



Veeam Disaster Recovery Orchestrator

Version 6.0

Deployment Guide

April, 2023

© 2023 Veeam Software.

All rights reserved. All trademarks are the property of their respective owners.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means, without written permission from Veeam Software (Veeam). The information contained in this document represents the current view of Veeam on the issue discussed as of the date of publication and is subject to change without notice. Veeam shall not be liable for technical or editorial errors or omissions contained herein. Veeam makes no warranties, express or implied, in this document. Veeam may have patents, patent applications, trademark, copyright, or other intellectual property rights covering the subject matter of this document. All other trademarks mentioned herein are the property of their respective owners. Except as expressly provided in any written license agreement from Veeam, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

NOTE

Read the End User Software License Agreement before using the accompanying software programs. Using any part of the software indicates that you accept the terms of the End User Software License Agreement.

Contents

CONTACTING VEEAM SOFTWARE	6
ABOUT THIS DOCUMENT	7
WELCOME TO VEEAM DISASTER RECOVERY ORCHESTRATOR	8
ARCHITECTURE OVERVIEW	9
Deployment Scenarios	12
Scenario 1: Orchestrating Restore to Microsoft Azure.....	12
Scenario 2: Orchestrating Storage and VM Failover.....	13
Scenario 3: Orchestrating Restore to vSphere.....	14
Scenario 4: Orchestrating VM Failover.....	15
PLANNING AND PREPARATION	16
System Requirements.....	16
Roles	20
Permissions.....	21
Ports.....	23
LICENSING	25
License Types.....	25
Licensed Objects	26
Installing License	28
Updating License.....	29
Updating License Manually	29
Updating License Automatically.....	31
Automatic Usage Reporting	33
License Expiration	34
Exceeding License Limit.....	35
Allowed Increase Limit (All Licenses)	35
New VMs (Rental Licenses)	36
Example.....	36
Viewing License Details	38
DEPLOYMENT	39
Installing Veeam Disaster Recovery Orchestrator	40
Step 1. Launch Splash Window and Start Setup Wizard	41
Step 2. Accept License Agreement	42
Step 3. Choose Components to Install	42
Step 4. Provide License File	43
Step 5. Perform System Configuration Check.....	44
Step 6. Specify Service Account Credentials	45

Step 7. Review Default Installation Summary	46
Step 8. Choose SQL Server	47
Step 9. Create SQL Server Databases	48
Step 10. Specify Service Ports	49
Step 11. Select Certificate for Orchestrator UI	50
Step 12. Specify Data Locations.....	51
Step 13. Review Advanced Installation Summary	52
Step 14. Upgrade to Veeam Backup & Replication 12.....	53
Step 15. Install Additional Veeam ONE Clients	54
Installing Veeam Disaster Recovery Orchestrator Web UI	58
Step 1. Launch Splash Window and Start Setup Wizard	59
Step 2. Accept License Agreement	60
Step 3. Choose Components to Install	60
Step 4. Perform System Configuration Check	61
Step 5. Specify Service Account Credentials	62
Step 6. Specify Service Ports.....	62
Step 7. Specify Veeam ONE Server Connection Settings.....	63
Step 8. Specify Veeam Orchestrator Server Connection Settings.....	63
Step 9. Select Certificate for Orchestrator UI.....	64
Step 10. Review Installation Summary.....	65
Installing Veeam Disaster Recovery Orchestrator in Unattended Mode	66
Veeam Orchestrator Server Service	68
Veeam Orchestrator Web UI.....	72
Accessing Orchestrator UI.....	75
After You Install	78
Step 1. Launch Initial Configuration Wizard.....	78
Step 2. Configure Server Settings.....	79
Step 3. Connect Infrastructure Components	81
Step 4. Review Configuration Summary.....	85
UPGRADING VEEAM DISASTER RECOVERY ORCHESTRATOR.....	86
Step 1. Launch Splash Window and Start Setup Wizard	88
Step 2. Accept License Agreement	89
Step 3. Review Components to Upgrade	89
Step 4. Provide License File	90
Step 5. Perform System Configuration Check	91
Step 6. Specify Service Account Credentials	92
Step 7. Review SQL Server Connection Settings.....	92
Step 8. Review Installation Summary	93
Step 9. Upgrade to Veeam Backup & Replication 12.....	94

Step 10. Upgrade to Veeam ONE 12	94
Step 11. Upgrade Orchestrator UI	95
UNINSTALLING VEEAM DISASTER RECOVERY ORCHESTRATOR	99
APPENDIX. REINSTALLING ORCHESTRATOR USING EXISTING DATABASES.....	100

Contacting Veeam Software

At Veeam Software we value feedback from our customers. It is important not only to help you quickly with your technical issues, but it is our mission to listen to your input and build products that incorporate your suggestions.

Customer Support

Should you have a technical concern, suggestion or question, visit the [Veeam Customer Support Portal](#) to open a case, search our knowledge base, reference documentation, manage your license or obtain the latest product release.

Company Contacts

For the most up-to-date information about company contacts and office locations, visit the [Veeam Contacts Webpage](#).

Online Support

If you have any questions about Veeam products, you can use the following resources:

- Full documentation set: [veeam.com/documentation-guides-datasheets.html](https://www.veeam.com/documentation-guides-datasheets.html)
- Veeam R&D Forums: forums.veeam.com

About This Document

This document describes how to deploy Veeam Disaster Recovery Orchestrator. The document includes system requirements, licensing information and step-by-step deployment instructions.

Veeam Disaster Recovery Orchestrator is built on top of Veeam Backup & Replication and Veeam ONE, and this guide assumes that you have a good understanding of these solutions.

Welcome to Veeam Disaster Recovery Orchestrator

Veeam Disaster Recovery Orchestrator (Orchestrator) extends the functionality of Veeam Data Platform by orchestrating recovery processes, with one-click orchestration plans for critical applications, and rich features for documentation and testing.

Orchestrator leverages the recovery capabilities of Veeam Backup & Replication to build disaster recovery workflows, automate recovery processes and eliminate error-prone manual steps. Orchestrator also provides reporting capabilities that let enterprises document their disaster recovery plans to meet compliance requirements. With Orchestrator, you can do the following:

- **Orchestrate recovery** – create workflows to orchestrate recovery operations for both virtual and physical machines to VMware vSphere and Microsoft Azure cloud environments.
- **Automate checks and tests** – schedule checks and tests to automate the verification of orchestration plans, with features such as isolated test labs and comprehensive readiness checks.
- **Meet compliance requirements** – view RPO and RTO achievements on the dashboard and generate automatically updated reports for orchestration plan checks, tests and executions, ensuring that requirements for compliance and audit are met.

Architecture Overview

This section provides information on the Orchestrator architecture and its components, and describes some common [deployment scenarios](#). The main components in the Orchestrator architecture are:

- [Veeam Orchestrator Server](#)
- [Veeam Backup & Replication Servers](#)

Optionally, additional infrastructure required for recovery can be connected, for example:

- [NetApp Storage Systems](#)
- [HPE Storage Systems](#)
- [vCenter Servers](#)

Veeam Orchestrator Server

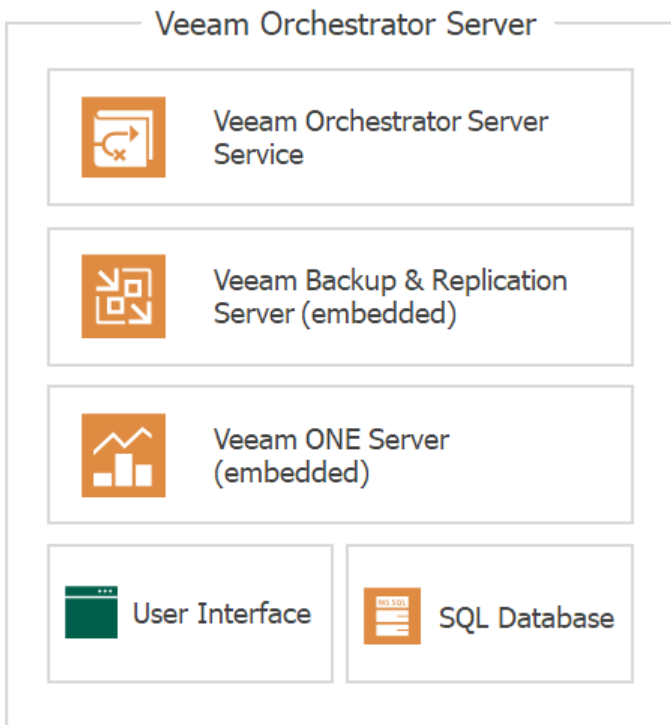
The Orchestrator server is the configuration, administration and management core of Orchestrator infrastructure. This is where orchestration plans are created, audited, tested and executed. Internally, the Orchestrator server is comprised of the following components:

- **Veeam Orchestrator Server Service** – is responsible for managing orchestration plans, and administering user roles and permissions.
- **Veeam Orchestrator Web UI** – is a web-based user interface that allows users to interact with the Veeam Orchestrator Server Service, and to perform various configuration and administration actions. In the Orchestrator UI, orchestration plans are designed, checked, tested and executed.
- **Veeam Backup & Replication Server** – is installed with the Orchestrator server to supply Veeam PowerShell libraries and support certain disaster recovery scenarios. It is referred to as an "embedded" server. If a license is applied, the server can work as a fully functional Veeam Backup & Replication server.
- **Veeam ONE Server** – handles the ONE Business View engine to gather inventory. This is a custom lightweight edition of Veeam ONE. It is referred to as an "embedded" server. If a license is applied, the server can work as a fully functional Veeam ONE server.
- **SQL Server** – is used to host configuration data. A Microsoft SQL Server Express instance can be installed locally. However, for best performance and scalability, Microsoft SQL Server Enterprise edition is recommended, which may be a remote server.

All Orchestrator components can be deployed on a single Windows-based physical or virtual machine using the unified installer.

IMPORTANT

Installation of the Orchestrator server on a machine already running Veeam Backup & Replication or Veeam ONE is not supported.



Veeam Backup & Replication Servers

Deploy an Orchestrator agent to each of your Veeam Backup & Replication servers to orchestrate the recovery of protected machines.

[Optional] NetApp Storage Systems

All NetApp storage systems must be connected to the Orchestrator server. That is, you must connect both storage virtual machines (SVMs) that manage the source volumes hosting VM disks and configuration files, and SVMs that manage the replicated volumes.

NOTE

You can connect only SVMs to the Orchestrator server. Connections to NetApp clusters and nodes are not supported.

[Optional] HPE Storage Systems

All HPE storage systems must be connected to the Orchestrator server. That is, you must connect storage systems that manage volumes hosting VM disks and configuration files, and storage systems that manage volumes storing replicated data.

NOTE

You can connect only storage systems to the Orchestrator server. Connections to StoreServ Management Consoles are not supported.

[Optional] vCenter Servers

All vCenter Servers that manage protected VMs, or that will host recovered backups, must be connected to the Orchestrator server.

Deployment Scenarios

Orchestrator supports a number of deployment scenarios. This document describes 4 common scenarios.

- [Orchestrating restore to Microsoft Azure from vSphere and agent backups](#)
- [Orchestrating failover based on storage replication and vSphere VMs](#)
- [Orchestrating restore to VMware vSphere from vSphere and agent backups](#)
- [Orchestrating failover based on Veeam vSphere replication jobs](#)

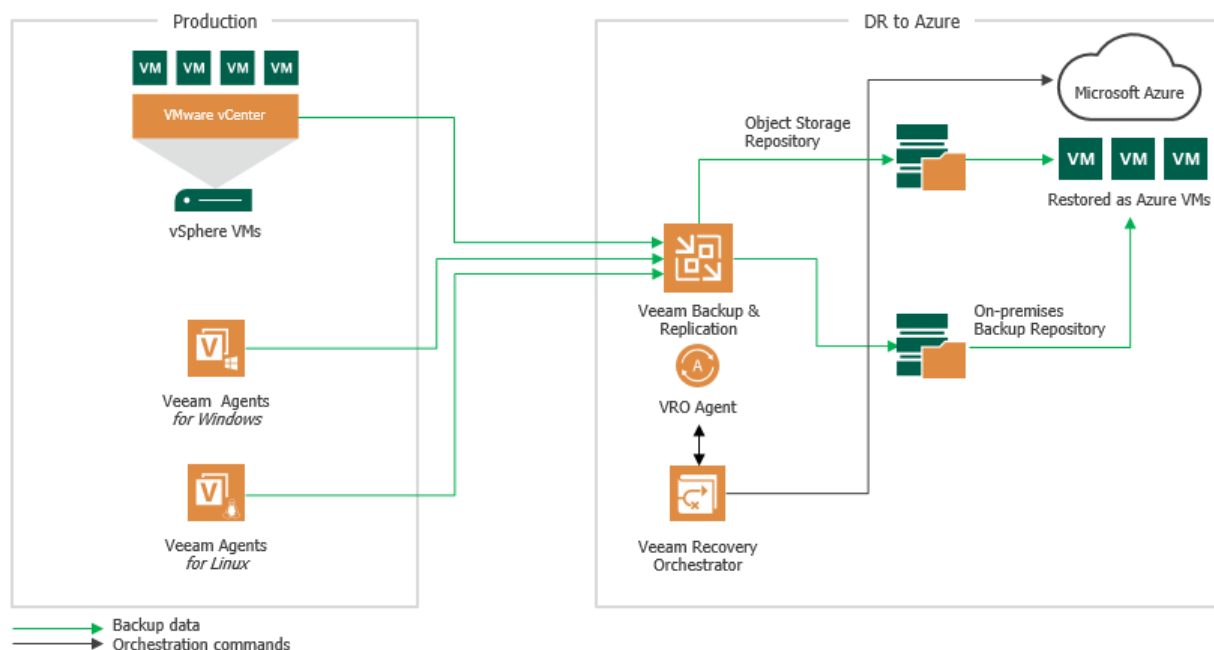
You can also combine any of the described scenarios to support your own data protection strategy.

Scenario 1: Orchestrating Restore to Microsoft Azure

This deployment scenario illustrates recovery to Microsoft Azure from both Veeam agent and vSphere VM backups created by Veeam Backup & Replication.

First, a Microsoft Azure compute account and a storage account should be registered in any Veeam Backup & Replication server that is connected to Orchestrator. For more information, see the Veeam Backup & Replication User Guide, sections [Microsoft Azure Storage Accounts](#) and [Microsoft Azure Compute Accounts](#).

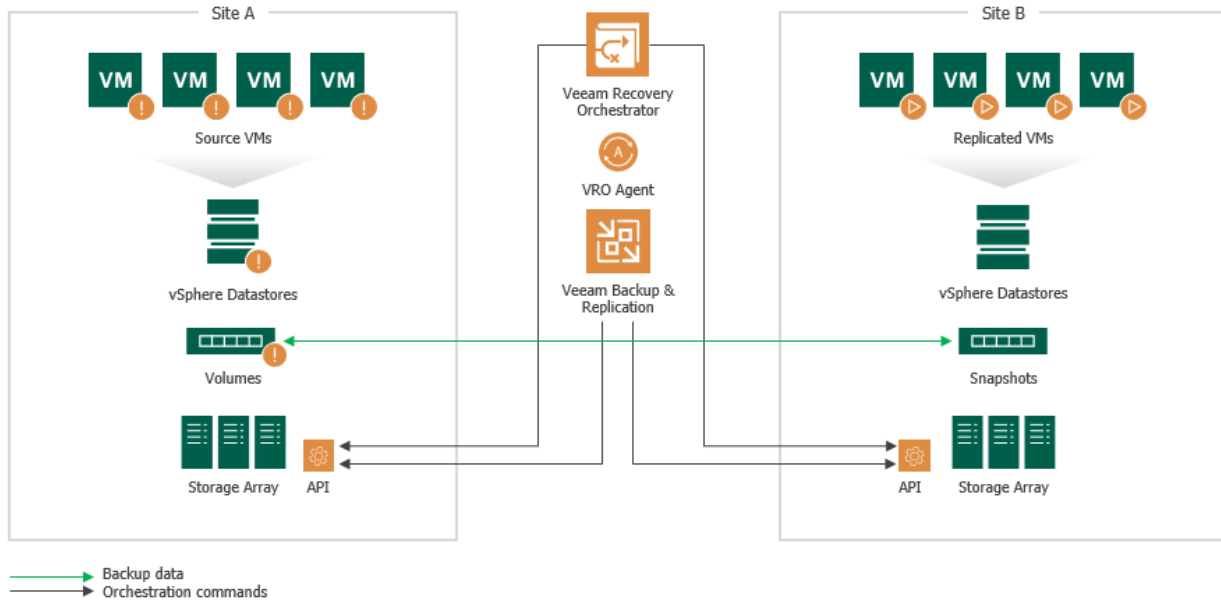
In this scenario, physical workloads are protected by Veeam Agent for Windows or Veeam Agent for Linux, and vSphere VM workloads are protected by Veeam Backup & Replication. All these workloads can be recovered into the Microsoft Azure cloud as virtual machines. Orchestrator can use both on-premises and cloud backup repositories, and leverage [Veeam Secure Restore](#) while recovering agent and vSphere backups as new Microsoft Azure VMs.



Scenario 2: Orchestrating Storage and VM Failover

This deployment scenario illustrates recovery based on replicated storage snapshots containing vSphere VMs.

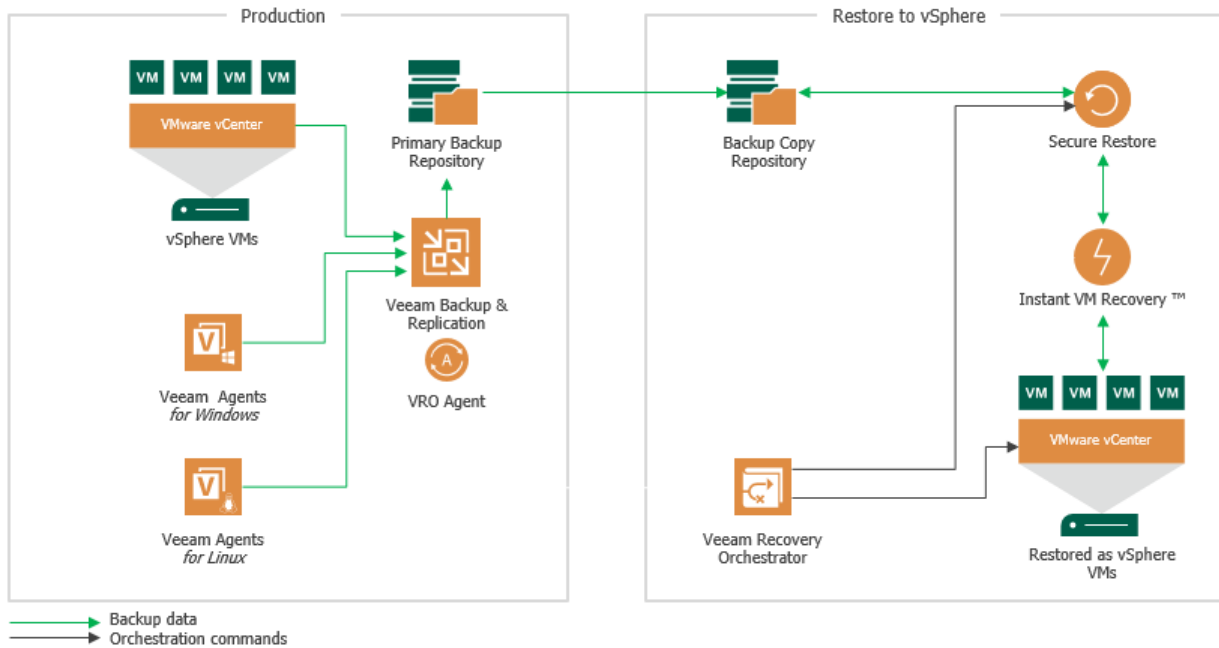
In this scenario, vSphere VMs are deployed on storage that is replicated between Site A and Site B. The Veeam Backup & Replication server triggers the creation of application-aware storage snapshots to protect the VMs. The Orchestrator server provides plan management, testing and execution, automating the failover of the storage volumes and the re-registration of VMs in the destination site.



Scenario 3: Orchestrating Restore to vSphere

This deployment scenario illustrates recovery to a VMware vSphere environment from vSphere VM and Veeam agent backups created by Veeam Backup & Replication.

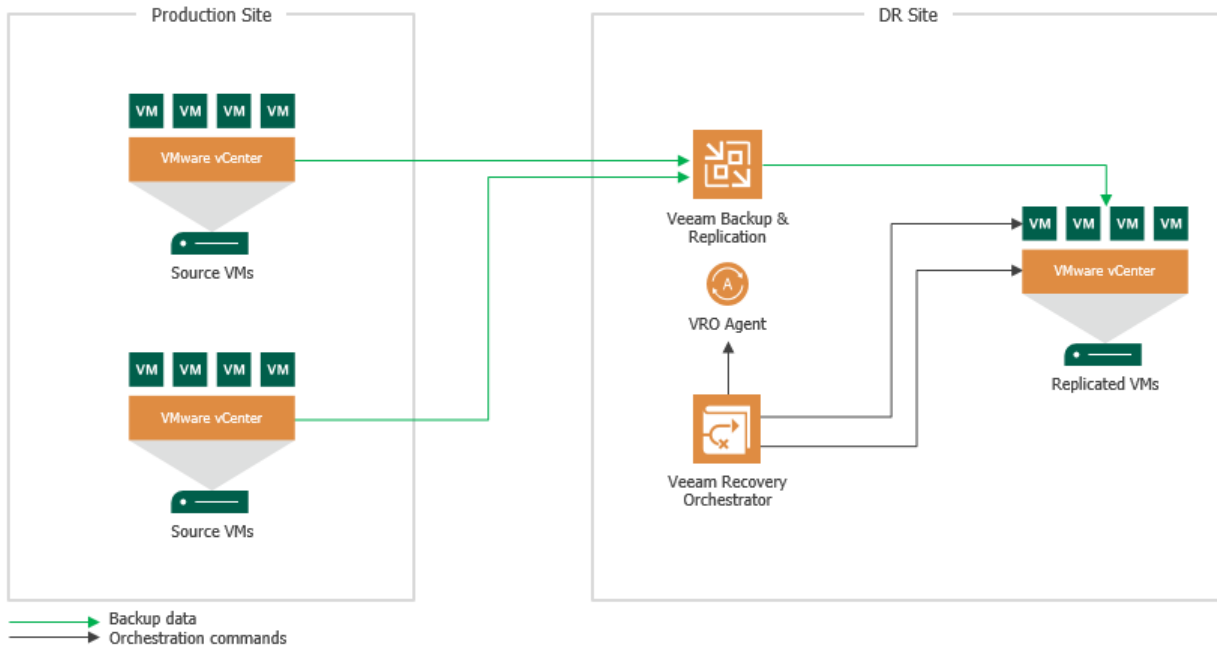
In this scenario, physical workloads are protected by Veeam Agent for Windows or Veeam Agent for Linux, and vSphere VM workloads are protected by Veeam Backup & Replication. All these workloads can be recovered into the VMware vSphere environment as virtual machines. Orchestrator can use both primary and copy backup repositories, and leverage both [Veeam Secure Restore](#) and [Veeam Instant VM Recovery](#) while recovering agent and VM backups as new vSphere VMs.



Scenario 4: Orchestrating VM Failover

This deployment scenario illustrates recovery based on vSphere VM replicas created by Veeam Backup & Replication.

In this scenario, you can switch from the original VMs in the production site to the VM replicas in the disaster recovery (DR) site. The Orchestrator server provides failover plan management, testing and execution, failing over all VMs and performing verification tests and checks to ensure successful recovery.



Planning and Preparation

Before you start installing Orchestrator, check supported virtualization platforms, system requirements, permissions and network ports used for data transmission.

System Requirements

The machine where Orchestrator will be deployed must meet the necessary hardware and software requirements. Note that the Orchestrator server can function as a Veeam Backup & Replication server and a Veeam ONE server (in addition to Orchestrator functions) and, if used in this way, must have sufficient resources provided.

IMPORTANT

Consider the following limitations:

- Installation of Orchestrator on a machine already running Veeam Backup & Replication or Veeam ONE is not supported.
- Installation of Orchestrator on a machine with the Domain Controller role is not supported.
- Installation of Orchestrator on a machine running Microsoft Windows Server Core is not supported.
- Installation of Orchestrator on a machine running the PostgreSQL database system is not supported.

Specification	Requirement
Hardware	Hardware requirements depend on the size of the managed infrastructure. For more information, see Hardware Recommendations .
OS	<p>Only 64-bit versions of the following operating systems are supported:</p> <ul style="list-style-type: none">• Microsoft Windows Server 2022• Microsoft Windows Server 2019• Microsoft Windows Server 2016• Microsoft Windows Server 2012 R2• Microsoft Windows Server 2012 <p>Note: It is not recommended to use the Express Edition in any production Orchestrator deployments – it should be used for product evaluation only.</p>
User Management	Windows domain-joined machine
Additional Software	<p>All components will be installed during setup.</p> <p>For inline Report editing, Microsoft Word component of SP2 for Microsoft Office 2010 or later is required.</p>

Specification	Requirement
SQL Server	<p>Local or remote installations of the following versions of Microsoft SQL Server are supported:</p> <ul style="list-style-type: none"> • 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
Veeam Software	<p>If a remote Veeam Backup & Replication server is used for backup and replication task management, it must be version 11a or later.</p> <p>Note: Only connections to Veeam Backup & Replication servers deployed on Microsoft Windows Server OS are supported.</p>
Virtualization Platform	<ul style="list-style-type: none"> • VMware vSphere 6.0, 6.5, 6.7, 7.0, 8.0 (up to vCenter Server 8.0a), 8.0 Update 1 • NSX-T Virtual Distributed Switch (N-VDS) networks v2.4 and later <p>Note: The Orchestrator server must be connected to VMware vCenter Servers. Direct connections to vSphere hosts are not supported.</p>
Storage System	<ul style="list-style-type: none"> • HPE 3PAR 3.3.1 MU5 • HPE Primera 4.2 and 4.3 • HPE Alletra 9000 • NetApp ONTAP 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11 <p>Note: Lenovo DM storage systems are also supported as they use the NetApp APIs.</p>

Hardware Recommendations

Number of Orchestrated Systems*	0-100	100-1000	1000-5000	5000-10000	>10000
CPU	4 vCPUs (minimum) - 8 vCPUs (recommended) for the Orchestrator server 4 vCPUs (minimum) - 8 vCPUs (recommended) for all the databases	4 vCPUs (minimum) - 8 vCPUs (recommended) for the Orchestrator server 4 vCPUs (minimum) - 8 vCPUs (recommended) for all the databases	8 vCPUs (minimum) - 12 vCPUs (recommended) for the Orchestrator server 8 vCPUs (minimum) - 12 vCPUs (recommended) for all the databases	12 vCPUs (minimum) - 16 vCPUs (recommended) for the Orchestrator server 12 vCPUs (minimum) - 16 vCPUs (recommended) for all the databases	>16 vCPUs for the Orchestrator server >16 vCPUs for all the databases
Memory	8 GB (minimum) - 10 GB (recommended) for the Orchestrator server 4 GB (minimum) - 8 GB (recommended) for all the databases	10 GB (minimum) - 12 GB (recommended) for the Orchestrator server 4 GB (minimum) - 8 GB (recommended) for all the databases	12 GB (minimum) - 40 GB (recommended) for the Orchestrator server 8 GB (minimum) - 40 GB (recommended) for all the databases	30 GB (minimum) - 70 GB (recommended) for the Orchestrator server 40 GB (minimum) - 70 GB (recommended) for all the databases	>70 GB for the Orchestrator server >70 GB for all the databases
SQL Server	N/A	N/A	N/A	Disk IOPS 1000 (minimum)	Disk IOPS 2000 (minimum)

Number of Orchestrated Systems*	0-100	100-1000	1000-5000	5000-10000	>10000
Hard Disk Space	<p>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.</p> <p>20 GB for the Microsoft SQL Server. By default, the Microsoft SQL Server database grows as follows:</p> <ul style="list-style-type: none"> • ~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. <p>Note: SSD disks are recommended to use with the Microsoft SQL Server.</p>				

*The total number of protected machines used in orchestration plans, including vSphere VM and Veeam agent backups.

Roles

There are 3 roles that you can assign to Windows Active Directory users and user groups who will work with Orchestrator. Actions a user can perform depend on the role.

- **Administrator** – can perform all administration actions, and can also act as a Plan Author.
- **Plan Author** – can enable, disable, reset, create, edit and test plans, and can also act as a Plan Operator.
- **Plan Operator** – can perform readiness checks, and can also test, schedule and run plans that are enabled.

The following table describes the access available to users with different roles in the Orchestrator UI.

Access	Administrator	Plan Author	Plan Operator
Administration	Full	None	None
Enable, Disable, Reset, Create, Edit Plans	Full	Full	None
Check, Test, Schedule, Run Plans	Full	Full	Enabled plans only
Reports and Templates	Full	Full	Read-only

Permissions

The accounts used to install and administer Orchestrator must have the following permissions.

Account	Required Permission
Setup Account	The account used for product installation must be a domain user who has the local Administrator permissions on the target machine.
Orchestrator Service Accounts	<p>The accounts used to run Orchestrator services, Veeam Backup & Replication services and Veeam ONE services must have the local Administrator permissions on the Orchestrator server.</p> <p>The accounts must also be granted the <i>Log on as a service</i> right. For more information on Windows security policy settings, see Microsoft Docs.</p>
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 <i>Allow log on locally</i> right. For more information on Windows security policy settings, see Microsoft Docs .
vCenter Server Permissions	<p>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.</p> <p>To be able to open sessions on the vCenter Server system, the account must also have the <i>Sessions.Validate session</i> privilege on the root vCenter Server. For more information on session privileges, see VMware Docs.</p>
Microsoft SQL Server Permissions	<p>Different sets of Microsoft SQL permissions are required in the following cases:</p> <ul style="list-style-type: none">• Installation (remote or local): the current account needs the <i>CREATE ANY DATABASE</i> permission on the SQL server level. After the database is created, this account automatically gets a <i>db_owner</i> role and can perform all operations with the database.• Operation: the account used to run Orchestrator services, Veeam Backup & Replication services and Veeam ONE services requires the <i>db_owner</i> role, as well as permissions to execute stored procedures for the configuration databases on the Microsoft SQL Server. <p>For more information, see Veeam Backup & Replication Required Permissions and Veeam ONE Required Permissions.</p>

Account	Required Permission
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 .
HPE Storage System Permissions	The account used to connect the storage system to Orchestrator must be assigned the <i>Super</i> or <i>Edit</i> role. If the account is assigned the <i>Edit</i> 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.
Orchestrator Step Accounts	The account used to run the Verify SharePoint URL step, must be assigned the <i>SharePoint_Shell_Access</i> role and must be a member of the <i>WSS_ADMIN_WPG</i> group on the processed machine. The account used to run the Verify Exchange Mailbox step, must be assigned the <i>ApplicationImpersonation</i> role on the processed machine.

NetApp Data ONTAP Permissions

The account used to connect to a NetApp Data ONTAP storage system must have the following permissions:

Command/Directory	Access/Query Level
DEFAULT	none
job	readonly
lun	all
network interface	readonly
snapmirror	all
version	readonly
volume	all
vserver	readonly

Ports

The following table lists typical connection settings required for Orchestrator components.

NOTE

These requirements assume that the embedded Veeam Backup & Replication and Veeam ONE components are used only in the default configuration (to support Orchestrator activities), and not for full production functionality.

If the embedded Orchestrator components are used for additional functionality, refer to the Veeam Backup & Replication User Guide, section [Used Ports](#) and Veeam ONE Deployment Guide, section [Ports](#) for the full requirements.

From	To	Protocol	Port	Notes
Orchestrator server	vCenter Server	TCP/HTTPS	443	Used by the embedded Veeam Backup & Replication and Veeam ONE servers to connect to the vCenter Server.
	SVM (NetApp)	HTTPS	443	Used by the Veeam Orchestrator Server Service to access the management interface of the storage virtual machine.
	Storage system (HPE)	HTTPS	443	Used by the Veeam Orchestrator Server Service to connect to the HPE Primera storage system.
		HTTPS	8080	Used by the Veeam Orchestrator Server Service to connect to the HPE 3PAR storage system.
	Microsoft SQL Server	TCP	1433	Required to provide access to the Microsoft SQL Server where Orchestrator, embedded Veeam Backup & Replication and ONE databases are stored. Additional ports may need to be open depending on your configuration. For more information, see Microsoft Docs .
Veeam Backup & Replication server	Orchestrator server	HTTPS	8888	Required to deploy Orchestrator agents to remote Veeam Backup & Replication servers. Then, is used by the Veeam Orchestrator Server Service to connect to the Orchestrator agents running on these servers.

From	To	Protocol	Port	Notes
	VM guest OS	TCP	Ports for VM guest OS connection	<p>Required to run in-guest scripts on a virtual machine being tested, failed over or restored.</p> <p>For the full list of ports that must be opened to ensure proper communication of the Veeam Backup & Replication server with the runtime coordination process deployed inside the VM guest OS, see the Veeam Backup & Replication User Guide, section Used Ports.</p> <p>Make sure that the VM is configured to allow inbound traffic: the default <i>File and Printer Sharing (SMB-In)</i> firewall rule must be enabled.</p>
Workstation web browser	Orchestrator UI	HTTPS	9898	Required to access the Orchestrator UI from a user workstation.
	Veeam ONE Reporter Web UI	HTTPS	1239	<p>Required to access the Veeam ONE Reporter console from a user workstation.</p> <p>The Veeam ONE Reporter Web UI is deprecated in Orchestrator but included for compatibility reasons.</p>
Orchestrator UI	Orchestrator server	TCP	12348	Used by the Orchestrator UI to connect to the remote Veeam Orchestrator Server Service.
Veeam ONE Client	Orchestrator server	TCP	139; 445	Used by Veeam ONE Client to communicate with the embedded Veeam ONE server.
Veeam Backup Catalog service	Veeam Backup & Replication server	TCP	9393	Required to collect indexing data for backup and replication jobs, and to store this data in the Veeam Backup Catalog folder on the Veeam Backup & Replication server.
Veeam Backup & Replication console	Veeam Backup & Replication server	TCP	9392	Used by the Veeam Backup & Replication console to connect to the Veeam Backup & Replication server.
Veeam backup source connection	Veeam Backup & Replication server	TCP	9401	Used by the mount server to communicate with the Veeam Backup & Replication server.
Veeam License Update Server	Orchestrator server	TCP	443	Required to get automatic license updates.

Licensing

This section describes how Orchestrator is licensed, what types of licenses you will need to get access to the necessary Orchestrator functionality, how you can install and update licenses, how you can submit license usage reports and so on.

License Types

Veeam offers the following types of licenses for Orchestrator.

Paid Licenses

There are 2 types of paid licenses available for Orchestrator:

- **Rental license** is a full license intended for service providers.
The expiration date of the *Rental* license is set to the contract end date, which is the last day of the month and normally one month from the contract start date.
- **Subscription license** is a full license intended for enterprises.
The expiration date of the *Subscription* license is set to the end of the subscription term. The *Subscription* license term is normally 1-5 years from the license issue date.

Free Licenses

There are 2 types of free licenses available for Orchestrator:

- **Evaluation license** is a full license that can be used for product evaluation.
The trial license is valid for 30 days from the moment of the product download.
- **NFR license** is a full license that can be used for product demonstration, training and education.
This license is not for resell or commercial use.

Licensed Objects

To work with Orchestrator, you will require licenses for objects managed by the solution – backups or replicas of virtual or physical machines, Orchestrator agents, Veeam Backup & Replication and Veeam ONE. This section describes how these managed objects are licensed, and what types of licenses you will need to obtain.

Licensing for Recovered VMs

Each machine processed by an orchestration plan requires a license. A **license** here is a unit (or token) that is assigned to a machine to make it manageable in Orchestrator. In version 6.0, each machine consumes one license instance regardless of the number of plans and DataLabs that include the machine.

NOTE

All machines added to the plan consume license instances, even if they have no replica or backup. All machines used in DataLab groups to support plan testing environments also consume license instances.

Licenses for machines are included in the Orchestrator license file. A license file may include an arbitrary number of licenses that form a license pool for machines. Each machine managed by Orchestrator consumes required licenses from this pool.

NOTE

Orchestrator requires its own specific license file. It does not obtain or consume the Veeam Universal License (VUL) instances from connected Veeam Backup & Replication servers.

Licensing for Remote Veeam Backup & Replication Servers with Orchestrator Agents

Each remote Veeam Backup & Replication server connected to Orchestrator must have the *Enterprise* or *Enterprise PLUS* edition installed. Otherwise, Orchestrator will not be able to deploy its agent on the server.

IMPORTANT

- Connections to Veeam Backup & Replication servers with the Essentials pack license are not supported.
- Connections to Veeam Backup & Replication servers with the NFR license are supported only if the Orchestrator server has the NFR license installed.

Edition check is the only check made by Orchestrator to verify licensing of remote Veeam Backup & Replication servers. All operations with licenses on remote Veeam Backup & Replication servers are accomplished according to the Veeam Backup & Replication guidelines. For more information on Veeam Backup & Replication licensing, see the Veeam Backup & Replication User Guide, section [Licensing](#).

Licensing for Embedded Veeam Backup & Replication Server

The default Orchestrator license file includes a section to license the embedded Veeam Backup & Replication server installation for one VUL instance. This is required only to unlock certain PowerShell commands.

If you plan to use the embedded Veeam Backup & Replication server for production activities or for a product evaluation, you can supply a multi-sectional license during Orchestrator setup that will also license the embedded Veeam Backup & Replication server. Alternatively, to license the Veeam Backup & Replication server after installation using the console, see the Veeam Backup & Replication User Guide, section [Installing License](#).

Licensing for Embedded Veeam ONE Server

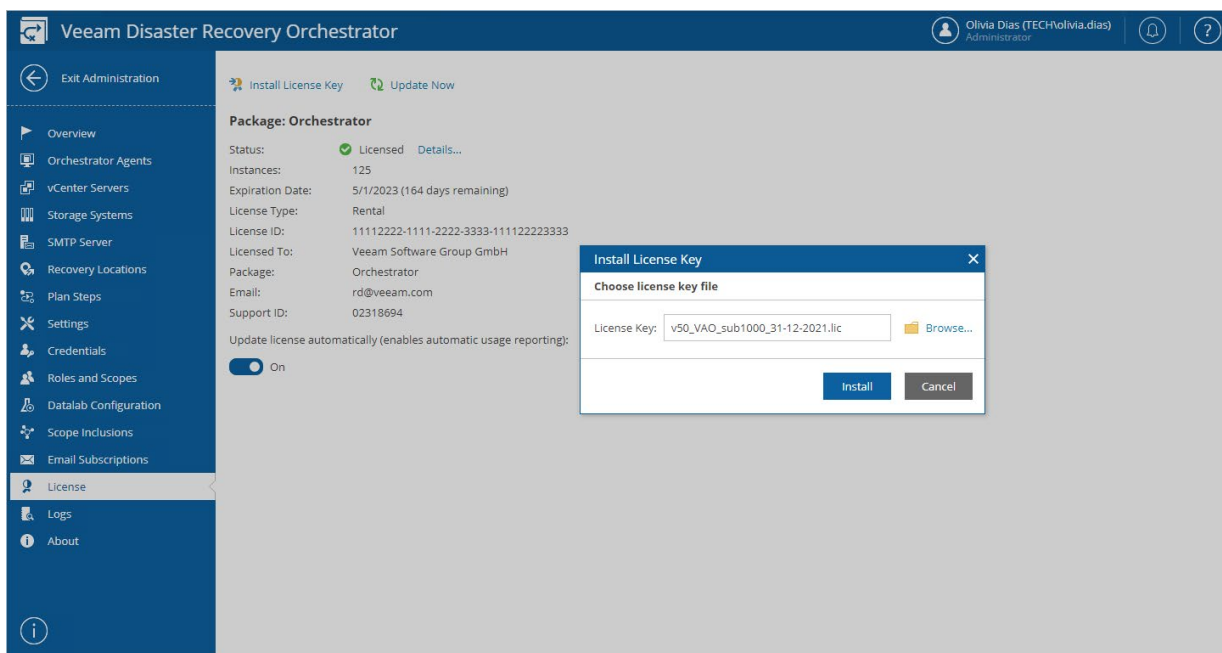
By default, Orchestrator will use the *Orchestrator Edition* of Veeam ONE that supplies all functionality required to support Orchestrator activities. No additional license is required.

Installing License

Before you install Orchestrator, you must specify a path to a license file. Without a license, you will not be able to start installation.

After you install Orchestrator, you can change the license that you provided during installation:

1. Switch to the **Administration** page.
2. Navigate to **License**.
3. Click **Install License Key**.
4. In the **Install License Key** window, click **Browse** to browse to a license file, and then click **Install**.



Updating License

When your Orchestrator license expires, you must update it. To update the license, you can use either of the following methods:

- [Update the license manually](#)
- [Update the license automatically](#)

NOTE

You can update the license automatically only if you have a paid license (*Rental* or *Subscription*) installed.

Updating License Manually

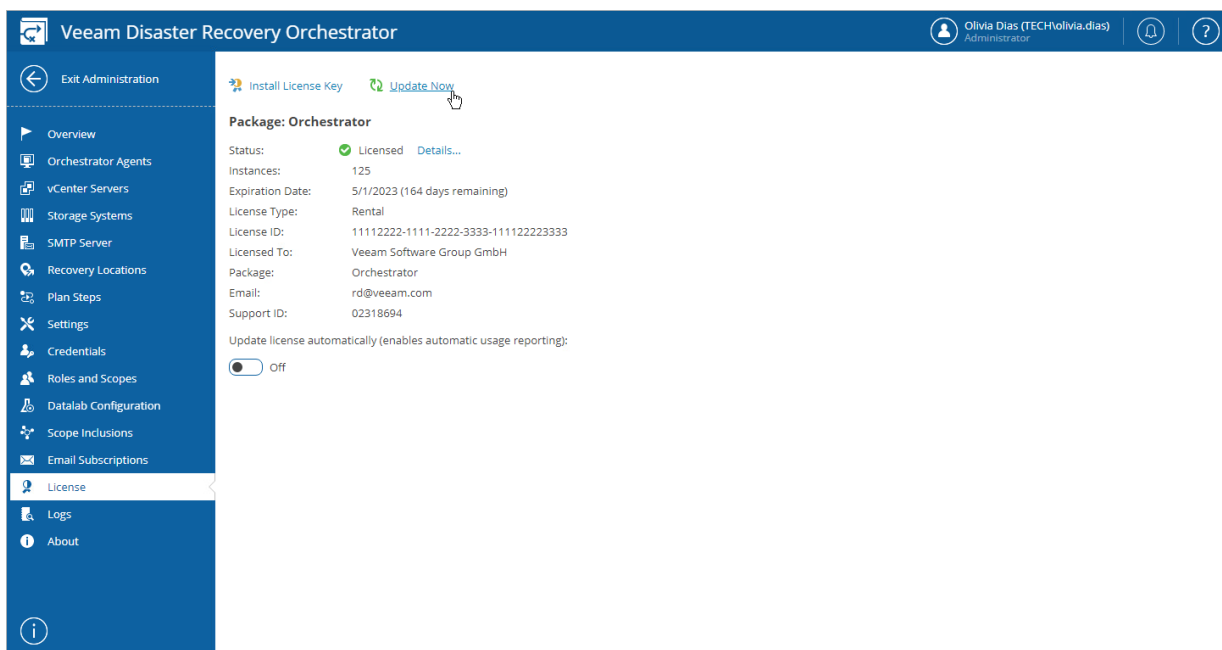
You can update the Orchestrator license from the Veeam License Update Server manually, on demand. When you update the license manually, Orchestrator connects to the Veeam License Update Server on the Internet, downloads a new license (if the license is available) and installs it to replace the old license.

To update the license manually:

1. Switch to the **Administration** page.
2. Navigate to **License**.
3. Click **Update Now**.

Orchestrator will connect to the Veeam License Update Server on the Internet, download a new product license from it (if available), install it, and display a dialog box with the license update status.

4. In the displayed dialog box, click **OK** to acknowledge the license update result.



Manual license update can complete with the following results:

- **Operation is successful.** A new license key has been successfully generated, downloaded and installed.
- **A new license is not required.** The currently installed license key does not need to be updated.
- **The Veeam License Update Server has failed to generate a new license.** You will get this message if an error occurs on the Veeam License Update Server side.
- **Veeam Disaster Recovery Orchestrator has received an invalid answer.** You will get this message if there are connectivity issues between the Veeam License Update Server and Orchestrator server.
- **Licensing by the contract has been terminated.** The contract has expired. In this case, Orchestrator automatically disables automatic license update.

Updating License Automatically

You can instruct Orchestrator to update the license automatically. Automatic license update removes the need to perform license update manually every time it is about to expire. If automatic license update is enabled, Orchestrator proactively communicates with the Veeam License Update Server to obtain and install a new license before the current license expires.

- [How Automated License Update Works](#)
- [Automatic Update Retries](#)
- [Enabling Automatic License Update](#)

How Automated License Update Works

The process of automatic license update is performed in the following way:

1. After you enable automatic license update, Orchestrator starts sending weekly requests to the Veeam License Update Server on the Internet to check if a new license is available.
2. Seven days before expiration of the current license, Orchestrator starts sending requests once a day.
3. When a new license becomes available, Orchestrator automatically downloads and installs it to replace the old license.

Automatic Update Retries

If Orchestrator fails to update the license, it sends a notification to the contact person specified in the contract, and retries to update the license.

NOTE

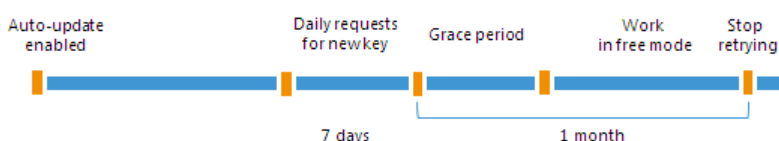
To allow Orchestrator to send email notifications, you must connect an SMTP server that will be used for sending these notifications, as described in the Veeam Disaster Recovery Orchestrator Operations Guide, section [Configuring Notification Settings](#).

Orchestrator retries to update the license key in the following way:

- If Orchestrator fails to establish a connection to the Veeam License Update Server, retry takes place every 60 minutes.
- If Orchestrator establishes a connection but the Veeam License Update Server does not return a new license key upon request, the retry takes place every 24 hours.

The retry period ends one month after the license expiration date. The retry period is equal to the number of days in the month of license expiration: for example, if the license expires in January, the retry period will be 31 days; if the license expires in April, the retry period will be 30 days.

If the retry period is over but the new license has not been installed, Orchestrator automatically disables automatic license update.



Enabling Automatic License Update

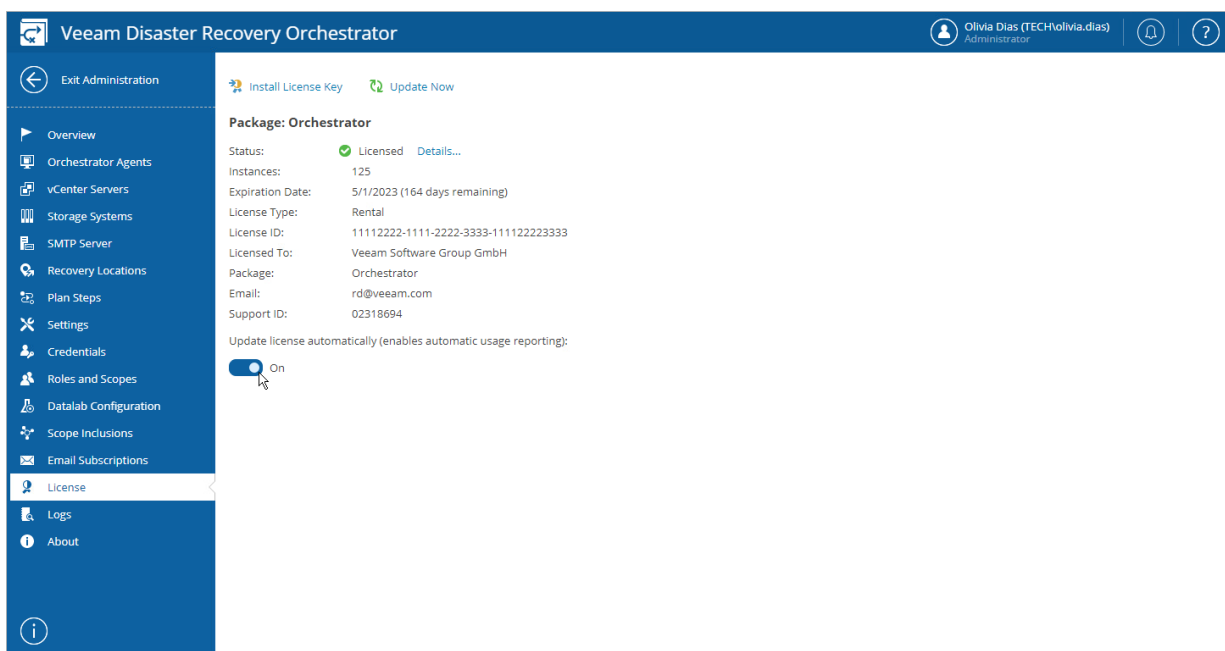
By default, automatic license update is disabled. To facilitate the license update process, you must enable it.

NOTE

Enabling automatic license update activates [Automatic Usage Reporting](#). You cannot use automatic license update without automatic usage reporting.

To enable automatic license update:

1. Switch to the **Administration** page.
2. Navigate to **License**.
3. Set the **Update license automatically (enables automatic usage reporting)** toggle to *On*.



Automatic license update can complete with the following results:

- **Operation is successful.** A new license key has been successfully generated, downloaded and installed.
- **A new license is not required.** The currently installed license key does not need to be updated.
- **The Veeam License Update Server has failed to generate a new license.** You will get this message if an error occurs on the Veeam License Update Server side.
- **Veeam Disaster Recovery Orchestrator has received an invalid answer.** You will get this message if there are connectivity issues between the Veeam License Update Server and Orchestrator server.
- **Licensing by the contract has been terminated.** The contract has expired. In this case, Orchestrator automatically disables automatic license update.

Automatic Usage Reporting

When [automatic license update is enabled](#) for *Rental* or *Subscription* licenses, Orchestrator additionally performs automatic usage reporting.

As part of reporting, Orchestrator collects statistics on the current license usage and sends it periodically to the Veeam License Update Server. The report provides information on the contract ID, product installation ID, and the maximum number of licensed objects managed by Orchestrator over the past week. The reporting process runs in the background mode, once a week at a random time and day.

The collected data does not include information on Orchestrator usage by any individual person identifiable for Veeam, or any data gathered by Orchestrator. Veeam may also use the collected data for any other internal business purposes it deems appropriate, including (but not limited to) evaluation, improvement and optimization of Veeam licensing models.

By enabling automatic license update, you agree with collection, transmission and use of the reporting data.

License Expiration

Orchestrator license period is set in accordance with the chosen licensing program. When this period is over, you must update the license.

To ensure a smooth license update and provide sufficient time to install a new license file, Orchestrator offers a grace period after the license expiration date. During the grace period, Orchestrator keeps working in a full-version mode. The license status during this period appears as *Your subscription license has expired and needs to be renewed*.

The duration of the grace period is defined by the license type:

License Type	Expiration Grace Period
Rental	60 days
Subscription	30 days

You must update the license before the end of the grace period. If you do not update the license, Orchestrator will stop executing orchestration plans as soon as the grace period ends. Plan testing will be disabled as well.

To learn how to update Orchestrator license, see [Updating License](#).

Recovered VM License Statuses

In Orchestrator, a recovered VM can have one of the following license statuses:

- **Licensed** – the machine has licenses assigned and is fully managed by Orchestrator.
- [Applies only to *Rental* licenses] **New** – the machine was added to an orchestration plan within the current calendar month. The machine will be fully managed by Orchestrator until the end of the current month.
- **Unlicensed** – the machine does not have licenses assigned, as there are no more licenses in the license pool. The unlicensed machine will have either the *Licensed by Exceed* or *Unlicensed* status.
 - **Licensed by Exceed** – the machine has no licenses assigned but is within the allowed increase limit. The machine can be used in orchestration plans until the end of the grace period.
 - **Unlicensed by Exceed** – the machine has no licenses assigned, and the allowed increase limit was exceeded. The machine will not be managed by Orchestrator.

For more information, see [Exceeding License Limit](#).

Exceeding License Limit

In some situations, the number of actually managed machines may exceed the license limit. For example, this may happen when some machines are temporarily used for testing or POC.

To deal with a situation where you need to manage more machines than covered by your license, Orchestrator provides mechanisms of **Allowed Increase Limit** and **New VMs**.

Allowed Increase Limit (All Licenses)

Orchestrator allows you to increase the number of recovered VMs during a certain grace period. The grace period duration is equal to the duration of the license key. The allowed license increase limit is defined by the license type.

License Type	Allowed Increase Limit
Rental	20 licenses or 20% of the license count (whichever is greater)
Subscription	10 licenses or 10% of the license count (whichever is greater)

When the number of machines managed by Orchestrator exceeds the license limit, Orchestrator will treat them as follows:

- If the number of machines is within the allowed increase limit or less, Orchestrator will continue to manage all machines until your license expires.

To detect what machines will be managed, a FIFO (first-in first-out) queue is maintained: machines that were added to Orchestrator plans first will be included in the allowed exceed scope first. The license status of machines within the increase limit will be set to *Licensed by exceed*.

You must update the existing license by the license expiration date. Otherwise, the license status of machines within the increase limit will be set to *Unlicensed*, and these machines will no longer be managed by Orchestrator.

- If the number of machines is above the allowed exceed limit, the machines exceeding the licensed number plus the allowed increase limit will be excluded from management.

The license status of machines above the increase limit will be set to *Unlicensed*.

New VMs (Rental Licenses)

To provide more flexibility and introduce a trial period for machine recovery, Orchestrator offers the concept of **New VMs**. New VMs are machines that were discovered by Orchestrator within the current calendar month. This mechanism is provided for *Rental* licenses only.

New machines are managed by Orchestrator as regular machines, but do not consume licenses until the beginning of the new month. In license terms, New VMs are counted separately from regular managed machines. However, such machines do participate in all Orchestrator activities and are fully functional.

On the first day of the new month, the number of New VMs introduced in the previous month is added to the number of regular managed machines. Machines that were treated as New will be managed by Orchestrator in the following cases:

- If there are enough Orchestrator licenses to allocate to these machines.
- If there are no Orchestrator licenses, but the allowed increase limit has not been breached yet. In this case, the machines will obtain the *Licensed by exceed* status.

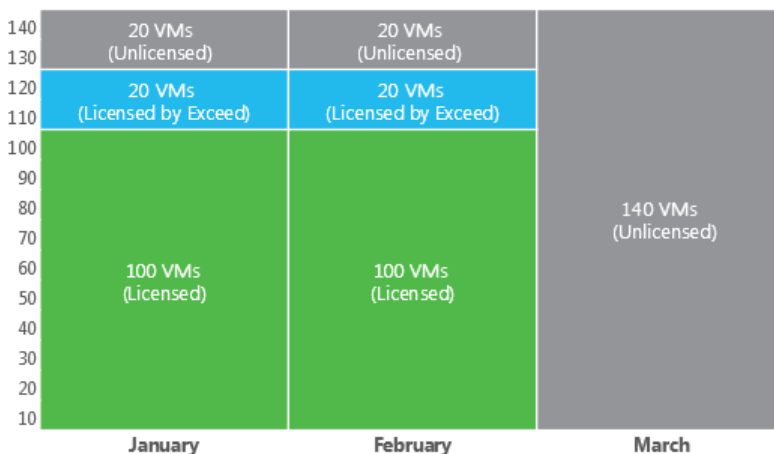
If the allowed increase limit has been already surpassed, these machines will obtain the *Unlicensed* status.

Example

Consider the following example. Your *Rental* license covers 100 VMs. The license expires in 60 days.

At the beginning of January, the number of VMs is 140. Within the first 2 months (January and February), Orchestrator will manage 100 + 20 VMs that were added to orchestration plans first (license limit + 20% allowed increase). 20 VMs that were added last will not be managed.

If the license is not updated upon expiration, in March, Orchestrator will change the status of all 140 VMs to *Unlicensed*.



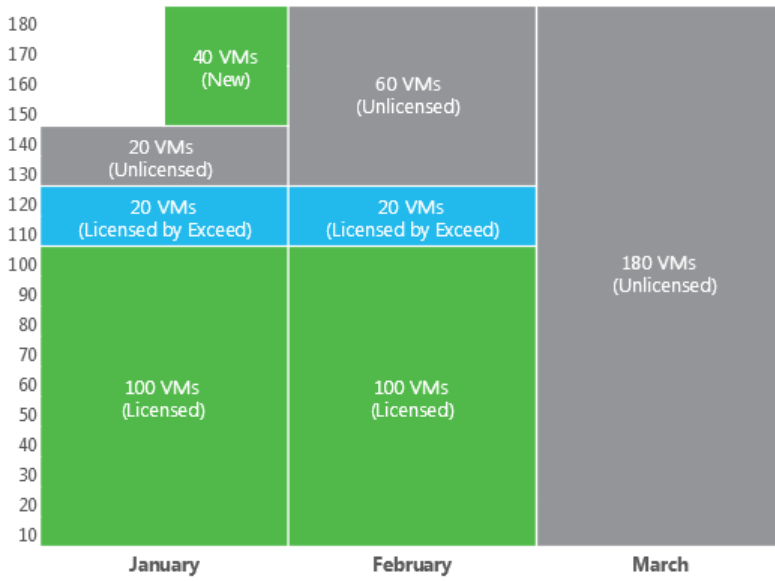
Consider the same example but with [New VMs](#).

In the middle of January, 40 New VMs are added to orchestration plans. Orchestrator will manage these VMs until the end of the month. If the license is not updated, and the license pool is not increased, in February, Orchestrator will change the license statuses as follows:

- The first 20 VMs that obtained the *Licensed by Exceed* status in January will keep the same *Licensed by Exceed* status.
- The second 20 VMs that obtained the *Unlicensed* status in January will keep the same *Unlicensed* status.

- The last 40 VMs added in the middle of January will obtain the *Unlicensed* status according to the FIFO queue.

If the license is not updated upon expiration, and the license pool is not increased, in March, Orchestrator will change the status of all 180 VMs to *Unlicensed*.



Viewing License Details

To view Orchestrator license details:

1. Switch to the **Administration** page.
2. Navigate to **License**.

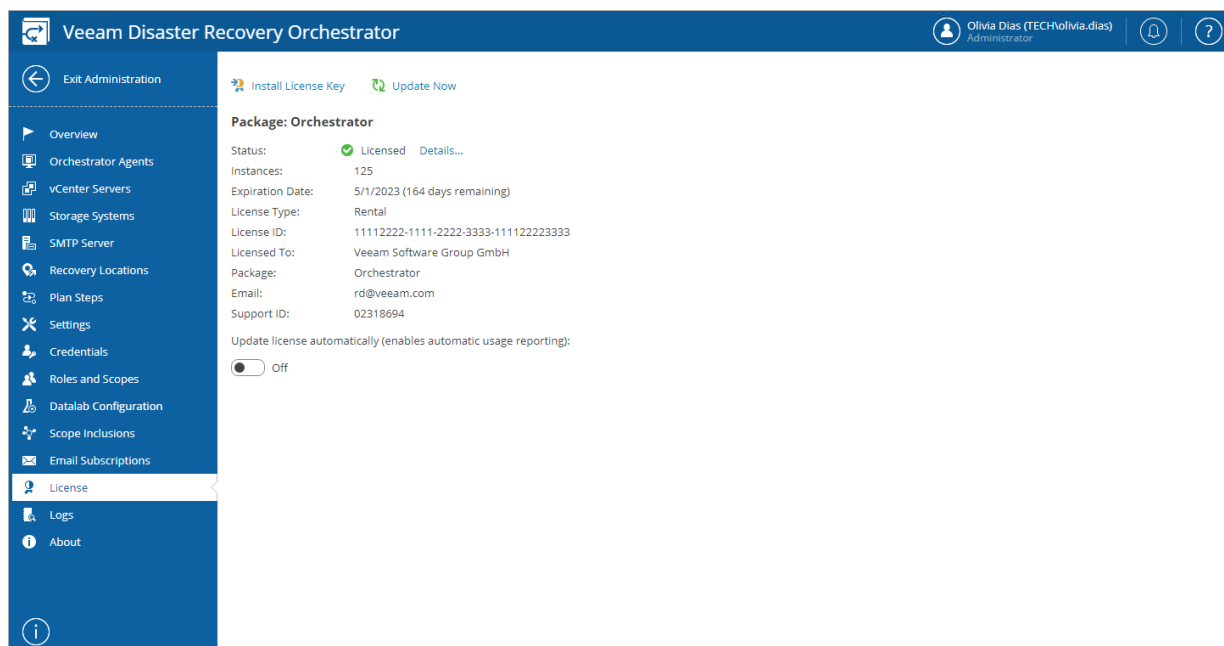
The licensing section provides general information on the currently installed Orchestrator license:

- **Status** – the license status. The status will depend on the license type, the number of days remaining until license expiration, the number of days remaining in the grace period (if any), and the number of machines that exceeded the allowed increase limit (if any).

Click the **Details** link to get more information on the number of licenses consumed by managed machines, and the number of licenses reserved for New VMs that exceed the license limit and that were discovered less than a month ago.

For more information on New VMs, see [Exceeding License Limit](#).

- **Instances** – the total number of licenses for machines included in the license file.
- **Expiration Date** – the date when the license will expire.
- **License Type** – the license type (*Rental, Subscription, Evaluation, NFR*).
- **License ID** – the ID of the provided license file (required for contacting Veeam Customer Support).
- **Licensed To** – the name of an organization to which the license was issued.
- **Package** – the software product for which the license was issued.
- **Support ID** – the ID of the contract (required for contacting Veeam Customer Support).
- **Email** – the email of a contact person specified in the contract.



The screenshot shows the Veeam Disaster Recovery Orchestrator Administration interface. The top navigation bar includes the title 'Veeam Disaster Recovery Orchestrator', a user profile for 'Olivia Dias (TECH\olivia.dias) Administrator', and notification and help icons. The left sidebar contains a navigation menu with 'License' selected. The main content area displays the license details for the 'Orchestrator' package:

- Package:** Orchestrator
- Status:** Licensed (with a green checkmark icon and a 'Details...' link)
- Instances:** 125
- Expiration Date:** 5/1/2023 (164 days remaining)
- License Type:** Rental
- License ID:** 11112222-1111-2222-3333-111122223333
- Licensed To:** Veeam Software Group GmbH
- Package:** Orchestrator
- Email:** rd@veeam.com
- Support ID:** 02318694

Below the details, there is a toggle switch for 'Update license automatically (enables automatic usage reporting):' which is currently set to 'Off'.

Deployment

To start working with Orchestrator, you must configure the Orchestrator server:

1. [Install Veeam Disaster Recovery Orchestrator](#) including all components on a machine that meets the system requirements.
2. [Complete the Initial Configuration Wizard on the Orchestrator server.](#)

NOTE

The Orchestrator solution can be installed in unattended mode. Installation is launched from the command line and performed without any user interaction. For more information, see [Installing Veeam Disaster Recovery Orchestrator in Unattended Mode](#).

After you perform these steps, you will be able to:

- Configure Orchestrator settings
- Create and manage orchestration plans
- Review dashboards
- Generate documentation

For more information, see the [Veeam Disaster Recovery Orchestrator Operations Guide](#).

Installing Veeam Disaster Recovery Orchestrator

During Orchestrator installation, Orchestrator server components will be installed all together on a single machine. For more information on the components, see [Architecture Overview](#).

IMPORTANT

When installing Orchestrator, consider the following limitations:

- Installation of Orchestrator on a machine already running Veeam Backup & Replication or Veeam ONE is not supported.
- Installation of Orchestrator on a machine with the Domain Controller role is not supported.

Before You Begin

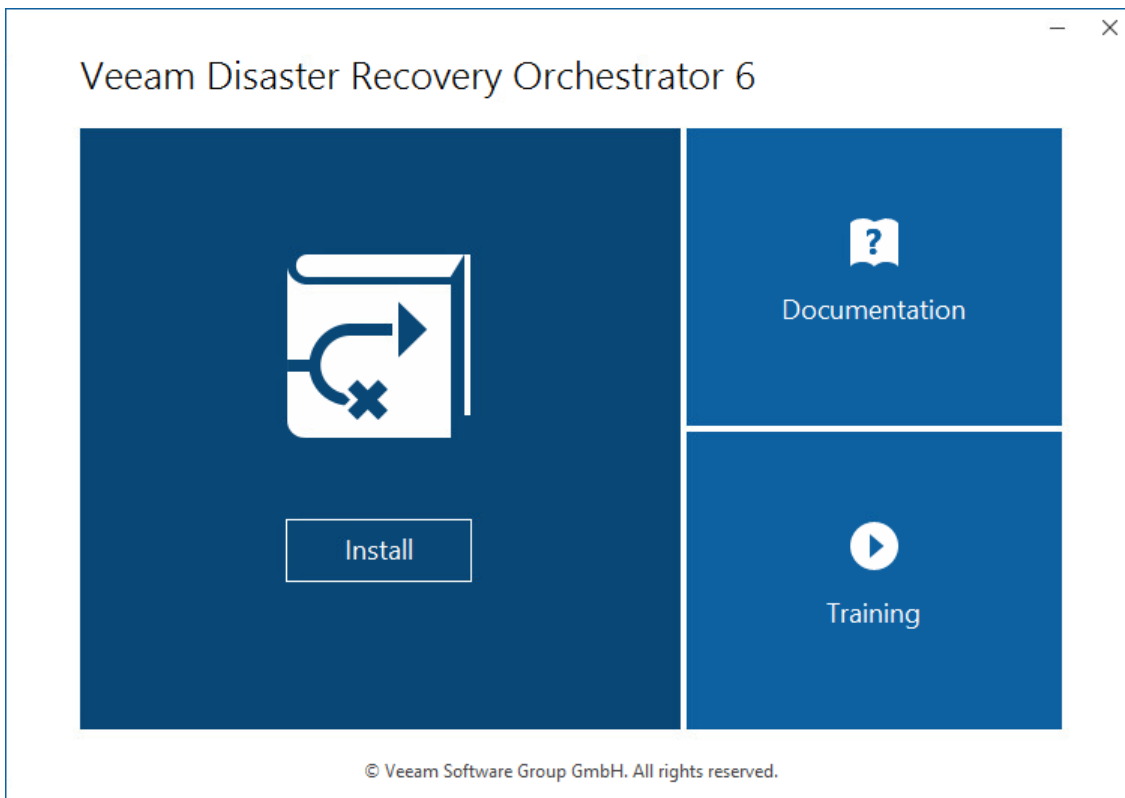
Before you begin installation, check the following prerequisites:

1. Make sure the machine where Orchestrator will be installed meets the prerequisite conditions described in section [System Requirements](#).
2. Download the product installation file `VeeamDisasterRecoveryOrchestrator_6.0.0.3516.iso` from the [Veeam downloads page](#). You can burn the downloaded image file to a CD/DVD or mount the installation image to the target machine using disk image emulation software.

Step 1. Launch Splash Window and Start Setup Wizard

To start the setup wizard, perform the following steps:

1. Log in to the machine where you want to install Orchestrator using an account with the local Administrator rights.
2. Insert the installation disc into the CD/DVD drive or mount the installation image. The setup will open a splash screen with Orchestrator installation options.
3. Click **Install** to launch the **Veeam Disaster Recovery Orchestrator Setup** wizard.



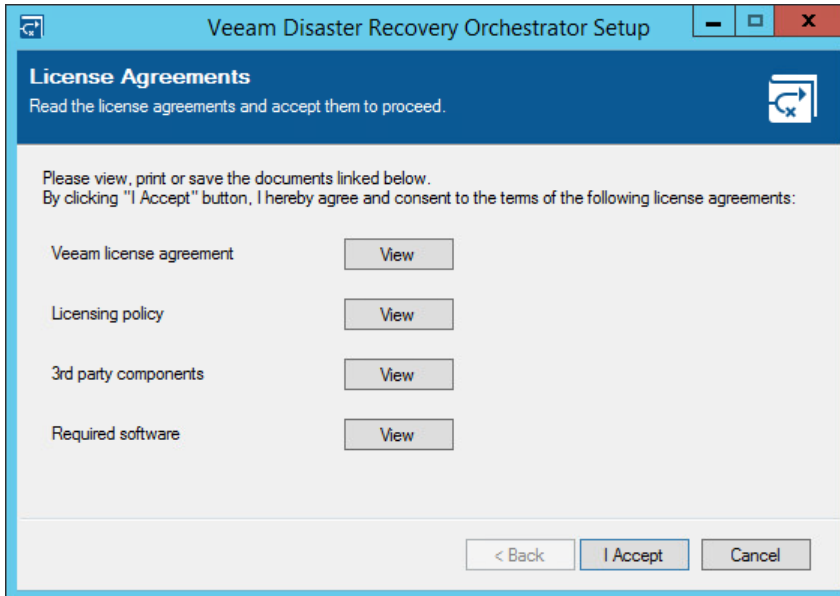
NOTE

Before proceeding with installation, the installer will check whether you have Microsoft .NET Framework 4.7.2 and Microsoft Visual C++ 2019 installed on the machine. In case the required version is missing, the installer will offer to install it automatically. To do that, click **OK**.

Installation will require performing a reboot. Click **Reboot** in the warning message to acknowledge the reboot.

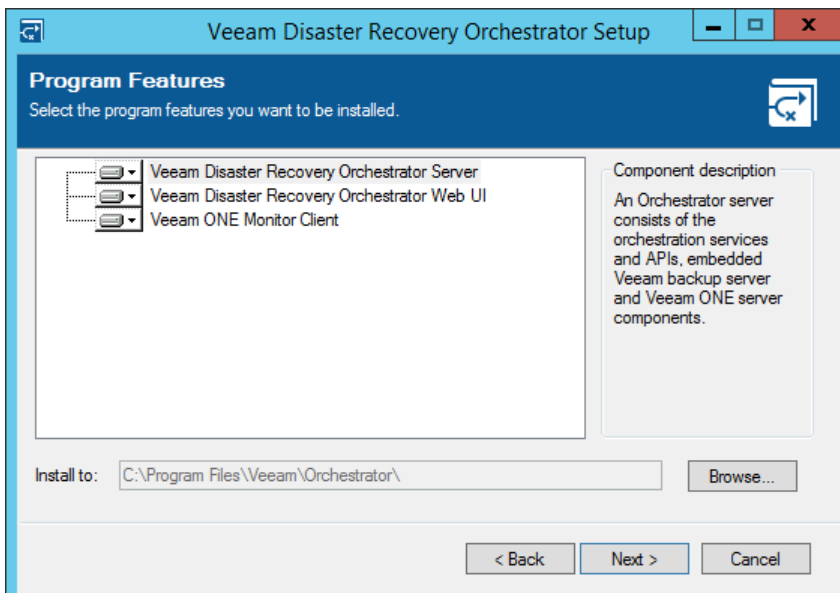
Step 2. Accept License Agreement

At the **License Agreement** step of the wizard, read and accept the Veeam license agreement, the licensing policy, the 3rd party components license agreement and the license agreement of the required software. If you reject the agreements, you will not be able to continue installation.



Step 3. Choose Components to Install

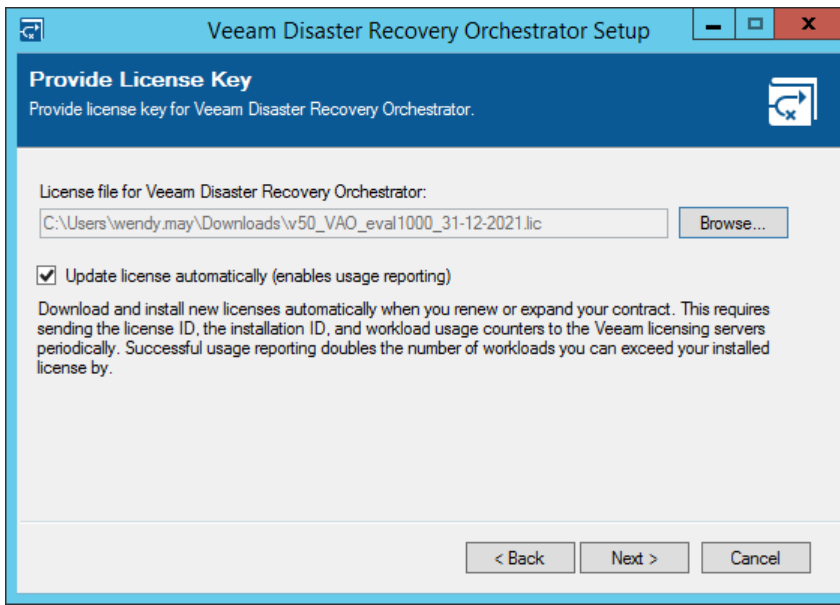
At the **Program Features** step of the wizard, choose Orchestrator components to be installed. If necessary, you can change the installation directory.



Step 4. Provide License File

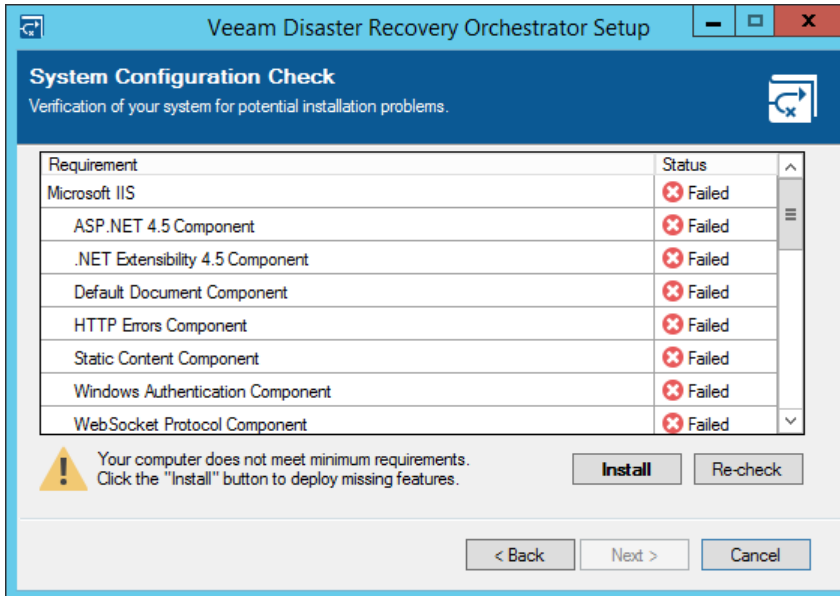
At the **Provide License Key** step of the wizard, click **Browse** to locate the license file supplied to you by Veeam. You will not be able to continue installation without providing a license.

You can instruct Orchestrator to update the license automatically. If automatic license update is enabled, Orchestrator proactively communicates with the Veeam License Update Server to obtain and install a new license before the current license expires. You can enable automatic license update later [when configuring Orchestrator](#).

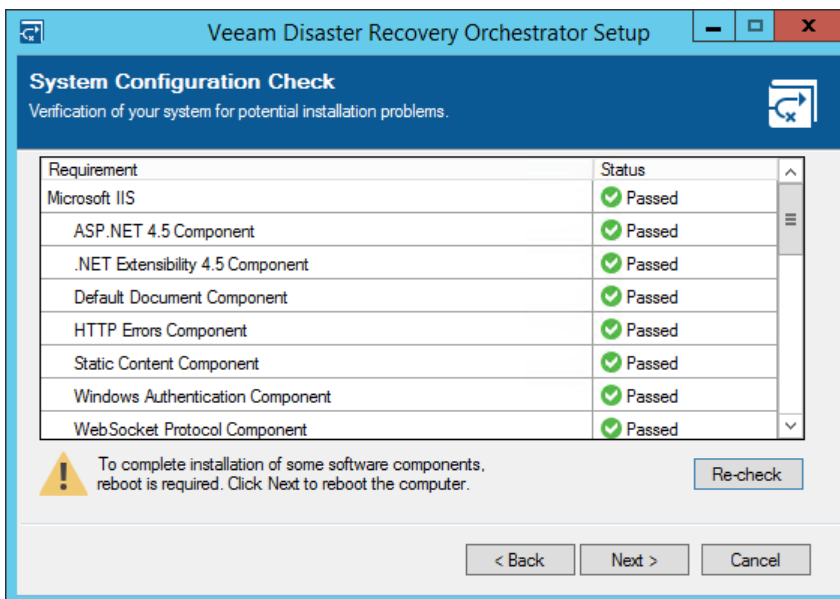


Step 5. Perform System Configuration Check

At the **System Configuration Check** step of the wizard, check whether all prerequisite software is available on the target system. If some of the required software components are missing, the wizard will offer to install missing software automatically. To do that, click **Install**.



When all the required software is installed, click **Re-check** to repeat verification.

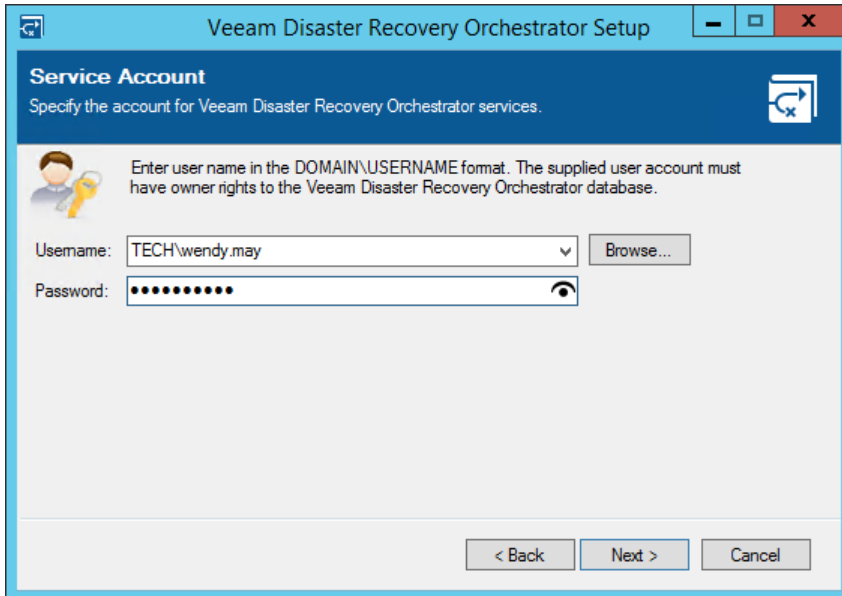


NOTE

Installation of the missing software may require performing a reboot – to do that, click **Next**.

Step 6. Specify Service Account Credentials

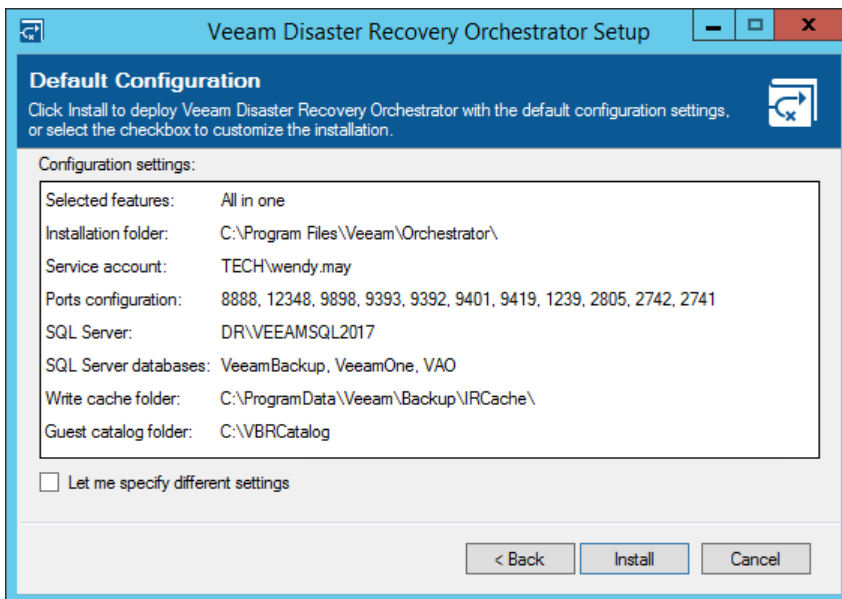
At the **Service Account** step of the wizard, enter credentials of the account under which the Veeam Orchestrator Server Service will run. The account must be a member of the local *Administrators* group. The user name must be specified in the *DOMAIN\USERNAME* format.



The screenshot shows the 'Service Account' step of the Veeam Disaster Recovery Orchestrator Setup wizard. The window title is 'Veeam Disaster Recovery Orchestrator Setup'. The main heading is 'Service Account' with a sub-heading 'Specify the account for Veeam Disaster Recovery Orchestrator services.' Below this, there is an icon of a person with a key and a text box containing the instruction: 'Enter user name in the DOMAIN\USERNAME format. The supplied user account must have owner rights to the Veeam Disaster Recovery Orchestrator database.' The 'Username:' field contains 'TECH\wendy.may' and has a 'Browse...' button next to it. The 'Password:' field is masked with dots and has a visibility toggle icon. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 7. Review Default Installation Summary

At the **Default Configuration** step of the wizard, review installation configuration. Click **Install** to begin installation.



NOTE

During Orchestrator installation, by default, the setup will install Microsoft SQL Server Express to host Orchestrator databases. However, it is not recommended to use the Express Edition in any production Orchestrator deployments – it should be used for product evaluation only.

If you want to use an existing local or remote Microsoft SQL Server instance, select the **Let me specify different settings** check box and click **Next**. In this case, you will also be able to configure used ports, choose an SSL certificate to secure traffic between the Orchestrator UI and a web browser, and to select local folders where Orchestrator, Veeam ONE and Veeam Backup & Replication components will store data cache.

Step 8. Choose SQL Server

[This step applies only if you have selected the **Let me specify different settings** check box at the **Default Configuration** step of the setup wizard]

At the **SQL Server Instance** step of the wizard, choose a Microsoft SQL Server instance that will host the Orchestrator database:

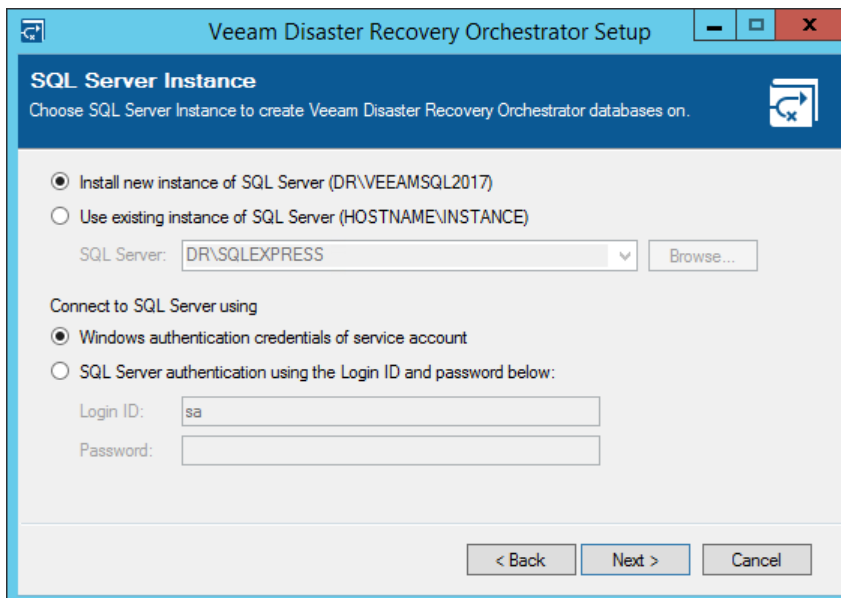
- If on the target machine you do not have a Microsoft SQL Server instance that you can use for Orchestrator, select the **Install new instance of SQL Server** option. In this case, the setup will install Microsoft SQL Server Express locally, on the machine where you are installing Orchestrator.

NOTE

If a Microsoft SQL Server instance that meets Orchestrator system requirements is detected on the machine, you can only use the existing local Microsoft SQL Server instance or choose one that runs remotely. In this case, the option to install a new Microsoft SQL instance will be unavailable.

- If you want to use an existing local or remote Microsoft SQL Server instance, select the **Use existing instance of SQL Server** option and choose a local Microsoft SQL Server instance, or browse to a Microsoft SQL Server instance running remotely. You can either enter the address of the instance manually or use the **Browse** button to search among available remote instances.

To connect to the Microsoft SQL Server instance, you must provide valid credentials for an account that will be used by Orchestrator components to access the Microsoft SQL Server database. You can either specify credentials explicitly or use Windows authentication credentials. Note that the account must have the *System Administrator* rights on the selected Microsoft SQL Server instance.

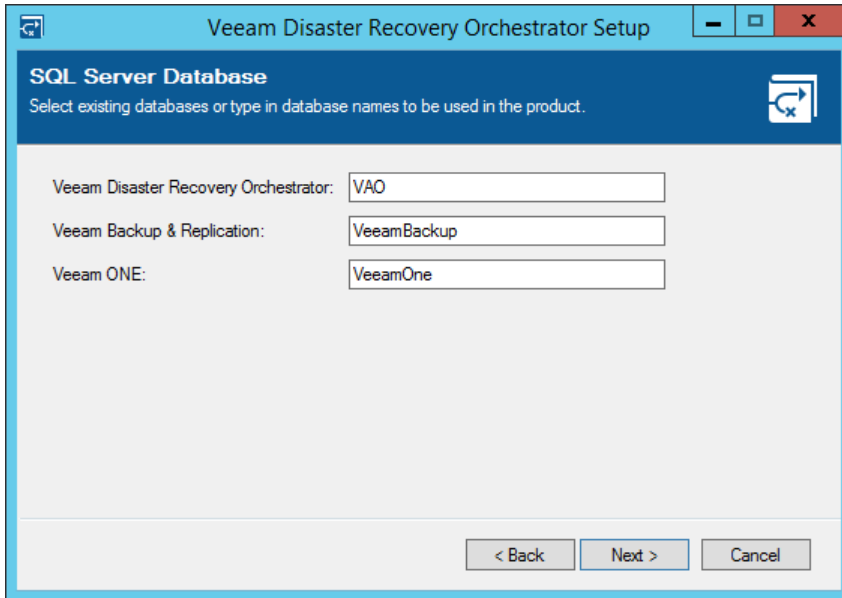


The screenshot shows the 'SQL Server Instance' step of the Veeam Disaster Recovery Orchestrator Setup wizard. The window title is 'Veeam Disaster Recovery Orchestrator Setup'. The main heading is 'SQL Server Instance' with a sub-heading 'Choose SQL Server Instance to create Veeam Disaster Recovery Orchestrator databases on.' Below this, there are two radio button options: 'Install new instance of SQL Server (DR\VEEAMSQL2017)' (selected) and 'Use existing instance of SQL Server (HOSTNAME\INSTANCE)'. Under the 'Use existing instance' option, there is a text box for 'SQL Server:' containing 'DR\SQLEXPRESS' and a 'Browse...' button. Below this, there are two radio button options for connection: 'Windows authentication credentials of service account' (selected) and 'SQL Server authentication using the Login ID and password below:'. Under the 'SQL Server authentication' option, there are text boxes for 'Login ID:' containing 'sa' and 'Password:'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 9. Create SQL Server Databases

[This step applies only if you have selected the **Let me specify different settings** check box at the **Default Configuration** step of the setup wizard]

At the **SQL Server Database** step of the wizard, enter names for databases that will be used to store data collected from Orchestrator, Veeam Backup & Replication and Veeam ONE.



The screenshot shows a window titled "Veeam Disaster Recovery Orchestrator Setup" with a blue header. Below the header, the title "SQL Server Database" is displayed in white on a dark blue background, followed by the instruction "Select existing databases or type in database names to be used in the product." in white. The main area has a light gray background and contains three text input fields:

- Veeam Disaster Recovery Orchestrator: VAO
- Veeam Backup & Replication: VeeamBackup
- Veeam ONE: VeeamOne

At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel".

Step 10. Specify Service Ports

[This step applies only if you have selected the **Let me specify different settings** check box at the **Default Configuration** step of the setup wizard]

At the **Ports Configuration** step of the wizard, customize the following ports:

- **Veeam Disaster Recovery Orchestrator** communication ports that will be used for collecting data from connected servers, and for accessing the Orchestrator UI through a web browser.
- **Veeam Availability Suite** ports that will be used for communication between Veeam ONE and Veeam Backup & Replication components, and for connecting to the REST API functionality.

For the full description of ports used by Orchestrator and their default values, see [Ports](#).

Veeam Availability Suite		Veeam Disaster Recovery Orchestrator	
Catalog service port:	9393	Server communication port:	8888
Veeam Backup service port:	9392	WCF service port:	12348
Secure connection port:	9401	Web UI port:	9898
RESTful API service port:	9419		
Reporter web site port:	1239		
Veeam ONE agent port:	2805		
Veeam ONE communication port:	2742		
Veeam ONE Web API port:	2741		

Step 11. Select Certificate for Orchestrator UI

[This step applies only if you have selected the **Let me specify different settings** check box at the **Default Configuration** step of the setup wizard]

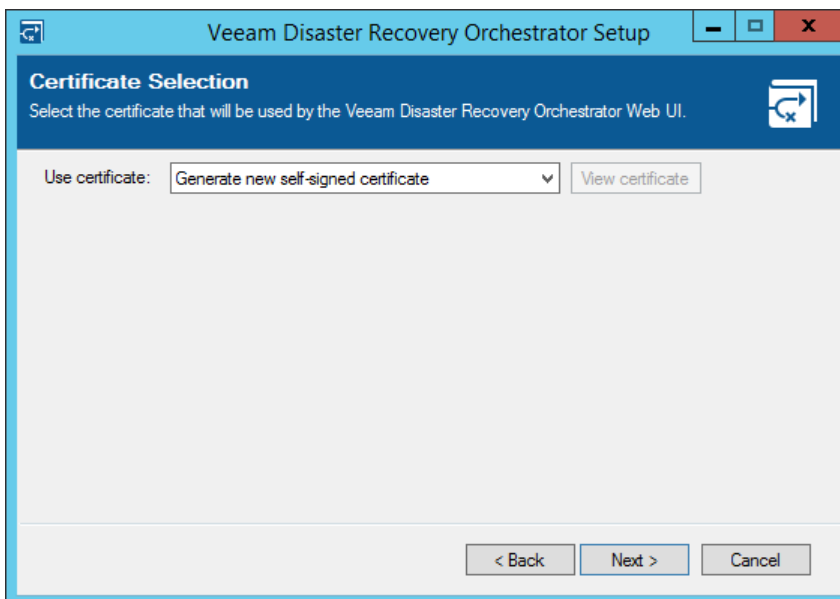
At the **Certificate Selection** step of the wizard, choose an SSL certificate that will be used to secure traffic between the Orchestrator UI and a web browser.

You can choose an existing certificate installed on the machine (self-signed or provided by CA) or generate a new self-signed certificate. If you generate or choose a self-signed certificate, you must configure a trusted connection between the Orchestrator UI and a web browser later. For more information, see [Configuring Trusted Connection](#).

IMPORTANT

For an existing certificate to be displayed in the **Use certificate** list, the following prerequisites must be met:

- The certificate signature algorithm must be Secure Hash Algorithm 1 (SHA-1) or later.
- The certificate cryptography algorithm must be RSA with a key of 2048 bits in length or longer.
- The certificate must contain the Key Encipherment and Data Encipherment key usage.
- The certificate must be added to the **Certificates > Personal folder** in the Microsoft Management Console snap-in. To learn how to move SSL certificates, see [this Microsoft KB article](#).

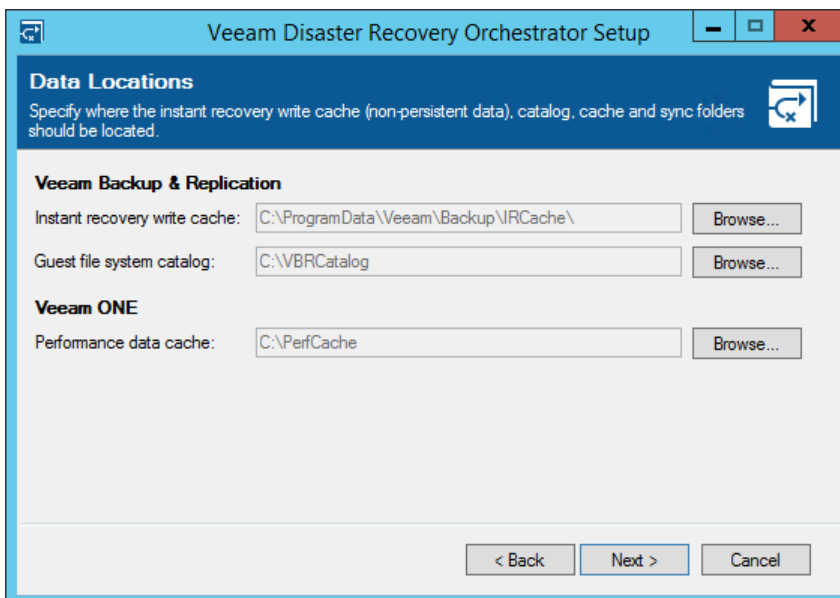


Step 12. Specify Data Locations

[This step applies only if you have selected the **Let me specify different settings** check box at the **Default Configuration** step of the setup wizard]

At the **Data Locations** step of the wizard, select local folders where Veeam ONE and Veeam Backup & Replication components will store data cache:

- In the **Instant recovery write cache** field, specify a path to the Instant VM Recovery cache folder. The folder stores the write cache for machines that are started from backups during recovery verification or restore operations. Make sure that you have at least **10 GB** of free disk space to store the write cache.
- In the **Guest file system catalog** field, specify a path to the folder where Veeam Backup & Replication index files will be stored. By default, the setup wizard creates the VBRCatalog folder on the volume with the maximum amount of free space.
- In the **Performance data cache** field, specify a path to the folder where Veeam ONE write cache will be stored.

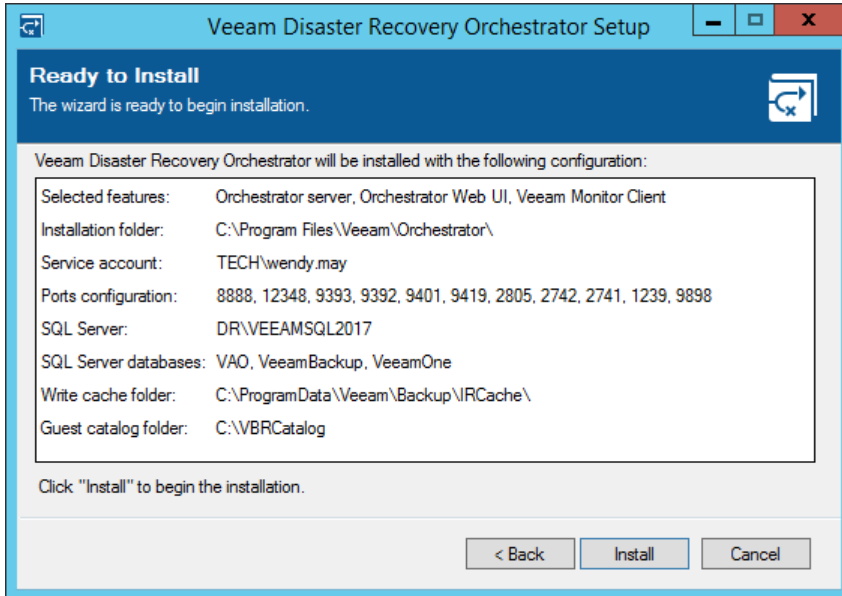


Step 13. Review Advanced Installation Summary

[This step applies only if you have selected the **Let me specify different settings** check box at the **Default Configuration** step of the setup wizard]

At the **Ready to Install** step of the wizard, review installation configuration and start the installation process:

1. Click **Install** to begin installation.
2. Wait for the installation process to complete and click **Finish** to exit the setup wizard.



Step 14. Upgrade to Veeam Backup & Replication 12

It is essential that you upgrade to version 12 every remote Veeam Backup & Replication server that is connected to Orchestrator. Otherwise, the new functionality in Orchestrator version 6.0 will not be available. Until the upgrade of remote servers is complete, only the functionality of Orchestrator version 5.0 will be available. To perform upgrade of Veeam Backup & Replication to version 12, follow the instructions provided in the Veeam Backup & Replication User Guide, section [Upgrading to Veeam Backup & Replication 12](#), and in [this Veeam KB article](#).

After the upgrade process completes, open the Veeam Backup & Replication console on the Orchestrator server to update Veeam Backup & Replication components installed on all managed servers. To perform the update, follow the steps of the **Components Update** wizard. For more information on updating server components, see the Veeam Backup & Replication User Guide, section [Server Components Upgrade](#).

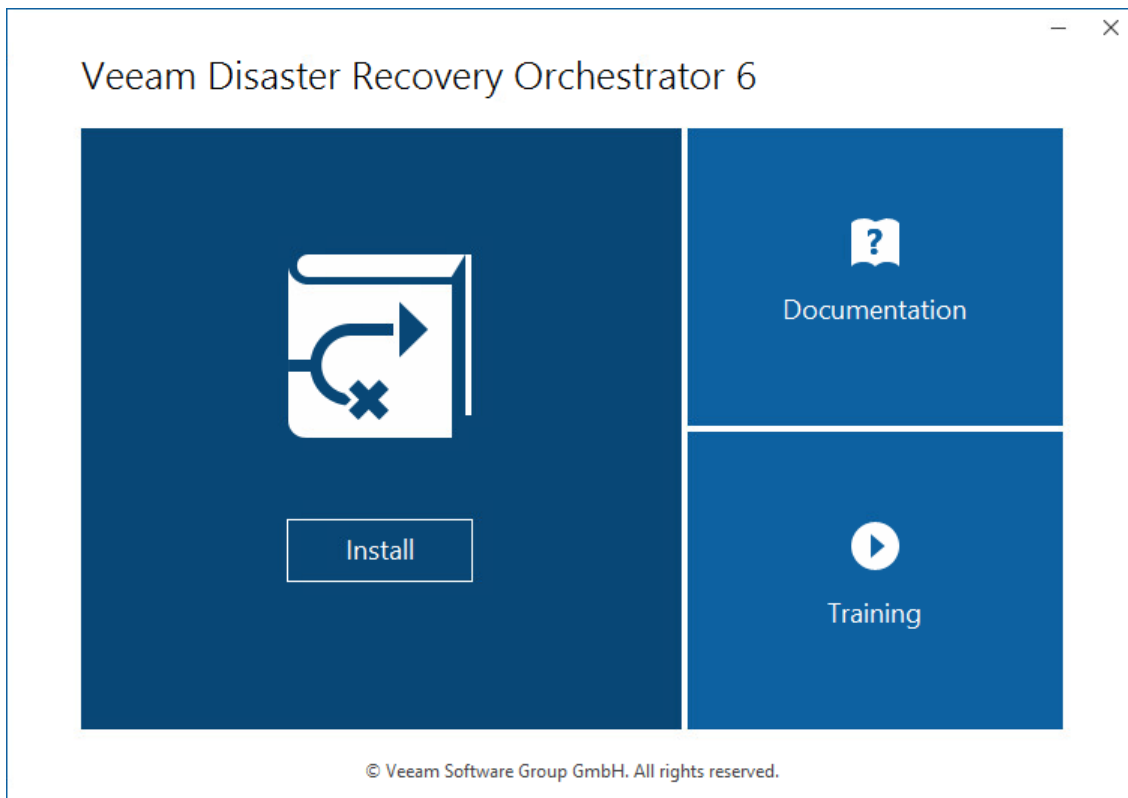
TIP

If you want to use the embedded Veeam Backup & Replication server to run backup and replication jobs along with orchestration, create jobs on that server. Orchestrator will discover backups and replicas produced by these jobs and will use them for orchestration plans. To learn how to create jobs using Veeam Backup & Replication, see the Veeam Backup & Replication User Guide, sections [Creating Backup Jobs](#) and [Creating Replication Jobs](#).

Step 15. Install Additional Veeam ONE Clients

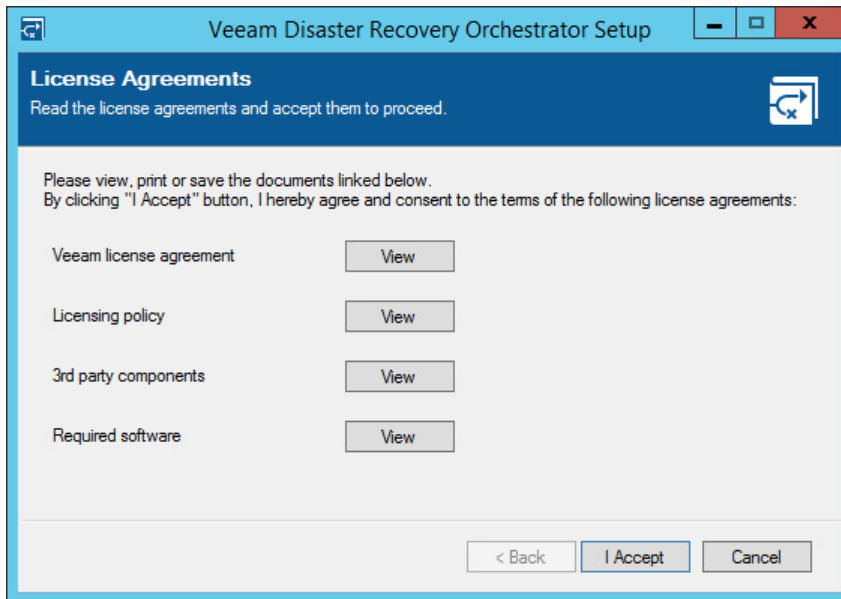
This step applies only if you want to install an additional instance of Veeam ONE Client (separately from the Orchestrator server) to access the Veeam ONE functionality remotely.

1. Download the product installation file `VeeamDisasterRecoveryOrchestrator_6.0.0.3516.iso` from the [Veeam downloads page](#). You can burn the downloaded image file to a CD/DVD or mount the installation image to the target machine using disk image emulation software.
2. Insert the installation disc into the CD/DVD drive or mount the installation image. The setup will open a splash screen with Orchestrator installation options.
3. Click **Install** to launch the **Veeam Disaster Recovery Orchestrator Setup** wizard.

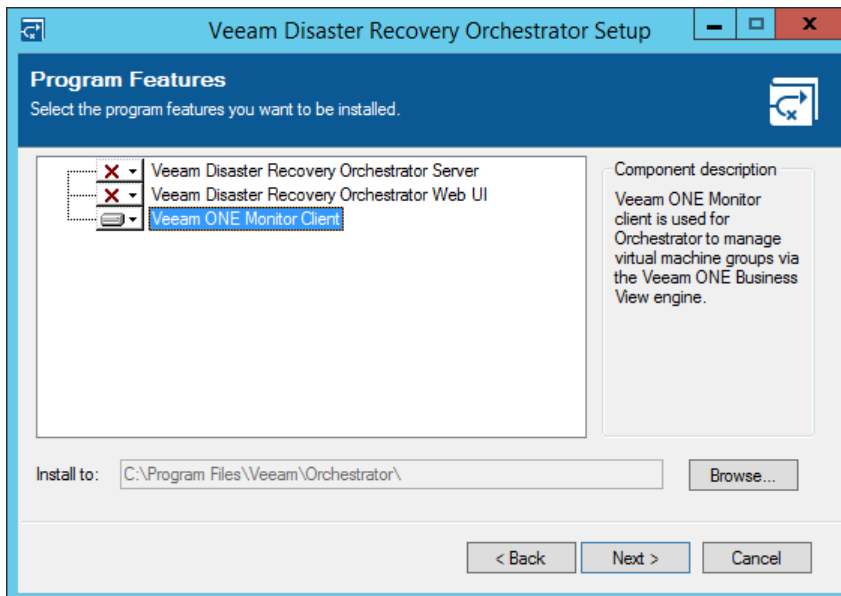


4. Complete the **Veeam Disaster Recovery Orchestrator Setup** wizard:

- a. At the **License Agreement** step of the wizard, read and accept the Veeam license agreement, the licensing policy, the 3rd party components license agreement and the license agreement of the required software. If you reject the agreements, you will not be able to continue installation.

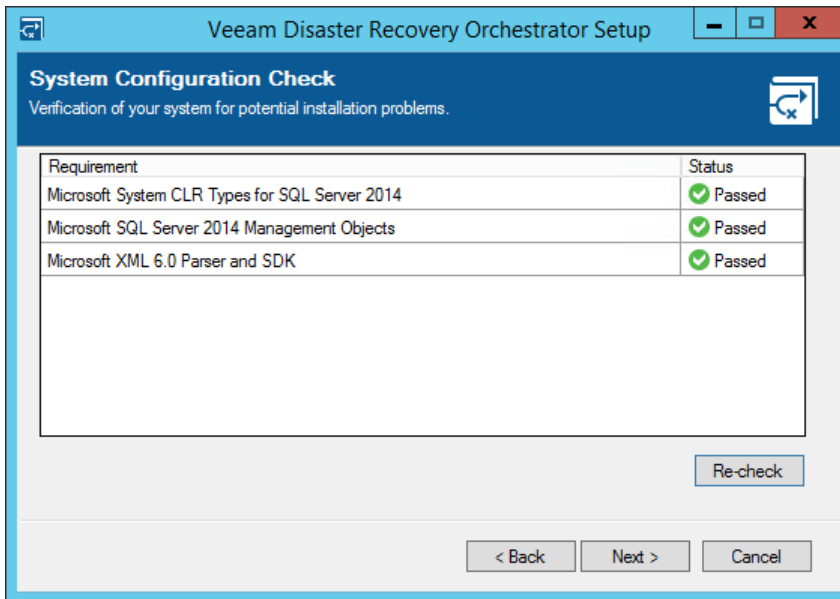


- b. At the **Program Features** step of the wizard, choose Veeam ONE Monitor Client to be installed. If necessary, you can change the installation directory.

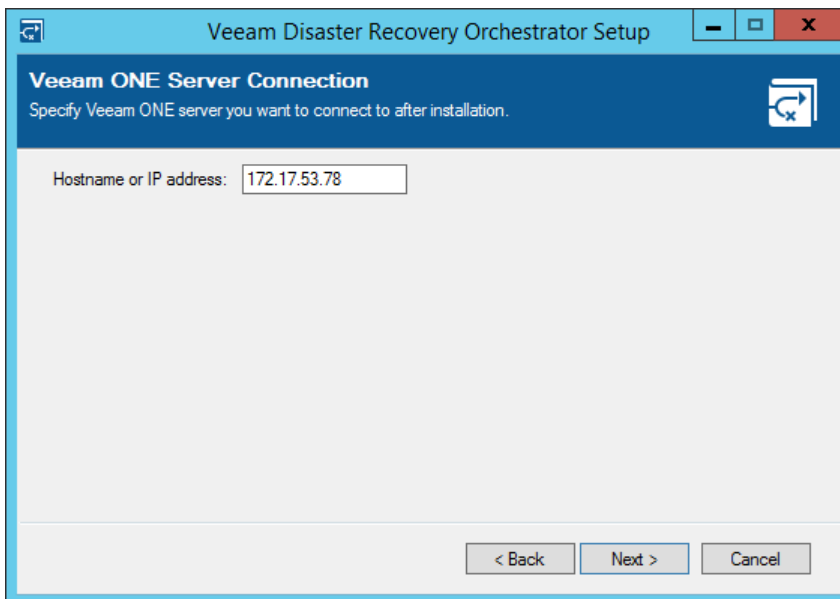


- c. At the **System Configuration Check** step of the wizard, check whether all prerequisite software is available on the target system.

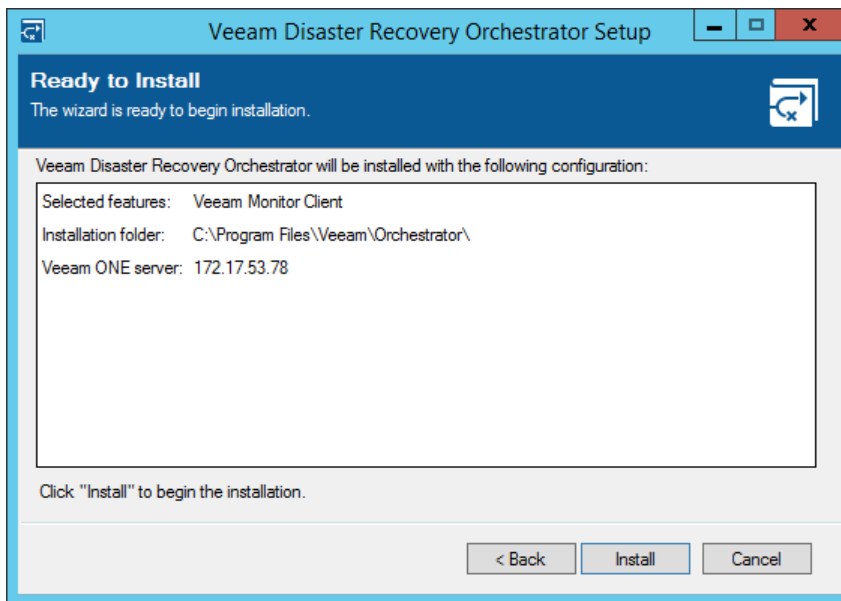
If some of the required software components are missing, the wizard will offer to install missing software automatically. To do that, click **Install**. When all the required software is installed, click **Re-check** to repeat verification.



- d. At the **Veeam ONE Server Connection** step of the wizard, specify the hostname or IP address of the Orchestrator server.



- e. At the **Ready to Install** step of the wizard, review installation configuration. Click **Install** to begin installation.



Installing Veeam Disaster Recovery Orchestrator Web UI

By default, the Veeam Orchestrator Web UI component is installed on the Orchestrator server automatically when you install Veeam Disaster Recovery Orchestrator. However, you can install the Veeam Orchestrator Web UI component on a different machine to connect to the Orchestrator server remotely.

IMPORTANT

When installing the Veeam Orchestrator Web UI component, consider the following limitations:

- There must be only one instance of the Veeam Orchestrator Web UI component – installed either on the Orchestrator server or remotely. Otherwise, some Web UI functionality may not work properly.
- Installation of the Veeam Orchestrator Web UI component on a machine already running Veeam Backup & Replication or Veeam ONE is not supported.

Before You Begin

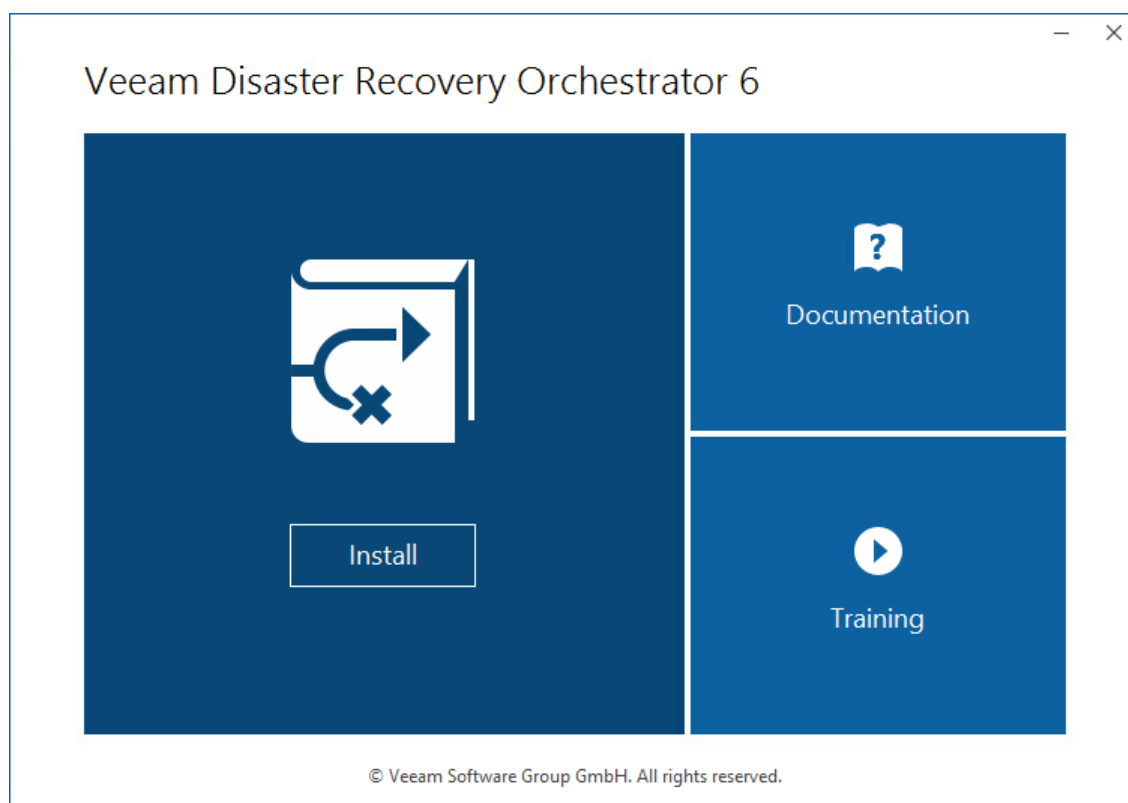
Before you begin installation, check the following prerequisites:

1. Make sure the machine where the Veeam Orchestrator Web UI component will be installed meets the prerequisite conditions described in section [System Requirements](#).
2. Download the product installation file `VeeamDisasterRecoveryOrchestrator_6.0.0.3516.iso` from the [Veeam downloads page](#). You can burn the downloaded image file to a CD/DVD or mount the installation image to the target machine using disk image emulation software.

Step 1. Launch Splash Window and Start Setup Wizard

To start the setup wizard, perform the following steps:

1. Log in to the machine where you want to install the Veeam Orchestrator Web UI component using an account with the local Administrator rights.
2. Insert the installation disc into the CD/DVD drive or mount the installation image. The setup will open a splash screen with Orchestrator installation options.
3. Click **Install** to launch the **Veeam Disaster Recovery Orchestrator Setup** wizard.



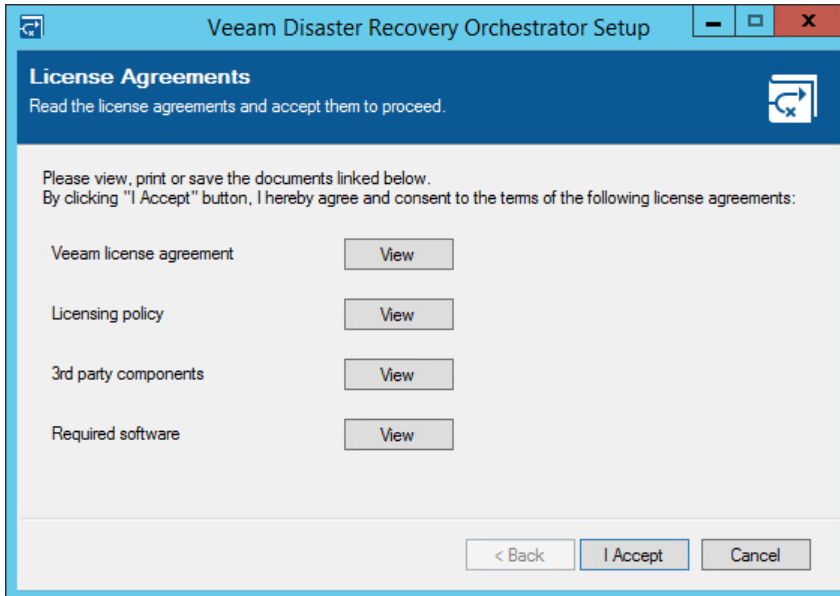
NOTE

Before proceeding with installation, the installer will check whether you have Microsoft .NET Framework 4.7.2 and Microsoft Visual C++ 2019 installed on the machine. In case the required version is missing, the installer will offer to install it automatically. To do that, click **OK**.

Installation will require performing a reboot. Click **Reboot** in the warning message to acknowledge the reboot.

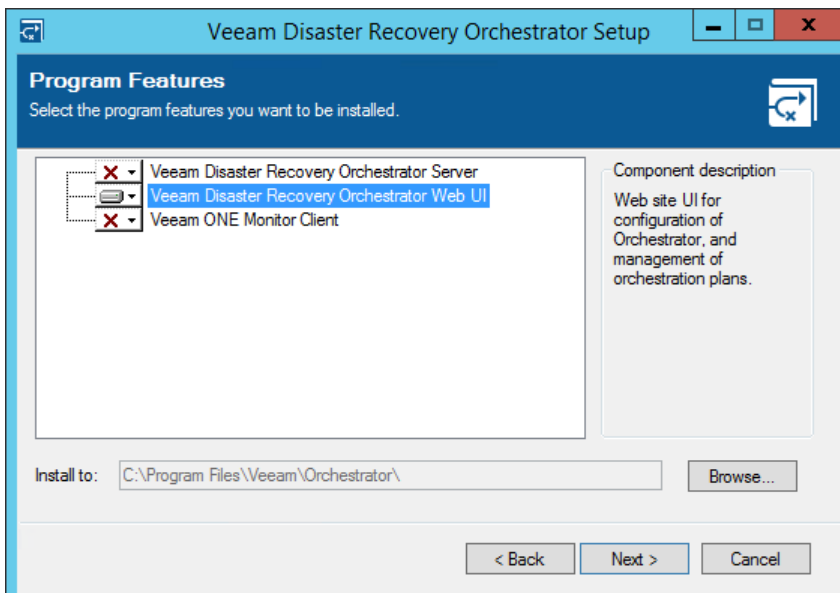
Step 2. Accept License Agreement

At the **License Agreement** step of the wizard, read and accept the Veeam license agreement, the licensing policy, the 3rd party components license agreement and the license agreement of the required software. If you reject the agreements, you will not be able to continue installation.



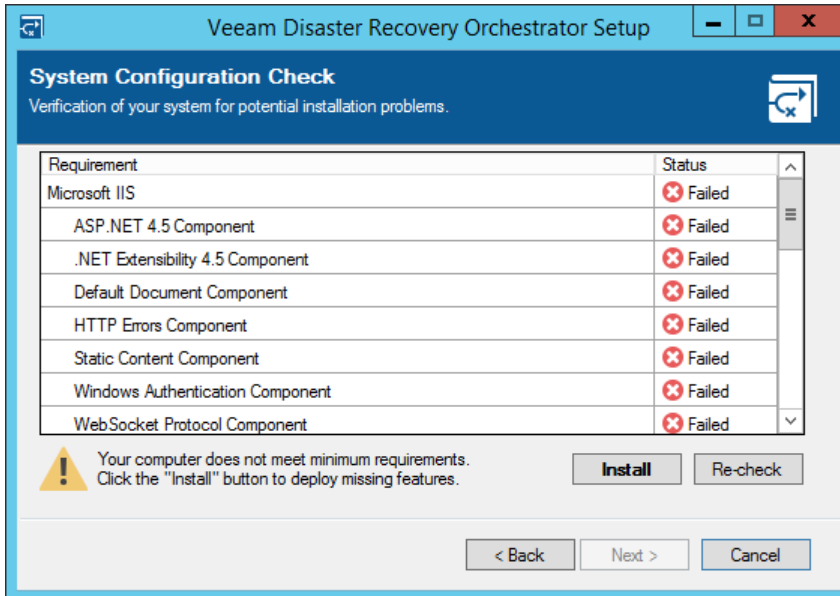
Step 3. Choose Components to Install

At the **Program Features** step of the wizard, choose Veeam Disaster Recovery Orchestrator Web UI to be installed. If necessary, you can change the installation directory.

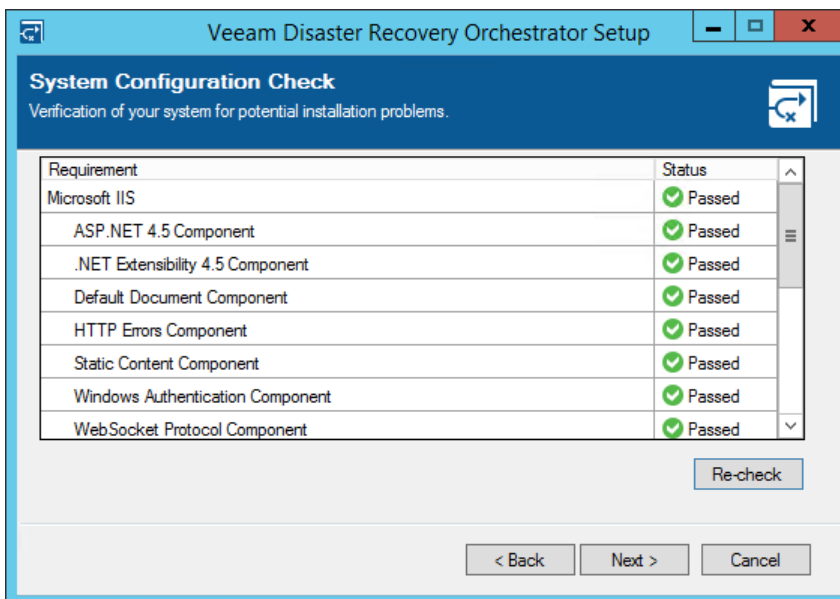


Step 4. Perform System Configuration Check

At the **System Configuration Check** step of the wizard, check whether all prerequisite software is available on the target system. If some of the required software components are missing, the wizard will offer to install missing software automatically. To do that, click **Install**.

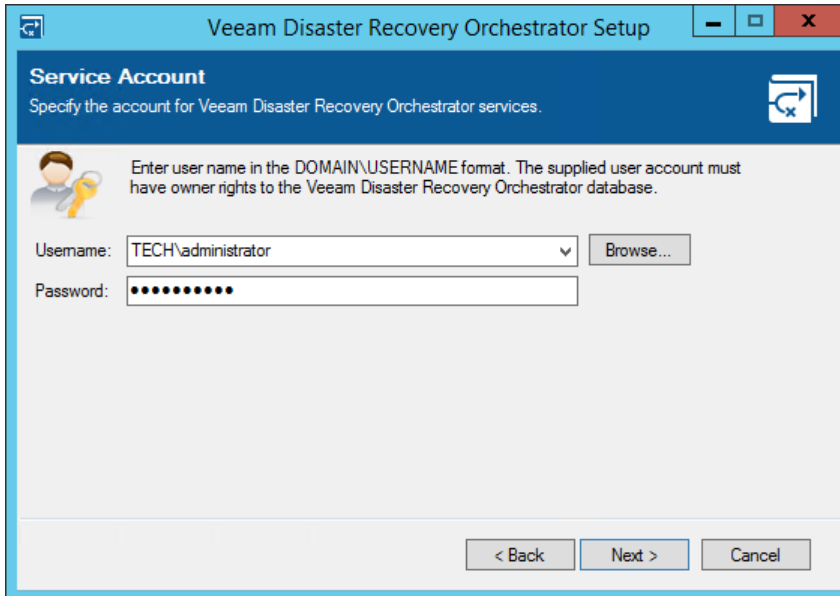


When all the required software is installed, click **Re-check** to repeat verification.



Step 5. Specify Service Account Credentials

At the **Service Account** step of the wizard, enter credentials of the account under which the Veeam Orchestrator Server Service will run. The account must be a member of the local *Administrators* group. The user name must be specified in the *DOMAIN\USERNAME* format.

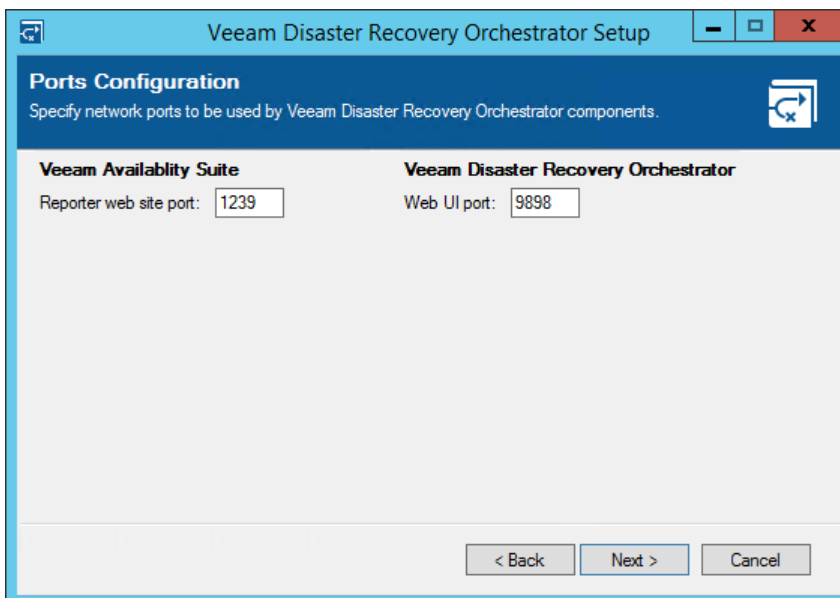


The screenshot shows the 'Service Account' step of the Veeam Disaster Recovery Orchestrator Setup wizard. The window title is 'Veeam Disaster Recovery Orchestrator Setup'. The main heading is 'Service Account' with a sub-heading 'Specify the account for Veeam Disaster Recovery Orchestrator services.' Below this, there is a key icon and a note: 'Enter user name in the DOMAIN\USERNAME format. The supplied user account must have owner rights to the Veeam Disaster Recovery Orchestrator database.' The 'Username:' field contains 'TECH\administrator' and has a 'Browse...' button next to it. The 'Password:' field is masked with dots. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 6. Specify Service Ports

At the **Ports Configuration** step of the wizard, customize the communication ports that will be used for accessing the Orchestrator UI and the Veeam ONE Reporter console through a web browser.

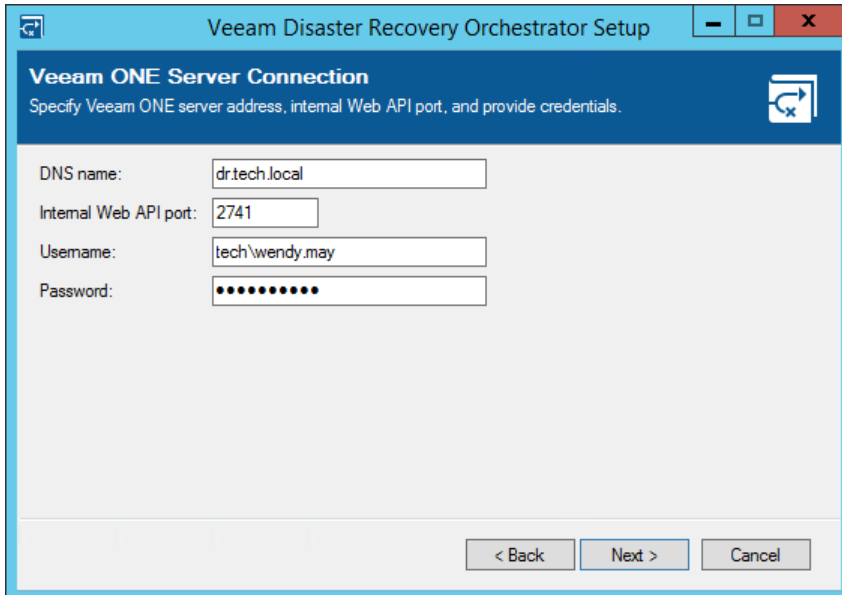
For the full description of ports used by Orchestrator and their default values, see [Ports](#).



The screenshot shows the 'Ports Configuration' step of the Veeam Disaster Recovery Orchestrator Setup wizard. The window title is 'Veeam Disaster Recovery Orchestrator Setup'. The main heading is 'Ports Configuration' with a sub-heading 'Specify network ports to be used by Veeam Disaster Recovery Orchestrator components.' Below this, there are two sections: 'Veeam Availability Suite' and 'Veeam Disaster Recovery Orchestrator'. Under 'Veeam Availability Suite', the 'Reporter web site port:' is set to '1239'. Under 'Veeam Disaster Recovery Orchestrator', the 'Web UI port:' is set to '9898'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 7. Specify Veeam ONE Server Connection Settings

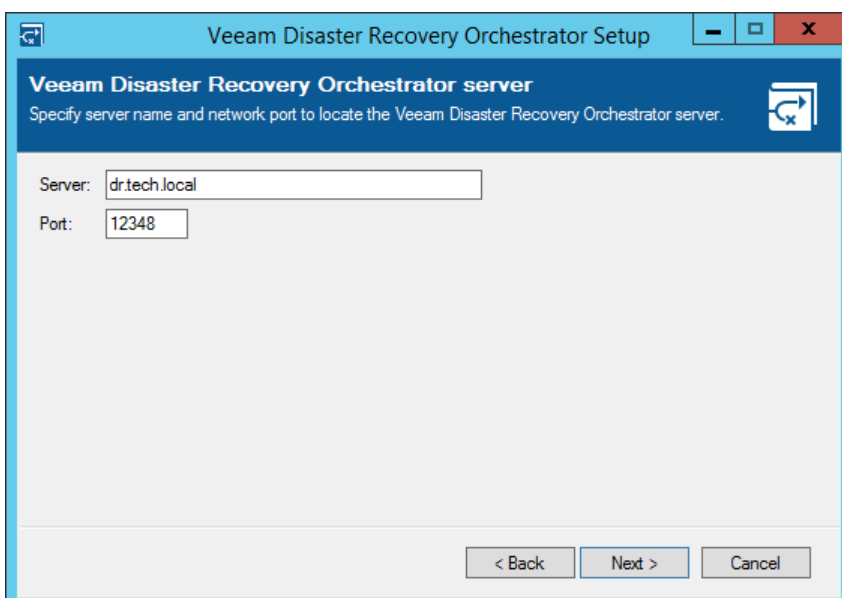
At the **Veeam ONE Server Connection** step, specify the DNS name of the embedded Veeam ONE server that is installed on the machine running the Veeam Orchestrator Server Service. Also, specify the port that is used to connect to the server – this must be the port that you specified during installation of the Veeam Orchestrator Server Service component (**2741** by default).



The screenshot shows the 'Veeam ONE Server Connection' step of the 'Veeam Disaster Recovery Orchestrator Setup' wizard. The window title is 'Veeam Disaster Recovery Orchestrator Setup'. The subtitle is 'Veeam ONE Server Connection' with the instruction 'Specify Veeam ONE server address, internal Web API port, and provide credentials.' The form contains four input fields: 'DNS name' with 'dr.tech.local', 'Internal Web API port' with '2741', 'Username' with 'tech\wendy.may', and 'Password' with masked characters. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 8. Specify Veeam Orchestrator Server Connection Settings

At the **Server** step of the wizard, enter the name of the machine running the Veeam Orchestrator Server Service, and specify the port for connection with the service. This must be the port that you specified during installation of the Veeam Orchestrator Server Service component (**12348** by default).



The screenshot shows the 'Veeam Disaster Recovery Orchestrator server' step of the 'Veeam Disaster Recovery Orchestrator Setup' wizard. The window title is 'Veeam Disaster Recovery Orchestrator Setup'. The subtitle is 'Veeam Disaster Recovery Orchestrator server' with the instruction 'Specify server name and network port to locate the Veeam Disaster Recovery Orchestrator server.' The form contains two input fields: 'Server' with 'dr.tech.local' and 'Port' with '12348'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 9. Select Certificate for Orchestrator UI

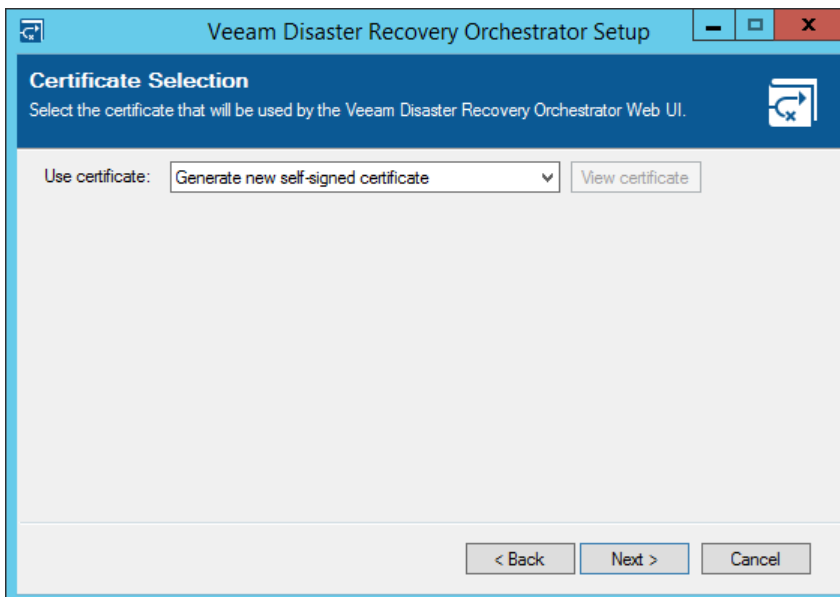
At the **Certificate Selection** step of the wizard, choose an SSL certificate that will be used to secure traffic between the Orchestrator UI and a web browser.

You can choose an existing certificate installed on the machine (self-signed or provided by CA) or generate a new self-signed certificate. If you generate or choose a self-signed certificate, you must configure a trusted connection between the Orchestrator UI and a web browser later. For more information, see [Configuring Trusted Connection](#).

IMPORTANT

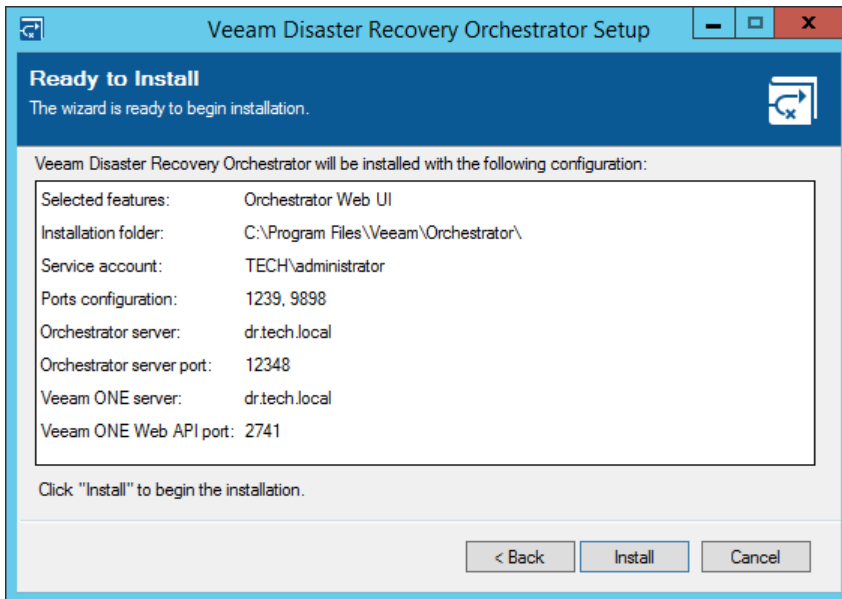
For an existing certificate to be displayed in the **Use certificate** list, the following prerequisites must be met:

- The certificate signature algorithm must be Secure Hash Algorithm 1 (SHA-1) or later.
- The certificate cryptography algorithm must be RSA with a key of 2048 bits in length or longer.
- The certificate must contain the Key Encipherment and Data Encipherment key usage.
- The certificate must be added to the **Certificates > Personal folder** in the Microsoft Management Console snap-in. To learn how to move SSL certificates, see [this Microsoft KB article](#).



Step 10. Review Installation Summary

At the **Ready to Install** step of the wizard, review installation configuration. Click **Install** to begin installation.



Installing Veeam Disaster Recovery Orchestrator in Unattended Mode

You can install Orchestrator in the unattended mode using the command line interface. The unattended installation mode does not require user interaction – the installation runs automatically in the background, and you do not have to respond to the installation wizard prompts. You can use the unattended installation mode to automate the Orchestrator installation process in large-scale environments.

In unattended mode, Orchestrator components must be installed in the following order:

1. [Veeam Orchestrator Server Service](#)
2. [Veeam Orchestrator Web UI](#)

Before You Begin

Before you start unattended installation, perform the following steps:

1. [For Veeam Orchestrator Server Service] Pre-install the following components on the target machine:
 - a. .NET Framework 4.7.2 (or later)
 - b. Microsoft Visual C++ 2015-2022 Redistributable (x64)
 - c. Microsoft System CLR Types for SQL Server 2014
 - d. Microsoft SQL Server 2014 Management Objects
 - e. Microsoft SQL Native Client 2012
 - f. Local or remote Microsoft SQL Server 2017 (or later)
 - g. Microsoft PowerShell 5.1
 - h. Veeam Backup & Replication 12

For more information on how to install Veeam Backup & Replication in the unattended mode, see the [Veeam Backup & Replication User Guide](#).

- i. Veeam ONE 12

For more information on how to install Veeam ONE in the unattended mode, see the [Veeam ONE Deployment Guide](#).

2. [For Veeam Orchestrator Web UI] Pre-install the following components on the target machine:
 - a. .NET Framework 4.7.2 (or later)
 - b. Microsoft Visual C++ 2015-2022 Redistributable (x64)
 - c. Internet Information Services, with the following features enabled:
 - ASP.NET 4.5 Component
 - Default Document Component
 - ISAPI Extensions Component

- ISAPI Filters Component
 - .NET Extensibility 4.5 Component
 - Request Filtering Component
 - Static Content Component
 - HTTP Errors Component
 - HTTP Redirection Component
 - Windows Authentication Component
3. Download the product installation file `VeeamDisasterRecoveryOrchestrator_6.0.0.3516.iso` from the [Veeam downloads page](#). You can burn the downloaded image file to a CD/DVD or mount the installation image to the target machine using disk image emulation software.
 4. Browse the .ISO contents – the files that you will need for installation will be located in the following folders:
 - `<installation media>\Server\VAO.Server.x64.msi` – the installation package for installing the Veeam Orchestrator Server Service
 - `<installation media>\WebUI\VAO.WebUI.x64.msi` – the installation package for installing Veeam Orchestrator Web UI
 5. Log on to the target machine under the account that has the local Administrator permissions on the machine. For more information, see [Permissions](#).
 6. Obtain a license file. The license file is required for Orchestrator installation. You will not be able to perform installation without providing a license.

Veeam Orchestrator Server Service

Open the command prompt and run the setup file `VAO.Server.x64.msi` using the following parameters:

```
msiexec.exe [/L*v "<path_to_log>"] /qn /I "<path_to_msi>" ACCEPT_EULA="1" ACCEP
T_THIRDPARTY_LICENSES="1" [INSTALLDIR="<path_to_installdir>"] VAO_LICENSE_FILE=
"<path_to_license_file>" VAA_SERVICEACCOUNT="<VAO_Service_account>" VAA_SERVICE
PASSWORD="<VAO_Service_password>" VAA_VO_SQL_DATABASE="<Veeam ONE_DB_name>" VAO
_SERVER_MANAGEMENT_PORT="VAO_WCF_port" [VAA_PORT="<VAO_Service_port>"] [VAA_SQL
_SERVER="<SQL_Server>"] [VAA_SQL_DATABASE="<DB_name>"] [VAA_SQL_AUTHENTICATION=
"0/1"] [VAA_SQL_USER="<SQL_account>"] [VAA_SQL_PASSWORD="<SQL_password>"]
```

The following command-line options are used to run the setup file:

Option	Parameter	Required	Description
<code>/L</code>	<code>*v logfile</code>	No	<p>Creates an installation log file with the verbose output.</p> <p>Specify a full path to the log file as the parameter value. Any setup log file created during the previous installation will be deleted.</p> <p>Example: <code>/L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\VAO_Server.txt"</code></p>
<code>/q</code>	<code>n</code>	Yes	<p>Sets the user interface level to <i>None</i>, which means no user interaction is needed during installation.</p>
<code>/I</code>	<code>setup file</code>	Yes	<p>Installs the Veeam Orchestrator Server Service component.</p> <p>Specify a full path to the setup file as the parameter value.</p> <p>Example: <code>/I "C:\Veeam\VAO.Server.x64.msi"</code></p>
<code>ACCEPT_EULA</code>	<code>0/1</code>	Yes	<p>Specifies if you want to accept the Veeam license agreement.</p> <p>To accept the license agreement and to proceed with installation, set the parameter value to <code>1</code>.</p> <p>Example: <code>ACCEPT_EULA="1"</code></p>

Option	Parameter	Required	Description
ACCEPT_THIRDPARTY_LICENSES	0/1	Yes	<p>Specifies if you want to accept the license agreement for 3rd party components that Veeam incorporates.</p> <p>To accept the license agreement and to proceed with installation, set the parameter value to <i>1</i>.</p> <p>Example: ACCEPT_THIRDPARTY_LICENSES="1"</p>
ACCEPT_LICENSING_POLICY	0/1	Yes	<p>Specifies if you want to accept the Veeam licensing policy.</p> <p>To accept the licensing policy and to proceed with installation, set the parameter value to <i>1</i>.</p> <p>Example: ACCEPT_LICENSING_POLICY="1"</p>
ACCEPT_REQUIRED_SOFTWARE	0/1	Yes	<p>Specifies if you want to accept the license agreements for each of the required software that Veeam will install.</p> <p>To accept the license agreement and to proceed with installation, set the parameter value to <i>1</i>.</p> <p>Example: ACCEPT_REQUIRED_SOFTWARE="1"</p>
INSTALLDIR	path	No	<p>Installs the component to the specified location. By default, Orchestrator uses a subfolder in the C:\Program Files\Veeam\Availability Orchestrator\ folder.</p> <p>Example: INSTALLDIR="C:\Veeam\"</p>
VAO_LICENSE_FILE	path	Yes	<p>Specifies a full path to the license file. You will not be able to perform installation without providing a license.</p> <p>Example: VAO_LICENSE_FILE="C:\Users\Administrator\Downloads\vao_nfr.lic"</p>

Option	Parameter	Required	Description
VAA_SERVICEACCOUNT	user	Yes	<p>Specifies an account under which the Veeam Orchestrator Server Service will run. For more information on the required account permissions, see Planning and Preparation.</p> <p>Along with this parameter, you must define the VAA_SERVICEPASSWORD parameter.</p> <p>Example: VAA_SERVICEACCOUNT="srv\Administrator"</p>
VAA_SERVICEPASSWORD	password	Yes	<p>[Applies only if you have defined the VAA_SERVICEACCOUNT parameter]</p> <p>Specifies a password for the account under which the Veeam Orchestrator Server Service will run.</p> <p>Example: VAA_SERVICEPASSWORD="1234"</p>
VAO_SERVER_MANAGEMENT_PORT	port	Yes	<p>Specifies a WCF port that will be used to connect to the Veeam Orchestrator Server Service. By default, <i>12348</i>.</p> <p>Example: VAO_SERVER_MANAGEMENT_PORT="12247"</p>
VAA_PORT	port	No	<p>Specifies a TCP port that will be used by the Veeam Orchestrator Server Service to connect to Orchestrator agents running on remote Veeam Backup & Replication servers. By default, <i>8888</i>.</p> <p>Example: VAA_PORT="8884"</p>
VAA_VO_SQL_DATABASE	database	Yes	<p>[Unattended mode installation prerequisites demand that Veeam ONE Server must be already deployed on the machine where you install Orchestrator]</p> <p>Specifies a name of the Veeam ONE configuration database.</p> <p>Keep in mind that both the Veeam ONE configuration database and the Orchestrator database must be hosted on the same Microsoft SQL Server instance.</p> <p>Example: VAA_VO_SQL_DATABASE="VeeamOne"</p>

Option	Parameter	Required	Description
VAA_SQL_SERVER	SQL Server\instance	No	Specifies a Microsoft SQL Server instance where the Orchestrator configuration database will be deployed. By default, <i>(local)\VEEAMSQL2012</i> . Example: VAA_SQL_SERVER="VAOSERVER\VEEAMSQL2012_MY"
VAA_SQL_DATABASE	database	No	Specifies a name of the Orchestrator configuration database to be deployed. By default, <i>VAO</i> . Example: VAA_SQL_DATABASE="OrchestratorDB"
VAA_SQL_AUTHENTICATION	0/1	No	Specifies if you want to use the SQL Server authentication mode to connect to the Microsoft SQL Server where the Orchestrator configuration database is deployed. To use the SQL Server authentication mode, set the parameter value to <i>1</i> . If you do not define this parameter, Orchestrator will connect to the Microsoft SQL Server in the Microsoft Windows authentication mode (default value, <i>0</i>). Along with this parameter, you must define the following parameters: VAA_SQL_USER and VAA_SQL_PASSWORD . Example: VAA_SQL_AUTHENTICATION="1"
VAA_SQL_USER	user	No	[Applies only if you have defined the VAA_SQL_AUTHENTICATION parameter] Specifies a LoginID to connect to the Microsoft SQL Server in the SQL Server authentication mode. Example: VAA_SQL_USER="sa"
VAA_SQL_PASSWORD	password	No	[Applies only if you have defined the VAA_SQL_AUTHENTICATION parameter]. Specifies a password to connect to the Microsoft SQL Server in the SQL Server authentication mode. Example: VAA_SQL_PASSWORD="1234"

Veeam Orchestrator Web UI

Open the command prompt and run the setup file `VAO.WebUI.x64.msi` using the command of the following format:

```
msiexec.exe [/L*v "<path_to_log>"] /qn /I "<path_to_msi>" ACCEPT_EULA="1" ACCEP  
T_THIRDPARTY_LICENSES="1" [INSTALLDIR="<path_to_installdir>"] VAO_SERVER_NAME="  
<VAO_server_address>" VAO_SERVER_PORT="<VAO_port>" VAA_IIS_SITE_PORT="<website_  
port>" [VAO_THUMBPRINT="<SSL_certificate_thumbprint>"]
```

The following command-line options are used to run the setup file:

Option	Parameter	Required	Description
<code>/L</code>	<code>*v logfile</code>	No	<p>Creates an installation log file with the verbose output.</p> <p>Specify a full path to the log file as the parameter value. Any setup log file created during the previous installation will be deleted.</p> <p>Example: <code>/L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\VAO_WebUI.txt"</code></p>
<code>/q</code>	<code>n</code>	Yes	<p>Sets user interface level to <i>None</i>, which means no user interaction is needed during installation.</p>
<code>/I</code>	<code>setup file</code>	Yes	<p>Installs the Orchestrator Web UI component.</p> <p>Specify a full path to the setup file as the parameter value.</p> <p>Example: <code>/I "C:\Veeam\VAO.WebUI.x64.msi"</code></p>
<code>ACCEPT_EULA</code>	<code>0/1</code>	Yes	<p>Specifies if you want to accept the Veeam license agreement.</p> <p>To accept the license agreement and to proceed with installation, set the parameter value to <i>1</i>.</p> <p>Example: <code>ACCEPT_EULA="1"</code></p>

Option	Parameter	Required	Description
ACCEPT_THIRDPARTY_LICENSES	0/1	Yes	<p>Specifies if you want to accept the license agreement for 3rd party components that Veeam incorporates.</p> <p>To accept the license agreement and to proceed with installation, set the parameter value to <i>1</i>.</p> <p>Example: ACCEPT_THIRDPARTY_LICENSES="1"</p>
ACCEPT_LICENSING_POLICY	0/1	Yes	<p>Specifies if you want to accept the Veeam licensing policy.</p> <p>To accept the licensing policy and to proceed with installation, set the parameter value to <i>1</i>.</p> <p>Example: ACCEPT_LICENSING_POLICY="1"</p>
ACCEPT_REQUIRED_SOFTWARE	0/1	Yes	<p>Specifies if you want to accept the license agreements for each of the required software that Veeam will install.</p> <p>To accept the license agreement and to proceed with installation, set the parameter value to <i>1</i>.</p> <p>Example: ACCEPT_REQUIRED_SOFTWARE="1"</p>
INSTALLDIR	path	No	<p>Installs the component to the specified location. By default, Orchestrator uses a subfolder in the C:\Program Files\Veeam\Availability Orchestrator\ folder.</p> <p>Example: INSTALLDIR="C:\Veeam\"</p>
VAO_SERVER_NAME	server name or address	Yes	<p>Specifies an IP address or FQDN of the server where the Veeam Orchestrator Server Service is installed.</p> <p>Example: VAO_SERVER_NAME="servername.domain.local"</p>
VAO_SERVER_PORT	port	Yes	<p>Specifies a WCF port that was defined to connect to the Veeam Orchestrator Server Service. By default, <i>12348</i>.</p> <p>Example: VAO_SERVER_PORT="12247"</p>

Option	Parameter	Required	Description
VAA_IIS_SITE_PORT	port	Yes	<p>Specifies an IIS port that will be used to connect to the Orchestrator UI website from a web browser. By default, <i>9898</i>.</p> <p>Example: <code>VAA_IIS_SITE_PORT="9998"</code></p>
VAO_THUMBPRINT	hash	No	<p>Provides a thumbprint of an SSL certificate that will be used to secure traffic between the Orchestrator UI and a web browser.</p> <p>Example: <code>VAO_THUMBPRINT="a909502dd82ae41433e6f83886b00d4277a32a7b"</code></p>

Accessing Orchestrator UI

To access the Orchestrator UI, perform the following steps:

1. In a web browser, navigate to the Orchestrator UI web address.

The address consists of an FQDN of the Orchestrator server and the website port specified during installation (by default, **9898**). Note that the Orchestrator UI is available over HTTPS.

```
https://<hostname>:<port>
```

IMPORTANT

Internet Explorer is no longer supported. To access the Orchestrator UI, use Microsoft Edge, Google Chrome or Mozilla Firefox.

2. If you log in for the first time, specify credentials of the local Administrator who performed Orchestrator installation. The user name must be specified in the *DOMAIN|USERNAME* format.

To authenticate using the credentials provided when logging into the system, click **Log in as current user**.

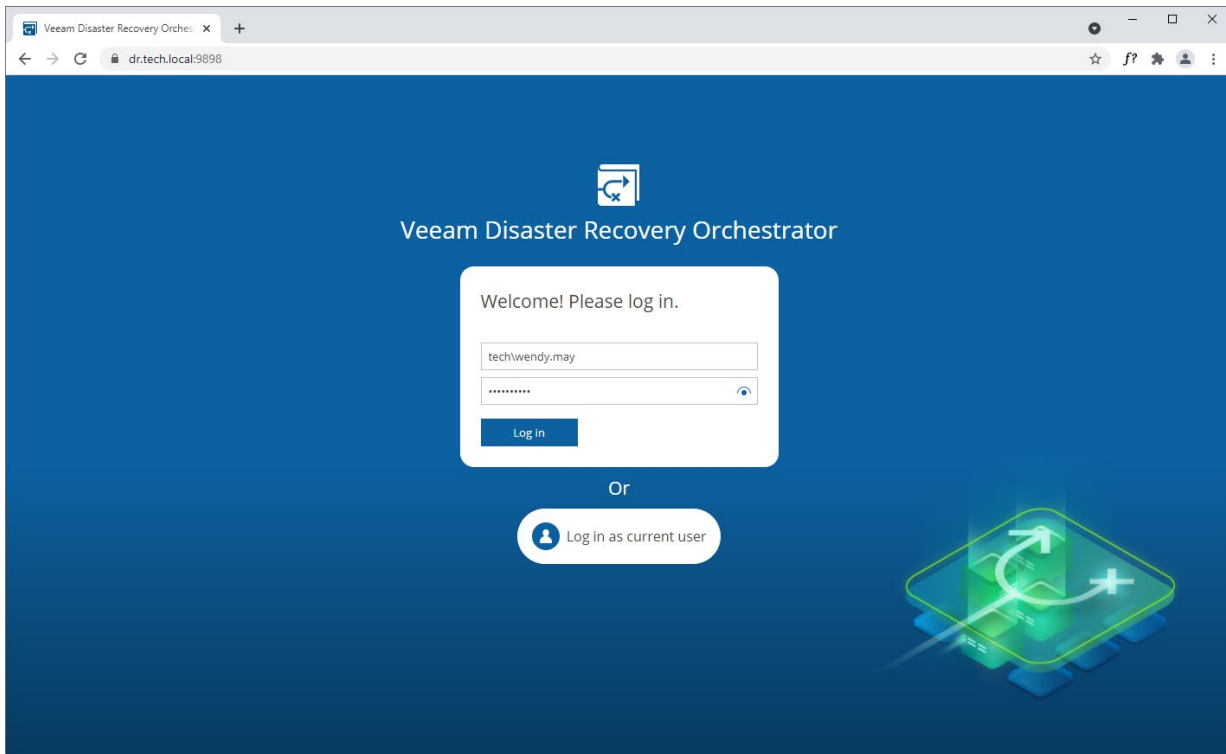
TIP

To be able to log in as the current user, you must first do the following:

1. Complete the Initial Configuration Wizard as described in section [After You Install](#).
2. Enable the **Automatic logon with current user name and password** option in the security setting of your browser.

In future, you can configure users and roles to grant access to the Orchestrator UI. For more information, see the Veeam Disaster Recovery Orchestrator Operations Guide, section [Assigning User Roles and Permissions](#).

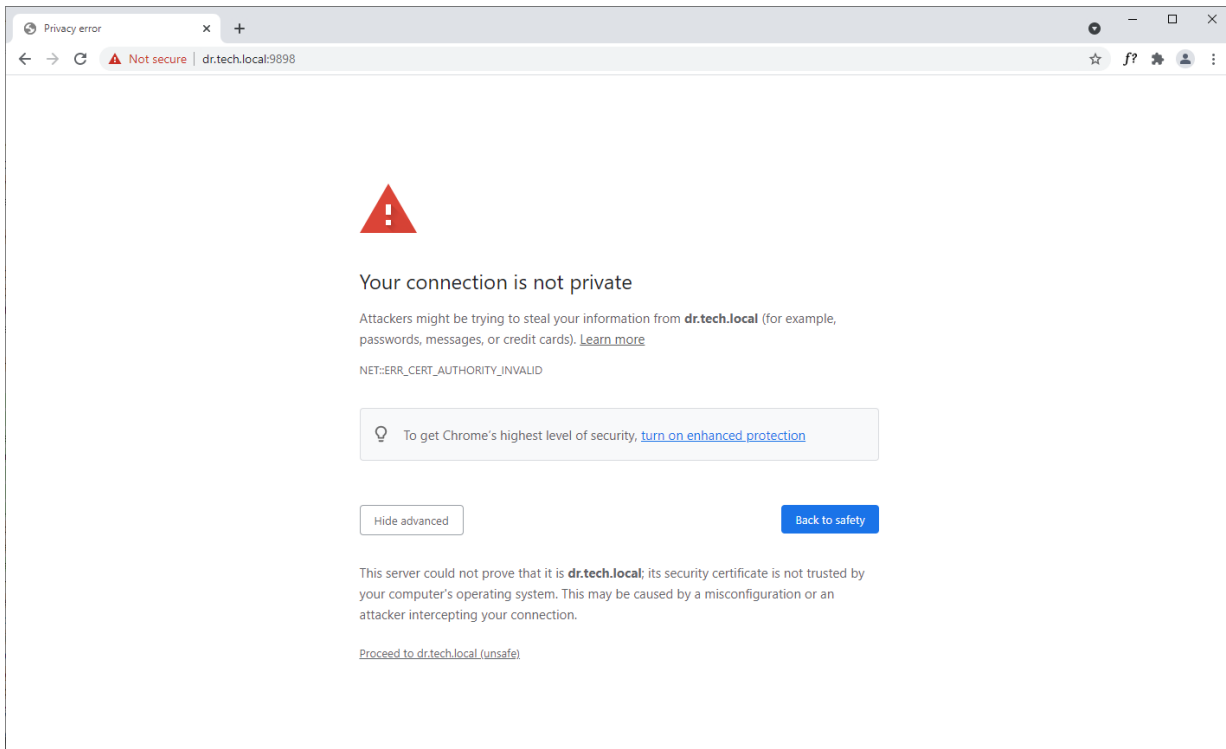
3. Click **Log in**.



Configuring Trusted Connection

The Orchestrator UI uses SSL to ensure secure data communication between Orchestrator and a web browser.

When you install Orchestrator, you can generate or choose a self-signed certificate. In this case, when you try to access the Orchestrator UI in a web browser, the browser will display a warning notifying that the connection is untrusted (although it is secured with SSL).



To eliminate the warning, import the self-signed certificate to client machines (the machines from which you plan to access the Orchestrator UI website). To learn how to import SSL certificates, see [this Microsoft KB article](#).

If you want to use the certificate generated during installation, perform the following steps:

1. Log in to the machine where Orchestrator is installed.
2. Open the Microsoft Management Console snap-in.
 - a. Navigate to **Certificates > Trusted Root Certification Authorities > Certificates**.
 - b. Export the *Veeam Self-Signed Certificate* following the instructions provided in [this Microsoft KB article](#).
3. Import the *Veeam Self-Signed Certificate* to client machines.

TIP

If you still have issues accessing the Orchestrator UI, check your browser settings to ensure that the Orchestrator UI site is included in the **Trusted Sites** list.

Logging Out

To log out of the Orchestrator UI, at the top right corner of the Veeam Disaster Recovery Orchestrator window, click the user name and then click **Logout**.

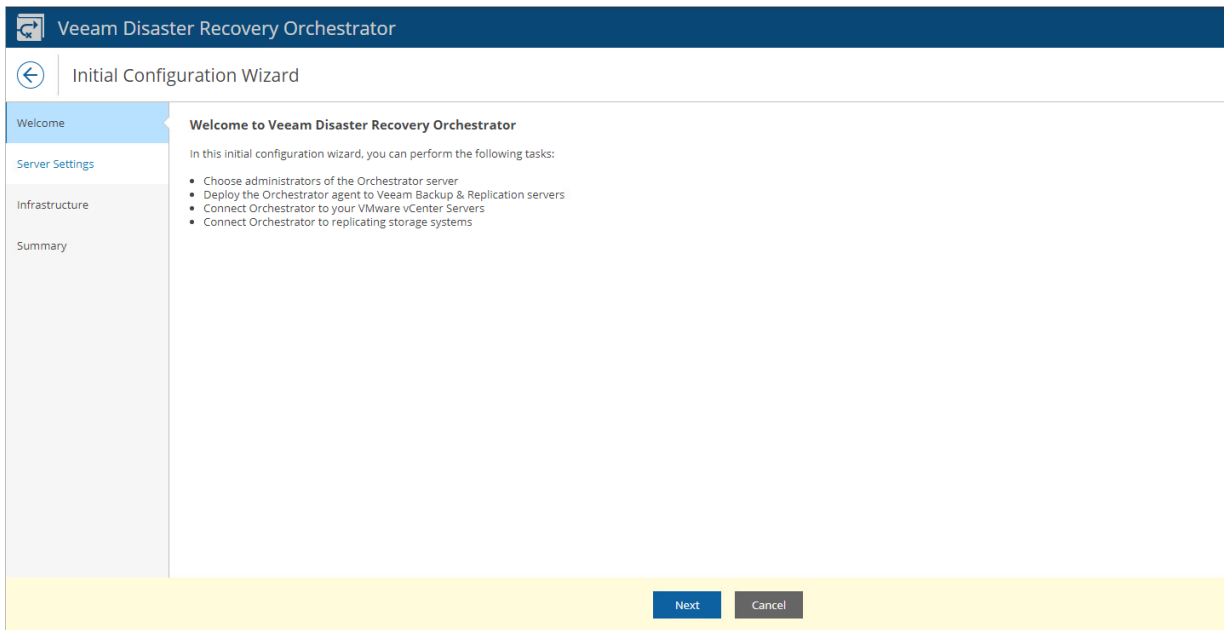
After You Install

To start working with the Orchestrator UI, you must perform the initial configuration of the Orchestrator server.

Step 1. Launch Initial Configuration Wizard

Log in to the Orchestrator UI as the local Administrator who performed Orchestrator installation. For more information, see [Accessing Orchestrator UI](#).

At the **Welcome** step of the **Initial Configuration Wizard**, click **Next**.



Step 2. Configure Server Settings

At the **Server Settings** step of the wizard, configure the following Orchestrator server settings:

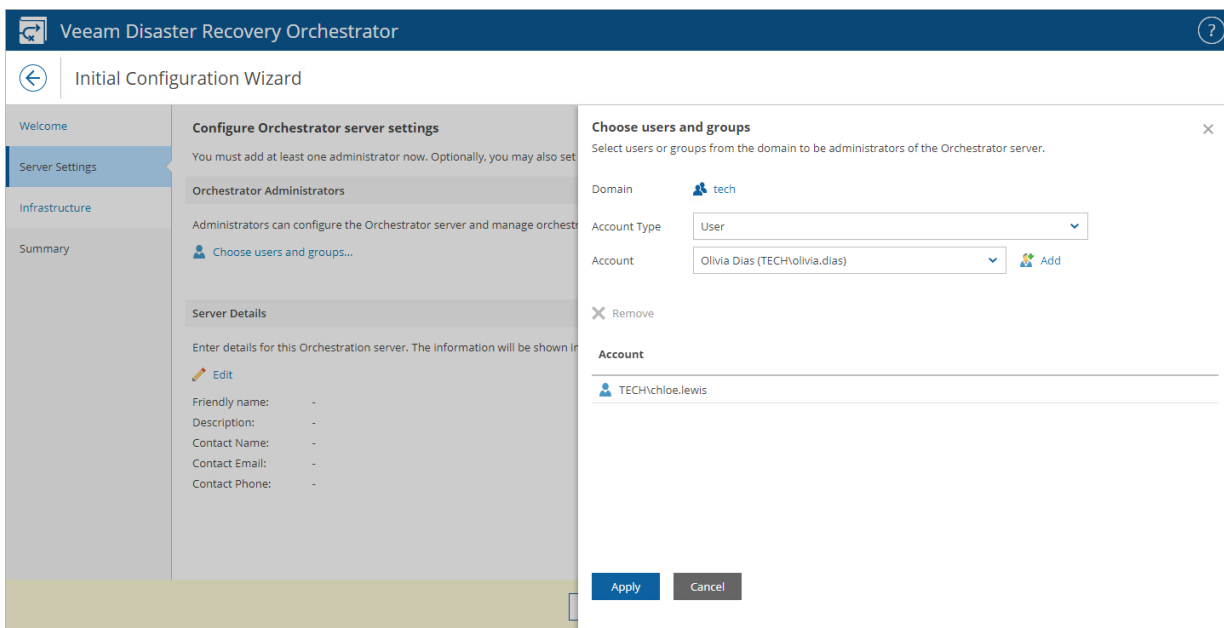
1. [Specify Administrator account credentials.](#)
2. [Enter server details.](#)

Step 2a. Specify Administrator Account Credentials

In the **Orchestrator Administrators** section of the **Server Settings** step of the wizard, add users or groups of users that will be assigned the *Administrator* role for the server:

1. Click **Choose users and groups**.
2. In the **Choose users and groups** window, do the following:
 - a. From the **Account Type** list, select *User* or *Group*.
 - b. Use the **Account** and **Domain** fields to enter the user or group name and to select a domain to which the user or group belongs.

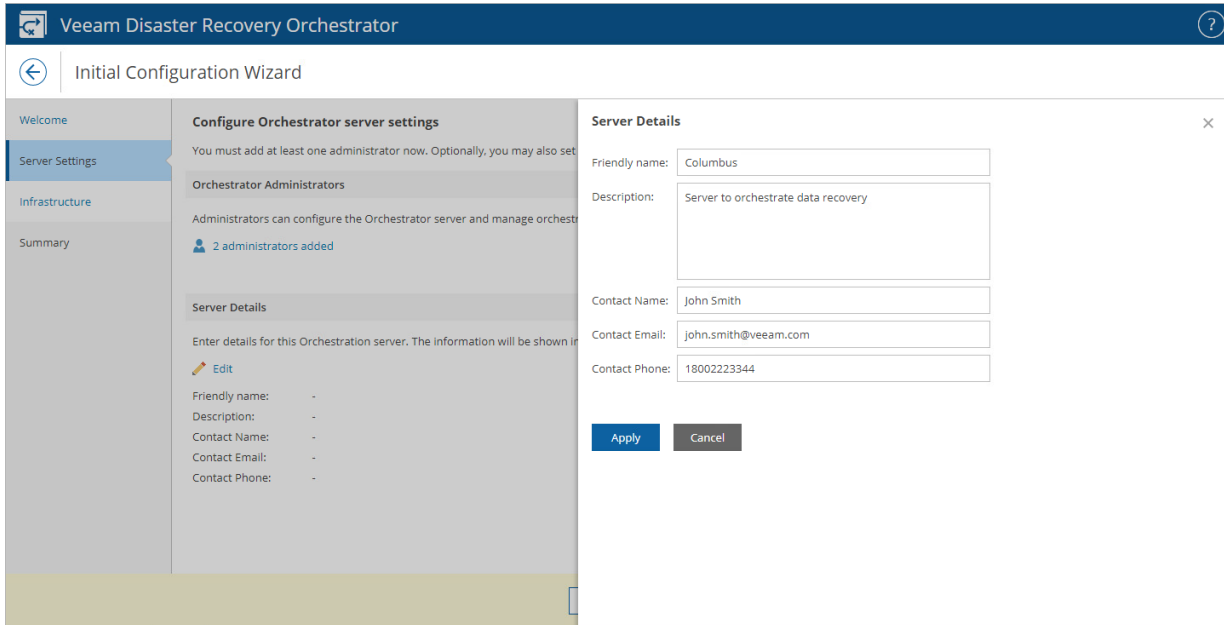
For more information on the required account permissions, see [Permissions](#)
 - c. Click **Add**.
 - d. Repeat the procedure for each user that must become an Orchestrator Administrator and click **Apply**.



Step 2b. Enter Server Details

In the **Server Details** section of the **Server Settings** step of the wizard, specify an arbitrary name for the Orchestrator server and provide a description for future reference. To do that, click **Edit**. The maximum length of the server name is 64 characters; the following characters are not supported: * : / \ ? " < > | .

You can also provide a contact name, email and telephone number of a person or a group responsible for Orchestrator.



The screenshot shows the Veeam Disaster Recovery Orchestrator Initial Configuration Wizard. The main window is titled "Veeam Disaster Recovery Orchestrator" and "Initial Configuration Wizard". The left sidebar shows the navigation menu with "Server Settings" selected. The main content area is divided into three sections: "Configure Orchestrator server settings", "Orchestrator Administrators", and "Server Details". The "Server Details" section is currently active and shows a form with the following fields:

- Friendly name: Columbus
- Description: Server to orchestrate data recovery
- Contact Name: John Smith
- Contact Email: john.smith@veeam.com
- Contact Phone: 18002223344

At the bottom of the form, there are two buttons: "Apply" and "Cancel".

Step 3. Connect Infrastructure Components

At the **Infrastructure** step of the wizard, specify the following connection settings:

1. [Specify access credentials.](#)
2. [Connect Veeam Backup & Replication servers.](#)
3. [Connect vCenter Servers.](#)
4. [Connect storage systems.](#)

Step 3a. Specify Access Credentials

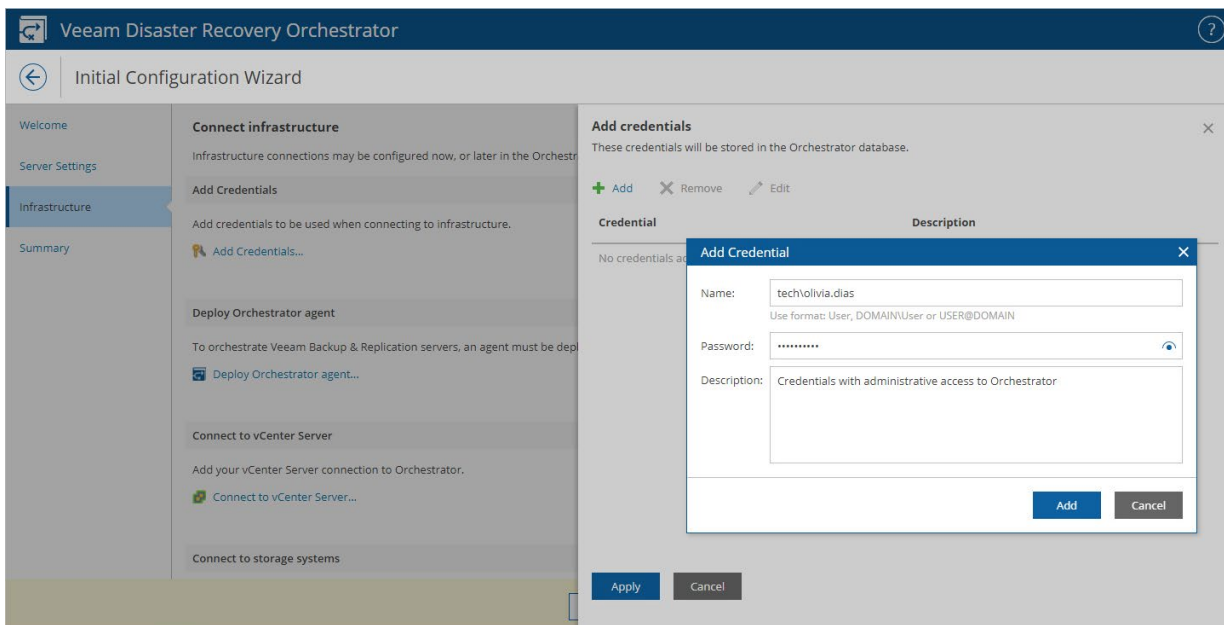
In the **Add credentials** section of the **Infrastructure** step of the wizard, specify credentials of user accounts for connecting to infrastructure:

1. Click **Add Credentials**.
2. In the **Add credentials** window, click **Add**.
3. In the **Add Credential** window, specify the user name and password of the account, and provide a description for future reference.

For more information on the required permissions, see [Permissions](#).

4. Repeat the procedure for each account that you want to use to access infrastructure, and click **Apply**.

The provided credentials can be also used to run the Orchestrator agents on connected servers.



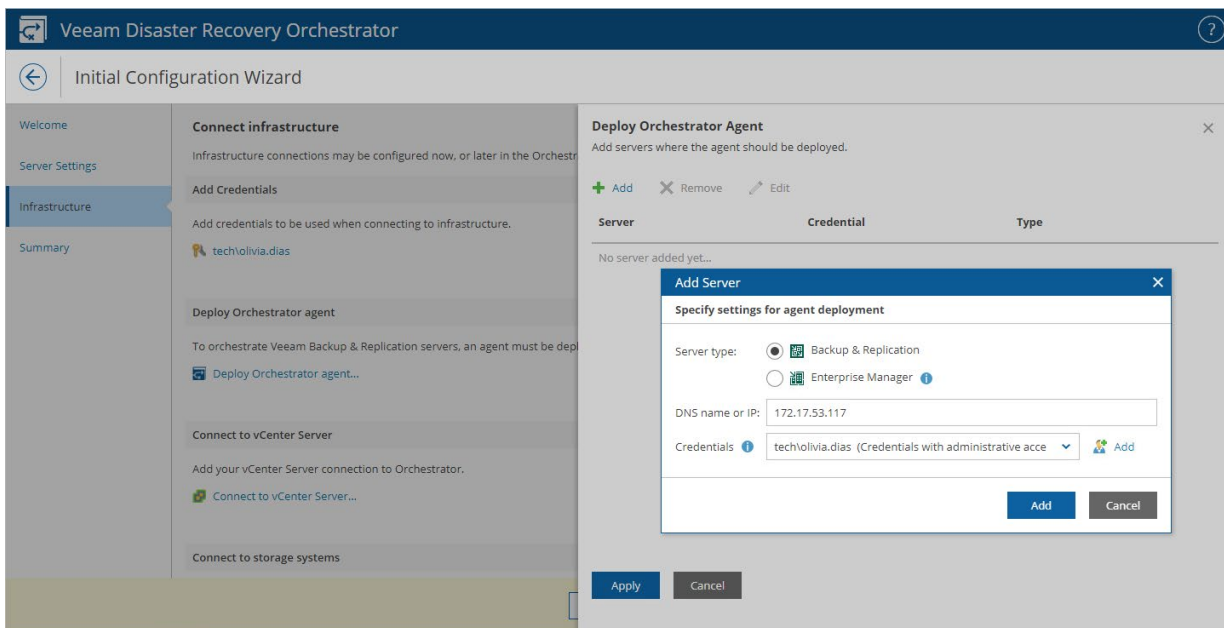
Step 3b. Connect Veeam Backup & Replication Server

As the embedded Veeam Backup & Replication server is automatically registered in the Orchestrator UI during installation, you will not need to connect it manually.

If you want to connect a remote Veeam Backup & Replication server, use the **Infrastructure > Deploy Orchestrator agent** section. Alternatively, skip it and later follow the instructions provided in the Veeam Availability Orchestrator Operations Guide, section [Connecting Veeam Backup & Replication Servers](#).

To register remote Veeam Backup & Replication servers using the **Deploy Orchestrator agent** section of the **Infrastructure** step of the wizard:

1. Click **Deploy Orchestrator agent**.
2. In the **Deploy Orchestrator Agent** window, click **Add**.
3. In the **Add Server** window, specify whether the server is a Veeam Backup & Replication or Veeam Backup Enterprise Manager server, enter its DNS name or IP address, and specify credentials of a user account for connecting to the server.
4. Repeat the procedure for each remote Veeam Backup & Replication server that you want to connect to Orchestrator, and click **Apply**.



Step 3c. Connect VMware vSphere Server

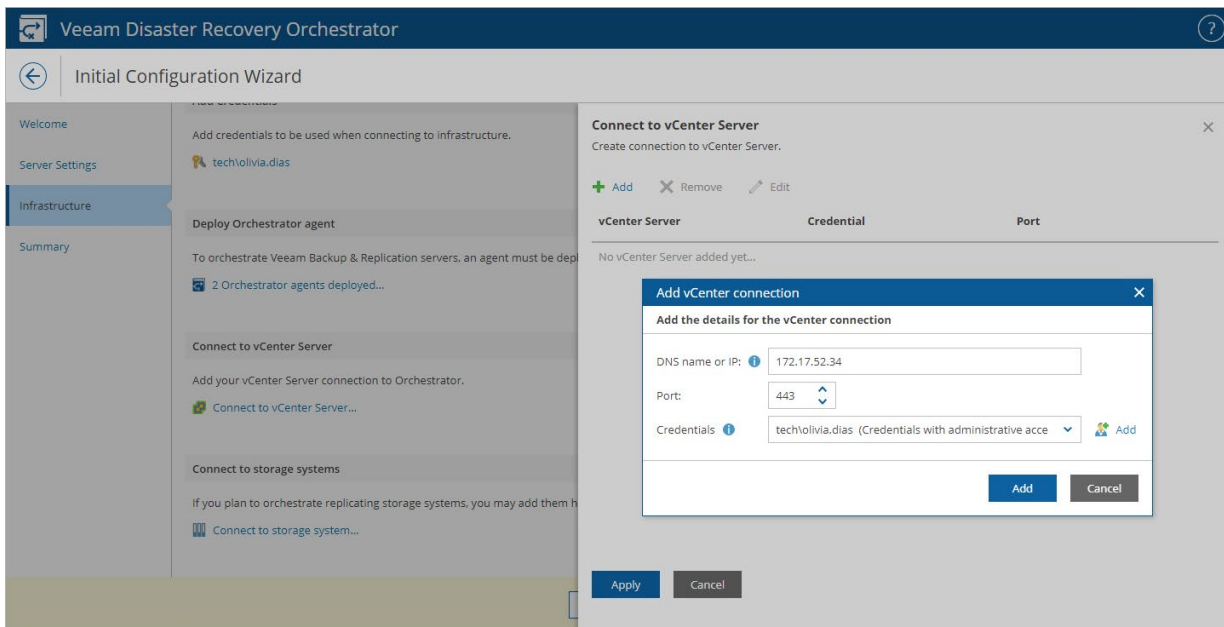
In the **Connect to vCenter Server** section of the **Infrastructure** step of the wizard:

1. Click **Connect to vCenter Server**.
2. In the **Connect to vCenter Server** window, click **Add**.
3. In the **Add vCenter connection** window, enter the server DNS name or IP address and specify credentials of a user account for connecting to the server.

If an untrusted security certificate is installed on the vCenter Server, you will get a security warning. You can view the certificate and click **Remember and Continue** – in this case, Orchestrator will remember the certificate thumbprint and will further trust the certificate when connecting to the vCenter Server. Otherwise, you will not be able to proceed with the wizard.

4. Repeat the procedure for each vCenter Server that you want to connect to Orchestrator, and click **Apply**.

You can also register vCenter Servers later. For more information, see the Veeam Disaster Recovery Orchestrator Operations Guide, section [Connecting VMware vSphere Servers](#).

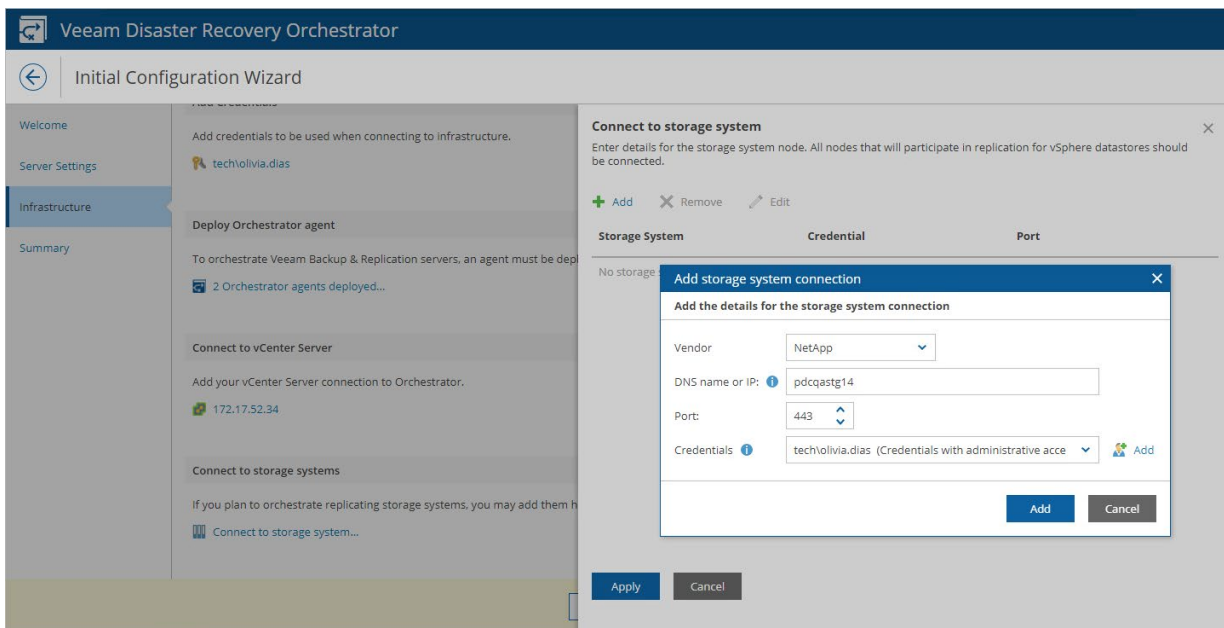


Step 3d. Connect Storage System

In the **Connect to storage systems** section of the **Infrastructure** step of the wizard:

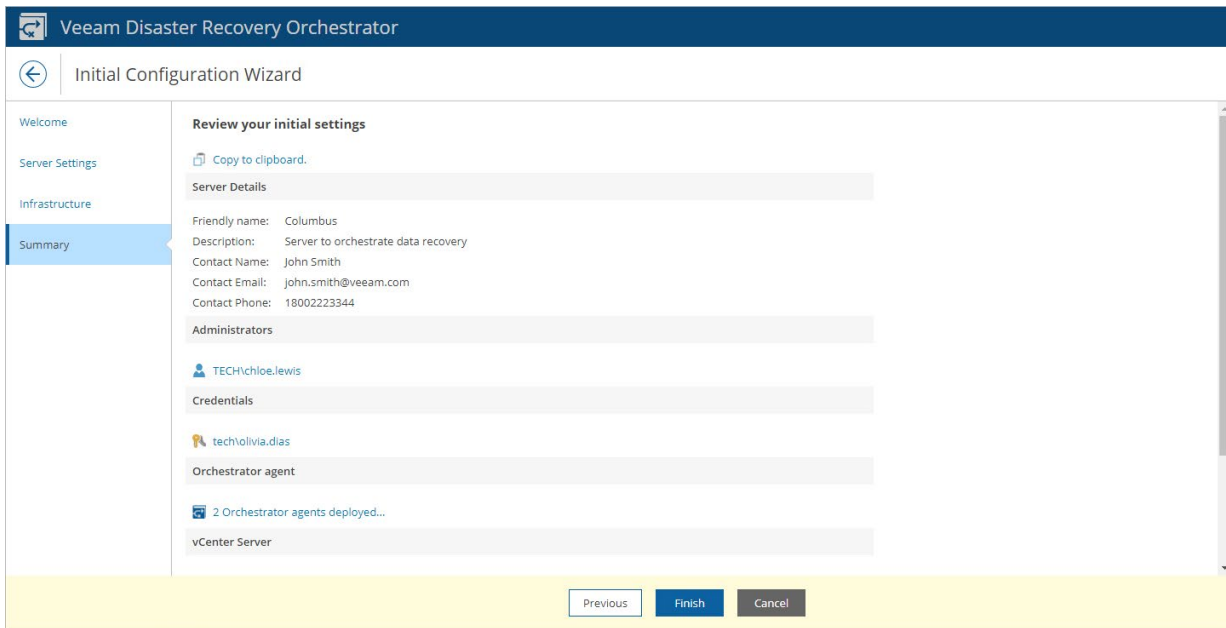
1. Click **Connect to storage system**.
2. In the **Connect to storage system** window, click **Add**.
3. In the **Add storage system connection** window, specify whether to connect a NetApp or an HPE storage system, enter its DNS name or IP address, and specify credentials of a user account for connecting to the server.
4. Repeat the procedure for each storage system that you want to connect to Orchestrator, and click **Apply**.

You can also register storage systems later. For more information, see the Veeam Disaster Recovery Orchestrator Operations Guide, section [Connecting Storage Systems](#).



Step 4. Review Configuration Summary

At the **Summary** step of the wizard, review configuration information and click **Finish**.



Upgrading Veeam Disaster Recovery Orchestrator

Upgrade to Orchestrator version 6.0 is supported from Orchestrator version 5.0 only. Upgrade from Orchestrator versions 4.0, 3.0 and 2.0 is not supported.

To learn how to manually migrate Orchestrator 1.0 deployment to version 2.0, see [this Veeam KB article](#). To learn how to upgrade from Orchestrator 2.0 to Orchestrator 3.0, see the [Veeam Availability Orchestrator 3.0 User Guide](#). To learn how to upgrade from Orchestrator 3.0 to Orchestrator 4.0, see the [Veeam Availability Orchestrator 4.0 User Guide](#). To learn how to manually upgrade from Orchestrator 4.0 to Orchestrator 5.0, see the [Veeam Disaster Recovery Orchestrator 5.0 User Guide](#).

Upgrade Checklist

Check the following prerequisites before upgrading Orchestrator:

1. Perform backup of all existing databases that are used to store data collected from Orchestrator, Veeam Backup & Replication and Veeam ONE, so that you can easily go back to the previous version in case of upgrade issues.
2. Make sure there is enough space for upgrade of the Microsoft SQL Server configuration database. To calculate the required space, add at least 25% of free space to the size of the Microsoft SQL Server configuration database.

By default, the setup wizard installs Orchestrator with Microsoft SQL Server Express. Note that the maximum configuration database size for Microsoft SQL Server Express is 10 GB.

3. Make sure there are no orchestration plans being tested or executed (that is, no plans are in the *IN USE* mode, *HALTED* state or any of the active states). For CDP plans, upgrade is available only for the following plan states: *VERIFIED*, *NOT VERIFIED*, *COMMIT FAILBACK*, *UNDO FAILOVER* and *PERMANENT FAILOVER*.

For the list of modes and states that different types of orchestration plans can acquire, see the Veeam Disaster Recovery Orchestrator Operations Guide, sections [Running and Scheduling Replica Plans](#), [Running and Scheduling CDP Replica Plans](#), [Running and Scheduling Restore Plans](#), [Running and Scheduling Storage Plans](#) and [Running and Scheduling Cloud Plans](#).

4. Make sure there are no orchestration plans scheduled to run during upgrade. Otherwise, disable the configured schedule as described in the Veeam Disaster Recovery Orchestrator Operations Guide, sections [Scheduling Failover](#), [Scheduling CDP Failover](#), [Scheduling Restore](#), [Scheduling Storage Failover](#) and [Scheduling Cloud Restore](#).
5. Make sure all active Orchestrator UI sessions are closed.

Performing Upgrade

To upgrade from Orchestrator 5.0 to Orchestrator 6.0, perform the following steps:

1. Make sure the machine where Orchestrator will be installed meets the prerequisite conditions described in section [System Requirements](#).
2. Download the latest version of the product installation image from the [Veeam downloads page](#). You can burn the downloaded image file to a CD/DVD or mount the installation image to the target machine using disk image emulation software.
3. [Start the setup wizard](#).
4. [Accept the license agreement](#).
5. [Review components to upgrade](#).
6. [Provide a license file](#).
7. [Perform system configuration check](#).
8. [Specify service account credentials](#).
9. [Review SQL server connection settings](#).
10. [Begin upgrade](#).
11. [Upgrade remote Veeam Backup & Replication servers to version 12](#).
12. [Optional] [Upgrade additional Veeam ONE Monitor Client instances to version 12](#).
13. [Optional] [Upgrade the Orchestrator UI if installed remotely](#).

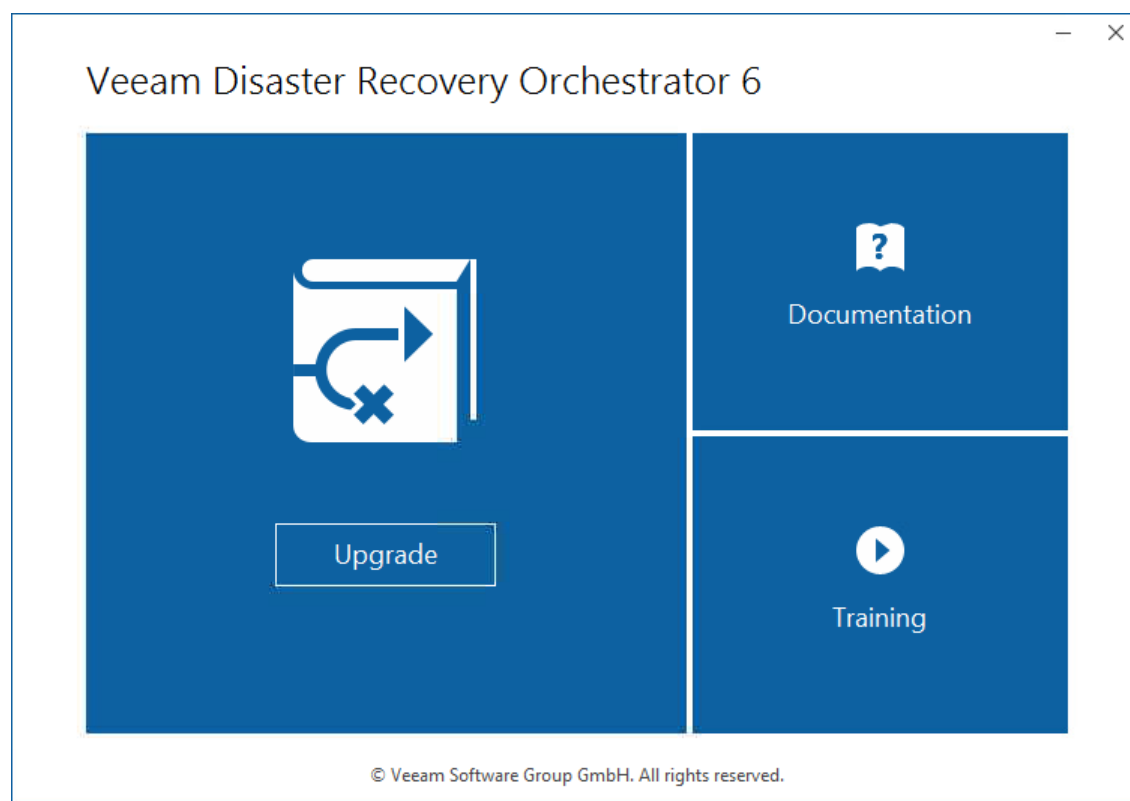
IMPORTANT

The embedded Veeam Backup & Replication and Veeam ONE servers are upgraded automatically, as part of the Orchestrator server upgrade process. DO NOT try to upgrade the embedded servers manually, by using the installation images of remote Veeam Backup & Replication and Veeam ONE solutions. Otherwise, the correct operation of the Orchestrator server cannot be guaranteed.

Step 1. Launch Splash Window and Start Setup Wizard

To start the setup wizard, perform the following steps:

1. Log in to the machine where the Veeam Orchestrator Server Service component is installed. Use an account with the local Administrator rights.
2. Insert the installation disc into the CD/DVD drive or mount the installation image. The setup will open a splash screen with Orchestrator installation options.
3. Click **Upgrade** to launch the **Veeam Disaster Recovery Orchestrator Setup** wizard.



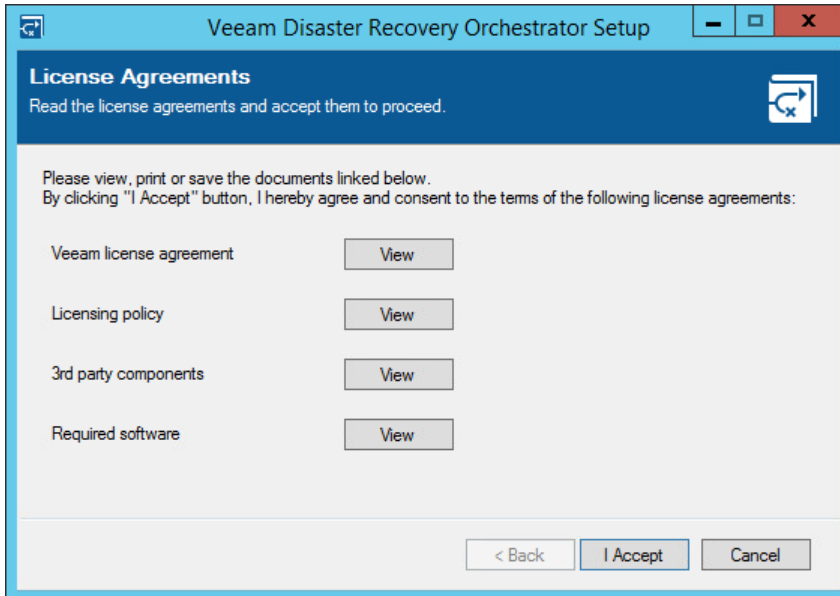
NOTE

Before proceeding with installation, the installer will check whether you have Microsoft .NET Framework 4.7.2 and Microsoft Visual C++ 2019 installed on the machine. In case the required version is missing, the installer will offer to install it automatically. To do that, click **OK**.

Installation will require performing a reboot. Click **Reboot** in the warning message to acknowledge the reboot.

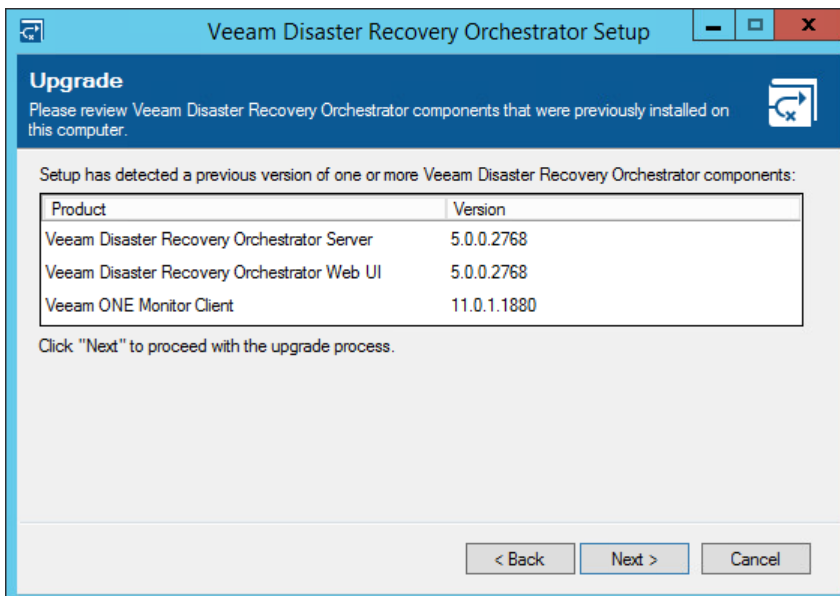
Step 2. Accept License Agreement

At the **License Agreement** step of the wizard, read and accept the Veeam license agreement, the licensing policy, the 3rd party components license agreement and the license agreement of the required software. If you reject the agreements, you will not be able to continue installation.



Step 3. Review Components to Upgrade

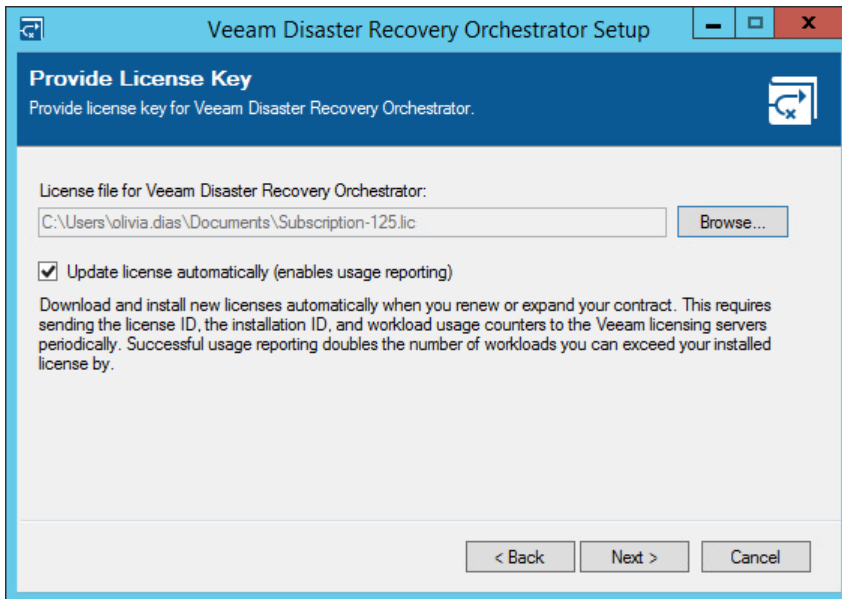
The installer will automatically detect components of the previous version installed on the machine. At the **Upgrade** step of the wizard, review the components to upgrade.



Step 4. Provide License File

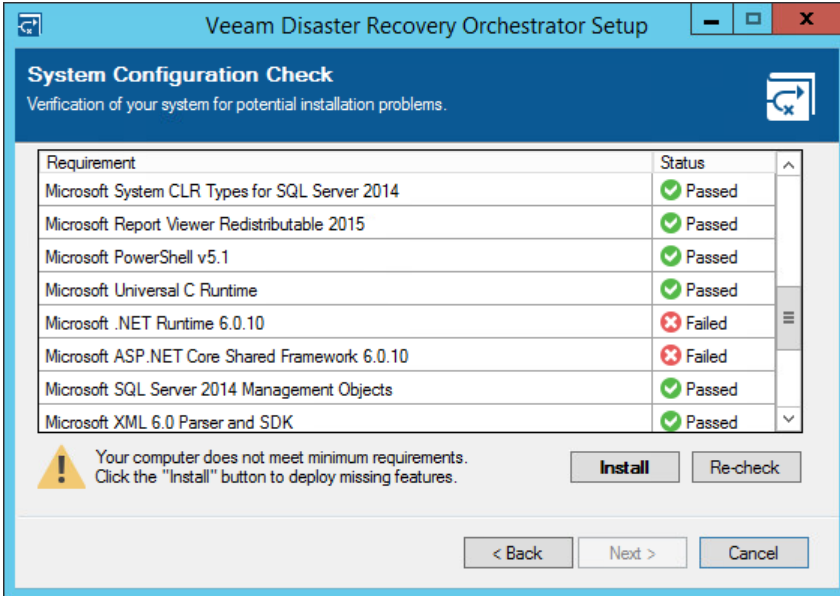
At the **Provide License Key** step of the wizard, click **Browse** to locate the license file supplied to you by Veeam. You will not be able to continue installation without providing a license.

You can instruct Orchestrator to update the license automatically. If automatic license update is enabled, Orchestrator proactively communicates with the Veeam License Update Server to obtain and install a new license before the current license expires. You can enable automatic license update later [when configuring Orchestrator](#).

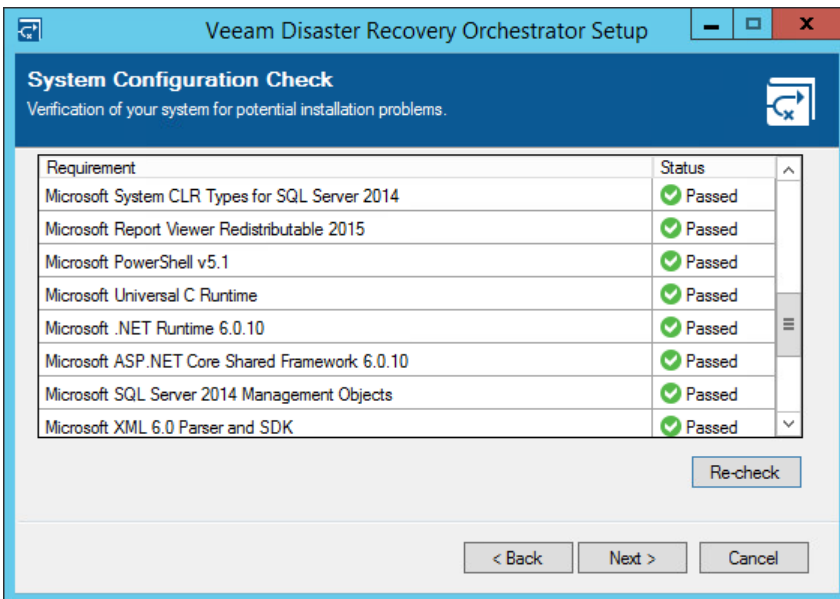


Step 5. Perform System Configuration Check

At the **System Configuration Check** step of the wizard, check whether all prerequisite software is available on the target system. If some of the required software components are missing, the wizard will offer to install missing software automatically. To do that, click **Install**.



When all the required software is installed, click **Re-check** to repeat verification.

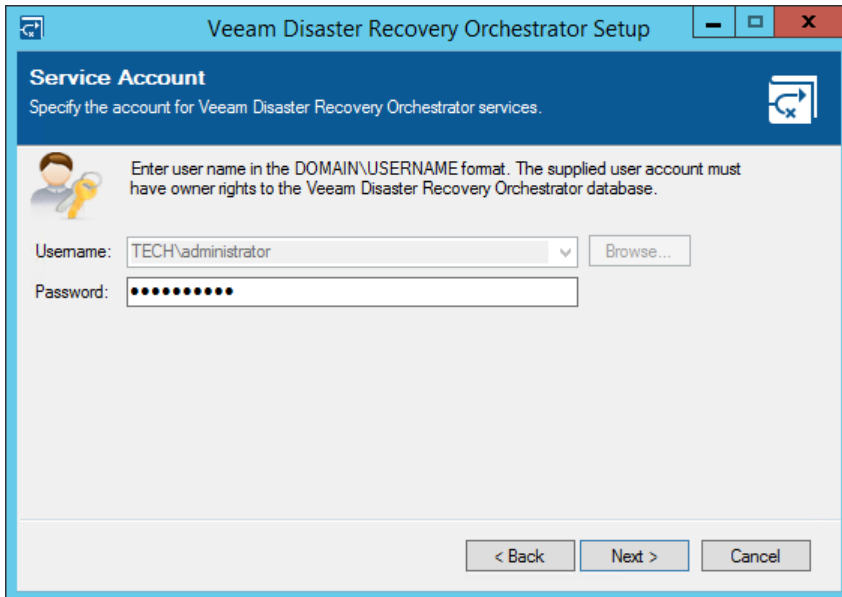


NOTE

Installation of the missing software may require performing a reboot. Click **Reboot** in the warning message to acknowledge the reboot.

Step 6. Specify Service Account Credentials

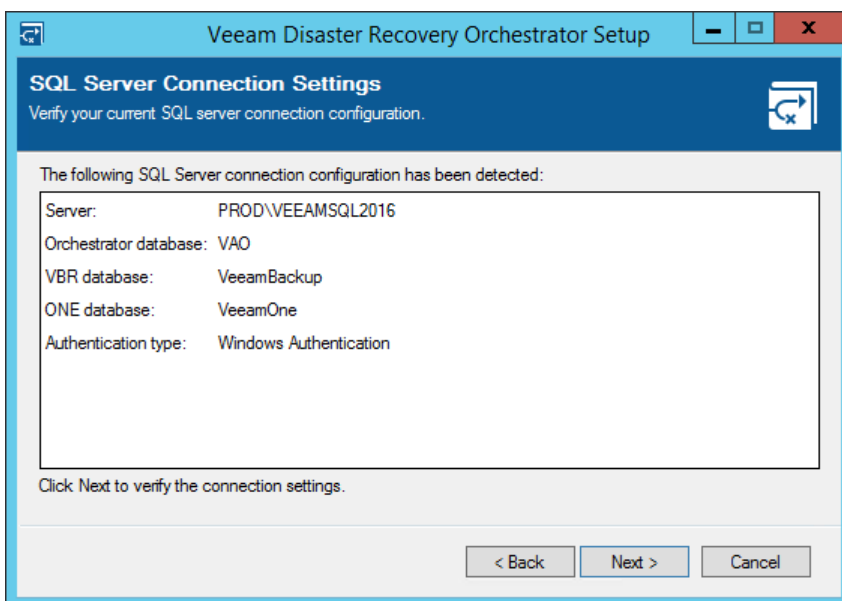
The installer will automatically detect the account that was previously used to run the Veeam Orchestrator Server Service. At the **Service Account** step of the wizard, enter the password for the account.



Step 7. Review SQL Server Connection Settings

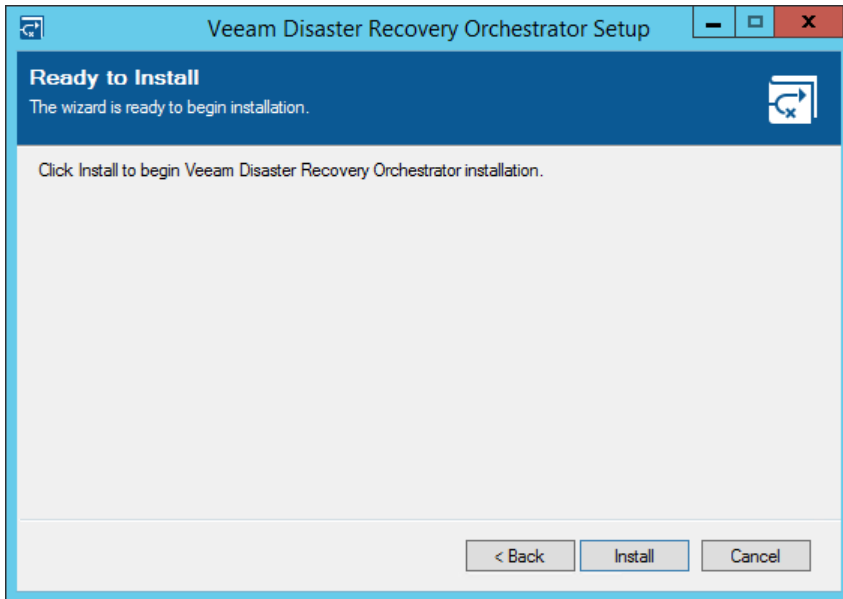
The installer will automatically detect the Microsoft SQL Server instance (installed locally or remotely) that was previously used to host the Orchestrator, Veeam Backup & Replication and Veeam ONE databases. The installer will also detect credentials for an account used by Orchestrator components to access the databases.

At the **SQL Server Instance** step of the wizard, review configuration information and click **Next**.



Step 8. Review Installation Summary

At the **Ready to Install** step of the wizard, click **Install** to begin upgrade.



NOTE

When the setup wizard upgrades the Orchestrator server, the embedded Veeam Backup & Replication server and the Veeam ONE server are automatically upgraded as well.

Step 9. Upgrade to Veeam Backup & Replication 12

It is essential that you upgrade to version 12 every remote Veeam Backup & Replication server connected to Orchestrator. This version contains numerous enhancements and fixes required for the Orchestrator integration. To perform upgrade of Veeam Backup & Replication to version 12, follow the instructions provided in the Veeam Backup & Replication User Guide, section [Upgrading to Veeam Backup & Replication 12](#), and in [this Veeam KB article](#).

After the upgrade process completes, do the following:

1. Open the Veeam Backup & Replication console on each remote Veeam Backup & Replication server to update configured virtual labs. To perform the update, follow the steps of the **Edit Virtual Lab** wizard.

For more information on editing Veeam Backup & Replication virtual labs, see the Veeam Backup & Replication User Guide, section [Editing and Deleting Virtual Labs](#).

2. Open the Veeam Backup & Replication console on each remote Veeam Backup & Replication server to update Veeam Backup & Replication components installed on all managed servers. To perform the update, follow the steps of the **Components Update** wizard.

For more information on updating server components, see the Veeam Backup & Replication User Guide, section [Server Components Upgrade](#).

3. Open the Orchestrator UI and make sure all Orchestrator agents running on remote Veeam Backup & Replication servers have also been upgraded successfully.

To do that, switch to the **Administration** page, navigate to **Orchestrator Agents** and check the status of each connected Veeam Backup & Replication server. If you encounter a connection issue with an Orchestrator agent, repair the agent as described in the Veeam Disaster Recovery Orchestrator Operations Guide, section [Repairing Orchestrator Agents](#).

Step 10. Upgrade to Veeam ONE 12

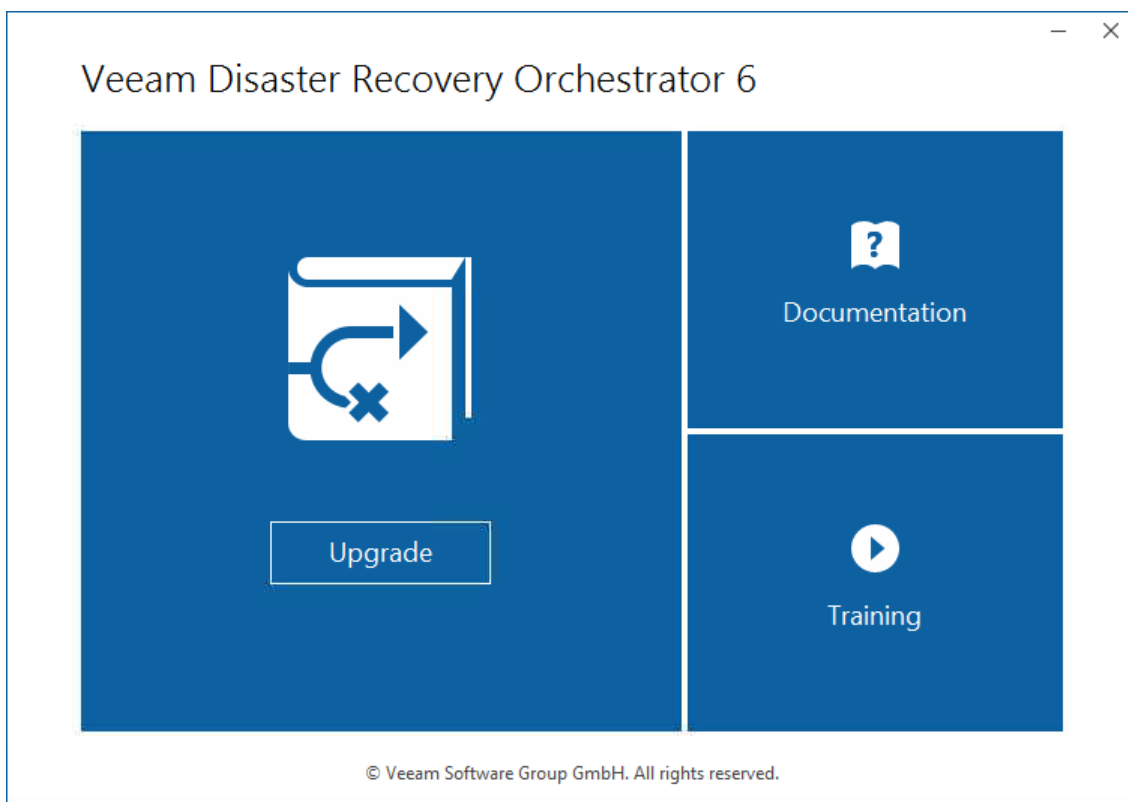
It is essential that you upgrade to version 12 every additional instance of Veeam ONE Monitor Client used to access the Veeam ONE functionality remotely. This version contains numerous enhancements and fixes required for the Orchestrator integration. To perform upgrade of Veeam ONE Monitor Client to version 12, follow the instructions provided in the Veeam ONE Deployment Guide, section [Upgrading Veeam ONE Client](#).

Step 11. Upgrade Orchestrator UI

In case of distributed product installation, upgrade the Orchestrator UI installed remotely after you upgrade the machine running the Veeam Orchestrator Server Service.

To upgrade the Orchestrator UI, perform the following steps:

1. Log in to the machine where the Orchestrator UI component is installed. Use an account with the local Administrator rights.
2. Make sure that all active Orchestrator UI sessions are closed.
3. Insert the installation disc into the CD/DVD drive or mount the installation image. The setup will open a splash screen with Orchestrator installation options.
4. Click **Upgrade** to launch the **Veeam Disaster Recovery Orchestrator Setup** wizard.



NOTE

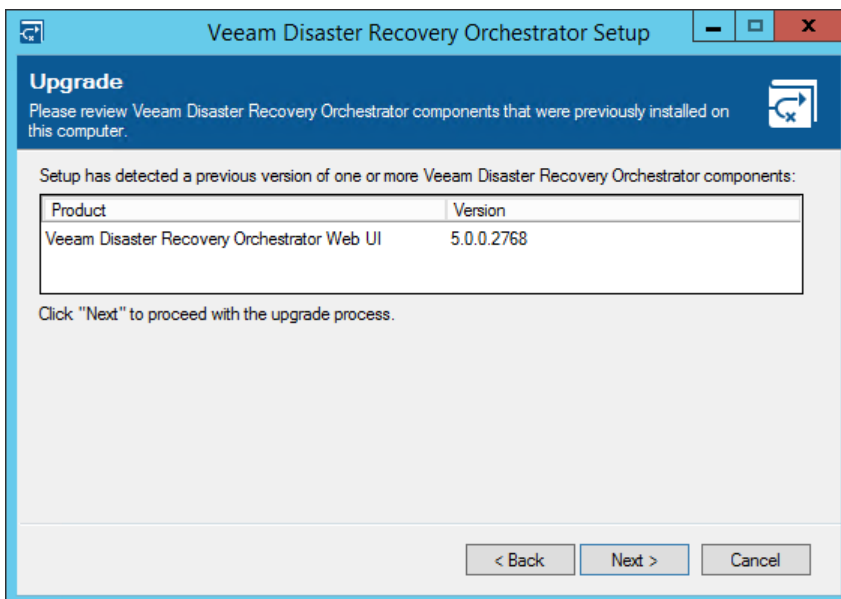
Before proceeding with upgrade, the installer will check whether you have Microsoft Visual C++ 2019 installed on the machine. In case the required version is missing, the installer will offer to install it automatically. To do that, click **OK**.

Installation will require performing a reboot. Click **Reboot** in the warning message to acknowledge the reboot.

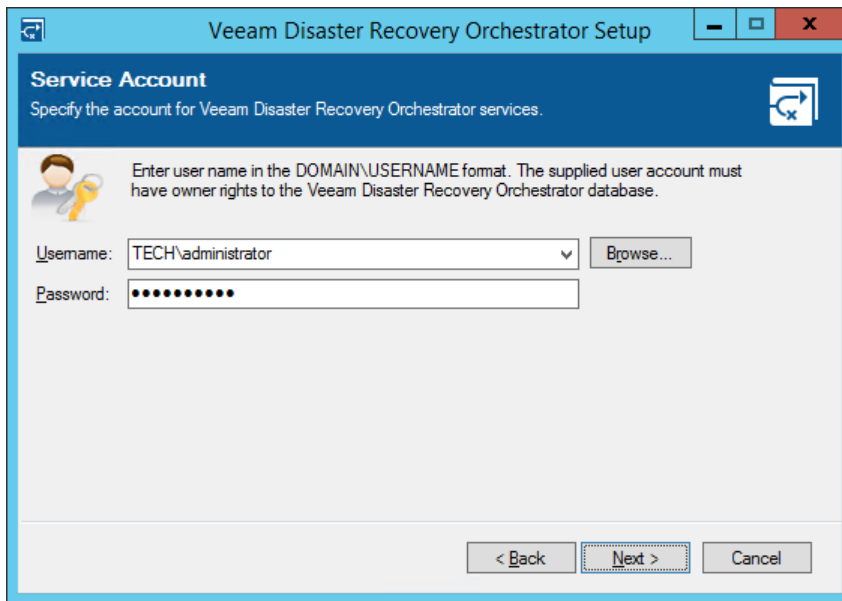
5. At the **License Agreement** step of the wizard, read and accept the Veeam license agreement, the licensing policy, the 3rd party components license agreement and the license agreement of the required software. If you reject the agreements, you will not be able to continue installation.



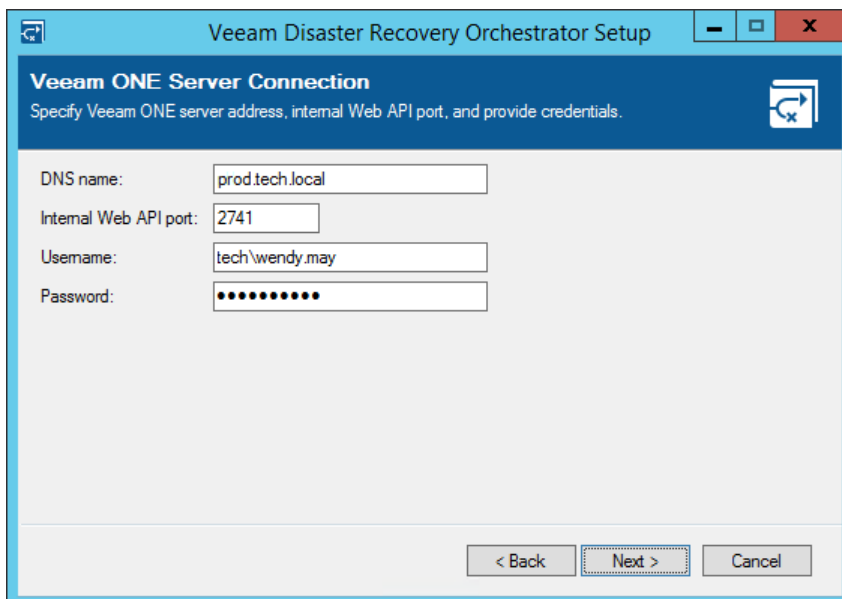
6. The installer will automatically detect the Orchestrator UI component of the previous version installed on the machine. At the **Upgrade** step of the wizard, review the component to upgrade and click **Next**.



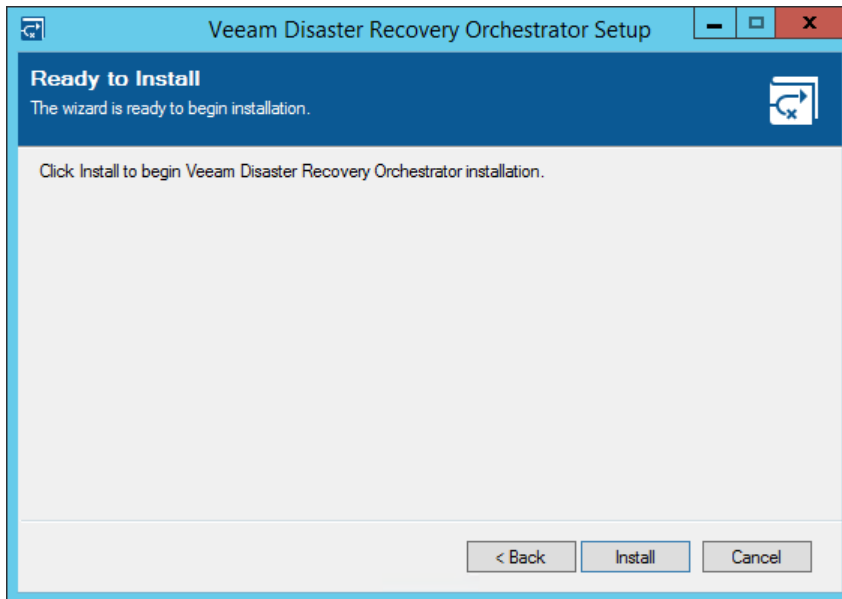
- At the **Service Account** step of the wizard, enter credentials of the account under which the Veeam Orchestrator Server Service will run. The account must be a member of the local *Administrators* group. The user name must be specified in the *DOMAIN|USERNAME* format.



- At the **Veeam ONE Server Connection** step, specify the DNS name of the embedded Veeam ONE server that is installed on the upgraded machine running the Veeam Orchestrator Server Service. Also, specify the port that is used to connect to the server – this must be the port that you specified during upgrade of the Veeam Orchestrator Server Service component (2741 by default).



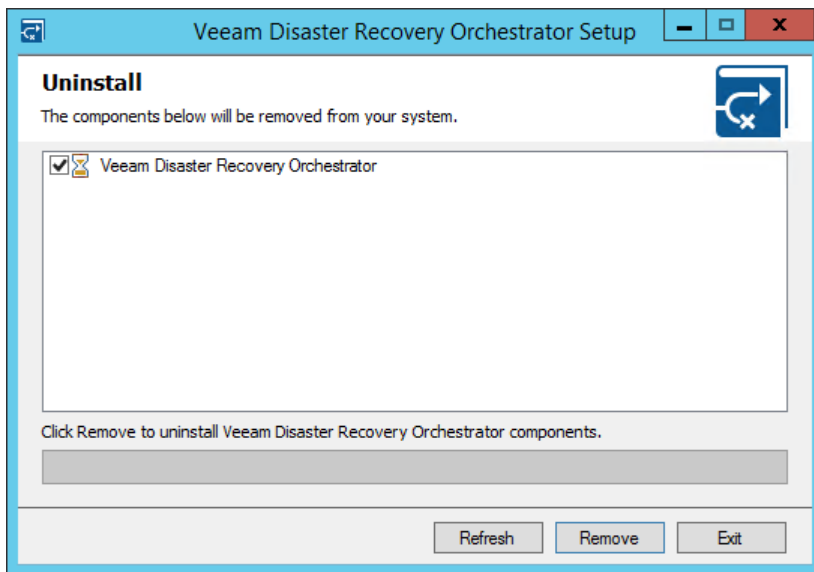
9. At the **Ready to Install** step of the wizard, click **Install** to begin upgrade.



Uninstalling Veeam Disaster Recovery Orchestrator

To uninstall Orchestrator components, perform the following steps:

1. Log in as a local Administrator to the machine where Orchestrator is installed.
2. From the **Start** menu, select **Control Panel > Programs and Features**.
3. Select **Veeam Disaster Recovery Orchestrator**, click **Uninstall** and then click **Remove**.



Appendix. Reinstalling Orchestrator Using Existing Databases

In some cases, you may need to migrate the Orchestrator server to another machine or reinstall it using existing databases. To do that, follow the instructions provided in this section.

Step 1. Back Up Existing Databases

Before you reinstall Orchestrator, you must create backups of databases used to store data collected from Orchestrator, Veeam Backup & Replication and Veeam ONE, which were previously installed with the Orchestrator server.

Step 2. Restore Backed-Up Databases

Restore the backed-up Orchestrator, Veeam Backup & Replication and Veeam ONE databases to a new local or remote Microsoft SQL Server instance.

IMPORTANT

It is required that the restored databases are located on the same Microsoft SQL Server instance and have the same names as the previously installed databases.

Step 3. Install Veeam Disaster Recovery Orchestrator

Run the Orchestrator setup wizard and follow the instructions provided in section [Deploying Veeam Disaster Recovery Orchestrator](#).

At the **SQL Server Database** step of the wizard, browse to the restored Orchestrator database and specify names for new Veeam Backup & Replication and Veeam ONE databases.

NOTE

Orchestrator reinstallation process does not involve the Veeam Backup & Replication and Veeam ONE databases restored at [Step 2. Restore Backed-Up Databases](#).

To allow Orchestrator to use the restored databases, you must perform reconfiguration of Veeam ONE and Veeam Backup & Replication servers. For more information, see [Step 4. Reinstall Veeam ONE and Veeam Backup & Replication](#).

Step 4. Reinstall Veeam ONE and Veeam Backup & Replication

As soon as the Orchestrator installation process completes:

1. Open the **Services** snap-in and stop the Veeam Orchestrator Server Service, Veeam Orchestrator ONE Integration Service and Veeam Orchestrator Agent for Backup service.
2. Reconfigure Veeam ONE and Veeam Backup & Replication servers to use old databases instead of new ones created during Orchestrator installation.

For more information, see these Veeam KB articles: [Moving Veeam ONE database to a different SQL Server](#) and [How to move the Veeam Backup & Replication software to another server](#).

3. Start the Veeam Orchestrator Server Service, Veeam Orchestrator ONE Integration Service and Veeam Orchestrator Agent for Backup service.

Step 5. Additional Configuration

Depending on the new database location, you will have to perform a number of additional actions.

Installing Orchestrator on the same machine

If you have performed installation on the same machine that was used to run Orchestrator earlier, no additional configuration is required.

Installing Orchestrator on a new machine with the same name

If you have performed installation on a new machine with the same name as the machine that was used to run Orchestrator earlier, do the following.

1. Open the Orchestrator UI and switch to the **Administration** page.
2. Navigate to **Orchestrator Agents**. All Orchestrator agents previously installed on the server will have the *Repair Required* status.
 - a. Select an agent and click **Repair**.
 - b. In the **Repair Orchestrator Agent** window, enter passwords required for the remote access and service credentials.
 - c. Repeat the step for each agent with the *Repair Required* status.
3. Navigate to **vCenter Servers**. All VMware servers previously connected to the server will have the *Disconnected* status.
 - a. Select a vCenter Server and click **Edit**.
 - b. In the **Edit vCenter Server Connection** window, enter a password required to connect to the server.
 - c. Repeat the step for each VMware server with the *Disconnected* status.
4. Navigate to **Credentials**.

Modify all manually added credentials managed by the Orchestrator server.

- a. Select a credential and click **Edit**.
- b. In the **Edit Credential** window, enter a password for the credential.
- c. Repeat the step for each manually added credential.

NOTE

All credentials collected from remote Veeam Backup & Replication servers will be automatically updated as soon as Orchestrator agents installed on the servers connect to the Orchestrator server.

5. [This step applies only if you have previously connected an SMTP server and enabled authorization]

Navigate to **SMTP Server**.

- a. Click **Edit**.
- b. In the **SMTP Server** window, enter a password required for SMTP server authentication.

Installing Orchestrator on a new machine with a new name

If you have performed installation on a new machine with a new name, follow the instructions provided in steps 1-5. No additional actions are required.

TIP

To make sure all the configuration changes are correct, after you perform the required actions, generate the **Plan Readiness Check Report** for each Orchestrator plan. For more information on the report, see the Veeam Disaster Recovery Orchestrator Operations Guide, section [Running Plan Readiness Check](#).