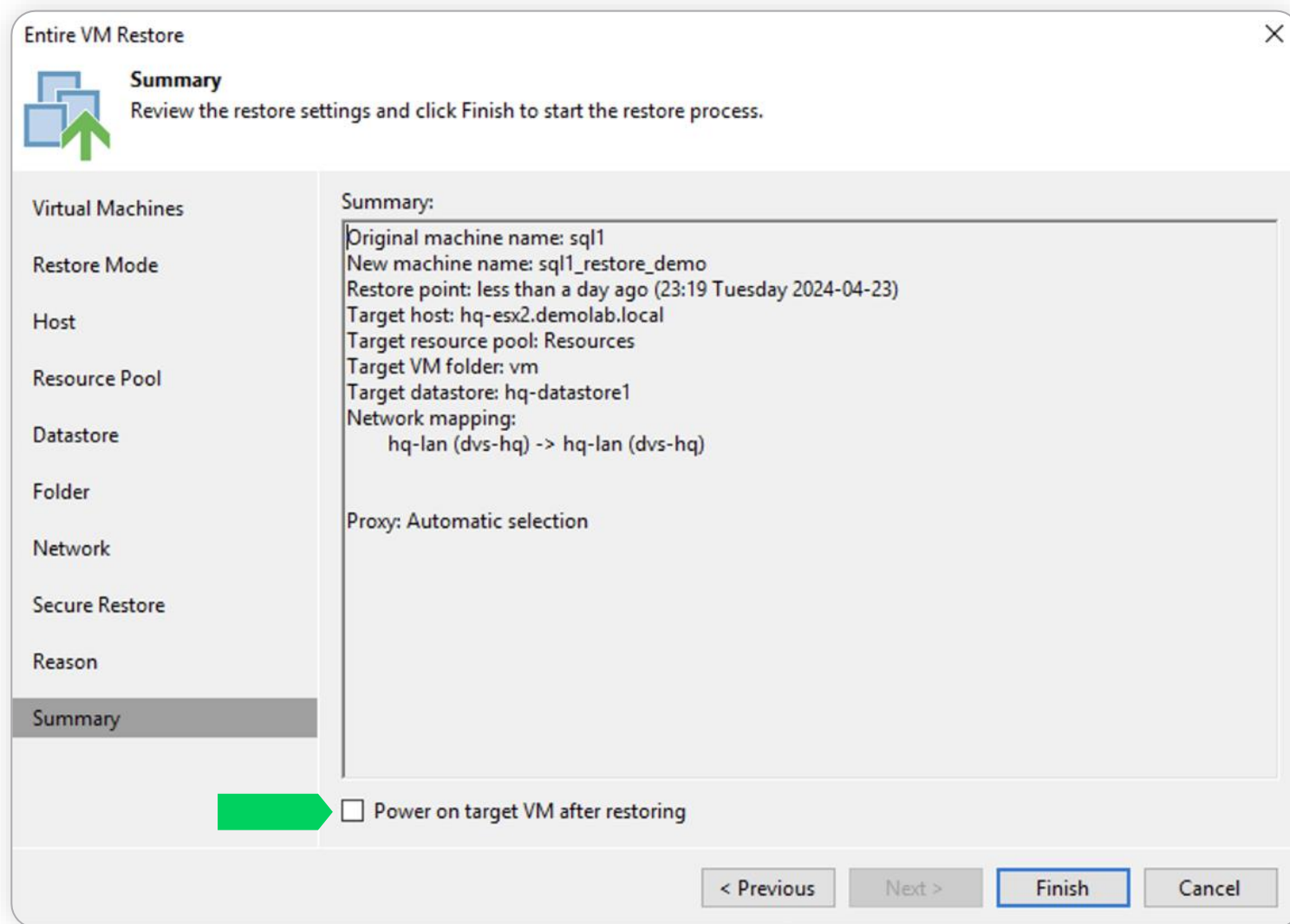
Summary

Restore reason:

Do not show me this page again

< Previous Next > Finish Cancel

如何恢复虚拟机?



安全 Security

最佳实践: Security & Resiliency

安全与合规性分析器 Security & Compliance Analyzer

Veeam Backup & Replication 提供内置工具，确保您的备份服务器在 Microsoft Windows Server 和 Linux 操作系统配置遵循安全最佳实践。

它包括 11 项安全检查和 19 项产品配置检查。

The screenshot displays the Security & Compliance Analyzer window. It features a navigation pane on the left with categories like Home, Jobs, Backups, and Replicas. The main area shows a list of best practices under two sections: 'Backup infrastructure security' and 'Product configuration'. Each item includes a status indicator (green check for passed, red X for not implemented, yellow triangle for unable to detect) and a 'Last Run' timestamp. A table on the right summarizes the status and last run time for each item.

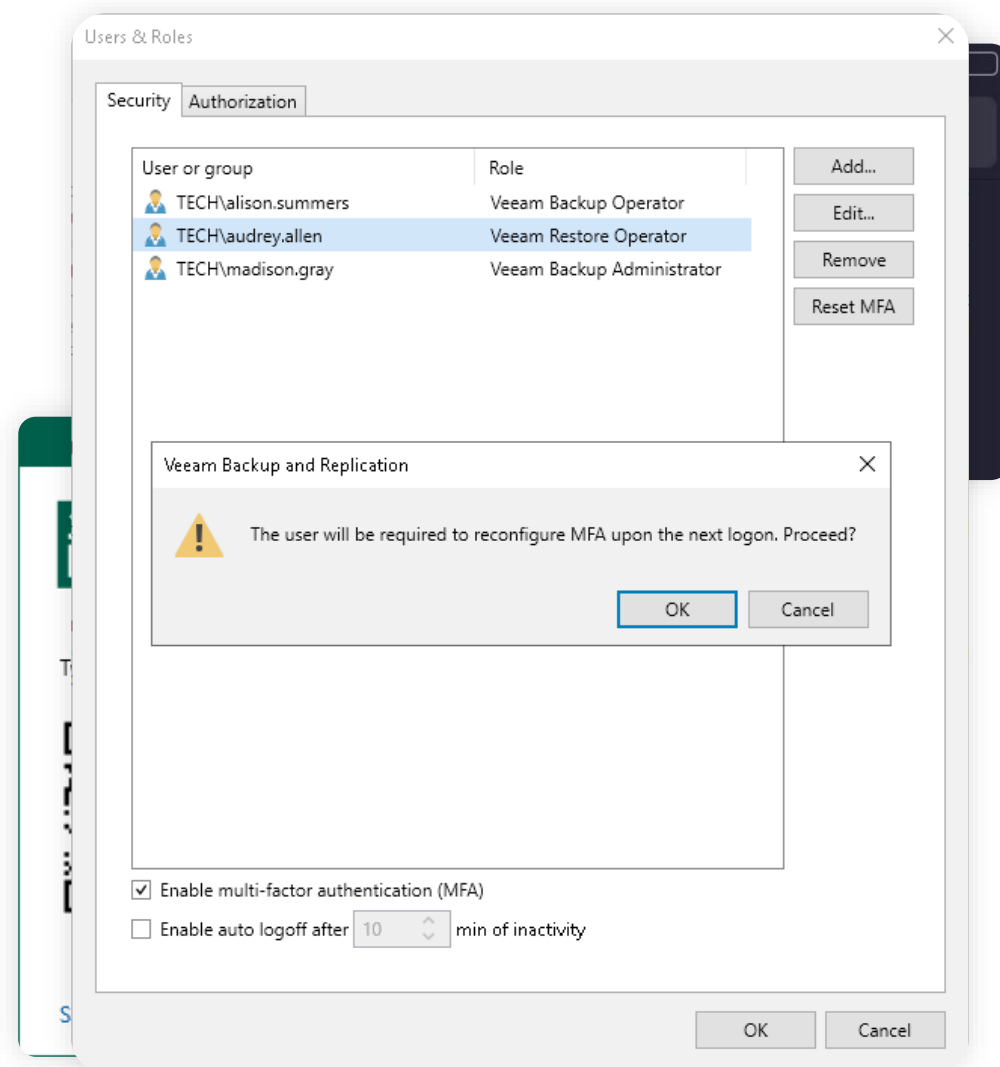
Best Practice	Status	Last Run
Remote Desktop Service (TermService) should be disabled	Not implemented	16 hours ago
Remote Registry service (RemoteRegistry) should be disabled	Not implemented	16 hours ago
Windows Remote Management (WinRM) service should be disabled	Not implemented	16 hours ago
Windows Firewall should be enabled	Passed	16 hours ago
WDigest credentials caching should be disabled	Passed	16 hours ago
Web Proxy Auto-Discovery service (WinHttpAutoProxySvc) should be disabled	Not implemented	21 minutes ago
Deprecated versions of SSL and TLS should be disabled	Not implemented	1 day ago
Windows Script Host should be disabled	Not implemented	1 day ago
SMBv1 protocol should be disabled	Passed	15 hours ago
Link-Local Multicast Name Resolution (LLMNR) should be disabled	Not implemented	16 hours ago
SMBv3 signing and encryption should be enabled	Not implemented	16 hours ago
MFA for the backup console should be enabled	Not implemented	16 hours ago
Immutable or offline (air gapped) media should be used	Not implemented	16 hours ago
Password loss protection should be enabled	Passed	16 hours ago
Backup server should not be a part of the production domain	Unable to detect	16 hours ago
Email notifications should be enabled	Not implemented	16 hours ago
All backups should have at least one copy (the 3-2-1 backup rule)	Not implemented	16 hours ago
Reverse incremental backup mode is deprecated and should be avoided	Passed	16 hours ago
Unknown Linux servers should not be trusted automatically	Not implemented	16 hours ago
The configuration backup must not be stored on the backup server	Not implemented	16 hours ago
Host to proxy traffic encryption should be enabled for the Network transport mode	Passed	16 hours ago
Hardened repositories should not be hosted in virtual machines	Passed	14 hours ago
Network traffic encryption should be enabled in the backup network	Passed	9 hours ago
Linux servers should have password-based authentication disabled	Passed	19 hours ago
Backup services should be running under the LocalSystem account	Passed	18 hours ago
Configuration backup should be enabled and use encryption	Not implemented	2 hours ago
Credentials and encryption passwords should be rotated at least annually	Passed	2 days ago
Hardened repositories should have the SSH Server disabled	Passed	14 hours ago
S3 Object Lock in the Governance mode doesn't provide true immutability	Passed	14 hours ago
Backup jobs to cloud repositories should use encryption	Passed	14 hours ago

最佳实践: Security & Resiliency

多因素身份验证 MFA

Veeam Backup & Replication 在登陆 Veeam 控制台时支持多因素身份验证 (MFA)。

在任何手机身份验证器应用程序生成的一次性密码(OTP) 将用作第二种验证方法。结合用户名和密码登录, 它创造了一个更安全的环境, 并保护用户帐户不被盗用。

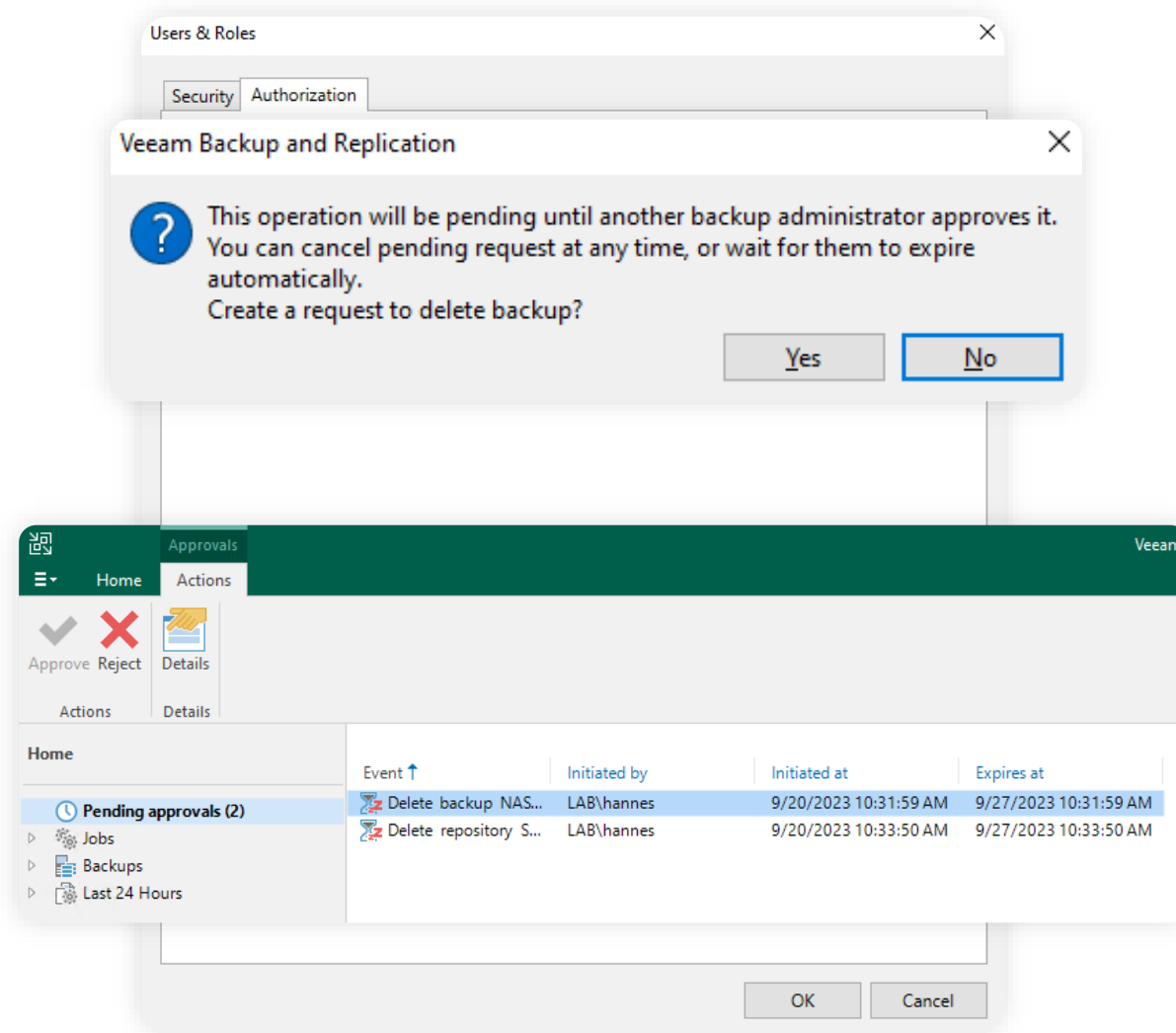


最佳实践: Security & Resiliency

Four-Eyes Authorization 批准

此功能可防止意外或错误地删除备份任务或整个备份存储库，防止使用备份控制台更改用户、角色和其他权限设置。需获得第二位 Veeam 备份管理员的批准，才能应用对这些敏感设置的更改请求。

与 four-eyes authorization 相关的所有事件将显示在“历史记录- Authorization Events”中。



最佳实践: Security & Resiliency

恶意软件检测

Veeam 恶意软件检测专注于检测生产和备份环境中的恶意软件和可疑活动，并发送相关通知。

从 Veeam 版本 12.1 开始，我们甚至可以识别生产环境中的休眠恶意软件。也可以扫描存储库上已存储的备份。



最佳实践: Security & Resiliency

恶意软件检测: 备份扫描 - 按需扫描恶意软件和内容。

利用防病毒软件和/或YARA扫描。

提供三种扫描模式:

- 查找 (第一个) 未感染备份
- 在日期范围内查找干净的备份
- 查找内容(例如, 信用卡号)

扫描活动发生在 **mount server**。

Scan Backup

Performs an ad-hoc scan of you backups with an antivirus or the YARA engine to find the latest malware-free restore point or to detect the presence of specific entries, such as personal information.

Scan mode:

- Find the last clean restore point
Restore points will be scanned sequentially starting from the most recent one until the first malware-free one is found. Use this options when a cyber-attack is known to have started recently.
- Find the last clean restore point in range
Restore points will be scanned in an optimal order to identify the last clean backup in range with least number of scans possible. Use this option if you are not sure when the attack started, or when dealing with a known sleeping malware.
- Scan all restore points in range for content analysis
All restore points in range will be scanned sequentially. Use this option for backup content analysis with an applicable YARA rule, for example to look for personally identifiable information (PII), personal health information (PHI) or payment card industry (PCI) data.

Scan engine:

- Scan restore points with an antivirus
- Scan restore points with the following YARA rule:

YARA rules location: C:\Program Files\Veeam\Backup and Replication\Backup\YaraRules\

Scan range:

From: Most recent restore point Start date:

To: Oldest available restore point End date:

Continue scanning all remaining files after the first occurrence

[Hide scan range](#)

最佳实践: Security & Resiliency

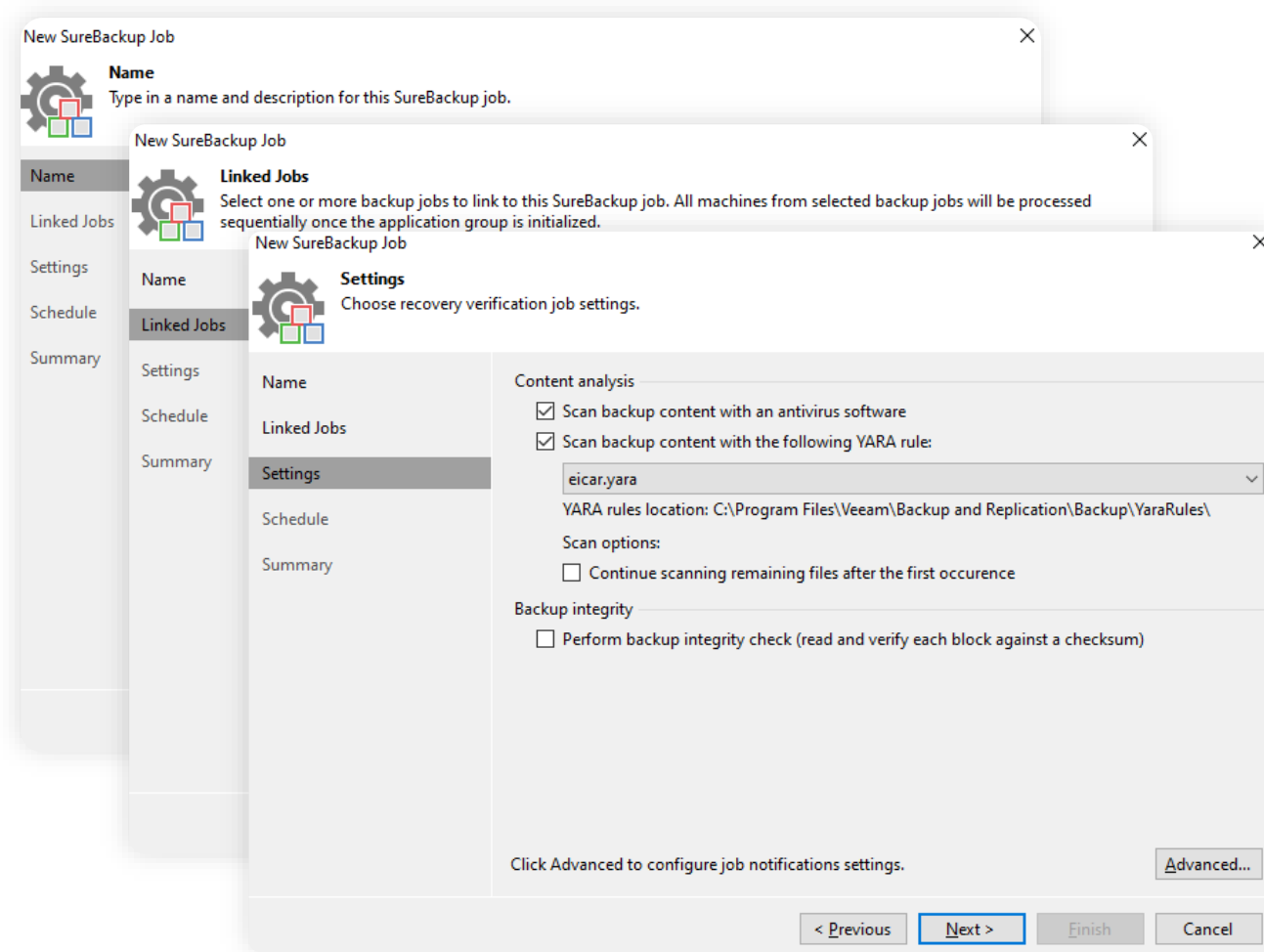
自动恶意软件和内容扫描。

功能在 **SureBackup 任务** 设置。

利用**防病毒软件**和/或**YARA** 扫描。

扫描**整个备份作业** (可利用排除功能)。

扫描活动发生在 **mount server**。

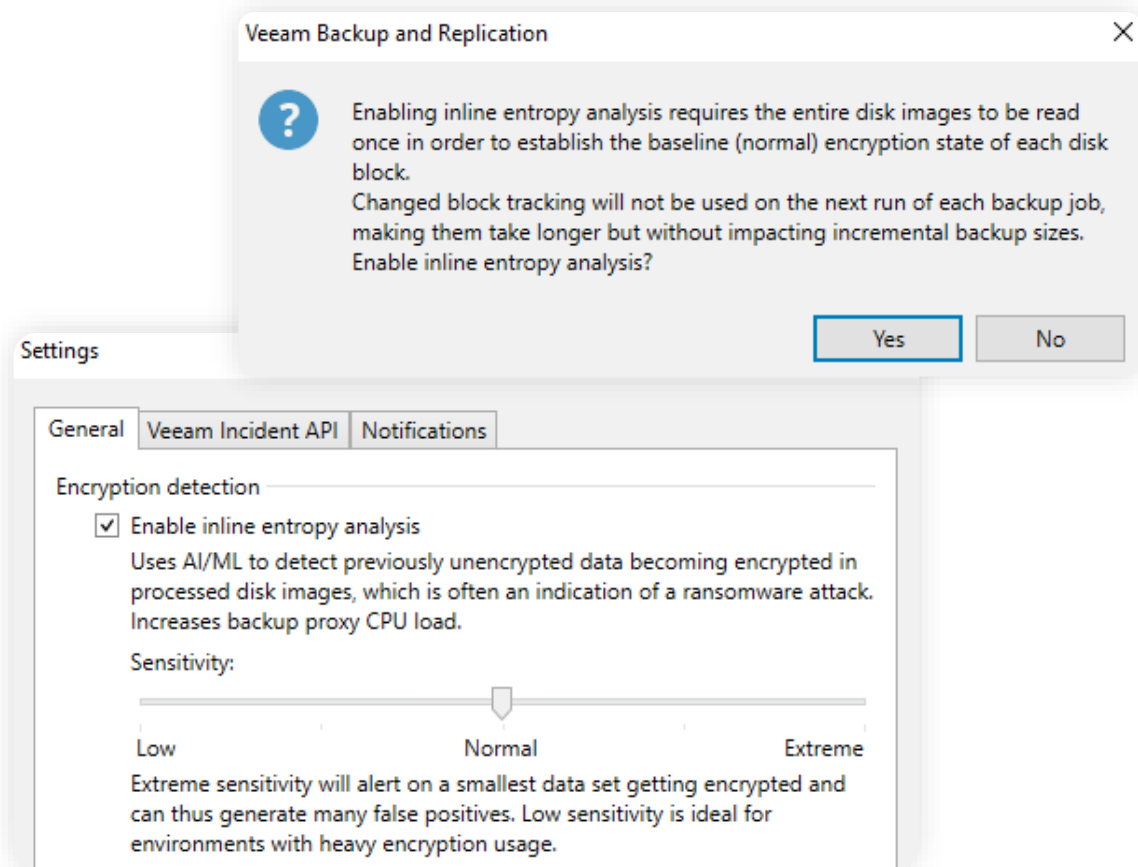


最佳实践: Security & Resiliency

Inline Scan 通过文件加密活动和文字分析(Text Analysis)检测恶意软件。

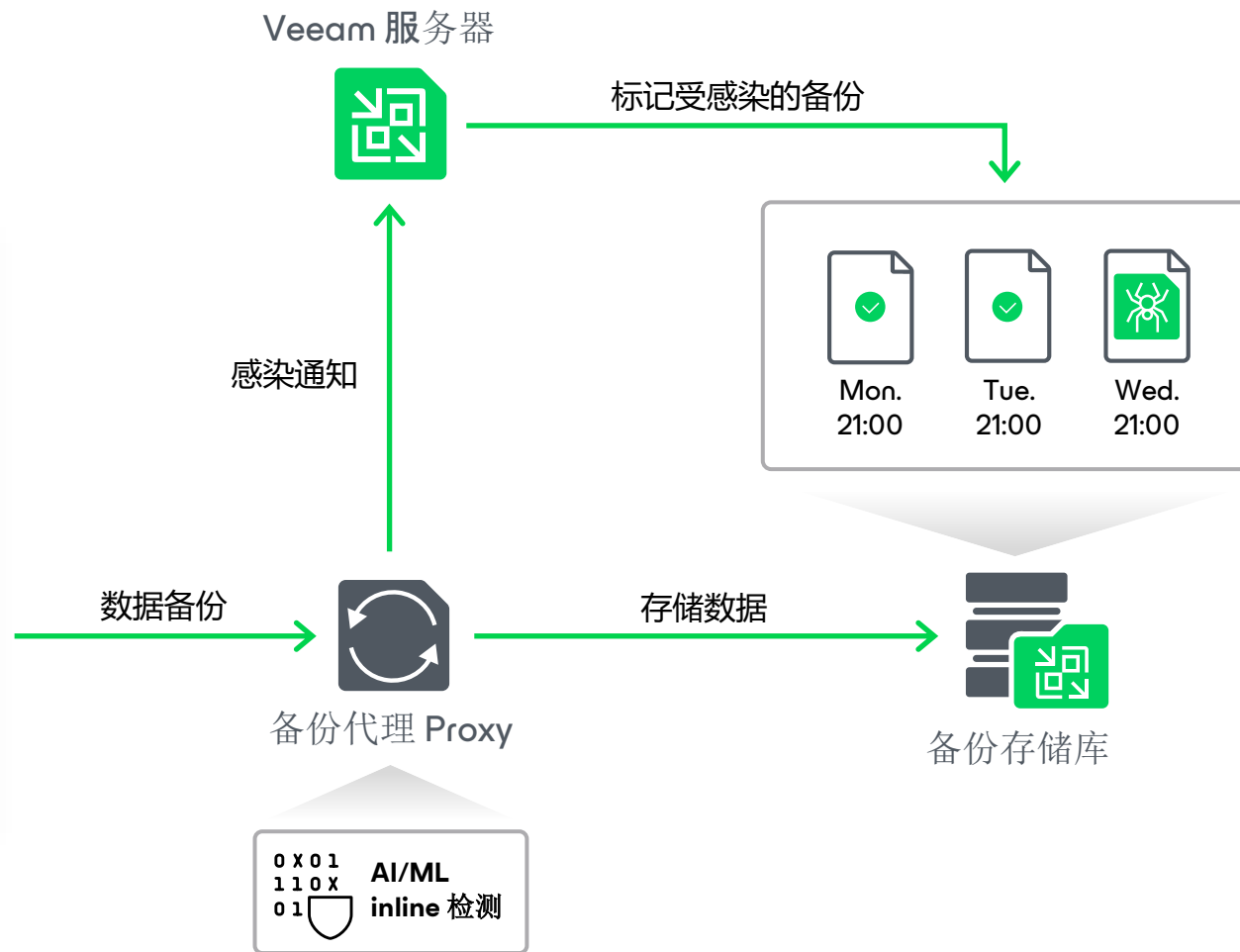
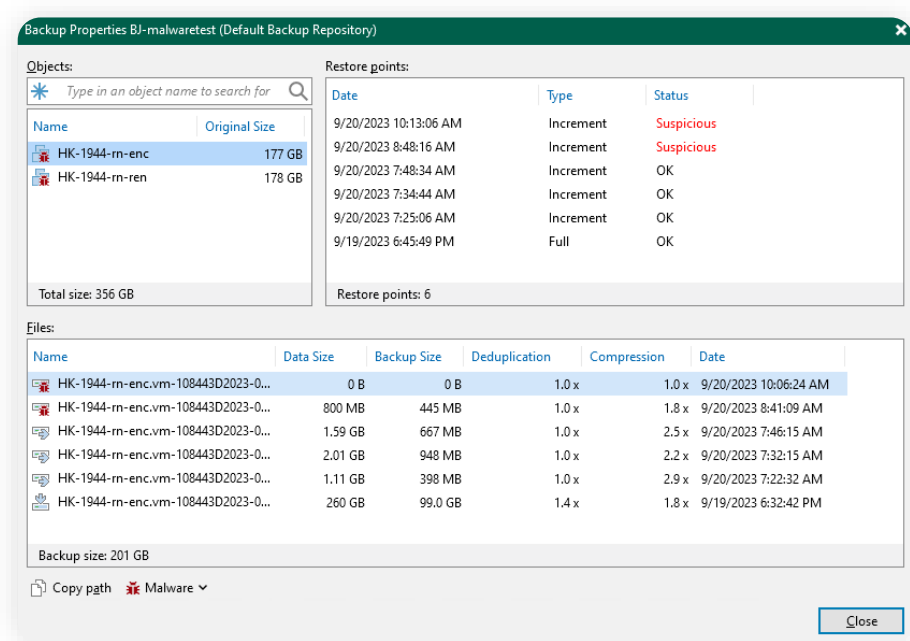
在备份期间分析块级(block-level)数据。

通过人工智能和低影响熵^{Shāng}分析(entropy analysis), Veeam可以检测出被勒索软件加密的数据。Veeam也用同一个方式来检测其他恶意软件或网络攻击如 Onion links。



最佳实践: Security & Resiliency

Inline Scan 恶意软件检测的运行方式。

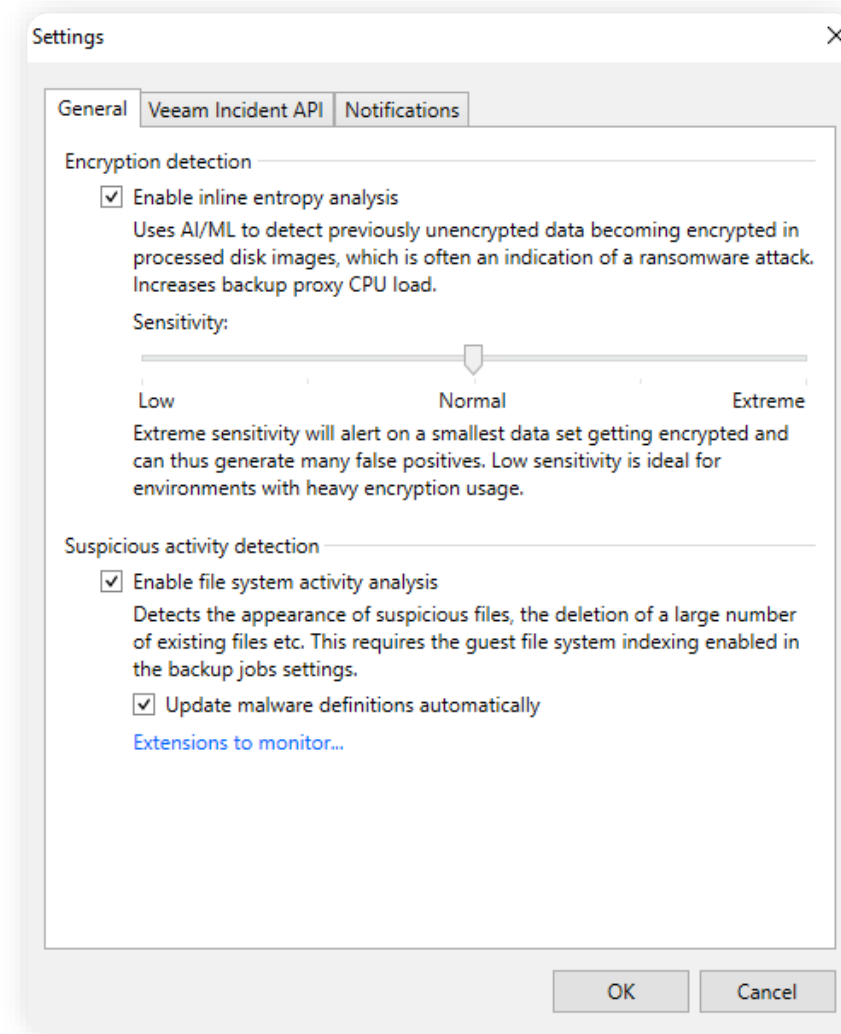


最佳实践: Security & Resiliency

通过Guest Index 检测恶意软件。

也称为可疑系统文件活动监测。因为它能够搜索带有已知恶意软件的文件 (file extensions, ransom notes, 和恶意软件存在的类似标志)。

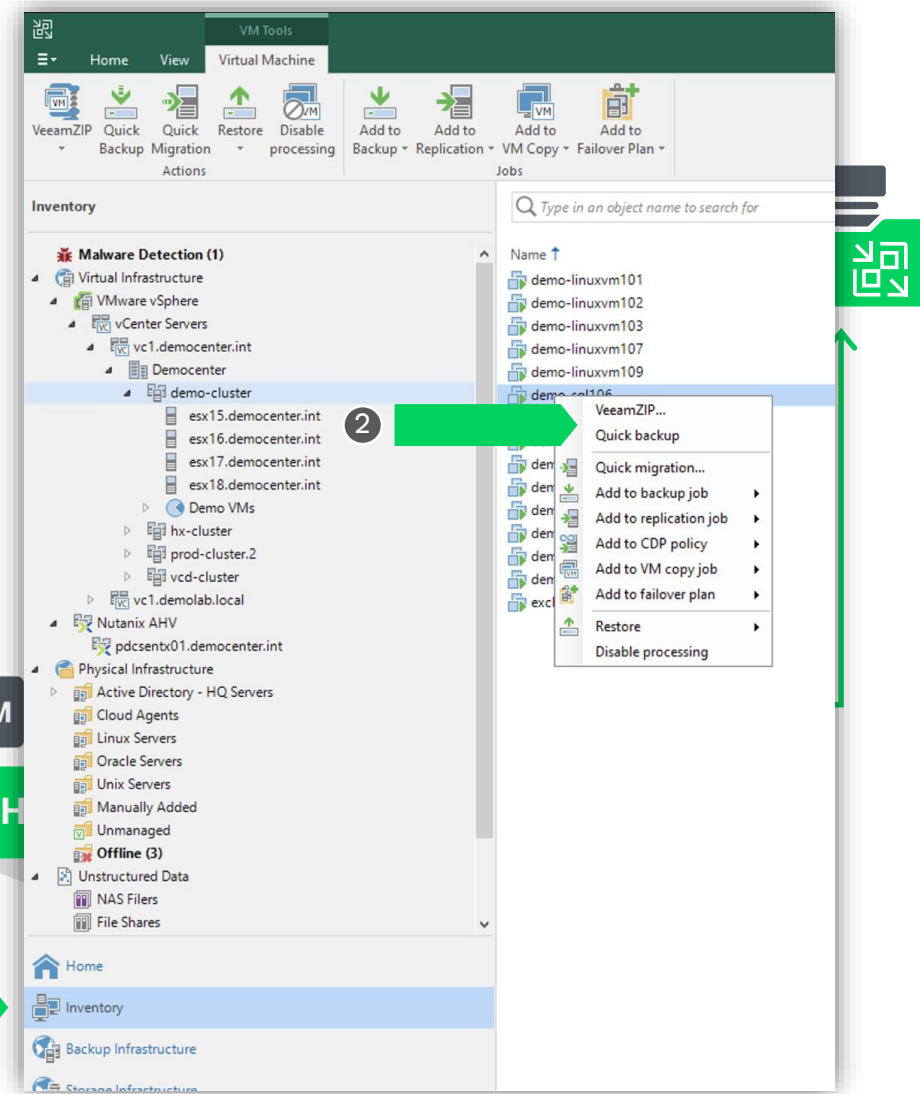
通过guest indexes分析系统文件活动来检测可疑更改。例子: 批量删除或重命名已知文件。



提示和技巧

Tips and tricks

快速备份 Quick Backup & VeeamZIP



Quick Backup 让你无需设置新作业，为虚拟机创建增量备份，向现有备份链添加了一个额外的还原点。适用于增量备份和反向增量备份。前提需要虚拟机之前成功的完整备份。

VeeamZIP 功能类似于完整的虚拟机备份，创建独立全量备份文件 (.vbk)。您可以将此文件存储在不同的位置。注意：VeeamZIP 备份文件显示在“Backups → Disk (Exported)”。

从 **Inventory view** 使用 Quick Backup 和 VeeamZIP。

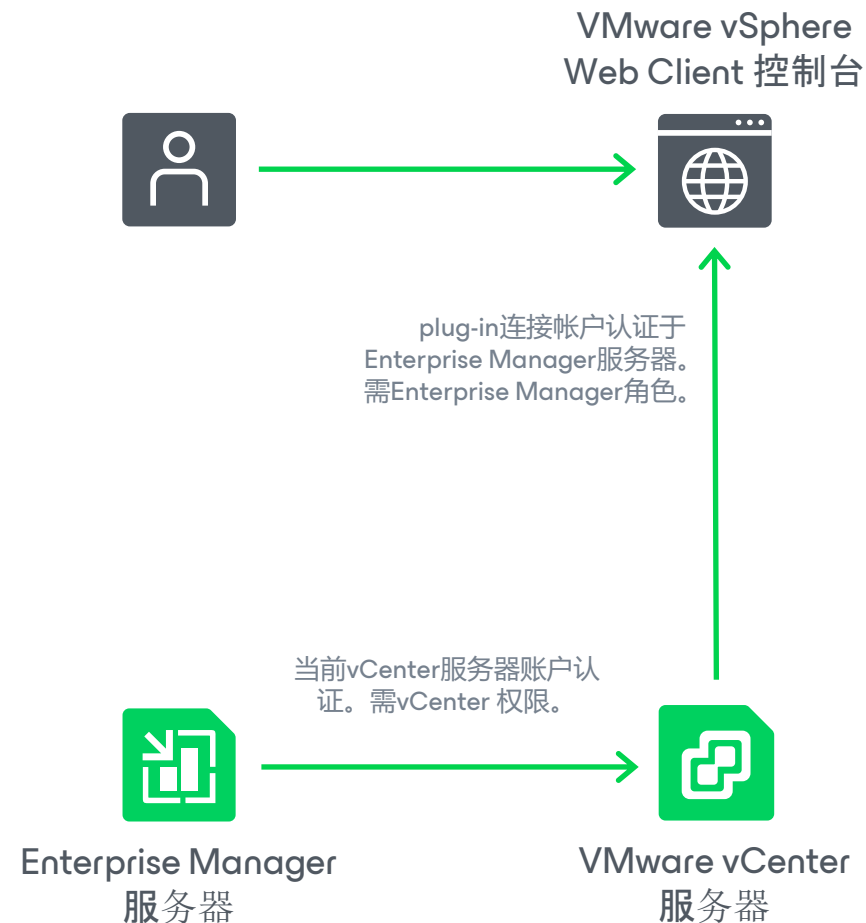
Enterprise Manager + vCenter

Veeam 插件 (Plug-in) for VMware vSphere Client 让 vSphere 管理员也能管理备份任务。从 vSphere Client, vSphere 管理员可以检查备份任务情况和监控存储状况。

vSphere 管理员能找出未备份的虚拟机, 规划容量, 且能使用 VeeamZIP 和快速备份并创建还原点。

配置详情:

- vSphere Client 7.0.0 或前版本 – 插件安装于 vCenter 服务器。
- vSphere Client 7.0.1 或更高版本 – 插件安装于 Veeam Backup Enterprise Manager 服务器。



Enterprise Manager + vCenter

The screenshot shows the Veeam Backup & Replication Summary page within the vSphere Client. The interface includes a top navigation bar with the 'vm vSphere Client' logo, a 'Menu' dropdown, a search bar, and utility icons for refresh, help, and user profile. The main content area is titled 'Veeam Backup & Replication' and features a 'Summary' tab. On the left, a green icon represents the Veeam logo, followed by a list of system components: Backup servers (2), Proxy servers (6), Repository servers (5), Running jobs (0), and Scheduled jobs (13). To the right, a progress bar shows 'Successful VM Backups' at 15 (83%), 'VMs with warnings' at 3 (17%), and 'Failed VMs' at 0 (0%). Below this, the 'VMs Overview' section provides a detailed breakdown of protected VMs (11 total: 10 backed up, 1 replicated) and restore points (14 total). It also lists backup sizes (Full: 68.35 MB, Incremental: 5.41 GB, Replica: 32.00 bytes), source VM size (160.30 GB), and a 100% successful backup sessions ratio. The 'Job Statistics' section shows 0 running jobs, 13 scheduled jobs (10 backups, 3 replicas), and 13 total job runs (9 successful, 3 with warnings, 1 with errors). A maximum job duration of 3 hours 52 minutes is also noted. At the bottom of the summary, there are buttons for 'LAST 24 HOURS' and 'VIEW PROTECTED VMS REPORT...', along with a 'VIEW LATEST BACKUP JOB STATUS REPORT...' link. The bottom navigation bar includes 'Recent Tasks' and 'Alarms'.

vm vSphere Client Menu Search

Veeam Backup & Replication

Summary

Summary Settings

Veeam Backup & Replication

- Backup servers: 2
- Proxy servers: 6
- Repository servers: 5
- Running jobs: 0
- Scheduled jobs: 13

Successful VM Backups 15 (83%)

VMs with warnings 3 (17%)

Failed VMs 0 (0%)

VMs Overview

Protected VMs:	11
Backed Up	10
Replicated	1
Restore points:	14
Full backup size	68.35 MB
Incremental backup size	5.41 GB
Replica restore points size	32.00 bytes
Source VMs size	160.30 GB
Successful backup sessions ratio	100%

LAST 24 HOURS VIEW PROTECTED VMS REPORT...

Job Statistics

Running jobs:	0
Scheduled jobs:	13
Backup	10
Replica	3
Total jobs runs:	13
Successful jobs	9
Jobs with warnings	3
Jobs with errors	1
Max job duration:	3 hours 52 mins

LAST 24 HOURS VIEW LATEST BACKUP JOB STATUS REPORT...

Recent Tasks Alarms

复制和移动备份

Veeam Backup & Replication 具有把备份迁移到另一个储存库，或者把备份对象迁移到另一个备份作业的功能。

用例:

备份迁移到另一个储存库

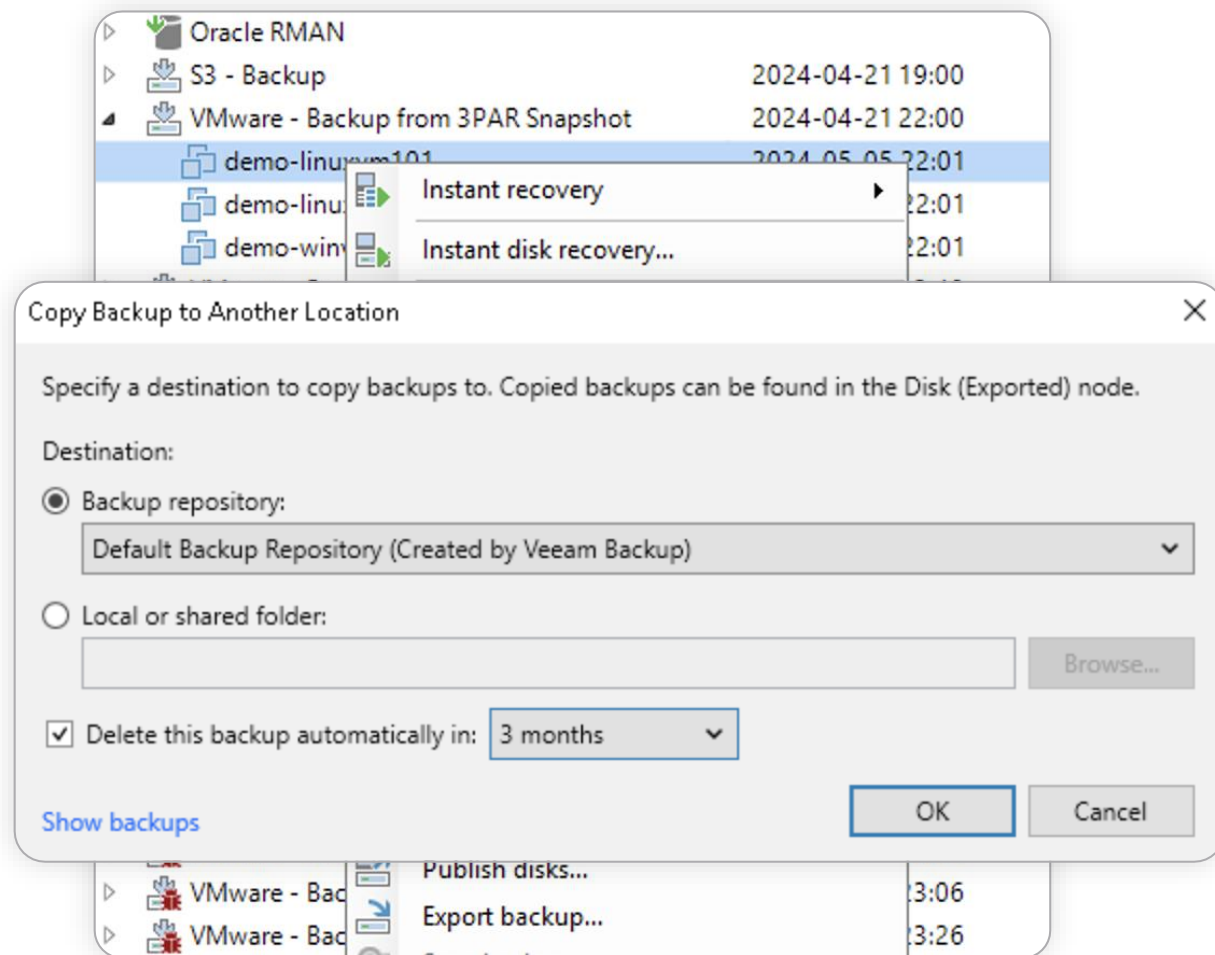
备份复制到另一个储存库

从ReFS迁移到XFS（加固储存库）

从NTFS迁移到ReFS

重新平衡外扩储存库(SOBR)

外扩储存库(SOBR) extent evacuation



快到尾声了...

Veeam 动手实践实验室


 Intelligent offsite backups with Veeam Data Platform

 Embrace DevOps with Extensibility and

 Ransomware Defense with Immutable Veeam

 Test drive Veeam Backup and Replication V12

 Getting Started With Veeam-Powered Managed

 Test Drive Veeam Recovery Scenarios

 Machine Learning, Terraform, Microsoft Teams BOT & Ransomware clean room with Veeam API

Learn how to achieve advanced capabilities with the Veeam REST API. Topics covered include how to address the malware challenge with Veeam clean room, leveraging Machine Learning for backup data analysis, and how to meet DevOps challenges with integrating Terraform with Veeam, amongst other topics.

Product: Veeam Backup and Replication
Use Cases: Data Recovery, Data Security, Data Mobility
Technical Level: Advanced


REQUEST LAB

 Avoid platform lock-in with Veeam Flexible data recovery

Learn how to achieve data recovery and data mobility flexibilities with Veeam Data Platform. Topics include Microsoft Active Directory backups and Recovery with Veeam, recover data from on-premises to AWS, instant recovery from VMware vSphere to Microsoft Hyper-V, Secure Restore for Anti Virus and Malware scans and NAS data recovery, amongst other topics.

Product: Veeam Backup and Replication
Use Cases: Data Mobility, Data Flexibility
Technical Level: Intermediate

REQUEST LAB

 AI Powered Ransomware Threat Management with Veeam Data Platform

Learn about Artificial Intelligence powered Ransomware threat management capabilities now available with Veeam Data Platform (12.1 update). Key topics include AI powered inline malware detection, YARA rules support for malware detection, automated malware detection with YARA rules & Anti-virus software and immutable data backups to combat Ransomware challenge.

Product: Veeam Backup and Replication
Use Cases: Data Security
Technical Level: Intermediate

REQUEST LAB



<https://go.veeam.com/hands-on-lab-experience#renewal>

分享您的 Veeam 成功故事

- 在我们的网站和社交渠道上展示
- 在 VeeamON 活动发表演讲的机会
- 在社区中展示您的专业知识
- 为您的成就获得荣誉

感兴趣吗？联系我们

advocacy@veeam.com

Matt Elsberry
Lead Network Administrator, SGM Health



The Veeam logo is centered on a green background. It consists of the word "veeam" in a white, lowercase, sans-serif font. The text is contained within a white-outlined rectangular box with rounded corners and a notch on the right side. Behind the box, there are two large, semi-transparent, light-green shapes that resemble stylized arrows or chevrons pointing towards each other.

veeam

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