

Flexible Engine

Veeam Backup & Replication Server deployment guide

Objectives

The document has for purpose to

- **describe** the requirements to setup Veeam Backup & Replication Server on Flexible Engine
- **explain** how to deploy the product on Flexible Engine

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1. Introduction

Veeam Backup & Replication Server provides an enterprise backup solution for all your cloud, virtual and physical workloads by providing backup using hypervisor level snapshot ([VMware vsphere](#), [Microsoft Hyper-V](#), [Nutanix AHV](#)), storage snapshot integration or by protecting the physical servers/VMs/Cloud workloads using [Veeam Agent for Linux](#) & [Veeam Agent for Windows](#) so that your data is always protected and accessible.



This guide is intended to provide best practices for deployment of a software-defined data protection solution, Veeam Backup & Replication can be flexibly deployed at any scale in Flexible Engine environment. It is not meant as a full documentation or detailed explanation of features. Please refer to [Veeam documentation](#) for complete and up to date information.

1.1. Licensing & Purchasing

Veeam Software offers the following types of licenses for Veeam Backup & Replication:

Paid Licenses

- **Subscription license** — license that expires at the end of the subscription term. The Subscription license term is normally 1-3 years from the date of license issue.
- **Perpetual license** — permanent license. The support and maintenance period included with the license is specified in months or years. Typically, one year of basic support and maintenance is included with the Perpetual license.
- **Rental license** — license with the license expiration date set according to the chosen rental program (normally 1-12 months from the date of license issue). The Rental license can be automatically updated upon expiration.

Rental licenses are provided to Veeam Cloud & Service Providers (VCSPs) only. For more information, see the [Rental License](#) section in the Veeam Cloud Connect Guide.

This Veeam Backup & Replication (VBR) image for Flexible Engine is provided on BYOL basis. To purchase the license through OCB please use the “[Contact Us](#)” button. Please refer to the [Veeam website](#) for guidance about license sizing for your number of ECS to protect.

You will be requested to enter the Veeam license file during the configuration.

The consumption of Flexible Engine resources including ECS for VBR & storage used as a backup repository is purchased at standard pricing.

2. VBR image deployment on Flexible Engine

2.1. Pre-requisites

2.1.1. Veeam Backup & Replication Server Requirements

Before deploying a Veeam Backup & Replication Server on Flexible Engine, you must define compute requirements for VBR Server corresponding to your needs.

➤ **Compute Requirements**

Recommended Veeam backup server configuration is 1 vCPU and 4 GB RAM per 10 concurrently running jobs. Concurrent jobs include any running backup or replication jobs as well as any job with a continuous schedule such as backup copy jobs.

The minimum recommendation is 2 vCPU and 4 GB RAM.

➤ **Disk space**

Installation folder

Plan for a minimum of 40 GB. If installing in a virtual machine, thin disks may be used. By default the installer will choose the drive with most available free space for the pre-configured Default Backup Repository.

Log files

Log file growth will depend on the number and frequency of jobs and the number of instances being protected. Consider that the logging level may also affect the log size.

Plan for 3 GB log files generated per 100 protected instances, with a 24 hour RPO. For environments with more than 500 protected instances it is recommended to change the default location to a different fast access disk. Many concurrently running jobs may produce a lot of write streams to log files, that can slow down operations for the Veeam Backup Service and Backup Manager processes.

➤ **Veeam Backup Catalog folder**

This folder is used if guest indexing in backup jobs is enabled.

Plan for 10 GB per 100 ECS for guest file system catalog folder (persistent data).

➤ **Veeam Backup & Replication Database**

Veeam Backup & Replication stores all information about backup infrastructure, jobs settings, job history, sessions and other configuration data in a Microsoft SQL Server database. When planning the Veeam Backup & Replication deployment you must choose the placement of the

configuration database. It may be either a local or remote SQL Server with several licensing options available. Microsoft SQL Server 2016 Express Edition is included in the Veeam Backup & Replication setup which is a convenient option for most smaller deployments :

- Each instance uses only up to 1 GB of RAM
- Each instance uses only up to 4 cores of the first CPU
- Database size cannot exceed 10 GB

It is recommended to install Standard or Enterprise Edition if any of the following apply:

- When protecting more than 500 VMs.
- When unable to configure an external staging server.
- When databases are using advanced features of Microsoft SQL Server.
- When using Files to Tape jobs extensively.

Please follow these guidelines* for SQL Server :

| Number of concurrently running jobs | CPU | RAM |
|-------------------------------------|-----|-------|
| Up to 25 | 2 | 4 GB |
| Up to 50 | 4 | 8 GB |
| Up to 100 | 8 | 16 GB |

*Please refer to [Veeam](#) Documentation for complete and up to date information.

2.1.2. Backup Repositories

A backup repository is a storage location where Veeam keeps backup files, Agent based backups, VM copies and metadata for replicated VMs.

To configure a backup repository, you can use the following storage types however all repository types are not configurable in Public cloud environment:

2.1.2.1. Direct attached storage

You can add virtual and physical servers as backup repositories:

- [Microsoft Windows server](#)

You can use a Microsoft Windows server with local or directly attached storage as a backup repository. The storage can be a local disk, directly attached disk-based storage (such as a USB hard drive), or iSCSI/FC SAN LUN in case the server is connected into the SAN fabric.

- [Linux server](#)

You can add Linux server with local, directly attached storage or mounted NFS as a backup repository. The storage can be a local disk, directly attached disk-based storage (such as a

USB hard drive), NFS share, or iSCSI/FC SAN LUN in case the server is connected into the SAN fabric.

2.1.2.2. Network attached storage

You can add the following network shares as backup repositories:

- [CIFS \(SMB\) share](#)
- [NFS share](#)

2.1.2.3. Deduplicating storage appliances

You can add the following deduplicating storage appliances as backup repositories:

- [Dell EMC Data Domain](#)
- [ExaGrid](#)
- [HPE StoreOnce](#)
- [Quantum DXi](#)

2.1.2.4. Object storage

You can use cloud storage services as backup repositories. Object storage repositories can be used in the following ways:

In [Scale-Out Backup Repository](#) as a part of [Capacity Tier](#). Capacity tier of scale-out backup repository allows to offload existing backup data directly to cloud-based object storage by using on-premises S3 Compatible devices like Flexible Engine. For more information, see [Capacity Tier](#).

For details, see [Object Storage Repository](#).

2.1.3. Considerations & Limitations*

Please refer to [Veeam](#) Documentation for complete and up to date information.

2.1.3.1. Infrastructure

For infrastructure components like ECS, EVS Volume, Network etc. the Flexible Engine limitations apply.

2.1.3.2. Object Storage Repositories

- Make sure to open required ports to communicate with object storage repositories in advance, as described in [Used Ports](#).
- Make sure the S3 Compatible device you are adding supports AWS v4 signature. For more information about authentication requests, see [this Amazon article](#).
- Data in object storage bucket/container must be managed solely by Veeam Backup & Replication, including retention and data management. Enabling lifecycle rules is not supported, and may result in backup and restore failures.
- If a backup chain contains backup files that are marked as corrupted by [Health Check](#), then such corrupted files, as well as all subsequent files that go after the corrupted one are never [offloaded](#). In

such a scenario, offload is only possible starting from the full backup file that succeeds the backup chain with corrupted backups.

- Different object storage repositories mapped to the same cloud folder can be used for storing both the [Capacity Tier](#) backups and the [NAS](#) backups.

Important!

The same object storage repository (mapped to the same cloud folder) must not be used across multiple Veeam Backup & Replication servers for the same purposes as it leads to unpredictable system behavior and inevitable data loss.

For the same reason, two object storage repositories mapped to the same cloud folder must not be added to different scale-out backup repositories within one Veeam Backup & Replication server.

2.1.3.3. Backup

Since on Public cloud you don't have access to hypervisor so to backup workloads like ECS, you need deploy [Veeam agent for Linux](#) & [Veeam Agent for Windows](#).

2.1.4. Compute Requirements

2.1.4.1. VBR Server Recommendation

| Specification | Requirement |
|---------------|--|
| Hardware | <p><i>CPU:</i> x86-64 processor (4 cores recommended).</p> <p><i>Memory:</i> 4 GB RAM plus 500 MB RAM for each concurrent job. Memory consumption varies according to number of VMs in the job, size of VM metadata, size of production infrastructure, etc.</p> <p><i>Disk Space:</i> 5 GB¹ for product installation and 4.5 GB for Microsoft .NET Framework 4.7.2 installation. 10 GB per 100 VM for guest file system catalog folder (persistent data).</p> <p><i>Network:</i> 1 Gbps or faster for on-site backup and replication, and 1 Mbps or faster for offsite backup and replication. High latency and reasonably unstable WAN links are supported.</p> <p>¹ Here and throughout this document GB is considered as 2³⁰ bytes, TB as 2⁴⁰ bytes.</p> |
| OS | <p>Only 64-bit version of the following operating systems are supported:</p> <ul style="list-style-type: none">• Microsoft Windows Server 2019• Microsoft Windows Server 2016• Microsoft Windows Server 2012 R2• Microsoft Windows Server 2012• Microsoft Windows Server 2008 R2 SP1 |
| Software | <p>During setup, the system configuration check is performed to determine if all prerequisite software is available on the machine where you plan to install Veeam Backup & Replication. If some of the required software components are missing, the setup wizard will offer you to install missing software automatically. This refers to:</p> <ul style="list-style-type: none">• Microsoft .NET Framework 4.7.2 |

- Microsoft Windows Installer 4.5
- Microsoft SQL Server Management Objects
- Microsoft SQL Server System CLR Types
- Microsoft Report Viewer Redistributable 2015
- Microsoft Universal C Runtime

The following software must be installed manually:

- Microsoft PowerShell 2.0.
- Firefox, Google Chrome, Microsoft Edge, or Microsoft Internet Explorer 10.0 or later.
- RDP client version 7.0 or later installed on the backup server (required to open the VM console during SureBackup recovery verification of Microsoft Hyper-V VMs). The RDP client is pre-installed on Microsoft Windows 7/Windows Server 2008 R2 OS or later. You can download the RDP client from [this Microsoft KB article](#).

[Optional] To add SCVMM servers to Veeam Backup & Replication infrastructure, the following software is required:

- Microsoft System Center Virtual Machine Manager 2019
- Microsoft System Center Virtual Machine Manager 1807
- Microsoft System Center Virtual Machine Manager 1801
- System Center 2016 Virtual Machine Manager Admin UI (for connecting SCVMM 2016 servers)
- System Center 2012 R2 Virtual Machine Manager Admin UI (for connecting SCVMM 2012 R2 servers)
- System Center 2012 Virtual Machine Manager Admin UI (for connecting SCVMM 2012 servers)

The version of SCVMM Admin UI installed on the backup server must match the SCVMM server version. Make sure that versions of updates also match.

If you plan to install Veeam Backup & Replication in the unattended mode using the command line interface, manually install all prerequisite software before that. For more information, see [Installing Veeam Backup & Replication in Unattended Mode](#).

SQL Database

Local or remote installation of the following versions of Microsoft SQL Server:

- Microsoft SQL Server 2019
- Microsoft SQL Server 2017
- Microsoft SQL Server 2016 (Microsoft SQL Server 2016 SP2 Express Edition is included in the setup)¹
- Microsoft SQL Server 2014
- Microsoft SQL Server 2012 (Microsoft SQL Server 2012 SP4 Express Edition is included in the setup)²
- Microsoft SQL Server 2008 R2
- Microsoft SQL Server 2008

All editions of Microsoft SQL Server are supported. The usage of Microsoft SQL Server Express Edition is **limited by the database size up to 10 GB**. If you plan to have larger databases, use other editions of Microsoft SQL Server.

Veeam Backup & Replication and Veeam Backup Enterprise Manager configuration databases can be deployed in Microsoft SQL AlwaysOn Availability Groups. For more information, see [this Veeam KB article](#).

¹ For machines running Microsoft Windows Server 2012 or later.

* Please refer to [Veeam Documentation](#) for complete and up to date information.

2.1.5. Backup Repository Sizing

The sizing for the disk repositories differs based on the stored data & its retention (how long you want to keep the data). The [sizing calculator](#) can help you size the repository correctly.

← → ↻ ⓘ Not secure | rps.dewin.me

The Restore Point Simulator

Current version : 0.4.1
Feedback via @tdewin or on [GitHub](#)
RPS heavily relies on some opensource [javascript frameworks](#)

Quick Presets

Incremental Weekly Active Full ▼

Configuration

| | | |
|---|--------------------------------------|---------|
| Style | Incremental ▼ | |
| Used Size GB | 1000 | ✓ |
| Retention Points | 14 | ✓ |
| Change Rate | 10% Conservative ▼ | ✓ |
| Data left after reduction | 50% (100GB > 50GB) 2x Conservative ▼ | ✓ |
| Interval | Daily ▼ | |
| Time Growth Simulation <input type="checkbox"/> | 1 Year ▼ | 10% ▼ ✓ |
| ReFS / XFS <input type="checkbox"/> | | |

Incremental Specific

Synthetic ☐ MO ☐ TU ☐ WE ☐ TH ☐ FR ☐ SA ☐ SU

Active Full Weekly ☐ MO ☐ TU ☐ WE ☐ TH ☐ FR ☒ SA ☐ SU

Active Full Monthly ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

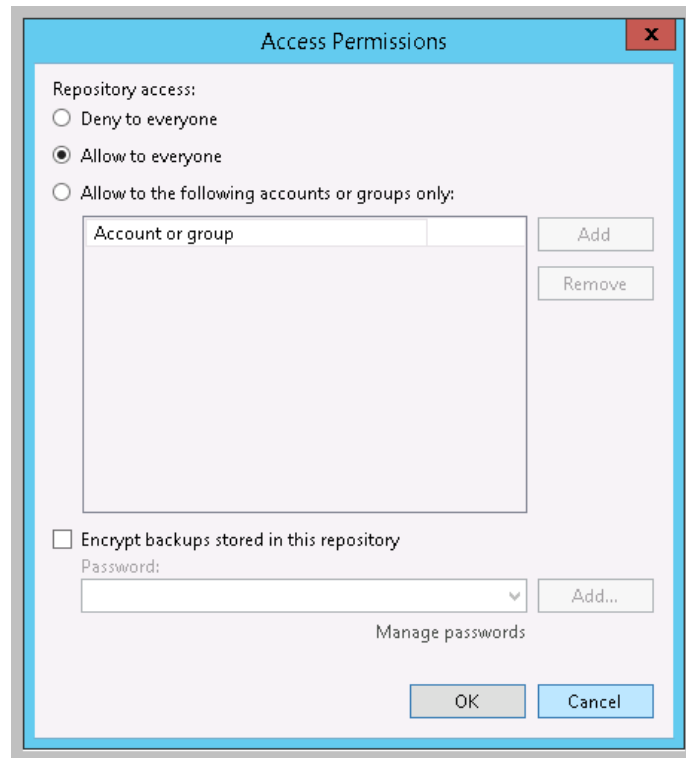
2.1.6. Permissions on Backup Repository

To be able to store backups on a backup repository managed by a Veeam backup server, the user must have access permissions on this backup repository.

Access permissions are granted to security principals such as users and AD groups by the backup administrator working with Veeam Backup & Replication. Users with granted access permissions can target Veeam Agent backup jobs at this backup repository and perform restore from backups located on this backup repository.


If the Veeam Backup Jobs are created from Veeam Backup & Replication Server instead of Agent then you do not need to grant access permissions on the backup repository to users.

After you create a new backup repository, access permissions on this repository are set to Deny to everyone. To allow users to store backups on the backup repository, you must grant users with access permissions to this repository.



2.2. VBR ECS creation

Select the Veeam Backup & Replication Server image using Elastic Cloud Server console as follows :

1. Log in to your Flexible Engine account
2. Select the Elastic Cloud Server in Computing services
3. Then click Create ECS 
4. Select any flavor starting with minimum 2vCPU and 4GB RAM

Specifications vCPUs Memory Flavor Name

General-purpose Computing II Dedicated general-purpose Memory-optimized Disk-intensive GPU-accelerated ?

| Flavor Name | vCPUs Memory | Assured / Maximum Bandwidth ? | Packets Per Second (PPS) ? |
|---|-----------------|-------------------------------|----------------------------|
| <input type="radio"/> s3.small.1 | 1 vCPUs 1 GB | 0.1/0.5 Gbit/s | 50,000 |
| <input type="radio"/> s3.medium.2 | 1 vCPUs 2 GB | 0.1/0.5 Gbit/s | 50,000 |
| <input type="radio"/> s3.medium.4 | 1 vCPUs 4 GB | 0.1/0.5 Gbit/s | 50,000 |
| <input checked="" type="radio"/> s3.large.2 | 2 vCPUs 4 GB | 0.2/0.8 Gbit/s | 100,000 |
| <input type="radio"/> s3.large.4 | 2 vCPUs 8 GB | 0.2/0.8 Gbit/s | 100,000 |
| <input type="radio"/> s3.xlarge.2 | 4 vCPUs 8 GB | 0.4/1.5 Gbit/s | 150,000 |
| <input type="radio"/> s3.xlarge.4 | 4 vCPUs 16 GB | 0.4/1.5 Gbit/s | 150,000 |
| <input type="radio"/> s3.2xlarge.2 | 8 vCPUs 16 GB | 0.8/3 Gbit/s | 200,000 |

Quantity

Next: Configure Network

- To select the image, click on Public Image and filter through Other field to choose Veeam Backup & Replication Server

Image **Public image** Private image Shared image

Other --Select OS version-- ☐ External providers only

System Disk

Add Data Disk You can attach 23

OpenVPN 2.4.8(40GB)
OpenVPN 2.7.5(40GB)
pfSense 2.4.5(30GB)
strongSwan 5.6.2(40GB)
Summit Superb DBA 1.2(67GB)
Veeam VBR 10(70GB)
VMware SD-WAN by VeloCloud 4.0.0(40GB)

Select required VPC based on tenants to backup & Security Group for inbound/outbound rules :

< | Elastic Cloud Server

① Configure Basic Settings ② **Configure Network** ③ Configure Advanced Settings ④ Confirm

Network

65516 available private IP addresses ?

Create VPC.

Extension NIC Add NIC You can add 11 more NICs.

Security Group Create Security Group ?

Ensure that the selected security group allows access to port 22 (SSH-based Linux login), 3389 (Windows login), and ICMP (ping operation). [Configure Security Group Rules](#)

[Security Group Rules](#) ^

Quantity

Next: Configure Advanced Settings

Provide ECS name as desired and choose key pair to generate secure password for login :

< | Elastic Cloud Server

① Configure Basic Settings — ② Configure Network — ③ Configure Advanced Settings — ④ Confirm

ECS Name:

If multiple ECSs are created at the same time, the system automatically adds a hyphen followed by a four-digit incremental number to the end of each ECS name. For example, if you enter ecs and there is no existing ECS in the system, the first ECS's name will be ecs-0001. If an ECS with the name ecs-0010 already exists, the name of the first new ECS will be ecs-0011.

Login Mode: Key pair

To click Remote Login to log in to a Linux ECS in key pair login mode, you must set a login password after the ECS is created. [Learn how](#) to set the password.

The private key will be required for logging in to the ECS and for reinstalling or changing the OS. Keep it secure.

Key Pair: KeyPair-b824 Create Key Pair ?

☐ I acknowledge that I have obtained private key file KeyPair-b824.pem and that without this file I will not be able to log in to my ECS.

After a Linux ECS is created, use this key pair to log in to the ECS. After a Windows ECS is created, locate the row that contains the ECS in the ECS list, click Get Password in the Operation column, and use this key pair to obtain the Windows ECS login password. [Learn how](#) to obtain the Windows ECS login password.

And you are done :

| Name/ID | AZ | Status | Specifications/Image | IP Address | Operation |
|--|------------|------------------------|---|----------------------------|------------------------------|
| vbreecs10 8291f9cf-4a5e-4097-b99... | eu-west-0c | → Running | 2 vCPUs 4 GB s3.large.2 Veeam VBR 10 | 172.16.80.205 (Private IP) | Remote Login |



Once you login, you will see an icon for VBR (Veeam Backup & Replication) console on the desktop to launch Veeam. Just click on connect to use Windows session authentication :

Veeam Backup & Replication 10

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

☒ Use Windows session authentication

[Save shortcut](#)
[Connect](#)
[Close](#)

2.3. VBR initial configuration

Initially the VBR server will be deployed with a Default Repository as below on C:\Backups, it is always recommended to use a separate Drive other than system drive to create the backup repository. You can achieve this by attaching another Disk (EVS) to your ECS :

Refer to [section 2.1.2](#) for type of Repositories:

The screenshot shows the AWS Management Console for an ECS instance named 'vbrecs10'. The instance is running in the eu-west-0c AZ. The 'Disks' tab is selected, showing a single system disk 'vbrecs10' of 70GB. An 'Attach Disk' button is highlighted with an orange box.

Click on Create Disk in case of a new EVS volume or click on View Disk to attach an existing EVS volume.

Attach Disk

The screenshot shows the 'Attach Disk' dialog box in the AWS Management Console. It displays the ECS Name 'vbrecs10' and the Disk type 'EVS'. The 'Select Disk' section is empty, showing 'No data available.' The 'View Disk' and 'Create Disk' buttons are highlighted with an orange box.

Go to EVS and attach :

The screenshot shows the AWS Elastic Volume Service (EVS) console. It displays a table of disks with columns for Disk Name, Status, Disk Size, Function, Server, Disk Size, Device, Encryption, AZ, and Operation. A disk named 'volume-5756' is highlighted, and the 'Attach' button is highlighted with an orange box.

Attach Disk

Disk: volume-5756 | eu-west-0 | eu-west-0c | VBD | Non-shareable

ECSs

BMSs

Name

vbrec

X

Q

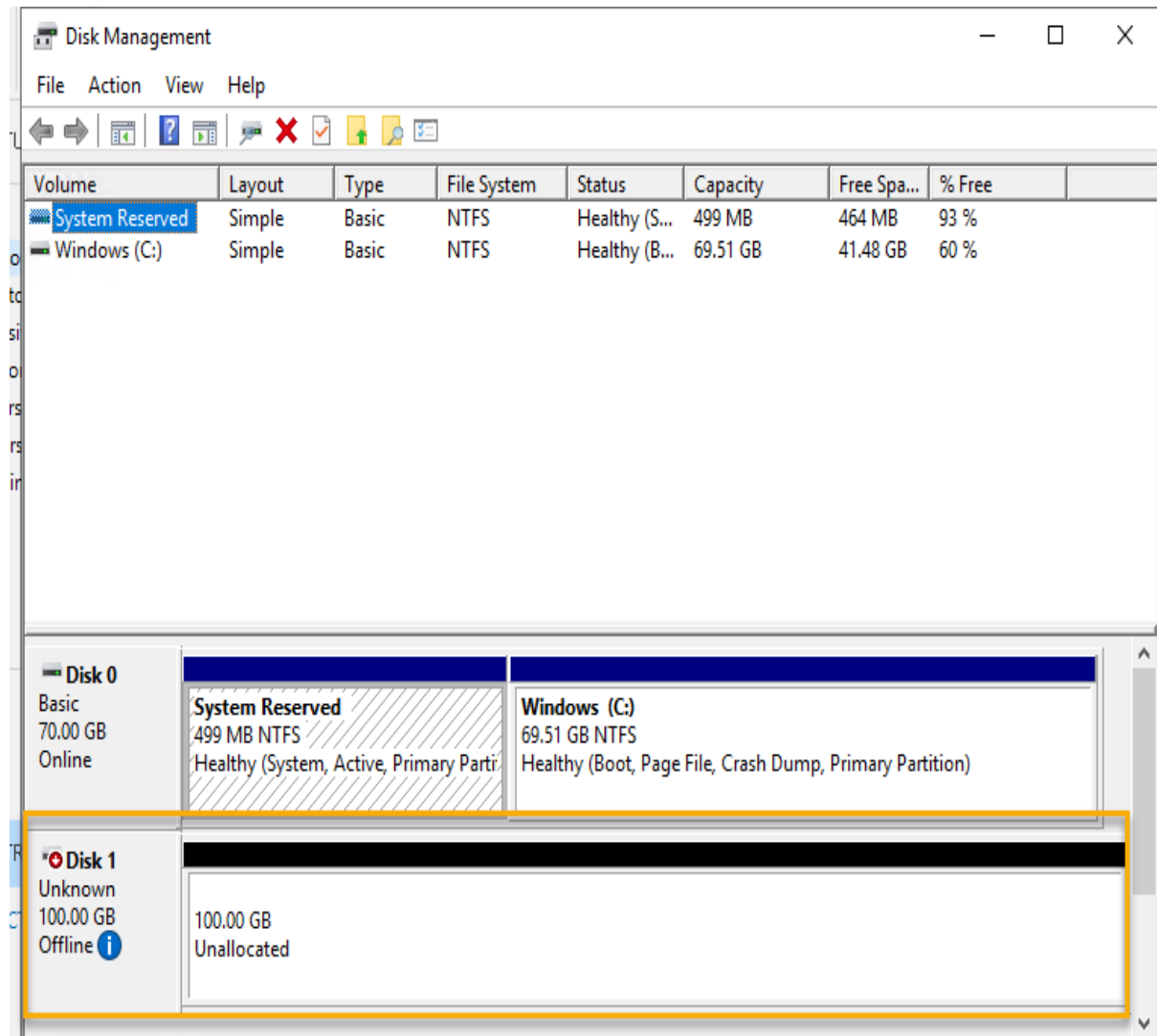
C

| Name | Mount Point ? | Status | Image | Private IP A... | EIP | AZ |
|----------|---------------|---------|--------------|-----------------|---------------|------------|
| vbrecs10 | Data disk | Running | Veeam VBR 10 | 172.16.80.205 | 90.84.182.135 | eu-west-0c |

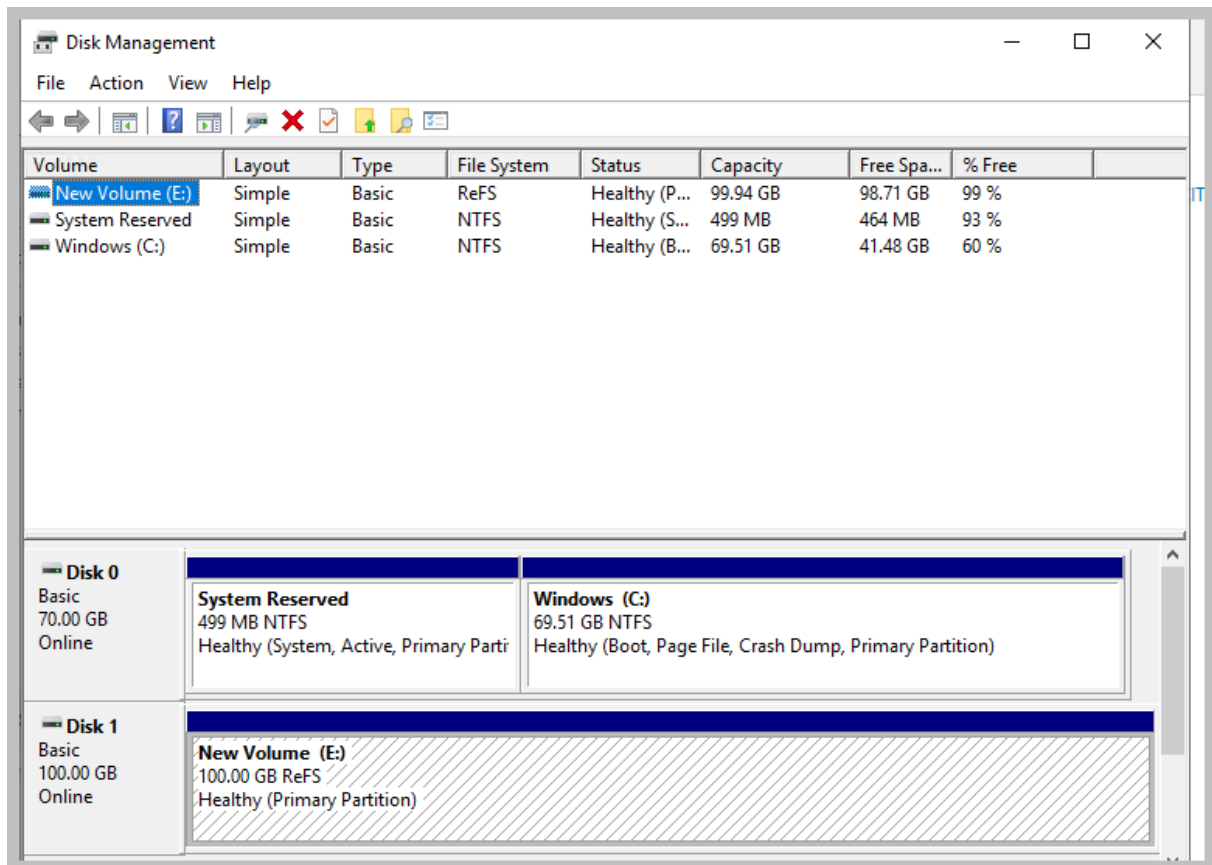
OK

Cancel

Once the disk is attached, make it present as a Drive on your VBR server to be configured as a repository on Veeam Backup & Replication server :

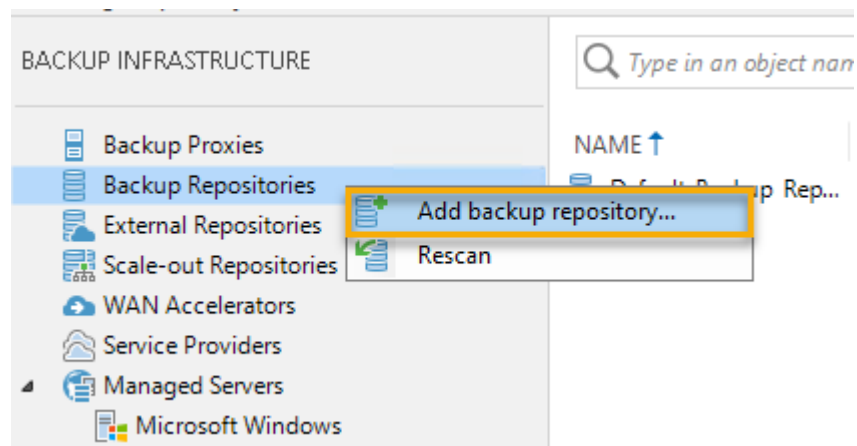


Veeam recommends using ReFS filesystem (64K Block) for local drives as repository :




Creating a new [local backup repository](#) and using it as an extent for Scale Out Backup Repository with S3 bucket from Flexible Engine :

Click on BACKUP INFRASTRUCTURE -> Backup Repositories -> right click and **Add backup repository...**




Click on Direct Attached Storage -> Microsoft Windows as the option since it is the local attached Drive on the ECS :




Direct Attached Storage

Select the operating system type of a server you want to use as a backup repository.




Microsoft Windows
Adds local server storage presented as a regular volume or Storage Spaces. For better performance and storage efficiency, we recommend using ReFS.



Linux
Adds local server storage, or locally mounted NFS share. The Linux server must use bash shell, and have SSH and Perl installed.

New Backup Repository



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

Name

Server

Repository

Mount Server

Review

Apply

Summary

Name:

Description:

Created by VBRECS10\Administrator at 8/20/2020 9:12 AM.

< Previous

Next >

Finish

Cancel

Click on Next and by default the repository server here is your VBR server, alternatively for bigger environments you can offload the process & compute requirements to a separate windows ECS as well. Now click on Populate and it will show up all local drives, select the newly created Drive (E:\ in my case) :

New Backup Repository

Server

Choose repository server. You can select server from the list of managed servers added to the console.

Name

Repository

Mount Server

Review

Apply

Summary

Repository server:

vbrecs10 (Backup server)

Add New...

| Path | Capacity | Free |
|------|----------|---------|
| C:\ | 69.5 GB | 41.5 GB |
| E:\ | 99.9 GB | 98.7 GB |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Populate

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:

E:\Backups

Browse...

Capacity: 99.9 GB

Free space: 98.7 GB

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

Advanced...

< Previous

Next >

Finish

Cancel

New Backup Repository



Apply

Please wait while backup repository is created and saved in configuration, this may take a few minutes.

| Name | Message | Duration |
|--------------|--|----------|
| Server | Starting infrastructure item update process | 0:00:02 |
| Repository | Discovering installed packages | |
| Mount Server | Package VeeamDeploymentSvc.exe has been uploaded | |
| | Package VeeamDeploymentDll.dll has been uploaded | |
| | Registering client VBRECS10 for package Transport | |
| | Registering client VBRECS10 for package vPower NFS | |
| | Registering client VBRECS10 for package Mount Server | |
| | Discovering installed packages | |
| | All required packages have been successfully installed | |
| | Detecting server configuration | |
| | Reconfiguring vPower NFS service | 0:00:07 |
| | Creating configuration database records for installed packages | |
| | Collecting backup repository info | |
| | Creating database records for repository | |
| | Backup repository has been added successfully | |

< Previous

Next >

Finish

Cancel

BACKUP INFRASTRUCTURE

Backup Proxies

Backup Repositories

External Repositories

Scale-out Repositories

WAN Accelerators

Service Providers

Managed Servers

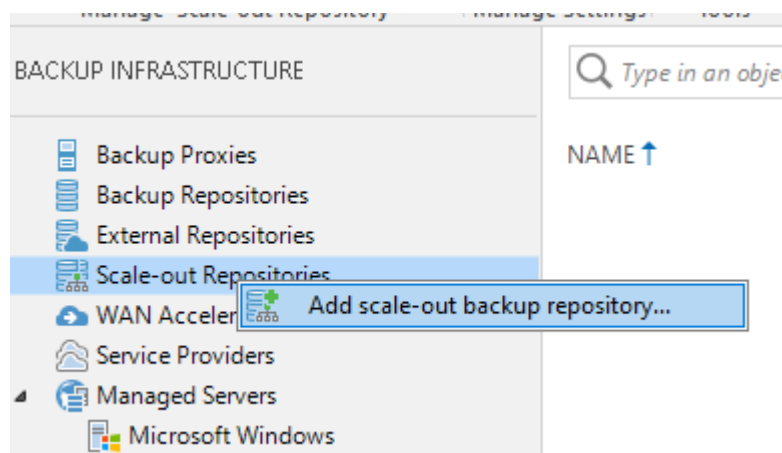
Microsoft Windows

Type in an object name to search for

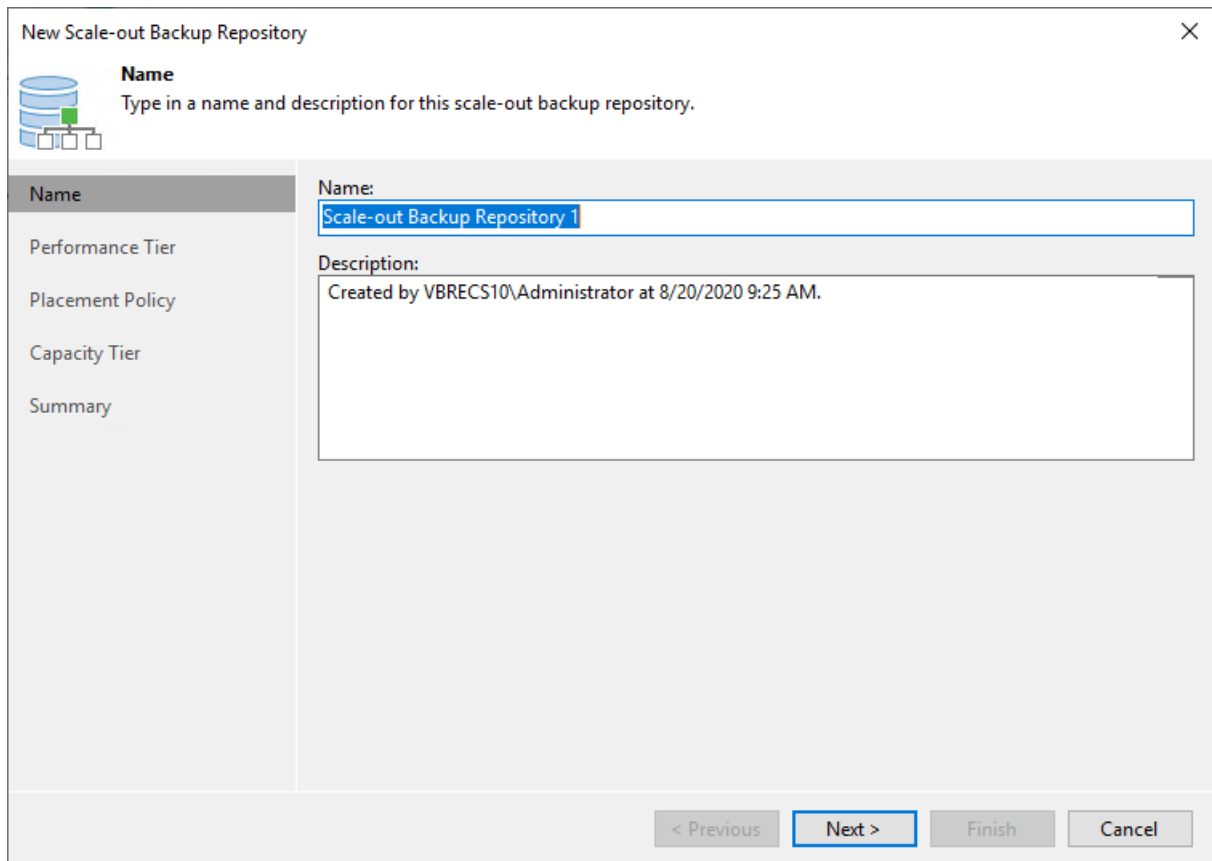
| NAME | TYPE | HOST | PATH | CAPACITY | FREE | USED SPACE | DESCRIPTION |
|-----------------------|---------|----------|------------|----------|---------|------------|-------------------------|
| Backup Repository 1 | Windows | vbrecs10 | E:\Backups | 99.9 GB | 98.7 GB | 0 B | Created by VBRECS10.Adm |
| Default Backup Rep... | Windows | vbrecs10 | C:\Backup | 69.5 GB | 41.5 GB | 0 B | Created by Veeam Backup |

Below are the screenshots to help you add your [S3 Object Storage](#) as Scale Out Backup Repository in capacity tier.

Right click on Scale-out Repositories and click on **Add scale-out backup repository...**

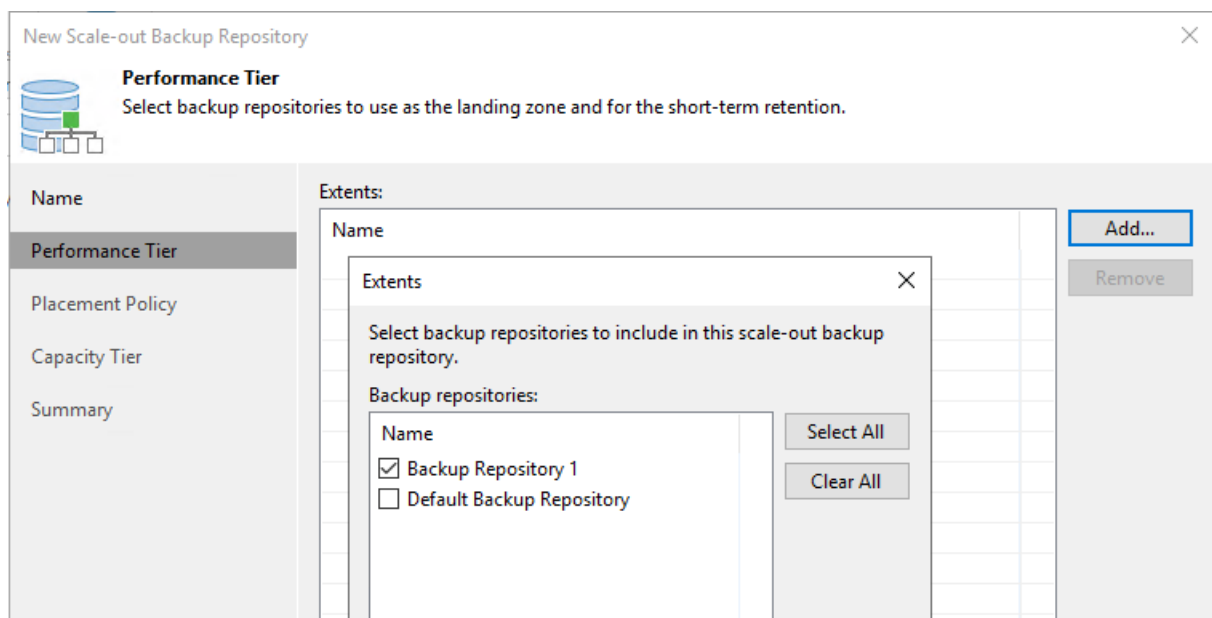


Give a suitable Name to your Scale-out Backup Repository (SoBR) and click on next :



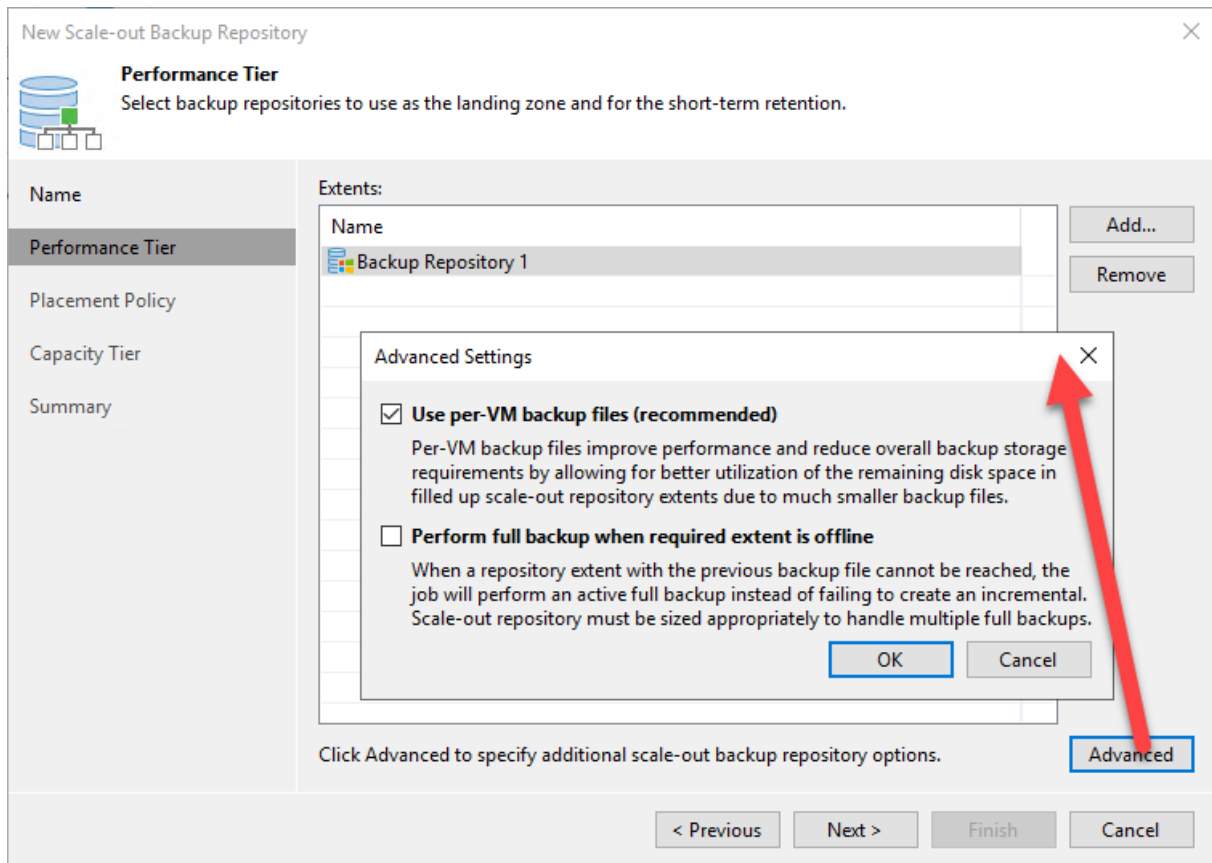
The screenshot shows the 'New Scale-out Backup Repository' wizard at the 'Name' step. The left sidebar contains a tree view with 'Name' selected, followed by 'Performance Tier', 'Placement Policy', 'Capacity Tier', and 'Summary'. The main area has a 'Name:' label and a text box containing 'Scale-out Backup Repository 1'. Below it is a 'Description:' label and a text box containing 'Created by VBRECS10\Administrator at 8/20/2020 9:25 AM.'. At the bottom right, there are four buttons: '< Previous', 'Next >', 'Finish', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

Since direct writing to S3 Object Storage is yet not supported with Veeam hence it needs a tier to be defined, we will be using local repository as performance tier and stage backups to S3 for larger retention at lower cost. Select the newly created Repository “Backup Repository 1” :

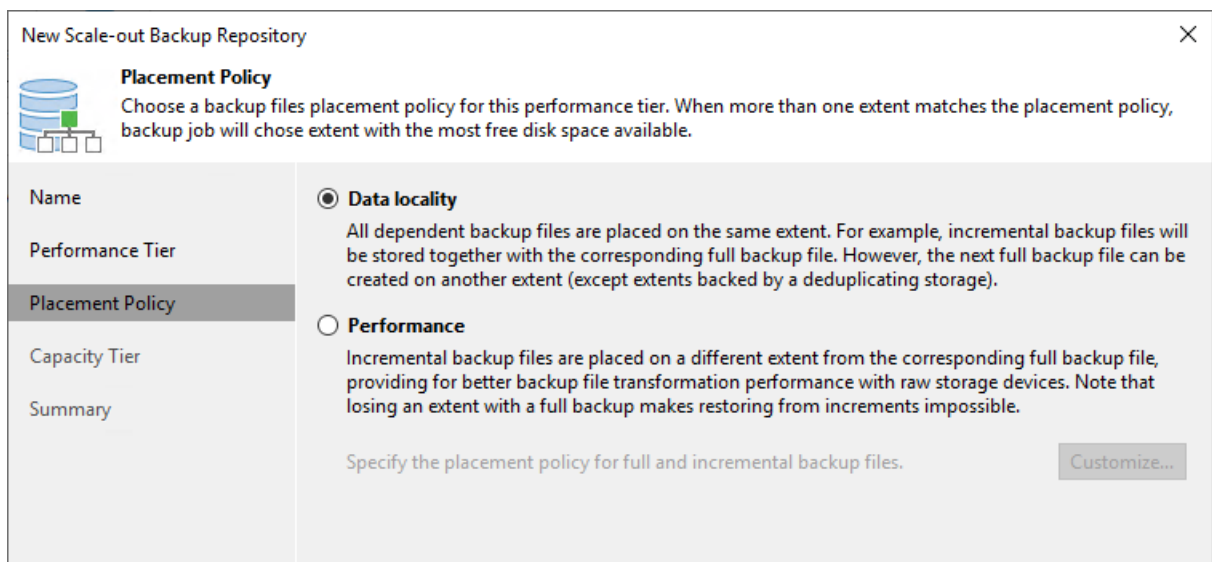


The screenshot shows the 'New Scale-out Backup Repository' wizard at the 'Performance Tier' step. The left sidebar has 'Performance Tier' selected. The main area has a 'Performance Tier' label and a text box containing 'Select backup repositories to use as the landing zone and for the short-term retention.'. Below this is a table with the header 'Name' and one row containing 'Backup Repository 1' with a checked checkbox. To the right of the table are 'Select All' and 'Clear All' buttons. At the bottom right, there are 'Add...' and 'Remove' buttons. A small dialog box titled 'Extents' is open in the foreground, showing the same 'Backup repositories:' list with 'Backup Repository 1' selected.

Under Advanced Options :



Now click on Next and Select Data Locality to keep the backup chains together “ Full + Incrementals”



Click on Next and Click on Add to add the extent of S3 Object Storage to Scale Out Backup Repository as next Tier :

New 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

Performance Tier

Placement Policy

Capacity Tier

Summary

☒ **Extend scale-out backup repository capacity with object storage:**

Add...

Define time windows when uploading to object storage is allowed **Window...**

☐ **Copy backups to object storage as soon as they are created**
Create additional copy of your backups for added redundancy by having all backups copied to the capacity tier as soon as they are created on the performance tier.

☒ **Move backups to object storage as they age out of the operational restore window**
Reduce your long-term retention costs by moving older backups to object storage completely while preserving the ability to restore directly from offloaded backups.

Move backup files older than days (your operational restore window) **Override...**

☐ **Encrypt data uploaded to object storage**

Password:

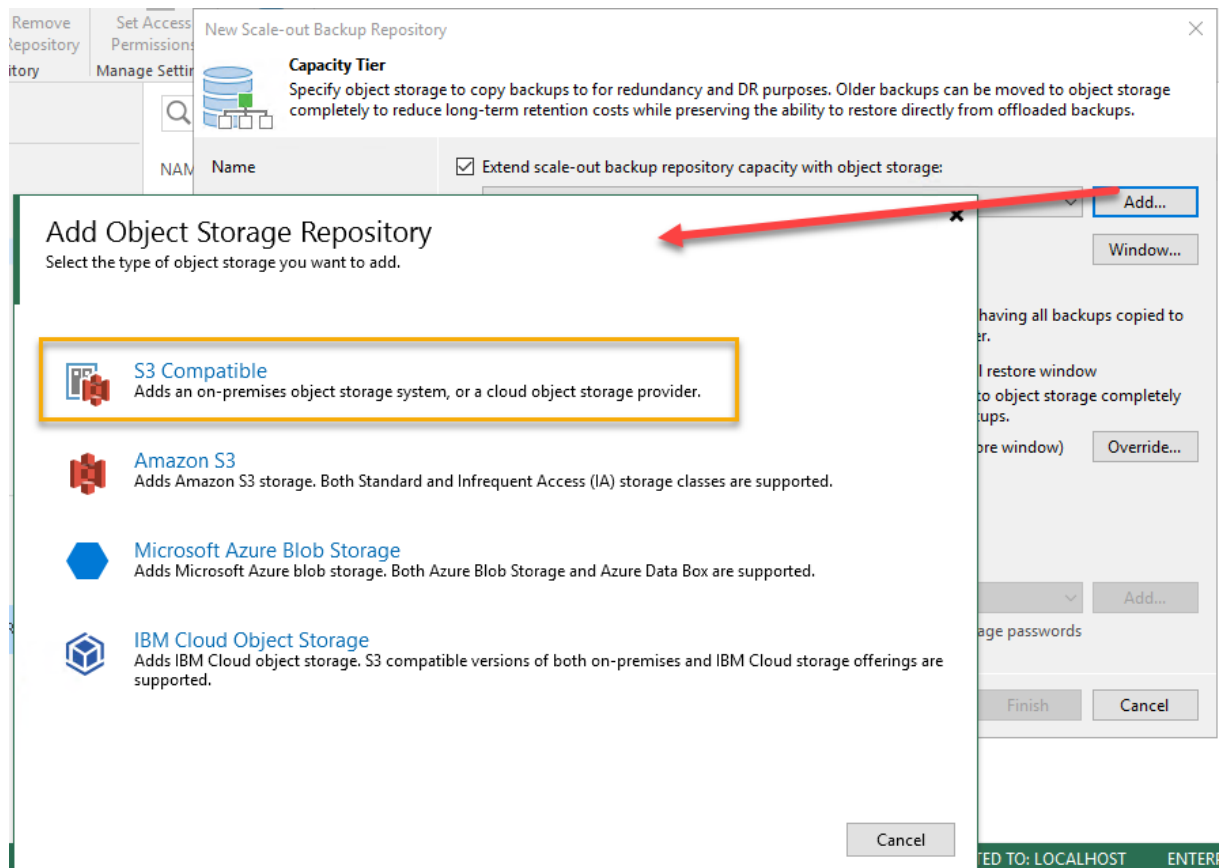
Manage passwords

< Previous **Apply** **Finish** **Cancel**

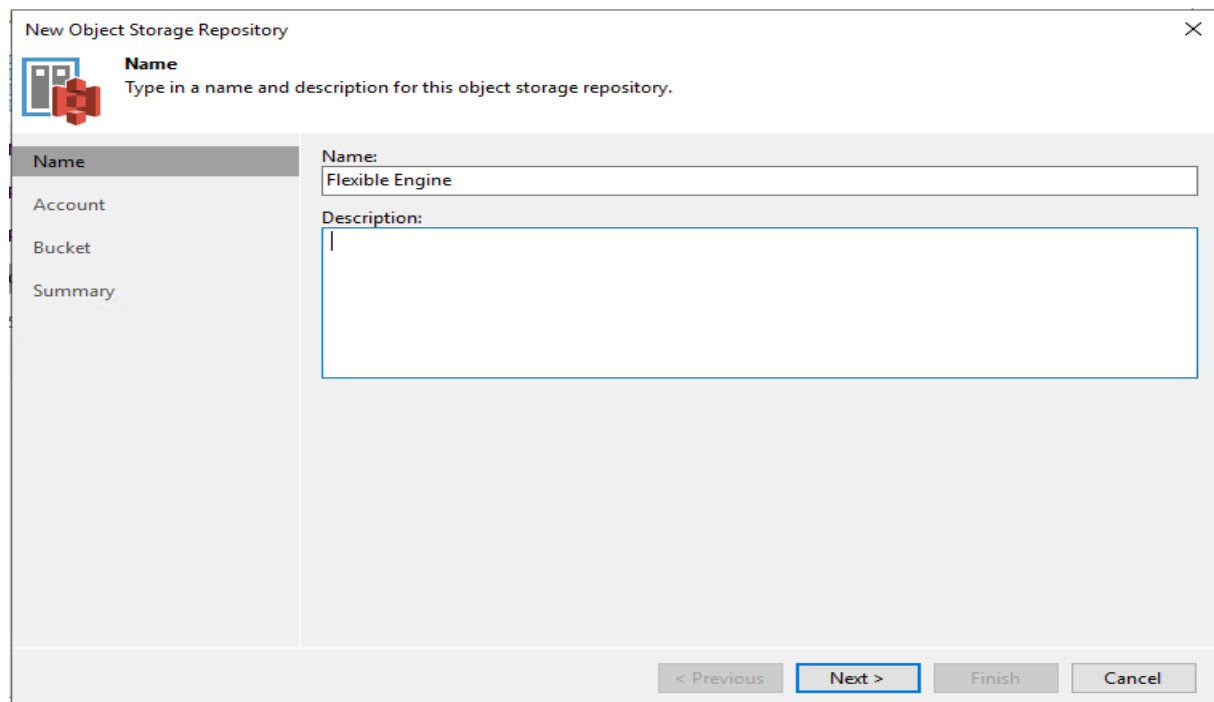
This option lets you copy the backups as soon as it is created

This option lets you stage your backups from local disk to S3 bucket after the specified days, alternatively you can also define override policy which can stage based on local repository utilization %.

Choose S3 Compatible as the option to integrate S3 Object Storage from Flexible Engine and before that make sure you have your S3 Access Key, Secret Access Key and region details ready, you can put Service Point as this `oss.prod-cloud-ocb.orange-business.com` and create a bucket under S3 where you would like to store backups to :



Give a suitable name to your Object Storage Repository :



Click on Add to add the Access Key & Secret Access Key for S3 Object Storage and click on Next to Authenticate:

The screenshot shows the 'New Object Storage Repository' dialog box with the 'Account' tab selected. The 'Add...' button is highlighted with a red arrow. A 'Credentials' dialog box is open over it, showing fields for Access key, Secret key, and Description.

New Object Storage Repository

Account
Specify account to use for connecting to S3 compatible storage system.

Name

Account

Bucket

Summary

Service point:
oss.prod-cloud-ocb.orange-business.com

Region:
eu-west-0

Credentials:
[Dropdown menu] **Add...**

[Manage cloud accounts](#)

☐ Use the following gateway server:
vbrecs10 (Backup server)
Select a gateway server to proxy access. If a gateway server is specified, all scale-out backup repository operations will be proxied to the specified gateway server.

Credentials

Access key: [Text field]

Secret key: [Text field with mask]

Description:
[Text area]

OK **Cancel**

Now you will see the buckets created under the S3 account you are using and create a new folder under which you want to store backups by clicking on Browse.

You can also limit S3 Object Storage consumption using the checkbox highlighted below.

Making backups immutable is yet not supported by Flexible Engine S3 :

The screenshot shows the 'New Object Storage Repository' dialog box with the 'Bucket' tab selected. The 'Limit object storage consumption to' checkbox is highlighted with an orange box. A yellow callout bubble points to it with the text: 'You can limit the bucket consumption as well using this check box and value in TB'.

New Object Storage Repository

Bucket
Specify object storage system bucket to use.

Name

Account

Bucket

Summary

Bucket:
veeam-backup-std

Folder:
std-01 **Browse...**

☒ **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 (increases costs)
Protects recent backups from modification or deletion by ransomware, malicious insiders and hackers using native object storage capabilities. Object storage must support S3 Object Lock feature.

You can limit the bucket consumption as well using this check box and value in TB

New Object Storage Repository
✕

Summary
You can copy the configuration information below for future reference.

Name
Account
Bucket
Summary

Summary:
Object storage repository was successfully created.
Name: Flexible Engine
Description:
Type: S3-compatible
Gateway server: not selected
Service point: https://oss.prod-cloud-ocb.orange-business.com
Region: eu-west-0
Bucket: veeam-backup-std
Storage consumption limit: 10 TB
Recent backups will not be immutable

Now your Scale-out Backup Repository (SoBR) is ready to be used :

New 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
Performance Tier
Placement Policy
Capacity Tier
Summary

☒ **Extend scale-out backup repository capacity with object storage:**

Flexible Engine
Add...

Define time windows when uploading to object storage is allowed
Window...

☐ Copy backups to object storage as soon as they are created
Create additional copy of your backups for added redundancy by having all backups copied to the capacity tier as soon as they are created on the performance tier.

☒ Move backups to object storage as they age out of the operational restore window
Reduce your long-term retention costs by moving older backups to object storage completely while preserving the ability to restore directly from offloaded backups.
Move backup files older than 14 days (your operational restore window)
Override...

☐ Encrypt data uploaded to object storage
Password:
Add...

Manage passwords

< Previous
Apply
Finish
Cancel

You can now specify this Scale-out Object Repository in Backup job and let Veeam manage the staging of data from local disk to S3 bucket using the policy you specified during SoBR creation:

Add Scale-out Repository
Edit Scale-out Repository
Remove Scale-out Repository
Set Access Permissions
Set Location
Rescan Repository Tools

BACKUP INFRASTRUCTURE

Backup Proxies
Backup Repositories
External Repositories
Scale-out Repositories
Scale-out Backup Repository 1
WAN Accelerators
Service Providers
Managed Servers
Microsoft Windows

NAME
TYPE
HOST
PATH
CAPACITY
FREE
USED SPACE
DESCRIPTION

| | | | | | | | | |
|---------------------|---------------|----------|-------------------|---------|--|---------|-----|-------------------------|
| Backup Repository 1 | Windows | vbrecs10 | E:\Backups | 99.9 GB | | 98.7 GB | 0 B | Created by VBRCS10\Admi |
| Flexible Engine | S3-compatible | | amazonS3://oss... | N/A | | N/A | 0 B | |