



Veeam ONE

Version 10a

Deployment Guide

July, 2020

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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 at www.veeam.com/support.html 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 offices location, visit www.veeam.com/contacts.html.

Online Support

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

- Full documentation set: www.veeam.com/documentation-guides-datasheets.html
- Community forum at forums.veeam.com

About This Document

This guide describes deployment scenarios for Veeam ONE, provides information about the product design and structure and offers step-by-step instructions for successful installation, configuration and updating.

Intended Audience

The guide is intended for anyone who plans to use the Veeam ONE solution. It is primarily aimed at administrators managing Veeam Backup & Replication, VMware vSphere, vCloud Director or Microsoft Hyper-V environments, but can also be helpful for other current and perspective Veeam ONE users.

About Veeam ONE

Veeam ONE is a comprehensive solution developed by Veeam Software for managing virtual and data protection environments. Veeam ONE enables real-time monitoring, business documentation and management reporting for Veeam Backup & Replication, VMware vSphere and Microsoft Hyper-V.

Veeam ONE is designed to give IT administrators peace-of-mind to manage every aspect of the modern virtual environment. Every Veeam ONE capability meets a specific business challenge — from monitoring the state of VMs and their performance, generating reports for capacity planning and upgrade purposes, to providing management with transparent and granular views of the virtual infrastructure from a business-oriented perspective.

Veeam ONE incorporates the following software components:

- **Veeam ONE Monitor** is the primary tool used for monitoring the virtual environment and Veeam Backup & Replication infrastructure. In the Veeam ONE Monitor console, you can manage, view and interact with alarms and monitoring data, analyze performance of virtual and backup infrastructure components, track the efficiency of data protection operations, troubleshoot issues, generate reports and administer monitoring settings.
- **Veeam ONE Reporter** provides a set of dashboards and reports that allow you to verify configuration issues, optimize resource allocation and utilization, track implemented changes, plan capacity growth and track whether mission-critical workloads are properly protected in the virtualized datacenter.

Veeam ONE Monitor and Veeam ONE Reporter are installed with one setup and provide a single cohesive solution.

Veeam ONE Architecture

Veeam ONE relies on client-server architecture to work effectively in environments of any size and complexity. Veeam ONE architecture includes the following structural components:

- **Veeam ONE Server**

Veeam ONE Server is responsible for collecting data from virtual servers, vCloud Director servers and Veeam Backup & Replication servers, and storing this data into the database. As part of Veeam ONE Server, the following components are installed: Veeam ONE Monitor Server and Veeam ONE Reporter Server.

- **Veeam ONE Web UI**

Veeam ONE Web UI is a client part for Veeam ONE Reporter. Veeam ONE Web UI communicates with the database, processes and displays data in a web-based interface.

- **Veeam ONE Monitor Client**

Veeam ONE Monitor Client is a client part for Veeam ONE Monitor Server. Veeam ONE Monitor Client communicates with the Veeam ONE Monitor Server installed locally or remotely.

- **Veeam ONE Database**

Veeam ONE database stores data used by product components. The database is hosted on a Microsoft SQL Server that can run remotely, or can be co-installed with other Veeam ONE components.

- **Veeam ONE Agent**

Veeam ONE agent is a component that enables communication with Veeam Backup & Replication servers, performs collection of logs, and sends remediation commands.

Veeam ONE agent can work in the following modes:

- **Server**

In this mode, Veeam ONE agent is responsible for analyzing log data and signature updates.

Veeam ONE agent server is included into Veeam ONE installation package and deployed on the machine running Veeam ONE Monitor server during product installation.

- **Client**

In this mode, Veeam ONE agent is responsible for collecting logs and executing remediation actions on Veeam Backup & Replication servers.

By default, Veeam ONE agent client is deployed on Veeam Backup & Replication servers when you connect these servers to Veeam ONE.

Veeam ONE architectural components can be installed on a single machine, or run on dedicated machines. For details, see [Deployment Scenarios](#).

Deployment Scenarios

Veeam ONE supports two deployment scenarios:

- **Typical deployment**

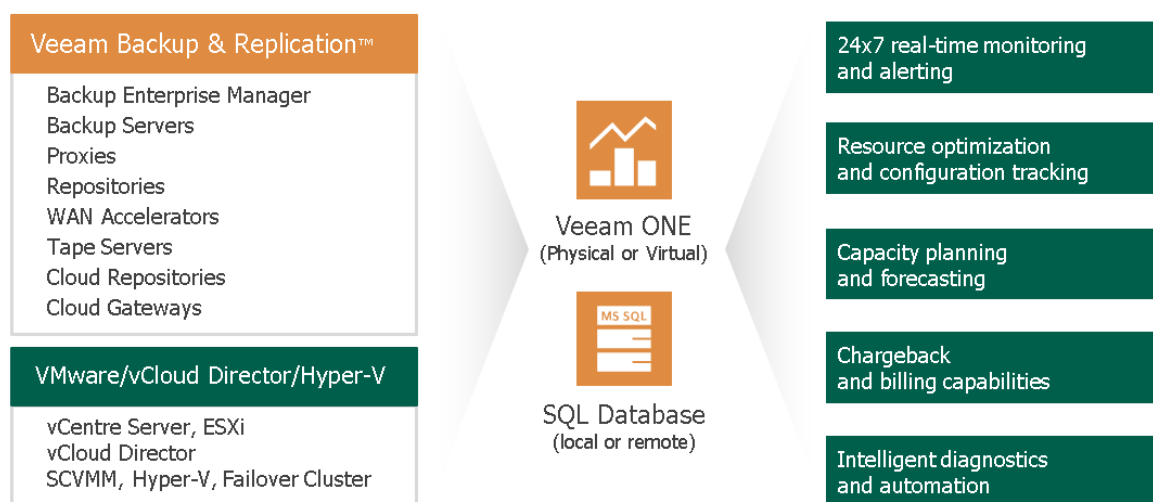
The typical deployment scenario is ideal if you want to consolidate the entire product functionality in one place by installing all product architectural components on a single machine. This scenario is preferable for small- to medium-scale deployments.

- **Advanced deployment**

The advanced deployment scenario is more suitable if you want to separate client/server roles and install product architectural components on different machines.

Typical Deployment

The following diagram illustrates the typical Veeam ONE deployment scenario.



In the typical deployment scenario:

- All Veeam ONE architectural components (Veeam ONE Server, Veeam ONE Web UI, and Veeam ONE Monitor Client) are installed altogether on a single machine (either physical or virtual).
- To store data retrieved from connected servers, a local or remote Microsoft SQL Server instance is required. If you have a Microsoft SQL Server instance that meets Veeam ONE system requirements, you can adopt it for Veeam ONE deployment. Otherwise, you can install a new Microsoft SQL Server instance during the product installation – Veeam ONE setup package includes Microsoft SQL Server 2016 Express Edition.

NOTE:

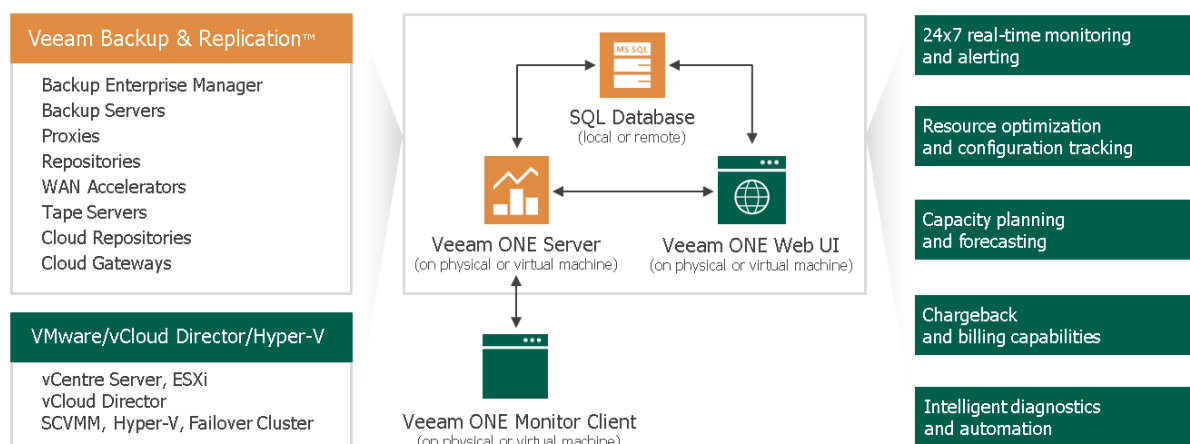
For large-scale deployments (1000+ VMs), it is recommended to use a remote Microsoft SQL Server installation. It is also recommended to run Veeam ONE services on a dedicated server. Such distributed installation will improve performance of Veeam ONE services.

- To enable multi-user access to real-time performance statistics and configurable alarms, you can additionally install one or more instances of Veeam ONE Monitor Client on separate machines. Thus, you will be able to access Veeam ONE functionality either from a local machine or from remote computers.

For instructions on the typical deployment procedure, see [Typical Installation](#).

Advanced Deployment

The following diagram illustrates the advanced Veeam ONE deployment scenario.



The advanced deployment scenario relies on a distributed architecture where server and client parts are separated and installed on different machines (physical or virtual). In the advanced deployment scenario:

- Veeam ONE Server and Veeam ONE Web UI components are installed on separate machines.
- To enable multi-user access to real-time performance statistics and configurable alarms, you can install one or more instances of Veeam ONE Monitor Client on remote machines.
- To store data retrieved from connected servers, a local or remote Microsoft SQL Server instance is required as a supporting system. If you already have a Microsoft SQL Server instance that meets Veeam ONE system requirements, you can adopt it for Veeam ONE deployment. Otherwise, you can install a new Microsoft SQL Server instance during the product installation – Veeam ONE setup package includes Microsoft SQL Server 2016 Express Edition.

NOTE:

For large-scale deployments (1000+ VMs), it is recommended to use a remote Microsoft SQL Server installation. It is also recommended to run Veeam ONE services on a dedicated server. Such distributed installation will improve performance of Veeam ONE services.

The advanced installation relies on a client-server model for data collection and communication.

- Server component collects data from virtual infrastructure servers, vCloud Director servers and Veeam Backup & Replication servers and stores this data in the database.
- Web UI component (Veeam ONE Reporter) communicates with the database and allows users to access collected data for generating reports. Also Web UI component communicates with Veeam ONE Server to determine which data must be displayed depending on the installed license and to check data collection status.
- Monitor Client communicates with Veeam ONE Server directly to obtain real-time virtual infrastructure performance data and data protection statistics.

For a successful Veeam ONE deployment, it is essential that the client components are aware of the Veeam ONE Server and the database location, and can connect to them to retrieve and process data.

For instructions on the advanced installation procedure, see [Advanced Installation](#).

Licensing Veeam ONE

To achieve full capability of Veeam ONE, you must obtain a license file and install it on the Veeam ONE server. If you do not install the license key, the product will operate in the *Community* (free) edition.

Licensed Objects

Veeam ONE can be licensed in two ways: per-socket and per-instance.

Per Socket Licensing

Veeam ONE can be licensed by the number of CPU sockets on managed VMware vSphere and Microsoft Hyper-V hosts. A license is required for every occupied motherboard socket as reported by the hypervisor API. A managed host is a host that is included in the monitoring and reporting scope with Veeam ONE inclusion rules. For details, see [Choosing VMs and VM Containers to Monitor and Report On](#).

Per Instance Licensing

Veeam ONE can be licensed by the number of instances. An **instance** is a unit (or token) that is assigned to an object to make it manageable in Veeam ONE.

Veeam ONE per-instance license apply to the following types of objects:

- VMs protected by the monitored Veeam Backup & Replication servers and VMs included in the monitoring and reporting scope with Veeam ONE inclusion rules. For details on configuring monitoring scope for the virtual infrastructure, see [Choosing VMs and VM Containers to Monitor and Report On](#).

VMs protected by the monitored Veeam Backup & Replication servers and VMs included in the monitoring and reporting scope at the same time consume one instance from a license scope.

- Computers protected with Veeam Agent for Windows or Veeam Agent for Linux that are managed by Veeam Backup & Replication servers that you connect to Veeam ONE.

The number of instances consumed by a managed computer depends on the mode in which the Veeam Agent job operates. For details on Veeam Agent licensing coefficients, see <https://vee.am/licensing-policy>.

A computer consumes instances until historical information about computer backup is stored in Veeam ONE. If you do not want to monitor a computer in Veeam ONE, you must delete computer backups from disk. For details on, see section [Deleting Backup from Disk](#) of the Veeam Agent Management Guide.

- File shares protected by Veeam Backup & Replication servers that you connect to Veeam ONE. File shares are licensed per 250 GB of protected data.
- Nutanix AHV VMs protected by Veeam Backup & Replication servers that you connect to Veeam ONE.
- Microsoft Azure VMs or AWS EC2 instances whose backups are stored on external repositories of Veeam Backup & Replication servers that you connect to Veeam ONE.

Rental licenses intended for Veeam Cloud & Service Providers (VCSP) use **points** as license units.

New Objects

To provide more flexibility and introduce a trial period for object management, Veeam ONE offers the concept of *New objects* for *Rental* licenses. New objects are objects that were discovered within the current calendar month. New objects are tracked separately. The **Used points** license counter reflects the number of points required for the new objects, that is the number of new objects multiplied by the object coefficient.

New objects do not consume the license points until the beginning of the new month. On the first day of the new month, the number of new objects is added to the number of managed objects and the **New points** counter in the license resets. New objects are not included in a license usage report.

NOTE:

The *New objects* counter in Veeam ONE does not include:

- File shares protected by Veeam Backup & Replication
- Nutanix VMs, Microsoft Azure VMs and AWS EC2 instances that are not included in the New objects counter on the monitored Veeam Backup & Replication server

License Types and Packages

Veeam Software offers paid and free licenses for Veeam ONE.

Paid Licenses

Veeam Software offers the following types of paid licenses for Veeam ONE:

- **Perpetual license** is a permanent full license. The perpetual license does not have an expiration date and allows using Veeam ONE versions issued before support expiration date.
- **Subscription license** is a full license that expires at the end of the subscription term. The subscription license term is normally 1–3 years from the license issue date.
- **Rental license** is a full license intended for Veeam Cloud & Service Providers (VCSP). The license expiration date is set according to the chosen rental program (normally 1–12 months from the license issue date).

The following terms apply to Veeam ONE paid licenses:

License Type	Licensing
Perpetual license	Per socket
Subscription license	Per instance
Rental license	Per point

Free Licenses

Veeam Software offers the following types of free licenses for Veeam ONE:

- **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 product download.
- **Community Edition license** is a license with a limited set of features* but with no restrictions on the number of virtual infrastructure hosts, management servers and failover clusters you can monitor and report on. The community license includes 6 instances free of charge and does not have an expiration date. The community version does not require a license file during installation.
- **NFR license** is a full license that can be used for product demonstration, training and education. This license is not for resale or commercial use.

*For details on Veeam ONE Community Edition limitations, see [Veeam ONE Community Edition](#).

License Packages

Veeam ONE accepts licenses of the following packages:

- Veeam ONE
- Veeam Backup Essentials

- Veeam Availability Suite

For details on license packages, see [Pricing and Packaging](#).

Compatibility with Veeam Backup & Replication Licenses

Veeam ONE allows monitoring of Veeam Backup & Replication servers if the following conditions are met for *Subscription* and *Perpetual* licenses:

Veeam Backup & Replication License		Veeam ONE License	
		Per Socket	Per Instance
Per Socket	Package = Backup	VM workloads only*	Cannot add to Veeam ONE
	Package = Suite/Essentials	VM workloads only*	All workloads
Per Instance	Package = Backup	Cannot add to Veeam ONE	Cannot add to Veeam ONE
	Package = Suite/Essentials	All workloads	All workloads
Merged	Sockets (Package = Backup) Instances (Package = Backup)	VM workloads only	Cannot add to Veeam ONE
	Sockets (Package = Suite) Instances (Package = Backup)	VM workloads only	VM workloads only
	Sockets (Package = Backup) Instances (Package = Suite)	All workloads	Non-VM workloads only
	Sockets (Package = Suite) Instances (Package = Suite)	All workloads	All workloads
	Sockets (Package = Essentials) Instances (Package = Suite)	All workloads	All workloads

where:

- **VM workloads only** – include VMs protected by the monitored Veeam Backup & Replication servers and VMs included in the monitoring and reporting scope with Veeam ONE inclusion rules.

- **Non-VM workloads only** — include other workloads protected by Veeam Backup & Replication servers that you connect to Veeam ONE: computers protected with Veeam Agent for Windows or Veeam Agent for Linux, file shares, Nutanix AHV VMs, Microsoft Azure VMs and AWS EC2 instances.

*Includes 6 free instances that can be used for monitoring non-VM workloads.

NOTE:

- If on Veeam ONE server you install a license with merged sockets and instances, it will behave as a per socket license.
- [For Veeam Backup & Replication version 9.5 Update 4] The Monitoring parameter in Veeam Backup & Replication per-instance license must be set to Yes.
For details on Veeam Backup & Replication version 9.5 Update 4 license parameters, see section [Viewing License Information](#) of the Veeam Backup & Replication User Guide.

Installing License

Veeam ONE license is provided during the product installation.

If you do not provide a license file during installation, you can provide it later:

1. Open Veeam ONE Monitor.

For details, see section [Accessing Veeam ONE Monitor](#) of the Monitor User Guide.

2. On the toolbar, click **Help** and select **License Information**.
3. In the **License Information** window, click the **Install key** link.
4. In the **Installed License** window, click **Install License** and specify a path to the license file.
5. Click **Close**.
6. In the **License Information** window, click **Save**.

Viewing License Information

You can check details of the installed license in the **License Information** window.

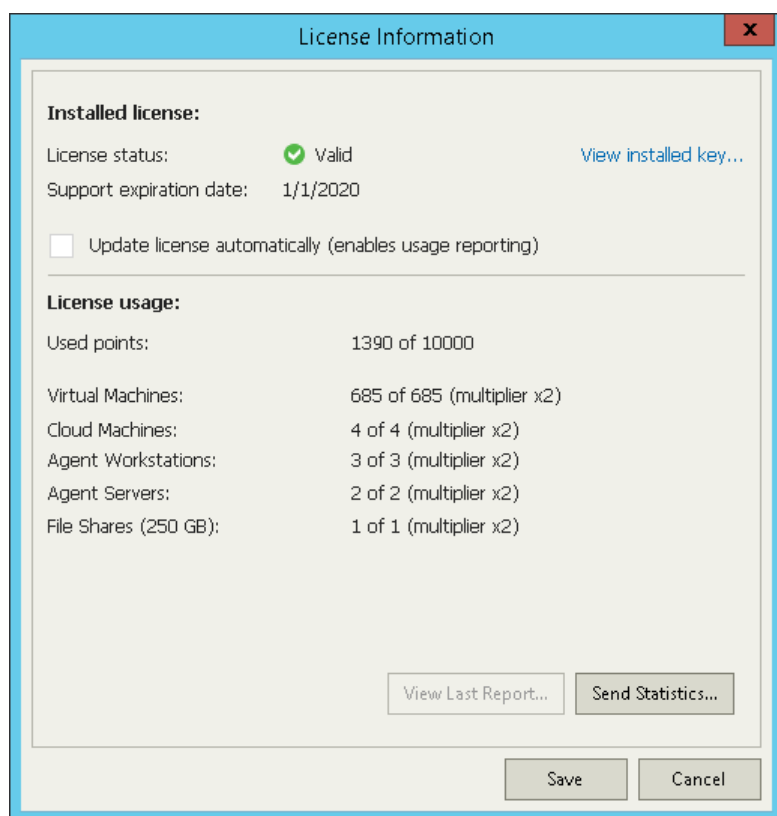
To access the **Licensed Information** window:

1. Open Veeam ONE Monitor.

For details, see section [Accessing Veeam ONE Monitor](#) of the Monitor User Guide.

2. On the toolbar, click **Help** and select **License Information**.

The **License Information** window will display license details.



Installed License

The **Installed license** section provides information about the current Veeam ONE license:

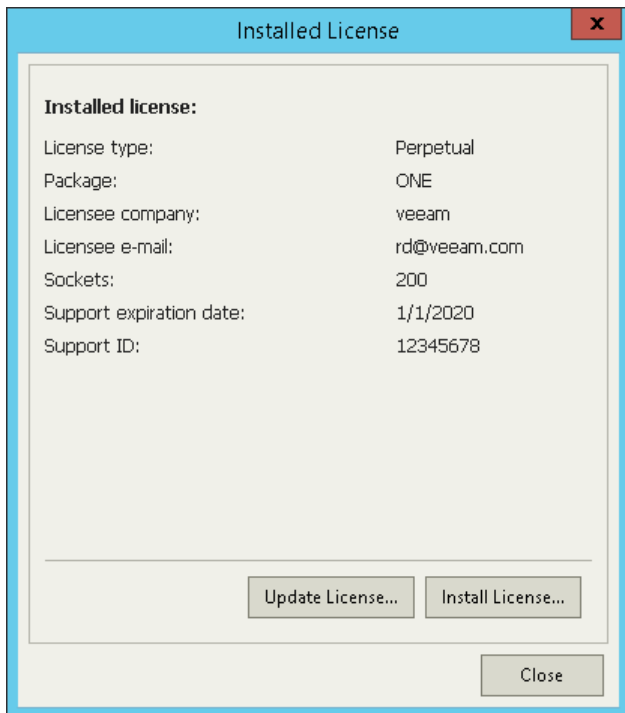
- **License status** – status of the installed license (*Valid*, *Valid (License key is about to expire)*, *Invalid*, *Expired (N days of grace period remaining)*, *Warning (License exceeded)*, *Not Installed*).
- **Expiration date** – date when the license will expire.
- [For *Perpetual* license only] **Support expiration date** – date when product support will expire.

To see detailed information about the installed license file, click the **View installed key** link.

The **Installed License** window provides the following additional details:

- **License type** – type of the installed license (*Perpetual*, *Subscription*, *Rental*, *Community*, *Evaluation*, *NFR*).
- **Expiration date** – date when the license will expire.

- **Instances** – number of instances that can cover managed objects.
- [For *Rental* license only] **Points** – number of points that can cover managed objects.
- **Package** – license package (*ONE, Suite, Essentials*).
- **Licensee company** – name of the user or company to which the license was issued.
- **Licensee e-mail** – contact e-mail address of the user or company to which the license was issued.
- [For *Perpetual* license only] **Sockets** – number of sockets that the license covers.
- **Support ID** – customer identification number required when contacting Veeam Technical Support.



License Usage

The **License usage** section provides details on the number of currently used sockets, instances or points, and the number of managed objects with object multipliers for your license type.

This section contains the following information:

- **Used sockets** – number of sockets on managed VMware vSphere and Microsoft Hyper-V hosts.
- **Used instances** – number of instances consumed by managed objects out of the total number of instances available in the license.
- [For *Rental* license only] **Used points** – number of points consumed by managed objects out of the total number of instances available in the license.
- **New** – number of objects that were discovered less than a month ago (within the current calendar month). For details on new objects, see [Licensed Objects](#).
- **Virtual Machines** – number of managed VMs out of the total number of discovered VMs on managed VMware vSphere and Microsoft Hyper-V hosts and Veeam Backup & Replication servers.
- **Agent Workstations** – number of managed Veeam Agents that run in *Workstation* mode and are managed by Veeam Backup & Replication servers connected to Veeam ONE.

- **Agent Servers** — number of managed Veeam Agents that run in Server mode discovered and are managed by Veeam Backup & Replication servers connected to Veeam ONE.
- **File Shares (250 GB)** — number of managed data blocks (250 GB each) of file shares protected by Veeam Backup & Replication servers connected to Veeam ONE.
- **Cloud Machines** — number of managed Microsoft Azure VMs or AWS EC2 instances whose backups are stored on external repositories of Veeam Backup & Replication servers connected to Veeam ONE.

Submitting License Usage Report

If you use a *Rental* license, you must submit a license usage report to Veeam every month. The license usage report reflects the maximum number of instances consumed by VMs, file shares and Veeam Agents (*Workstation* and *Server*) that you were managing with Veeam ONE within the previous calendar month.

There are two methods to submit a license usage report:

- You can submit a license usage report in Veeam ONE Monitor (recommended). For details, see [Submitting License Usage Report in Veeam ONE Monitor](#).
- You can submit a license usage report manually by sending an email with a generated report to a Veeam sales representative. For details, see [Submitting Offline License Usage Report](#).

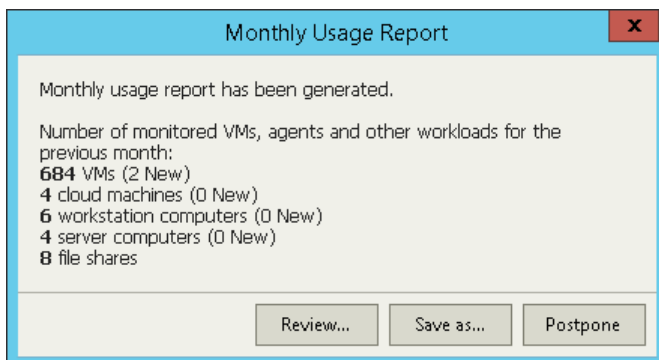
Submitting License Usage Report in Veeam ONE Monitor

If Veeam ONE server has access to Internet, you can submit a license usage report in Veeam ONE Monitor. When you submit a license usage report in Veeam ONE Monitor, Veeam ONE sends license usage statistics to the Veeam License Update Server.

This method is available only if license auto update is enabled. For details on automated license update, see [Updating License](#).

License usage reporting is performed in the following way:

1. Veeam ONE collects statistics on the current license usage.
2. On the first day of the new month, Veeam ONE generates a license usage report based on the maximum number of managed objects in the previous month.
3. Veeam ONE informs you about the generated report with a notification window in Veeam ONE Monitor each time you access the console.



4. You can review the report, adjust it and send it to Veeam.

If you do not send and save the report, on the eleventh day of the month, Veeam ONE will save and send the report automatically. You can access the report on the Veeam ONE server, in the `%ProgramData%\Veeam\Licensing\Veeam ONE Report` folder.

To submit a license usage report in Veeam ONE Monitor:

1. Open Veeam ONE Monitor.
For details, see section [Accessing Veeam ONE Monitor](#) of the Monitor User Guide.
2. On the toolbar, click **Help** and select **License Information**.
3. In the **License Information** window, click **Send Statistics**.

4. In the **License Usage Report** window, you can adjust the number of managed workloads before you submit the report.
5. In the **Reason for Change** field, specify a reason for changing report statistics or any additional information.
6. Click **Send**.
Veeam ONE will display a dialog box with the submission result.
7. Click **OK** to acknowledge the result and close the dialog box.

Workload Type	Current Value	Points
Virtual Machines:	684	1368
Cloud Machines:	4	8
Agent Workstations:	6	12
Agent Servers:	4	8
File Shares (250 GB):	8	16

Total consumed points: 1412

Reason for Change:
Workloads temporary added for POC

Buttons: Send, Cancel

Submitting Offline License Usage Report

If Veeam ONE server does not have access to Internet or has connection problems, you can submit an offline license usage report. When you submit an offline license usage report, Veeam ONE generates a file with license usage statistics.

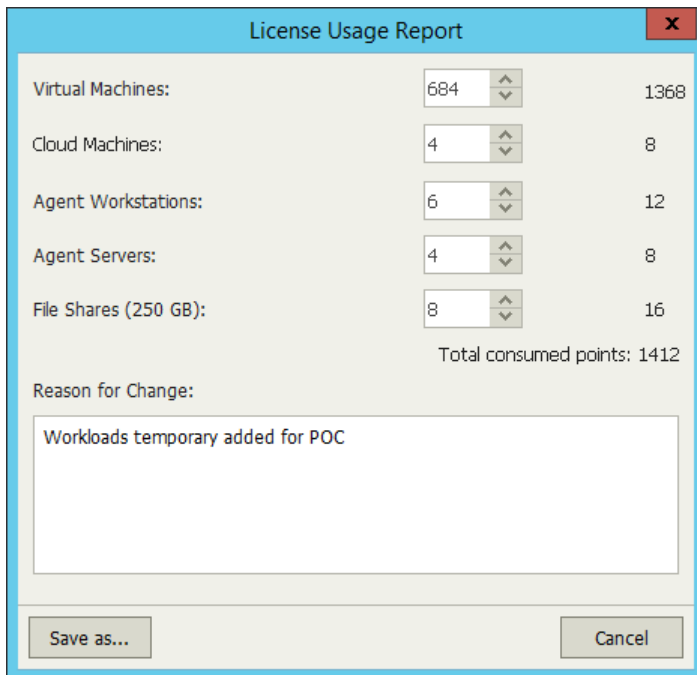
The report file can be generated in the `JSON`, `PDF` or `XLS` format. You must send a report in the `JSON` format to Veeam. You can save the report in the `PDF` or `XLS` formats for your own needs.

This method is available only if license auto update is disabled. For details, see [Updating License](#).

To submit an offline license usage report:

1. Open Veeam ONE Monitor.
For details, see section [Accessing Veeam ONE Monitor](#) of the Monitor User Guide.
2. On the toolbar, click **Help** and select **License Information**.
3. In the **License Information** window, click **Send Statistics**.
4. In the **License Usage Report** window, you can adjust the number of managed workloads before you submit the report.
5. In the **Reason for Change** field, specify a reason for changing report statistics or any additional information.

6. Click **Save as** and choose a folder to which you want to save the report.
7. When the report is generated, Veeam ONE will display a dialog box notifying that the report was created. In the dialog box, click **Open folder** to navigate to the folder where the report resides.
8. Review the report and send it to a Veeam sales representative.



The image shows a 'License Usage Report' dialog box with a blue title bar and a red close button. It contains a table of usage statistics, a text area for the reason for change, and 'Save as...' and 'Cancel' buttons at the bottom.

Category	Current Value	Maximum Value
Virtual Machines:	684	1368
Cloud Machines:	4	8
Agent Workstations:	6	12
Agent Servers:	4	8
File Shares (250 GB):	8	16

Total consumed points: 1412

Reason for Change:

Workloads temporary added for POC

Buttons: Save as..., Cancel

Viewing License Usage Report

The following image illustrates a sample of a license usage report.

Veeam

License Usage Report

ID 00000030

03 August 2020

Reporting Interval

01 July 2020 - 31 July 2020

License Information

Product:

Company:

Expiration date:

Support ID:

Veeam ONE

Veeam Software Group GmbH

01 January 2024

12345678

Summary

Points

Number

Total:

Used:

Available:

10000

1412

8588

License Usage

Platform

Consumed Points

Reported

New

Total Number

Virtual Machines

Cloud Machines

Agent Workstations

Agent Servers

File Shares (250 GB)

1368

8

12

8

16

684

4

6

4

8

2

0

0

0

686

4

6

4

8

Reason for Change

POC

Note

2 new VMs are not included in the report. They will be added to the next month report.

The report includes the following information:

- Report identification number
- Date when the report was generated
- Reporting interval
- Information about the licensed product and the company to which the license was issued
- License usage details: number of instances consumed by managed objects, new objects and objects that the user specified in the report
- Reason for change (if the original number of objects was changed when submitting the report)

Updating License

When the license expires, you can update it from the Veeam licensing server. You can use the following methods to update Veeam ONE license:

- Update the license manually
- Update the license automatically
- Update the license in the Veeam License Management Portal (not covered in this guide)

Updating License Manually

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

To update the license:

1. Open Veeam ONE Monitor.
For details, see section [Accessing Veeam ONE Monitor](#) of the Monitor User Guide.
2. On the toolbar, click **Help** and select **License Information**.
3. In the **License Information** window, click the **View installed key** link.
4. In the Installed License window, click **Update License**.
Veeam ONE will connect to the Veeam licensing server, download the new license from it (if available), install it on the Veeam ONE server, and display a dialog box with the license update result.
5. Click **OK** to acknowledge the result and close the dialog box.

Updating License Automatically

You can instruct Veeam ONE to update the license automatically. Automatic license update removes the need to download and install the license manually each time when you purchase the license extension. If the automatic update option is enabled, Veeam ONE 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

To update the license automatically, Veeam ONE performs the following actions:

1. After you enable automatic license update, Veeam ONE starts sending requests to the Veeam License Update Server on the web (one.butler.veeam.com) and checks if a new license key is available. Veeam ONE sends requests once a week. Communication with the Veeam License Update Server is performed over the HTTPS protocol.
2. Seven days before the expiration date of the current license, Veeam ONE starts sending requests once a day.
3. When a new license key becomes available, Veeam ONE automatically downloads it and installs on the Veeam ONE server.

Automatic license update can complete with the following results:

- **Operation is successful.** A new license key is successfully generated, downloaded and installed on the Veeam ONE server.
- **A new license is not required.** The currently installed license key does not need to be updated.
- **Veeam License Update Server has failed to generate a new license.** Such situation can occur due to an error on the Veeam License Update Server side.
- **Veeam ONE has received an invalid answer.** Such situation can occur due to connectivity issues between the Veeam License Update Server and Veeam ONE server.

Automatic Update Retries

If Veeam ONE fails to update the license, it triggers the *Veeam ONE license update failure* alarm, and retries to update the license.

Veeam ONE retries to update the license key in the following way:

- If Veeam ONE fails to establish a connection to the Veeam License Update Server, retry takes place every 60 minutes.
- If Veeam ONE establishes a connection but there occurs a general license key generation error, the retry takes place every 24 hours.

The retry period ends one month after the license expiration date or the support expiration date (whichever is earlier). 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.

Enabling Automatic License Update

By default, automatic license update is disabled. To enable automatic license updates:

1. Open Veeam ONE Monitor.
For details, see section [Accessing Veeam ONE Monitor](#) of the Monitor User Guide.
2. On the toolbar, click **Help** and select **License Information**.
3. In the **License Information** window, select the **Update license automatically (enables usage reporting)** check box.
4. Click **Save**.

NOTE:

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

Automatic Usage Reporting

When [license auto update](#) is enabled for *Rental* or *Subscription* licenses (per-instance licensing), Veeam ONE additionally performs automatic usage reporting.

As part of reporting, Veeam ONE collects statistics on the current license usage and sends it periodically to the Veeam License Update Server. The report provides information about the contract ID, product installation ID, and the maximum number of protected workloads over the current week (for *Rental* licenses) or over the current month (for *Subscription* licenses). The process runs in the background mode, once a week (for *Rental* licenses) or once a month (for *Subscription* licenses) at a random time and day.

The collected data does not include information on Veeam ONE usage by any individual person identifiable for Veeam, or any data gathered by Veeam ONE.

The collected data allows our back-end system to automatically approve your monthly usage reports as long as they do not deviate from the high watermark value significantly. This helps to keep our report processing costs low, thus allowing us to maintain low rental prices for our solution. Veeam may also use collected data for any other internal business purposes it deems appropriate, including (but not limited to) evaluation, improvement and optimization of Veeam licensing models. For details on license limits, see [Exceeding License Limit](#).

By enabling license auto update you agree with collection, transmission and use of the reporting data. You must not enable license auto update in case you do not agree with such collection, transmission and use.

License Expiration

Veeam ONE license period is set in accordance with the chosen licensing program.

For *Subscription* and *Rental* licenses, Veeam ONE offers a grace period after the license expiration date. This mechanism ensures a smooth license update and provides sufficient time to install a new license file.

During the grace period, Veeam ONE keeps working in a full-version mode. The license status in the **License Information** window will appear as *Expired (<number> days of grace period remaining)*.

You must update your license before the end of the grace period. If you do not update the license until the end of the grace period, Veeam ONE will switch to the community mode.

If support period is expired for a *Perpetual* license, the product will continue to work in a full-version mode. However, you will not be able to upgrade Veeam ONE and install updates and patches.

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

License Type	Grace Period
Perpetual license	Not applicable
Subscription license	30 days
Rental license	60 days

Exceeding License Limit

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

For per-instance licenses, Veeam ONE allows you to manage more objects than covered by the number of instances specified in the license:

- Up to 20% for *Rental* licenses
- Up to 10% for *Subscription* licenses

If the license limit is exceeded by no more than the specified percentage, Veeam ONE continues to manage all objects.

If the license limit is exceeded by more than the specified percentage, all objects exceeding the licensed number and the allowed increase are excluded from monitoring and reporting. To determine what objects to manage, Veeam ONE uses the last-in first-out method (LIFO): objects that were discovered last are removed first from the monitoring and reporting scope.

An increase in the number of managed objects up to the specified percentage is allowed only for a limited period of time. The duration of this grace period is equal to the duration of the license key.

By the end of the grace period, you must update the existing license or decrease the number of managed objects. Otherwise, Veeam ONE will exclude from monitoring and reporting objects that exceed the license limit. VMs are excluded with the help of an automatic exclusion rule that is created by Veeam ONE. You can review VMs covered by this rule in Veeam ONE server settings. For details, see [Choosing VMs and VM Containers to Monitor and Report On](#). If you exceed the number of monitored computers with installed Veeam Agents, file shares and VMs protected on monitored Veeam Backup & Replication servers, Veeam ONE will not exclude any objects from monitoring or reporting. For objects that exceed the license limit, Reporter will generate Veeam Backup & Replication reports with the Veeam watermark.

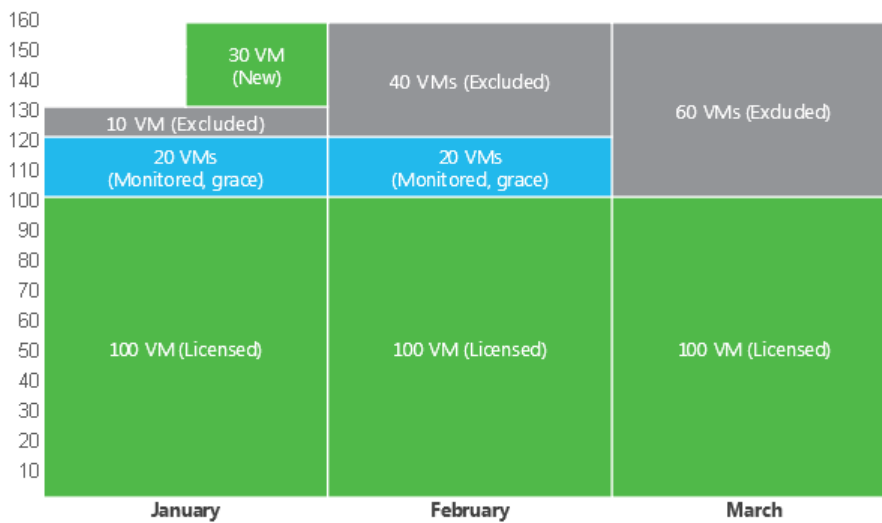
In addition to managing objects that exceed the license limit by no more than the specified percentage, Veeam ONE allows you to monitor any number of new objects (that is, objects that are monitored for the first time in the current month). Exceed by new objects is supported for *Rental* licenses only.

Consider the following example. Veeam ONE uses a *Rental* license with the expiration date set to 60 days from the license issue date. At the beginning of January the number of VMs is 130, while a license covers 100 VMs. The period for exceeding the license limit is 60 days. Within the first 60 days (in January and February), Veeam ONE will manage 100 + 20 VMs that were discovered first (license limit + 20%). 10 VMs that were discovered last will be excluded from monitoring and reporting. In addition, in the middle of January, Veeam ONE discovers 30 new VMs. Veeam ONE will manage these VMs until the end of the month.

If the license is not updated and the license limit is not increased, Veeam ONE will exclude from monitoring and reporting:

- 30 VMs that exceed the license limit

- 30 VMs that were discovered in January



Exceeding Sockets Limit

For per-socket licenses, Veeam ONE does not offer any grace period. If the number of sockets exceeds the license limit, Veeam ONE will exclude from monitoring and reporting hosts above the license limit.

Deployment Planning and Preparation

Before installing Veeam ONE, check supported virtualization platforms, system requirements, permissions and network ports used for data transmission.

Supported Virtualization Platforms

Veeam ONE supports the following virtualization platforms:

VMware vSphere Environment

Specification	Requirement
Platforms	<ul style="list-style-type: none">VMware vSphere 5.x, 6.x, 7.0 (English version only)VMware Cloud on AWS
Software	vCenter Server 5.5, 6.x (optional*)
Hosts	<ul style="list-style-type: none">ESXi 5.5ESXi 6.xESXi 7.0 <p>Note: Free version of VMware vSphere ESXi is supported.</p>

* Adding VMware vSphere infrastructure using vCenter Server is not mandatory.

Microsoft Hyper-V Environment

Specification	Requirement
Platforms	<ul style="list-style-type: none">Windows Server 2019 (including 1809)Windows Server 2016 (including 1709 and 1803)Windows Server 2012 R2Windows Server 2012Windows Server 2008 R2 SP1
Software	<ul style="list-style-type: none">Microsoft System Center 2019 Virtual Machine Manager (optional*)Microsoft System Center 1803 Virtual Machine Manager (optional*)Microsoft System Center 1801 Virtual Machine Manager (optional*)Microsoft System Center 2016 Virtual Machine Manager (optional*)Microsoft System Center 2012 R2 Virtual Machine Manager (optional*)Microsoft System Center 2012 SP1 Virtual Machine Manager (optional*)Microsoft System Center 2008 R2 SP1 Virtual Machine Manager (optional*)

Specification	Requirement
Hosts	<ul style="list-style-type: none"> • Windows Server Hyper-V 2019 (including 1809) • Windows Server Hyper-V 2016 (including 1709 and 1803) • Microsoft Hyper-V Server 2016 (free) • Windows Server Hyper-V 2012 R2 • Microsoft Hyper-V Server 2012 R2 (free) • Windows Server Hyper-V 2012 • Microsoft Hyper-V Server 2012 (free) • Windows Server Hyper-V 2008 R2 SP1 • Microsoft Hyper-V Server 2008 R2 SP1 (free)

* Adding Microsoft Hyper-V infrastructure using SCVMM is not mandatory.

Integration with vCloud Director

Veeam ONE offers monitoring and reporting capabilities for VMware vCloud Director 9.0, 9.1, 9.5, 9.7 and 10.

Integration with Veeam Backup & Replication

Veeam ONE offers monitoring and reporting capabilities for the following versions of Veeam Backup & Replication and Veeam Backup Enterprise Manager:

- Veeam Backup & Replication 10
- Veeam Backup & Replication 9.5 (update 3 or later)

NOTE:

- Monitoring and reporting capabilities depend on licenses installed in Veeam Backup & Replication and Veeam ONE. For details on license compatibility, see [Compatibility with Veeam Backup & Replication Licenses](#).
- Infrastructure topology view in Veeam ONE and Veeam Backup & Replication must match. Otherwise, Veeam ONE Reporter might show invalid data for Veeam Backup & Replication reports and dashboards.

System Requirements

Before you deploy Veeam ONE, make sure that your environment meets the necessary system requirements.

Veeam ONE Server

Specification	Requirement
Hardware	Hardware requirements depend on the size of the monitored infrastructure. For details, 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 2019• Microsoft Windows Server 2016• Microsoft Windows 10 (Professional and Enterprise editions)• Microsoft Windows 8.1 (Professional and Enterprise editions)• Microsoft Windows 8 (Professional and Enterprise editions)• Microsoft Windows Server 2012 R2• Microsoft Windows Server 2012• Microsoft Windows 7 SP1 (Professional, Enterprise and Ultimate editions)• Microsoft Windows Server 2008 R2 SP1

Specification	Requirement
Software	<p>The following components are included in the Veeam ONE setup package and can be installed automatically:</p> <ul style="list-style-type: none"> • Microsoft .NET Framework 4.7.2 or later • Microsoft Visual C++ 2010 Service Pack 1 Redistributable Package • Microsoft Internet Information Services (IIS) 7.0 or later • Microsoft PowerShell 2.0 (required for Windows Server 2008) • Microsoft PowerShell 3.0 (required for SCVMM 2012, SCVMM 2012 R2 or SCVMM 2016 Admin UI) • Microsoft SQL Native Client 2012 • Microsoft SQL Server System CLR Types for SQL Server 2014 • Microsoft SQL Server 2012 Management Objects • Microsoft SQL Server 2014 Management Objects • Microsoft Report Viewer Redistributable 2015 • WAS Configuration APIs <p>To connect SCVMM servers to Veeam ONE, the following software is required:</p> <ul style="list-style-type: none"> • System Center 2016 Virtual Machine Manager Admin UI (for connecting SCVMM 2016 servers) • System Center 2012 R2 Virtual Machine Manager Admin UI (for connecting SCVMM 2012 R2 servers) • System Center 2012 Virtual Machine Manager Admin UI (for connecting SCVMM 2012 servers) • System Center 2008 R2 SP1 Virtual Machine Manager Admin UI (for connecting SCVMM 2008 servers) <p>Be sure to install the same versions of the Admin UI and the SCVMM Server, and to update both components to the same update version.</p>
Other	<ul style="list-style-type: none"> • Windows Management Instrumentation service must be enabled. • File and Print Sharing service must be enabled.

Microsoft SQL Server for Veeam ONE

Specification	Requirement
Software	<p>Microsoft SQL Server (Full and Express Editions):</p> <ul style="list-style-type: none"> • Microsoft SQL Server 2019 • Microsoft SQL Server 2017 (including updates) • Microsoft SQL Server 2016 (Microsoft SQL Server 2016 Express edition is included in Veeam ONE setup) • Microsoft SQL Server 2014 • Microsoft SQL Server 2012 (Microsoft SQL Server 2012 SP4 Express edition is included in Veeam ONE setup package) • Microsoft SQL Server 2008 R2 • Microsoft SQL Server 2008 <p>Reporting Services (optional):</p> <ul style="list-style-type: none"> • Microsoft SQL Server Reporting Services 2019 • Microsoft SQL Server Reporting Services 2017 • Microsoft SQL Server Reporting Services 2016 • Microsoft SQL Server Reporting Services 2014 • Microsoft SQL Server Reporting Services 2012 • Microsoft SQL Server Reporting Services 2008 R2 <p>Notes:</p> <ul style="list-style-type: none"> • For production deployment of Veeam ONE, it is recommended to use Microsoft SQL Server Standard Edition or higher. • For large-scale deployments, it is recommended to use Microsoft SQL Server Standard Edition or higher. For details on large-scale deployment recommendations, see Deployment for Large-Scale Environments. • For production deployment of Veeam ONE, it is recommended to use Microsoft SQL Server Reporting Services Standard Edition or higher. Note that if you use Microsoft SQL Server Reporting Services Developer, Web or Express Editions, Veeam ONE functionality may be limited. • Ensure you have sufficient space on disk for Veeam ONE database. The database can quickly grow in size due to a large amount of collected data, or because of Microsoft SQL Server configuration. For details, see KB2210. • If you choose to host Veeam ONE database on Microsoft SQL Server Express, be informed there is a 10 GB database size limitation for this edition. For details, see Editions and Supported Features for SQL Server. • You can run Veeam ONE database in Microsoft SQL Server Always ON availability group. For details, see KB2312.

Veeam ONE Web UI

Specification	Requirement
Hardware	<p>CPU: modern processor (minimum 2 cores). Using faster multi-core processors improves data processing performance.</p> <p>Memory: 2048MB RAM. Using faster memory (DDR3) improves data processing performance.</p>
OS	<p>Only 64-bit versions of the following operating systems are supported:</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2019 • Microsoft Windows Server 2016 • Microsoft Windows 10 (Professional and Enterprise editions) • Microsoft Windows 8.1 (Professional and Enterprise editions) • Microsoft Windows 8 (Professional and Enterprise editions) • Microsoft Windows Server 2012 R2 • Microsoft Windows Server 2012 • Microsoft Windows 7 SP1 (Professional, Enterprise and Ultimate editions) • Microsoft Windows Server 2008 R2 SP1
Software	<ul style="list-style-type: none"> • Microsoft Internet Explorer 11 or later, Microsoft Edge 25 or later, Mozilla Firefox 42 or later, Chrome 54 or later • Microsoft Office 2010, 2013 or 2016, Microsoft Office 365 • Microsoft Visio 2010 or 2013, 2016 • PDF viewer <p>The following components are included in the Veeam ONE setup package and can be installed automatically:</p> <ul style="list-style-type: none"> • Microsoft .NET Framework 4.7.2 or later • Microsoft Internet Information Services (IIS) 7.0 or later • Microsoft PowerShell 2.0 (required for Windows 2008 Server; included in the install package) • Microsoft PowerShell 3.0 (required for SCVMM 2012, SCVMM 2012 R2 or SCVMM 2016 Admin UI) • Microsoft SQL Native Client 2012 • Microsoft SQL Server System CLR Types • Microsoft SQL Server 2012 Management Objects • Microsoft SQL Server 2014 Management Objects • Microsoft Report Viewer Redistributable 2012 • WAS Configuration APIs

Veeam ONE Monitor Client

Specification	Requirement
Hardware	<p>CPU: modern x86/x64 processor.</p> <p>Memory: 1024MB RAM (minimum), 2048MB RAM (recommended).</p>
OS	<p>Both 32-bit and 64-bit versions of the following operating systems are supported:</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2019 • Microsoft Windows Server 2016 • Microsoft Windows 10 (Professional and Enterprise editions) • Microsoft Windows 8.1 (Professional and Enterprise editions) • Microsoft Windows 8 (Professional and Enterprise editions) • Microsoft Windows Server 2012 R2 • Microsoft Windows Server 2012 • Microsoft Windows 7 SP1 (Professional, Enterprise and Ultimate editions) • Microsoft Windows Server 2008 R2 SP1
Software	<ul style="list-style-type: none"> • Microsoft .NET Framework 4.7.2 or later • Microsoft Core XML 6.0 Parser and SDK • Microsoft Windows Installer 4.5

Hardware Recommendations

Number of Virtualization Hosts*	100	100-500**	500-1000**	>1000**
CPU	<p>4 vCPUs (minimum) – 8 vCPUs (recommended) for Veeam ONE Server</p> <p>4 vCPUs (minimum) – 8 vCPUs (recommended) for Microsoft SQL Server and Veeam ONE database</p>	<p>8 vCPUs (minimum) – 12 vCPUs (recommended) for Veeam ONE Server</p> <p>8 vCPUs (minimum) – 12 vCPUs (recommended) for Microsoft SQL Server and Veeam ONE database</p>	<p>12 vCPUs (minimum) – 16 vCPUs (recommended) for Veeam ONE Server</p> <p>12 vCPUs (minimum) – 16 vCPUs (recommended) for Microsoft SQL Server and Veeam ONE database</p>	<p>>16 vCPUs for Veeam ONE Server</p> <p>>16 vCPUs for Microsoft SQL Server and Veeam ONE database</p>

Number of Virtualization Hosts*	100	100-500**	500-1000**	>1000**
Memory	4 GB (minimum) – 8 GB (recommended) for Veeam ONE Server 4 GB (minimum) – 8 GB (recommended) for Microsoft SQL Server and Veeam ONE database	8 GB (minimum) – 30 GB (recommended) for Veeam ONE Server 8 GB (minimum) – 30 GB (recommended) for Microsoft SQL Server and Veeam ONE database	30 GB (minimum) – 70 GB (recommended) for Veeam ONE Server 30 GB (minimum) – 70 GB (recommended) for Microsoft SQL Server and Veeam ONE database	>70 GB for Veeam ONE Server >70 GB for Microsoft SQL Server and Veeam ONE database
Hard Disk Space	50 GB for product installation and sufficient disk space for Microsoft SQL Server and Veeam ONE database (if installed locally). Use the Veeam ONE Database Calculator to size application data.			

* Under the condition that 1 host has 20 VMs deployed. If you connect Veeam Backup & Replication infrastructure, resource consumption on Veeam ONE Server will increase by 25% for each host that runs VMs being backed up or replicated.

**For large-scale deployments, it is recommended to use Microsoft SQL Server Standard Edition or higher. For details on large-scale deployment recommendations, see [Deployment for Large-Scale Environments](#).

Limitations

Consider the following limitations:

- You cannot install the following Veeam ONE components on a Domain Controller: Veeam ONE Server, Veeam ONE Web UI, Veeam ONE Database, Veeam ONE Agent.
- Network configurations that use IPv6 addresses are not supported.

Connection Settings

To ensure that Veeam ONE can update the license and send license usage statistics to the Veeam licensing server, check that:

- The machine with Veeam ONE Server component is connected to the Internet.
- The firewall on the machine hosting Veeam ONE Server component allows inbound and outbound HTTPS traffic over the port 443.
- [If you connect to the Internet through a proxy server] `winhttp` proxy settings are properly configured on the machine hosting Veeam ONE Server component.

Permissions

This section describes privileges required for the proper operation of Veeam ONE.

Connection to Virtual Servers

This section describes permissions to accounts used to connect virtual servers.

VMware vSphere Servers

The account used to connect vCenter Server and ESXi hosts must have the following permissions:

VI Object	Required Permissions
vCenter, ESXi host	<ul style="list-style-type: none">• Read-only• Host.CIM.CIM Interaction¹• Host.Configuration.Connection¹• Virtual machine.Interaction .Answer question²• Virtual machine .Snapshot management.Remove Snapshot³• vSphere Tagging.Assign or Unassign vSphere Tag⁴• vSphere Tagging.Create vSphere Tag⁴• vSphere Tagging.Create vSphere Tag Category⁴• Global.Global tag³ (not required VMware vSphere version 6.5 or later)• Virtual machine .Interaction .Console interaction⁵• Datastore.Browse datastore⁶• Global.Licenses⁷ <p>Note: Names of privileges are provided for the latest supported version of VMware vSphere, and may vary for different platform versions.</p>

1 Required for gathering of ESXi host hardware data.

2 Required for using VM Console and viewing snapshot information.

3 Required for running remediation actions.

4 Required for collecting and updating tags on the vCenter Server side. The privileges must be assigned at the vCenter Server level.

5 Required for accessing VM console from Veeam ONE Monitor.

6 Required for collecting datastore details.

7 Required for collecting license information.

Microsoft Hyper-V Hosts and Clusters

The account used to connect Microsoft Hyper-V hosts and clusters must:

- Be a member of the **Hyper-V Administrators** and **Performance Monitor Users** security groups.
- Have permissions to remotely access WMI on Microsoft Hyper-V hosts.

This includes remote access, activation and launching the DCOM application of WMI, and remote access to the root WMI namespace and sub-namespaces. For details on granting these permissions, see [Configuring Permissions to Remotely Access WMI](#).

SCVMM

The account used to connect an SCVMM Server must have in SCVMM an assigned user role that is based on the **Read-Only Administrator** profile.

To monitor clusters and hosts managed by SCVMM, the minimal required permissions for these hosts and clusters must be granted to the same account. For details, see [Microsoft Hyper-V Hosts and Clusters](#).

Connection to vCloud Director Servers

The account used for connecting to vCloud Director must have *system administrator* privileges.

Connection to Veeam Backup & Replication Servers

The account used to connect Veeam Backup & Replication or Veeam Backup Enterprise Manager servers must:

- Have the **Veeam Backup Administrator** role assigned.

This role must be assigned to the account on the machine that run Veeam Backup & Replication. If you connect Veeam Backup Enterprise Manager, the account must have this role assigned on all underlying Veeam Backup & Replication servers.

- Be a member of the **Performance Monitor Users** and **Event Log Readers** security groups.

These permissions must be granted to the account on machines that run:

- Veeam Backup & Replication
- Veeam Backup Enterprise Manager
- Backup proxy, backup repository (Windows-based), WAN Accelerator, tape server and cloud gateway components (required to collect performance data from these servers)

- Have permissions to remotely access WMI.

This includes remote access, activation and launching the DCOM application of WMI, and remote access to the root WMI namespace and sub-namespaces. For details on granting these permissions, see [Configuring Permissions to Remotely Access WMI](#).

This permission must be granted to the account on machines that run:

- Veeam Backup & Replication
- Veeam Backup Enterprise Manager
- Backup proxy, backup repository (Windows-based), WAN Accelerator, tape server and cloud gateway components (required to collect performance data from these servers)

NOTE:

You must use the account with local Administrator permissions in the following cases:

- If you plan to install Veeam ONE agent on Veeam Backup & Replication server
- If machines that run Veeam ONE server and Veeam Backup & Replication server belong to different domains or workgroups.

Veeam ONE Service Account

The service account must have *Local Administrator* permissions on the machine where Veeam ONE is installed.

NOTE:

You cannot use the *Local System* account as the service account during product installation. If you want to use *Local System* to run Veeam ONE services you can configure it later. For details, see [Changing Veeam ONE Service Account](#).

Connection to Microsoft SQL Server

The account used to connect to the Microsoft SQL Server hosting the Veeam ONE database must have the following permissions:

- *Public* role (default permissions)
- *CREATE ANY DATABASE* permissions
- *db_owner* role on the Veeam ONE database
- *db_datareader* permissions on the **master** database
- *public*, *db_datareader*, *SQLAgentUserRole* permissions on the **msdb** database
- [For Always-On Availability Groups] *VIEW SERVER STATE*, *VIEW ANY DEFINITION* permissions

Connection to VM Guest OS

The account used to collect data from guest OSes of Windows VMs, must have the following permissions:

- **Local Administrator** on the guest OS
- **List folder contents** on all guest OS volumes

NOTE:

To collect data from non-domain Windows VMs, or VMs with an unelevated local Administrator account, you must complete additional configuration steps to allow Veeam ONE perform data collection. For details, see [Connection Under UAC](#).

Configuring Permissions to Remotely Access WMI

Veeam ONE collects data from Microsoft Windows machines using WMI. To make sure that Veeam ONE can collect data using WMI, the account under which you connect Microsoft Windows machines must have permissions to remotely access WMI.

Permissions to access WMI remotely must be granted on:

- Microsoft Hyper-V hosts and clusters
- Veeam Backup & Replication servers

To configure permissions for remote access to WMI:

1. [Grant permissions to remotely access root WMI namespace and sub-namespaces.](#)
2. [Grant remote access, launch and activation permissions for DCOM application.](#)
3. [Grant remote launch and activation permissions for WMI.](#)

TIP:

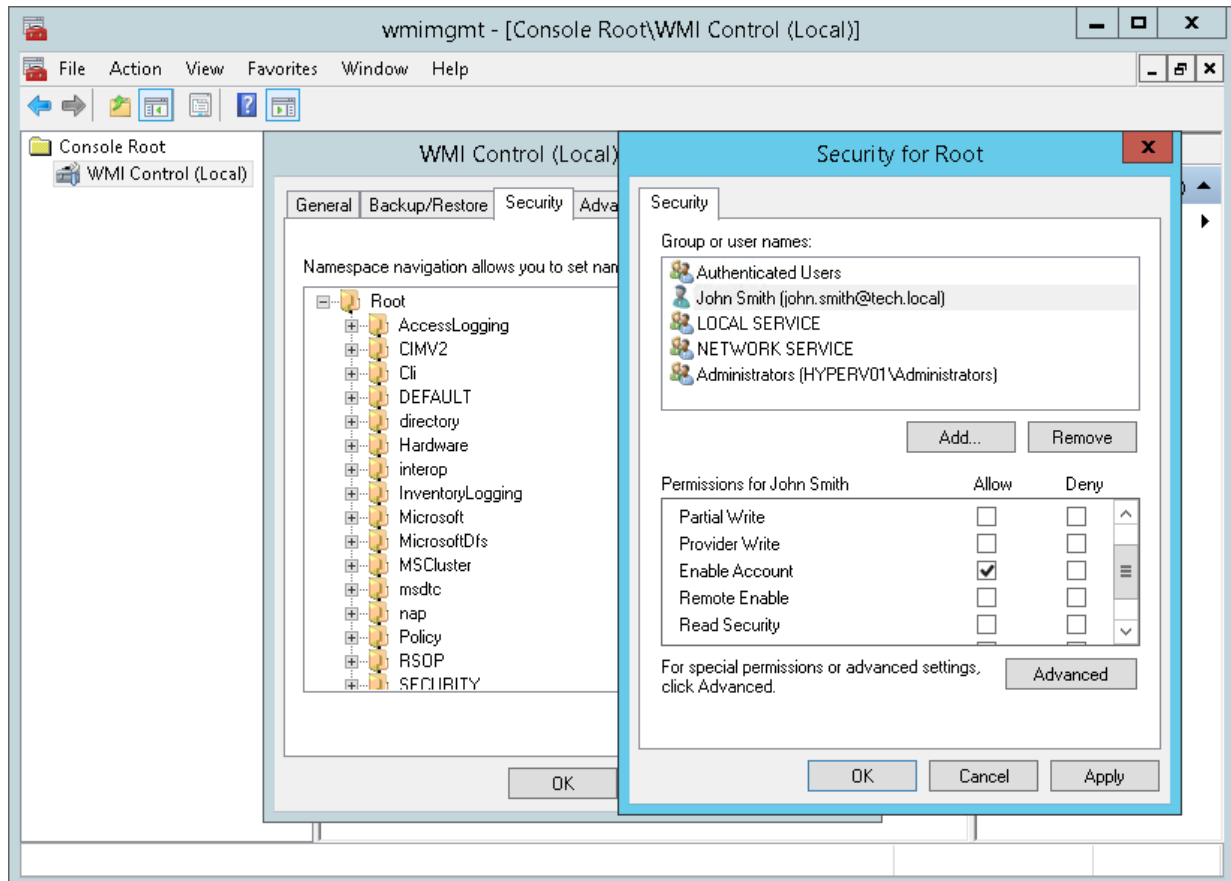
Instead of performing steps 2 and 3, you can add the user account to the Distributed COM Users group on target machines.

Step 1. Grant Permissions to Remotely Access Root WMI Namespace and Sub-Namespace

To grant to an account permissions for remote access to WMI:

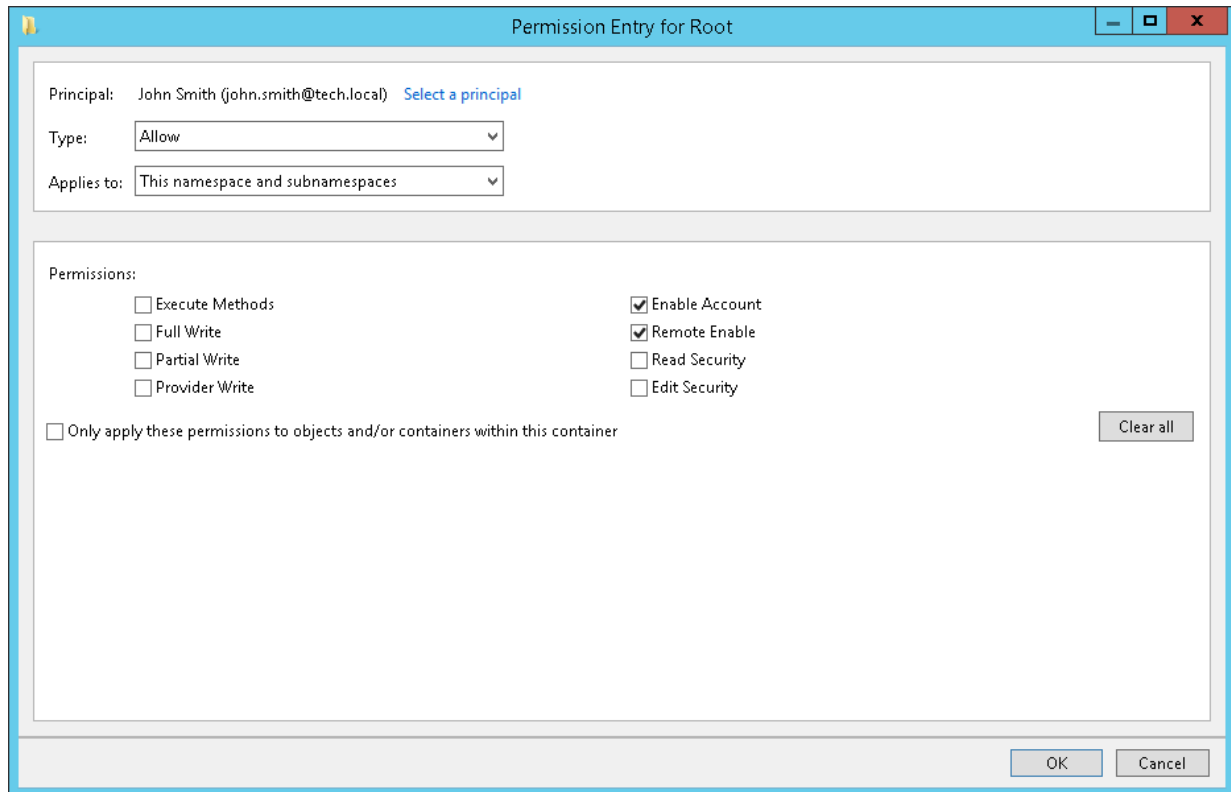
1. Log on to a target Microsoft Windows machine as an Administrator.
2. Open the WMI Control Console.
To do so, choose **Start > Run**, type `wmimgmt.msc` and click **OK**.
3. Right-click **WMI Control** and select **Properties**.
4. In the **WMI Control Properties** window, open the **Security** tab.
5. On the **Security** tab, select the **Root** namespace.
6. Click **Security**.

7. In the **Security for Root** window, add the necessary user account.



8. Click **Advanced**.
9. In the **Advanced Security Settings for Root** window, select the user account and click **Edit**.
10. In the **Permission Entry for Root** window, do the following:
 - a. In the **Applies to** list, select **This namespace and subnamespaces**.
 - b. In the **Permissions** section, select **Enable Account** and **Remote Enable**.

c. Click **OK**.



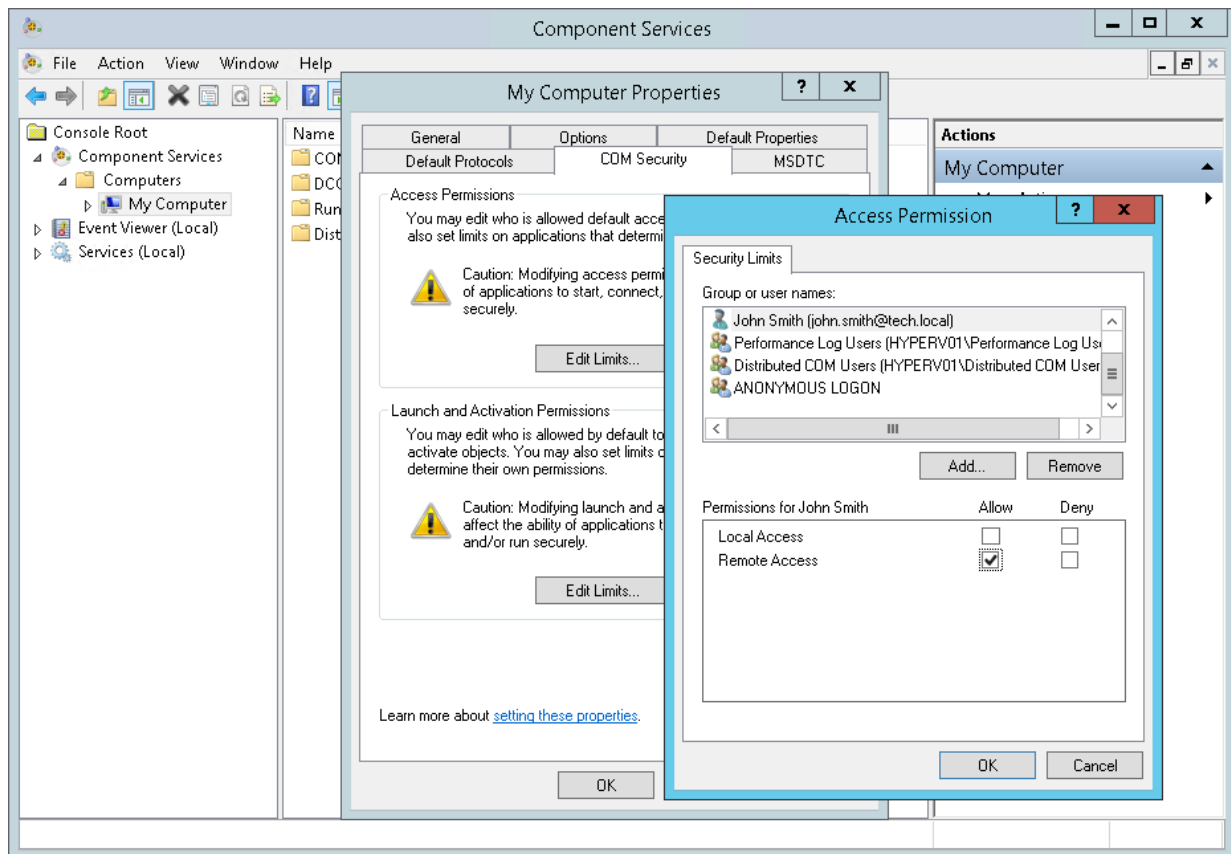
11. In the **Advanced Security Settings for Root** window, click **OK**.
12. In the **Security for Root** window, click **OK**.
13. In the **WMI Control Properties** window, click **OK**.
14. Close the WMI Control Console.

Step 2. Grant Remote Access, Launch and Activation Permissions for DCOM Application

To grant to an account remote access, launch and activation permissions:

1. Open the Component Services Console.
To do so, choose **Start > Run**, type `dcomcnfg` and click **OK**.
2. In the navigation tree, go to **Component Services > Computers > My Computer**.
3. Right-click **My Computer** and select **Properties**.
4. In the **My Computer Properties** window, open the **COM Security** tab.
5. In the **Access Permissions** section, click **Edit Limits**.
6. In the **Access Permission** window, add the necessary user account.
7. Select the **Remote Access** permissions.

8. Click **OK**.

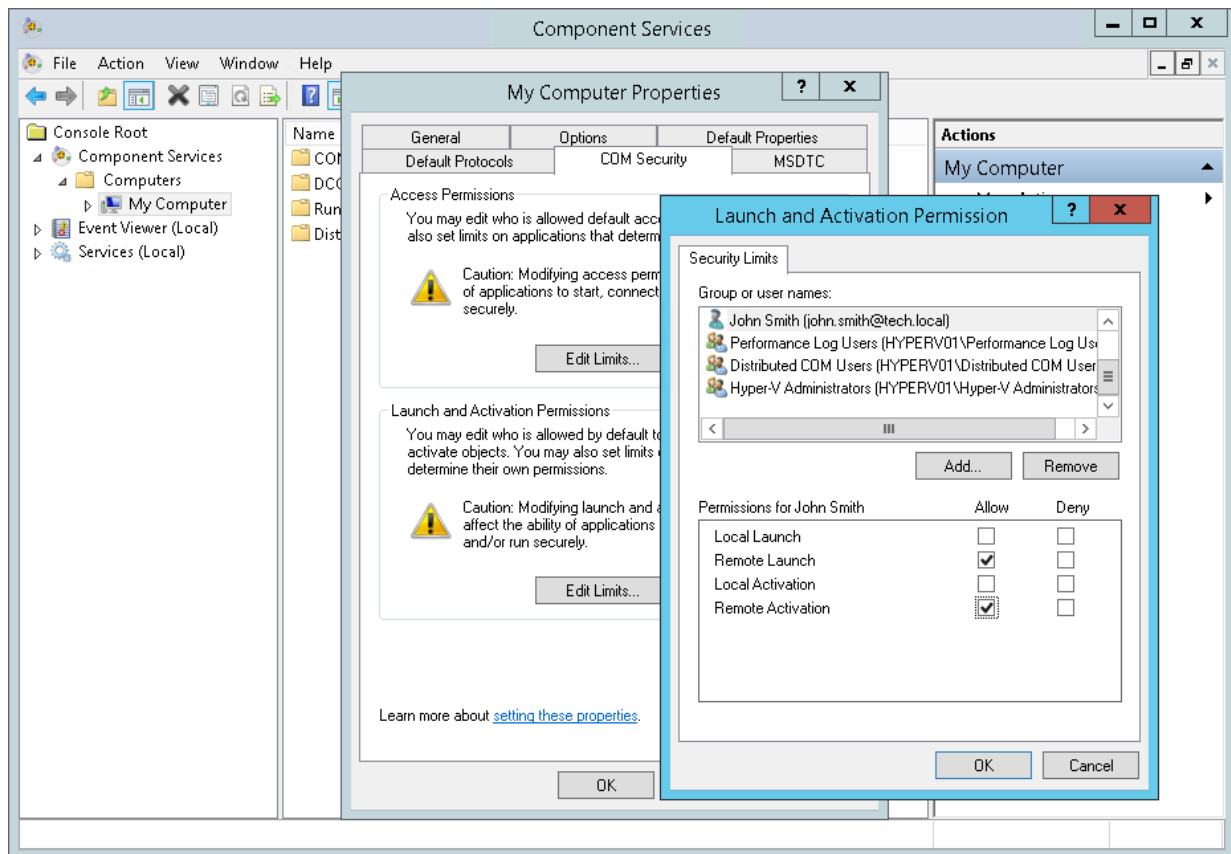


9. In the **Launch and Activation Permissions** section, click **Edit Limits**.

10. In the **Launch and Activation Permission** window, add the necessary user account.

11. Select the **Remote Launch** and **Remote Activation** permissions.

12. Click OK.



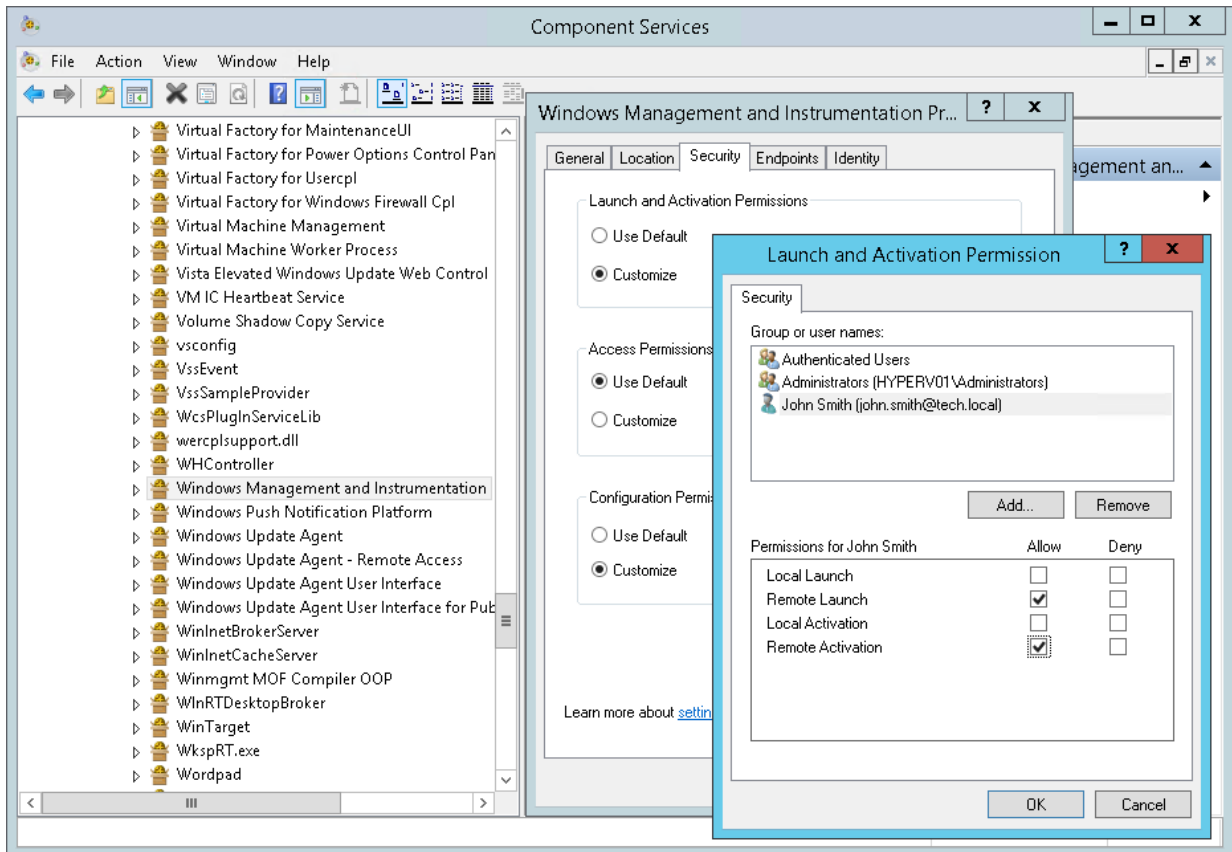
13. In the **My Computer Properties** window, click OK.

Step 3. Grant Remote Launch and Activation Permissions for WMI

To grant remote launch and activation permissions for WMI:

1. Still in the Component Services Console, in the navigation tree, go to **Component Services > Computers > My Computer > DCOM Config > Windows Management and Instrumentation**.
2. Right-click **Windows Management and Instrumentation** and select **Properties**.
3. In the **Windows Management and Instrumentation Properties** window, open the **Security** tab.
4. In the **Launch and Activation Permissions** section, click **Edit**.
5. In the **Launch and Activation Permission** window, add the necessary user account.
6. Select the **Remote Launch** and **Remote Activation** permissions.

7. Click OK.



8. In the **Launch and Activation Permission** window, click OK.

9. In the **Windows Management and Instrumentation Properties** window, click OK.

10. Close the Component Services Console.

Alternative Methods of Configuring Permissions to Remotely Access WMI

As an alternative to the method described above, you can use a domain user account that is member of the local Administrators group on target Microsoft Windows machines. Administrators have all the required permissions by default.

You can also use a local Administrator account for connecting remote Microsoft Windows machines. However, this method will not work if remote machines have the User Account Control enabled.

Connection Under UAC

Veeam ONE collects data from Microsoft Windows servers using WMI. For some configurations, UAC access token filtering can prevent running WMI commands on connected machines, which in turn will cause data collection failures.

The affected configurations are:

- Non-domain machines (machines in a workgroup)
- Machines with an unelevated local Administrator account (the account that is not Built-in Administrator)

To allow Veeam ONE collect data from these machines, perform the following steps on target virtual servers:

1. Set the network location to private:
 - a. Log on to a machine as Administrator.
 - b. Open the Network and Sharing Center.
 - c. In the list of active networks, click the necessary network and change its location to *Private*.
In some Windows OS versions, this location is called *Home* or *Work*.

2. Configure Windows Remote Management.

To do so, in the command prompt, type `winrm quickconfig` and press [Enter].

For details on UAC access token filtering, see [User Account Control and WMI](#).

Authorizing with Veeam ONE

To authorize with Veeam ONE software components (Veeam ONE Monitor and Reporter), a user must have the *Allow log on locally* privilege assigned.

By default, this privilege is assigned to users included in the local Administrators group. For users not included in the local Administrators group, you must assign this privilege manually. For details, see [Microsoft documentation](#).

NOTE:

In the advanced deployment scenario, you must assign the *Allow log on locally* privilege on the machines that host the Veeam ONE Server and Veeam ONE Web UI architectural components.

Remote Access

To be able to access Veeam ONE software components installed on a remote machine, you can use one of the following options.

Remote Access to Veeam ONE Reporter through Web Browser

Veeam ONE Reporter console can be accessed using a web browser on a remote machine. For details on how to access Veeam ONE software components, see [Accessing Veeam ONE Monitor and Reporter](#).

To access Veeam ONE Reporter console remotely, a user must be a member of the *Veeam ONE Administrators*, *Veeam ONE Read-Only Users* or *Veeam ONE Dashboards Viewers* group on the machine where Veeam ONE Web UI component is installed. For details on Veeam ONE security groups, see [Security Groups](#).

Remote Access for Multi-Tenant Monitoring and Reporting

Veeam ONE supports multi-tenant access to its monitoring and reporting capabilities. Authorized users can remotely monitor a subset of the vCenter Server or vCloud Director infrastructure and create reports.

To monitor and report on a restricted scope of the virtual infrastructure, a user must have permissions assigned on objects of the vCenter Server or vCloud Director inventory hierarchy. For details, see [Veeam ONE Multi-Tenant Monitoring and Reporting](#).

Ports

The following table lists connection settings required for proper communication between Veeam ONE components, virtual infrastructure servers, vCloud Director servers and Veeam Backup & Replication servers.

From	To	Protocol	Port	Notes
Veeam ONE	vCenter ESXi	SSL	443 ¹	Required to collect data from vCenter Server/ ESXi hosts. To learn how to check the current state of the vSphere API port, see the VMware vSphere documentation.
		TCP	5989	Required to collect ESXi host hardware details via CIM XML.
		TCP	10080 10443	Default port used to access vCenter Inventory Service (HTTP or HTTPS) and collect vCenter Server tags. Required for vCenter Server 5.x only.
	Platform Services Controller (PSC)	HTTPS	443	Default port used to collect and assign VMware Tags data. Required for vCenter Server starting from version 6.5.
	vCloud Director	SSL	443 ¹	Required to collect data from vCloud Director.
	SCVMM	TCP	8100	Default SCVMM Administrator Console to SCVMM server port (required by the Veeam ONE Service).
	Hyper-V host	TCP	135, dynamically assigned ports ²	Required to collect data from Microsoft Hyper-V hosts through WMI.
		TCP	135 445	Required to gather CPU and memory performance data from Microsoft Hyper-V hosts. ⁴
		TCP	445	Required to access remote registry.

From	To	Protocol	Port	Notes
	Veeam Backup & Replication	TCP	135, dynamically assigned ports ²	Required to collect data from Veeam backup servers through WMI.
		TCP	135 445	Required to gather CPU and memory performance data from Veeam Backup & Replication infrastructure servers. ⁴
		TCP	445	Required to access remote registry.
		TCP	2805	Default port used for communication with Veeam ONE agent installed on Veeam Backup & Replication server.
	Veeam Backup Enterprise Manager	TCP	135, dynamically assigned ports ²	Required to collect data from Veeam Backup Enterprise Manager through WMI.
	Veeam backup proxy	TCP	135, dynamically assigned ports ²	Required to gather CPU and memory performance data from backup infrastructure servers. ⁴
	Veeam backup repository (Windows)	TCP	135, dynamically assigned ports ²	Required to gather CPU and memory performance data from backup infrastructure servers. ⁴
	Veeam backup repository (Linux)	TCP	22	Default SSH port used to communicate with a Linux-based repository.
	Veeam WAN accelerator	TCP	135, dynamically assigned ports ²	Required to gather CPU and memory performance data from backup infrastructure servers. ⁴
	Microsoft Windows VM Guest OS	TCP	135, 445, dynamically assigned ports ²	Required to monitor Microsoft Windows VM guest OS processes and services.

From	To	Protocol	Port	Notes
	Linux VM Guest OS	TCP	22	Required to monitor Linux VM guest OS processes and services.
	Veeam License Update Server (<i>one.butler.veeam.com</i>)	TCP	443	Default port used for auto-update of license, Veeam Intelligent Diagnostics signatures.
	Veeam License Update Server (<i>setup.butler.veeam.com</i>)	TCP	443	Default port used for auto-update of license during Veeam ONE setup.
	Veeam Download Server (<i>download2.veeam.com</i>)	TCP	443	Default port used to download Veeam Intelligent Diagnostics signatures.
	SMTP server	TCP	25	Default port used by the SMTP server to send email notifications. Port 25 is most commonly used but the actual port number depends on configuration of your environment.
Veeam Backup & Replication (optional)	Veeam ONE Server	HTTPS	8543	Port used by Nutanix AHV Platform Service. Required for collecting data about protected Nutanix VMs.
Veeam ONE Server and Web UI	Microsoft SQL Server	TCP	1433	Port used for communication with the Microsoft SQL Server on which the Veeam ONE database is deployed. Additional ports may need to be open depending on your configuration. For details, see https://msdn.microsoft.com/en-us/library/cc646023(v=sql.120).aspx#BKMK_ssde .
Veeam ONE Monitor Client	Veeam ONE Server	TCP	139 ³ ; 445 ³	Used by Veeam ONE Monitor Client to communicate with the Veeam ONE Server.
		UDP	137 ³	

From	To	Protocol	Port	Notes
Workstation Web Browser	Veeam ONE Reporter	HTTPS	1239	Default port to access Veeam ONE Reporter console from a user workstation (a different port number can be chosen during setup).

1 You must open these ports manually

2 To learn about enabling and disabling WMI traffic, see [http://msdn.microsoft.com/en-us/library/aa389286\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/aa389286(v=vs.85).aspx) and [http://msdn.microsoft.com/en-us/library/aa822854\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/aa822854(v=vs.85).aspx)

3 Associated with the File and Printer Sharing service

4 To gather performance data from Windows Server 2012 and 2012R2, you must additionally enable network discovery.

Firewall Rules

The following table lists exceptions that should be enabled in Windows Firewall Settings.

Server	App/Feature	Details
Hyper-V host	<p>Remote Event Log Management:</p> <ul style="list-style-type: none">Remote Event Log Management (NP-In)Remote Event Log Management (RPC)Remote Event Log Management (RPC-EPMAP) <p>COM+ Network Access:</p> <ul style="list-style-type: none">COM+ Network Access (DCOM-In)	Required to collect events data from Hyper-V hosts.
Veeam Backup & Replication server	<p>Remote Event Log Management:</p> <ul style="list-style-type: none">Remote Event Log Management (NP-In)Remote Event Log Management (RPC)Remote Event Log Management (RPC-EPMAP) <p>COM+ Network Access:</p> <ul style="list-style-type: none">COM+ Network Access (DCOM-In)	Required to collect events data from Veeam Backup & Replication servers.

Installing Veeam ONE

This section will guide you through the process of Veeam ONE installation.

Before You Begin

Before you begin installation, check the following prerequisites:

- [Check platform and system requirements.](#)

Check that your virtual platform is supported. Make sure the machine where Veeam ONE will be installed meets hardware and software requirements.

- [Check account permissions.](#)

Make sure the user account under which Veeam ONE will be installed has sufficient permissions.

- [Check ports.](#)

Make sure all required ports are open for communication between Veeam ONE components, virtual infrastructure servers, vCloud Director servers and Veeam Backup & Replication servers.

- [Optional] [Pre-create Veeam ONE database.](#)

Normally, the setup automatically creates the Veeam ONE database in the course of installation. However, in some circumstances it might be necessary to create the database with a SQL script instead of using the **Veeam ONE Setup** wizard. Before installing Veeam ONE, you can create the Veeam ONE database by executing a SQL script that is included with the Veeam ONE installation image.

Typical Installation

In the typical deployment scenario, all Veeam ONE components are installed on a single machine. For details on this scenario, see [Typical Deployment](#).

To install Veeam ONE using the typical scenario, follow these steps.

Step 1. Obtain Installation Image File

Download the Veeam ONE installation image file at <https://www.veeam.com/downloads.html>.

Step 2. Insert Disk or Mount Image File

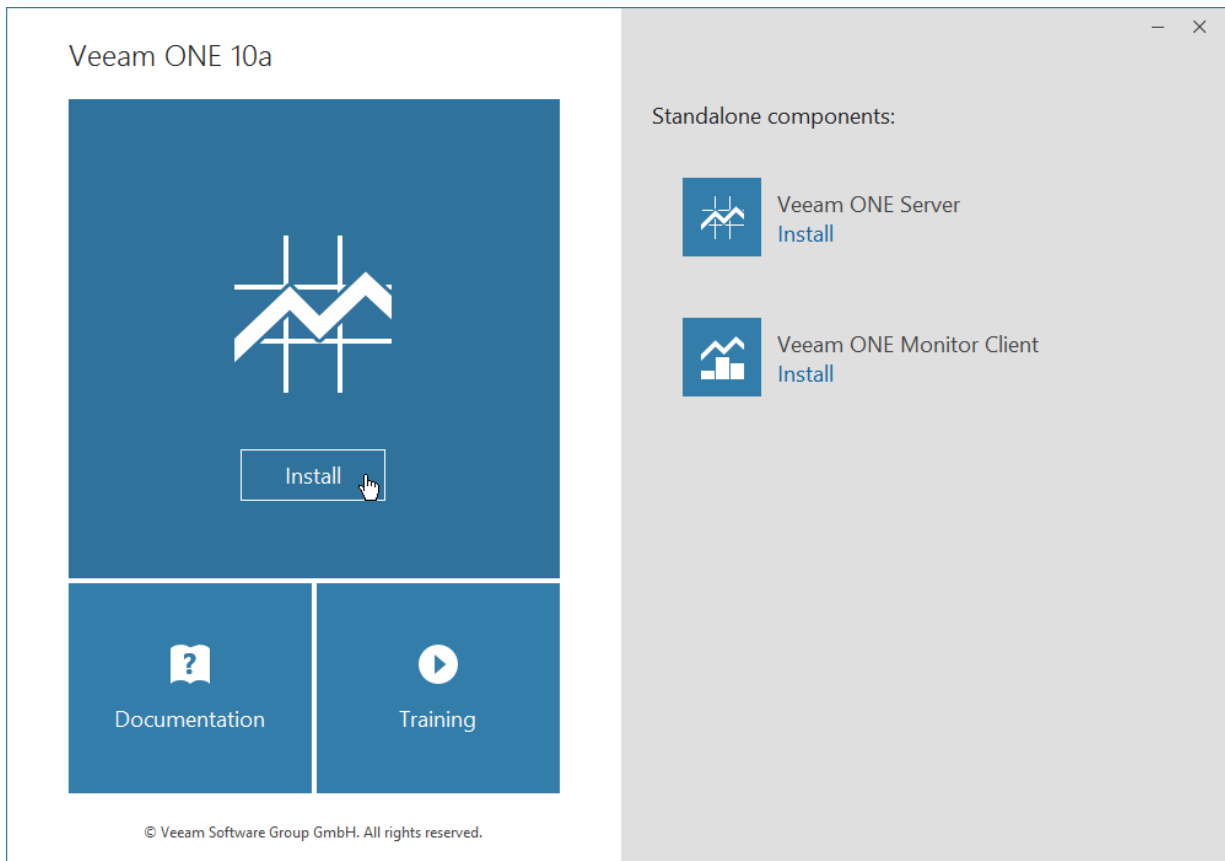
Burn the downloaded ISO image file to a CD/DVD or mount the installation image using disk image emulation software. If you install Veeam ONE on a VM, use built-in tools of the virtualization management software to mount the installation image to the VM.

Step 3. Launch Splash Window

After you mount or insert the disk with Veeam ONE installation image, **Autorun** will open a splash screen with installation options. On the splash window, do one of the following to launch the **Veeam ONE Setup** wizard:

- Click **Install** on the left
- Click **Veeam ONE Server** on the right

If **Autorun** is disabled, run the `Setup.exe` file from the installation image. Alternatively, you can right-click the new disk in **My Computer** and select **Execute Veeam ONE Autorun**.



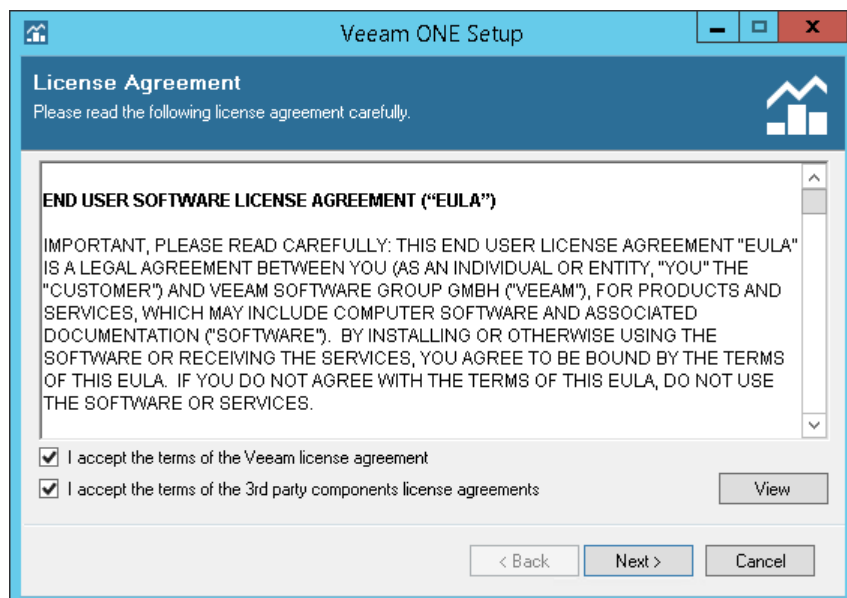
NOTE:

The installer will verify what version of .NET Framework is currently present on the machine. If the required version is not found, the installer will prompt to automatically install .NET Framework software that is included with the Veeam ONE installer. After the completion of .NET Framework installation, Veeam ONE installation will proceed.

Step 4. Accept License Agreement

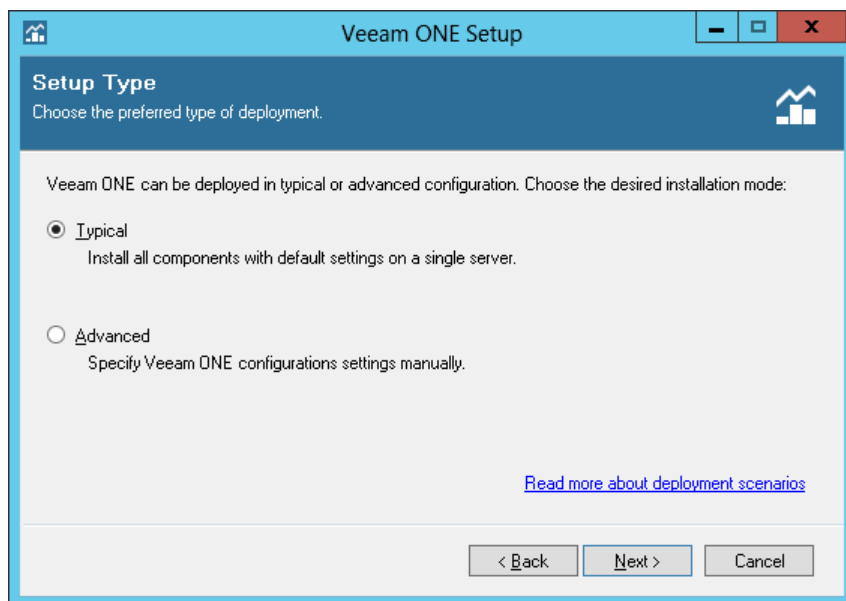
At the **License Agreement** step of the wizard, read and accept Veeam license agreement and 3rd party components license agreement. You will not be able to continue installation until you select both check boxes.

To read the terms of the license agreement for the 3rd party components, click **View**.



Step 5. Choose Setup Type

At the **Setup Type** step of the wizard, select **Typical** as a preferred deployment mode.

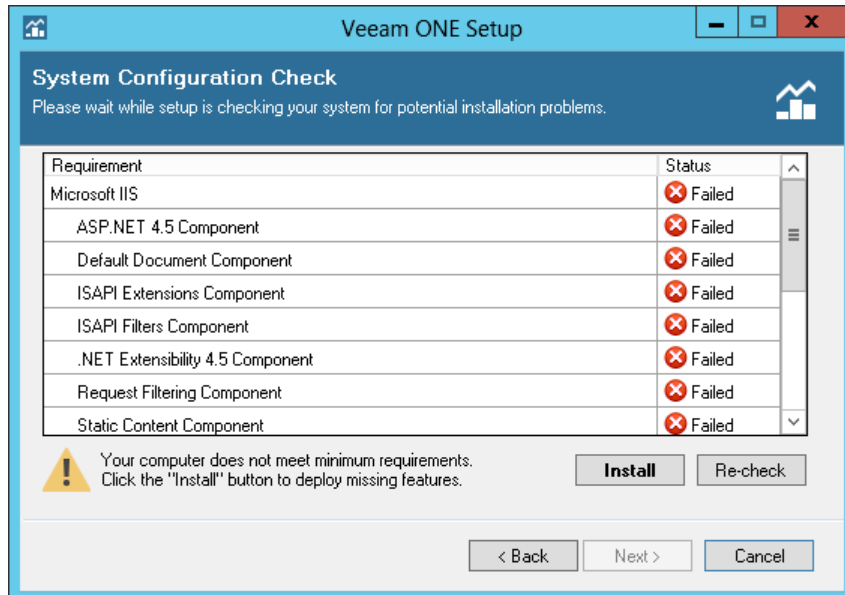


To learn about available deployment types, click the **Read more about deployment scenarios** link, or see [Deployment Scenarios](#).

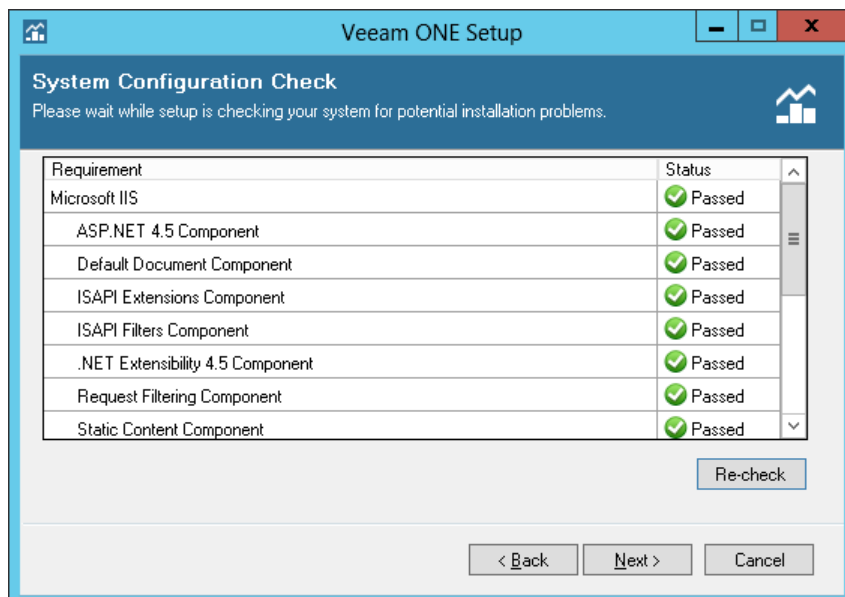
Step 6. Perform System Configuration Check

Before proceeding with the installation, the installer will perform system configuration check to determine if all prerequisite software is available on the machine. To learn what software is required for Veeam ONE, see [System Requirements](#).

If some of the required software components are missing, the setup wizard will offer you to install the missing software components and enable missing features automatically.



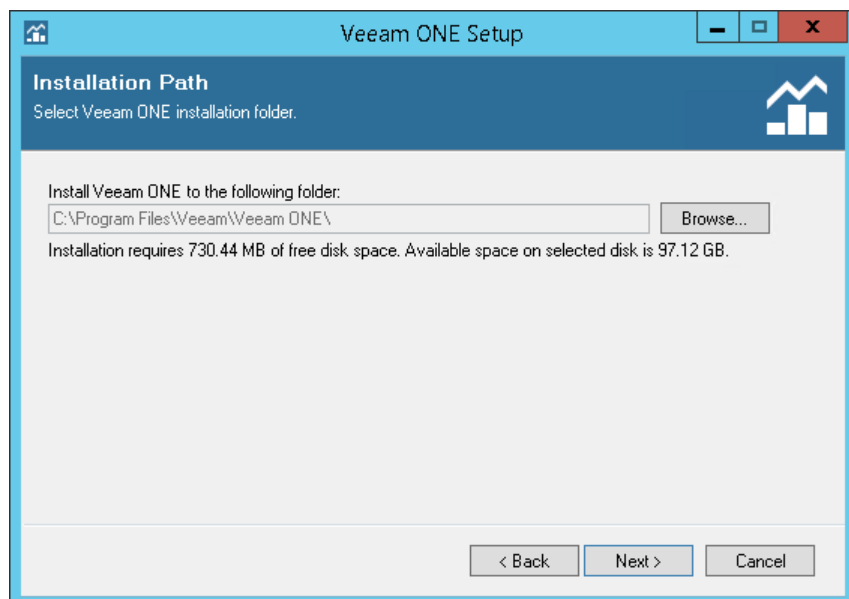
To install the missing software components and enable missing features automatically, click the **Install** button.



You can cancel automatic software installation. In this case, you must install the missing software components and enable missing features manually (otherwise, you will not be able to proceed to the next step of the setup wizard). After you install and enable all required software components, click **Re-run** to repeat the system configuration check.

Step 7. Choose Installation Directory

At the **Installation Path** step of the wizard, choose the installation directory. In the typical installation mode, the setup installs all components to a single directory and creates a subdirectory for every Veeam ONE component.

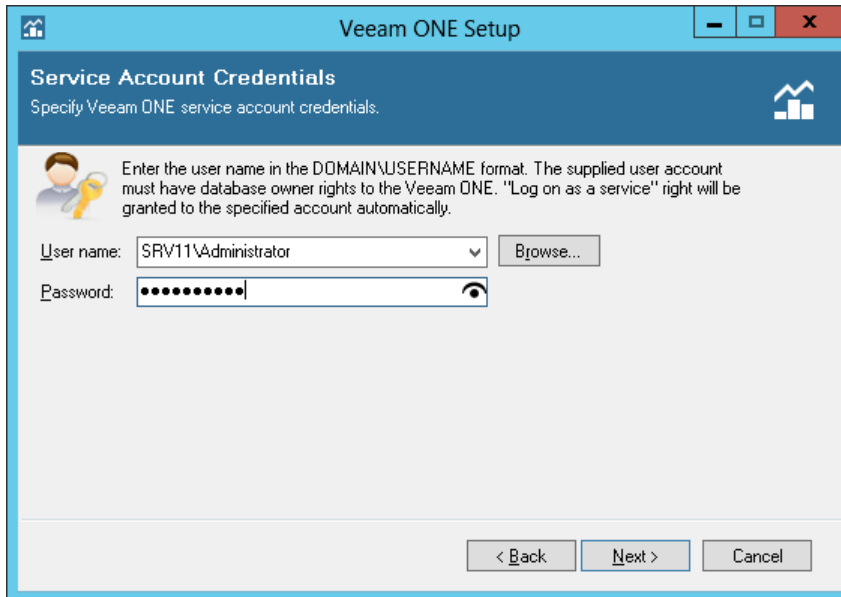


The typical installation requires around 730 MB of free space on a disk (plus additional space if you choose to install Microsoft SQL Server instance on the same machine). Be aware that depending on the size of your virtual infrastructure and frequency of data collection, the database may grow large and require more space. Be sure to adjust to this condition by freeing up more disk space when needed.

Step 8. Specify Service Account Credentials

At the **Service Account Credentials** step of the wizard, specify credentials of the account under which the Veeam ONE services will run. The user name must be specified in the *DOMAIN\USERNAME* format.

For details on required permissions for the service account, see [Veeam ONE Service Account](#).



The image shows a Windows-style dialog box titled "Veeam ONE Setup". The main heading is "Service Account Credentials" with a subtitle "Specify Veeam ONE service account credentials." Below this, there is an icon of a person with a key and a text block: "Enter the user name in the DOMAIN\USERNAME format. The supplied user account must have database owner rights to the Veeam ONE. 'Log on as a service' right will be granted to the specified account automatically." There are two input fields: "User name:" with a dropdown menu showing "SRV11\Administrator" and a "Browse..." button, and "Password:" with a masked input field (dots) and a visibility toggle icon. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

Step 9. Choose Microsoft SQL Server

At the **SQL Server Instance** step of the wizard, choose a Microsoft SQL Server instance that will host the Veeam ONE database.

- If you do not have a Microsoft SQL Server instance that you can use for Veeam ONE database, select the **Install new instance of SQL Server** option.

If this option is selected, the setup will install Microsoft SQL Server 2016 Express locally, on the computer where you are installing Veeam ONE.

NOTE:

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

- 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 enter the address of a preferred Microsoft SQL Server manually or use the **Browse** button to choose among available remote instances.

In the **Database name** field, specify the name of the database that will be created by Veeam ONE. Provide credentials for the account that will be used by Veeam ONE components to access the database. You can enter credentials explicitly or use Windows authentication credentials of the Veeam ONE service account to connect to the Microsoft SQL Server. For details on required permissions for the account, see [Connection to Microsoft SQL Server](#).

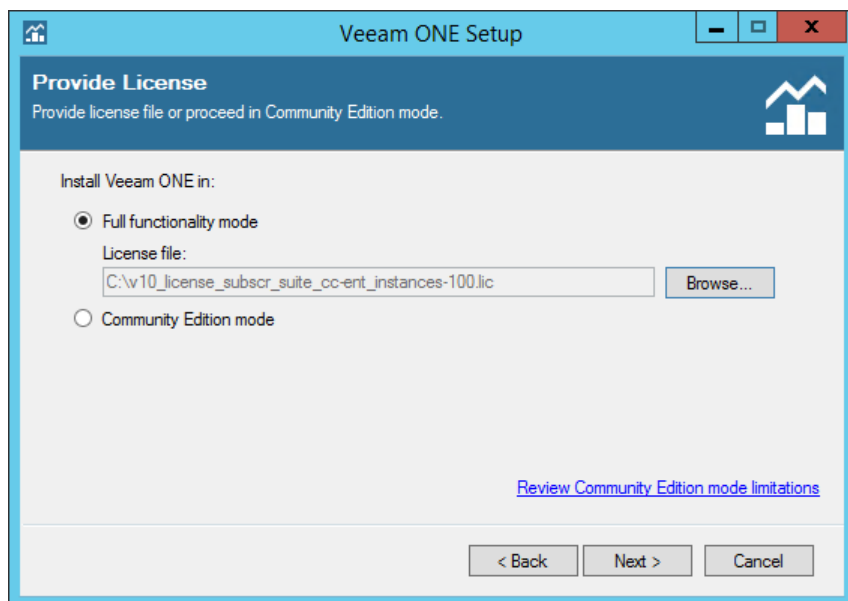
- If you already have an existing Veeam ONE database that you want to use in your deployment, select the **Use existing instance of SQL Server** option and choose a Microsoft SQL Server instance that hosts the database. This can be a database that you have previously [created with a SQL script](#). In the **Database name** field, specify the name of the database.

Provide credentials for the account that will be used by Veeam ONE components to access the database. You can enter credentials explicitly or use Windows authentication credentials of the Veeam ONE service account to connect to the Microsoft SQL Server. For details on required permissions for the account, see [Connection to Microsoft SQL Server](#).

The screenshot shows the 'Veeam ONE Setup' window, specifically the 'SQL Server Instance' step. The window has a blue header bar with the title 'Veeam ONE Setup' and a sub-header 'SQL Server Instance'. Below the sub-header, it says 'Choose SQL Server instance to create Veeam ONE database on.' There are two radio button options: 'Install new instance of SQL Server (localhost\VEEAMSQL2016)' which is selected, and 'Use existing instance of SQL Server (HOSTNAME\INSTANCE)'. Below the second option, there is a text box containing 'SRV11\SQLEXPRESS' and a 'Browse...' button. Below that, there is a 'Database name:' label and a text box containing 'VeeamONE', with another 'Browse...' button. Underneath, there is a section 'Connect to SQL Server using' with two radio button options: 'Windows authentication credentials of service account' which is selected, and 'SQL Server authentication using the Login ID and password below:'. Below the second option, there are two text boxes: 'Login ID:' containing 'sa' and 'Password:' which is empty. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 10. Provide License File

At the **Provide License** step of the wizard, provide a license file. Select the **Full functionality mode** option, click **Browse** and specify the path to the license file.



NOTE:

To continue without providing a license, select the **Community Edition mode** option. In this case the product will work in the limited functionality mode. To learn what functionality you are missing with the Community Edition mode, click the **Review Community Edition mode limitations** link at the bottom right corner of the wizard.

Step 11. Specify Connection Ports

At the **Connection Information** step of the wizard, specify connection settings for Veeam ONE Reporter website and Veeam ONE agent:

- In the **Reporter web site port** field, type a number of the port that will be used to access the Veeam ONE Reporter website through a web browser.

The default port number is 1239.

- In the **Agent port** field, type a number of the port that Veeam ONE Agent will use to collect data from connected Veeam Backup & Replication servers.

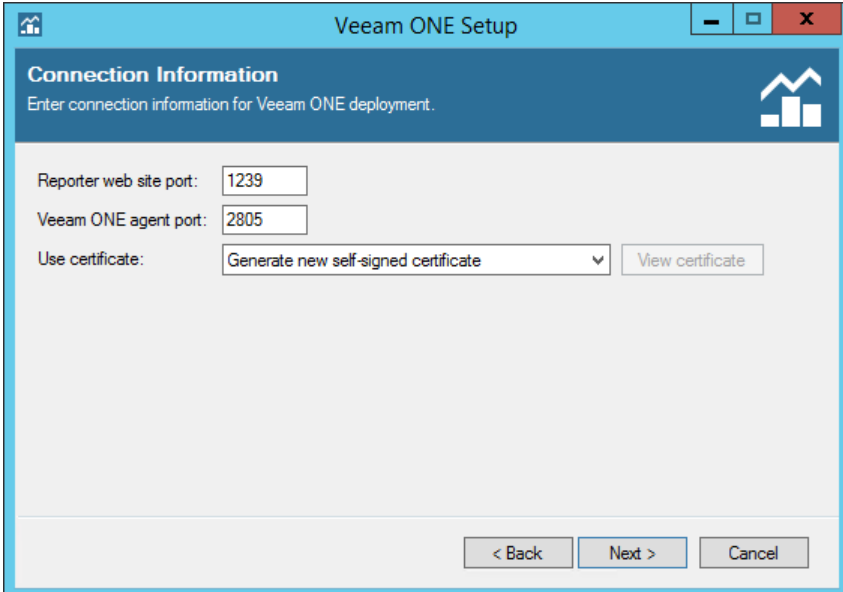
The default port number is 2805.

- In the **Use certificate** list, choose a certificate that will be used to secure traffic between the Veeam ONE Reporter website and a web browser.

You can choose an existing certificate installed on the machine. If the setup wizard does not find an appropriate certificate to be used, it generates a self-signed certificate.

NOTE:

- If you generate or choose a self-signed certificate, you must configure a trusted connection between the Veeam ONE Reporter website and a web browser later. For details, see [Configuring Trusted Connection](#).
- You can change the selected certificate after installation. For details, see [Change Default Certificate](#).



The screenshot shows the 'Veeam ONE Setup' window with the 'Connection Information' tab selected. The window has a blue header bar with the title 'Veeam ONE Setup' and standard window controls. Below the header, the tab is titled 'Connection Information' with a subtitle 'Enter connection information for Veeam ONE deployment.' and a small icon of a bar chart. The main area contains three input fields: 'Reporter web site port' with the value '1239', 'Veeam ONE agent port' with the value '2805', and 'Use certificate' with a dropdown menu showing 'Generate new self-signed certificate'. To the right of the dropdown is a 'View certificate' button. At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

Veeam ONE Setup

Connection Information
Enter connection information for Veeam ONE deployment.

Reporter web site port: 1239

Veeam ONE agent port: 2805

Use certificate: Generate new self-signed certificate View certificate

< Back Next > Cancel

Step 12. Choose Performance Cache Location

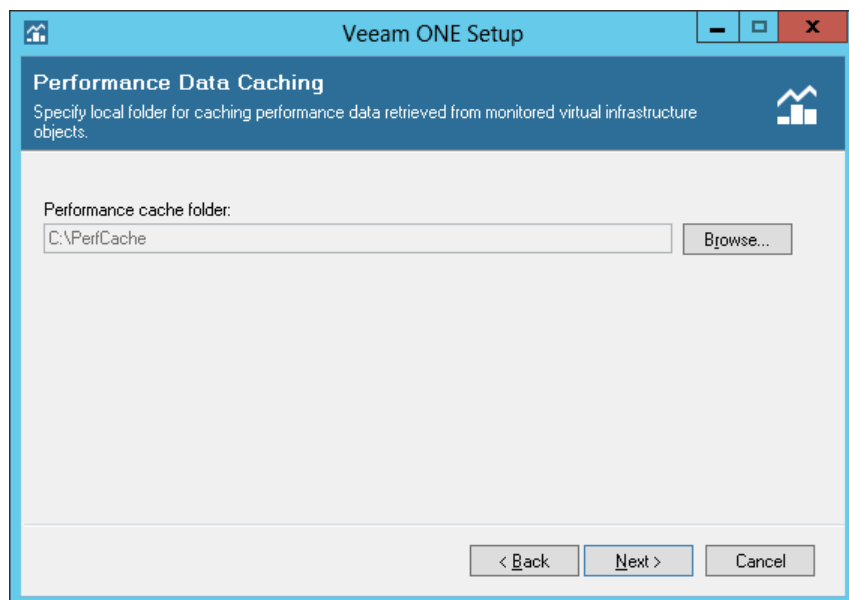
At the **Performance Data Caching** step of the wizard, choose a directory where the performance cache must be located.

Performance cache is space on disk to which Veeam ONE stores real-time performance data, as this data is collected. Performance data stored in cache is used for Veeam ONE Monitor dashboards and views. Disk-based performance cache allows significantly decrease RAM utilization on the machine that runs the Veeam ONE Server component.

By default, the performance cache is stored to the `C:\PerfCache` folder. To store the cache to a different folder, click **Browse** next to the **Performance cache** field and specify a path to the new folder.

When choosing a location for performance cache, consider the following recommendations:

- Make sure that the disk where the performance cache is located can quickly complete read and write requests. Do not locate the cache remotely in networks with high latency values.
- For large monitoring environments, place the performance cache on an SSD local to the machine where the Veeam ONE Server component runs. For small and medium monitoring environments, a HDD is normally enough.
- Length of the performance cache folder path must not exceed the Windows Max Path Limitation value. For details, see [https://msdn.microsoft.com/ru-ru/library/windows/desktop/aa365247\(v=vs.85\).aspx#maxpath](https://msdn.microsoft.com/ru-ru/library/windows/desktop/aa365247(v=vs.85).aspx#maxpath).
- Make sure there is enough disk space for performance cache. The cache is cleared on an hourly basis, as new data is collected; however, in large monitoring environments it can take significant disk space. For example, in the Advanced Scalability Deployment mode, during peak loads, the cache can take up to 6 GB disk space for each 1000 VMs.



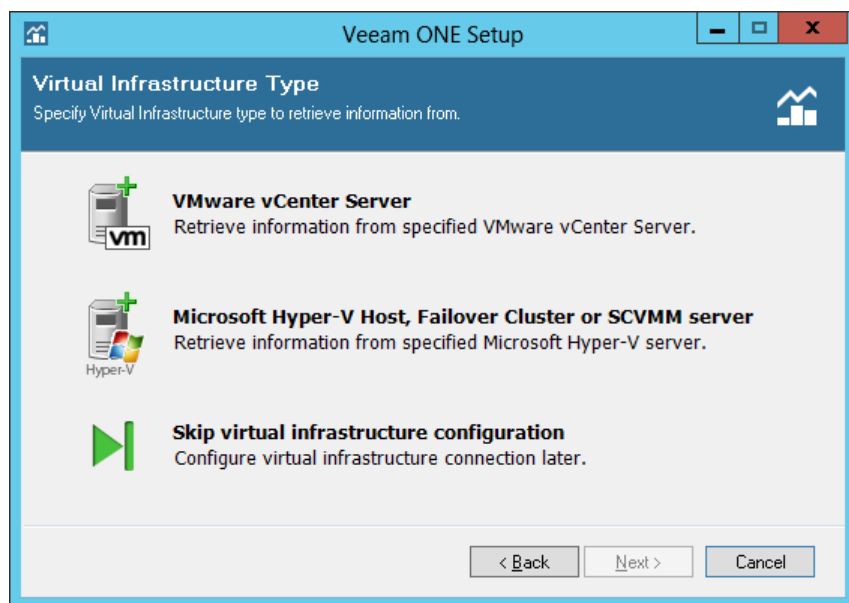
TIP:

After installation, you can change the performance cache folder in the Veeam ONE Settings utility. For details, see section [Monitor Settings](#) of the Veeam ONE Monitor Guide.

Step 13. Choose Virtual Infrastructure Type

At the **Virtual Infrastructure Type** step of the wizard, you can choose to connect a vCenter Sever or Hyper-V infrastructure server (Failover Cluster, SCVMM, Hyper-V Server). To configure connection to a virtual infrastructure server and initiate automatic data collection from this server, select the virtual infrastructure server type and click **Next**.

If you do not want to configure connection settings during installation, you can skip this step and configure access to virtual servers later in the Veeam ONE Monitor console. In this case, click **Skip virtual infrastructure configuration** and click **Next**.



NOTE:

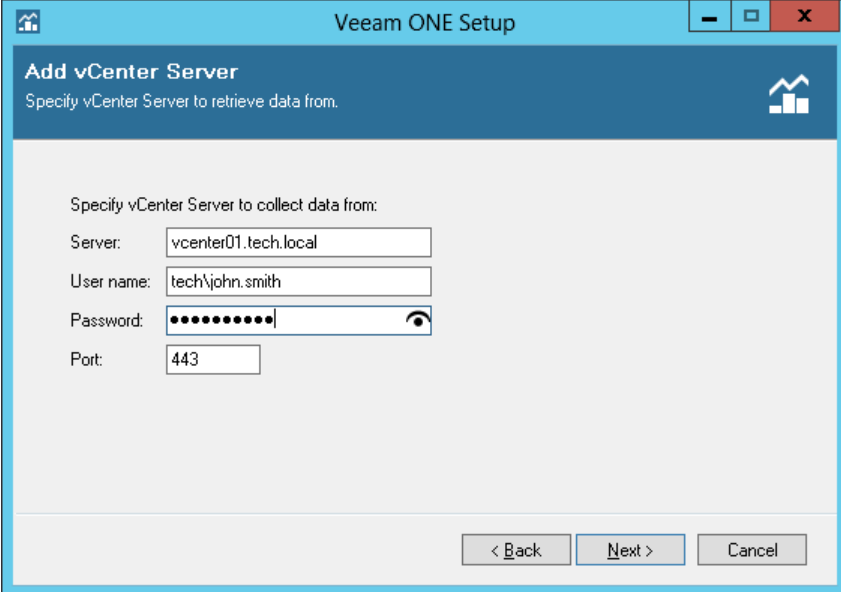
If you choose to configure connection settings, the **Veeam ONE Setup** wizard will include additional steps to connect to a virtual infrastructure server and to a Veeam Backup & Replication server. If you choose to skip infrastructure configuration, you will pass immediately to the [Data Collection Type](#) step.

Step 14. Add Virtual Infrastructure Server

This step of the wizard is available only if you have chosen to configure virtual infrastructure server connection settings at the [Virtual Infrastructure Type](#) step of the wizard.

- In the **Server** field, specify FQDN or IP address of the virtual infrastructure server you want to connect.
- In the **User name** and **Password** fields, specify credentials of the account for connecting to the server.
- In the **Port** field, change the port number if required.

The specified connection settings will be propagated to all Veeam ONE components so that they can automatically connect and retrieve data from the virtual infrastructure server. For details, see [Default Configuration](#).



The screenshot shows the 'Veeam ONE Setup' window with the 'Add vCenter Server' step selected. The window has a blue header bar with the title 'Veeam ONE Setup' and standard Windows window controls. Below the header, the title 'Add vCenter Server' is displayed in white, followed by the instruction 'Specify vCenter Server to retrieve data from.' and a small icon of a server rack. The main area is light gray and contains the text 'Specify vCenter Server to collect data from:' followed by four input fields: 'Server:' with the value 'vcenter01.tech.local', 'User name:' with the value 'tech\john.smith', 'Password:' with masked characters and a toggle icon, and 'Port:' with the value '443'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.


Veeam ONE Setup

Add vCenter Server
Specify vCenter Server to retrieve data from.

Specify vCenter Server to collect data from:

Server: vcenter01.tech.local

User name: tech\john.smith

Password: 

Port: 443

< Back Next > Cancel

Step 15. Add Veeam Backup & Replication Server

At the **Add Veeam Backup & Replication Server** step of the wizard, you can connect a Veeam Backup & Replication server to initiate automatic data collection immediately after installation. This step of the wizard is available only if you have chosen to configure virtual infrastructure server connection settings at the [Virtual Infrastructure Type](#) step of the wizard.

- In the **Server type** list, choose the backup server type — Veeam Backup & Replication or Veeam Backup Enterprise Manager.
- In the **Server name** field, specify FQDN or IP address of the backup server you want to connect.
- In the **User name** and **Password** fields, specify credentials of the account for connecting to the server.

The specified connection settings will be propagated to all Veeam ONE components so that they can automatically connect and retrieve data from the backup server. For details, see [Default Configuration](#).

If you do not want to configure connection settings for backup servers during installation, you can skip this step and configure connection settings later in the Veeam ONE Monitor console. In this case, select **Configure connection settings later** and click **Next**.

Veeam ONE Setup

Add Veeam Backup & Replication Server

Specify Veeam Backup & Replication server to retrieve data from.

Veeam Backup & Replication connecting settings:

Server type: Veeam Backup & Replication

Server name: backup01.tech.local

User name: tech\john.smith

Password: [masked]

☐ Configure connection settings later

< Back Next > Cancel

Step 16. Choose Data Collection Mode

At the **Data Collection Mode** step of the wizard, choose the mode in which Veeam ONE will collect data from virtual infrastructure and Veeam Backup & Replication servers.

Data collection mode determines what metrics Veeam ONE will collect, and specifies the product configuration in a number of areas. Choosing an appropriate data collection mode allows you to optimize monitoring and reporting performance and improve user experience in Veeam ONE. To learn the difference between the data collection modes, see [Appendix B. Data Collection Modes](#).

Typical and Advanced Scalability Deployment

The *Typical Deployment* and *Advanced Scalability Deployment* modes are recommended for users who want to monitor and report on both the virtual environment and Veeam Backup & Replication infrastructure.

- **Optimized for Typical Deployment** mode is recommended for small to medium environments up to 100 hosts and 1500 VMs. In this mode, Veeam ONE collects all inventory, configuration and performance metrics, and makes collected data available in dashboards, reports and alarms.

This mode provides the greatest data granularity level, but results in a greater load on the Veeam ONE server and a larger size of Veeam ONE database.

- **Optimized for Advanced Scalability Deployment** mode is recommended for large environments with more than 100 hosts and 1500 VMs. In this mode, Veeam ONE collects all metrics required for alarms and reports.

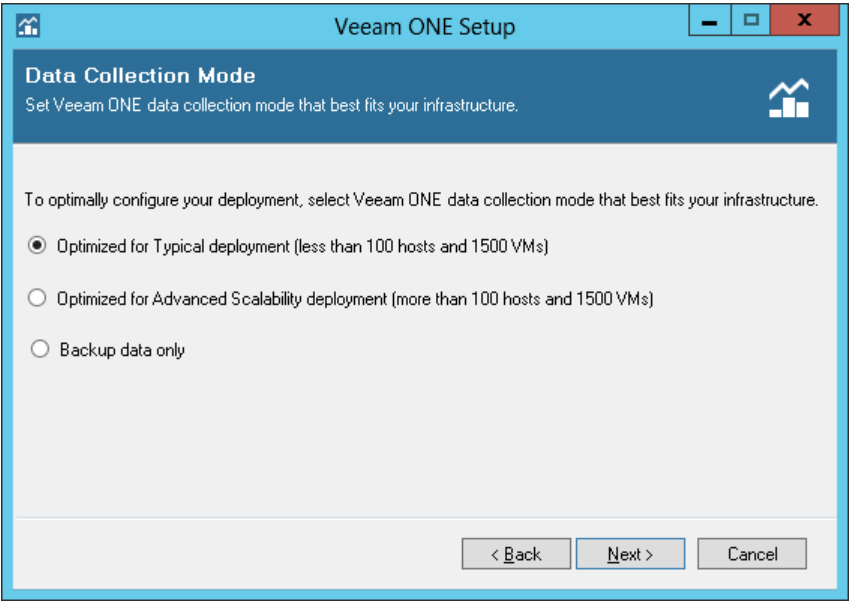
This mode results in a lower load on the Veeam ONE server and a smaller size of the Veeam ONE database.

Backup Data Only

The *Backup Data Only* mode is recommended for users who want to focus on Veeam Backup & Replication monitoring and reporting, and do not need a deep visibility of the virtual infrastructure.

In this mode, Veeam ONE collects all inventory, configuration and performance metrics from Veeam Backup & Replication servers. It also collects inventory and configuration metrics from virtual infrastructure servers, but skips virtual infrastructure performance metrics. As a result, Veeam ONE dashboards, reports and alarms display backup-related data only. For VMware vSphere and Microsoft Hyper-V objects, performance data is not available.

This mode results in the least possible size of the Veeam ONE database and the lowest load on the Veeam ONE server.

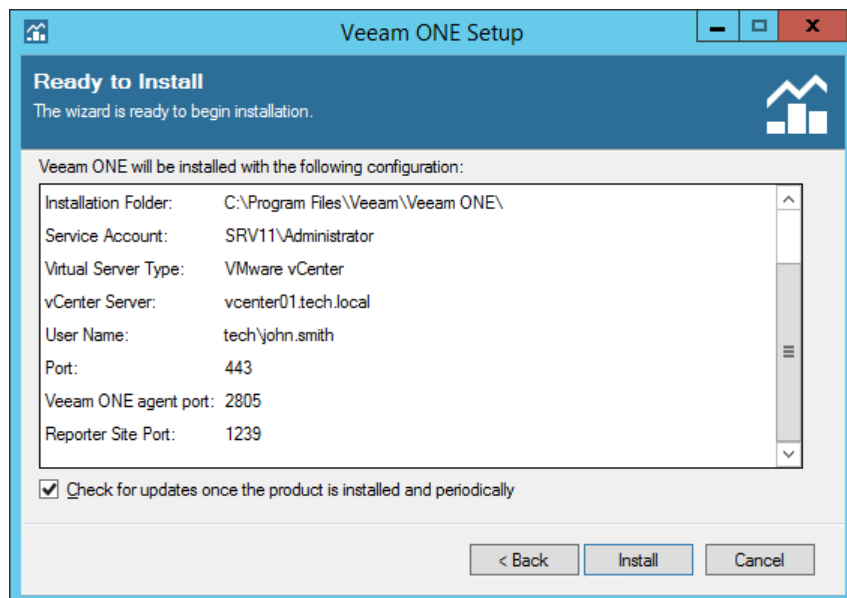


Step 17. Review Installation Summary

At the **Ready to Install** step of the wizard, review installation configuration to ensure that you have provided correct settings.

Select the **Check for updates once the product is installed and periodically** check box if you want Veeam ONE to automatically check and download available updates.

Click **Install** to begin the installation.



When the installation completes, click **Finish** to close the wizard.

Step 18. Add Veeam ONE Service Account to Veeam ONE Administrators Group

When Veeam ONE installation completes, the installer will prompt you to perform the logoff and logon procedure to create new user groups that will be used to accommodate user accounts for accessing Veeam ONE locally and remotely.

Check that the Veeam ONE service account is included in the *Veeam ONE Administrators* user group. If this account is not a member of the *Veeam ONE Administrators* user group, add it to the group manually.

For details on Veeam ONE user groups, see [Security Groups](#).

Step 19. Install Additional Veeam ONE Monitor Clients

You can install additional instances of Veeam ONE Monitor Client to enable multi-user access to real-time performance data. For details on the Veeam ONE Monitor Client installation procedure, see [Installing Veeam ONE Monitor Client](#).

Advanced Installation

The advanced installation scenario implies installing the Veeam ONE Server component (server part) on one machine, and installing the Veeam ONE Web UI component (client part) on another machine. You can also choose to install both components on a single machine in the course of a single installation session.

IMPORTANT!

If you install the Veeam ONE Server and Veeam ONE Web UI components on separate machines, mind the following limitation: you cannot install the server part on the computer that is already hosting the client part, and conversely.

Advanced installation is only available if you provide either evaluation or paid license. For Veeam ONE Community Edition, the advanced installation option is not available. For details on the advanced deployment scenario, see [Advanced Deployment](#).

The advanced installation must proceed in the following order:

1. **Install Veeam ONE Server and set up the database.**

Run the **Veeam ONE Setup** wizard on a machine that will host the Veeam ONE Server component. At this step, you must choose an existing Microsoft SQL Server instance, or install a new Microsoft SQL Server instance and specify the name of the database that will be created by the setup.

2. **Install the Veeam ONE Web UI and point it to the database.**

Run the **Veeam ONE Setup** wizard on a machine that will host the Veeam ONE Web UI component. During installation, point Veeam ONE Web UI to the Veeam ONE database.

3. **Install and configure Veeam ONE Monitor Client.**

Run the **Veeam ONE Monitor Client** wizard to enable user access to the Veeam ONE Monitor functionality. If necessary, you can install several instances of Veeam ONE Monitor Client on separate machines to provide access to Veeam ONE Monitor for multiple users. For details, see [Installing Veeam ONE Monitor Client](#).

To install Veeam ONE using the advanced scenario, follow these steps.

Step 1. Obtain Installation Image File

Download the Veeam ONE installation image file at <https://www.veeam.com/downloads.html>.

Step 2. Insert Disk or Mount Image File

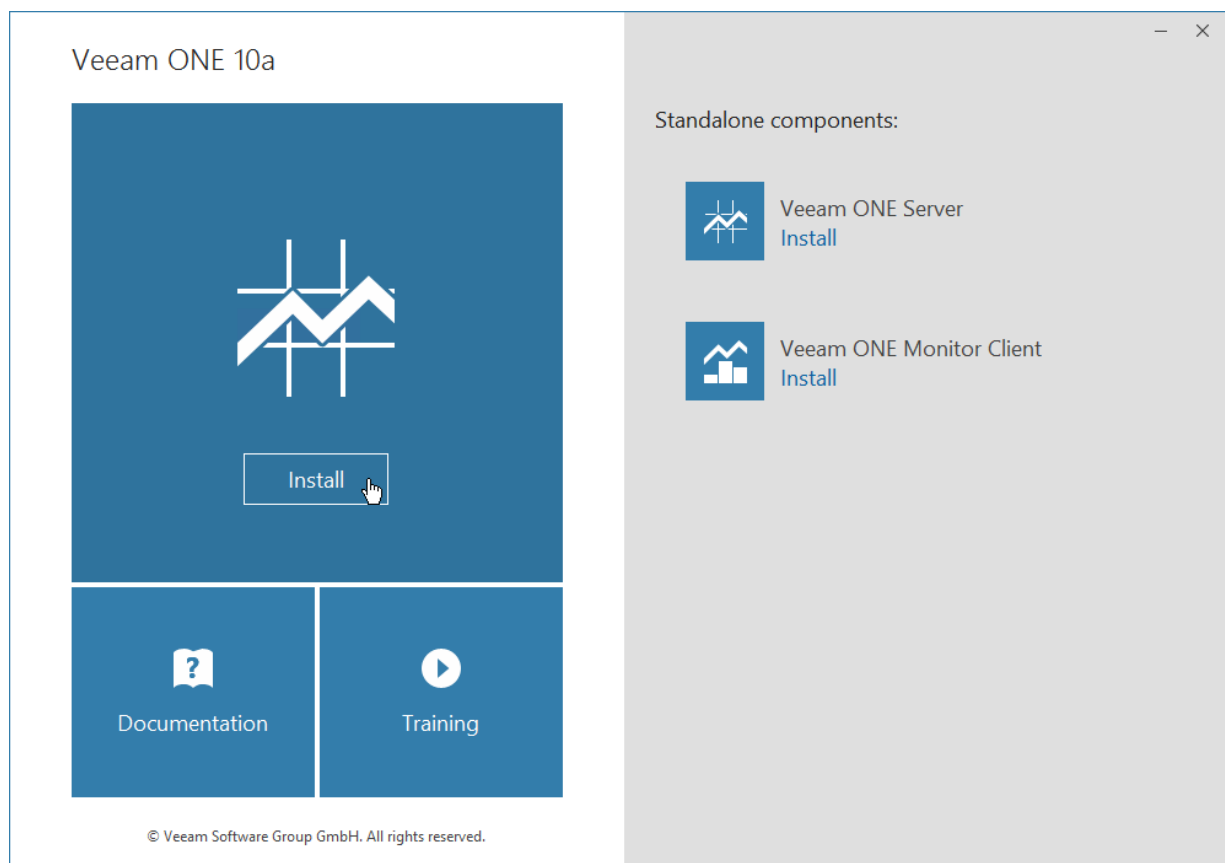
Burn the downloaded ISO image file to a CD/DVD or mount the installation image using disk image emulation software. If you install Veeam ONE on a VM, use built-in tools of the virtualization management software to mount the installation image to the VM.

Step 3. Launch Splash Window

After you mount or insert the disk with Veeam ONE installation image, **Autorun** will open a splash screen with installation options. On the splash window, do one of the following to launch the **Veeam ONE Setup** wizard:

- Click **Install** on the left
- Click **Veeam ONE Server** on the right

If **Autorun** is disabled, run the `Setup.exe` file from the installation image. Alternatively, you can right-click the new disk in **My Computer** and select **Execute Veeam ONE Autorun**.



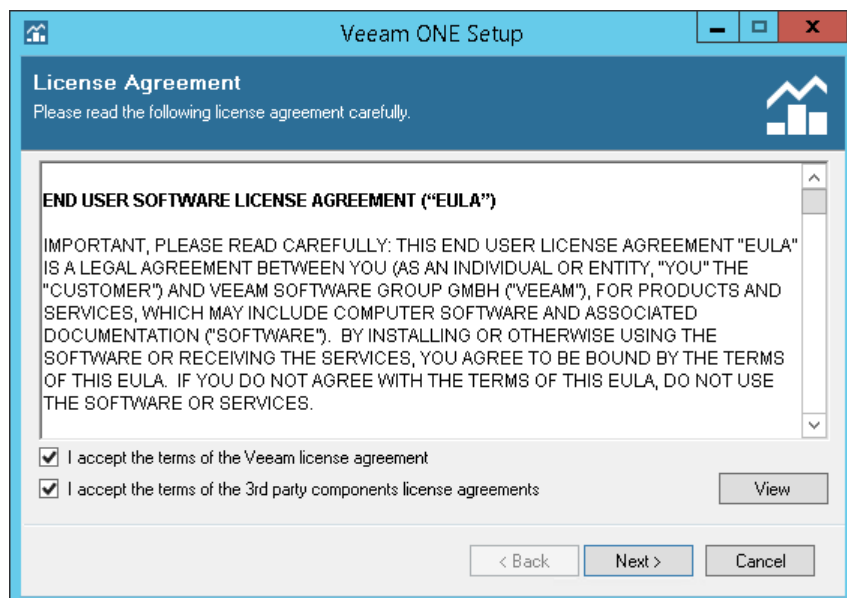
NOTE:

The installer will verify what version of .NET Framework is currently present on the machine. If the required version is not found, the installer will prompt to automatically install .NET Framework software that is included with the Veeam ONE installer. After the completion of .NET Framework installation, Veeam ONE installation will proceed.

Step 4. Accept License Agreement

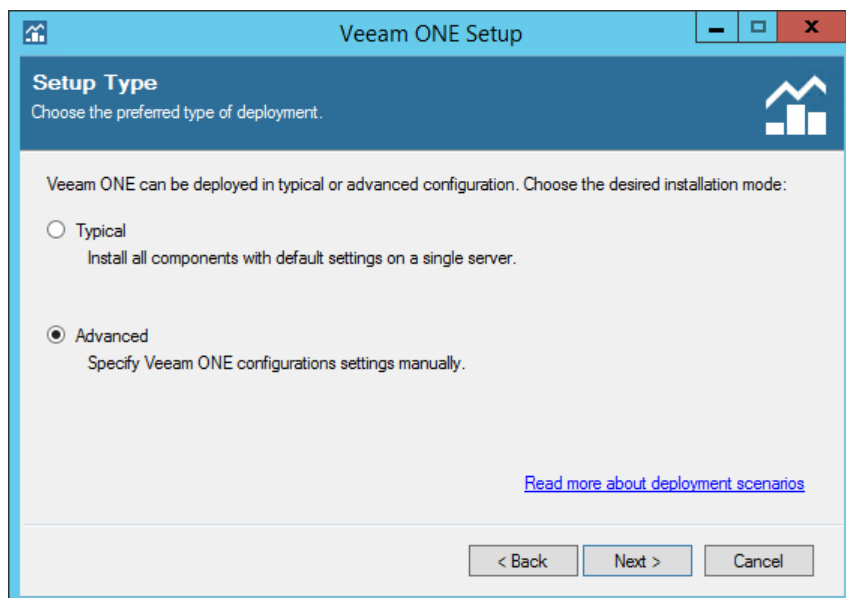
At the **License Agreement** step of the wizard, read and accept Veeam license agreement and 3rd party components license agreement. You will not be able to continue installation until you select both check boxes.

To read the terms of the license agreement for the 3rd party components, click **View**.



Step 5. Choose Setup Type

At the **Setup Type** step of the wizard, select **Advanced** as a deployment mode.



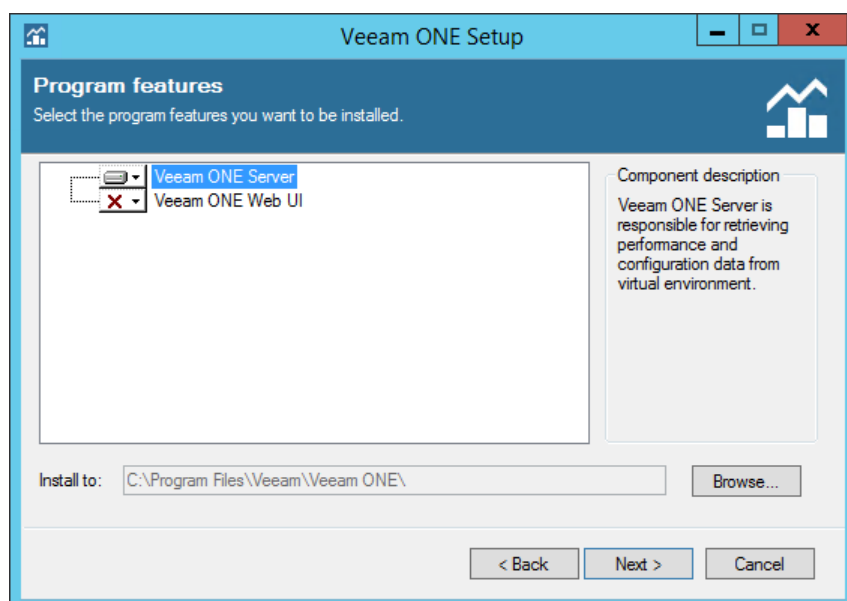
To learn about available deployment types, click the **Read more about deployment scenarios** link, or see [Deployment Scenarios](#).

Step 6. Choose Components to Install

At the **Program Features** step of the wizard, you can choose which Veeam ONE components you want to install. You can choose only one of the two suggested components (Veeam ONE Server or Veeam ONE Web UI), or install both of them at the same time. Note that if you choose to install only one component, you must repeat the installation procedure on another machine to install the other component to attain the full Veeam ONE functionality.

If you choose to install both the Veeam ONE Server and Veeam ONE Web UI components, the advanced deployment will mirror the typical, but will not include Veeam ONE Monitor Client. You must install Veeam ONE Monitor Client separately.

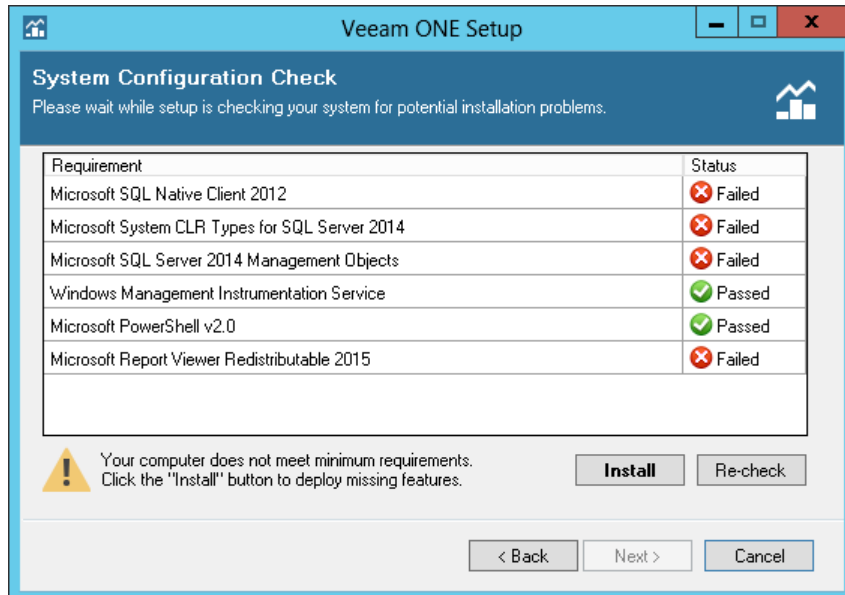
To change the installation directory, click **Browse** and select the location where you want to install Veeam ONE components.



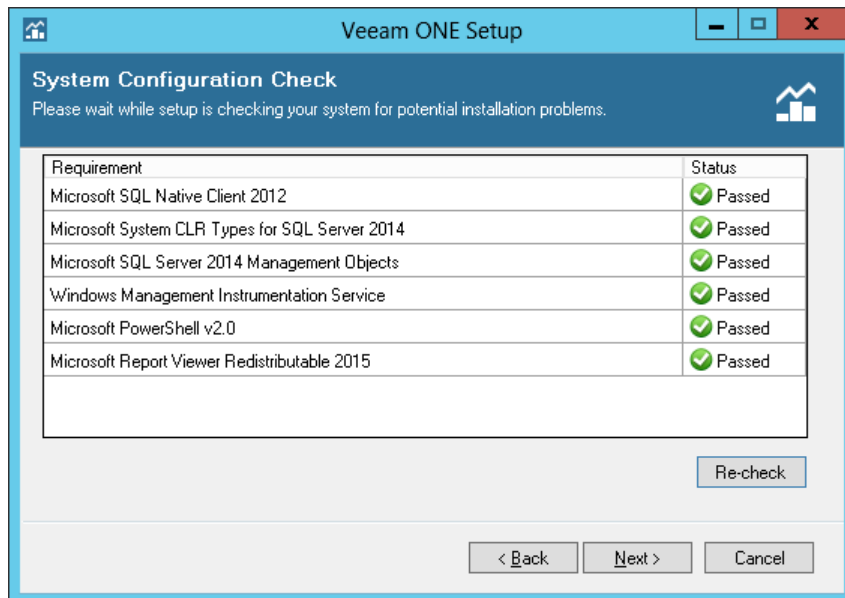
Step 7. Perform System Configuration Check

Before proceeding with the installation, the installer will perform system configuration check to determine if all prerequisite software is available on the machine. To learn what software is required for Veeam ONE installation, see [System Requirements](#).

If some of the required software components are missing, the setup wizard will offer you to install the missing software components and enable missing features automatically.



To install the missing software components and enable missing features automatically, click the **Install** button.

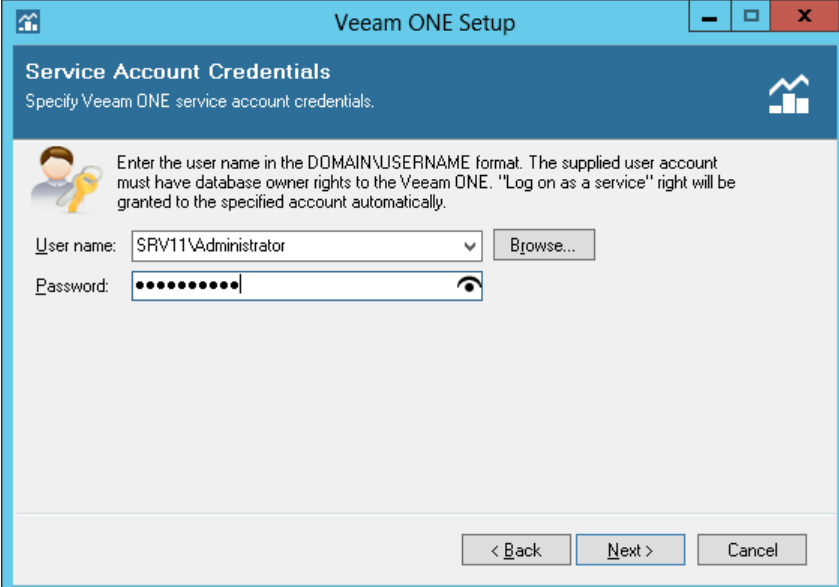


You can cancel automatic software installation. In this case, you must install the missing software components and enable missing features manually (otherwise, you will not be able to proceed to the next step of the setup wizard). After you install and enable all required software components, click **Re-run** to repeat the system configuration check.

Step 8. Specify Service Account Credentials

At the **Service Account Credentials** step of the wizard, specify credentials of the account under which the Veeam ONE services will run. The user name must be specified in the *DOMAIN\USERNAME* format.

For details on required permissions for the service account, see [Veeam ONE Service Account](#).



The image shows a Windows-style dialog box titled "Veeam ONE Setup". The main heading is "Service Account Credentials" with a subtitle "Specify Veeam ONE service account credentials." Below this, there is an icon of a person with a key and a text block: "Enter the user name in the DOMAIN\USERNAME format. The supplied user account must have database owner rights to the Veeam ONE. 'Log on as a service' right will be granted to the specified account automatically." There are two input fields: "User name:" with a dropdown menu showing "SRV11\Administrator" and a "Browse..." button, and "Password:" with a masked input field (dots) and a visibility toggle icon. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

Veeam ONE Setup

Service Account Credentials
Specify Veeam ONE service account credentials.

Enter the user name in the DOMAIN\USERNAME format. The supplied user account must have database owner rights to the Veeam ONE. "Log on as a service" right will be granted to the specified account automatically.

User name: SRV11\Administrator

Password:

< Back Next > Cancel

Step 9. Choose Microsoft SQL Server

At the **SQL Server Instance** step of the wizard, choose a Microsoft SQL Server instance that will host the Veeam ONE database. If you are installing Veeam ONE Server and Veeam ONE Web UI on different machines, make sure that both components share a common database.

The Microsoft SQL Server selection differs based on the choice of Veeam ONE components.

Veeam ONE Server Component

If you are installing Veeam ONE Server or a combination of Veeam ONE Server and Veeam ONE Web UI, you must select Microsoft SQL Server as follows.

- If you do not have a Microsoft SQL Server instance that you can use for Veeam ONE, select the **Install new instance of SQL Server** option.

If this option is selected, the setup will install Microsoft SQL Server 2016 Express locally, on the computer where you are installing Veeam ONE.

NOTE:

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

- If you intend 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 enter the address of the preferred Microsoft SQL Server manually or use the **Browse** button to choose among available remote instances.

In the **Database name** field, specify the name of the database that will be created by Veeam ONE. Provide credentials for the account that will be used by Veeam ONE components to access the database. You can enter credentials explicitly or use Windows authentication credentials of the Veeam ONE service account to connect to the Microsoft SQL Server. For details on required permissions for the account, see [Connection to Microsoft SQL Server](#).

- If you already have an existing Veeam ONE database that you want to use in your deployment, select the **Use existing instance of SQL Server** option and choose the Microsoft SQL Server instance that hosts the database. This can be a database that you have previously [created with a SQL script](#). In the **Database name** field, specify the name of the database.

Provide credentials for the account that will be used by Veeam ONE components to access the database. You can enter credentials explicitly or use Windows authentication credentials of the service account to connect to the Microsoft SQL Server. For details on required permissions for the account, see [Connection to Microsoft SQL Server](#).

Veeam ONE Web UI Component

If you are installing the Veeam ONE Web UI component only, you must point to the existing Veeam ONE database. This must be Veeam ONE 10a database that was created when you installed the Veeam ONE Server component, or the database that you [created with a SQL script](#).

1. In the **Specify Veeam ONE database SQL Server** field, choose a Microsoft SQL Server instance that hosts the existing Veeam ONE database. You can type the address of the preferred Microsoft SQL Server manually or use the **Browse** button to choose among the available remote instances.
2. In the **Database name** field, specify the name of the existing database or use the **Browse** button to choose the database from the list.

3. In the **Connect to SQL Server using** section, provide credentials for the account that will be used by Veeam ONE components to access the database. You can specify credentials explicitly or use Windows authentication to connect to the Microsoft SQL Server. For details on required permissions for the account, see [Veeam ONE Service Account](#).

The screenshot shows the 'Veeam ONE Setup' window with the 'SQL Server Instance' tab selected. The window has a blue header bar with the title 'Veeam ONE Setup' and standard Windows window controls. Below the header, the tab title 'SQL Server Instance' is displayed in white on a dark blue background, followed by the instruction 'Choose SQL Server instance to create Veeam ONE database on.' in a smaller font. The main content area is light gray and contains the following elements: A label 'Specify Veeam ONE database SQL Server (HOSTNAME\INSTANCE):' above a text box containing 'SRV11\VEEAMSQL2016' and a 'Browse...' button to its right. A label 'Database name:' above a text box containing 'VeeamOne' and a 'Browse...' button to its right. A section titled 'Connect to SQL Server using' with two radio button options: 'Windows authentication credentials of service account' (which is selected) and 'SQL Server authentication using the Login ID and password below:'. Under the second option, there are two text boxes: 'Login ID:' containing 'sa' and 'Password:' which is empty. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Veeam ONE Setup

SQL Server Instance
Choose SQL Server instance to create Veeam ONE database on.

Specify Veeam ONE database SQL Server (HOSTNAME\INSTANCE):
SRV11\VEEAMSQL2016

Database name: VeeamOne

Connect to SQL Server using

☒ Windows authentication credentials of service account

☐ SQL Server authentication using the Login ID and password below:

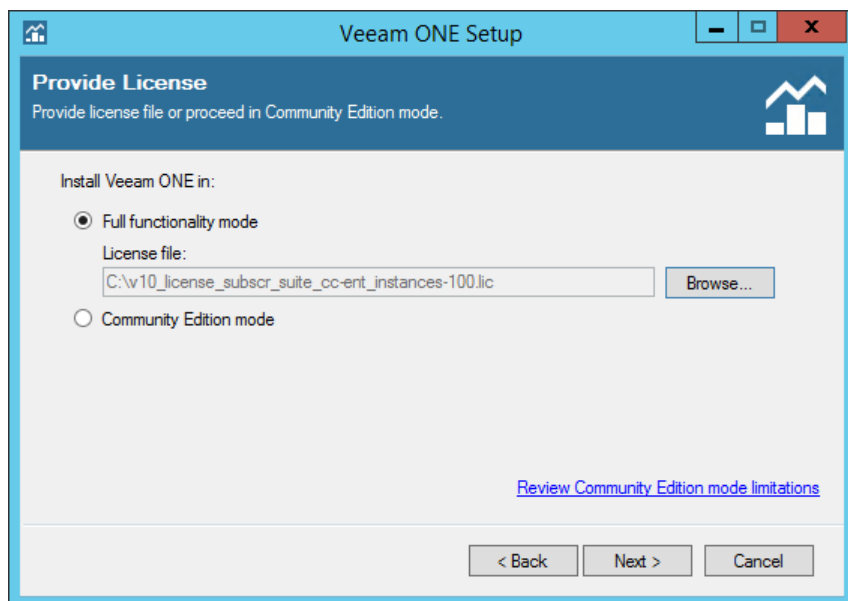
Login ID: sa

Password:

< Back Next > Cancel

Step 10. Provide License File

At the **Provide License** step of the wizard, provide a license file. Select the **Full functionality mode** option, click **Browse** and specify the path to the license file.



NOTE:

If you do not have a license, you will not be able to proceed with the advanced installation.

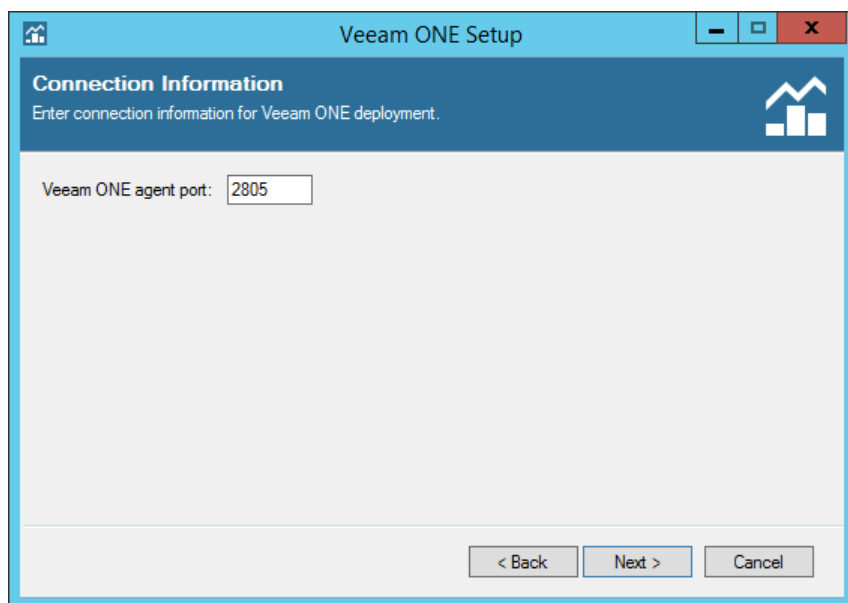
Step 11. Specify Connection Ports

At the **Connection Information** step of the wizard, specify connection settings for Veeam ONE Reporter website and Veeam ONE agent:

For Veeam ONE Server component:

- In the **Veeam ONE agent port** field, type a number of the port that Veeam ONE Agent will use to collect data from connected Veeam Backup & Replication servers.

The default port number is 2805.

The screenshot shows a Windows-style window titled "Veeam ONE Setup". The window has a blue header bar with the title and standard window controls (minimize, maximize, close). Below the header, there's a dark blue section with the text "Connection Information" and "Enter connection information for Veeam ONE deployment." To the right of this text is a small icon of a bar chart with an upward arrow. The main area of the window is light gray and contains a label "Veeam ONE agent port:" followed by a text input field containing the number "2805". At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel".

For Veeam ONE Web UI component:

- In the **Reporter web site port** field, type a number of the port that will be used to access the Veeam ONE Reporter website through a web browser.

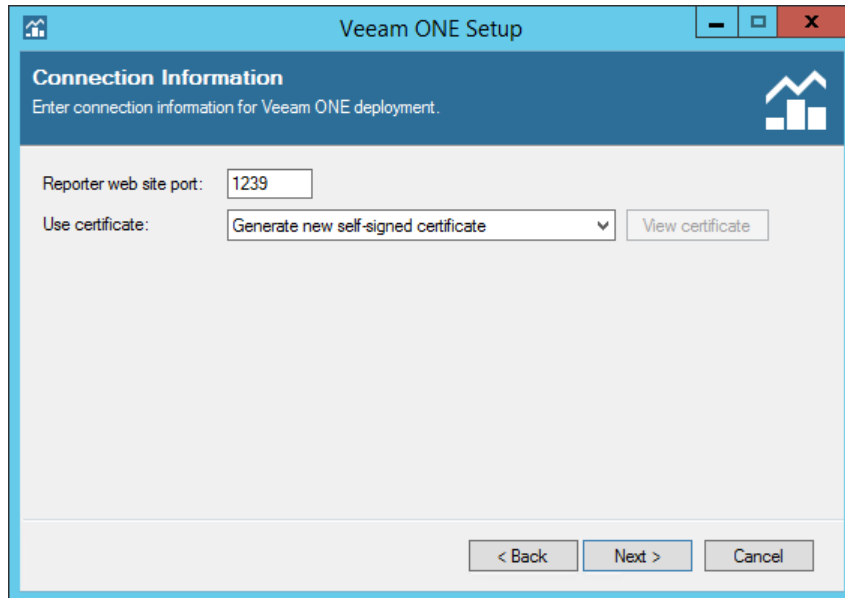
The default port number is 1239.

- In the **Use certificate** list, choose a certificate that will be used to secure traffic between the Veeam ONE Reporter website and a web browser.

You can choose an existing certificate installed on the machine. If the setup wizard does not find an appropriate certificate to be used, it generates a self-signed certificate.

NOTE:

- If you generate or choose a self-signed certificate, you must configure a trusted connection between the Veeam ONE Reporter website and a web browser later. For details, see [Configuring Trusted Connection](#).
- You can change the selected certificate after installation. For details, see [Change Default Certificate](#).



The screenshot shows the 'Veeam ONE Setup' window with the 'Connection Information' tab selected. The window has a blue header bar with the title 'Veeam ONE Setup' and standard window controls. Below the header, the tab title 'Connection Information' is displayed in white on a dark blue background, followed by the instruction 'Enter connection information for Veeam ONE deployment.' and a small bar chart icon. The main area is light gray and contains two input fields: 'Reporter web site port:' with the value '1239' and 'Use certificate:' with a dropdown menu showing 'Generate new self-signed certificate'. A 'View certificate' button is to the right of the dropdown. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Veeam ONE Setup

Connection Information
Enter connection information for Veeam ONE deployment.

Reporter web site port:

Use certificate:

< Back Next > Cancel

Step 12. Choose Performance Cache Location

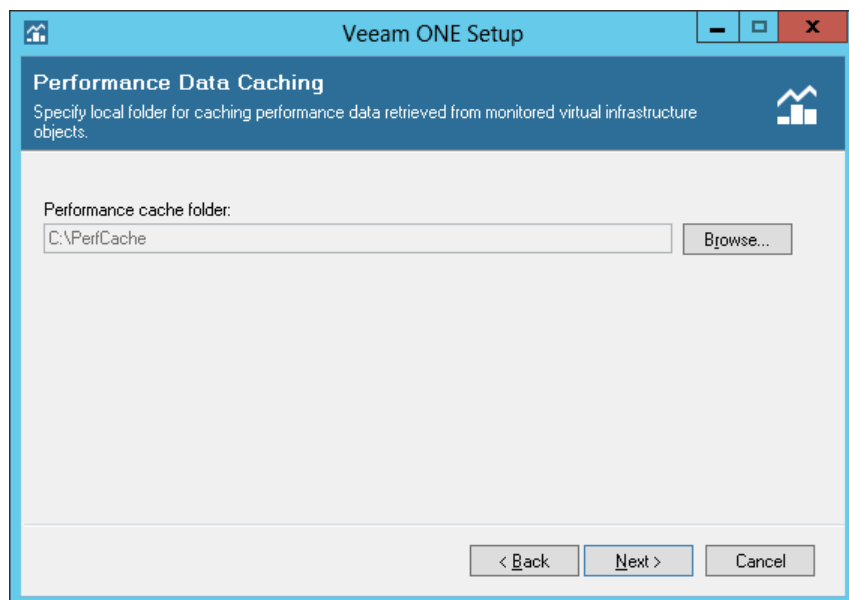
At the **Performance Data Caching** step of the wizard, choose a directory where the performance cache must be located.

Performance cache is space on disk to which Veeam ONE stores real-time performance data, as this data is collected. Performance data stored in cache is used for Veeam ONE Monitor dashboards and views. Disk-based performance cache allows significantly decrease RAM utilization on the machine that runs the Veeam ONE Server component.

By default, the performance cache is stored to the `C:\PerfCache` folder. To store the cache to a different folder, click **Browse** next to the **Performance cache** field and specify a path to the new folder.

When choosing a location for performance cache, consider the following recommendations:

- Make sure that the disk where the performance cache is located can quickly complete read and write requests. Do not locate the cache remotely in networks with high latency values.
- For large monitoring environments, place the performance cache on an SSD local to the machine where the Veeam ONE Server component runs. For small and medium monitoring environments, a HDD is normally enough.
- Length of the performance cache folder path must not exceed the Windows Max Path Limitation value. For details, see [https://msdn.microsoft.com/ru-ru/library/windows/desktop/aa365247\(v=vs.85\).aspx#maxpath](https://msdn.microsoft.com/ru-ru/library/windows/desktop/aa365247(v=vs.85).aspx#maxpath).
- Make sure there is enough disk space for performance cache. The cache is cleared on an hourly basis, as new data is collected; however, in large monitoring environments it can take significant disk space. For example, in the Advanced Scalability Deployment mode, during peak loads, the cache can take up to 6 GB disk space for each 1000 VMs.



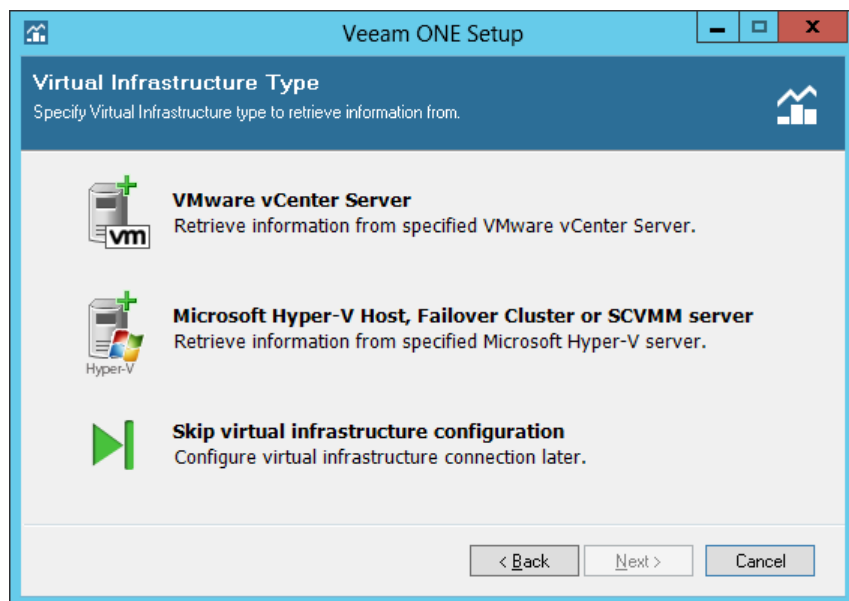
TIP:

After installation, you can change the performance cache folder in the Veeam ONE Settings utility. For details, see section [Monitor Settings](#) of the Veeam ONE Monitor Guide.

Step 13. Choose Virtual Infrastructure Type

The **Virtual Infrastructure Type** step of the wizard is available if at the the [Program Features](#) step you selected to install Veeam ONE Server component. At this step, you can choose to connect a vCenter Sever or Hyper-V infrastructure server (Failover Cluster, SCVMM, Hyper-V Server). To configure connection to a virtual infrastructure server and initiate automatic data collection from this server, select the virtual infrastructure server type and click **Next**.

If you do not want to configure connection settings during installation, you can skip this step and configure access to virtual servers later in the Veeam ONE Monitor console. In this case, click **Skip virtual infrastructure configuration** and click **Next**.



NOTE:

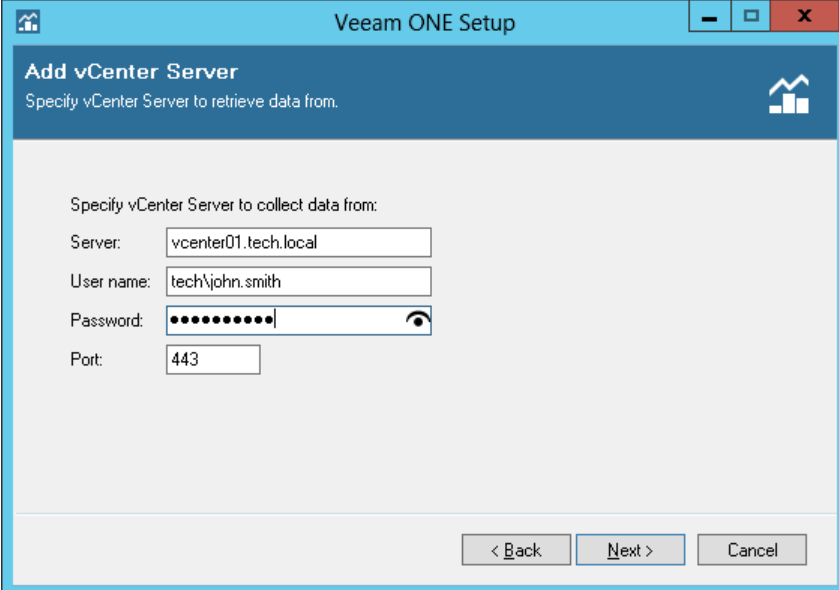
If you choose to configure connection settings, the **Veeam ONE Setup** wizard will include additional steps to connect to a virtual infrastructure server and to a Veeam Backup & Replication server. If you choose to skip infrastructure configuration, you will pass immediately to the [Data Collection Type](#) step.

Step 14. Add Virtual Infrastructure Server

This step of the wizard is available only if you have chosen to configure virtual infrastructure server connection settings at the [Virtual Infrastructure Type](#) step of the wizard.

- In the **Server** field, specify FQDN or IP address of the virtual infrastructure server you want to connect.
- In the **User name** and **Password** fields, specify credentials of the account for connecting to the server.
- In the **Port** field, change the port number if required.

The specified connection settings will be propagated to all Veeam ONE components so that they can automatically connect and retrieve data from the virtual infrastructure server. For details, see [Default Configuration](#).



The screenshot shows the 'Veeam ONE Setup' window with the 'Add vCenter Server' step selected. The window has a blue header bar with the title 'Veeam ONE Setup' and standard Windows window controls. Below the header, the title 'Add vCenter Server' is displayed in white, followed by the instruction 'Specify vCenter Server to retrieve data from.' in a smaller font. The main area is light gray and contains the text 'Specify vCenter Server to collect data from:' followed by four input fields: 'Server:' with the value 'vcenter01.tech.local', 'User name:' with the value 'tech\john.smith', 'Password:' with masked characters and a toggle icon, and 'Port:' with the value '443'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.


Veeam ONE Setup

Add vCenter Server
Specify vCenter Server to retrieve data from.

Specify vCenter Server to collect data from:

Server: vcenter01.tech.local

User name: tech\john.smith

Password: 

Port: 443

< Back Next > Cancel

Step 15. Add Veeam Backup & Replication Server

At the **Add Veeam Backup & Replication Server** step of the wizard, you can connect a Veeam Backup & Replication server to initiate automatic data collection immediately after installation. This step of the wizard is available only if you have chosen to configure virtual infrastructure server connection settings at the [Virtual Infrastructure Type](#) step of the wizard.

- In the **Server type** list, choose the backup server type — Veeam Backup & Replication or Veeam Backup Enterprise Manager.
- In the **Server name** field, specify FQDN or IP address of the backup server you want to connect.
- In the **User name** and **Password** fields, specify credentials of the account for connecting to the server.

The specified connection settings will be propagated to all Veeam ONE components so that they can automatically connect and retrieve data from the backup server. For details, see [Default Configuration](#).

If you do not want to configure connection settings for backup servers during installation, you can skip this step and configure connection settings later in the Veeam ONE Monitor console. In this case, select **Configure connection settings later** and click **Next**.

Veeam ONE Setup

Add Veeam Backup & Replication Server

Specify Veeam Backup & Replication server to retrieve data from.

Veeam Backup & Replication connecting settings:

Server type: Veeam Backup & Replication

Server name: backup01.tech.local

User name: tech\john.smith

Password: [masked]

☐ Configure connection settings later

< Back Next > Cancel

Step 16. Choose Data Collection Mode

At the **Data Collection Mode** step of the wizard, choose the mode of collecting data from virtual infrastructure and Veeam Backup & Replication servers.

Data collection mode determines what metrics Veeam ONE will collect, and specifies the product configuration in a number of areas. Choosing an appropriate data collection mode allows you to optimize monitoring and reporting performance and improve user experience in Veeam ONE. To learn the difference between the data collection modes, see [Appendix B. Data Collection Modes](#).

Typical and Advanced Scalability Deployment

The *Typical Deployment* and *Advanced Scalability Deployment* modes are recommended for users who want to monitor and report on both the virtual environment and Veeam Backup & Replication infrastructure.

- **Optimized for Typical Deployment** mode is recommended for small to medium environments up to 100 hosts and 1500 VMs. In this mode, Veeam ONE collects all inventory, configuration and performance metrics, and makes collected data available in dashboards, reports and alarms.

This mode provides the greatest data granularity level, but results in a greater load on the Veeam ONE server and a larger size of Veeam ONE database.

- **Optimized for Advanced Scalability Deployment** mode is recommended for large environments with more than 100 hosts and 1500 VMs. In this mode, Veeam ONE collects all metrics required for alarms and reports.

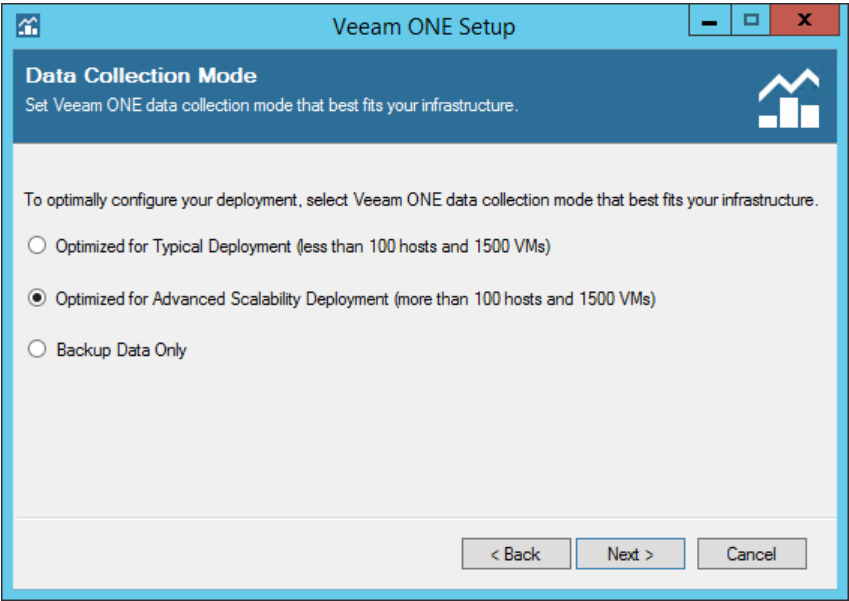
This mode provides a lesser data granularity level than the Typical Deployment mode, and results in a lower load on the Veeam ONE server and a smaller size of the Veeam ONE database.

Backup Data Only

The *Backup Data Only* mode is recommended for users who want to focus on Veeam Backup & Replication monitoring and reporting, and do not need a deep visibility of the virtual infrastructure.

In this mode, Veeam ONE collects all inventory, configuration and performance metrics from Veeam Backup & Replication servers. It also collects inventory and configuration metrics from virtual infrastructure servers, but skips virtual infrastructure performance metrics. As a result, Veeam ONE dashboards, reports and alarms display backup-related data only; for VMware vSphere and Microsoft Hyper-V objects, performance data is not available.

This mode results in the least possible size of the Veeam ONE database and the lowest load on the Veeam ONE server.

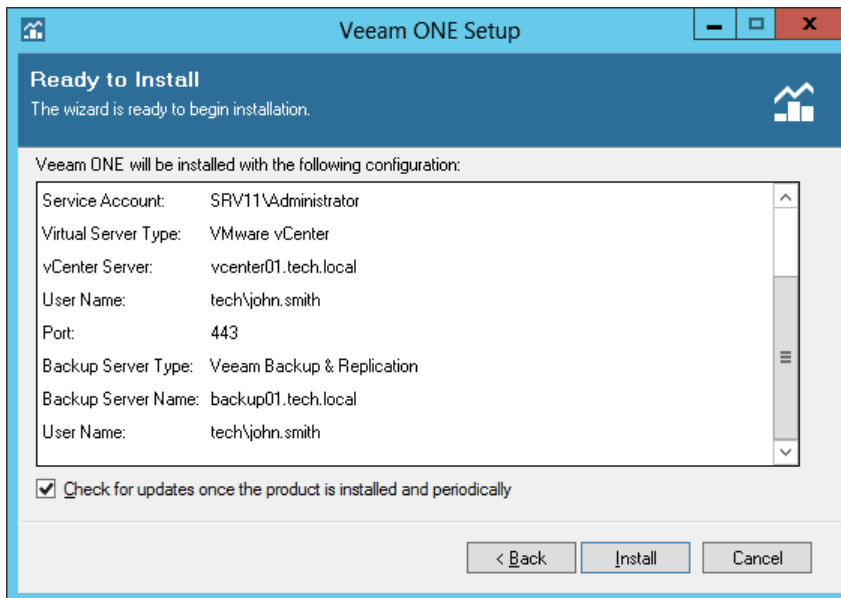


Step 17. Review Installation Summary

At the **Ready to Install** step of the wizard, review installation configuration to ensure that you have provided correct settings.

Select the **Check for updates once the product is installed and periodically** check box if you want Veeam ONE to automatically check and download available updates.

Click **Install** to begin the installation.



When the installation completes, click **Finish** to close the wizard.

Step 18. Add Veeam ONE Service Account to Veeam ONE Administrators Group

When Veeam ONE installation completes, the installer will prompt you to perform the logoff and logon procedure to create new user groups that will be used to accommodate user accounts for accessing Veeam ONE locally and remotely.

Check that the Veeam ONE service account is included in the *Veeam ONE Administrators* user group on the machines where the Veeam ONE Server and Veeam ONE Web UI components are installed. If this account is not a member of the *Veeam ONE Administrators* user group, add it to the group manually.

For details on Veeam ONE user groups, see [Security Groups](#).

Step 19. Install Veeam ONE Monitor Client

After you have installed the Veeam ONE Server and Veeam ONE Web UI components, you also must install one or more instances of Veeam ONE Monitor Client. Otherwise, you will not be able to access Veeam ONE Monitor. For details on the Veeam ONE Monitor Client installation procedure, see [Installing Veeam ONE Monitor Client](#).

Installing Veeam ONE Monitor Client

Veeam ONE Monitor Client is the client part that allows users to access Veeam ONE Monitor functionality and work with alarms, dashboards and performance charts.

- In the course of typical installation, Veeam ONE Monitor Client is installed with other Veeam ONE components. If you want to provide remote access Veeam ONE Monitor functionality, you can install additional instances of Veeam ONE Monitor Client on user workstations.
- In the course of advanced installation, Veeam ONE Monitor Client is not installed. To be able to access Veeam ONE Monitor functionality, you must install one or more instances of Veeam ONE Monitor Client.

NOTE:

Mind the following:

- Before installing Veeam ONE Monitor Client, make sure that you have already installed the Veeam ONE Server component.
- You cannot install Veeam ONE Monitor Client using GPO or System Center Configuration Manager (SCCM).

To install Veeam ONE Monitor Client, follow these steps.

Step 1. Obtain Installation File

Download the Veeam ONE installation image file at <https://www.veeam.com/downloads.html>.

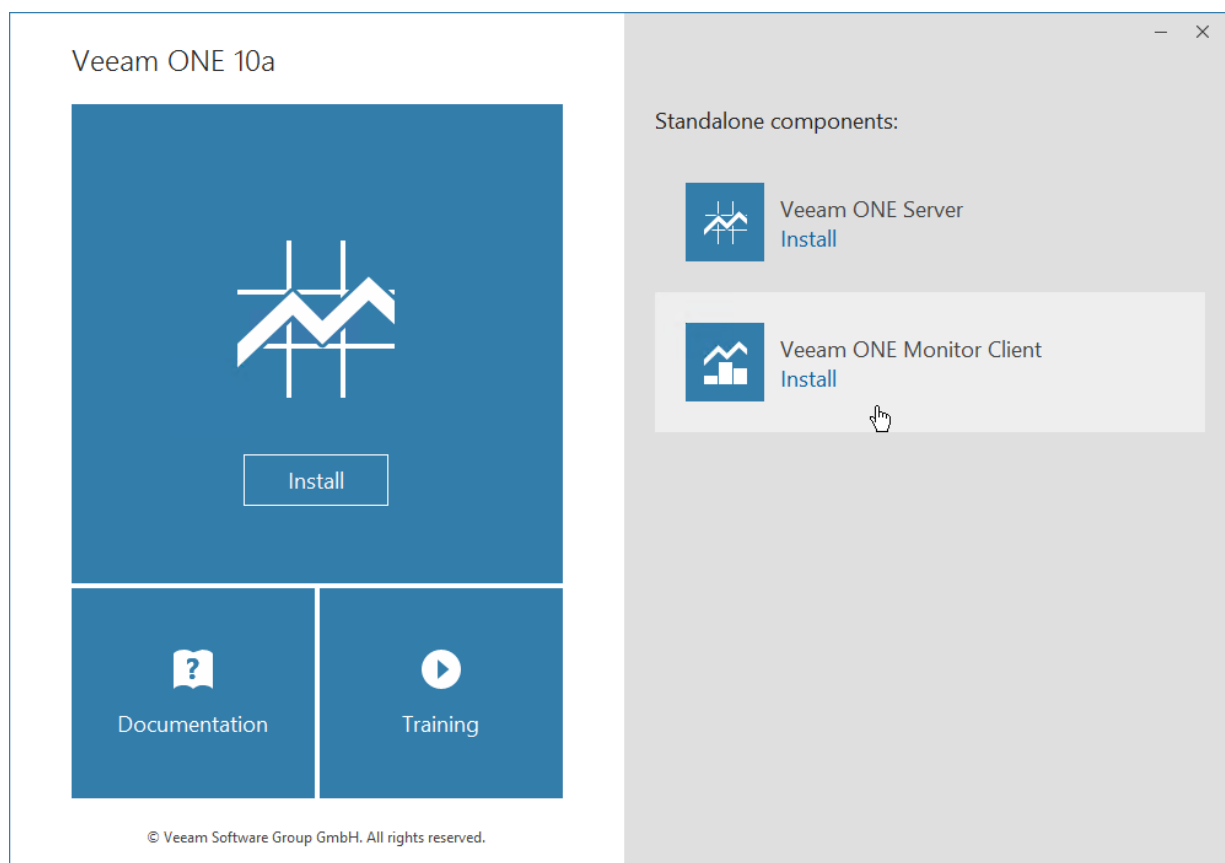
Step 2. Insert Disk or Mount Image File

Burn the downloaded ISO image file to a CD/DVD or mount the installation image using disk image emulation software. If you install Veeam ONE on a VM, use built-in tools of the virtualization management software to mount the installation image to the VM.

Step 3. Launch Splash Window

After you mount or insert the disk with Veeam ONE installation image, **Autorun** will open a splash screen with installation options. On the splash window, click **Veeam ONE Monitor Client** on the right to launch the **Veeam ONE Setup** wizard.

If **Autorun** is disabled, run the `Setup.exe` file from the installation image. Alternatively, right-click the new disk in **My Computer** and select **Execute Veeam ONE Autorun**.



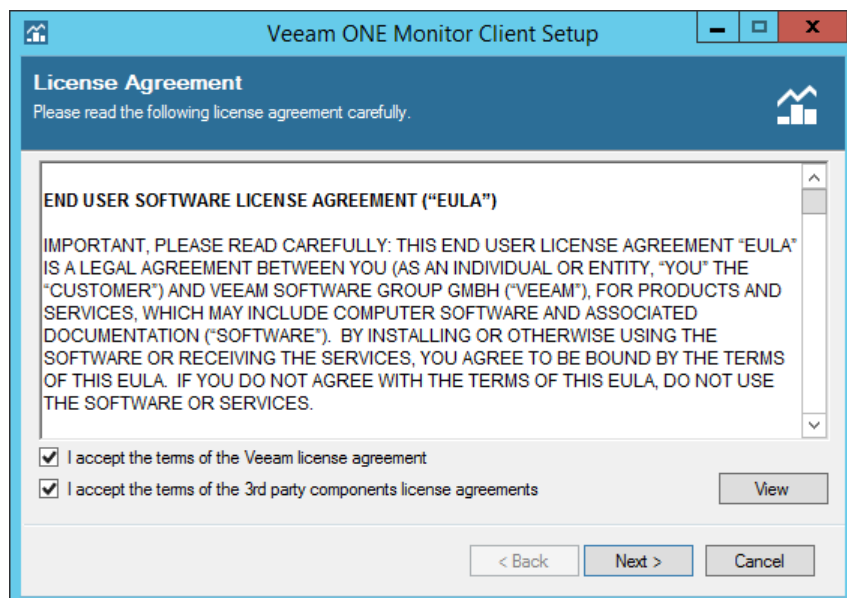
NOTE:

The installer will verify what version of .NET Framework is currently present on the machine. If the required version is not found, the installer will prompt to automatically install .NET Framework software that is included with the Veeam ONE installer. After the completion of .NET Framework installation, Veeam ONE installation will proceed.

Step 4. Accept License Agreement

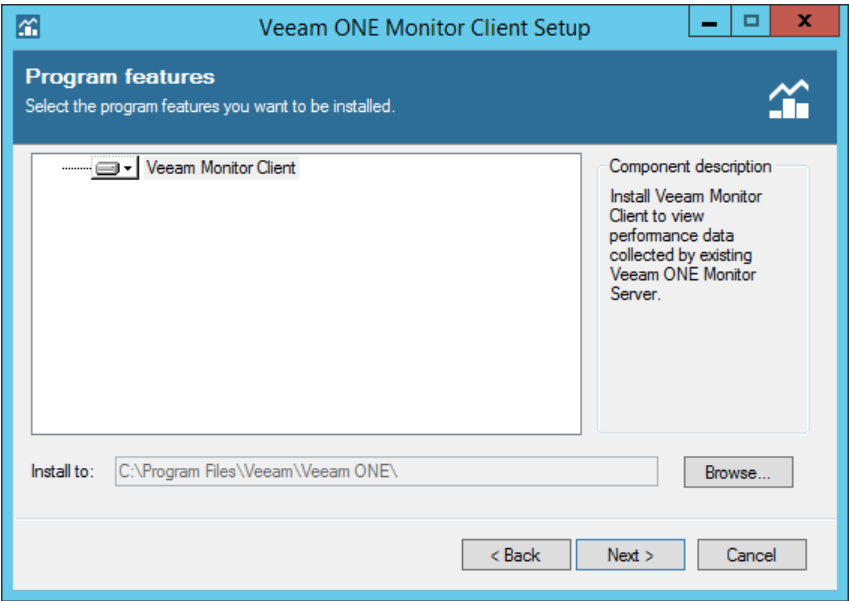
At the **License Agreement** step of the wizard, read and accept Veeam license agreement and 3rd party components license agreement. You will not be able to continue installation until you select both check boxes.

To read the terms of the license agreement for the 3rd party components, click **View**.



Step 5. Choose Components to Install

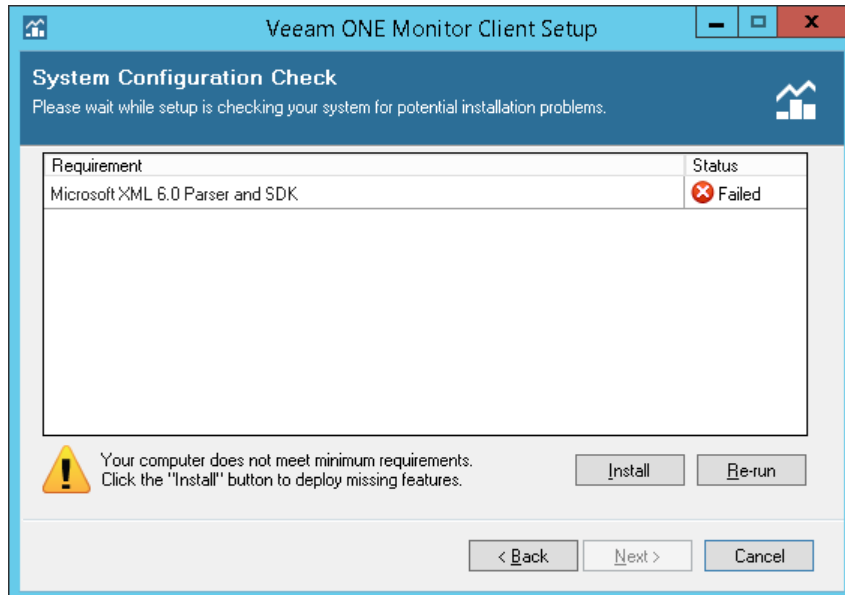
At the **Program Features** step of the wizard, click **Browse** to change the installation directory.



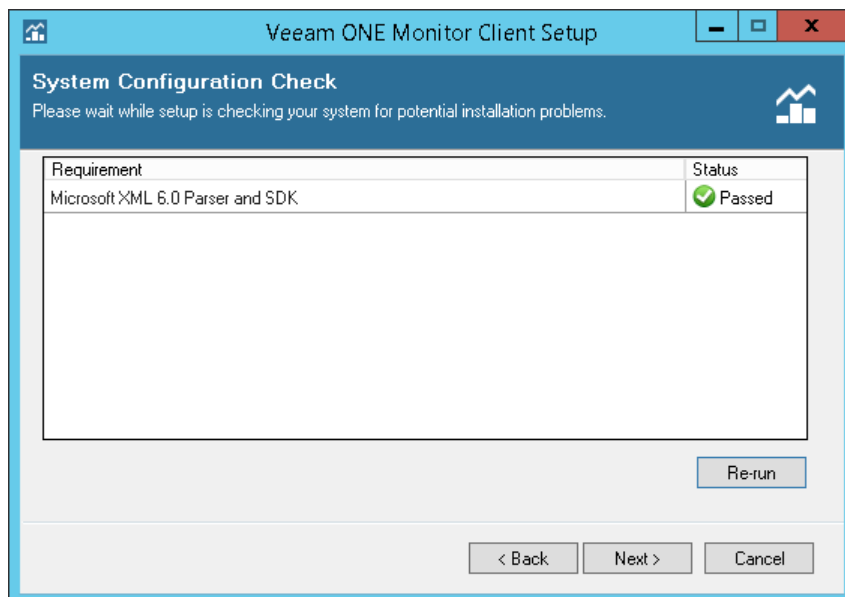
Step 6. Perform System Configuration Check

Before proceeding with the installation, the installer will perform system configuration check to determine if all prerequisite software is available on the machine. To learn what software is required for Veeam ONE installation, see [System Requirements](#).

If some of the required software components are missing, the setup wizard will offer you to install the missing software components and enable missing features automatically.



To install the missing software components and enable missing features automatically, click the **Install** button.

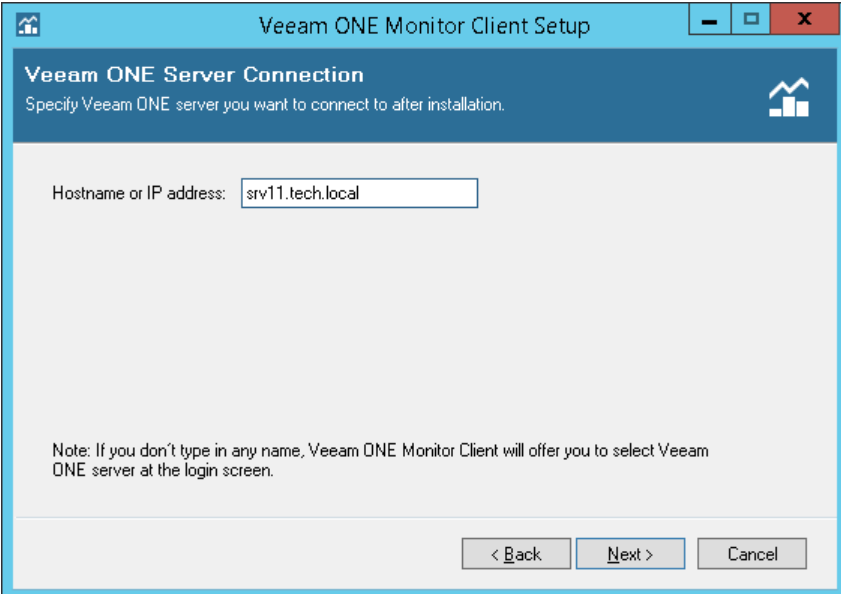


You can cancel automatic software installation. In this case, you must install the missing software components and enable missing features manually (otherwise, you will not be able to proceed to the next step of the setup wizard). After you install and enable all required software components, click **Re-run** to repeat the system configuration check.

Step 7. Specify Veeam ONE Server Name

At the **Veeam ONE Server Connection** step of the wizard, specify the FQDN or IP address of a machine where the Veeam ONE Server component is installed.

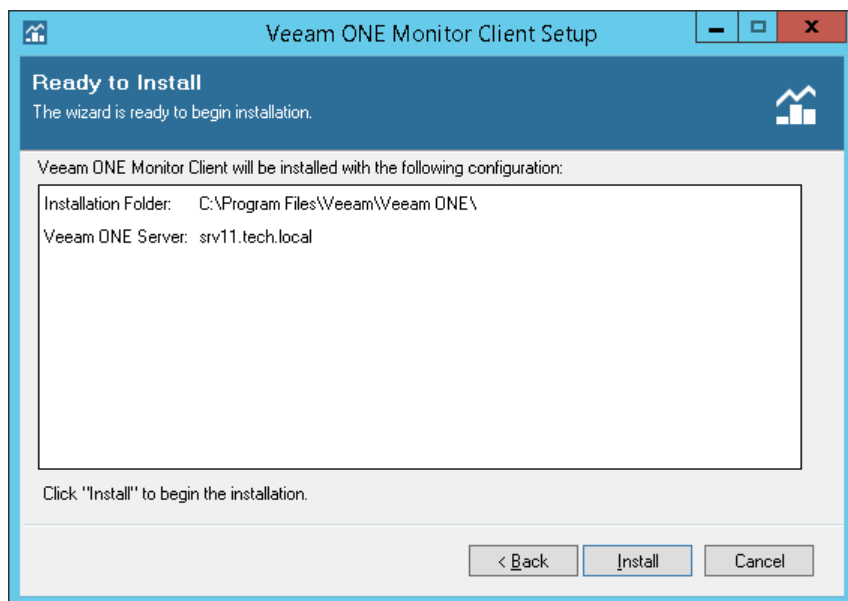
You can skip this step. In this case, you will be prompted to specify Veeam ONE Server name when you launch Veeam ONE Monitor for the first time.



The screenshot shows a Windows-style window titled "Veeam ONE Monitor Client Setup". The window has a blue header bar with the title and standard window controls (minimize, maximize, close). Below the header, there is a dark blue section with the title "Veeam ONE Server Connection" and a subtitle "Specify Veeam ONE server you want to connect to after installation." To the right of this section is a small icon of a server rack. The main area of the window is light gray and contains a text input field labeled "Hostname or IP address:" with the text "srv11.tech.local" entered. Below the input field, there is a note: "Note: If you don't type in any name, Veeam ONE Monitor Client will offer you to select Veeam ONE server at the login screen." At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel".

Step 8. Review Installation Summary

At the **Ready to Install** step of the wizard, carefully review installation configuration to ensure that you specified correct settings. Click **Install** to begin the installation process.

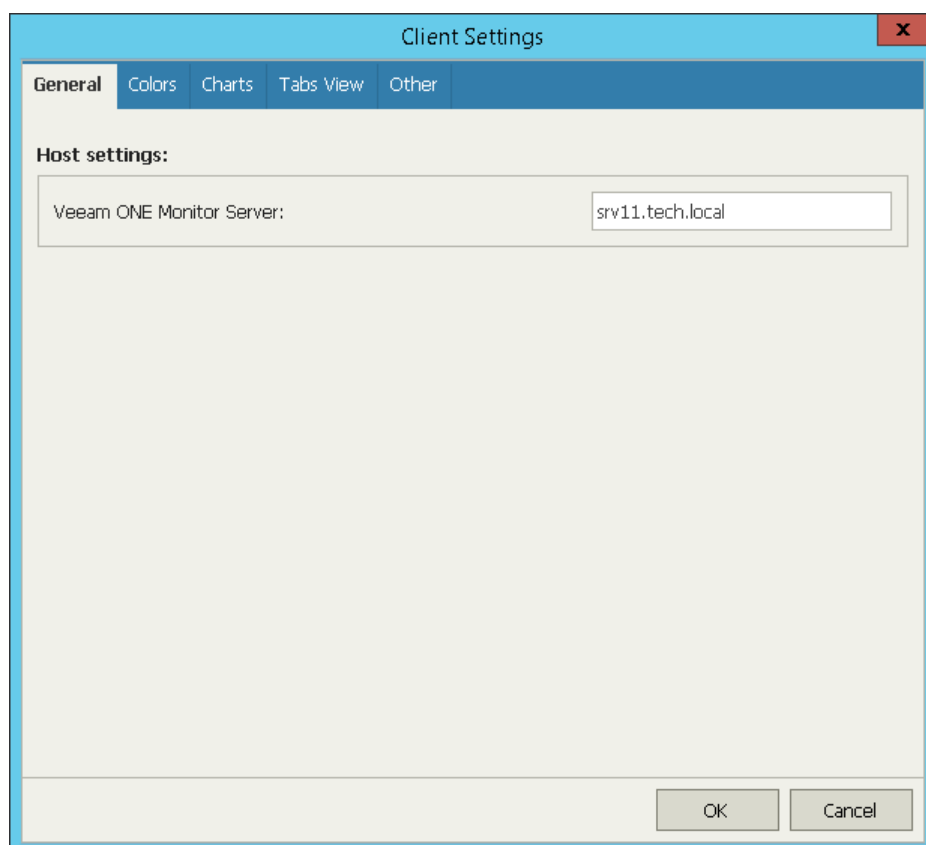


When the installation completes, click **Finish** to close the wizard.

Step 9. Check Veeam ONE Monitor Client Settings

If Veeam ONE Monitor Client is installed separately from the Veeam ONE Server component, make sure that Veeam ONE Monitor Client can communicate with the Veeam ONE Server part.

On the machine where you installed Veeam ONE Monitor Client, start the Veeam ONE Monitor console. If during installation you did not specify the name of a machine where Veeam ONE Server runs, you will be prompted to provide the server name. If, for some reasons, you cannot see a window prompting for the Veeam ONE Server name, in Veeam ONE Monitor menu select **Options > Client Settings > General**, and specify the name of a machine hosting Veeam ONE Server.



Installing Veeam ONE in Unattended Mode

You can install Veeam ONE in the unattended mode using the command line interface. The unattended installation mode does not require user interaction. You can use it to automate the installation process in large deployments.

Before You Begin

Before you start unattended installation, make sure that you perform the following steps:

1. Download the Veeam ONE installation image from the Veeam website. You can burn the downloaded image to a CD/DVD or mount the image to the target machine using disk image emulation software.
2. Check the system requirements. For details, see [System Requirements](#).
3. Log on to the target machine under the account that has the Local Administrator permissions on the machine. For details, see [Permissions](#).
4. Obtain a license file. If you do not specify a path to the license file during installation, Veeam ONE will operate in the free functionality mode.

Installation Command-Line Syntax

You can install the following Veeam ONE components in the unattended mode:

- [Veeam ONE Monitor Server](#)
- [Veeam ONE Reporter Server](#)
- [Veeam ONE Reporter Web UI](#)
- [Veeam ONE Monitor Client](#)
- [Veeam ONE Agent](#)

NOTE:

You must install server components first to create Veeam ONE database. Installation of UI components (Reporter Web UI and Monitor Client) requires reference to an existing database.

Monitor Server

To install Veeam ONE Monitor server, use a command with the following syntax:

```
msiexec.exe [/L*v "<path_to_log>"] /qn /i "<path_to_msi>" [ACCEPT_THIRDPARTY_LICENSES="1"] [ACCEPT_EULA="1"] [VM_MN_SERVICEACCOUNT="<Veeam_One_Service_Account>"] [VM_MN_SERVICEPASSWORD="<Veeam_One_Service_Account_Password>"] [VM_MN_SQL_SERVER="<SQL_server>"] [VM_MN_SQL_DATABASE="<database_name>"] [VM_MN_SQL_AUTHENTICATION="0"] [VM_MN_SQL_USER="<SQL_auth_username>"] [VM_MN_SQL_PASSWORD="<SQL_auth_password>"] [EDITLICFILEPATH="<path_to_license_file>"] [VM_MN_CACHE="<path_to_cache_folder>"] [VO_INSTALLATION_TYPE="0"] [VM_VC_SELECTED_TYPE="0"] [VM_VC_HOST="<virtual_host_name>"] [VM_VC_PORT="<port number>"] [VM_VC_HOST_USER="<virtual_host_username>"] [VM_VC_HOST_PWD="<virtual_host_auth_password>"] [VM_HV_TYPE="0"] [VM_BACKUP_ADD_LATER="0"] [VM_BACKUP_ADD_TYPE="1"] [VM_BACKUP_ADD_NAME="<backup_server_name>"] [VM_BACKUP_ADD_USER="<backup_server_username>"] [VM_BACKUP_ADD_PWD="<backup_server_auth_password>"]
```

The command has the following parameters:

Option	Parameter	Required	Description
/L	*v logfile	No	<p>Creates an installation log file with the verbose output.</p> <p>Specify an existing path to the log file as the parameter value. A setup log file created during the previous installation is cleared.</p> <p>Example: <code>/L *v "C:\ProgramData\Veeam\Setup\Temp\Logs\MonitorServerSetup.txt"</code></p>

Option	Parameter	Required	Description
/q	n	Yes	Sets the user interface level to "no", which means no user interaction is needed during installation.
/i	setup file	Yes	<p>Installs Veeam ONE Monitor server. Specify a full path to the setup file as the parameter value.</p> <p>Example: <i>/i "C:\Veeam\Monitor\VeeamONE.Monitor.Server.x64.msi"</i></p>
ACCEPT_THIRDPARTY_LICENSES	0/1	Yes	<p>Specifies if you want to accept the terms of the license agreement for the 3rd party components. Specify 1 if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_THIRDPARTY_LICENSES="1"</i></p>
ACCEPT_EULA	0/1	Yes	<p>Specifies if you want to accept the terms of the Veeam license agreement.</p> <p>Specify 1 if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_EULA="1"</i></p>
VM_MN_SERVICEACCOUNT	user	Yes	<p>Specifies a user account under which the Veeam ONE Services will run and that will be used to access Veeam ONE database in the Microsoft Windows authentication mode.</p> <p>Example: <i>VM_MN_SERVICEACCOUNT="ONESERVER\Administrator"</i></p>
VM_MN_SERVICEPASSWORD	password	Yes	<p>This parameter must be used if you have specified the <i>VM_MN_SERVICEACCOUNT</i> parameter.</p> <p>Specifies a password for the account under which the Veeam ONE Services will run and that will be used to access Veeam ONE database.</p> <p>Example: <i>VM_MN_SERVICEPASSWORD="p@sswOrd"</i></p>
VM_MN_SQL_SERVER	SQL server\instance	No	<p>Specifies a Microsoft SQL server and instance on which the Veeam ONE database will be deployed. By default, Veeam ONE uses the <i>LOCALHOST VEEAMSQL2016</i> server.</p> <p>Example: <i>VM_MN_SQL_SERVER="ONESERVER VEEAMSQL2016_MY"</i></p>

Option	Parameter	Required	Description
VM_MN_SQL_DATABASE	database	No	Specifies a name of the Veeam ONE database, by default, VeeamOne. Example: <i>VM_MN_SQL_DATABASE="VeeamOneDB"</i>
VM_MN_SQL_AUTHENTICATION	0/1	No	Specifies if you want to use the Microsoft SQL Server authentication mode to connect to the Microsoft SQL Server where the Veeam ONE database is deployed. Specify 1 to use the SQL Server authentication mode. If you do not use this parameter, Veeam ONE will connect to the Microsoft SQL Server in the Microsoft Windows authentication mode (default value, 0). Together with this parameter, you must specify the following parameters: <i>VM_MN_SQL_USER</i> and <i>VM_MN_SQL_PASSWORD</i> . Example: <i>VM_MN_SQL_AUTHENTICATION="1"</i>
VM_MN_SQL_USER	user	No	This parameter must be used if you have specified the <i>VM_MN_SQL_AUTHENTICATION</i> parameter. Specifies a LoginID to connect to the Microsoft SQL Server in the SQL Server authentication mode. Example: <i>VM_MN_SQL_USER="sa"</i>
VM_MN_SQL_PASSWORD	password	No	This parameter must be used if you have specified the <i>VM_MN_SQL_AUTHENTICATION</i> parameter. Specifies a password to connect to the Microsoft SQL Server in the SQL Server authentication mode. Example: <i>VM_MN_SQL_PASSWORD="p@sswOrd"</i>
EDITLICFILEPATH	license path	No	Specifies a full path to the license file. If this parameter is not specified, Veeam ONE Free Edition will be installed. Example: <i>EDITLICFILEPATH="C:\Users\Administrator\Desktop\veeam_one_subscription_100_100.lic"</i>
VM_MN_CACHE	path	No	Specifies a path to the folder where Performance Cache will be stored. If you do not use this parameter, the performance cache will be stored to the <i>C:\PerfCache</i> folder (default). Example: <i>VM_MN_CACHE="D:\Veeam\PerfCache"</i>

Option	Parameter	Required	Description
VO_INSTALLATION_TYPE	0, 1 or 2	No	<p>Specifies the mode in which Veeam ONE will collect data from virtual infrastructure and Veeam Backup & Replication servers. Specify 1 to use the Optimized for Advanced Scalability Deployment mode. Specify 2 to use The Backup Data Only mode. If you do not use this parameter, Veeam ONE will collect data in the Optimized for Typical Deployment mode (default value, 0). For details, see Choose Data Collection Mode.</p> <p>Example: <i>VO_INSTALLATION_TYPE="2"</i></p>
VM_VC_SELECTED_TYPE	0, 1 or 2	No	<p>Specifies the type of object to add into Veeam ONE configuration. Specify 0 to add VMware vCenter Server or ESXi Host. Specify 1 to add Microsoft Hyper-V Host, Failover Cluster or SCVMM Server. If you do not use this parameter, Veeam ONE will skip the virtual infrastructure configuration (default value, 2).</p> <p>Example: <i>VM_VC_SELECTED_TYPE="0"</i></p>
VM_HV_TYPE	0, 1 or 2	No	<p>This parameter can be used if you have specified 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies the role of the virtual infrastructure server. Specify 1 to add Failover Cluster. Specify 2 to add standalone Hyper-V Host. If you do not use this parameter, Veeam ONE will add SCVMM Server (default value, 0).</p> <p>Example: <i>VM_HV_TYPE="2"</i></p>
VM_VC_HOST	host name or address	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies FQDN or IP address of the virtual infrastructure server you want to connect.</p> <p>Example: <i>VM_VC_HOST="vcenter01.tech.local"</i></p>
VM_VC_PORT	host port	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies the port number of the virtual infrastructure server you want to connect.</p> <p>Example: <i>VM_VC_PORT="443"</i></p>

Option	Parameter	Required	Description
VM_VC_HOST_USER	user	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies a user account to connect to the virtual infrastructure server.</p> <p>Example: <i>VM_VC_HOST_USER="tech administrator"</i></p>
VM_VC_HOST_PWD	password	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies a password for the account to connect to the virtual infrastructure server.</p> <p>Example: <i>VM_VC_HOST_PWD="p@sswOrd"</i></p>
VM_BACKUP_ADD_LATER	1	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies if you want to postpone adding Veeam Backup & Replication or Veeam Backup Enterprise Manager Server. Specify 1 to add Veeam Backup & Replication or Veeam Backup Enterprise Manager server later. If you do not use this parameter, you must add Veeam Backup & Replication or Veeam Backup Enterprise Manager (default value, 0).</p> <p>Example: <i>VM_BACKUP_ADD_LATER="1"</i></p>
VM_BACKUP_ADD_TYPE	0/1	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies the role of Veeam Backup & Replication server to add. Specify 0 to add Veeam Backup & Replication server. Specify 1 to add Veeam Backup Enterprise Manager.</p> <p>Example: <i>VM_BACKUP_ADD_TYPE="1"</i></p>
VM_BACKUP_ADD_NAME	host name or address	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies FQDN or IP address of the Veeam Backup & Replication or Veeam Backup Enterprise Manager server you want to connect.</p> <p>Example: <i>VM_BACKUP_ADD_NAME="backup01.tech.local"</i></p>

Option	Parameter	Required	Description
VM_BACKUP_ADD_USER	user	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies a user account to connect to Veeam Backup & Replication or Veeam Backup Enterprise Manager server.</p> <p>Example: <i>VM_BACKUP_ADD_USER="backup01 administrator"</i></p>
VM_BACKUP_ADD_PWD	password	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies a password for the account to connect to Veeam Backup & Replication or Veeam Backup Enterprise Manager server.</p> <p>Example: <i>VM_BACKUP_ADD_PWD="p@ssw0rd"</i></p>

Example

Suppose you want to install Monitor with the following configuration:

- Installation log location: *C:|ProgramData|Veeam|Setup|Temp|Logs|MonitorServerSetup.txt*
- No user interaction
- Path to the MSI file: *C:|Veeam|Monitor|VeeamONE.Monitor.Server.x64.msi*
- Accept 3rd party license agreement
- Accept Veeam license agreement
- Service user account: *ONESERVER|Administrator*
- Service user account password: *p@ssw0rd*
- License file location: *C:|Users|Administrator|Desktop|veeam_one_subscription_100_100.lic*
- Path to Performance Cache folder: *D:|Veeam|PerfCache*
- SQL Server instance and database name: default
- Data collection mode: Optimized for Typical Deployment
- Virtual infrastructure server: VMware vSphere
- Virtual infrastructure server address: *vcenter01.tech.local*
- Virtual infrastructure server port: *443*
- Virtual infrastructure server user: *tech|administrator*
- Virtual infrastructure server authorization password: *p@ssw0rd*

- Add Veeam Backup & Replication server: add later

The command to install Monitor server with such configuration will have the following parameters:

```
msiexec.exe /L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\MonitorServerSetup.txt"
/qn /i "C:\Veeam\Monitor\VeeamONE.Monitor.Server.x64.msi" ACCEPT_THIRDPARTY_LICENSES="1" ACCEPT_EULA="1" VM_MN_SERVICEACCOUNT="ONESERVER\Administrator" VM_MN_SERVICEPASSWORD="p@ssw0rd" EDITLICFILEPATH="C:\Users\Administrator\Desktop\veeam_one_subscription_100_100.lic" VM_MN_CACHE="D:\Veeam\PerfCache" VO_INSTALLATION_TYPE="0" VM_VC_SELECTED_TYPE="0" VM_VC_HOST="vcenter01.tech.local" VM_VC_PORT="443" VM_VC_HOST_USER="tech\administrator" VM_VC_HOST_PWD="p@ssw0rd" VM_BACKUP_ADD_LATER="1"
```

Reporter Server

To install Veeam ONE Reporter server, use a command with the following syntax:

```
msiexec.exe [/L*v "<path_to_log>"] /qn /i "<path_to_msi>" [ACCEPT_THIRDPARTY_LICENSES="1"] [ACCEPT_EULA="1"] [VM_RP_SERVICEACCOUNT="<Veeam_One_Service_Account>"] [VM_RP_SERVICEPASSWORD="<Veeam_One_Service_Account_Password>"] [VM_RP_SQL_SERVER="<SQL_server>"] [VM_RP_SQL_DATABASE="<database_name>"] [VM_RP_SQL_AUTHENTICATION="0"] [VM_RP_SQL_USER="<SQL_auth_username>"] [VM_RP_SQL_PASSWORD="<SQL_auth_password>"] [EDITLICFILEPATH="<path_to_license_file>"] [VO_INSTALLATION_TYPE="0"] [VM_VC_SELECTED_TYPE="0"] [VM_RP_VC_HOST="<virtual_host_name>"] [VM_RP_VC_PORT="<port_number>"] [VM_RP_VC_USER="<virtual_host_username>"] [VM_RP_VC_PWD="<virtual_host_auth_password>"] [VM_HV_TYPE="0"] [VM_BACKUP_ADD_LATER="0"] [VM_BACKUP_ADD_TYPE="1"] [VM_BACKUP_ADD_NAME="<backup_server_name>"] [VM_BACKUP_ADD_USER="<backup_server_username>"] [VM_BACKUP_ADD_PWD="<backup_server_auth_password>"]
```

The command has the following parameters:

Option	Parameter	Required	Description
/L	*v logfile	No	Creates an installation log file with the verbose output. Specify an existing path to the log file as the parameter value. A setup log file created during the previous installation is cleared. Example: <i>/L *v "C:\ProgramData\Veeam\Setup\Temp\Logs\ReporterServerSetup.txt"</i>
/q	n	Yes	Sets the user interface level to "no", which means no user interaction is needed during installation.

Option	Parameter	Required	Description
/i	setup file	Yes	<p>Installs Veeam ONE Reporting Server. Specify a full path to the setup file as the parameter value.</p> <p>Example: <i>/i "C:\Veeam\Reporter\VeeamONE.Reporter.Server.x64.msi"</i></p>
ACCEPT_THIRDPARTY_LICENSES	0/1	Yes	<p>Specifies if you want to accept the terms of the license agreement for the 3rd party components. Specify 1 if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_THIRDPARTY_LICENSES="1"</i></p>
ACCEPT_EULA	0/1	Yes	<p>Specifies if you want to accept the terms of the Veeam license agreement.</p> <p>Specify <i>yes</i> if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_EULA="1"</i></p>
VM_RP_SERVICEACCOUNT	user	Yes	<p>Specifies a user account under which the Veeam ONE Services will run and that will be used to access Veeam ONE database in the Microsoft Windows authentication mode.</p> <p>Example: <i>VM_RP_SERVICEACCOUNT="ONESERVER\Administrator"</i></p>
VM_RP_SERVICEPASSWORD	password	Yes	<p>This parameter must be used if you have specified the <i>VM_RP_SERVICEACCOUNT</i> parameter.</p> <p>Specifies a password for the account under which the Veeam ONE Services will run and that will be used to access Veeam ONE database.</p> <p>Example: <i>VM_RP_SERVICEPASSWORD="p@sswOrd"</i></p>
VM_RP_SQL_SERVER	SQL server\instance	No	<p>Specifies a Microsoft SQL server and instance on which the Veeam ONE database will be deployed. By default, Veeam ONE uses the <i>LOCALHOST\VEEAMSQL2016</i> server.</p> <p>Example: <i>VM_RP_SQL_SERVER="ONESERVER\VEEAMSQL2016_MY"</i></p>
VM_RP_SQL_DATABASE	database	No	<p>Specifies a name of the Veeam ONE database, by default, VeeamOne.</p> <p>Example: <i>VM_RP_SQL_DATABASE="VeeamOneDB"</i></p>

Option	Parameter	Required	Description
VM_RP_SQL_AUTHENTICATION	0/1	No	<p>Specifies if you want to use the Microsoft SQL Server authentication mode to connect to the Microsoft SQL Server where the Veeam ONE database is deployed. Specify 1 to use the SQL Server authentication mode. If you do not use this parameter, Veeam ONE Reporter will connect to the Microsoft SQL Server in the Microsoft Windows authentication mode (default value, 0).</p> <p>Together with this parameter, you must specify the following parameters: <i>VM_RP_SQL_USER</i> and <i>VM_RP_SQL_PASSWORD</i>.</p> <p>Example: <i>VM_RP_SQL_AUTHENTICATION="1"</i></p>
VM_RP_SQL_USER	user	No	<p>This parameter must be used if you have specified the <i>VM_RP_SQL_AUTHENTICATION</i> parameter.</p> <p>Specifies a LoginID to connect to the Microsoft SQL Server in the SQL Server authentication mode.</p> <p>Example: <i>VM_RP_SQL_USER="sa"</i></p>
VM_RP_SQL_PASSWORD	password	No	<p>This parameter must be used if you have specified the <i>VM_RP_SQL_AUTHENTICATION</i> parameter.</p> <p>Specifies a password to connect to the Microsoft SQL Server in the SQL Server authentication mode.</p> <p>Example: <i>VM_RP_SQL_PASSWORD="p@sswOrd"</i></p>
EDITLICFILEPATH	license path	No	<p>Specifies a full path to the license file. If this parameter is not specified, Veeam ONE Free Edition will be installed.</p> <p>Example: <i>EDITLICFILEPATH="C:\Users\Administrator\Desktop\veeam_one_subscription_100_100.lic"</i></p>
VO_INSTALLATION_TYPE	0, 1 or 2	No	<p>Specifies the mode in which Veeam ONE will collect data from virtual infrastructure and Veeam Backup & Replication servers. Specify 1 to use the Optimized for Advanced Scalability Deployment mode. Specify 2 to use The Backup Data Only mode. If you do not use this parameter, Veeam ONE will collect data in the Optimized for Typical Deployment mode (default value, 0). For details, see Choose Data Collection Mode.</p> <p>Example: <i>VO_INSTALLATION_TYPE="2"</i></p>

Option	Parameter	Required	Description
VM_VC_SELECTED_TYPE	0, 1 or 2	No	<p>Specifies the type of object to add into Veeam ONE configuration. Specify 0 to add VMware vCenter Server or ESXi Host. Specify 1 to add Microsoft Hyper-V Host, Failover Cluster or SCVMM Server. If you do not use this parameter, Veeam ONE will skip the virtual infrastructure configuration (default value, 2).</p> <p>Example: <i>VM_VC_SELECTED_TYPE="0"</i></p>
VM_HV_TYPE	0, 1 or 2	No	<p>This parameter can be used if you have specified 1 for the VM_VC_SELECTED_TYPE parameter.</p> <p>Specifies the role of the virtual infrastructure server. Specify 1 to add Failover Cluster. Specify 2 to add standalone Hyper-V Host. If you do not use this parameter, Veeam ONE will add SCVMM Server (default value, 0).</p> <p>Example: <i>VM_HV_TYPE="2"</i></p>
VM_RP_VC_HOST	host name or address	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies FQDN or IP address of the virtual infrastructure server you want to connect.</p> <p>Example: <i>VM_RP_VC_HOST="vcenter01.tech.local"</i></p>
VM_RP_VC_PORT	host port	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies the port number of the virtual infrastructure server you want to connect.</p> <p>Example: <i>VM_RP_VC_PORT="443"</i></p>
VM_RP_VC_USER	user	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies a user account to connect to the virtual infrastructure server.</p> <p>Example: <i>VM_RP_VC_USER="tech administrator"</i></p>
VM_RP_VC_PWD	password	No	<p>This parameter must be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies a password for the account to connect to the virtual infrastructure server.</p> <p>Example: <i>VM_RP_VC_PWD="p@sswOrd"</i></p>

Option	Parameter	Required	Description
VM_BACKUP_ADD_LATER	1	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter.</p> <p>Specifies if you want to postpone adding Veeam Backup & Replication or Veeam Backup Enterprise Manager Server. Specify 1 to add Veeam Backup & Replication or Veeam Backup Enterprise Manager server later. If you do not use this parameter, you must add Veeam Backup & Replication or Veeam Backup Enterprise Manager (default value, 0).</p> <p>Example: <i>VM_BACKUP_ADD_LATER="1"</i></p>
VM_BACKUP_ADD_TYPE	0/1	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies the role of Veeam Backup & Replication server to add. Specify 0 to add Veeam Backup & Replication server. Specify 1 to add Veeam Backup Enterprise Manager.</p> <p>Example: <i>VM_BACKUP_ADD_TYPE="1"</i></p>
VM_BACKUP_ADD_NAME	host name or address	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies FQDN or IP address of the Veeam Backup & Replication or Veeam Backup Enterprise Manager server you want to connect.</p> <p>Example: <i>VM_BACKUP_ADD_NAME="backup01.tech.local"</i></p>
VM_BACKUP_ADD_USER	user	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies a user account to connect to Veeam Backup & Replication or Veeam Backup Enterprise Manager server.</p> <p>Example: <i>VM_BACKUP_ADD_USER="backup01 administrator"</i></p>
VM_BACKUP_ADD_PWD	password	No	<p>This parameter can be used if you have specified 0 or 1 for the <i>VM_VC_SELECTED_TYPE</i> parameter and have not specified <i>VM_BACKUP_ADD_LATER</i>.</p> <p>Specifies a password for the account to connect to Veeam Backup & Replication or Veeam Backup Enterprise Manager server.</p> <p>Example: <i>VM_BACKUP_ADD_PWD="p@sswOrd"</i></p>

Example

Suppose you want to install Reporter server with the following configuration:

- Installation log location: *C:\ProgramData\Veeam\Setup\Temp\Logs\ReporterServerSetup.txt*
- No user interaction
- Path to the MSI file: *C:\Veeam\Reporter\VeeamONE.Reporter.Server.x64.msi*
- Accept 3rd party license agreement
- Accept Veeam license agreement
- Service user account: *ONESERVER\Administrator*
- Service user account password: *p@ssw0rd*
- SQL Server instance and database name: default
- License file location: *C:\Users\Administrator\Desktop\veeam_one_subscription_100_100.lic*
- Data collection mode: Optimized for Typical Deployment
- Virtual infrastructure server: VMware vSphere
- Virtual infrastructure server address: *vcenter01.tech.local*
- Virtual infrastructure server port: *443*
- Virtual infrastructure server user: *tech\administrator*
- Virtual infrastructure server authorization password: *p@ssw0rd*
- Backup server type: Veeam Backup & Replication
- Veeam Backup & Replication server name: *backup01.tech.local*
- Veeam Backup & Replication server user: *backup01\administrator*
- Veeam Backup & Replication server authorization password: *p@ssw0rd*

The command to install Reporter server with such configuration will have the following parameters:

```
msiexec.exe /L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\ReporterServerSetup.txt"
/qn /i "C:\Veeam\Reporter\VeeamONE.Reporter.Server.x64.msi" ACCEPT_THIRDPARTY_L
ICENSES="1" ACCEPT_EULA="1" VM_RP_SERVICEACCOUNT="ONESERVER\Administrator" VM_R
P_SERVICEPASSWORD="p@ssw0rd" EDITLICFILEPATH="C:\Users\Administrator\Desktop\ve
eam_one_subscription_100_100.lic" VO_INSTALLATION_TYPE="0" VM_VC_SELECTED_TYPE=
"0" VM_RP_VC_HOST="vcenter01.tech.local" VM_RP_VC_PORT="443" VM_RP_VC_USER="tec
h\administrator" VM_RP_VC_PWD="p@ssw0rd" VM_BACKUP_ADD_LATER="0" VM_BACKUP_ADD
_TYPE="0" VM_BACKUP_ADD_NAME="backup01.tech.local" VM_BACKUP_ADD_USER="tech\joh
n.smith" VM_BACKUP_ADD_PWD="p@ssw0rd"
```

Reporter Web UI

To install Veeam ONE Reporter Web UI, use a command with the following syntax:

```
msiexec.exe [/L*v "<path_to_log>"] /qn /i "<path_to_msi>" [ACCEPT_THIRDPARTY_LICENSES="1"] [ACCEPT_EULA="1"] [VM_RP_SERVICEACCOUNT="<Veeam_One_Service_Account>"] [VM_RP_SERVICEPASSWORD="<Veeam_One_Service_Account_Password>"] [VM_RP_SQL_SERVER="<SQL_server>"] [VM_RP_SQL_DATABASE="<database_name>"] [VM_RP_SQL_AUTHENTICATION="0"] [VM_RP_SQL_USER="<SQL_auth_username>"] [VM_RP_SQL_PASSWORD="<SQL_auth_password>"] [VM_RP_IIS_SITE_PORT="<reporter_site_port>"] [RP_THUMBPRINT="reporter_site_certificate"] [VO_INSTALLATION_TYPE="0"]
```

The command has the following parameters:

Option	Parameter	Required	Description
/L	*v logfile	No	<p>Creates an installation log file with the verbose output.</p> <p>Specify an existing path to the log file as the parameter value. A setup log file created during the previous installation is cleared.</p> <p>Example: <i>/L *v "C:\ProgramData\Veeam\Setup\Temp\Logs\ReporterWEBSetup.txt"</i></p>
/q	n	Yes	<p>Sets the user interface level to "no", which means no user interaction is needed during installation.</p>
/i	setup file	Yes	<p>Installs Reporter Web UI. Specify a full path to the setup file as the parameter value.</p> <p>Example: <i>/i "C:\Veeam\Reporter\VeeamONE.Reporter.WebUI.x64.msi"</i></p>
ACCEPT_THIRDPARTY_LICENSES	0/1	Yes	<p>Specifies if you want to accept the terms of the license agreement for the 3rd party components. Specify 1 if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_THIRDPARTY_LICENSES="1"</i></p>
ACCEPT_EULA	0/1	Yes	<p>Specifies if you want to accept the terms of the Veeam license agreement.</p> <p>Specify 1 if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_EULA="1"</i></p>

Option	Parameter	Required	Description
VM_RP_SERVICEACCOUNT	user	Yes	<p>Specifies a user account that will be used to access Veeam ONE database from the Web UI in the Microsoft Windows authentication mode.</p> <p>Example: <code>VM_RP_SERVICEACCOUNT="ONESERVER\Administrator"</code></p>
VM_RP_SERVICEPASSWORD	password	Yes	<p>This parameter must be used if you have specified the <code>VM_RP_SERVICEACCOUNT</code> parameter.</p> <p>Specifies a password for the account that will be used to access Veeam ONE database from the Web UI.</p> <p>Example: <code>VM_RP_SERVICEPASSWORD="p@sswOrd"</code></p>
VM_RP_SQL_SERVER	SQL server\instance	No	<p>Specifies a Microsoft SQL server and instance on which the Veeam ONE database is deployed. By default, Veeam ONE uses the <code>LOCALHOST VEEAMSQL2016</code> server.</p> <p>Example: <code>VM_RP_SQL_SERVER="ONESERVER VEEAMSQL2016_MY"</code></p>
VM_RP_SQL_DATABASE	database	No	<p>Specifies a name of the Veeam ONE database, by default, VeeamOne.</p> <p>Example: <code>VM_RP_SQL_DATABASE="VeeamOneDB"</code></p>
VM_RP_SQL_AUTHENTICATION	0/1	No	<p>Specifies if you want to use the Microsoft SQL Server authentication mode to connect to the Microsoft SQL Server where the Veeam ONE database is deployed. Specify 1 to use the SQL Server authentication mode. If you do not use this parameter, Veeam ONE Reporter will connect to the Microsoft SQL Server in the Microsoft Windows authentication mode (default value, 0).</p> <p>Together with this parameter, you must specify the following parameters: <code>VM_RP_SQL_USER</code> and <code>VM_RP_SQL_PASSWORD</code>.</p> <p>Example: <code>VM_RP_SQL_AUTHENTICATION="1"</code></p>

Option	Parameter	Required	Description
VM_RP_SQL_USER	user	No	<p>This parameter must be used if you have specified the <i>VM_RP_SQL_AUTHENTICATION</i> parameter.</p> <p>Specifies a LoginID to connect to the Microsoft SQL Server in the SQL Server authentication mode.</p> <p>Example: <i>VM_RP_SQL_USER="sa"</i></p>
VM_RP_SQL_PASSWORD	password	No	<p>This parameter must be used if you have specified the <i>VM_RP_SQL_AUTHENTICATION</i> parameter.</p> <p>Specifies a password to connect to the Microsoft SQL Server in the SQL Server authentication mode.</p> <p>Example: <i>VM_RP_SQL_PASSWORD="p@sswOrd"</i></p>
VM_RP_IIS_SITE_PORT	port	No	<p>Specifies a port that will be used by the Reporter website. By default, port number 1239 is used.</p> <p>Example: <i>VM_RP_IIS_SITE_PORT="1239"</i></p>
RP_THUMBPRINT	hash	No	<p>Specifies the certificate to be used by the Reporter website. If this parameter is not specified, a new certificate will be generated by <i>openssl.exe</i>.</p> <p>Example: <i>RP_THUMBPRINT="0677d0b8f27cacc966b15d807b41a101587b488"</i></p>
VO_INSTALLATION_TYPE	0, 1 or 2	No	<p>Specifies the mode in which Veeam ONE will collect data from virtual infrastructure and Veeam Backup & Replication servers. Specify 1 to use the Optimized for Advanced Scalability Deployment mode. Specify 2 to use The Backup Data Only mode. If you do not use this parameter, Veeam ONE will collect data in the Optimized for Typical Deployment mode (default value, 0). For details, see Choose Data Collection Mode.</p> <p>Example: <i>VO_INSTALLATION_TYPE="2"</i></p>

Example

Suppose you want to install Reporter Web UI with the following configuration:

- Installation log location: *C:\ProgramData\Veeam\Setup\Temp\Logs\ReporterWEBSetup.txt*
- No user interaction
- Path to the MSI file: *C:\Veeam\Reporter\VeeamONE.Reporter.WebUI.x64.msi*

- Accept 3rd party license agreement
- Accept Veeam license agreement
- Service user account: *ONESERVER\Administrator*
- Service user account password: *p@ssw0rd*
- SQL Server instance and database name: default
- Reporter website port: default
- Reporter website certificate: generate new
- Data collection mode: Optimized for Typical Deployment

The command to install Reporter Web UI with such configuration will have the following parameters:

```
msiexec.exe /L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\ReporterWEBSetup.txt" /qn /i "C:\Veeam\Reporter\VeeamONE.Reporter.WebUI.x64.msi" ACCEPT_THIRDPARTY_LICENSES="1" ACCEPT_EULA="1" VM_RP_SERVICEACCOUNT="ONESERVER\Administrator" VM_RP_SERVICEPASSWORD="p@ssw0rd" VM_RP_IIS_SITE_PORT="1239" VO_INSTALLATION_TYPE="0"
```

Monitor Client

To install Veeam ONE Monitor client, use a command with the following syntax:

```
msiexec.exe [/L*v "<path_to_log>"] /qn /i "<path_to_msi>" [ACCEPT_THIRDPARTY_LICENSES="1"] [ACCEPT_EULA="1"] [VM_CLN_SERVER_NAME="<monitor_server_address>"]
```

The command has the following parameters:

Option	Parameter	Required	Description
/L	*v logfile	No	Creates an installation log file with the verbose output. Specify an existing path to the log file as the parameter value. A setup log file created during the previous installation is cleared. Example: <i>/L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\MonitorClientSetup.txt"</i>
/q	n	Yes	Sets the user interface level to "no", which means no user interaction is needed during installation.

Option	Parameter	Required	Description
/i	setup file	Yes	Installs Veeam ONE Monitor Client. Specify a full path to the setup file as the parameter value. Example: <i>/i "C:\Veeam\Monitor\VeeamONE.Monitor.Client.x64.msi"</i>
ACCEPT_THIRDPARTY_LICENSES	0/1	Yes	Specifies if you want to accept the terms of the license agreement for the 3rd party components. Specify 1 if you want to accept the terms and proceed with installation. Example: <i>ACCEPT_THIRDPARTY_LICENSES="1"</i>
ACCEPT_EULA	0/1	Yes	Specifies if you want to accept the terms of the Veeam license agreement. Specify 1 if you want to accept the terms and proceed with installation. Example: <i>ACCEPT_EULA="1"</i>
VM_CLN_SERVER_NAME	server name or address	No	Specifies FQDN or IP address of the server where Veeam ONE Monitor is deployed. Example: <i>VM_CLN_SERVER_NAME="oneserver.tech.local"</i>

Example

Suppose you want to install Monitor Client with the following configuration:

- Installation log location: *C:\ProgramData\Veeam\Setup\Temp\Logs\MonitorClientSetup.txt*
- No user interaction
- Path to the MSI file: *C:\Veeam\Monitor\VeeamONE.Monitor.Client.x64.msi*
- Accept 3rd party license agreement
- Accept Veeam license agreement
- Veeam ONE Monitor server: *oneserver.tech.local*

The command to install Monitor Client with such configuration will have the following parameters:

```
msiexec.exe /L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\MonitorClientSetup.txt"
/qn /i "C:\Veeam\Monitor\VeeamONE.Monitor.Client.x64.msi" ACCEPT_THIRDPARTY_LICENSES="1" ACCEPT_EULA="1" VM_CLN_SERVER_NAME="oneserver.tech.local"
```

Veeam ONE Agent

To install Veeam ONE agent, use a command with the following syntax:

```
msiexec.exe [/L*v "<path_to_log>"] /qn /i "<path_to_msi>" [ACCEPT_THIRDPARTY_LICENSES="1"] [ACCEPT_EULA="1"] [VO_AGENT_TYPE="1"] [VO_AGENT_SERVICE_ACCOUNT_NAME="<Veeam_One_Service_Account>"] [VO_AGENT_SERVICE_ACCOUNT_PASSWORD="<Veeam_One_Service_Account_Password>"] [VO_BUNDLE_INSTALLATION="1"] [VO_AGENT_SERVICE_PORT="<agent_port>"]
```

IMPORTANT!

Veeam ONE agent server must be installed on the machine that runs Veeam ONE Monitor server.

The command has the following parameters:

Option	Parameter	Required	Description
/L	*v logfile	No	<p>Creates an installation log file with the verbose output.</p> <p>Specify an existing path to the log file as the parameter value. A setup log file created during the previous installation is cleared.</p> <p>Example: <i>/L *v "C:\ProgramData\Veeam\Setup\Temp\Logs\Monitor ClientSetup.txt"</i></p>
/q	n	Yes	<p>Sets the user interface level to "no", which means no user interaction is needed during installation.</p>
/i	setup file	Yes	<p>Installs Veeam ONE Monitor Client. Specify a full path to the setup file as the parameter value.</p> <p>Example: <i>/i "C:\Veeam\Monitor\veeam_monitor_cln_x64.msi"</i></p>
ACCEPT_THIRDPARTY_LICENSES	0/1	Yes	<p>Specifies if you want to accept the terms of the license agreement for the 3rd party components. Specify 1 if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_THIRDPARTY_LICENSES="1"</i></p>

Option	Parameter	Required	Description
ACCEPT_EULA	0/1	Yes	<p>Specifies if you want to accept the terms of the Veeam license agreement.</p> <p>Specify 1 if you want to accept the terms and proceed with installation.</p> <p>Example: <i>ACCEPT_EULA="1"</i></p>
VO_AGENT_TYPE	0/1	Yes	<p>Specifies the mode in which Veeam ONE agent will run. Specify 1 if you want to install Veeam ONE agent server. Specify 0 if you want to install Veeam ONE agent client.</p> <p>Example: <i>VO_AGENT_TYPE = "1"</i></p>
VO_AGENT_SERVICE_ACCOUNT_NAME	user	Yes	<p>Specifies a user account under which the Veeam ONE Agent service will run.</p> <p>Example: <i>VO_AGENT_SERVICE_ACCOUNT_NAME="ONESERVER Administrator"</i></p>
VO_AGENT_SERVICE_ACCOUNT_PASSWORD	password	Yes	<p>This parameter must be used if you have specified the <i>VO_AGENT_SERVICE_ACCOUNT_NAME</i> parameter.</p> <p>Specifies a password for the account that will be used to run Veeam ONE Agent.</p> <p>Example: <i>VO_AGENT_SERVICE_ACCOUNT_PASSWORD="p@sswOrd"</i></p>
VO_BUNDLE_INSTALLATION	0/1	Yes	<p>This parameter must be used if you have specified 1 for the <i>VO_AGENT_TYPE</i> parameter.</p> <p>Specify 1 to let Veeam ONE Monitor Service know about the installed Veeam ONE agent server.</p>
VO_AGENT_SERVICE_PORT	port	No	<p>Specifies a port that will be used by Monitor to communicate with Veeam ONE Agent. By default, port number 2805 is used.</p> <p>Example: <i>VO_AGENT_SERVICE_PORT="2805"</i></p>

Example

Suppose you want to install Monitor Client with the following configuration:

- Installation log location: *C:\ProgramData\Veeam\Setup\Temp\Logs\AgentSetup.txt*
- No user interaction
- Path to the MSI file: *C:\Veeam\Monitor\VeeamONE.Agent.x64.msi*
- Accept 3rd party license agreement
- Accept Veeam license agreement
- Agent mode: server
- Service user account: *ONESERVER\Administrator*
- Service user account password: *p@ssw0rd*
- Veeam ONE Agent communication port: default

The command to install Veeam ONE Agent with such configuration will have the following parameters:

```
msiexec.exe /L*v "C:\ProgramData\Veeam\Setup\Temp\Logs\AgentSetup.txt" /qn /i "C:\Veeam\Monitor\VeeamONE.Agent.x64.msi" ACCEPT_THIRDPARTY_LICENSES="1" ACCEPT_EULA="1" VO_AGENT_TYPE="1" VO_BUNDLE_INSTALLATION="1" VO_AGENT_SERVICE_ACCOUNT_NAME="ONESERVER\Administrator" VO_AGENT_SERVICE_ACCOUNT_PASSWORD="p@ssw0rd"
```

Accessing Veeam ONE Monitor and Reporter

To access Veeam ONE Monitor and Reporter, take the following steps.

Veeam ONE Monitor

To access Veeam ONE Monitor:

1. Log on to the machine where Veeam ONE Monitor Client is installed.
2. In Microsoft Windows Programs menu, choose **Veeam ONE Monitor**.
3. In the authentication window, specify the name of a server where the Veeam ONE Server component runs. Type credentials of a user account under which you want to connect to Veeam ONE Monitor. To connect using credentials of a Windows user account under which you are logged on to the machine, select the **Use Windows session authentication** check box.

The user account must either:

- Be a member of the *Veeam ONE Administrators* or *Veeam ONE Read-Only Users* group. For details on user groups, see [Security Groups](#).

This prerequisite applies to VMware vSphere and Microsoft Hyper-V platforms.

- Have permissions assigned on objects in the vCenter Server or vCloud Director inventory hierarchy. For details, see [Veeam ONE Multi-Tenant Monitoring and Reporting](#).

This prerequisite applies to the VMware vSphere platform only.

4. Click **Connect**.

Other Ways to Access Veeam ONE Monitor

To speed up the time it takes to access Veeam ONE Monitor, you can launch it without the necessity to specify user credentials in the authentication window.

- To launch Veeam ONE Monitor under the account of a user that is currently logged to the machine, in the command shell call the `Monitor.exe` file residing in the installation directory with the `/currentuser` parameter. For example:

```
"C:\Program Files\Veeam\Veeam ONE\Veeam ONE Monitor Client\Monitor.exe"  
/currentuser
```

- To launch Veeam ONE Monitor with explicit user credentials, in the command shell call the `Monitor.exe` file residing in the installation directory with the `/username` and `/password` parameters. For example:

```
"C:\Program Files\Veeam\Veeam ONE\Veeam ONE Monitor Client\Monitor.exe"  
/username tech\john.smith /password PaSSw0rd
```

You can save this type of commands as a Windows shortcut and use it to access Veeam ONE Monitor.

Veeam ONE Reporter

To access Veeam ONE Reporter:

1. Open the Veeam ONE Reporter website using one of the following options:
 - Access Veeam ONE Reporter from the Veeam ONE Monitor console. To do this, on the toolbar click **Report** and choose the necessary report in the list.
 - Access Veeam ONE Reporter locally, on the machine where the Veeam ONE Web UI component is installed. To do this, in Microsoft Windows Programs menu choose **Veeam ONE Reporter**.
 - Access Veeam ONE Reporter remotely using your web browser. To do this, browse to the URL of the Veeam ONE Reporter website. This website runs on the machine where the Veeam ONE Web UI component is installed. The URL must look similar to the following one (assuming you use the default website port 1239):

`https://webserver.domain.tld:1239`

Note that Veeam ONE Reporter is available over HTTPS.

2. Type credentials of a user account under which you want to connect to Veeam ONE Reporter.

The user account must either:

- Be a member of the *Veeam ONE Administrators* or *Veeam ONE Read-Only Users* group. For details on user groups, see [Security Groups](#).

This prerequisite applies to VMware vSphere and Microsoft Hyper-V platforms.

- Have permissions assigned on objects in the vCenter Server or vCloud Director inventory hierarchy. For details, see [Veeam ONE Multi-Tenant Monitoring and Reporting](#).

This prerequisite applies to the VMware vSphere platform only.

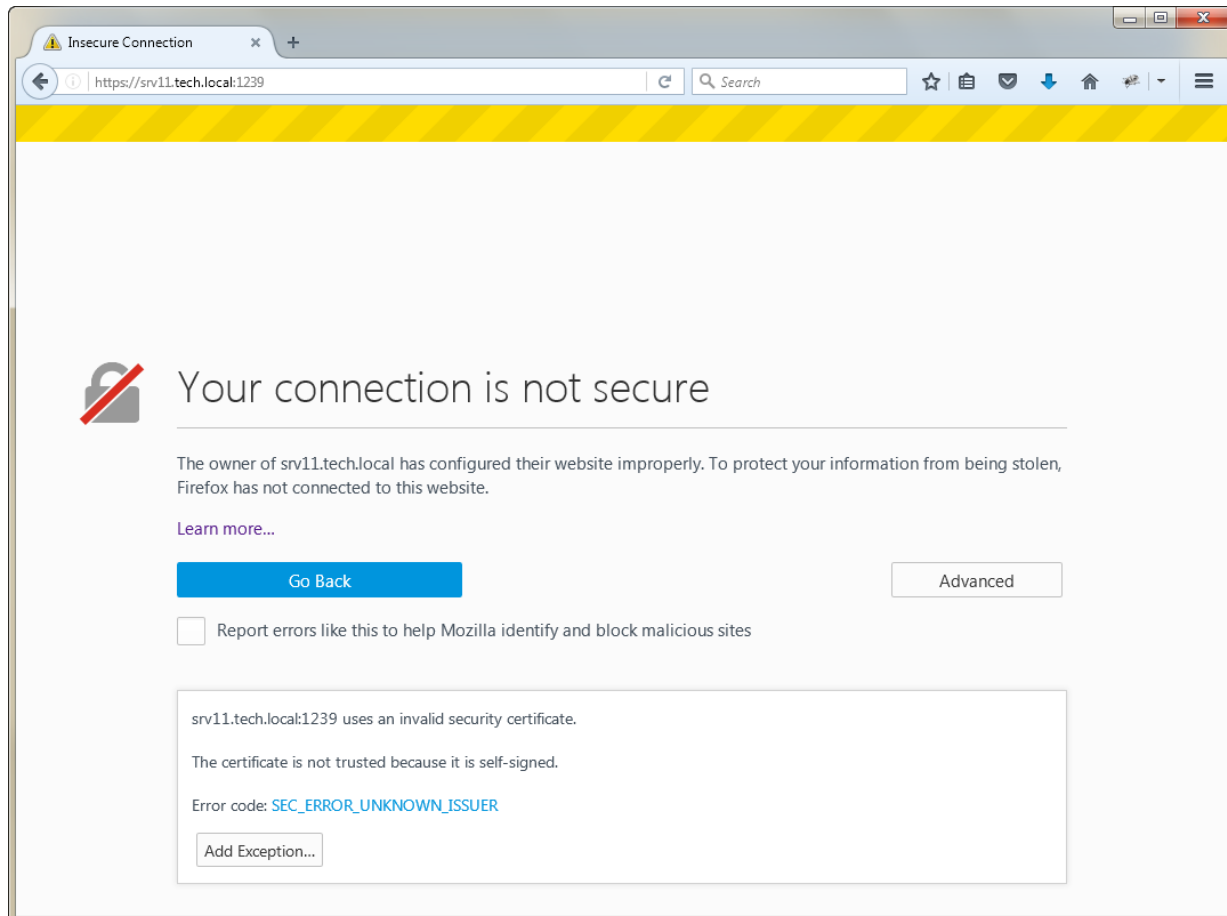
[For Internet Explorer] To connect using credentials of a Windows user account under which you are logged on to the machine, select the **Use Windows session authentication** check box. Make sure that the **Automatic logon with current user name and password** feature is enabled. For details, see [KB2192](#).

3. If you log in for the first time, configure your browser settings:
 - Make sure that pop-up windows are allowed for the Veeam ONE Reporter website.
 - [For Internet Explorer] Add the Veeam ONE Reporter website to the list of *'Trusted sites'*.

Configuring Trusted Connection

Veeam ONE uses TLS to ensure secure data communication between Veeam ONE Reporter website and a web browser.

In case you installed a self-signed certificate, when you try to access Veeam ONE Reporter from a remote machine, the browser will display a warning notifying that the connection is untrusted (although it is secured with TLS).



To eliminate the warning, import the self-signed certificate to client machines (the machines from which you plan to access the Veeam ONE Reporter website).

For details on importing TLS certificates, see this [Microsoft KB article](#).

Configuring Veeam ONE

To start working with Veeam ONE, perform a number of steps for its initial configuration:

1. [Connect servers you plan to monitor.](#)

Connect Veeam Backup & Replication, VMware vSphere, vCloud Director and Microsoft Hyper-V servers.

This step is not required if you have already connected the default virtual infrastructure and backup infrastructure servers during Veeam ONE installation.

2. [Choose objects to monitor and report on.](#)

By default, Veeam ONE collects data for all child objects of connected servers. You can change the data collection scope and choose to monitor and report on only specific hosts, datastores and VMs.

3. [Configure notification settings.](#)

Specify notification settings to stay aware of all important events and changes that happen in the virtual and backup environment.

4. [Check data collection schedule for Veeam ONE Reporter.](#)

Check and if necessary adjust data collection schedule for Veeam ONE Reporter.

5. [Add users to Veeam ONE security groups.](#)

Add to Veeam ONE security groups users who must have access to Veeam ONE Monitor and Reporter functionality.

Connecting Servers

To collect information about your virtual infrastructure and track the efficiency of VM data protection, you must configure connections to VMware vSphere, vCloud Director, Microsoft Hyper-V virtual management servers and Veeam Backup & Replication servers in Veeam ONE Monitor. Configured connection settings are automatically propagated to all Veeam ONE components.

Note that if you have already connected servers during Veeam ONE installation, you do not need to connect them again.

You can connect the following types of servers:

- [VMware vSphere Servers](#)
- [vCloud Director Servers](#)
- [Microsoft Hyper-V Servers](#)
- [Veeam Backup & Replication Servers](#)

Before You Begin

Before you configure server connections, check these requirements:

- Supported versions of virtual platforms
- Supported versions and editions of Veeam Backup & Replication
- Requirements to accounts used for collecting data
- Ports that must be open to allow Veeam ONE collect data from connected servers

For details, see section [Deployment Planning and Preparation](#).

Connecting VMware vSphere Servers

To collect data about VMware vSphere infrastructure objects, you must configure connections to infrastructure servers in Veeam ONE Monitor. You can connect the following types of servers:

- vCenter Servers
- Standalone ESXi hosts

To configure a connection to a VMware vSphere server, take the following steps.

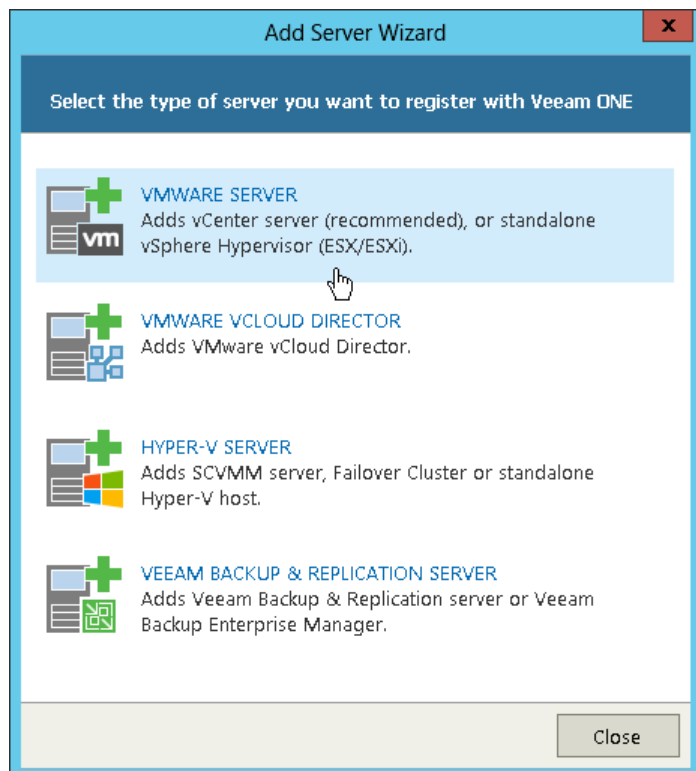
Step 1. Launch Add Server Wizard

To launch the **Add Server** wizard, open Veeam ONE Monitor and do one of the following:

- Click the **Add Server** button on the toolbar.
- Press [CTRL+I] on the keyboard.
- At the bottom of the inventory pane, open the **Infrastructure View**, right-click the **Virtual Infrastructure** node and choose **Add Server** from the shortcut menu.

Step 2. Choose Server Type

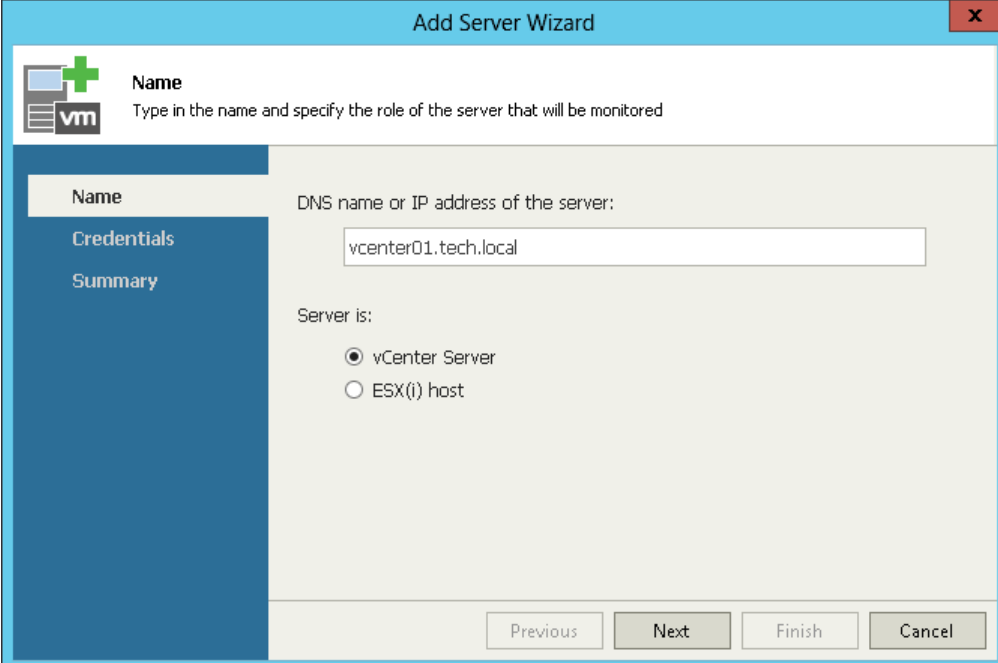
At the first step of the wizard, click **VMware Server**.



Step 3. Specify Server Name and Role

At the **Name** step of the wizard:

1. Specify DNS name or IP address of the server that you want to connect.
2. Specify the server role – vCenter Server or a standalone ESXi host.



Add Server Wizard

Name
Type in the name and specify the role of the server that will be monitored

Name
DNS name or IP address of the server:
vcenter01.tech.local

Server is:
☒ vCenter Server
☐ ESX(i) host

Previous Next Finish Cancel

Step 4. Specify Credentials

At the **Credentials** step of the wizard:

1. Specify credentials of the user account for connecting the server.

For vCenter Server, the user name must be specified in the `DOMAIN\USERNAME` format. For details on account permissions, see [Connection to Virtual Servers](#).

2. Change the port number if required.

By default, port 443 is used for communication with VMware vSphere servers.

Add Server Wizard

Credentials
Provide user credentials to connect to the specified server

✓ **Name**

Credentials

Summary

Type in user credentials in the `DOMAIN\USERNAME` format to connect to the server:

Username:

Password:

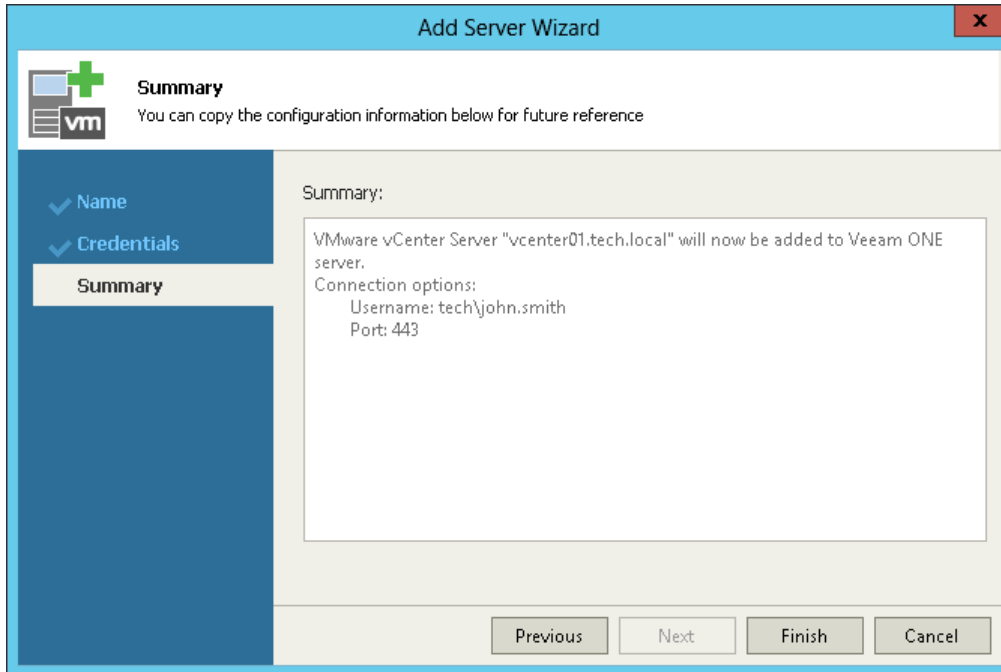
Port:

Previous Next Finish Cancel

Step 5. Review Connection Settings

At the **Summary** step of the wizard, review the connection details and click **Finish**.

Note that it may take a while for Veeam ONE to collect and display data for the connected server and its child objects.



Step 6. Specify VM Guest OS Credentials

After you connect one or more VMware vSphere servers, you must specify credentials of an account that will be used to collect data from Windows-based guest OSes on VMs. If you do not specify guest OS credentials, Veeam ONE will use connection credentials to display guest OS data in monitoring dashboards, alarms and reports.

You can specify the account credentials for VM guest OS at the following levels of the VMware vSphere infrastructure:

- VMware vSphere infrastructure
- VM containers, such as hosts and clusters
- Individual VMs

If you specify guest OS account credentials at multiple levels, Veeam ONE will use the following order of priority: VM > VM containers > VMware vSphere infrastructure. For example, if account credentials are specified both at the VM and VM container level, Veeam ONE will collect guest OS data using an account set at the VM level.

Specifying Account Credentials for VMware vSphere Infrastructure

You can specify account credentials at the level of the VMware vSphere infrastructure. Veeam ONE will use this account to connect to all VMs running on VMware vSphere hosts unless you specify other credentials for specific VMs or VM containers.

To specify account credentials for all VMs in the VMware vSphere infrastructure:

1. Open Veeam ONE Monitor.
2. On the toolbar, click **Options** and select **Server Settings**.
Alternatively, press the [CTRL+S] on the keyboard.
3. In the **Server Settings** window, open the **Credentials** tab.
4. Specify guest OS credentials:

- In the **Linux Guest OS Credentials** section, specify the login and password of an account that will be used to collect data from the guest OS of Linux-based VMs.

In the **Port** field, change the default connection port if required.

- In the **Windows Guest OS Credentials** section, specify the login and password of an account that will be used to collect data from the guest OS of Windows-based VMs.

5. Click **OK**.

Server Settings

SMTP Settings | Notification Policy | SNMP | **Credentials** | Monitored Datastores | Monitored VMs | Business View | Other

Linux VMs Guest OS Credentials:
Manage accounts with local administration privileges on Linux Virtual Machines you want to collect guest OS data from. Clear

Login:

Password:

Port (for Linux VMs only):

Windows VMs Guest OS Credentials:
Manage accounts with local administration privileges on Windows Virtual Machines you want to collect guest OS data from. Clear

Login:

Password:

i To set different credentials on individual objects right-click on the object and choose "Guest OS credentials..."

OK Cancel

Specifying Account Credentials VMs

You can specify account credentials at the level of specific VMs or VM containers. This can be helpful if an account specified at the level of the VMware vSphere infrastructure does not have enough permissions on specific VMs or VM containers.

To specify account credentials for individual VMs or VM containers:

1. Open Veeam ONE Monitor.
2. At the bottom of the inventory pane, click **Infrastructure View**.
3. Right-click the necessary VM and select **Guest OS Credentials** from the shortcut menu.
4. In the **Guest OS Credentials** window, specify credentials of an account that will be used to collect guest OS data from VMware vSphere VMs.
5. Click **OK**.

Connecting vCloud Director Servers

To collect data about vCloud Director infrastructure objects, you must configure connections to vCloud Director servers in Veeam ONE Monitor.

To configure a connection to a vCloud Director server, take the following steps.

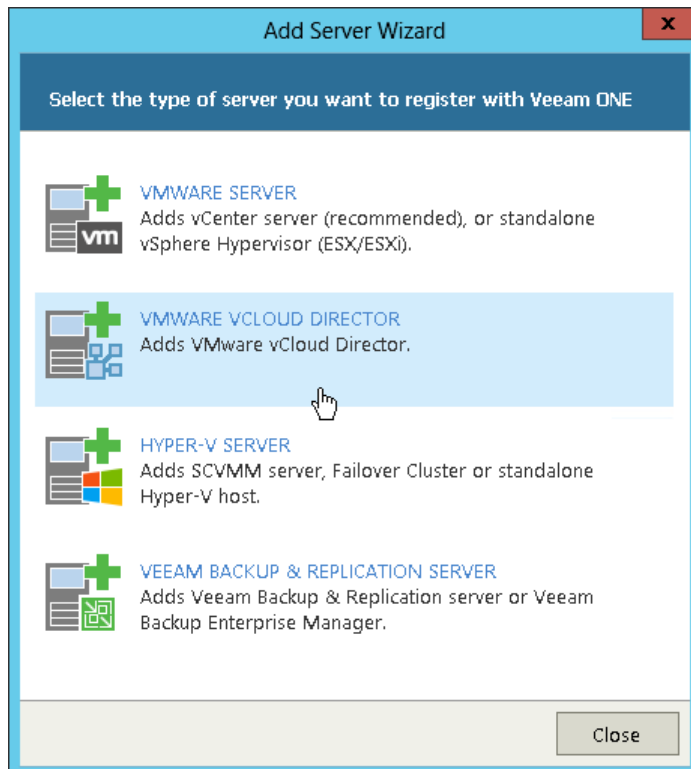
Step 1. Launch Add Server Wizard

To launch the **Add Server** wizard, open Veeam ONE Monitor and do one of the following:

- Click the **Add Server** button on the toolbar.
- Press [CTRL+I] on the keyboard.
- At the bottom of the inventory pane, open the vCloud Director View, right-click the **vCloud Infrastructure** node and choose **Add Server**.

Step 2. Choose Server Type

At the first step of the wizard, click **VMware vCloud Director**.

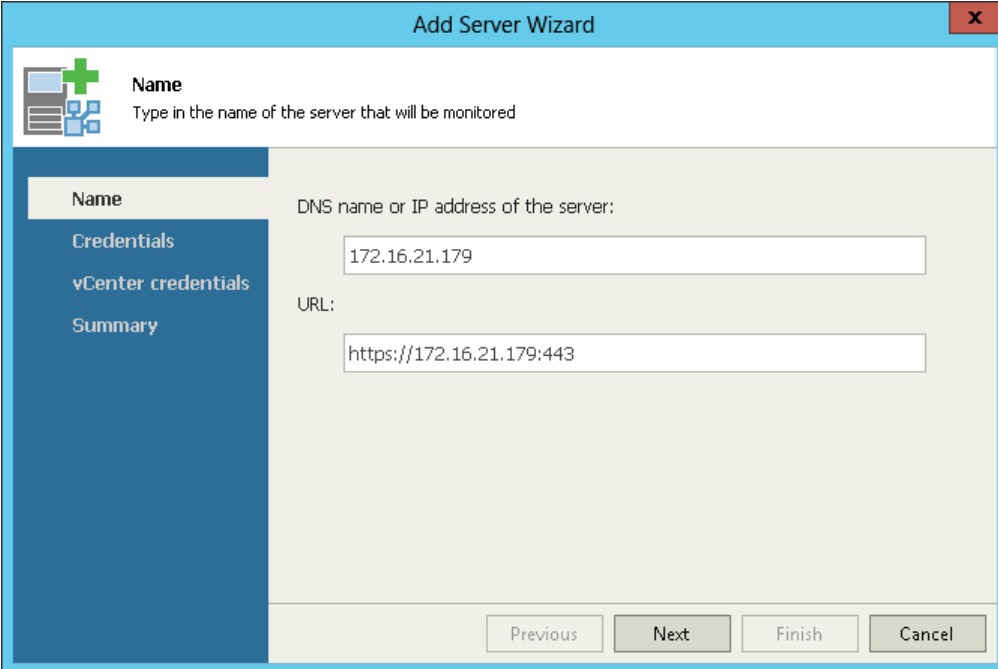


Step 3. Specify Server Name

At the **Name** step of the wizard:

1. Enter DNS or IP address of the vCloud Director server that you want to connect.
2. Change vCloud Director URL if required.

Veeam ONE populates the **URL** field with a URL used for connecting to the vCloud Director server. The URL format is `https://<vcdservername>:443`, where `<vcdservername>` is the DNS name or IP address of the vCloud Director server, and 443 is the default port. If you use port number other than 443, you can change it in the **URL** field.



The screenshot shows the 'Add Server Wizard' window with the 'Name' step selected. The window has a blue title bar and a sidebar on the left with four items: 'Name' (selected), 'Credentials', 'vCenter credentials', and 'Summary'. The main area contains two text input fields. The first field is labeled 'DNS name or IP address of the server:' and contains the text '172.16.21.179'. The second field is labeled 'URL:' and contains the text 'https://172.16.21.179:443'. At the bottom of the window, there are four buttons: 'Previous', 'Next', 'Finish', and 'Cancel'.

Step 4. Specify Credentials for vCloud Director

At the **Credentials** step of the wizard, specify credentials for the user account for connecting to the vCloud Director server.

Add Server Wizard

Credentials

Provide user credentials to connect to the specified server

✓ Name

Credentials

vCenter credentials

Summary

Type in user credentials in the DOMAIN\USERNAME format to connect to the server:

Username:

tech\john.smith

Password:

••••••••

Previous

Next

Finish

Cancel

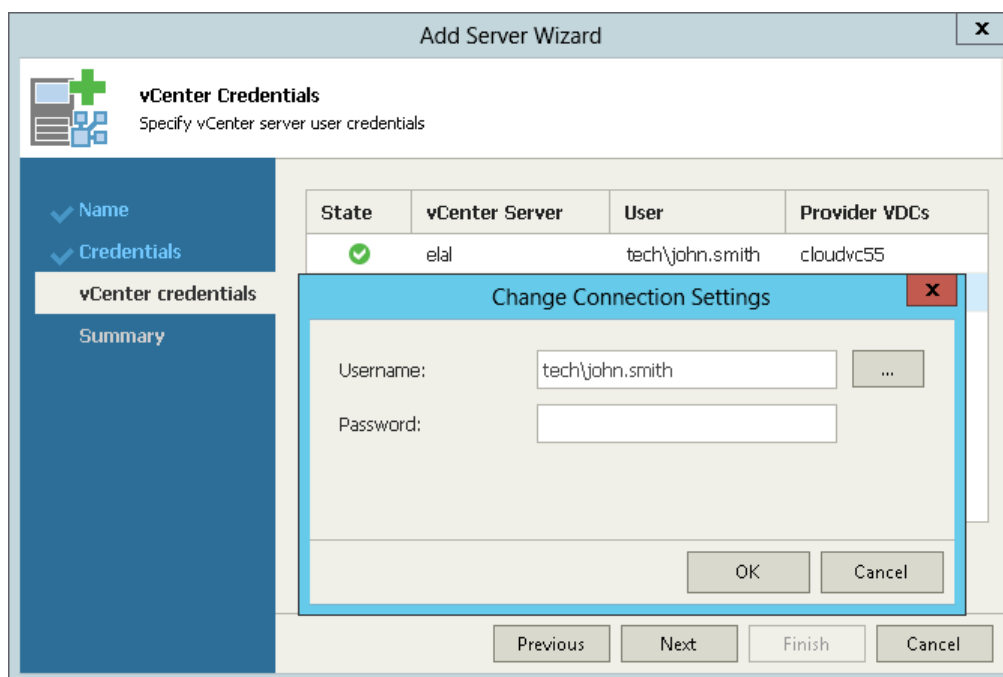
Step 5. Specify Credentials for Underlying vCenter Servers

At the **vCenter Credentials** step of the wizard, specify credentials for each vCenter Server attached to vCloud Director. By default, Veeam ONE uses the same credentials that you have specified at the [Credentials](#) step of the wizard. However, if the underlying vCenter Servers must be connected under another user account, you can set the credentials for each vCenter Server manually:

1. In the **vCenter Credentials** list, select a vCenter Server.
2. Click **Set User** and specify credentials to connect to the vCenter Server.

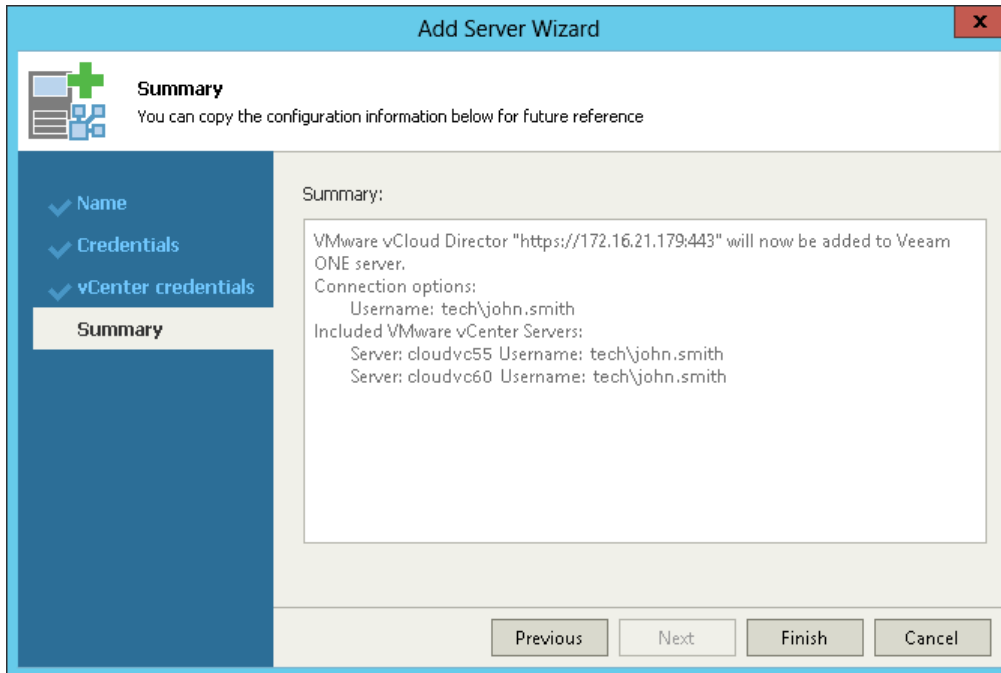
Click the browse button to the right of the **Username** field to search for a local or domain user or group.

3. Repeat steps 1-2 for all vCenter Servers attached to vCloud Director.
4. To test if connection settings are configured correctly, click the **Check Connection** button. Veeam ONE Monitor will attempt to establish connection with the vCenter Servers using the provided credentials.



Step 6. Review Connection Settings

At the **Summary** step of the wizard, review the connection details and click **Finish**.



The vCloud Director hierarchy will become available in the **vCloud Director View**. Note that it may take a while for Veeam ONE to collect and display data for the newly added vCloud Director and its child objects.

When you connect vCloud Director, Veeam ONE also connects underlying vCenter Servers and initiates data import. vCenter Servers become available in the Infrastructure View, and you can work with them as with regular VMware vSphere infrastructure servers. If the vCenter Server attached to vCloud Director is already connected, Veeam ONE will simply create an association between the vCloud Director hierarchy and the vCenter Server.

Connecting Microsoft Hyper-V Servers

To collect data about Microsoft Hyper-V infrastructure objects, you must configure connections to Microsoft Hyper-V servers in Veeam ONE Monitor. You can connect the following types of servers:

- SCVMM server
- Failover clusters
- Standalone Hyper-V hosts

NOTE:

If you plan to connect an SCVMM server, make sure that SCVMM Admin Console is installed on the machine where you installed the Veeam ONE Server component. The version of the SCVMM Admin Console must be the same as the version of SCVMM server you are adding. For details, see section [System Requirements](#).

To configure a connection to a Microsoft Hyper-V server, take the following steps.

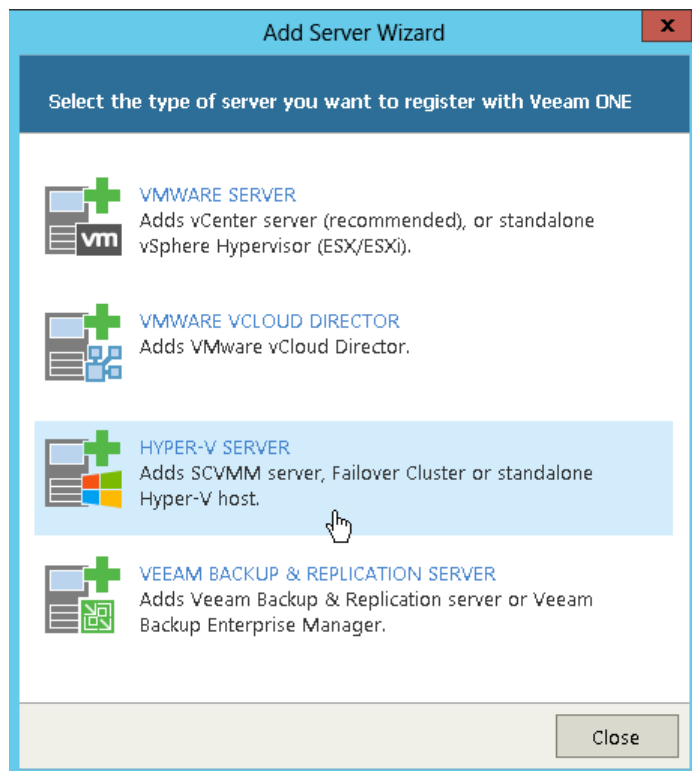
Step 1. Launch Add Server Wizard

To launch the **Add Server** wizard, open Veeam ONE Monitor and do one of the following:

- Click the **Add Server** button on the toolbar.
- Press [CTRL+I] on the keyboard.
- At the bottom of the inventory pane, open the **Infrastructure View**, right-click the **Virtual Infrastructure** node and choose **Add Server** from the shortcut menu.

Step 2. Choose Server Type

At the first step of the wizard, click **Hyper-V Server**.



Step 3. Specify Server Name and Role

At the **Name** step of the wizard:

1. Enter DNS name or IP address of the server that will be connected to Veeam ONE Monitor.
2. Specify the server type – SCVMM server, failover cluster or standalone host.

Add Server Wizard

Name
Type in the name and specify the role of the server that will be monitored

Name
DNS name or IP address of the server:
cluster01.tech.local

Server is:

☐ SCVMM Server
☒ Failover Cluster
☐ Hyper-V host

Previous Next Finish Cancel

Step 4. Specify Credentials

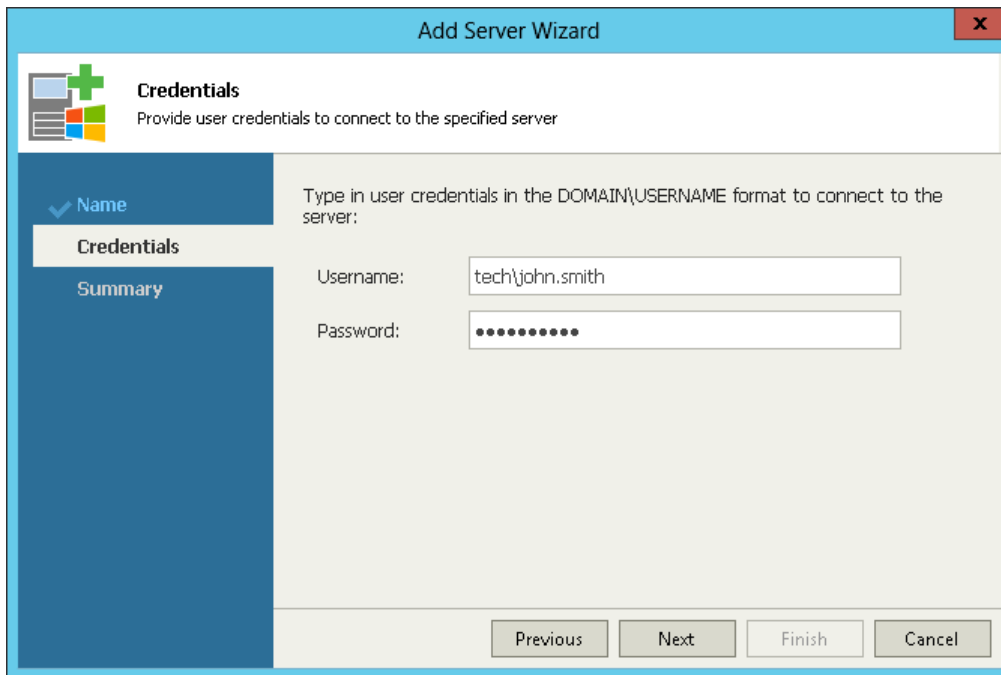
At the **Credentials** step of the wizard:

1. Specify credentials of the user account for connecting to the server.

The user name must be specified in the `DOMAIN\USERNAME` format.

2. [For SCVMM connection] Change the port number if required.

By default, port `8100` is used as the VMM Administrator Console to VMM server port.



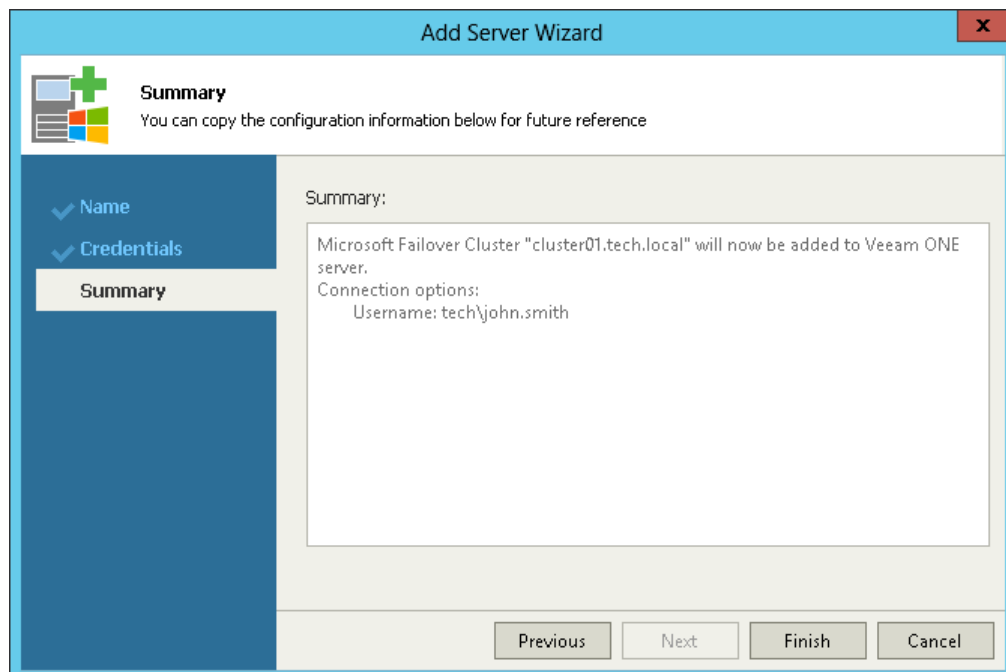
After you connect the first Microsoft Hyper-V server, Veeam ONE will open the **Server Settings** window prompting you to specify credentials for accessing the guest OS of Microsoft Hyper-V VMs. If you have already specified the credentials, the window will not be displayed.

For details, see [Step 6. Specify VM Guest OS Credentials](#).

Step 5. Review Connection Settings

At the **Summary** step of the wizard, review the connection details and click **Finish**.

Note that it may take a while for Veeam ONE to collect and display the collected data for the newly added SCVMM server, failover cluster or host and its child objects.



Step 6. Specify VM Guest OS Credentials

After you connect one or more Microsoft Hyper-V servers, you must specify credentials of an account that will be used to collect data from Windows-based guest OSes on VMs. If you do not specify guest OS credentials, Veeam ONE will use connection credentials to display guest OS data (in particular, data about guest disks) in monitoring dashboards, alarms and reports.

You can specify the account credentials for VM guest OS at the following levels of the Microsoft Hyper-V infrastructure:

- Microsoft Hyper-V infrastructure
- VM containers, such as hosts and clusters
- Individual VMs

If you specify guest OS account credentials at multiple levels, Veeam ONE will use the following order of priority: VM > VM container > Microsoft Hyper-V infrastructure. For example, if account credentials are specified both at the VM and VM container level, Veeam ONE will collect guest OS data using an account set at the VM level.

Specifying Account Credentials for Microsoft Hyper-V Infrastructure

You can specify account credentials at the level of the Microsoft Hyper-V infrastructure. Veeam ONE will use this account to connect to all VMs running on Microsoft Hyper-V hosts unless you specify other credentials for specific VMs or VM containers.

To specify account credentials for all VMs in the Microsoft Hyper-V infrastructure:

1. Open Veeam ONE Monitor.
2. On the toolbar, click **Options** and select **Server Settings**.
Alternatively, press the [CTRL+S] on the keyboard.
3. In the **Server Settings** window, open the **Credentials** tab.
4. Specify guest OS credentials:
 - In the **Linux Guest OS Credentials** section, specify the login and password of an account that will be used to collect data from the guest OS of Linux-based VMs.
In the **Port** field, change the default connection port if required.
 - In the **Windows Guest OS Credentials** section, specify the login and password of an account that will be used to collect data from the guest OS of Windows-based VMs.

Credentials must be specified in the *DOMAIN\Username* format. For details on requirements to the account, see [Connection to Microsoft Hyper-V VM Guest OS](#).

5. Click **OK**.

Server Settings

SMTP Settings | Notification Policy | SNMP | **Credentials** | Monitored Datastores | Monitored VMs | Business View | Other

Linux VMs Guest OS Credentials:
Manage accounts with local administration privileges on Linux Virtual Machines you want to collect guest OS data from. Clear

Login:

Password:

Port (for Linux VMs only):

Windows VMs Guest OS Credentials:
Manage accounts with local administration privileges on Windows Virtual Machines you want to collect guest OS data from. Clear

Login:

Password:

i To set different credentials on individual objects right-click on the object and choose "Guest OS credentials..."

OK Cancel

Specifying Account Credentials for Containers and VMs

You can specify account credentials at the level of specific VMs or VM containers. This can be helpful if an account specified at the level of the Microsoft Hyper-V infrastructure does not have enough permissions on specific VMs or VM containers.

To specify account credentials for individual VMs or VM containers:

1. Open Veeam ONE Monitor.
2. At the bottom of the inventory pane, click **Infrastructure View**.
3. Right-click the necessary VM or VM container and select **Guest OS Credentials** from the shortcut menu.
4. In the **Guest OS Credentials** window, specify credentials of an account that will be used to collect guest OS data from Microsoft Hyper-V VMs.
5. Click **OK**.

Connecting Veeam Backup & Replication Servers

To collect data about your backup infrastructure and data protection operations, you must configure connections to Veeam Backup & Replication servers in Veeam ONE Monitor. You can connect the following types of servers:

- Veeam Backup & Replication server to monitor standalone backup servers
- Veeam Backup Enterprise Manager to monitor all backup servers federated under Veeam Backup Enterprise Manager

NOTE:

Before you connect a Veeam Backup & Replication server to Veeam ONE Monitor check that product licenses are compatible. For details on license compatibility, see [Compatibility with Veeam Backup & Replication Licenses](#).

To configure a connection to a Veeam Backup & Replication server, take the following steps.

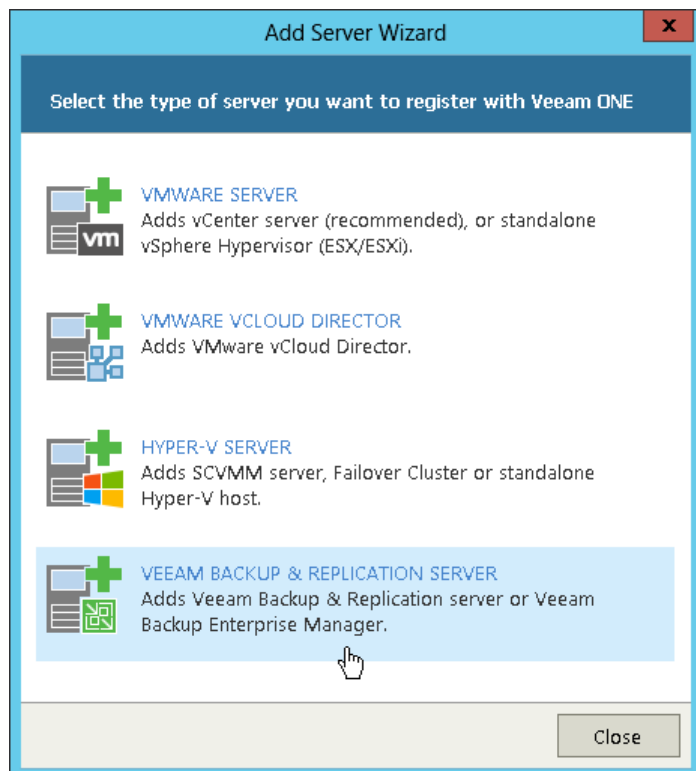
Step 1. Launch Add Server Wizard

To launch the **Add Server** wizard, open Veeam ONE Monitor and do one of the following:

- Click the **Add Server** button on the toolbar.
- Press [CTRL+I] on the keyboard.
- At the bottom of the inventory pane, open the **Data Protection View**, right-click the **Backup Infrastructure** node and choose **Add Server** from the shortcut menu.

Step 2. Choose Server Type

At the first step of the wizard, click **Veeam Backup & Replication Server**.



Step 3. Specify Server Name and Role

At the **Name** step of the wizard:

1. Enter DNS name or IP address of the backup server you want to connect.
2. Specify the server role – Veeam Backup & Replication server or Veeam Backup Enterprise Manager.

If you choose to add Veeam Backup Enterprise Manager, Veeam ONE will automatically connect all Veeam Backup & Replication servers added to the Veeam Backup Enterprise Manager.

3. If you do not want to install Veeam ONE agent on Veeam Backup & Replication server, deselect the **Install Veeam ONE Agent** check box.

You can also change the port number if required. By default, port 2805 is used for communication with Veeam Backup & Replication server.

For details on Veeam ONE agent role and modes, see [Veeam ONE Architecture](#).

Add Server Wizard

Name
Type in the name and specify the role of the server that will be monitored

Name
DNS name or IP address of the server:
backup01.tech.local

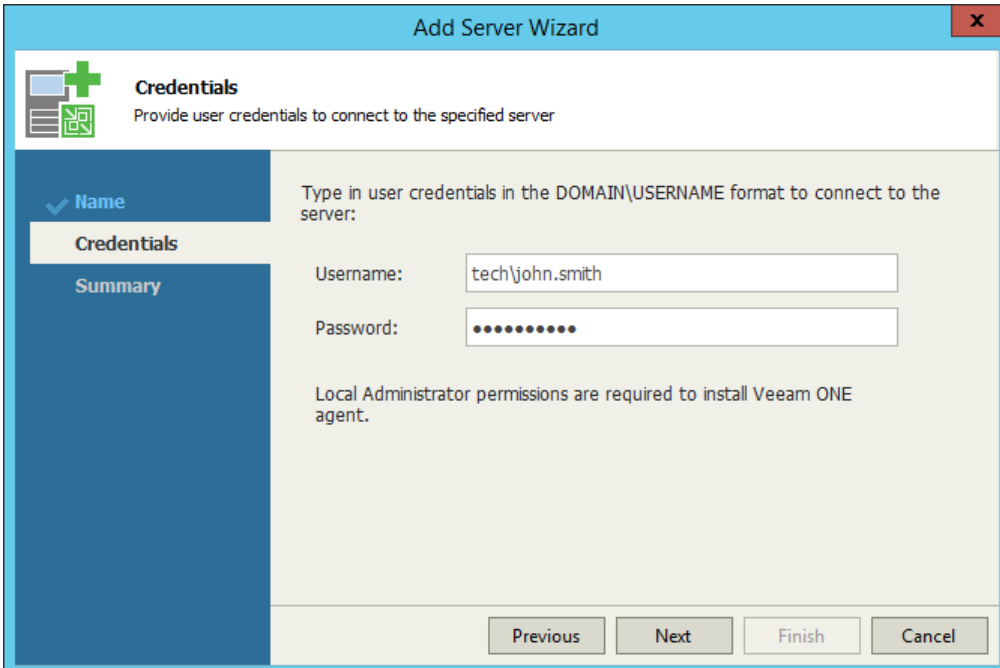
Server is:
☒ Veeam Backup & Replication server
☐ Veeam Backup Enterprise Manager

☒ Install Veeam ONE agent
Agent allows to analyze backup server logs and perform remediation actions
Port number: 2805

Previous Next Finish Cancel

Step 4. Specify Credentials

At the **Credentials** step of the wizard, specify credentials of the user account for connecting to the server. The user name should be specified in the `DOMAIN\USERNAME` format.



The screenshot shows the 'Add Server Wizard' window, specifically the 'Credentials' step. The window has a blue title bar with the text 'Add Server Wizard' and a close button. On the left, there is a sidebar with three items: 'Name' (checked), 'Credentials' (selected), and 'Summary'. The main content area is titled 'Credentials' and has a subtitle 'Provide user credentials to connect to the specified server'. Below this, there is a instruction: 'Type in user credentials in the DOMAIN\USERNAME format to connect to the server:'. There are two input fields: 'Username:' with the text 'tech\john.smith' and 'Password:' with masked characters. Below the input fields, there is a note: 'Local Administrator permissions are required to install Veeam ONE agent.' At the bottom of the window, there are four buttons: 'Previous', 'Next', 'Finish', and 'Cancel'.

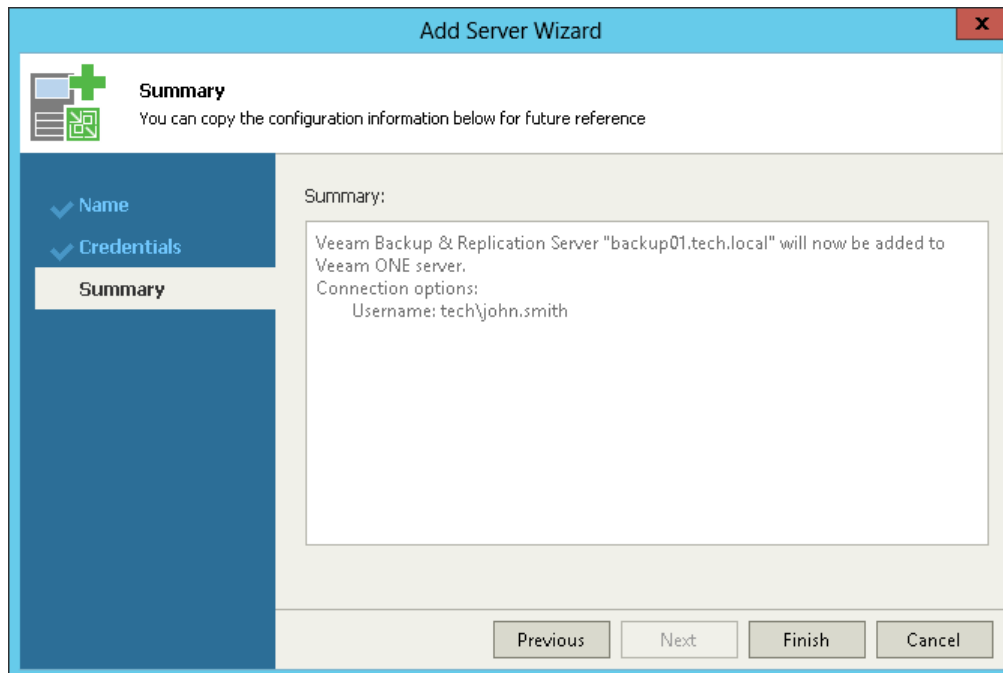
The provided credentials will be used to connect the backup server and all managed servers in the backup infrastructure:

- Veeam Backup & Replication servers (if you connect Veeam Backup Enterprise Manager)
- Backup proxies
- Backup repositories
- WAN Accelerators
- Tape servers
- Cloud Gateways

If the provided user account does not have required permissions on a managed backup infrastructure server, Veeam ONE will fail to connect to this server. In this case, you must provide custom connection credentials manually. For details, see [Connection to Veeam Backup & Replication Servers](#).

Step 5. Review Connection Settings

At the **Summary** step of the wizard, review the connection details and click **Finish**.



Note that it may take a while for Veeam ONE to collect and display configuration and performance data for the newly added backup server and managed backup infrastructure components.

- After you connect a Veeam Backup & Replication server, Veeam ONE imports the following data on job sessions:
 - [For Veeam Backup & Replication 10a] All historical data that is stored on the backup server
 - [For Veeam Backup & Replication 9.5 Update 3a] Historical data for the previous 14 days
 - [For Veeam Backup & Replication 9.5 Update 3] Historical data for the previous 7 days
- After you connect a Veeam Backup Enterprise Manager, Veeam ONE automatically builds the hierarchy of all managed backup servers. Next, it connects managed backup servers and imports from these servers data on job sessions depending on Veeam Backup & Replication version.

Changing Server Connection Settings

In some situations, you might need to change connection settings for a monitored server. Consider the following examples:

- If you need to re-connect a server with another user name and/or password, you can change connection settings for this server.
- If the account you provided for a Veeam backup server does not have sufficient permissions to collect data from all backup infrastructure components, you can set custom connection settings for specific servers in your backup infrastructure.

To change connection settings for a server:

1. Open Veeam ONE Monitor.
2. At the bottom of the inventory pane, click **Infrastructure View**, **vCloud Director View** or **Data Protection View**.
3. In the inventory pane, right-click the server and choose **Connection Settings** from the shortcut menu.
4. Edit the user name, enter the password and/or change the port number (if applicable).

NOTE:

When changing connection settings, mind the following:

- When you change connection settings for a virtual infrastructure server, Veeam ONE disconnects the server and re-connects it with the new settings. When a virtual server is disconnected, previously discovered VMs remain available in the inventory tree. After the server is re-connected, its performance data will be updated. If the connection is not restored, only the history of performance data will be available in Veeam ONE.
- When you change connection settings for a backup server in the Veeam Backup Enterprise Manager hierarchy, a new job is automatically configured in Veeam ONE Reporter to collect data from this backup server.

Removing Server Connections

If you no longer want to monitor a virtual infrastructure or a backup server, you can remove a connection to it in Veeam ONE Monitor.

To remove a server connection:

1. Open Veeam ONE Monitor.
2. At the bottom of the inventory pane, click **Infrastructure View**, **vCloud Director View** or **Data Protection View**.
3. In the inventory pane, right-click the server you want to remove and choose **Remove Server** from the shortcut menu.

After you remove a server connection in Veeam ONE Monitor, connection to this server will be automatically removed in Veeam ONE Reporter.

NOTE:

When removing server connection, mind the following:

- When you remove a server, historical performance and configuration data for the server and its child objects is deleted from the Veeam ONE database.
- When you remove vCloud Director, Veeam ONE withdraws connection to vCloud Director server only. Connections to underlying vCenter Servers are not removed automatically – you must remove these connections manually.

Choosing Objects to Monitor and Report On

After you connect VMware vSphere, vCloud Director, Microsoft Hyper-V or Veeam Backup & Replication servers, Veeam ONE automatically includes in the data collection scope all child objects managed by these servers. If you do not need to monitor and report on all managed objects, you can exclude them from the data collection scope.

Choosing VMs and VM Containers to Monitor and Report On

By default, Veeam ONE collects data about all VMs and VM containers (hosts, clusters, datastores and so on) on connected virtual infrastructure servers. If you do not want to monitor and report on specific VMs or VM containers, you can configure rules to include and exclude VMs and VM containers from the data collection scope.

You can refine the data collection scope with the following types of rules:

- **Inclusion rules** define VMs and VM containers that must be monitored and reported on. Out-of-the-box, Veeam ONE includes a default inclusion rule that adds to the data collection scope all VMs and VM containers on connected servers.
- **Exclusion rules** define VMs and VM containers that must not be monitored and reported on.

To configure an inclusion or exclusion rule, perform the following steps.

Step 1. Disable or Delete the Default Inclusion Rule

If you want to create one or more VM inclusion rules, you must delete or disable the default inclusion rule. Otherwise Veeam ONE will keep collecting data about all VMs and VM containers.

NOTE:

This step is not required if you want to create exclusion rules only.

To delete or disable the default inclusion rule:

1. Open Veeam ONE Monitor.
2. On the toolbar, click **Options** and select **Server Settings**.
Alternatively, press the [CTRL+S] on the keyboard.
3. In the **Server Settings** window, open the **Monitored VMs** tab.
4. In the **VM Monitoring Inclusion Rules** section, delete or disable the default inclusion rule:
 - To disable the default inclusion rule, clear the **Enabled** check box next to the rule.

- To delete the default inclusion rule, select the rule and click **Delete** on the right.

The screenshot shows the 'Server Settings' window with the 'Monitored VMs' tab selected. The window has a blue header bar with a close button (X) in the top right corner. Below the header is a navigation bar with tabs: SMTP Settings, Notification Policy, SNMP, Credentials, Monitored Datastores, **Monitored VMs**, Business View, and Other. The main content area is divided into two sections: 'VM Monitoring Inclusion Rules' and 'VM Monitoring Exclusion Rules'. Each section contains a table with columns: Enabled, Name, Scope, and Description. In the 'Inclusion Rules' table, the 'Default rule' is selected (checked in the 'Enabled' column). To the right of each table are buttons: 'Create New...', 'Edit...', and 'Delete'. At the bottom of the window, it shows 'Selected VMs: 110' and a breakdown: 'vSphere: 110 Hyper-V: 0'. There are 'OK' and 'Cancel' buttons at the bottom right.

Server Settings

SMTP Settings | Notification Policy | SNMP | Credentials | **Monitored Datastores** | **Monitored VMs** | Business View | Other

VM Monitoring Inclusion Rules:

Enabled	Name	Scope	Description
<input checked="" type="checkbox"/>	Default rule	Virtual Infrastructure;	This rule includes all VMs in the in...

Create New...
Edit...
Delete

VM Monitoring Exclusion Rules:

Enabled	Name	Scope	Description
---------	------	-------	-------------

Create New...
Edit...
Delete

Selected VMs: 110
vSphere: 110 Hyper-V: 0

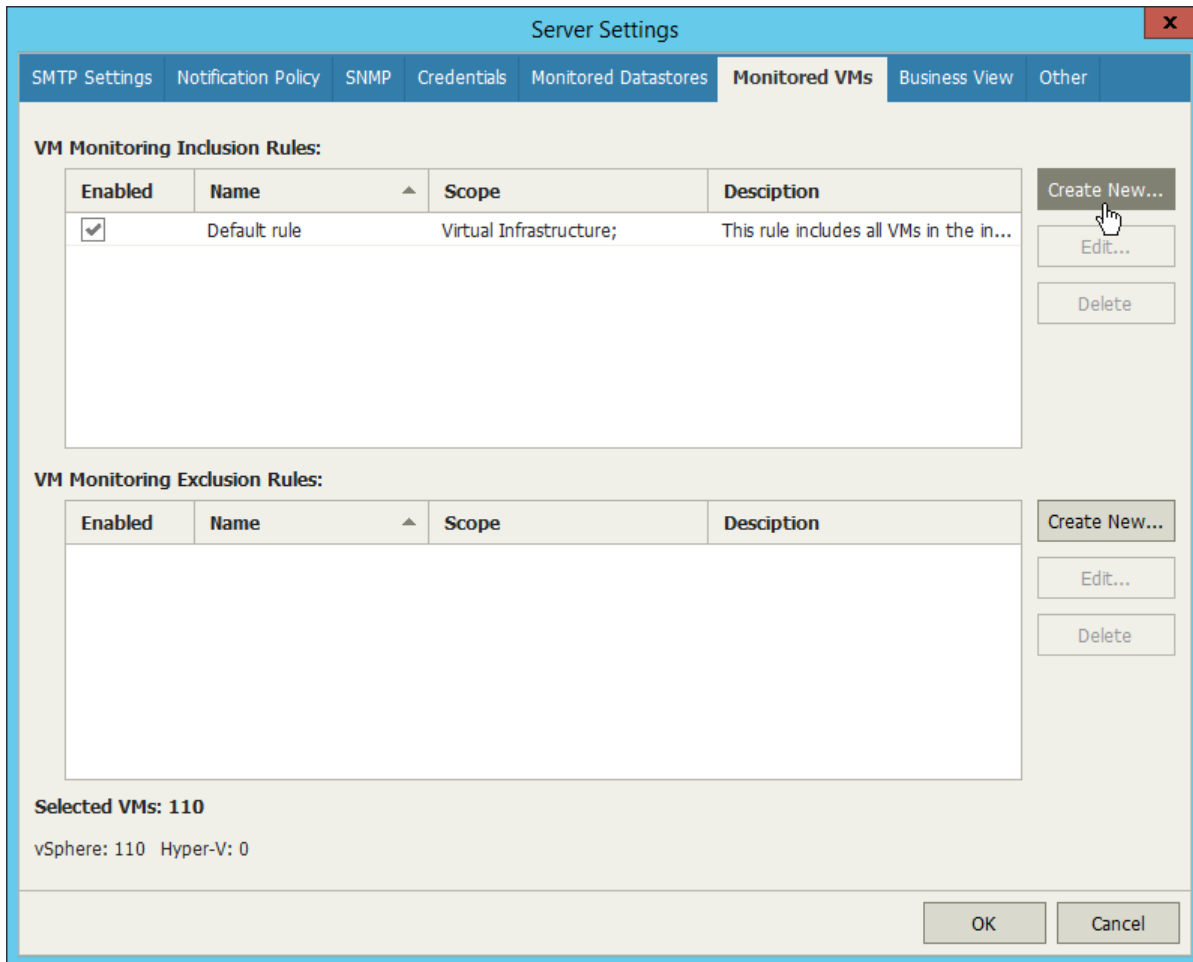
OK Cancel

Step 2. Launch the Monitoring Rule Wizard

Launch the **Monitoring Rule** wizard:

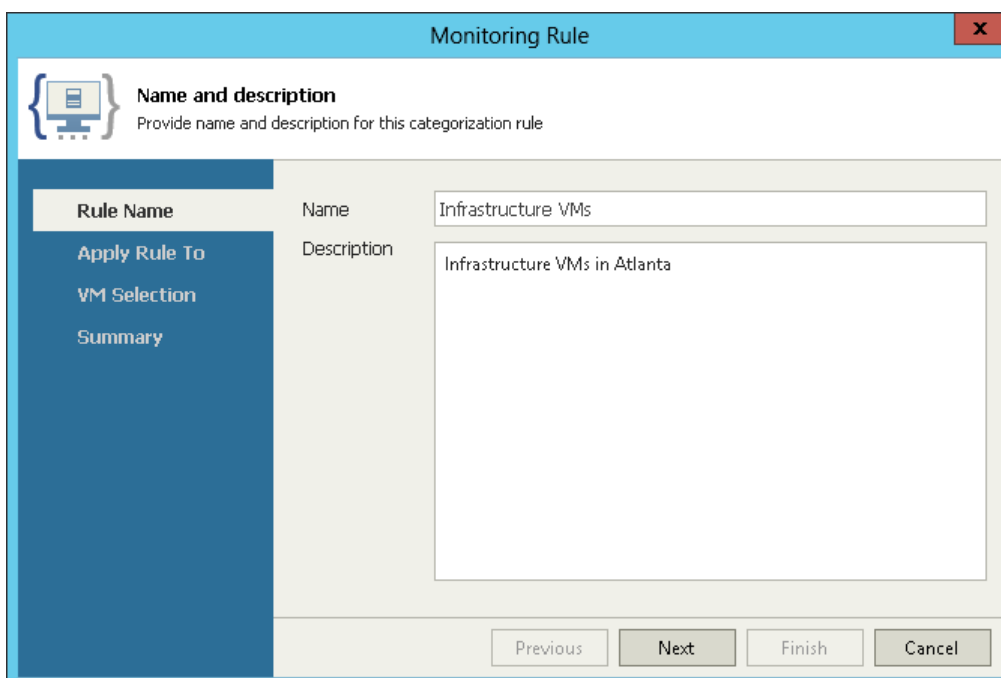
- To create an inclusion rule, in the **VM Monitoring Inclusion Rules** section, click **Create New**.

- To create an exclusion rule, in the **VM Monitoring Exclusion Rules** section, click **Create New**.



Step 3. Specify Rule Name and Description

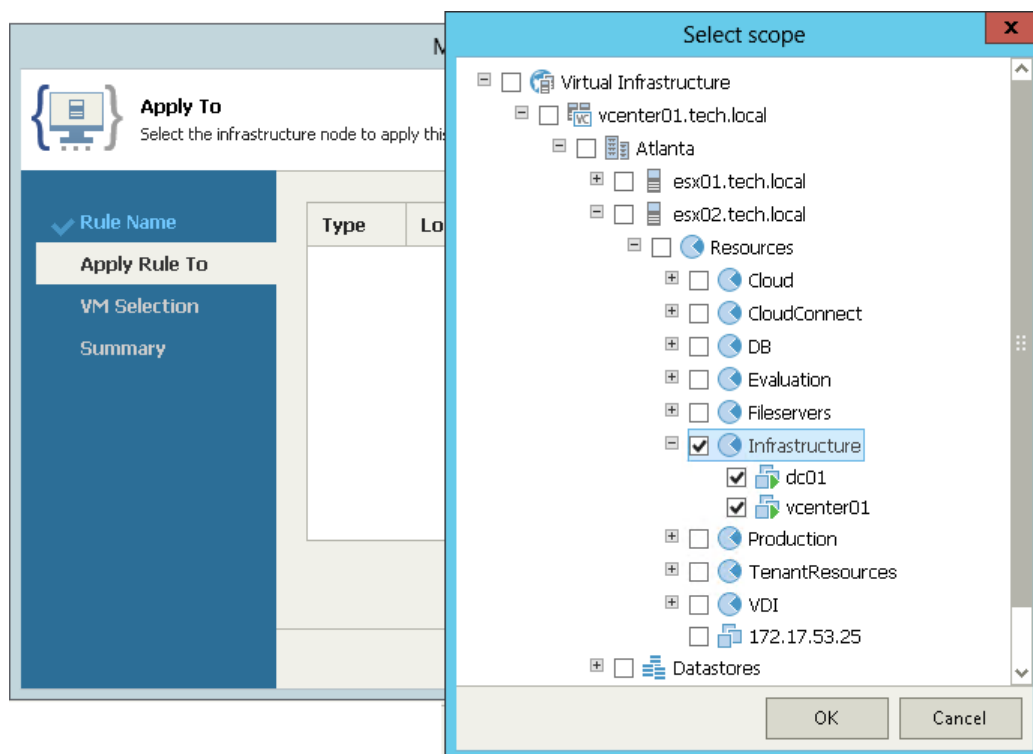
At the **Rule Name** step of the wizard, specify a name and description for the new rule.



Step 4. Add Objects to the Rule

At the **Apply Rule To** step of the wizard, specify the scope of the virtual infrastructure to which the rule must apply:

1. Click **Add** and select *Infrastructure tree*, *Business View* or *vCloud Director View*.
2. In the **Select scope** window, select check boxes next to VM containers to which the rule must apply.
3. Click **OK**.



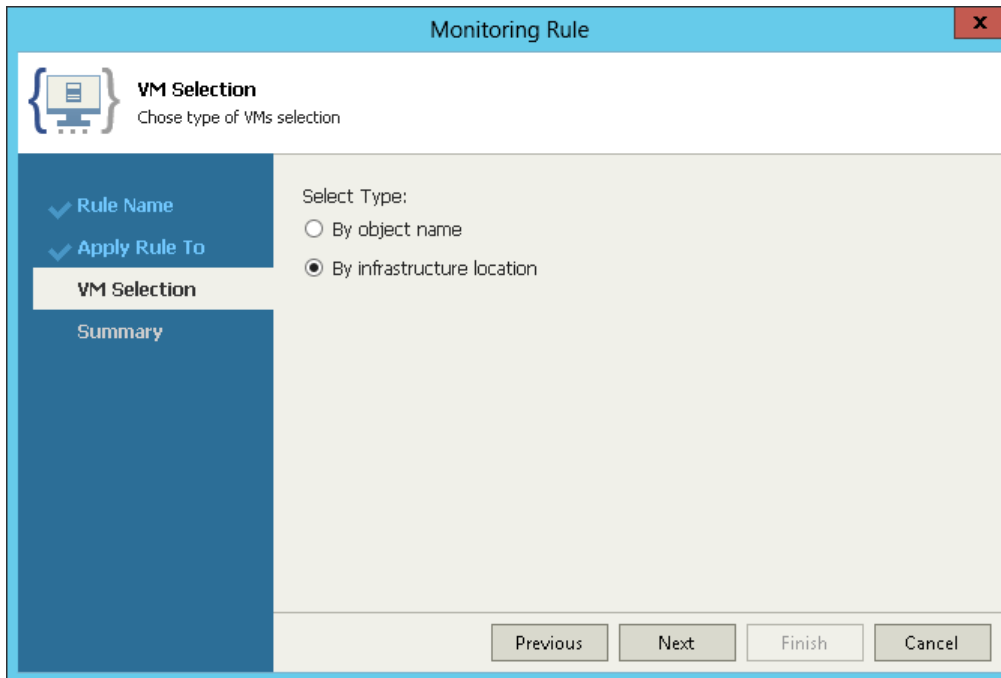
Step 5. Choose VM Selection Criterion

At the **VM Selection** step, choose a criterion according to which VMs and VM containers must be added to the rule:

- **By object name** — select this option if you want to add VMs to the rule based on VM names.

- **By infrastructure location** – select this option if you want to add to the rule VMs that belong to a specific level of the virtual infrastructure hierarchy (the level you specified at the **Apply Rule To** step of the wizard).

You can use this selection criterion to find VMs that belong to a specific cluster, host, datastore or other VM container in the virtual infrastructure hierarchy.



Step 6. Specify Rule Conditions

The **Conditions** step of the wizard appears only if you have selected the **By object name** option at the **VM Selection** step. At this step, configure conditions for adding VMs to the rule by name:

1. Click **Add Condition**.
2. From the **Object name** list, select a condition for adding VMs – *Equals* or *Not Equals*.
3. In the field next to the selected condition, specify the name of VMs to add to the rule.

You can use the '*' (asterisk) and '?' (question mark) wildcards. The '*' (asterisk) character stands for zero or more characters. The '?' (question mark) stands for a single character. For example, if you want to find VM replicas created with Veeam Backup & Replication, you can create a rule with the '*_replica' name query.

4. If you add two or more conditions, link them with Boolean operators. From the **Type** list, select a Boolean operator to link the conditions:
 - **Any condition is true** – if at least one of the specified conditions is met, a VM will be added to the rule.

- **All conditions are true** – if all specified conditions are met, a VM will be added to the rule.

Step 7. Review the Configuration

At the **Summary** step, review the rule configuration and click **Finish** to exit the wizard.

How to Create Inclusion Rule and Add VMs by Name

You can create a rule to include VMs in the data collection scope VMs whose names end with `_srv`:

1. Open Veeam ONE Monitor.
2. On the toolbar, click **Options** and select **Server Settings**.
Alternatively, press the [CTRL+S] on the keyboard.
3. In the **Server Settings** window, open the **Monitored VMs** tab.
4. On the **Monitored VMs** tab, in the **VM Monitoring Inclusion Rules** section, click **Create New**.
5. At the **Rule Name** step of the **Monitoring Rule** wizard, type the rule name. In the **Description** field, type the rule description.
6. At the **Apply Rule To** step of the wizard, click **Add** and select *Infrastructure tree*, *Business View* or *vCloud Director View*. In the **Select scope** window, select check boxes next to containers to which the rule must apply.
7. At the **VM Selection** step of the wizard, choose **By object name**.
8. At the **Conditions** step of the wizard, perform the following steps:
 - a. Click **Add Condition**.
 - b. From the **Object name** list, select the *Equals* condition.

c. In the value field, type the `'*_srv'` query.

This will include in the data collection scope all VMs whose name ends with `'_srv'`.

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

How to Create Exclusion Rule and Add VMs by Location

You can create a rule to exclude from the data collection scope VMs residing on a specific host:

1. Open Veeam ONE Monitor.
2. On the toolbar, click **Options** and select **Server Settings**.
Alternatively, press the [CTRL+S] on the keyboard.
3. In the **Server Settings** window, open the **Monitored VMs** tab.
4. On the **Monitored VMs** tab, in the **VM Monitoring Exclusion Rules** section, click **Create New**.
5. At the **Rule Name** step of the **Monitoring Rule** wizard, type the rule name. In the **Description** field, type the rule description.
6. At the **Apply Rule To** step of the wizard, click **Add** and select *Infrastructure tree*. In the **Select scope** window, select the check box next to the host that must be excluded from the data collection scope.
7. At the **VM Selection** step of the wizard, choose **By infrastructure location**.
8. At the **Summary** step of the wizard, review rule configuration and click **Finish**.

Choosing Datastores to Report On

After you connect a VMware vSphere server in Veeam ONE Monitor, all datastores attached to this server are added to the data collection scope. If you do not need to collect data about specific datastores (for example, local datastores or datastores with ISO images), you can exclude these datastores from the collection scope.

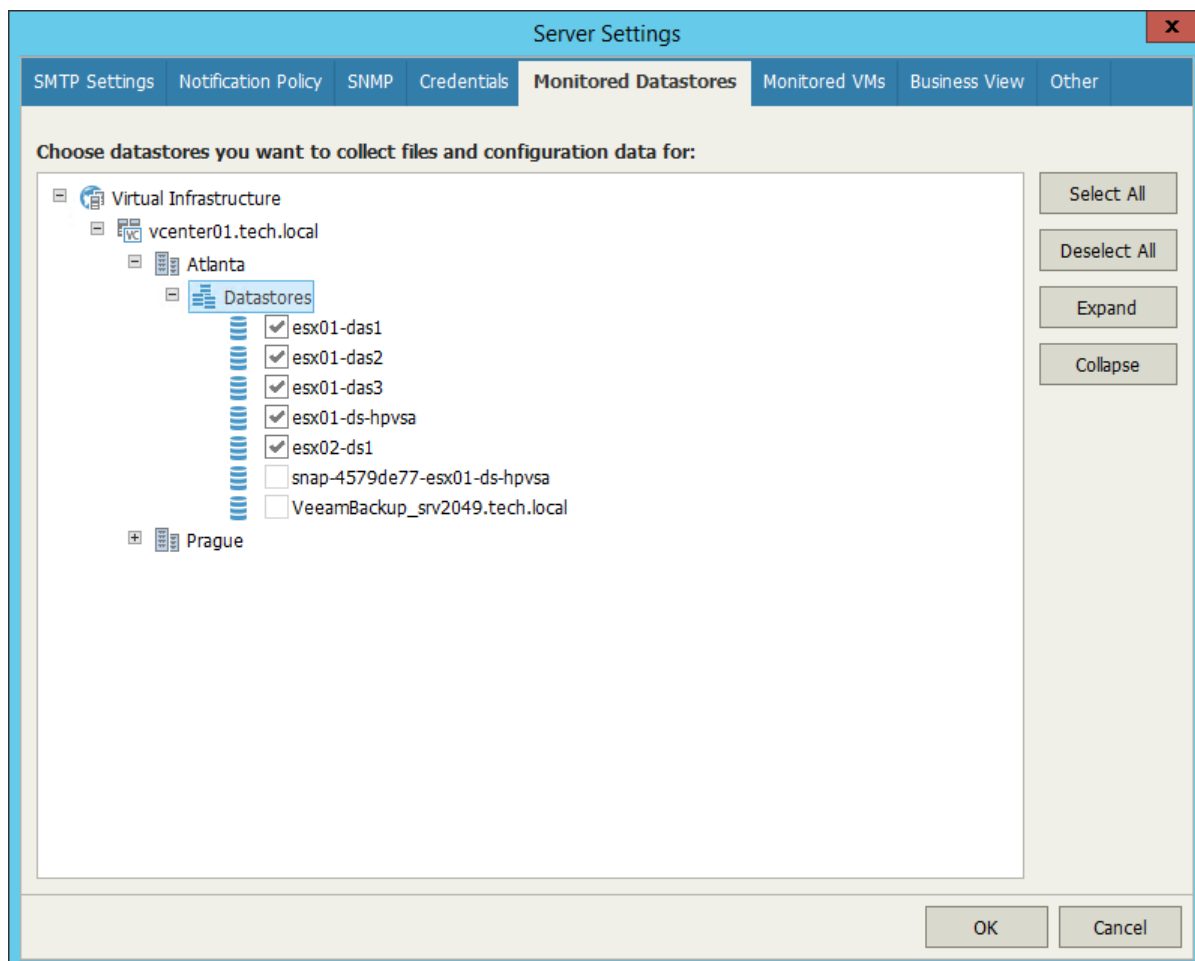
Excluding datastores will accelerate completion of a data collection sessions. Excluded datastores will not be reflected in reports that analyze and list the files residing on datastores (such as the *Garbage Files* and *Idle Templates* reports).

IMPORTANT!

Excluding datastores available for the VMware vSphere platform only.

To exclude one or more datastores from the data collection scope:

1. Open Veeam ONE Monitor.
2. Click **Options** on the toolbar and choose **Server Settings**.
Alternatively, press the [CTRL+S] on the keyboard.
3. In the **Server Settings** window, open the **Monitored Datastores** tab.
4. Expand the virtual infrastructure hierarchy and clear check boxes next to datastores that must be excluded from the data collection scope.
5. Click **OK** to apply changes.



Configuring Notification Settings

When you open Veeam ONE Monitor console for the first time, you will be prompted to configure notification settings in the **Configuration Wizard**.

TIP:

If you want to configure notification settings later, select the **Skip email notifications configuration** check box in the wizard.

To access the wizard later, use the **Notifications** button on the toolbar. Alternatively, you can configure notifications by changing server settings. For details, see section [Veeam ONE Monitor Server Settings](#) of the Veeam ONE Monitor User Guide.

To configure notification settings, take the following steps.

Step 1. Configure SMTP Server Settings

At the **SMTP Server** step of the wizard, configure SMTP server settings. Veeam ONE will use provided SMTP server settings for notifications generated by both Veeam ONE Monitor and Veeam ONE Reporter.

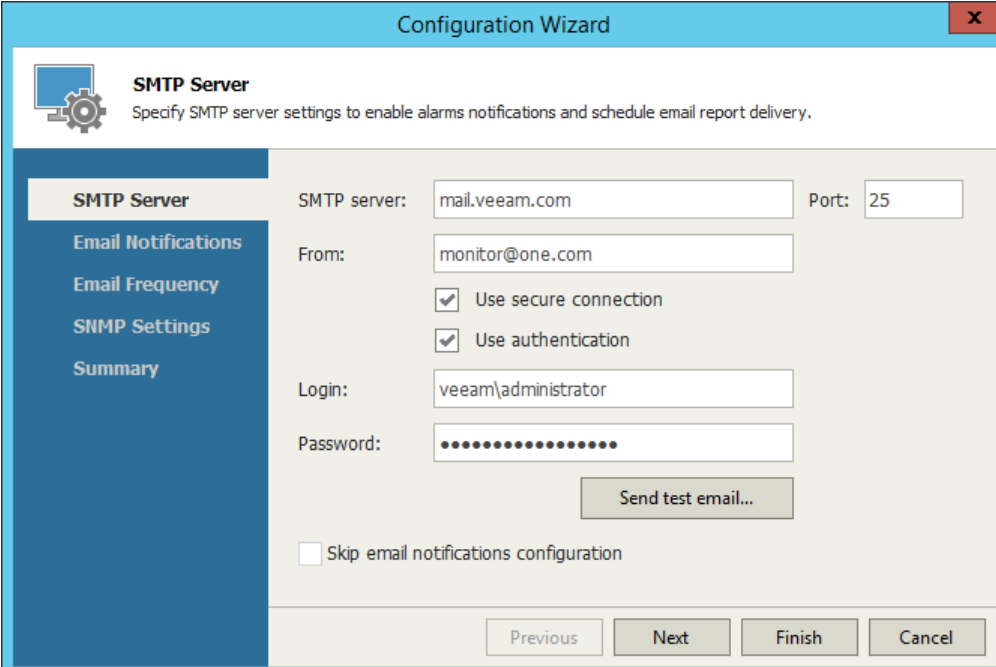
1. In the **SMTP server** field, enter DNS name or IP address of the SMTP server that will be used to send email notifications. All Veeam ONE email notifications (including test messages), automatically generated reports and dashboards will be sent by this SMTP server.

You can change the SMTP communication port if required. The default SMTP port is 25.

2. In the **From** field, enter the email address of the notification sender.

This email address will be displayed in the **From** field of notifications.

3. If your SMTP server requires authentication, select the **Use authentication** check box and specify authentication credentials in the **Login** and **Password** fields.
4. For SMTP server with SSL support, select **Use secure connection** to enable SSL data encryption.

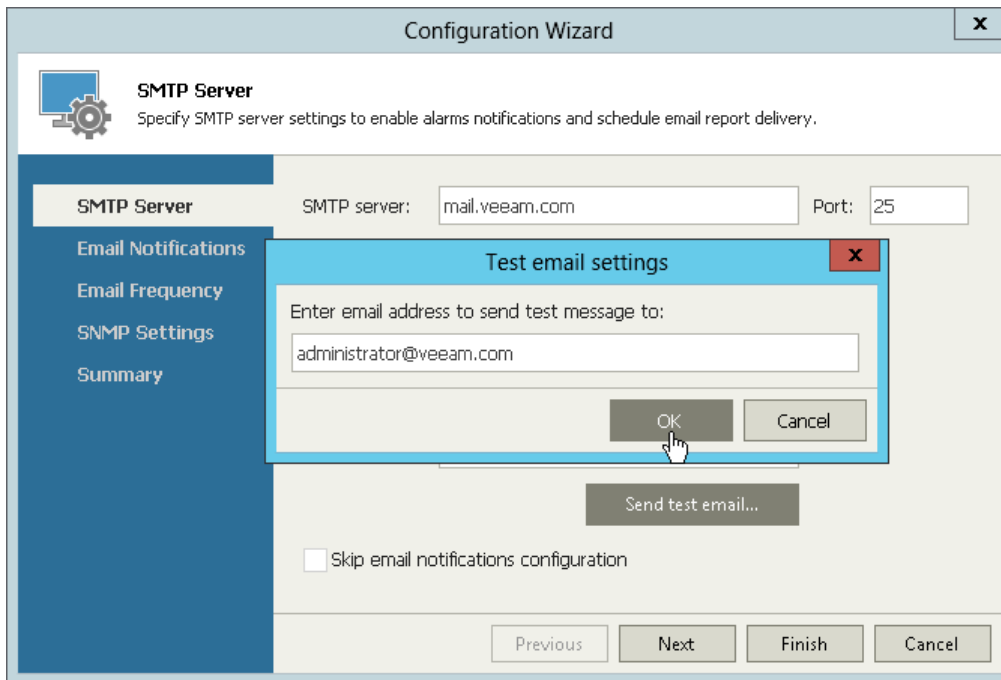
The screenshot shows the 'Configuration Wizard' window with the 'SMTP Server' step selected. The window has a blue header bar with the title 'Configuration Wizard' and a close button. Below the header, there's a sub-header 'SMTP Server' with a gear icon and the instruction 'Specify SMTP server settings to enable alarms notifications and schedule email report delivery.' On the left, a blue sidebar contains a list of steps: 'SMTP Server' (selected), 'Email Notifications', 'Email Frequency', 'SNMP Settings', and 'Summary'. The main area contains several input fields: 'SMTP server:' with the value 'mail.veeam.com', 'Port:' with the value '25', 'From:' with the value 'monitor@one.com', 'Login:' with the value 'veeam\administrator', and 'Password:' with masked characters. There are two checked checkboxes: 'Use secure connection' and 'Use authentication'. A 'Send test email...' button is located below the password field. At the bottom, there's a 'Skip email notifications configuration' checkbox (unchecked) and a row of navigation buttons: 'Previous', 'Next', 'Finish', and 'Cancel'.

You can send out a test email to make sure that SMTP Server settings are configured correctly:

1. Click **Send test email**.
2. Enter an email address at which a test notification should be sent.

3. Click **OK**.

A test email will be sent to the specified email address.



For details on alarm notification settings, see section [Configuring Alarm Notifications](#) of the Veeam ONE Working with Alarms Guide.

Step 2. Configure Email Notification Settings

At the **Email Notifications** step of the wizard, create a list of recipients to include in the default notification group. For every recipient in the group, specify notification conditions.

The default notification group allows you to simplify the process of configuring alarm notification settings. Instead of specifying notification recipients for every alarm, you can create a group of recipients (for example, monitoring operators and administrators) and notify the whole group when an alarm is triggered or when an alarm changes its status.

To add a recipient to the default notification group:

1. In the **Specify email notification recipient to add** field, enter an email address of a recipient and click **Add**.
2. From the **Notification Level** list, choose the severity of notifications that the recipient will receive:
 - **Any state** – an email notification will be sent every time when an alarm status changes to *Error*, *Warning* or *Info*.
 - **Errors and warnings** – an email notification will be sent every time when an alarm status changes to *Error* or *Warning*.
 - **Errors only** – an email notification will be sent every time when an alarm status changes to *Error*.
 - **Resolved** – an email notification will be sent every time when an alarm status changes to *Resolved*.

	Account name	Notification Level
<input checked="" type="checkbox"/>	administrator@veeam.c...	Any state
<input checked="" type="checkbox"/>	backupadmin@veeam.c...	Errors and warnings

To remove a recipient from the list, select an email address in the list and click **Remove**.

To temporarily disable notifications for specific recipients, clear check boxes next to necessary email addresses in the list.

IMPORTANT!

By default, all predefined alarms are configured to notify members of the default notification group in accordance with the specified notification level. After you add recipients to the default notification group, you might need to change alarm settings or adjust the default email notification frequency. For details on alarm settings, see section [Specify Alarm Notification Options](#) of the Veeam ONE Working with Alarms Guide.

Step 3. Configure Email Frequency

At the **Email Frequency** step of the wizard, specify how often Veeam ONE must send email notifications about alarms.

The frequency at which email notifications are sent is defined with the help of notification policies. Veeam ONE offers two notification policies:

- **Mission Critical** — if this notification policy is used, Veeam ONE creates a new email notification for every alarm. You get an instant email notification once a new alarm is triggered, or once alarm status is changed.
- **Other** — if this notification policy is used, Veeam ONE sends out an email notification about alarms once in a specific time interval (by default, once in 30 minutes). You do not receive a separate email notification for every alarm. Instead, every 30 minutes you receive one email notification about all alarms that were triggered or that changed their status since the latest notification.

By default, the **Mission Critical** policy is applied to all objects in your virtual infrastructure, vCloud Director infrastructure and all objects in your backup infrastructure. If necessary, you can apply different notification policy settings to infrastructure objects or Business View groups:

1. Remove effective notification policy settings for chosen infrastructure objects.
2. Apply new notification policy settings to chosen infrastructure objects or Business View groups.

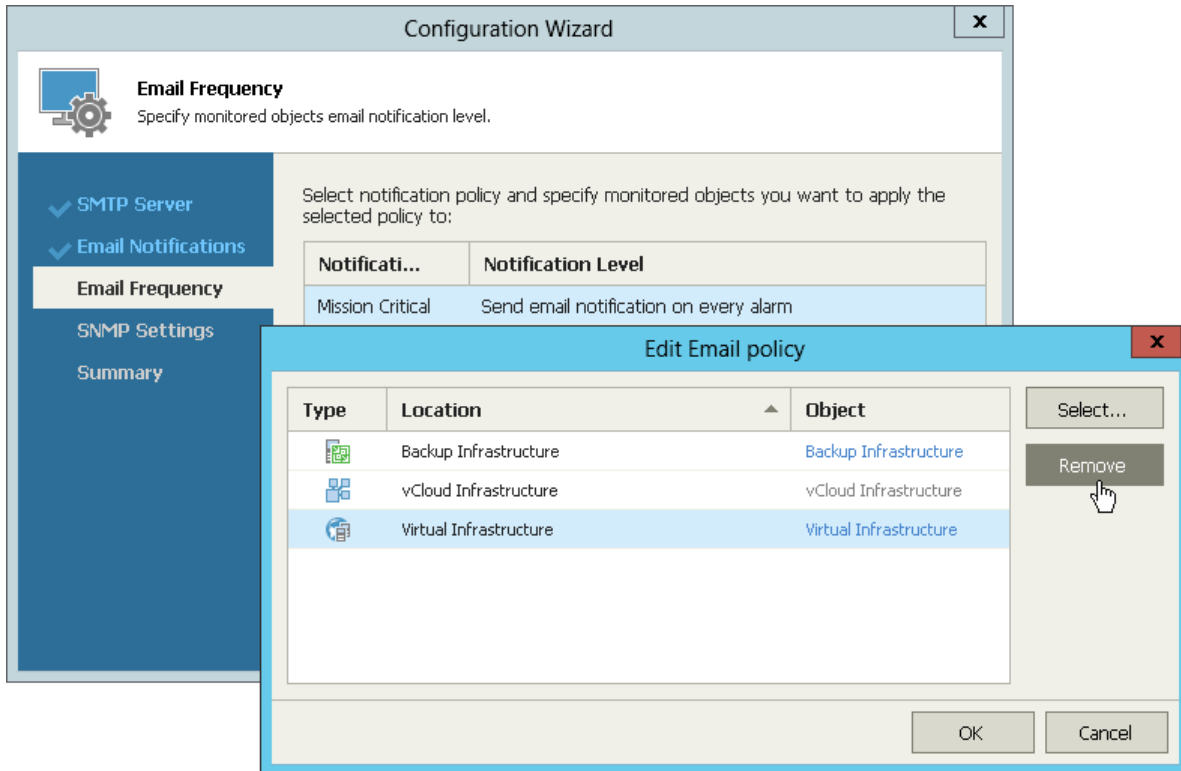
For example, if you want to receive email notifications about problems in the backup environment once within 30 minutes, you must first remove the **Mission Critical** policy settings for backup infrastructure objects, and then apply the **Other** policy settings to backup infrastructure objects.

Removing Effective Notification Policy Settings

Before applying new notification policy settings, you must remove the effective settings for the chosen type of infrastructure objects:

1. Select the necessary policy in the list and click **Edit**.

2. In the **Edit Email policy** window, select the necessary type of infrastructure objects and click **Remove**.

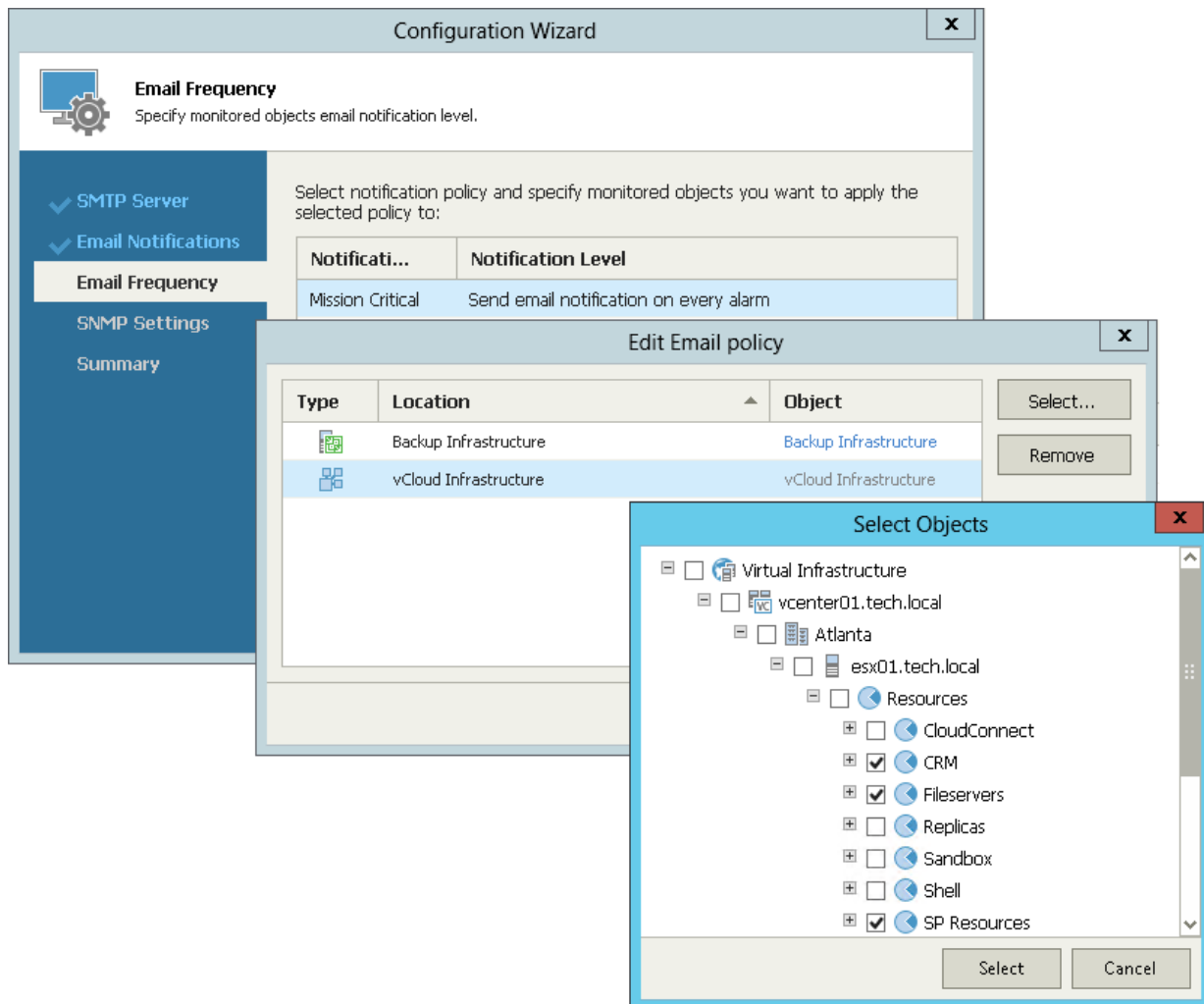


Applying Notification Policy Settings

To apply new notification policy settings to infrastructure objects or Business View groups:

1. Select the necessary policy in the list and click **Edit**.
2. In the **Edit Email Policy** window, click **Select** and choose one of the following options:
 - **Infrastructure Tree** – browse the virtual infrastructure hierarchy and select check boxes next to objects or infrastructure segments to which the policy settings must apply.
 - **Business View** – browse the Business View hierarchy and select check boxes next to groups or infrastructure objects to which the policy settings must apply.
 - **Data Protection View** – browse the backup infrastructure and select check boxes next to infrastructure components to which the policy settings must apply.
 - **vCloud Director View** – browse the vCloud Director infrastructure and select check boxes next to infrastructure components to which the policy settings must apply.
3. Click **Select**.
4. [Only for the **Other** policy] In the **Time interval to send summary email (minutes)** field, specify how often Veeam ONE must send a summary email informing about triggered alarms.

5. Click **OK**.



TIP:

You can also change the notification policy settings by adjusting server settings. For details, see section [Veeam ONE Monitor Server Settings](#) of the Veeam ONE Monitor User Guide.

Step 4. Configure SNMP Settings

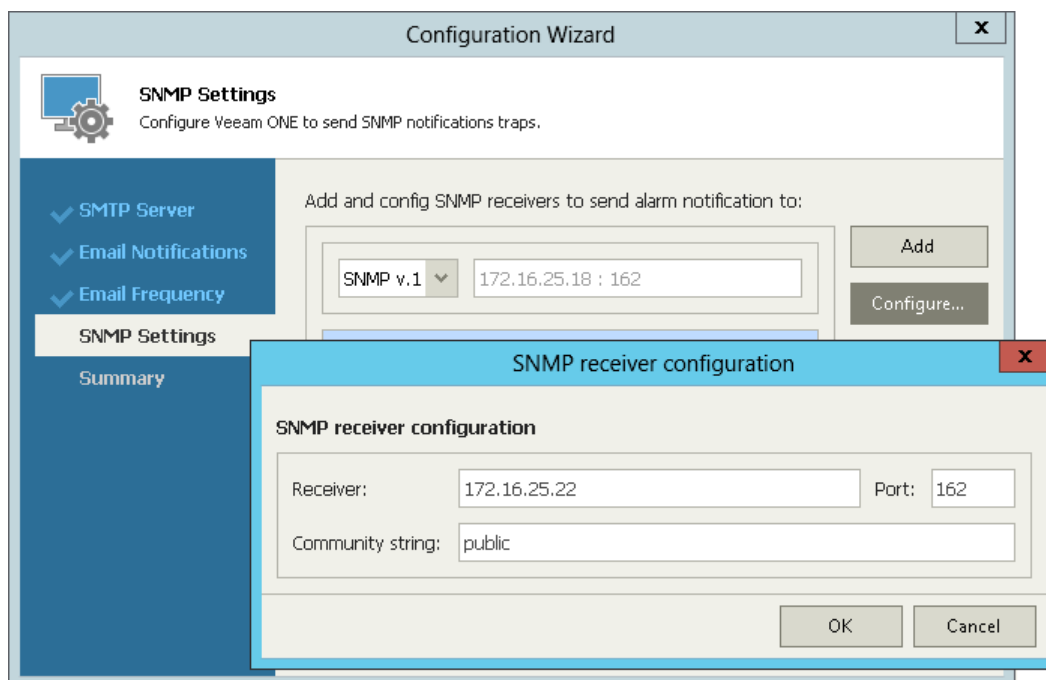
At the **SNMP Settings** step of the wizard, specify trap notification settings that can be used for sending notifications about alarms.

To specify SNMP receiver configuration settings:

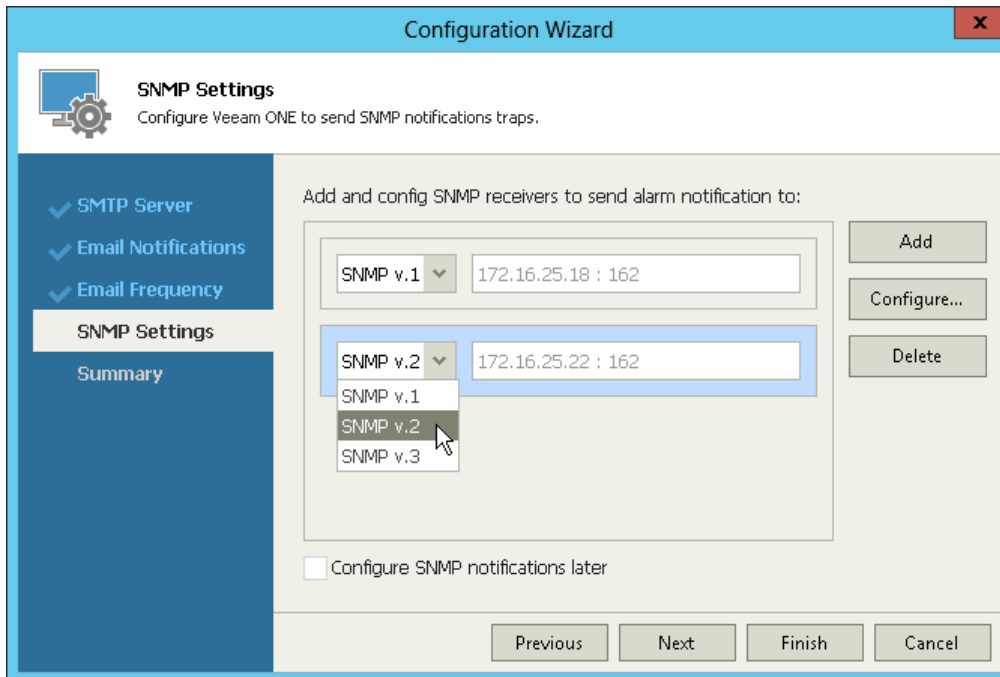
1. Click **Add**.
2. Click **Configure** to open the **SNMP receiver configuration** window.
3. In the **Receiver** field, specify DNS name or IP address of the SNMP receiver.
4. In the **Port** field, specify the port number to be used.

The default SNMP port is 162.

5. In the **Community String** field, enter the community identifier.
6. Click **OK** to apply the specified settings.



7. In the list of SNMP receivers, choose the version of the SNMP protocol to be used.



To add a new receiver to the list, click **Add** and repeat steps 2–7 described above.

Note that after you configure notification settings, you must configure SNMP service properties on the trap recipient computers:

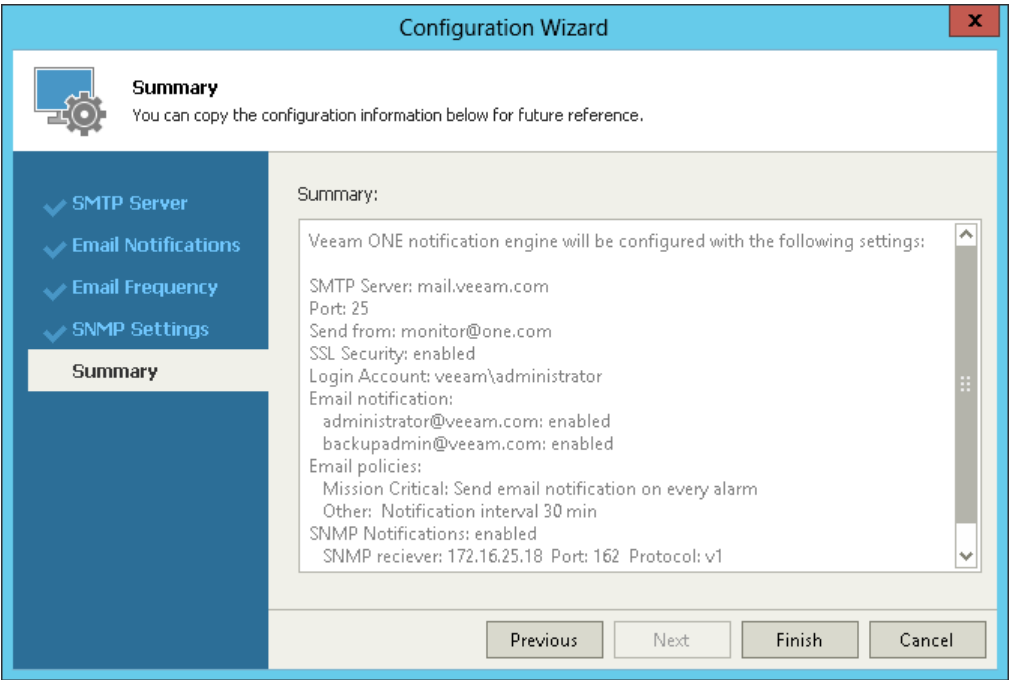
1. Install a standard Microsoft SNMP agent from the Windows distribution.
2. From the Start menu, select **Control Panel > Administrative Tools > Services**.
3. Double-click **SNMP Service** to open the **SNMP Service Properties** window.
4. Click the **Traps** tab.
5. Add the public string to the **Community name** list and the host name to the **Trap destinations** list.
6. Click the **Security** tab.
7. Make sure the **Send authentication trap** option is selected.
8. Add the public string to the **Accepted community names** list.
9. Select the **Accept SNMP packets from any hosts** option.
10. Click **Apply** and then **OK** to accept changes.

NOTE:

By default, Veeam ONE alarms are not configured to send SNMP traps when the alarm state changes. To enable SNMP traps for an alarm, you should change alarm action settings. For details, see section [Enable SNMP Notification for Alarms](#) of the Veeam ONE Working with Alarms Guide.

Step 5. Review Summary

Review configured notification settings and click **Finish**.



Data Collection Schedule

After you connect VMware vSphere, Microsoft Hyper-V and Veeam Backup & Replication servers, Veeam ONE will propagate the provided connection settings to all its components and will set up the following default data collection configuration:

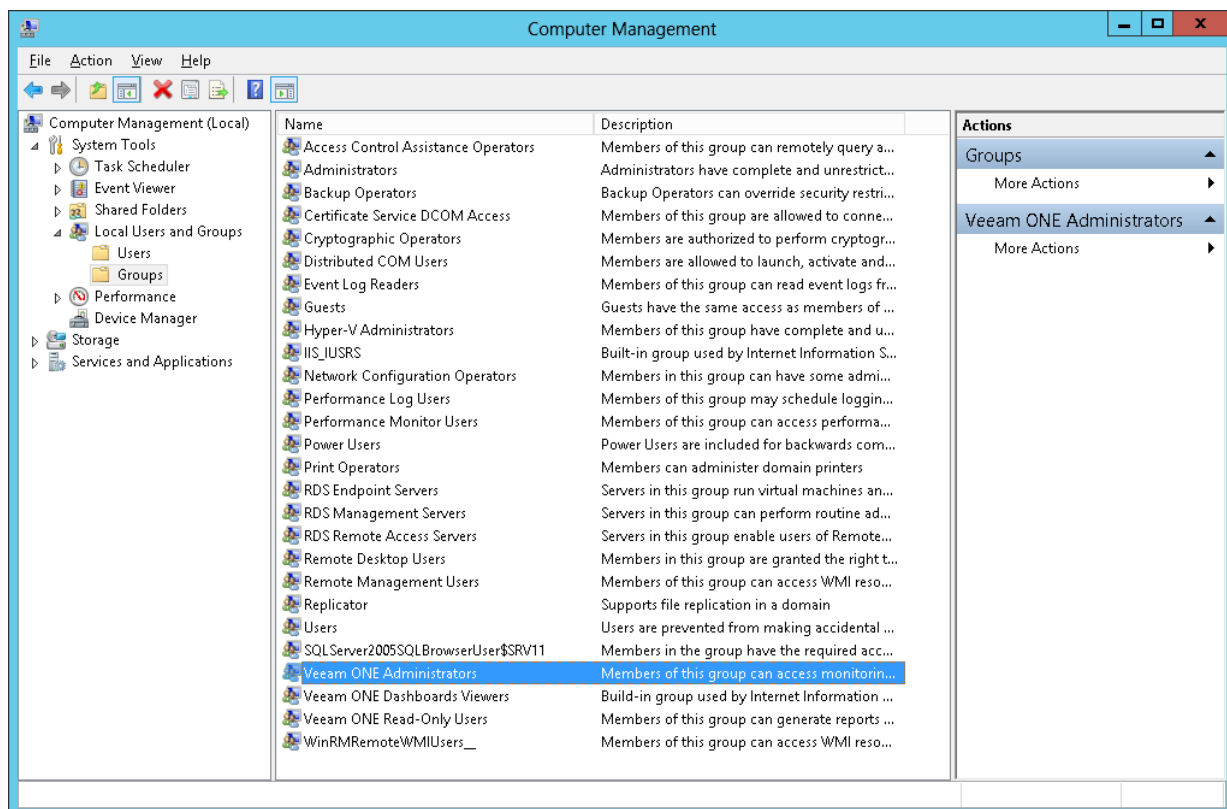
- In Veeam ONE Monitor, the connected servers will be added to the list of monitored objects. Data from the servers will be collected in the real-time mode.
- In Veeam ONE Reporter, the connected servers will be added to the list of objects targeted for data collection. Data collection will be scheduled to run on weekdays, at 3:00 a.m. The first data collection session will start immediately after installation. You can customize the schedule according to which reporting data is collected in the Veeam ONE Reporter console. For details on changing data collection schedule, see section [Scheduling Data Collection](#) of the Veeam ONE Reporter User Guide.

Security Groups

Veeam ONE creates the following security groups on the machines where Veeam ONE Server and Veeam ONE Web UI components are installed:

- **Veeam ONE Administrators:** members of this group can access monitoring data, generate reports and modify all Veeam ONE configuration settings.
This group must include the Veeam ONE service account.
- **Veeam ONE Read-Only Users:** members of this group can generate reports and access monitoring data in read-only mode, but cannot modify any Veeam ONE configuration settings.
- **Veeam ONE Dashboards Viewers:** built-in system group used by Internet Information Services to allow access to Veeam ONE dashboards.

You can access and manage security groups in the Computer Management console.



To provide access to Veeam ONE functionality for an administrator or operator, you must include this user either in the *Veeam ONE Administrators* or *Veeam ONE Read-Only Users* group. Member of these groups have access to:

- All Veeam ONE consoles (Monitor and Reporter)
- All objects of the infrastructure inventory (including VMware vSphere, vCloud Director and Microsoft Hyper-V)

Multi-Tenant Monitoring and Reporting

Veeam ONE supports multi-user access to its monitoring and reporting capabilities. Authorized users can concurrently access the same instance of Veeam ONE to monitor the health state of the virtual infrastructure and create reports.

To restrict access to sensitive infrastructure data, you can limit the scope of virtual infrastructure objects and associated data that must be available to a Veeam ONE user. Thus you can control what subset of the managed virtual infrastructure the user can see and work with. In multi-tenant environments, you can configure restricted access to Veeam ONE for owners of virtualized systems or responsible personnel and delegate monitoring and reporting tasks.

NOTE:

Do not use security groups to enable for users possibilities of self-service monitoring and reporting on a restricted scope of the virtual infrastructure. Instead, configure permissions for multi-tenant access. For details, see [Veeam ONE Multi-Tenant Monitoring and Reporting](#).

Data Retention

Data collected from virtual and backup servers is organized to the Veeam ONE database. Veeam ONE retains data in the database as follows:

- For categorization data, Veeam ONE retains one sample in the database. This data is updated with every new data collection.
- For topology, configuration, audit and performance data, Veeam ONE keeps multiple samples based on the retention policy. Performance data is aggregated in the database according to the scheme described below.
- For events collected from backup and virtual servers, Veeam ONE keeps all collected instances.

Performance Data Aggregation

As the performance data ages, Veeam ONE aggregates it for long-term storage. Data aggregation helps save disk space on the database server and speed up generation of performance reports and charts.

Veeam ONE uses the following aggregation scheme for performance data:

Period	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Hour	20 seconds	15 minutes	20 seconds
Week	5 minutes	30 minutes	5 minutes
Year	2 hours	2 hours	2 hours

Sampling intervals at which data is stored to the database depend on Veeam ONE data collection mode. For example, for the Typical deployment, raw data (data with 20-second resolution) is stored for 1 hour. After 1 hour, raw data is aggregated to 5-minute resolution data. After 1 week, data with 5-minute resolution is aggregated to 2-hour resolution data. Data with this level of detail is stored in the database for up to 1 year.

To draw performance charts, Veeam ONE uses data with various aggregation levels, depending on the period for which performance data is shown. For example, for Typical deployment, performance charts for the past hour use samples with 20-second resolution, charts for the past day use data with 5-minute resolution and so on.

To generate performance reports, Veeam ONE uses data with 2-hour resolution.

If you use Veeam ONE for monitoring and reporting in large environments, the Veeam ONE database can grow quickly. To support large virtual and backup infrastructures and reduce the size of the Veeam ONE database, you can increase aggregation intervals for performance data. To learn how to change aggregation intervals, contact Veeam Support at <https://www.veeam.com/support.html>.

Changing Veeam ONE Service Account

You can change Veeam ONE service account or the service account password that you provided during the product installation. For example, changing Veeam ONE service account properties can be required if you use a domain account as the Veeam ONE service account. When you update the domain account password, you must manually update the service account password for Veeam ONE.

To change the Veeam ONE service account or service account password:

1. Log on as Administrator to the machine where the Veeam ONE Server component is installed.
2. Change accounts of *Veeam ONE Monitor Server* and *Veeam ONE Reporter Server* services:
 - a. Click **Start**, go to **Programs > Administrative Tools**, and then click **Services**.
 - b. Right-click *Veeam ONE Monitor Server* service and choose **Stop**.
 - c. Right-click *Veeam ONE Monitor Server* service, choose **Properties** and open the **Log on** tab.
 - d. In the **This account** field, specify the user name of the service account.
 - e. In the **Password** and **Confirm password** fields, type a password of the service account.
 - f. Click **OK**.
 - g. Repeat steps a-f for *Veeam ONE Reporter Server* service.
3. Change the web identity service in the **Veeam ONE Settings** utility:
 - a. Open the Monitor Client.
 - b. On the Monitor toolbar, choose **Options > Server Settings**, and then open the **Other Settings** tab.
 - c. In the **Support utility** section, click **Launch**.

NOTE:

If Monitor Client and Veeam ONE Web UI component are installed on different machines, you must launch **Veeam ONE Settings** utility on the machine where Veeam ONE Web UI component is installed. To do this, navigate to *C:\Program Files\Common Files\Veeam\Veeam ONE Settings* and launch the *VeeamOneSettings* application manually.

- d. In the **Veeam ONE Settings** window, choose **General > Web Identity**.
 - e. In the **User name** field, specify the user name of the service account.
 - f. In the **Password** field, type a password of the service account.
 - g. Click **Save**.
4. Start *Veeam ONE Monitor Server* and *Veeam ONE Reporter Server* services:
 - a. Click **Start**, go to **Programs > Administrative Tools**, and then click **Services**.
 - b. Right-click *Veeam ONE Monitor Server* service and choose **Start**.
 - c. Right-click *Veeam ONE Reporter Server* service and choose **Start**.

IMPORTANT!

If you want to use *Local System* as the service account, mind the following:

- SQL Server Authentication is required for the account used to connect to the Microsoft SQL Server hosting the Veeam ONE database. For details on modifying database connection settings, see section [Database](#) of the Veeam ONE Monitor User Guide.
- The account under which the web identity service runs must have the local Administrator permissions on the machine running Veeam ONE Server and necessary permissions on the Microsoft SQL Server. For details, see [Connection to Microsoft SQL Server](#).

Other Ways to Change Service Account

To change Veeam ONE service account, you can also perform the following steps:

1. Uninstall Veeam ONE.
2. Re-install Veeam ONE and specify a new service account during installation.

Note that when you re-install Veeam ONE, you must point it to the existing Veeam ONE database.

Upgrading to Veeam ONE 10a

Upgrade to version 10a is supported starting from Veeam ONE version 9.5 Update 3 (builds № 9.5.0.3801, 9.5.4.4566, 9.5.4.4587, 10.0.0.750).

To upgrade to Veeam ONE 10a, follow these steps.

Step 1. Obtain Installation File

Download the Veeam ONE installation image file at <https://www.veeam.com/downloads.html>.

Step 2. Insert Disk or Mount Image File

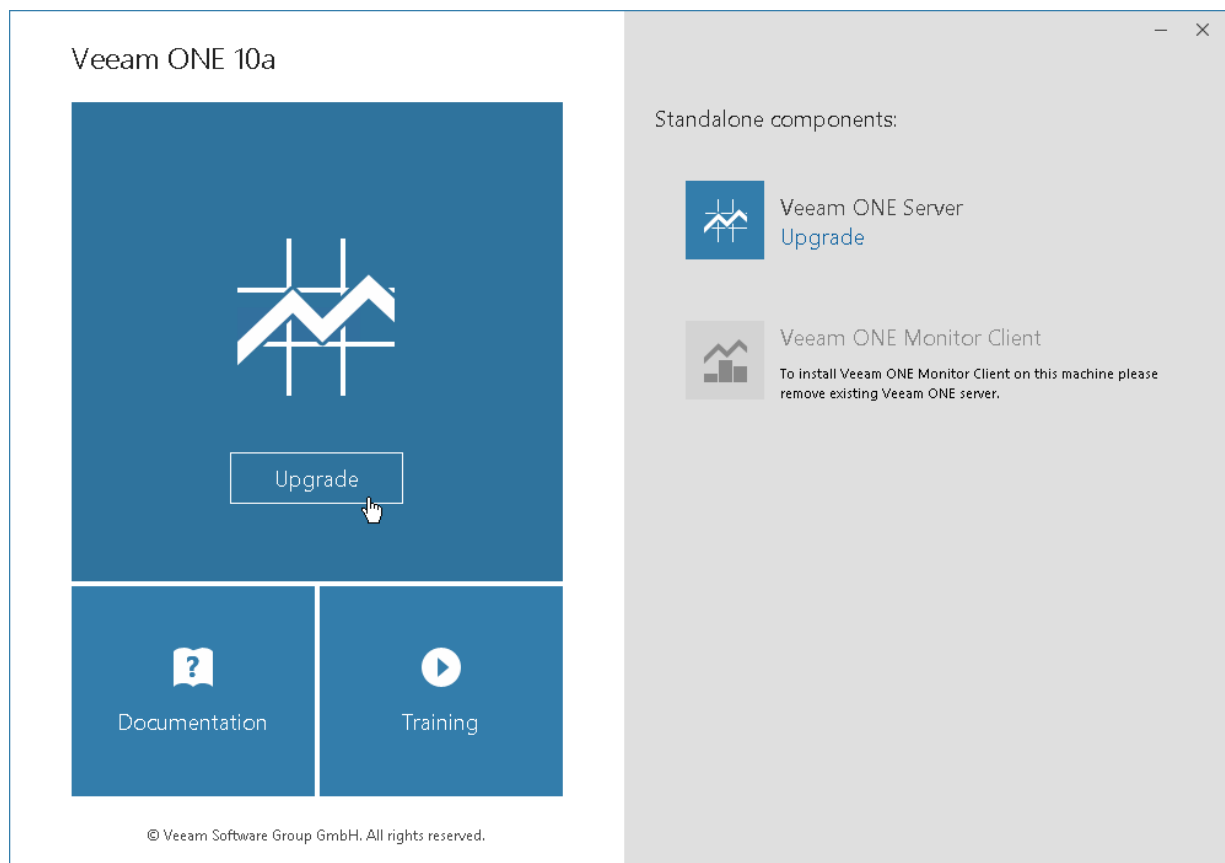
Burn the downloaded ISO image file to a blank CD/DVD or mount the installation image using disk image emulation software. If Veeam ONE runs on a VM, use built-in tools of the virtualization management software to mount the installation image to the VM.

Step 3. Launch Splash Window

After you mount or insert the disk with Veeam ONE installation image, Autorun will open a splash screen with installation options. On the splash window, do either of the following to launch the **Veeam ONE Setup** wizard:

- Click **Upgrade** on the left
- Click **Veeam ONE Server** on the right

If Autorun is not available or disabled, run the `Setup.exe` file from the installation image or disk.



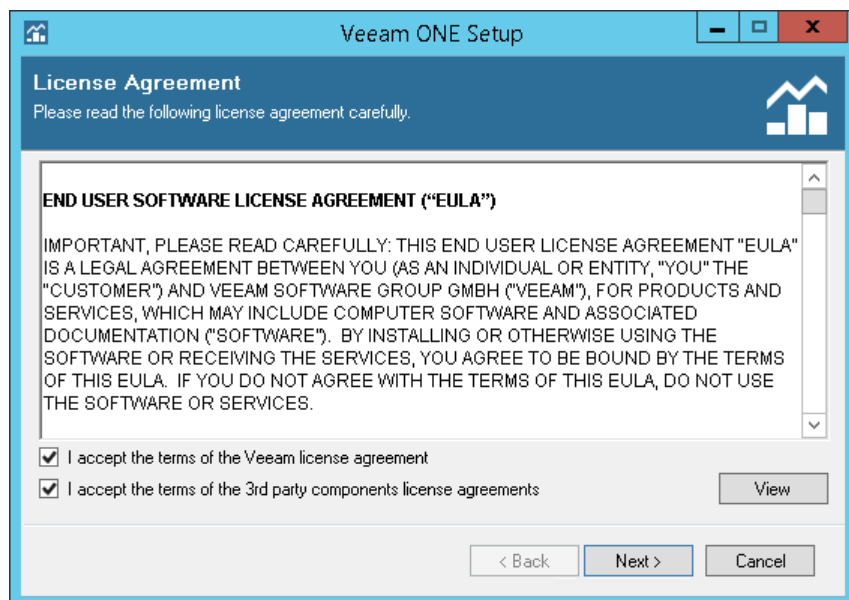
NOTE:

The installer will verify the version of .NET Framework that is currently installed on the machine. If the required version is not found, the installer will prompt to automatically install .NET Framework software that is included with the Veeam ONE installer. When the installation of .NET Framework is complete, you can proceed with Veeam ONE installation.

Step 4. Accept License Agreement

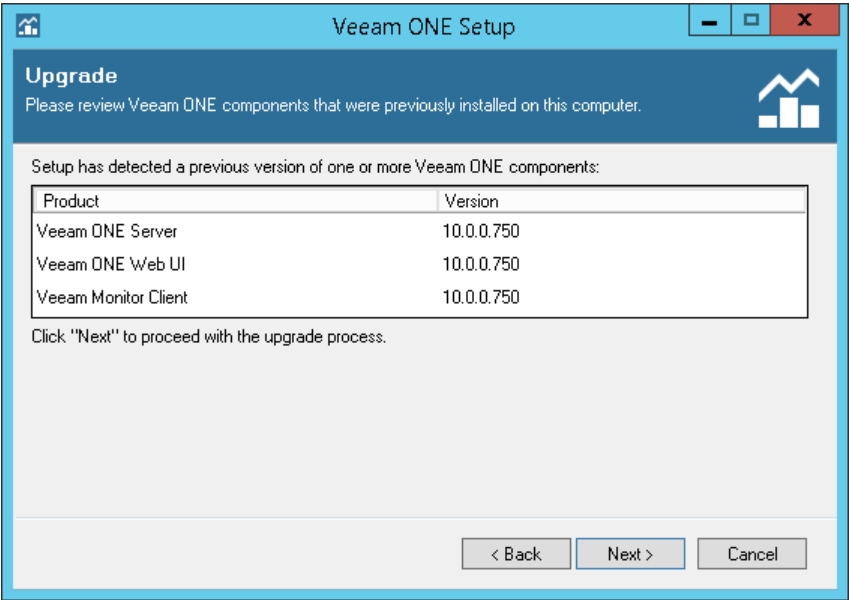
At the **License Agreement** step of the wizard, read and accept Veeam license agreement and 3rd party components license agreement. You will not be able to continue the upgrade until you select both check boxes.

To read the terms of the license agreement for the 3rd party components, click **View**.



Step 5. Review Components to Upgrade

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

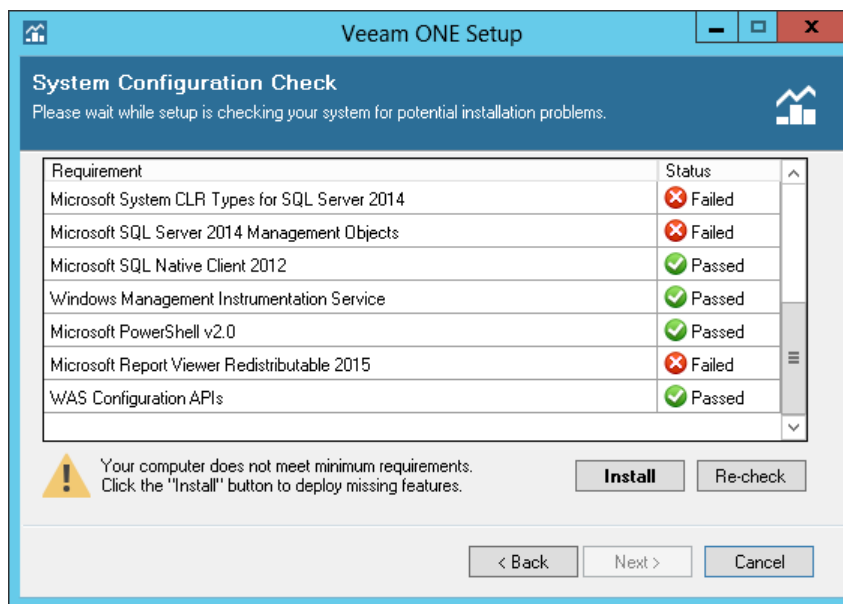


Step 6. Perform System Configuration Check

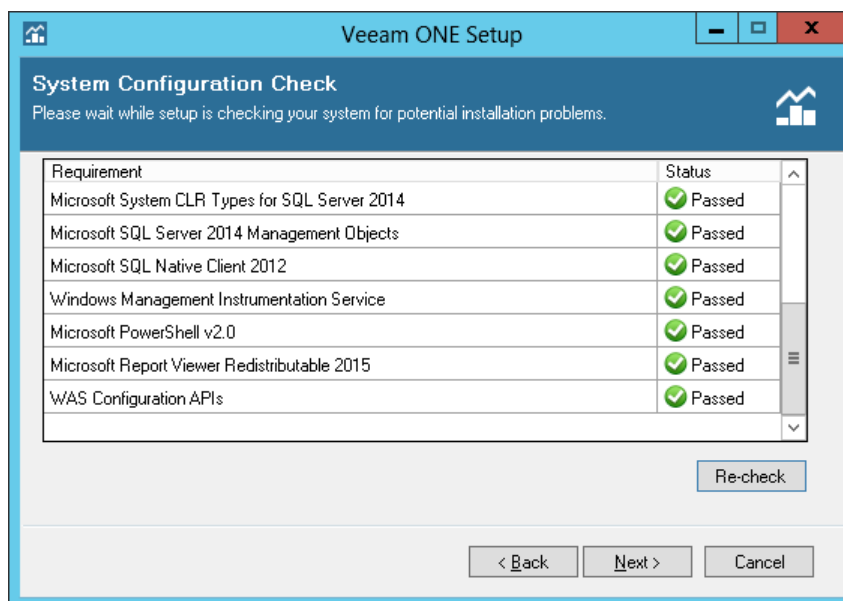
At the **System Configuration Check** step of the wizard, check what prerequisite software is missing.

Before proceeding with the upgrade, the installer will perform system configuration check to determine if all prerequisite software is available on the machine. To learn what software is required for Veeam ONE, see [System Requirements](#).

If some of the required software components are missing, the setup wizard will offer you to install the missing software components and enable missing features automatically.



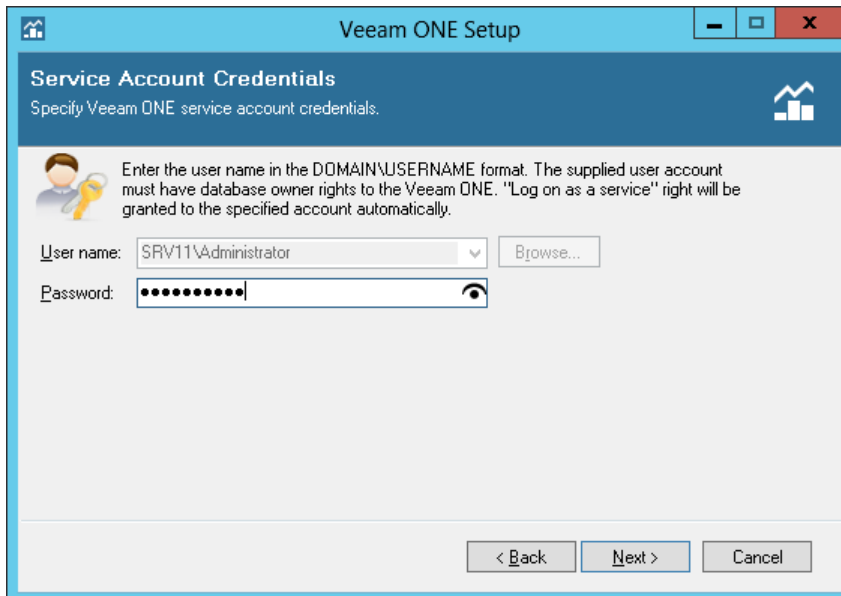
To install the missing software components and enable missing features automatically, click the **Install** button.



You can cancel automatic software installation. In this case, you must install the missing software components and enable missing features manually (otherwise, you will not be able to proceed to the next step of the setup wizard). After you install and enable all required software components, click **Re-run** to repeat the system configuration check.

Step 7. Specify Service Account Credentials

At the **Service Account Credentials** step of the wizard, specify the password of the account under which Veeam ONE Service runs.



The image shows a Windows-style dialog box titled "Veeam ONE Setup". The main heading is "Service Account Credentials" with a subtitle "Specify Veeam ONE service account credentials." and a small icon of a person with a key. Below this, there is an instruction: "Enter the user name in the DOMAIN\USERNAME format. The supplied user account must have database owner rights to the Veeam ONE. 'Log on as a service' right will be granted to the specified account automatically." There are two input fields: "User name:" with a dropdown menu showing "SRV11\Administrator" and a "Browse..." button, and "Password:" with a masked password field (dots) and a visibility icon (eye). At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

Veeam ONE Setup

Service Account Credentials
Specify Veeam ONE service account credentials.

Enter the user name in the DOMAIN\USERNAME format. The supplied user account must have database owner rights to the Veeam ONE. "Log on as a service" right will be granted to the specified account automatically.

User name: SRV11\Administrator Browse...

Password: [Masked Password] [Visibility Icon]

< Back Next > Cancel

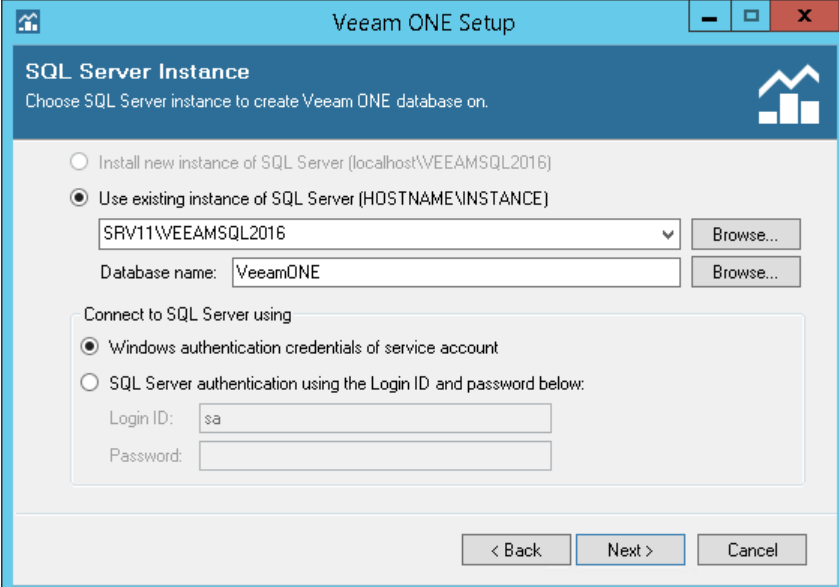
Step 8. Choose Microsoft SQL Server

At the **SQL Server Instance** step of the wizard, specify a Microsoft SQL Server instance that hosts the Veeam ONE database.

The Microsoft SQL Server and database name must be populated automatically. If required, you can change the database connection settings:

1. Select the **Use existing instance of SQL Server** option and choose the Microsoft SQL Server instance that hosts the Veeam ONE database.
2. In the **Database name** field, specify the name of the Veeam ONE database.
3. Provide credentials for the account that Veeam ONE components must use to access the database.

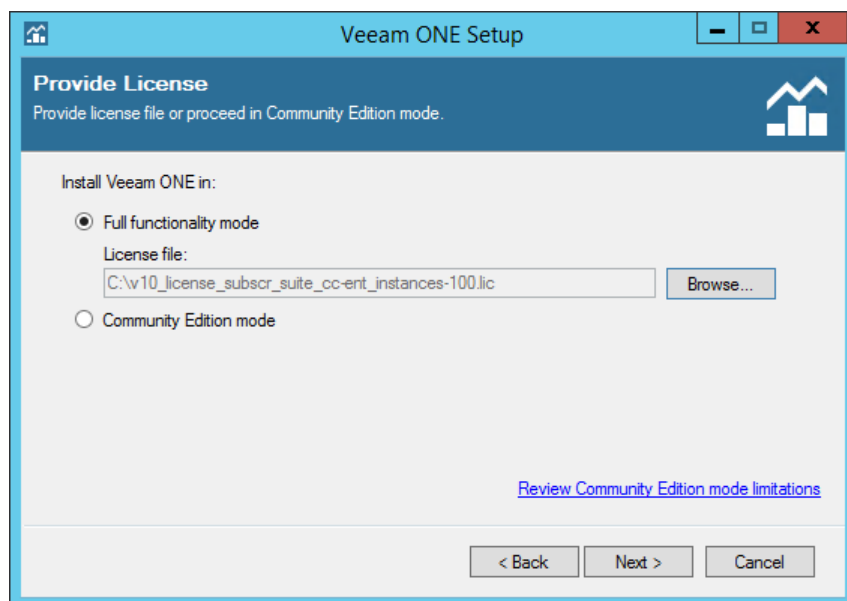
You can enter credentials explicitly or use Windows authentication credentials of the Veeam ONE service account to connect to the Microsoft SQL Server. For details on required permissions for the account, see [Connection to Microsoft SQL Server](#).



The screenshot shows the 'Veeam ONE Setup' window, specifically the 'SQL Server Instance' step. The window has a blue header bar with the title 'Veeam ONE Setup' and standard Windows window controls. Below the header, the title 'SQL Server Instance' is displayed in white on a dark blue background, followed by the instruction 'Choose SQL Server instance to create Veeam ONE database on.' and a small icon of a bar chart. The main content area is light gray and contains two radio button options: 'Install new instance of SQL Server (localhost\VEEAMSQL2016)' and 'Use existing instance of SQL Server (HOSTNAME\INSTANCE)'. The second option is selected. Below these options, there is a text box for the server instance name containing 'SRV11\VEEAMSQL2016' and a 'Browse...' button. Below that is a text box for the 'Database name' containing 'VeeamONE' and another 'Browse...' button. A section titled 'Connect to SQL Server using' contains two radio button options: 'Windows authentication credentials of service account' (selected) and 'SQL Server authentication using the Login ID and password below:'. Below the second option are text boxes for 'Login ID' (containing 'sa') and 'Password'. At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

Step 9. Provide License File

At the **Provide License** step of the wizard, provide a license file. Select the **Full functionality mode** option, click **Browse** and specify the path to the license file.



If your license for the previous version is paid and is not expired, Veeam ONE will offer you to download an updated license from Veeam License Update server. In the **Veeam ONE Setup** window, click **Yes** to update the license automatically and continue installation.

Mind that only paid license for the previous version can be updated. Providing free license file will result in error during upgrade process.

NOTE:

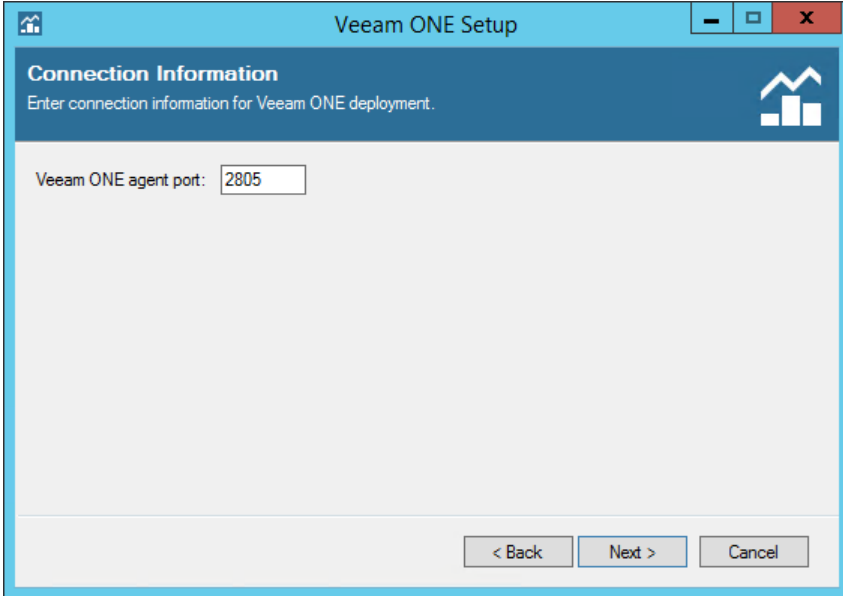
To continue without providing a license, select the **Community Edition mode** option. In this case the product will work in the limited functionality mode. To learn what functionality you are missing with the Community Edition mode, click the **Review Community Edition mode limitations** link at the bottom right corner of the wizard.

Step 10. Specify Connection Ports

The **Connection Information** step of the wizard is available if you upgrade from Veeam ONE version 9.5 Update 3.

In the **Veeam ONE agent port** field, type a number of the port that Veeam ONE agent will use to collect data from connected Veeam Backup & Replication.

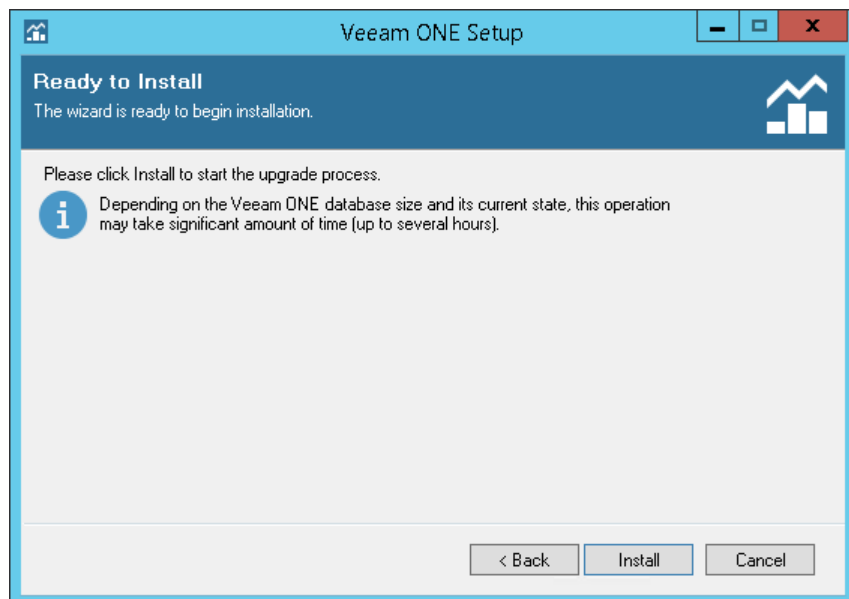
The default port number is 2805.



The screenshot shows a Windows-style window titled "Veeam ONE Setup". The window has a blue header bar with the title and standard window controls (minimize, maximize, close). Below the header, there is a dark blue section titled "Connection Information" with a small icon of a bar chart and an upward arrow. Underneath this section, the text "Enter connection information for Veeam ONE deployment." is displayed. The main area of the window is light gray and contains a label "Veeam ONE agent port:" followed by a text input field containing the number "2805". At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel".

Step 11. Begin Upgrade

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



If you installed Veeam ONE using the advanced installation, repeat this upgrade procedure on every machine where the Veeam ONE components are installed.

Depending on the size of the Veeam ONE database, the upgrade procedure may take up to several hours.

Step 12. Change Default Certificate

Veeam ONE 10a uses TLS to ensure secure data communication between Veeam ONE Reporter website and a web browser. That is, the Veeam ONE Reporter website is available over HTTPS.

During upgrade, Veeam ONE generates a self-signed certificate that is used to secure traffic. You can replace this default certificate with your own self-signed certificate or a certificate that was obtained from a Certificate Authority. This step is optional, and is not required if you want to keep the default certificate generated during the upgrade procedure.

NOTE:

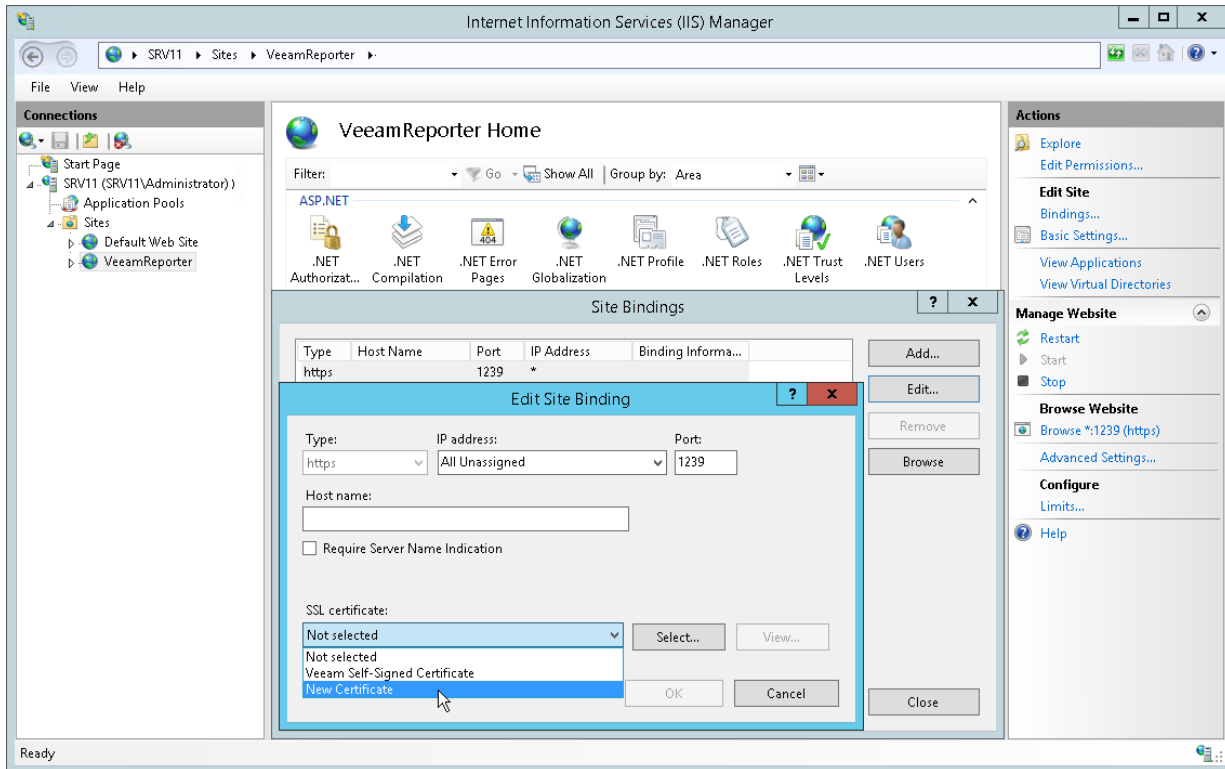
If you replace the default certificate with another self-signed certificate, you must configure a trusted connection between the Veeam ONE Reporter website and a web browser later. For details, see [Configuring Trusted Connection](#).

Assigning Certificate to the Veeam ONE Reporter Website

To assign a new certificate to the Veeam ONE Reporter website:

1. Log on to the machine where the Veeam ONE Web UI component is installed.
2. Open the Internet Information Services (IIS) Manager, expand the *localhost* node and navigate to **Sites**.
3. In the **Connections** pane, select *VeeamReporter*.
4. In the **Actions > Edit Site** pane on the right, click **Bindings**.
5. In the **Site Bindings** window, select the existing binding and click **Edit**.
6. From the **SSL certificate** list, select the necessary certificate and click **OK**.

7. In the **Site Bindings** window, click **Close**.



Step 13. Specify Guest OS Credentials for Microsoft Hyper-V VMs

After you upgrade to Veeam ONE 10a, you must specify credentials of an account that will be used to collect data from Windows guest OSes on Microsoft Hyper-V VMs. If you do not specify guest OS credentials, Veeam ONE will not display guest OS data (in particular, data about guest disks) in monitoring dashboards, alarms and reports.

For details, see [Step 6. Specify VM Guest OS Credentials](#).

Step 14. Apply Available Updates

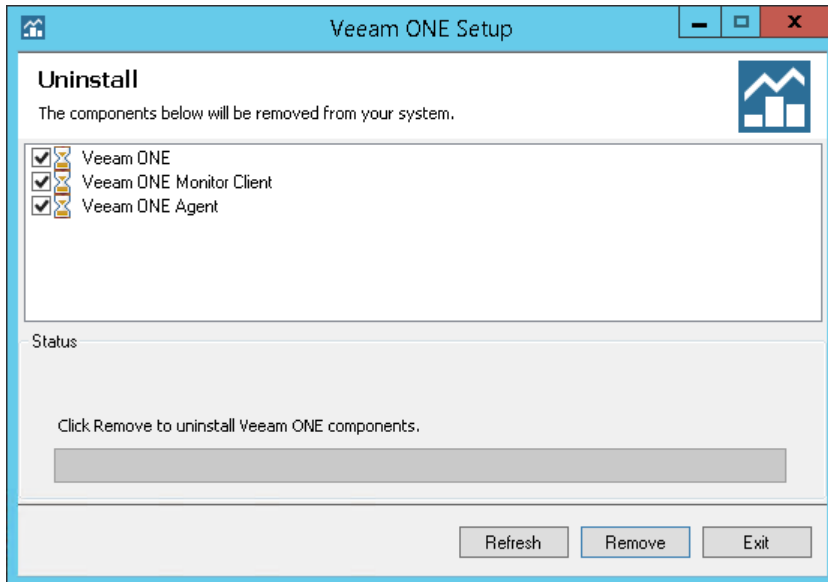
We recommend that you periodically check for Veeam ONE updates and install them as available. You can download product updates at <https://www.veeam.com/updates.html>.

Upgrading Veeam ONE Monitor Client

If you have additionally installed several standalone instances of Veeam ONE Monitor Client, you must upgrade them as well. The upgrade procedure is identical to Veeam ONE Monitor Client installation. For details, see [Installing Veeam ONE Monitor Client](#).

Uninstalling Veeam ONE

To uninstall Veeam ONE, open the **Start** menu, go to **Control Panel > Uninstall a program**, choose Veeam ONE components you want to uninstall and click **Remove**.



If you installed Veeam ONE using the advanced installation, repeat this procedure on every machine where the Veeam ONE components are installed.

The SQL Server instance installed and used by Veeam ONE is not removed during the uninstall of Veeam ONE. It needs to be removed separately using the standard **Add or Remove Programs** feature in **Control Panel**. Veeam ONE database and its data is retained until you manually remove the database or uninstall the SQL Server instance.

Exporting Logs

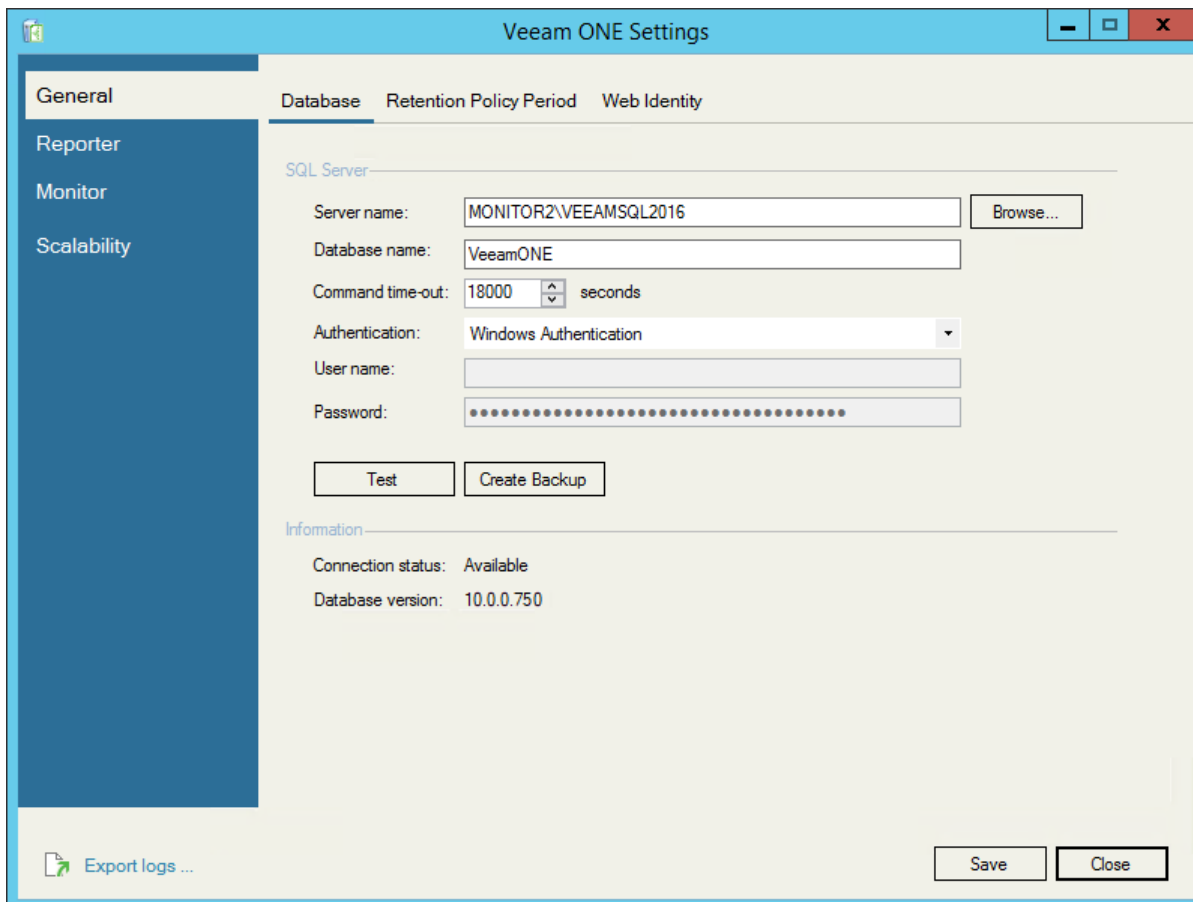
To troubleshoot issues with Veeam ONE, you might need to export diagnostic logs for Veeam ONE Monitor and Reporter.

Diagnostic logs include information that can be used by the Veeam Support Team to troubleshoot issues occurring with Veeam ONE. In addition, diagnostic logs include information about managed virtual and backup infrastructures. This type of information is used to speed up the root cause analysis when troubleshooting issues.

To export diagnostic logs:

1. Open Veeam ONE Monitor.
2. On the toolbar, click **Options** and select **Server Settings**.
Alternatively, you can press [CTRL + S] on the keyboard.
3. Open the **Other** tab.
4. In the **Support utility** section, click **Launch**.
Veeam ONE will launch the Veeam ONE Settings utility.
5. At the bottom left corner of the Veeam ONE Settings utility, click **Export logs**.
6. Specify a location to which the exported logs must be saved.

The Veeam ONE Settings utility will export logs and save them to a ZIP archive in the specified location.



Appendix A. Creating Veeam ONE Database with SQL Script

In some circumstances, it might be undesired to create the Veeam ONE database automatically, using the **Veeam ONE Setup** wizard. For example, Veeam ONE components and the Microsoft SQL Server can be hosted on different systems, and you do not have sufficient permissions on the Microsoft SQL Server to create the database. In this case, you can use a SQL script to create the Veeam ONE database on a Microsoft SQL Server. The script is included with the Veeam ONE installation image.

To create the Veeam ONE database with the SQL script, perform the steps described below. Note that the database must be created before you start installation of Veeam ONE components.

Step 1. Locate the SQL Script

Download the Veeam ONE installation image and burn it to a blank CD/DVD or mount the image using disk image emulation software. If you are working with a virtual machine, use built-in tools of the virtualization management software to mount the installation image to the virtual machine.

In Windows Explorer, right-click the drive with the image, select **Open** and go to the <CD Drive>\Addins\SQLScript directory. Copy the `VeeamONE.sql` file to the location from which it can be accessed or run.

Step 2. Create the Veeam ONE Database

Connect to the necessary Microsoft SQL Server with Microsoft SQL Server Management Studio and create a new database (for example, *VeeamOne*).

Step 3. Run the SQL Script Against the Veeam ONE Database

Execute the `VeeamONE.sql` script against the Veeam ONE database in Microsoft SQL Server Management Studio.

Alternatively, you can execute the script using the **sqlcmd** utility. In the command prompt, run the command of the following form:

```
sqlcmd -S localhost\VEEAMSQL2012 -d VeeamOne -E -i "E:\Addins\SQLScript\VeeamOne.sql"
```

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

Option	Description
-S	Specifies the SQL Server instance to which sqlcmd connects.
-d	Specifies the name of the database against which the script is executed.

Option	Description
-E	Instructs sqlcmd to connect to the SQL Server Database Engine using Windows Integrated Security.
-i	Specifies the full path to the script file for execution.

Step 4. Grant Database Permissions

Create a Microsoft SQL Server account with required permissions. For details, see [Connection to Microsoft SQL Server](#).

Step 5. Perform Post-Installation Configuration Steps

After you install Veeam ONE, perform additional configuration steps:

1. Launch Microsoft SQL Server Management Studio, and connect to the Microsoft SQL Server that hosts the Veeam ONE database.
2. In the **Object Explorer** pane, navigate to **Databases**.
3. Right-click the Veeam ONE database and choose to run a new query.
4. Execute two stored procedures to set the Veeam ONE Reporter URL.

To set the Veeam ONE Reporter URL, run the following query:

```
exec common.SetSetupDataReporterURI 'https://REPORTERFQDN:1239/'
```

In the query above, **REPORTERFQDN** stands for the FQDN of the machine that runs the Veeam ONE Web UI component, and default ports are used to connect to Veeam ONE Reporter.

5. Execute a stored procedure to set the Microsoft Windows version:

```
exec common.SetSetupDataWindowsVersion '%WINVERSION%'
```

In the query above, **%WINVERSION%** stands for the Windows OS version on the machine that runs the Veeam ONE Server component. The version number must be specified in the following format: 10.0.0.1. You can check the Windows OS version, by running the **ver** command in the command prompt.

6. Close the Microsoft SQL Server Management Studio.

Appendix B. Data Collection Modes

Data collection mode determines what metrics Veeam ONE will collect, and specifies the product configuration in a number of areas. Choosing an appropriate data collection mode allows you to optimize monitoring and reporting performance and improve user experience in Veeam ONE.

Settings

Changing between data collection modes affects the following Veeam ONE settings.

Configuration Option	Description	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
VMware real-time performance	Timeout for collecting VMware vSphere real-time performance data.	300 seconds (5 minutes)	1200 seconds (20 minutes)	300 seconds (5 minutes)
	Sampling renewal interval for real-time counters.	20 seconds	900 seconds (15 minutes)	20 seconds
VMware historical performance	Sampling renewal interval for historical counters (older than one hour).	5 minutes	30 minutes	5 minutes
	Sampling renewal interval for historical counters (older than one week).	2 hours	2 hours	2 hours
MinTreeCheckInterval	Updating the object inventory tree in Veeam ONE Monitor.	10 seconds	1 minute	10 seconds
PageUpdateDelay	Loading data after choosing an object in the object inventory tree.	0.5 second	1.5 second	0.5 second
GetVmsnapshottimeout	Timeout for collecting data about VM snapshot files from datastores.	900 seconds (15 minutes)	3600 seconds (1 hour)	900 seconds (15 minutes)

Configuration Option	Description	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Collectthreadtimeout	Timeout for collecting data from servers by Veeam ONE Reporter.	6 hours	12 hours	6 hours
DahboardCapturetimeout	Timeout for capturing the dashboard for a scheduled dashboard delivery.	3600 seconds (1 hour)	7200 seconds (2 hours)	3600 seconds (1 hour)
Virtual machines files data collection	Collecting information about VM files (for the <i>Garbage Files</i> report).	Yes	No	No

Collected Performance Metrics

Data collection mode defines what performance metrics must be collected.

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Available Memory	Backup Enterprise Manager	Yes	Yes	Yes
CPU Usage	Backup Enterprise Manager	Yes	Yes	Yes
Disk Bytes/sec	Backup Enterprise Manager	Yes	Yes	Yes
Memory Usage	Backup Enterprise Manager	Yes	Yes	Yes
Network Bytes Sent/sec	Backup Enterprise Manager	Yes	Yes	Yes
Available Memory	Backup Server	Yes	Yes	Yes
CPU Usage	Backup Server	Yes	Yes	Yes

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk Bytes/sec	Backup Server	Yes	Yes	Yes
Memory Usage	Backup Server	Yes	Yes	Yes
Network Bytes Sent/sec	Backup Server	Yes	Yes	Yes
Available Memory	Backup Repository	Yes	Yes	Yes
Backup Repository Capacity	Backup Repository	Yes	Yes	Yes
CPU Usage	Backup Repository	Yes	Yes	Yes
Disk Bytes/sec	Backup Repository	Yes	Yes	Yes
Memory Usage	Backup Repository	Yes	Yes	Yes
Network Bytes Sent/sec	Backup Repository	Yes	Yes	Yes
Repository File Backups Size	Backup Repository	Yes	Yes	Yes
Repository Image Backups Size	Backup Repository	Yes	Yes	Yes
Repository Used Space	Backup Repository	Yes	Yes	Yes
Slot Capacity	Backup Repository	Yes	Yes	Yes
Used Slots	Backup Repository	Yes	Yes	Yes
Available Memory	Backup Proxy	Yes	Yes	Yes
CPU Usage	Backup Proxy	Yes	Yes	Yes
Disk Bytes/sec	Backup Proxy	Yes	Yes	Yes

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Memory Usage	Backup Proxy	Yes	Yes	Yes
Network Bytes Sent/sec	Backup Proxy	Yes	Yes	Yes
Slot Capacity	Backup Proxy	Yes	Yes	Yes
Used Slots	Backup Proxy	Yes	Yes	Yes
Available Memory	WAN Accelerator	Yes	Yes	Yes
CPU Usage	WAN Accelerator	Yes	Yes	Yes
Disk Bytes/sec	WAN Accelerator	Yes	Yes	Yes
Memory Usage	WAN Accelerator	Yes	Yes	Yes
Network Bytes Sent/sec	WAN Accelerator	Yes	Yes	Yes
Available Memory	Tape Server	Yes	Yes	Yes
CPU Usage	Tape Server	Yes	Yes	Yes
Disk Bytes/sec	Tape Server	Yes	Yes	Yes
Memory Usage	Tape Server	Yes	Yes	Yes
Network Bytes Sent/sec	Tape Server	Yes	Yes	Yes
External Repository Used Space	External Repository Used Space	Yes	Yes	Yes
Object Storage Repository Used Space	Object Storage Repository Used Space	Yes	Yes	Yes

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Storage Usage	vCloud Director Organization VDC	Yes	Yes	No
CPU Usage	vCloud Director Provider VDC	Yes	Yes	No
Memory Usage	vCloud Director Provider VDC	Yes	Yes	No
Storage Space Usage	vCloud Director Provider VDC	Yes	No	No
Storage Space Usage Pct	vCloud Director Provider VDC	Yes	Yes	No
Backup Job Memory Usage	Veeam Backup & Replication Objects	Yes	Yes	Yes
Backup Job Processor Usage	Veeam Backup & Replication Objects	Yes	Yes	Yes
Adapter I/O	ESXi Host	Yes	No	No
Adapter Read I/O	ESXi Host	Yes	No	No
Adapter Read Latency	ESXi Host	Yes	No	No
Adapter Read Rate	ESXi Host	Yes	No	No
Adapter Write I/O	ESXi Host	Yes	No	No
Adapter Write Latency	ESXi Host	Yes	No	No
Adapter Write Rate	ESXi Host	Yes	No	No
Average CPU Ready	ESXi Host	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
CPU Usage	ESXi Host	Yes	Yes	No
CPU Usage MHz	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Bus Resets	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Command Aborts	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Highest Latency	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore I/O	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Latency Observed by VMs	ESXi Host	Yes	No	No
Disk/ESXi: Datastore Maximum Queue Depth	ESXi Host	Yes	No	No
Disk/ESXi: Datastore Read I/O	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Read Latency	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Read Rate	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Usage	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Write I/O	ESXi Host	Yes	Yes	No
Disk/ESXi: Datastore Write Latency	ESXi Host	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk/ESXi: Datastore Write Rate	ESXi Host	Yes	Yes	No
Memory Active	ESXi Host	Yes	Yes	No
Memory Balloon	ESXi Host	Yes	Yes	No
Memory Compressed	ESXi Host	Yes	No	No
Memory Consumed	ESXi Host	Yes	Yes	No
Memory Latency	ESXi Host	Yes	No	No
Memory Overhead	ESXi Host	Yes	No	No
Memory Pressure	ESXi Host	Yes	Yes	No
Memory Shared	ESXi Host	Yes	No	No
Memory Shared Common	ESXi Host	Yes	No	No
Memory Swap Used	ESXi Host	Yes	Yes	No
Memory Usage	ESXi Host	Yes	Yes	No
Network Receive Rate	ESXi Host	Yes	Yes	No
Network Transmit Rate	ESXi Host	Yes	Yes	No
Network Usage	ESXi Host	Yes	Yes	No
Packet Receive Errors	ESXi Host	Yes	No	No
Packet Transmit Errors	ESXi Host	Yes	No	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Path I/O	ESXi Host	Yes	No	No
Path Read I/O	ESXi Host	Yes	No	No
Path Read Latency	ESXi Host	Yes	No	No
Path Read Rate	ESXi Host	Yes	No	No
Path Write I/O	ESXi Host	Yes	No	No
Path Write Latency	ESXi Host	Yes	No	No
Path Write Rate	ESXi Host	Yes	No	No
Power Usage	ESXi Host	Yes	No	No
Receive Packets Dropped	ESXi Host	Yes	No	No
Received Packets per Second	ESXi Host	Yes	No	No
Swap In Rate	ESXi Host	Yes	No	No
Swap Out Rate	ESXi Host	Yes	No	No
Total Errors	ESXi Host	Yes	No	No
Total Packets Dropped	ESXi Host	Yes	No	No
Transmit Packets Dropped	ESXi Host	Yes	No	No
Transmitted Packets per Second	ESXi Host	Yes	No	No
VM Heartbeat	ESXi Host	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Average CPU Idle All Cores	vSphere Virtual Machine	Yes	No	No
Average CPU Ready All Cores	vSphere Virtual Machine	Yes	Yes	No
Average CPU Standstill All Cores	vSphere Virtual Machine	Yes	No	No
Average CPU Wait All Cores	vSphere Virtual Machine	Yes	No	No
CPU Co-Stop All Cores	vSphere Virtual Machine	Yes	No	No
CPU Usage	vSphere Virtual Machine	Yes	Yes	No
CPU Usage MHz	vSphere Virtual Machine	Yes	Yes	No
Datastore Bus Resets	vSphere Virtual Machine	Yes	Yes	No
Datastore Command Aborts	vSphere Virtual Machine	Yes	Yes	No
Datastore Highest Latency	vSphere Virtual Machine	Yes	Yes	No
Datastore I/O	vSphere Virtual Machine	Yes	Yes	No
Datastore Read I/O	vSphere Virtual Machine	Yes	Yes	No
Datastore Read Latency	vSphere Virtual Machine	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Datastore Read Rate	vSphere Virtual Machine	Yes	Yes	No
Datastore Usage	vSphere Virtual Machine	Yes	Yes	No
Datastore Write I/O	vSphere Virtual Machine	Yes	Yes	No
Datastore Write Latency	vSphere Virtual Machine	Yes	Yes	No
Datastore Write Rate	vSphere Virtual Machine	Yes	Yes	No
Disk/vSAN: Recovery Write I/O	vSphere Virtual Machine	Yes	No	No
Disk/vSAN: Recovery Write Latency	vSphere Virtual Machine	Yes	No	No
Disk/vSAN: Recovery Write Rate	vSphere Virtual Machine	Yes	No	No
Guest Disk Free Space	vSphere Virtual Machine	Yes	No	No
Guest Disk Usage	vSphere Virtual Machine	Yes	Yes	No
Memory Active	vSphere Virtual Machine	Yes	Yes	No
Memory Balloon	vSphere Virtual Machine	Yes	Yes	No
Memory Balloon Percent	vSphere Virtual Machine	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Memory Compressed	vSphere Virtual Machine	Yes	No	No
Memory Consumed	vSphere Virtual Machine	Yes	Yes	No
Memory Entitlement	vSphere Virtual Machine	Yes	No	No
Memory Latency	vSphere Virtual Machine	Yes	No	No
Memory Overhead	vSphere Virtual Machine	Yes	No	No
Memory Saved by Zipping	vSphere Virtual Machine	Yes	No	No
Memory Shared	vSphere Virtual Machine	Yes	No	No
Memory Swapped	vSphere Virtual Machine	Yes	Yes	No
Memory Usage	vSphere Virtual Machine	Yes	Yes	No
Network Receive Rate	vSphere Virtual Machine	Yes	Yes	No
Network Transmit Rate	vSphere Virtual Machine	Yes	Yes	No
Network Usage	vSphere Virtual Machine	Yes	Yes	No
Power Usage	vSphere Virtual Machine	Yes	No	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Process CPU Usage	vSphere Virtual Machine	Yes	Yes	No
Process Memory Usage	vSphere Virtual Machine	Yes	Yes	No
Read I/O	vSphere Virtual Machine	Yes	No	No
Read Latency	vSphere Virtual Machine	Yes	No	No
Read Rate	vSphere Virtual Machine	Yes	No	No
Received Packets per Second	vSphere Virtual Machine	Yes	No	No
Running Services	vSphere Virtual Machine	Yes	Yes	No
Swap In Rate	vSphere Virtual Machine	Yes	No	No
Swap Out Rate	vSphere Virtual Machine	Yes	Yes	No
Transmitted Packets per Second	vSphere Virtual Machine	Yes	No	No
Virtual Disk Provisioned	vSphere Virtual Machine	Yes	Yes	No
Virtual Disk Used	vSphere Virtual Machine	Yes	Yes	No
VM Heartbeat	vSphere Virtual Machine	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Write I/O	vSphere Virtual Machine	Yes	No	No
Write Latency	vSphere Virtual Machine	Yes	No	No
Write Rate	vSphere Virtual Machine	Yes	Yes	No
Disk/Datastore: Datastore Bus Resets	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Command Aborts	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore I/O	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Provisioned Space	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Read I/O	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Read Latency	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Read Rate	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Usage	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Write I/O	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Datastore Write Latency	vSphere Datastore	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk/Datastore: Datastore Write Rate	vSphere Datastore	Yes	Yes	No
Disk/Datastore: Free Space	vSphere Datastore	Yes	Yes	No
Average Pressure	Hyper-V Host	Yes	Yes	No
Committed Bytes	Hyper-V Host	Yes	No	No
Disk/Host: Avg Disk Queue Length	Hyper-V Host	Yes	Yes	No
Disk/Host: Avg Disk Read Bytes/sec	Hyper-V Host	Yes	Yes	No
Disk/Host: Avg Disk sec/Read	Hyper-V Host	Yes	Yes	No
Disk/Host: Avg Disk sec/Write	Hyper-V Host	Yes	Yes	No
Disk/Host: Avg Disk Usage Bytes/sec	Hyper-V Host	Yes	Yes	No
Disk/Host: Avg Disk Write Bytes/sec	Hyper-V Host	Yes	Yes	No
Guest Run Time	Hyper-V Host	Yes	No	No
Heartbeat	Hyper-V Host	Yes	Yes	No
Heartbeat Status	Hyper-V Host	Yes	Yes	No
Host CPU Wait Time	Hyper-V Host	Yes	Yes	No
Hyper-V Services Memory Consumed	Hyper-V Host	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Hyper-V Services Memory Usage	Hyper-V Host	Yes	Yes	No
Hypervisor Run Time	Hyper-V Host	Yes	No	No
Idle Time	Hyper-V Host	Yes	Yes	No
Memory Consumed	Hyper-V Host	Yes	Yes	No
Memory Usage	Hyper-V Host	Yes	Yes	No
Network Bytes Received/sec	Hyper-V Host	Yes	Yes	No
Network Bytes Sent/sec	Hyper-V Host	Yes	Yes	No
Network Bytes Total/sec	Hyper-V Host	Yes	Yes	No
Network Offloaded Connections	Hyper-V Host	Yes	No	No
Network Outbound Errors	Hyper-V Host	Yes	Yes	No
Network Output Queue Length	Hyper-V Host	Yes	Yes	No
Network Packets Received/sec	Hyper-V Host	Yes	No	No
Network Packets Sent/sec	Hyper-V Host	Yes	No	No
Network Packets/sec	Hyper-V Host	Yes	No	No
Network Received Errors	Hyper-V Host	Yes	No	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Page Faults/sec	Hyper-V Host	Yes	No	No
Page Reads/sec	Hyper-V Host	Yes	No	No
Page Writes/sec	Hyper-V Host	Yes	No	No
Pages Input/sec	Hyper-V Host	Yes	No	No
Pages Output/sec	Hyper-V Host	Yes	No	No
Pages/sec	Hyper-V Host	Yes	Yes	No
Total Interrupts/sec	Hyper-V Host	Yes	No	No
Total Run Time	Hyper-V Host	Yes	Yes	No
Total Run Time MHz	Hyper-V Host	Yes	Yes	No
vCPU Total Run Time	Hyper-V Host	Yes	No	No
Virtual Switch Bytes Received/sec	Hyper-V Host	Yes	No	No
Virtual Switch Bytes Sent/sec	Hyper-V Host	Yes	No	No
Virtual Switch Bytes/sec	Hyper-V Host	Yes	No	No
Virtual Switch Packets Received/sec	Hyper-V Host	Yes	No	No
Virtual Switch Packets Sent/sec	Hyper-V Host	Yes	No	No
Virtual Switch Packets/sec	Hyper-V Host	Yes	No	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
CPU Wait Time	Hyper-V Virtual Machine	Yes	Yes	No
Current Pressure	Hyper-V Virtual Machine	Yes	Yes	No
Demand	Hyper-V Virtual Machine	Yes	Yes	No
Errors/min	Hyper-V Virtual Machine	Yes	Yes	No
Flushes/min	Hyper-V Virtual Machine	Yes	Yes	No
Guest Disk Free Space	Hyper-V Virtual Machine	Yes	Yes	No
Guest Disk Used Space	Hyper-V Virtual Machine	Yes	Yes	No
Guest Run Time	Hyper-V Virtual Machine	Yes	Yes	No
Guest vCPU Guest Run Time MHz	Hyper-V Virtual Machine	Yes	Yes	No
Guest Visible Physical Memory	Hyper-V Virtual Machine	Yes	Yes	No
Hypervisor Run Time	Hyper-V Virtual Machine	Yes	No	No
IOPS	Hyper-V Virtual Machine	Yes	Yes	No
Legacy Network Bytes /sec	Hyper-V Virtual Machine	Yes	No	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Legacy Network Bytes Dropped/sec	Hyper-V Virtual Machine	Yes	No	No
Legacy Network Bytes Received/sec	Hyper-V Virtual Machine	Yes	No	No
Legacy Network Bytes Sent/sec	Hyper-V Virtual Machine	Yes	No	No
Physical Memory	Hyper-V Virtual Machine	Yes	Yes	No
Process CPU Usage	Hyper-V Virtual Machine	Yes	Yes	No
Process Memory Usage	Hyper-V Virtual Machine	Yes	Yes	No
Reads/sec	Hyper-V Virtual Machine	Yes	Yes	No
Running Services	Hyper-V Virtual Machine	Yes	Yes	No
Total Run Time	Hyper-V Virtual Machine	Yes	Yes	No
vCPU Total Run Time MHz	Hyper-V Virtual Machine	Yes	No	No
Virtual Disk Provisioned	Hyper-V Virtual Machine	Yes	Yes	No
Virtual Disk Used	Hyper-V Virtual Machine	Yes	Yes	No
Virtual Network Bytes /sec	Hyper-V Virtual Machine	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Virtual Network Bytes Received/sec	Hyper-V Virtual Machine	Yes	Yes	No
Virtual Network Bytes Sent/sec	Hyper-V Virtual Machine	Yes	Yes	No
Virtual Network Packets Received/sec	Hyper-V Virtual Machine	Yes	No	No
Virtual Network Packets Sent/sec	Hyper-V Virtual Machine	Yes	No	No
Virtual Storage Read Bytes/sec	Hyper-V Virtual Machine	Yes	Yes	No
Virtual Storage Usage Bytes/sec	Hyper-V Virtual Machine	Yes	Yes	No
Virtual Storage Write Bytes/sec	Hyper-V Virtual Machine	Yes	Yes	No
Writes/sec	Hyper-V Virtual Machine	Yes	Yes	No
Disk Free Space	Hyper-V Physical Disk	Yes	Yes	No
Disk Provisioned Space	Hyper-V Physical Disk	Yes	Yes	No
Disk Used Space	Hyper-V Physical Disk	Yes	Yes	No
Disk/Physical Disk: Avg Disk Queue Length	Hyper-V Physical Disk	Yes	No	No
Disk/Physical Disk: Avg Disk sec/Read	Hyper-V Physical Disk	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk/Physical Disk: Avg Disk sec/Write	Hyper-V Physical Disk	Yes	Yes	No
Disk/Physical Disk: Disk Bytes/sec	Hyper-V Physical Disk	Yes	Yes	No
Disk/Physical Disk: Disk Read Bytes/sec	Hyper-V Physical Disk	Yes	Yes	No
Disk/Physical Disk: Disk Transfers/sec	Hyper-V Physical Disk	Yes	Yes	No
Disk/Physical Disk: Disk Write Bytes/sec	Hyper-V Physical Disk	Yes	Yes	No
CSV Free Space	Hyper-V CSV 2008	Yes	Yes	No
CSV Provisioned Space	Hyper-V CSV 2008	Yes	No	No
CSV Used Space	Hyper-V CSV 2008	Yes	No	No
Disk/CSV 2008: CSV IOPS	Hyper-V CSV 2008	Yes	No	No
Disk/CSV 2008: CSV Read IOPS	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: CSV Write IOPS	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: IO Bytes/sec	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: IO Read Bytes Delta	Hyper-V CSV 2008	Yes	No	No
Disk/CSV 2008: IO Read Bytes/sec	Hyper-V CSV 2008	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk/CSV 2008: IO Reads Delta	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: IO Redirected Read Bytes/sec	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: IO Redirected Write Bytes/sec	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: IO Write Bytes Delta	Hyper-V CSV 2008	Yes	No	No
Disk/CSV 2008: IO Write Bytes/sec	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: IO Writes Delta	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: Redirected IOPS	Hyper-V CSV 2008	Yes	No	No
Disk/CSV 2008: Redirected Read Bytes Delta	Hyper-V CSV 2008	Yes	No	No
Disk/CSV 2008: Redirected Read IOPS	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: Redirected Reads Delta	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV 2008: Redirected Write Bytes Delta	Hyper-V CSV 2008	Yes	No	No
Disk/CSV 2008: Redirected Write IOPS	Hyper-V CSV 2008	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk/CSV 2008: Redirected Writes Delta	Hyper-V CSV 2008	Yes	Yes	No
Disk/CSV2008: IO Redirected Bytes/sec	Hyper-V CSV 2008	Yes	Yes	No
Cache IO Read Bytes/sec	Hyper-V CSV 2012	Yes	No	No
Cache Reads/sec	Hyper-V CSV 2012	Yes	No	No
CSV FS Free Space	Hyper-V CSV 2012	Yes	Yes	No
CSV FS Provisioned Space	Hyper-V CSV 2012	Yes	No	No
CSV FS Used Space	Hyper-V CSV 2012	Yes	No	No
Disk/CSV 2012: Direct Bytes/sec	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Direct IOPS	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Direct Latency	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: IOPS	Hyper-V CSV 2012	Yes	No	No
Disk/CSV 2012: Latency	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Queue Length	Hyper-V CSV 2012	Yes	No	No
Disk/CSV 2012: Read Bytes/sec	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Read Latency	Hyper-V CSV 2012	Yes	Yes	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk/CSV 2012: Read Queue Length	Hyper-V CSV 2012	Yes	No	No
Disk/CSV 2012: Reads/sec	Hyper-V CSV 2012	Yes	No	No
Disk/CSV 2012: Redirected Bytes/sec	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Redirected IOPS	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Redirected Latency	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Total Bytes/sec	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Write Bytes/sec	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Write Latency	Hyper-V CSV 2012	Yes	Yes	No
Disk/CSV 2012: Write Queue Length	Hyper-V CSV 2012	Yes	No	No
Disk/CSV 2012: Writes/sec	Hyper-V CSV 2012	Yes	No	No
SMB Share Free Space	Hyper-V Share	Yes	Yes	No
SMB Share Used Space	Hyper-V Share	Yes	No	No
SMB Share Provisioned Space	Hyper-V Share	Yes	No	No
Disk/Share: IOPS	Hyper-V Share	Yes	No	No

Performance Metric	Object Type	Optimized for Typical Deployment	Optimized for Advanced Scalability Deployment	Backup Data Only
Disk/Share: Writes/sec	Hyper-V Share	Yes	No	No
Disk/Share: Reads/sec	Hyper-V Share	Yes	No	No
Disk/Share: Virtual Storage Usage Bytes/sec	Hyper-V Share	Yes	No	No
Disk/Share: Virtual Storage Write Bytes/sec	Hyper-V Share	Yes	Yes	No
Disk/Share: Virtual Storage Read Bytes/sec	Hyper-V Share	Yes	Yes	No
Disk/Share: SMB Share Error Count/min	Hyper-V Share	Yes	No	No
Disk/Share: SMB Share Flush Count/min	Hyper-V Share	Yes	No	No