

Veeam Agent for Linux 4.0.1 Release Notes

This document provides last-minute information about Veeam Agent for Linux, including system requirements and installation, as well as relevant information on technical support, documentation, online resources and so on.

The release version of Veeam Agent for Linux 4.0.1 is available for installation from the Veeam software repository starting from August 4th, 2020.

The Veeam software repository package is available for download at: <https://www.veeam.com/downloads.html>. Download the package and install it on the computer where you plan to install Veeam Agent for Linux. Then follow the instructions in the [Installing Veeam Agent for Linux](#) section to install the product.

See next:

- [System Requirements](#)
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- [Updating Veeam Agent for Linux](#)
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System Requirements

Hardware

CPU: x86-64 processor (i386 or later).

Memory: 1 GB RAM or more. Memory consumption varies depending on the [backup type](#) and the total amount of backed-up data.

Disk Space: 100 MB free disk space for product installation.

Network: 10 Mbps or faster network connection to a backup target.

System firmware: BIOS or UEFI.

Disk layout: MBR or GPT.

For virtual machines: Only full virtualization type is supported. Containers and paravirtualized instances are not supported. Oracle VM virtual machines are supported with limitations.

OS

Linux kernel 2.6.32 or later¹ is supported.

Both 64-bit and 32-bit versions (if applicable) of the following distributions² are supported:

- Debian 8.0 - 10.4³
- Ubuntu 14.04, 16.04, 18.04, 19.10, 20.04³
- RHEL 6.0 - 8.2⁴
- CentOS 6.0 - 8.2⁴
- Oracle Linux 6 - 8.2 (RHCK)³
- Oracle Linux 6 (starting from UEK R1) - Oracle Linux 8 (up to UEK R6)³
- SLES 11 SP4, 12 SP1 - 15 SP1
- SLES for SAP 11 SP4, 12 SP1 - 15 SP1
- Fedora 30 - 32³
- openSUSE Leap 15.2
- openSUSE Tumbleweed³

¹ As long as you use kernels supplied by your distribution. Consider the following limitations:

- Fedora is supported up to kernel **5.7.7**, inclusive.
- openSUSE Tumbleweed is supported up to kernel **5.7.7**, inclusive.
- Linux kernel 2.6.32-754.6.3 in CentOS / RHEL and Oracle Linux (RHCK) is not supported.

² Only GA versions that have been released before the current version of Veeam Agent for Linux are supported.

³ Pre-built binary **veeamsnap** kernel module packages are not compatible with these distributions. Use the **dkms** packages instead.

⁴ Consider the following:

- Pre-built binary **veeamsnap** kernel module packages require kernel 2.6.32-131.0.15 or later for CentOS / RHEL 6 (excluding 2.6.32-279.el6.i686) and kernel 3.10.0-123 or later for CentOS / RHEL 7.0 – 7.7.
- RHEL / CentOS / Oracle Linux (RHCK) 6.10, 7.7, and 8.2 are supported up to certain kernel versions. For information about currently supported versions, see [this Veeam KB article](#).

File Systems

Veeam Agent for Linux supports consistent snapshot-based data backup for the following file systems¹:

- Btrfs (for OSES that run Linux kernel 3.16 or later)
- Ext 2/3/4
- F2FS
- FAT16
- FAT32
- HFS
- HFS+
- JFS
- NILFS2
- NTFS
- ReiserFS
- XFS

The supported file system (except for Btrfs) can reside on a simple volume or LVM2 volume; volumes protected with encryption software such as dm-crypt are supported. Btrfs is supported only if it resides directly on a physical device with no additional abstraction layers (such as LVM, software RAID, dm-crypt and so on) below or above it.

Data that resides on other file systems and volumes (including NFS and SMB shares) can be backed up using the snapshot-less mode. For details, see the [Snapshot-Less File-Level Backup](#) section in the Veeam Agent for Linux User Guide.

¹ Consider the following:

- Veeam Agent for Linux does not back up volumes that reside on USB devices and SD cards.
- Total size of all file systems included in a file-level backup must not exceed 128 TB. Size of a file included in a file-level backup must not exceed 16 TB.
- Each volume included in a backup must have a unique UUID.
- The **veeamsnap** module provides RAM-based changed block tracking (CBT) mechanism. Every time the module is unloaded or Veeam Agent for Linux computer is rebooted, CBT data is reset. As a result, Veeam Agent reads the entire data added to the backup scope to detect what blocks have changed since the last job session, and incremental backup requires greater time.
- Backup of machines used as cluster nodes is not supported (that includes backup of machines that use shared disks, clustered file systems or clustered LVM).
- Certain limitations for EMC PowerPath configuration apply. To learn more, see [this Veeam KB article](#).

- BFQ I/O scheduler is not supported.
- Sparse files are not supported. Veeam Agent backs up and restores sparse files as regular files.

Software

Protected computer must have the following components installed:

- dkms¹
- gcc¹
- make¹
- perl¹
- linux-headers² (for Debian-based systems)
- kernel-headers^{1, 2} (for RedHat-based systems)
- kernel-devel^{1, 2} (for RedHat-based systems)
- libudev
- libacl
- libattr
- lvm2
- libfuse
- libncurses5³
- dmidecode⁴
- libmysqlclient⁵
- libpq5⁶
- python3⁷
- efibootmgr (for UEFI-based systems)
- isolinux (for Debian-based systems)
- syslinux (for RedHat-based systems)
- btrfs-progs (for backup of Btrfs file system)

¹ Does not apply to CentOS, RHEL, SLES distributions. Check the [Installing Veeam Agent for Linux](#) section below for more details.

² Package version varies according to the Linux kernel version that you use.

³ For openSUSE and SLES distributions either of the following packages is required: libncurses5 or libncurses6.

⁴ Required for Veeam Agent management – a valid UUID must be obtainable either from `dmidecode | grep -i uuid` or from `/sys/class/dmi/id/product_uuid`. Each Veeam Agent that consumes a license installed in Veeam Backup & Replication must have a unique UUID. If a valid UUID cannot be obtained, Veeam will generate it automatically.

⁵ A package with the MySQL database client library is required to process MySQL database system located on the Veeam Agent server. For details, see [Backup of MySQL Database System](#). Package version varies depending on the MySQL database system version that you use.

⁶ A package with the PostgreSQL database client library is required to process PostgreSQL database system located on the Veeam Agent server. For details, see [Backup of PostgreSQL Database System](#).

⁷ Consider the following:

- Required for CentOS, RHEL 7.0 and later if a pre-built binary `kmod-veeamsnap` package is to be installed.
- If the `python3` package is not available for your Linux distribution, you can use the `python3-setuptools` package or another package that represents Python 3 in your Linux distribution. For instructions on how to install such packages, refer to the official information resources for your Linux distribution.

Backup Target

Backup can be performed to the following disk-based storage:

- Local (internal) storage of the protected computer (not recommended).
- Direct attached storage (DAS), such as USB, eSATA or Firewire external drives.
- Network Attached Storage (NAS) able to represent itself as SMB (CIFS) or NFS share.
- Veeam Backup & Replication 10 or later backup repository (including deduplication appliances).
- Veeam Cloud Connect 10 or later repository.

Known Issues

General

User interface may appear unreadable in some terminal programs due to using incorrect symbols for pseudographics. To fix the issue, do the following:

- Kitty: select the **Allow ACS line drawing in UTF** check box.

Backup

- Volume-level backup job relies on a device name under the **/dev** directory and requires volumes to have their corresponding device names under the **/dev** directory staying persistent (e.g. **/dev/md-127**, **/dev/dm-1**). Otherwise the job will back up the wrong volume.
- Backup to CIFS is not supported for x86+PAE systems.
- Directories encrypted with eCryptfs can be backed up only in the following conditions:
 - a. eCryptfs is unmounted (files will be encrypted inside the backup)
 - b. snapshot-less mode is used (files will be decrypted inside the backup)
- Network shares (both CIFS and NFS) can be selected for backup only in the snapshot-less mode.
- LVM physical volumes cannot be backed up, as well as RAID members. Only LVM/RAID logical volumes containing file systems can be backed up. If a physical volume is selected, then all logical volumes residing on that physical volume will be backed up.
- Disks partitioned with **fdisk** version older than 2.25 are not supported.
- File-level backup masks do not apply to directories.
- Backup job type cannot be switched between file and volume levels.
- Very high data change rate during backup may cause snapshot overflow. Should this happen, the job will attempt to retry processing up to 3 times with a larger snapshot.

Restore

- File-level restore cannot be performed on kernels versions 4.0.x-4.1.33 due to the bug in FUSE kernel module. To work around the issue, either upgrade the kernel, or perform file-level restore from the Recovery Media, or on another machine.
- File-level restore for files residing on eCryptfs directories does not mount eCryptfs filesystem automatically.
- Concurrent file-level restore sessions from different restore points are not supported because only one restore point can be mounted at a time. To perform a file-level restore from another restore point, unmount currently mounted one first.
- Restore of encrypted devices is not supported.

- If root partition and bootloader reside on software RAID (mdadm), the following operations will have to be performed manually via usage of the tools provided in the Recovery Media:
 - a. bootloader installation
 - b. software RAID configuration
 - c. fstab and grub configuration adjustments
- It is required to switch the agent from "Managed by backup server" mode to "Standalone" mode in order to restore from Veeam Cloud Connect repository.

Veeam Backup & Replication Integration

- Encrypted backups created with versions older than v3.0 cannot be imported to Veeam Agent for Linux directly.
- Instant Restore feature is not available for backups created with versions older than 3.0

Oracle AAIP

Databases residing on ASM volumes cannot be backed up. However, they will be prepared by AAIP engine and will be shown in Veeam Explorer for Oracle without possibility to be restored.

Configurations

For GPT disks: bootloader will not be backed up if BTRFS root and BIOS boot partition reside on different physical disks.

BTRFS Support

- Bugs and issues in the kernel that affect BTRFS snapshots and send/receive functionality can cause backup jobs to fail.
- Backup progress for subvolumes cannot be properly shown on systems with *btrfsprogs* versions lower than v4.1.
- Large overhead can be observed in the *Transferred* statistics field for backup jobs that include BTRFS that has no subvolumes.
- If the root subvolume (id 5) is more than 50% full, restore of the subvolume may fail. For details and workaround, see the following Veeam Knowledge Base article: <https://www.veeam.com/kb2877>.
- If a subvolume is deleted during restore, it is required to remove the corresponding entry from **fstab** manually. Otherwise, the system will not boot.

Snapshot-Less Mode

- Indexed BTRFS mount points cannot be browsed or restored in Veeam Backup Enterprise Manager.
- The *tmpfs* file system cannot be backed up in the snapshot-less mode.

ISO

UI may not show backups that contain localized symbols in their names.

Agent Management

- Existing backup policies will stop working and receive updates if the backup server IP address changes.
- Statistics for file-level backup jobs managed by the backup server may be inaccurate.

- A backup job managed by the backup server will perform merge even if a corrupted restore point is present in a backup chain. The corrupted restore point will be deleted during the next job run.

Other

- A backup job that uses a network folder as a target cannot be created on systems with Kaspersky Endpoint Security 10.
- If an LVM physical volume is selected for backup, all volume groups that fully reside in this physical volume will be backed up.

Installing Veeam Agent for Linux

TIP:

For information on auto-deployment, refer to the Veeam Agent Management Guide at: <https://www.veeam.com/documentation-guides-datasheets.html>.

To install Veeam Agent for Linux:

1. Download the latest version of the Veeam software repository installation package from the Veeam Download page at <https://www.veeam.com/linux-backup-download.html> to the computer where you want to install the product.
2. Browse to the directory with the downloaded **veeam-release** package and install the repository using one of the following commands depending on your Linux distribution:

Debian	<code>dpkg -i ./veeam-release¹</code>
Ubuntu	<code>apt-get update</code>
CentOS	
Fedora	<code>rpm -ivh ./veeam-release¹</code>
Oracle Linux	<code>yum check-update</code>
RHEL	
openSUSE	<code>zypper in ./veeam-release¹</code>
SLES	<code>zypper refresh</code>

3. Install Veeam Agent for Linux:

Debian	
Ubuntu	<code>apt-get install veeam</code>
CentOS¹	
Fedora	
Oracle Linux	<code>yum install veeam</code>
RHEL¹	
openSUSE	Tumbleweed: <code>zypper in veeam</code> Leap 15.1: <code>zypper in veeamsnap-kmp-default</code> <code>zypper in veeam</code>

<p>SLES 11 SP4</p>	<p>Default kernel:</p> <pre>zypper in veeamsnap-kmp-default zypper in veeam</pre> <p>Trace kernel:</p> <pre>zypper in veeamsnap-kmp-trace zypper in veeam</pre> <p>Xen kernel:</p> <pre>zypper veeamsnap-kmp-xen zypper in veeam</pre> <p>PAE kernel:</p> <pre>veeamsnap-kmp-pae zypper in veeam</pre>
<p>SLES 12 SP1 - SLES 15 SP1</p>	<p>Default kernel:</p> <pre>zypper in veeamsnap-kmp-default zypper in veeam</pre> <p>Xen kernel:</p> <pre>zypper in veeamsnap-kmp-xen zypper in veeam</pre>

HINT:

System will ask for your permission to perform tasks such as downloading required packages, importing GPG keys from the repository etc. You can append the abovementioned commands with the `-y` key to answer "yes" automatically, for example:

```
yum install veeam -y
```

¹ Prebuilt binaries require kernel \geq 2.6.32-131.0.15 for **CentOS / RHEL 6** and kernel \geq 3.10.0-123 for **CentOS / RHEL 7** to function. For other kernels please install the **veeamsnap** module using the source rpm package available at the [repository](#).

The following dependency packages may require special handling in case you see installation errors:

- **dkms** package is not present in default repositories for some Linux distributions. You should obtain it from third-party repositories:
 - **Oracle Linux, Fedora: EPEL** repository
 - **OpenSUSE: Packman** repository
- Extended kernels such as **kernel-pae**, **kernel-uek** and other require appropriate **kernel-devel** packages to be installed, for example:

Kernel	Required Package
kernel-uek	kernel-uek-devel
kernel-default	kernel-default-devel
kernel-pae	kernel-pae-devel

The **kernel-devel** version must match your current kernel version. To check your current kernel version, run `uname -r`.

Oracle Linux: if **yum** package manager installs packages that do not match your current kernel version, you should either update your system or fetch older versions of the required packages from **Oracle** repository: <http://yum.oracle.com/>.

Updating Veeam Agent for Linux

WARNING!

Make sure that there are no jobs running on the host before update!

To update Veeam Agent for Linux:

Debian	<code>apt-get update</code>
Ubuntu	<code>apt-get install -only-upgrade veeam</code>
CentOS¹ RHEL¹	<pre> yum update veeam rpm -e --nodeps dkms veeamsnap yum install kmod-veeamsnap* or yum install kmod-veeamsnap* yum update veeam rpm -e dkms veeamsnap </pre>
Fedora Oracle Linux	<code>yum update veeam</code>
openSUSE¹	<p>Tumbleweed:</p> <pre>zypper update veeam</pre> <p>Leap 15.1:</p> <pre>zypper in veeamsnap-kmp-default-4.0.1.2365_k4.12.14_lp151.27-2.1 zypper in --force veeamsnap-kmp-default-4.0.1.2365_k4.12.14_lp151.27-2.1</pre>
SLES 11 SP4¹	<p>Default kernel:</p> <pre>zypper in veeamsnap-kmp-default zypper in --force veeamsnap-kmp-default</pre> <p>Xen kernel:</p> <pre>zypper in veeamsnap-kmp-xen zypper in --force veeamsnap-kmp-xen</pre> <p>Trace kernel:</p> <pre>zypper in veeamsnap-kmp-trace zypper in --force veeamsnap-kmp-trace</pre> <p>PAE kernel:</p> <pre>zypper in veeamsnap-kmp-pae zypper in --force veeamsnap-kmp-pae</pre>
SLES 12 SP1 - SLES 15 SP1¹	<p>Default kernel:</p> <pre>zypper in veeamsnap-kmp-default zypper in --force veeamsnap-kmp-default</pre> <p>Xen kernel:</p> <pre>zypper in veeamsnap-kmp-xen zypper in --force veeamsnap-kmp-xen</pre>

¹ The `--force` key is required to properly replace the missing link to **.ko** in case of update from the **dkms** version of **veeamsnap** to a prebuilt binary. To stay on the **dkms** version run:

For CentOS, RHEL

```
yum update veeamsnap && yum update veeam
```

For SLES / openSUSE

```
zypper update veeam
```

Uninstalling Veeam Agent for Linux

To uninstall Veeam Agent for Linux:

Debian Ubuntu	<code>apt-get remove veeam veeamsnap</code>
CentOS Fedora Oracle Linux RHEL	<code>yum remove veeam veeamsnap</code>
openSUSE SLES	<code>zypper rm veeam veeamsnap</code>

Licensing

By installing Veeam Agent for Linux, you agree to the Veeam End User License Agreement (EULA) and 3rd party components license agreements. To view the license agreement, click the Veeam End User License Agreement link in the setup program, or visit the following link: <https://www.veeam.com/eula.html>.

Veeam Agent for Linux comes in different editions. You do not need to obtain or install a license to use the free edition.

Paid editions of Veeam Agent for Linux are licensed per protected computer ("Computer"). The paid license includes a one-year maintenance plan. To renew your license, please contact Veeam customer support at: renewals@veeam.com.

Technical Documentation References

To view the product help, type in your terminal:

```
man veeamconfig
```

If you have any questions about Veeam Agent for Linux, you may use the following resources:

- **Product web page:** <https://go.veeam.com/linux>
- **User guide:** <https://helpcenter.veeam.com/docs/agentforlinux/userguide/>
- **Community forums:** <https://forums.veeam.com/veeam-agent-for-linux-f41>

Technical Support

We offer email and phone technical support for customers with current subscriptions, as well as during the official evaluation period. For better experience, please provide the following when contacting our technical support:

- Version information for the product and all infrastructure components.
- Error message and/or description of the problem you are having.
- Log files. To export the log files, open Veeam Agent for Linux user interface, press **M**, select **Export Logs**, and choose a directory to export logs to.

To submit your support ticket or obtain additional information please visit <https://www.veeam.com/support.html>.

HINT:

Before contacting technical support, consider searching for a resolution on Veeam community forums at <https://www.veeam.com/forums>.

Contacting Veeam Software

At Veeam Software we pay close attention to comments from our customers. It is important to us not only to quickly help you with your technical support issues – we make it our mission to listen to your input, and to build our products with your suggestions in mind. Should you have a Customer Support issue or question, please feel free to contact us. We have qualified technical and customer support staff available 24 hours a day, 7 days a week who will help you with any inquiry that you may have.

Customer Support

For the most up to date information about our support practices, business hours and contact details, please visit <https://www.veeam.com/support.html>. You can also use this page to submit a support ticket and download the support policy guide.

Company Contacts

For the most up to date information about company contacts and offices location, please visit <https://www.veeam.com/contacts>.