Veeam Recovery Orchestrator Release Notes

This document provides last-minute information about Veeam Recovery Orchestrator (Orchestrator), including system requirements and relevant information on technical support, documentation, online resources and so on.

The current version of Veeam Recovery Orchestrator is available for download at https://www.veeam.com/downloads.html starting from December 5th, 2023.

> **NOTE:**
> The release build of Veeam Recovery Orchestrator is 7.0.0.337 while the embedded Veeam Backup & Replication build is 12.1.0.2131 and the embedded Veeam ONE build is 12.1.0.3208.
> The name of the .ISO is **VeeamDataPlatform_23H2_[date].iso**

See next:

- System Requirements
- Required Permissions
- What's New
- Known Issues
- Technical Documentation References
- Technical Support
- Contacting Veeam Software

System Requirements

Unless otherwise stated, all 3rd party software must be at the latest update or patch level.

Hardware

Hardware requirements depend on the size of the managed infrastructure.

Number of Protected Systems*	1-1500	1500–5000	5000-10000	10000 – 20000+
CPU	4-8 vCPUs for the Orchestrator server 4-8 vCPUs for the Microsoft SQL Server	10 vCPUs for the Orchestrator server 10 vCPUs for the Microsoft SQL Server	12 vCPUs for the Orchestrator server 12 vCPUs for the Microsoft SQL Server	>20 vCPUs for the Orchestrator server >20 vCPUs for the Microsoft SQL Server
Memory	12 GB for the Orchestrator server 8 GB for the Microsoft SQL Server	40 GB for the Orchestrator server 40 GB for the Microsoft SQL Server	70 GB for the Orchestrator server 70 GB for the Microsoft SQL Server	>70 GB for the Orchestrator server >70 GB for the Microsoft SQL Server
SQL Server	N/A	N/A	Disk IOPS 1000 (minimum)	Disk IOPS 2000 (minimum)
Hard Disk Space	30 GB for product installation and sufficient disk space for the Veeam ONE database (if installed locally). Use the Veeam ONE Database Calculator to size application data. 20 GB for the Microsoft SQL Server. By default, the Microsoft SQL Server database grows as follows: • ~1Mb per one Readiness Check Report or Plan Execution Report for a plan that includes 10 machines. • ~10Mb per one Readiness Check Report or Plan Execution Report for a plan that includes 100 machines. • ~100Mb per one Readiness Check Report or Plan Execution Report for a plan that includes 1000 machines. **Note**: It is recommended to use SSD disks for the Microsoft SQL Server.			

*The total number of systems protected by replicas and backups (including Veeam agent and VMware vSphere VM backups). Assumes one restore point per system per day.

OS

Only 64-bit versions of the following server operating systems are supported:

- Microsoft Windows Server 2022
- Microsoft Windows Server 2019
- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012

Orchestrator can be installed on a Windows Server OS that is either domain-joined or in a workgroup.

Installation on a machine running Microsoft Windows Server Core or on a Domain Controller is not supported.

Microsoft SQL Server

Local and remote installations of the following versions of Microsoft SQL Server are supported:

- Microsoft SQL Server 2022
- Microsoft SQL Server 2019
- Microsoft SQL Server 2017 (2017 SP2 Express Edition is included in the setup)
- Microsoft SQL Server 2016
- Microsoft SQL Server 2014
- Microsoft SQL Server 2012

It is not recommended to use the Express Edition in a production Orchestrator deployment — it should only be used for product evaluation and testing.

Veeam Orchestrator agent

The Veeam Orchestrator Agent is required to trigger orchestration actions on remote Veeam Backup & Replication servers. The remote Veeam Backup & Replication server must be:

- Installed on a domain-joined server or a workgroup server
- Running on a Windows Server OS
- Using Microsoft SQL or PostgreSQL database
- Version 12.0 or 12.1

Some new functionality in Orchestrator version 7.0 will not be available until remote servers are upgraded to 12.1.

Additional software

For inline editing of report templates, Microsoft Word from Microsoft Office 2010 SP2 or later is required.

VMware

- VMware vSphere 6.0, 6.5, 6.7, 7.0, 8.0 (up to vCenter Server 8.0 Update 2)

  The Orchestrator server must be connected to VMware vCenter Servers only. Direct connections to vSphere hosts are not supported.

- VMware Cloud Director

  Previous versions of Orchestrator did not support orchestration of vCenter Servers that were managed by VMware vCloud Director. In version 7.0, this has been addressed. Although vCloud Director itself cannot be used as a target recovery location, Orchestrator will fully support recovery to the connected vCenter Servers. The version of Veeam Backup & Replication must be 12.1.

Microsoft Azure connected through Veeam Backup & Replication

To orchestrate recovery of Veeam agent or vSphere VM backups to Microsoft Azure, the connected Veeam Backup & Replication servers must have cloud credentials added for a Microsoft Azure compute account.

Storage system

- HPE 3PAR 3.3.1, 3.3.2 MU1

- HPE Primera 4.2, 4.3, 4.4, 4.5

- HPE Alletra 9000

- NetApp ONTAP 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 9.13

- Lenovo DM 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11

The following limitations apply:

- Orchestrated failover of a SnapMirror **Synchronous** volume is not supported in 9.12 or 9.13.

- Orchestrated failover of a SnapMirror **Asynchronous CG** (Consistency Group) is not supported in 9.13.

- SnapVault and SnapMirror SVM replication configurations are not supported.

These limitations will be addressed in a future version.

Required Permissions

The accounts used for installing and using Veeam Recovery Orchestrator must have the following permissions.

Account	Required Permission
Setup Account	The account used for product installation must be a domain or local account who has Local Administrator permissions on the target machine.
Orchestrator Service Accounts	The accounts used to run Orchestrator services, Veeam Backup & Replication services and Veeam ONE services must have local Administrator permissions on the Orchestrator server. The accounts must also be granted the *Log on as a service* right. For more information on Windows security policy settings, see Microsoft Docs.
Orchestrator Agent Account	The account used to install and run the Orchestrator agent on a Veeam Backup & Replication server must have the local Administrator, the Veeam Backup Administrator and the database Administrator permissions on the server.
Orchestrator User Accounts	The accounts used to log in to the Orchestrator UI must be granted the *Allow log on locally* right. For more information on Windows security policy settings, see Microsoft Docs.
vCenter Server Permissions	The account used to connect the vCenter Server to Orchestrator must have administrative permissions. You can either grant the Administrator role to the account or configure more granular permissions. For more information, see Veeam Backup & Replication Required Permissions and Veeam ONE Required Permissions. To be able to open sessions on the vCenter Server system, the account must also have the *Sessions.Validate session* privilege on the root vCenter Server. For more information on session privileges, see VMware Docs.
NetApp Storage System Permissions	The account used to connect the storage system to Orchestrator must be granted permissions described in section NetApp Data ONTAP Permissions. **Note**: Multiple connections to a storage system using different credentials are not supported.
HPE Storage System Permissions	The account used to connect the storage system to Orchestrator must be assigned the *Super* or *Edit* role. If the account is assigned the *Edit* role, both the account and the storage resources that you plan to access must belong to the same domain. **Note**: Multiple connections to a storage system using different credentials are not supported.

Microsoft SQL Server	Different sets of Microsoft SQL permissions are required in the following cases:
	
	 • **Installation** (remote or local): the current account needs the *CREATE ANY DATABASE* permission on the SQL Server level. After the database is created, this account automatically gets a *db_owner* role and can perform all operations with the database.
	
	 • **Operation**: the account used to run Orchestrator, Veeam Backup & Replication and Veeam ONE services requires the following permissions:
	
	    ○ The *db_owner* permission and permissions to execute stored procedures for the configuration databases on the Microsoft SQL Server.
	    ○ The *db_datareader* permissions to read data from the SQL server master database.
	    ○ The *public*, *db_datareader* and *SQLAgentUserRole* permissions to be able to access the data and objects in the MSDB database.
	
	 For more information, see Veeam Backup & Replication Required Permissions and Veeam ONE Required Permissions.

Orchestrator Credentials for Application Verification	The account used to run the **Verify SharePoint URL** step, must be assigned the *SharePoint_Shell_Access* role and must be a member of the *WSS_ADMIN_WPG* group on the processed VM. The account used to run the **Verify Exchange Mailbox** step, must be assigned the *ApplicationImpersonation* role on the processed VM.

What's New

Product renamed to Veeam Recovery Orchestrator (VRO)

The product has been renamed throughout the UI and documentation to **Veeam Recovery Orchestrator (VRO)**.

New setup for Veeam Data Platform *Premium*

Veeam Data Platform *Premium* is a package of Veeam Backup & Replication, Veeam ONE and Veeam Recovery Orchestrator.

The new setup ISO for Orchestrator reflects this and can be used to deploy any of the three products, if the required license is provided. Starting from version 7.0, Orchestrator is available for purchase in two ways:

- Included with Veeam Data Platform *Premium*.

- As an add-on to Veeam Data Platform *Advanced*.

Orchestrator will no longer be available as an add-on to the Veeam Data Platform *Foundation*. For details on the licensing updates, see this Veeam KB article.

Note that installation of Orchestrator also co-installs Veeam Backup & Replication and Veeam ONE on the same server and is ideal for evaluation or POC purposes.

YARA scanning during plan testing and execution

YARA scanning during both recovery plan execution and testing is now available, additional to the antivirus scanning introduced in Veeam Recovery Orchestrator version 6.0. YARA rule files are obtained from all connected Veeam Backup & Replication servers and are made available in the Orchestrator Web UI.

Veeam Threat Center dashboard integration

The Veeam Threat Center dashboard available in Veeam ONE 12.1 and Veeam Backup & Replication 12.1 is integrated into the Orchestrator Web UI administration section.

CDP replica plans can now be tested in DataLabs

Recovery plans using CDP replication in VMware vSphere can now be tested in Orchestrator DataLabs.

Custom scripts in cloud recovery plans

PowerShell scripts can be injected into recovered Windows VMs in Microsoft Azure, using the latest Azure RunCommand.v2 API.

Web UI improvements

- The new **Scopes** page shows a simplified grid for easy scope management.

- The **Roles** page and accompanying wizards have been reworked for better legibility and usability.

- The **Inventory** page has a new method of assigning items to scopes, allowing better visibility.

Reporting

- Report retention settings have been added to the configuration section. Retention for summary reports can be different from full reports. The default setting for both is 3 years.

NOTE:

Report retention will be applied after upgrade, so if storage of reports older than 3 years is required, the reports must be downloaded from the Orchestrator Web UI before upgrade.

- Reports, templates and subscriptions pages have been merged into a single page with tabs.

- Full and Summary report rows are merged into a single row with 2 download options, to optimize use of screen estate.

Known Issues

Technical limitations

- Restore plans created in Orchestrator can orchestrate recovery from backup files stored only in repositories of the following storage types: direct-attached storage (both Microsoft Windows and Linux), network-attached storage (SMB shares) and deduplicating storage appliances (Dell EMC Data Domain, ExaGrid, HPE StoreOnce and Quantum DXi).

  If you plan to run DataLab tests using deduplicating storage appliances, note the limitations described in this Veeam KB article).

- Orchestrator does not support recovery from tape storage.

- When creating a cloud recovery location using a Veeam Backup & Replication server version 12.0, gateway subnets will be available to create network mapping rules. However, Microsoft Azure does not allow such subnets to be used during restore to cloud, leading to the following error during recovery: "*Subnet with name 'GatewaySubnet' can be used only for the Gateway resource.*"

  This issue is resolved when using a Veeam Backup & Replication server of version 12.1, as the gateway subnets will no longer be available during cloud recovery location creation.

Installation

- During product installation, it is possible to set any custom port numbers except 9402, 8543 and 20443. This is because the embedded Veeam Backup & Replication server is hardcoded to use those ports.

- Orchestrator does not support installation of the database to a case-sensitive Microsoft SQL Server configuration.

Upgrade

- Customers currently using a non-default port number for the Orchestrator Web UI should not upgrade as the custom port number will be replaced with the default. This can also cause misconfiguration of the IIS settings and render some or all of the Web UI inoperable. If you use a custom port number for the Web UI in your current installation of Orchestrator, contact Veeam Customer Support for assistance in upgrading. This issue will be addressed as a priority in the weeks following the 7.0 release.

- The Orchestrator Web UI as a separate component is no longer supported. The upgrade of an Orchestrator server will install the Web UI component if it is not present. The standalone Web UI component cannot be upgraded to 7.0 and should be uninstalled.

- After upgrade, remote users still logged in to the Orchestrator Web UI may experience errors. To resolve the issue, reload the page by pressing F5.

- If you try to upgrade Orchestrator to version 6.0 while the existing Orchestrator 5.0 databases are protected with SQL replication, the upgrade process will fail with an error. This is a known issue related to specific aspects of SQL replication.

- If you try to upgrade Orchestrator to version 6.0 while Orchestrator 5.0 is installed to a directory with a non-ASCII name, Orchestrator will not function properly anymore even though the upgrade process will complete successfully.

  To work around the issue, reinstall Orchestrator 5.0 to another directory using the existing databases, and then upgrade to Orchestrator 6.0.

- During the upgrade, some warning dialogs with text including *"Improved background retention"* and *"Active CDP Policy"* may be displayed. These are warnings related to the embedded Veeam Backup & Replication server and may appear if that server has been used for general backup and replication tasks. For full details of the actions to take upon any warning messages, see the Veeam Backup & Replication User Guide, section Upgrading to Veeam Backup & Replication 12.

Infrastructure

- If you change the certificate on a vCenter Server connected to Orchestrator, Orchestrator may fail to connect to the server.

  To work around the issue, using the Orchestrator Web UI, step through the **Edit vCenter Server Connection** wizard, accepting the certificate when prompted.

- If you connect a vCenter Server to a remote Veeam Backup & Replication server, you must also connect the same vCenter Server directly to the Orchestrator server. Note that the same method (DNS name or IP address) must be used for all connections to the same system.

- SQL authentication credentials provided during Orchestrator server installation cannot be changed. If the password for the SQL account is changed, Orchestrator will be unable to connect to the database.

  To work around the issue, it is recommended to use Windows Authentication to connect to the Microsoft SQL Server. Alternatively, Veeam Customer Support can help you resolve the issue.

Recovery locations

- When Orchestrator restores VMs to a VMware vSphere recovery location that has Instant VM Recovery enabled, VMs are added to the root VM folder. If VMs should be contained in any other VM folder, they must be moved there manually.

- The configuration of a VMware vSphere recovery location may become invalid in the following situations:

  o If you add an ESXi host to a recovery location compute resources, and then move the host to another datacenter in the vCenter Server.

  o If you use a standard network in a recovery location network mapping rule, and then rename the network in the vCenter Server.

  As a result, Orchestrator may be unable to use this location for recovery. The recovery location should be re-created.

vSphere VM processing

- If a vSphere VM has a name that starts with a dot, Orchestrator will not be able to process that VM. This is a known VMware issue — some functionality is limited for infrastructure objects whose names start with a dot.

- If a vSphere VM stores its files on a dedicated swap datastore, Orchestrator will exclude the VM from the VM group related to that datastore — but only if the VM is protected by storage replication. If the VM is not protected by storage replication, Orchestrator will still include the VM in the VM group.

Recovery plans

- When creating a new plan by right-clicking a group on the **Inventory** page, the list of scopes presented may include scopes to which the selected group does not belong. The result is that when the **Inventory Groups** step of the **New Recovery Plan** wizard is reached, the list is empty.

  The workaround is to check that the groups you wish to use in a plan are added to the scope where the plan will be created. The solution (to filter the list of available scopes to match the selected inventory groups) will be implemented in the next version.

- If using the new custom script execution in a cloud recovery plan, the script execution may continue in the Azure VM even if the timeout is exceeded or the step is halted. This is due to a Microsoft Azure issue in the RunCommand.v2 API. Veeam has made Microsoft aware of the issue and a fix is planned.

- If you add new VMs to a VM group, the recovery plan that contains the VM group will not update while the plan is *in-use*. For more information on plan states, see the Veeam Recovery Orchestrator User Guide, section Working with Recovery Plans.

- If you have created multiple backup or replication jobs for one VM, and each job has its own target location, you will not be able to select which backup or replica to use when running recovery plans. By design, Orchestrator will recover using the most recent restore point.

- If a plan includes in-guest scripts, and the source machine is still online, when executing the script step you may see the following error: "*RPC error: There are no more endpoints available from the endpoint mapper*". This is caused by the Veeam Backup & Replication server attempting to deliver the script to the source machine. The expectation during a recovery plan execution is that the source machine is not available. Note if this error occurs during plan testing, it is a sign that the DataLab configuration is not correct.

Users and roles

- If the Orchestrator server is not domain-joined, but has a DNS address, the **Add Account** wizard will try to resolve the address as a domain name. This causes an error message "*The domain [address] is either unavailable or does not exist*".

  The workaround is to close the error and proceed to change the **Location** where Orchestrator is searching to **Local OS**. The unnecessary error will be removed in a future update.

- If a user has differing roles (Plan Operator and Plan Author) across several scopes, they may see an "*Access Denied*" error message when creating a new plan. This is due to the Web UI requesting inventory groups belonging to the scope where the user is an Operator, not an Author. The workaround is to close the error message. The user can then continue to create the new plan within the scope of their authoring role as expected.

  Blocking authoring functionality for Operators is by design; however, the handling of the scenario in the Web UI will be improved in the next version.

Storage failover

- Orchestrator does not support storage failover of VMs with RDM disks. When Orchestrator tries to register such a VM in a vCenter Server while executing a storage plan, the server returns the following error: "*Unable to enumerate all disks.*"

- Under certain circumstances, a plan may be halted after one or more **Register VM** steps have started but not completed, causing orphaned VMs to be created in the recovery location. These VMs should be removed manually.

  The issue will be addressed in a future update.

- If a VM has its data disk (.VMDK) and configuration file (.VMX) stored on separate datastores, and the VM was suspended when storage failover was performed, the datastore where the .VMX file is located must be processed by Orchestrator first. If Orchestrator attempts to process the datastore with the data disk first, the VM will fail to power on as the .VMX file will not contain the correct datastore GUIDs.

  To work around the issue, edit the .VMX file manually after all storage processing is complete. Contact Veeam Customer Support for assistance if required.

- For datastores connected through the NFSv4.1 protocol, Orchestrator supports failover to a recovery location only in case target hosts included in the location have the NFSv3 export policy enabled (since the recovered datastores will be mounted to the hosts through NFSv3). For datastores connected through other protocols, no limitations apply.

- When performing storage failover, Orchestrator does not check whether iSCSI CHAP authentication and NetApp Kerberos authentication is configured for the datastores mounted in the DR site.

  To work around the issue, run a DataLab test before performing storage failover to make sure the authentication is configured properly.

- If a datastore is backed by several volumes (in a situation where LUNs of the datastore reside on several volumes), you will be able to protect such configuration with different SVMs and to create different storage recovery locations for these SVMs. However, in this case, Orchestrator will be unable to match the locations for the datastore, and the related plans will halt with errors.

- If you suspend a VM that stores its disk files on multiple datastores before creating a SnapMirror snapshot, and then include this VM in a storage plan, Orchestrator will not be able to execute the plan successfully. The plan will halt with the following error: "*Unable to access the virtual disk from the host. Either the host is disconnected from the datastore or has insufficient privilege.*"

Technical Documentation References

If you have any questions about Veeam Recovery Orchestrator, you may use the following resources:

- Product web page
- Veeam Data Platform web page

Technical Support

Veeam offers email and phone technical support for customers on maintenance and during the official evaluation period. For a better experience, please provide the following when contacting Veeam Customer Support:

- Version information for the product and its components
- Error message and/or accurate description of the problem you are having
- Log files

> **TIP:**
> The required log files can be easily downloaded from the Orchestrator Web UI. For more information, see the Veeam Recovery Orchestrator User Guide, Appendix B.

To submit your support ticket or obtain additional information, please visit the Veeam Customer Support Portal. Before contacting Veeam Customer Support, consider searching for a resolution on Veeam R&D Forums.

Contacting Veeam Software

At Veeam Software, we pay close attention to comments from our customers — we make it our mission to listen to your input, and to build our products with your suggestions in mind. We encourage all customers to join Veeam R&D Forums and share their feedback directly with the R&D team.

Should you have a technical or licensing issue or question, please feel free to contact our Customer Support organization directly. We have qualified technical and customer support staff available 24/7 who will help you with any inquiry that you may have.

Customer Support

For the most up-to-date information about our support practices, business hours and contact details, please visit the Veeam Customer Support Portal.

Company Contacts

For the most up-to-date information about company contacts and office locations, please visit the Veeam Contacts Webpage.