VEEAM BACKUP & REPLICATION 9.0 U2 RELEASE NOTES

This **Release Notes** document provides last-minute information about Veeam Backup & Replication 9.0 Update 2, including system requirements, installation and upgrade procedure, as well as relevant information on technical support, documentation, online resources and so on.

The release version of Veeam Backup & Replication 9.0 and Update 2 is available for download at: www.veeam.com/vmware-esx-backup-download.html starting from July 22, 2016.

See next:

- System Requirements
- Known Issues
- Installing Veeam Backup & Replication
- Uninstalling Veeam Backup & Replication
- Upgrading Veeam Backup & Replication
- Licensing
- Updating Veeam Backup & Replication License
- Technical Documentation References
- Technical Support
- Contacting Veeam Software

System Requirements

Unless otherwise stated, only the latest update and patch level of 3rd party software is supported.

VMware Infrastructure

Platforms

- vSphere 6.0
- vSphere 5.x
- vSphere 4.1

Hosts

- ESXi 6.0
- ESXi 5.x
- ESX(i) 4.1

Software

- vCenter Server 6.0 (optional)
- vCenter Server 5.x (optional)
- vCenter Server 4.1 (optional)
- vCloud Director 5.1, 5.5, 5.6, 8.0, 8.10 (optional)

vSphere Virtual Machines

Virtual Hardware

- All types and versions of virtual hardware are supported, including 62TB VMDK.
- Virtual machines with disks engaged in SCSI bus sharing are not supported, because VMware does not support snapshotting such VMs.
- RDM virtual disks in physical mode, Independent disks, and disks connected via in-guest iSCSI initiator are not supported, and are skipped from processing automatically.

OS

- All operating systems supported by VMware.
- Application-aware processing for Microsoft Windows 2003 and later.
- File level restore is supported for the following file systems, including Microsoft Windows LDM (Logical Disk Manager) dynamic disks and Linux LVM (Logical Volume Manager):

OS	Supported File Systems
Windows	FAT, FAT32 NTFS ReFS
Linux	ext, ext2, ext3, ext4 ReiserFS JFS XFS Btrfs
BSD	UFS, UFS2
Mac	HFS, HFS+
Novell OES	NSS
Solaris	UFS ZFS (except any pool versions of Oracle Solaris)

Software

- VMware Tools (optional)

Microsoft Infrastructure

Platforms

- Windows Server 2012 R2
- Windows Server 2012
- Windows Server 2008 R2 SP1

Hosts

- Windows Server Hyper-V 2012 R2
- Windows Server Hyper-V 2012
- Windows Server Hyper-V 2008 R2 SP1
- Microsoft Hyper-V Server (free hypervisor) is supported
- Hosts must have all relevant Windows Server hot fixes installed (refer to KB1838)

Software

- Microsoft System Center Virtual Machine Manager 2012 R2 (optional)
- Microsoft System Center Virtual Machine Manager 2012 SP1 (optional)
- Microsoft System Center Virtual Machine Manager 2008 R2 SP1 (optional)

Hyper-V Virtual Machines

Virtual Hardware

- All types and versions of virtual hardware are supported, including Generation 2 virtual machine hardware and 64TB VHDX.
- Pass-through virtual disks and disks connected via in-guest iSCSI initiator are not supported, and are skipped from processing automatically.

OS

- All operating systems supported by Hyper-V.
- Application-aware processing is supported for Microsoft Windows 2003 and later.
- File level restore is supported for the following file systems, including Microsoft Windows LDM (Logical Disk Manager) dynamic disks and Linux LVM (Logical Volume Manager):

OS	Supported File Systems
Windows	FAT, FAT32 NTFS ReFS
Linux	ext, ext2, ext3, ext4 ReiserFS JFS XFS Btrfs
BSD	UFS, UFS2
Mac	HFS, HFS+
Solaris	UFS ZFS (except any pool versions of Oracle Solaris)

Software

- Hyper-V integration components (optional)

Veeam Backup & Replication Server

Hardware

CPU: x86-64 processor.

Memory: 4 GB RAM plus 500 MB RAM for each concurrent job.

Disk Space: 2 GB for product installation and 4.5 GB for Microsoft .NET Framework 4.5.2 installation. 10 GB per 100 VM for guest file system catalog folder (persistent data). Additional free disk space for Instant VM Recovery cache folder (non-persistent data, at least 10 GB recommended).

Network: 1 Gbps or faster for on-site backup and replication, and 1 Mbps or faster for off-site backup and replication. High latency and reasonably unstable WAN links are supported.

OS

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

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2008 SP2
- Microsoft Windows 10
- Microsoft Windows 8.x
- Microsoft Windows 7 SP1

Software

- Microsoft SQL Server 2014/2012/2008R2/2008/2005 (SQL 2012 Express is included)
- System Center Virtual Machine Manager 2012R2/2012/2008R2 Admin UI (optional, to be able to register SCVMM server with Backup & Replication infrastructure)
- Microsoft .NET Framework 4.5.2 (included in the setup)
- Windows Installer 4.5 (included in the setup)
- Microsoft PowerShell 2.0 or later (optional)
- Firefox, Google Chrome, Microsoft Edge or Microsoft Internet Explorer 10.0 or later

Veeam Backup & Replication Console

Hardware

CPU: x86-64 processor.

Memory: 2 GB RAM

Disk Space: 500 MB for product installation and 4.5 GB for Microsoft .NET Framework 4.5.2 installation.

Network: 1 Mbps connection to the backup server. High latency and low bandwidth impact user interface responsiveness.

OS

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

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2008 SP2
- Microsoft Windows 10
- Microsoft Windows 8.x
- Microsoft Windows 7 SP1

Software

- Microsoft .NET Framework 4.5.2 (included in the setup)
- Windows Installer 4.5 (included in the setup)
- Microsoft PowerShell 2.0 or later (optional)
- Firefox, Google Chrome, Microsoft Edge or Microsoft Internet Explorer 10.0 or later

Backup Proxy Server

Hardware

CPU: modern x86 processor (minimum 2 cores or vCPUs). Using multi-core processors improves data processing performance, and allows for more tasks to be processed concurrently by proxy.

Memory: 2 GB RAM plus 200MB for each concurrent task. Using faster memory (DDR3) improves data processing performance.

Disk Space: 300 MB.

Network: 1 Gbps or faster for on-site backup and replication, and 1 Mbps or faster for off-site backup and replication. High latency and reasonably unstable WAN links are supported.

OS

For VMware backup proxy server, both 32-bit and 64-bit versions of the following operating systems are supported:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2008 SP2
- Microsoft Windows 10
- Microsoft Windows 8.x
- Microsoft Windows 7 SP1
- Microsoft Windows Vista SP2

For Hyper-V off-host backup proxy server, only the following operating system is supported:

- Microsoft Windows Server 2012 R2 with Hyper-V role enabled
- Microsoft Windows Server 2012 with Hyper-V role enabled
- Microsoft Windows Server 2008 R2 SP1 with Hyper-V role enabled

Software

For vSphere 5.5 backup proxy server on Microsoft Windows Server 2008 or earlier:

- Microsoft Visual C++ 2008 SP1 Redistributable Package (x64). Installation package can be downloaded from http://vee.am/runtime

Backup Repository Server

Hardware

CPU: x86 processor (x86-64 recommended).

Memory: 4 GB RAM, plus up to 2 GB RAM (32-bit OS) or up to 4 GB RAM (64-bit OS) for each concurrent job depending on backup chain's length and backup files sizes.

Network: 1 Gbps or faster for on-site backup and replication, and 1 Mbps or faster for off-site backup and replication. High latency and reasonably unstable WAN links are supported.

OS

Both 32-bit and 64-bit (recommended) versions of the following operating systems are supported:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2008 SP2
- Microsoft Windows 10
- Microsoft Windows 8.x
- Microsoft Windows 7 SP1
- Microsoft Windows Vista SP2
- Linux (bash shell, SSH and Perl are required)

Tape Server

Hardware

CPU: x86 processor (x86-64 recommended).
Memory: 2 GB RAM plus 200MB for each concurrent task.
Disk Space: 300 MB.
Network: 1 Gbps or faster.

OS

Both 32-bit and 64-bit (recommended) versions of the following operating systems are supported:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2008 SP2
- Microsoft Windows 10
- Microsoft Windows 8.x
- Microsoft Windows 7 SP1
- Microsoft Windows Vista SP2

WAN Accelerator Server

Hardware

CPU: x86-64 processor. Using multi-core processors improves data processing performance, and is highly recommended on WAN links faster than 10 Mbps.

Memory: 8 GB RAM. Using faster memory (DDR3/DDR4) improves data processing performance.

Disk Space: Disk space requirements depend on the WAN Accelerator role:

Source WAN Accelerator requires 20 GB per 1 TB of source data to store digests of data blocks of source VM disks. Disk space consumption is dynamic and changes as unique VMs are added to (or removed from) to jobs with WAN Acceleration enabled.

Target WAN Accelerator requires global cache size as defined by user (fixed amount). Disk space is reserved immediately upon selecting WAN Accelerators as a target one in any job.

Network: 1 Gbps or faster for on-site backup and replication, and 1 Mbps or faster for off-site backup and replication. High latency and reasonably unstable WAN links are supported.

Hint	Global cache is not leveraged by Source WAN Accelerators, and so does not need to be allocated and populated on WAN Accelerators used only as source ones.

OS

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

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2008 SP2
- Microsoft Windows 10
- Microsoft Windows 8.x
- Microsoft Windows 7 SP1
- Microsoft Windows Vista SP2

Backup Enterprise Manager

Hardware

Processor: x86-64 processor.

Memory: 4 GB RAM.

Hard Disk Space: 2 GB for product installation plus sufficient disk space to store guest file system catalog from connected backup servers (according to data retention policy).

Network: 1 Mbps or faster connection to Veeam Backup & Replication servers.

OS

Only 64-bit version of the following operating systems is supported:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2008 SP2
- Microsoft Windows 10
- Microsoft Windows 8.x
- Microsoft Windows 7 SP1

Server Software

- Microsoft Internet Information Services 7.0 or later
- Microsoft SQL Server 2014/2012/2008R2/2008/2005 (SQL 2012 Express included in the setup)
- Microsoft .NET Framework 4.5.2 (included in the setup)
- Windows Installer 4.5 (included in the setup)

Client Software

- Firefox, Google Chrome, Microsoft Edge or Microsoft Internet Explorer 10.0 or later
- Microsoft Excel 2003 or later (to view Excel reports).

Veeam Backup Search Server

Hardware

Refer to the Microsoft Search Server system requirements.

OS

Refer to the Microsoft Search Server system requirements.

Software

- Microsoft Search Server 2010 (including Express Edition).
- Microsoft Search Server 2008 (including Express Edition).

Backup Target

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

- Local (internal) storage of the backup repository server.
- Direct Attached Storage (DAS) connected to the backup repository server, including external USB/eSATA drives and raw device mapping (RDM) volumes.
- Storage Area Network (SAN). Backup repository server must be connected into the SAN fabric via hardware or virtual HBA, or software iSCSI initiator, and the corresponding volumes must be mounted in the guest operating system of the backup repository server.
- Network Attached Storage (NAS) able to represent itself as SMB (CIFS) share (direct operation), or NFS share (must be mounted on a Linux backup repository server).
- EMC DataDomain (DD OS version 5.4, 5.5, 5.6 or 5.7) with DDBoost license. Both Ethernet and Fibre Channel (FC) connectivity is supported.
- ExaGrid (firmware version 4.8.0.351.P28 or later).
- HPE StoreOnce (firmware version 3.13.1 or later) with Catalyst license. Both Ethernet and Fibre Channel (FC) connectivity is supported.

Storage Integration

Backup from Storage Snapshots and Veeam Explorer for Storage Snapshots is supported for the following storage devices:

EMC VNX and VNX2

- NFS, Fibre Channel (FC) or iSCSI connectivity.

EMC VNXe and EMC Unity

- NFS, Fibre Channel (FC) or iSCSI connectivity.

HPE 3PAR StoreServ

- Fibre Channel (FC) or iSCSI connectivity.
- 3PAR OS 3.1.2 or later.

HPE StoreVirtual (LeftHand / P4000 series) and StoreVirtual VSA

- iSCSI connectivity only.
- SAN/iQ version 9.5 or later.

NetApp FAS, FlexArray (V-Series), Edge VSA and IBM N Series (NetApp FAS OEM)

- NFS, Fibre Channel (FC) or iSCSI connectivity.
- Data ONTAP versions from 8.1 up to 8.3.2
- 7-mode or cluster-mode

Tape

Hardware

LTO3 or later tape libraries (including VTL) and standalone drives are supported. Tape device must be directly attached to the backup server, to a tape server via SAS, FC or iSCSI interface. Note that VMware does not support connecting tape libraries to ESX(i) for VM pass-through.

Software

- We recommend that you install device-specific, vendor-supplied OEM drivers for Windows. Devices without such drivers installed will appear in Windows Device Manager as Unknown or Generic and require enabling native SCSI commands mode.
- If multiple driver installation modes are available for your tape device, use the one that allows for multiple open handles from a host to a drive to exist at the same time. For example, if your tape vendor provides "exclusive" and "non-exclusive" drivers, you should install the "non-exclusive" one.
- No other backup server must be interacting with the tape device.

Veeam Explorer for Microsoft Active Directory

Microsoft Active Directory Domain Controllers

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008
- Microsoft Windows Server 2003 SP2

Minimum supported domain and forest functional level is Windows 2003.

Veeam Explorer for Microsoft Exchange

Microsoft Exchange
- Microsoft Exchange 2016
- Microsoft Exchange 2013
- Microsoft Exchange 2010 SP1

Software
- Microsoft Outlook 2010 or later (64-bit) for PST exports (optional)

Veeam Explorer for Microsoft SharePoint

Microsoft SharePoint
- Microsoft SharePoint 2013
- Microsoft SharePoint 2010

The 3rd-party RBS providers are not supported in the current version.

Veeam Explorer for Microsoft SQL Server

Microsoft SQL Server
- Microsoft SQL Server 2014
- Microsoft SQL Server 2012
- Microsoft SQL Server 2008 R2
- Microsoft SQL Server 2008
- Microsoft SQL Server 2005 SP4

Veeam Explorer for Oracle

OS
Both 32-bit and 64-bit version of the following operating systems is supported:
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008
- Microsoft Windows Server 2003 SP2
- CentOS 5 or later
- RedHat 5 or later
- Oracle Linux 5 or later
- SUSE Linux Enterprise 12 (Oracle 12 only)

Oracle Database
- Oracle 12
- Oracle 11

Configuration
- Oracle Automatic Storage Management (optional, requires ASMlib present)

Known Issues

General

Backup infrastructure

- By default, storage infrastructure is rescanned every 10 minutes. Perform "Rescan Storage" operation manually after storage infrastructure changes, otherwise backup proxies will not "see" the newly added volumes immediately.
- Backup proxy server cannot backup to a CIFS share based backup repository when CIFS share is located on the same server as the backup proxy server. To work around this, create regular Windows based backup repository on the proxy server instead.
- Linux servers registered with Veeam Backup & Replication infrastructure must use Password or Certificate-based authentication methods and bash shell.
- All registered server names must be resolvable into IPv4 address.
- NETBIOS names of backup servers must be resolvable on Enterprise Manager server.
- Network traffic verification does not function when the Use multiple upload streams per job option is disabled. To work around, enable and set connection count to 1.
- All sensitive information, such as user credentials or encryption keys are stored in the configuration database encrypted with machine-specific private key of backup server. Accordingly, a newly installed backup server will not be able to decrypt such information if attached to the existing database, so any encrypted information will have to be supplied manually. To work around this, use the configuration backup and restore functionality for backup server migrations.

VMware

- Processing of VMs with @ symbol in VM name fails on vCenter Server 5.1 or earlier.
- For populating replica disks during incremental replication passes and failback, Windows Vista, Windows 7 and Windows 8 based backup proxy servers support "network" processing mode only. To work around this, install backup proxy servers on Windows Server OS.
- On Windows versions prior to 2008, the virtual backup proxy server using Microsoft iSCSI Software Initiator for storage access may crash or reset while running VMware vStorage API "SAN" mode job due to interoperability issues with iSCSI Initiator. To avoid the issue, change the backup proxy VM virtual disks to IDE.
- Virtual backup proxy server cannot be used to backup, replicate or copy itself in virtual appliance (hot add) mode. Jobs configured to do this will automatically failover to Network processing mode. CBT will be disabled for proxy VM.
- Virtual backup proxy server must have VMware Tools installed; otherwise it will be considered as not running, and will never be assigned any tasks.
- VMware vStorage API for Data Protection has some limitation preventing hot add process depending on VM configuration. For complete list of hot add limitations, refer to this support KB article. With the default proxy settings, should hot add operation fail, the job will failover to the network mode for specific virtual disk.
- Processing of Fault-Tolerant VMs created on vSphere versions prior to vSphere 6 is not supported.

- Hard Disk restore may fail with the *"Restore job failed Error: Controller with BusNumber 0 was not found"* error when SCSI controller is missing on the destination VM. To work around this, add SCSI controller (or SCSI disk) manually first by editing VM virtual hardware settings with vSphere Client.
- Disk mapping functionality is not supported for IDE and SATA disks in the Hard Disk Restore wizard.
- Restore and replication of VMs between different ESX(i) versions requires that VM's virtual hardware version is compatible with the target host.
- Restoring VM with non-standard virtual disk layout (such as converted from VMware Workstation or VMware Server) as thin may fail. To work around this issue, restore these disks as thick.
- Instantly recovered VM with non-standard virtual disk layout (such as converted from VMware Workstation or VMware Server) and running on ESX(i) 4.x host and with change redirection to datastore enabled cannot be properly quick migrated.
- Virtual disk placement and type cannot be customized during full VM restore when restoring backups produced by version earlier than 6.1.
- Replication jobs may fail if source or target datastore has special symbols in its name.
- Network-less interaction with Microsoft Windows guests having UAC enabled (Vista or later) requires that Local Administrator (MACHINE\Administrator) or Domain Administrator (DOMAIN\Administrator) account is provided on Guest Processing step.
- Guest customization settings are not backed up and restored for vCloud Director VMs.
- Virtual appliance (hot add) processing mode does not support IDE disks. This is by design of VMware hot add functionality, which requires SCSI or SATA adaptors (SATA hot add support requires vSphere 6 or later).
- Direct NFS Access is not supported for VMs with existing snapshot, when VMware quiescence is enabled, or when Kerberos authentication is enabled on a storage device.
- Direct SAN restore to vSphere 5.1 or earlier fails with the *"Cannot correct unaligned offset"* error when virtual disk size is not evenly divisible by VMFS block size.
- Due to a change in ESXi 6.0 Update 1, replication and quick migration to VVol datastores is not possible with either Veeam or vSphere replication.
- RDM disks in virtual compatibility mode are skipped during Backup from Storage Snapshot.

Hyper-V

- Restore or failback to a different location fails with the *"Failed to perform failback Error: Invalid query"* error if a VM has the " symbol in its name.
- Virtual disks consisting of multiple files (such as from virtual machines originally created on Virtual Server 2005) are not supported for processing.
- CPU Type SCVMM parameter is not backed up and restored on Hyper-V VMs.
- When replicating from older to newer Hyper-V host version, failback is only supported to the original location if the original VM still exists.
- Backup of VMs with virtual disks located both on local and shared CSV/SMB storage is not supported due to Hyper-V limitation.
- Deleting Hyper-V replica from disk does not delete the replica VM from SCVMM.
- Offhost backup from deduplicated volume fails if Data Deduplication feature is disabled on backup proxy server, or is incompatible with deduplication version used on backed up volume.
- Shared VHDX virtual disks can be backed up in crash-consistent mode only.
- SCSI disk exclusions settings are limited to first 16 disks.

- Transaction log backup for Microsoft SQL Cluster running on shared VHDX is not supported due to a Microsoft limitation (no VSS support for Shared VHDX).
- Restoring a VM into the root folder of SMB share fails. To work around the issue, restore VM into a subfolder instead.

Failover

- Starting a replicated VM using means other than the product's user interface (including vSphere Client, Hyper-V Manager, SCVMM, PowerShell) disables advanced replication functionality such as Re-IP and failback.

Windows File Level Restore

- File level restore may fail if a VM you are restoring from was lacking free disk space at the time of backup.
- Storage Spaces volumes are not supported for file level recovery. Consider using Instant VM Recovery to recover guest files from such VMs. Note that Microsoft does not support Storage Spaces within a VM.
- To restore files from deduplicated volumes, mount server and backup console must be installed on Windows Server 2012 with Data Deduplication feature enabled. In Windows Server 2012 R2 environments, be sure to use Windows Server 2012 R2, as Windows Server 2012 deduplication driver is not compatible with Windows Server 2012 R2 deduplication, causing file level recovery errors with false data corruption reports.

Multi-OS File Level Restore

- Legacy Logical Volume Manager version 1 (LVM1) volumes are not supported.
- Encrypted LVM volumes are not supported.
- Spanned, striped, mirrored and RAID-5 Windows dynamic disks are not supported. To work around, use Windows FLR instead.
- Non-standard file system configurations support is limited (for example, configurations when file system journal is located on another volume, separately from actual file system are only supported for ext3 file system, but not for other file systems).
- Restoring files to the original location for Windows VMs is not supported. To work around, use Windows FLR instead.

Enterprise Manager

- Reverse DNS lookup on Enterprise Manager server must be functional for setting up self-service recovery delegation scope.
- The presence of .NET 3.5.1 WCF HTTP Activation Windows component prevents Enterprise Manager from functioning. To work around the issue, uninstall this component.

Guest file system indexing

- File ownership data is not collected for files on non-NTFS volumes.
- File ownership data is not collected for guest files of Hyper-V VMs.

SureBackup

- Automatic virtual lab configuration is not supported for networks with non-private network addresses.
- Automatic virtual lab networking configuration process may fail with the "*Unable to resolve default network settings*" error. To work around this issue, go back in the wizard and try again.
- Automatic virtual lab networking configuration may fail in some case when DVS are present in virtual environment. In such cases, use advanced configuration mode to configure virtual lab networking manually.
- SureBackup job fails on VM with unsupported or excluded virtual disks which were not explicitly set to be removed from configuration (as a part of disk exclusion settings in the backup job), because test VM cannot find its disks and is unable to start.
- Automatic physical mode RDM disk exclusion in the backup job may lead to situation when test VM is able to connect RDM disk, and produce irreversible changes on the disk. To avoid this, always exclude physical RDM disk from backup job explicitly, selecting the option to remove the excluded disks from configuration.
- Some antivirus applications are known to cause BSOD on backup repository server when SureBackup job is started. To prevent this, exclude backup folders from monitoring.
- SureReplica does not support replica restore points created by Veeam Backup & Replication versions 6.5 or earlier.

Cloud Connect

- SQL transaction log backup to a cloud repository is not supported.
- Cloud replicas status is not refreshed in real-time, but rather periodically. You can press F5 to retrieve the most current state.
- For non-Windows VMs, guest network settings cannot be detected automatically. Because of that, network mapping in the replication job wizard must be performed manually. Additionally, if you are replicating non-Windows VMs only, you need to manually specify the default gateways for each production network using Manage Default Gateways dialog on the Service providers node of the Backup infrastructure tab of the management tree.
- Network extension functionality requires static IP addresses assigned on the processed VMs. Dynamic IP addressing via DHCP is not supported.
- Failover plans session cannot be viewed once failover has been performed.

Configuration backup and restore

- Restoring v7 configuration results in copying backup files that were copied to tape after the configuration backup was taken over again.
- Replica restore points rescan fails after restoring a v7 configuration to a v8 backup server. To work around, let each replication job perform at least one cycle, which will initiate rescan of all replicas automatically.
- Configuration restore does not change tape server owner information, resulting in ownership errors during catalogization. To work around, click through the tape server settings wizard once.
- Under certain circumstances, some encrypted backups may get disconnected from the corresponding job and appear as Imported. To work around, use backup mapping functionality to reconnect the job to backup files.
- Immediately after configuration restore, Enterprise Manager may show duplicate jobs, and some jobs may be missing. The issue will go away by itself after some time.

Tape

- File to Tape job fails building a list of files to process, if catalog contains files with certain Unicode symbols.
- Backup to Tape job will perform full backup during each run if source forever forward incremental backup job has retention of less than 3 restore points, or source backup copy job has retention of less than 4 restore points
- SQL transaction log backup to tape is not supported.
- If you manage several tape libraries with the same Veeam backup server and use barcodes to identify tapes in these libraries, all barcodes must be unique across all tape libraries.
- Synthesized full backup processing is skipped for forever forward incremental backup jobs when Backup to Tape job is set not to process increments.

Veeam Explorer for Microsoft Active Directory

- Link attributes without the corresponding back link to deleted objects are not restored, if both deleted objects and links are restored in a single restore operation. To work around, perform the restore once again.

Veeam Explorer for Microsoft Exchange

- Sending restored objects to users may fail for items larger than 3MB. To work around, download and install the following fix from Microsoft.

Veeam Explorer for Oracle

- Database restore may fail if backed up Oracle server version and target server version have different patch levels.
- Oracle Real Application Clusters (RAC) are not supported.
- Oracle XE on Linux is not supported.
- 32-bit Oracle application running on 64-bit operating systems is not supported.

Veeam Explorer for Microsoft SharePoint

- Modified By field of restored documents is updated with the account performing restore.
- Restored Issue list items are assigned new Issue ID.
- Restore of custom document libraries and lists is not supported.
- Restore of Time Card list is not supported.
- Versioning settings of SharePoint lists are not preserved on restore.
- Restoring Generic List and Pages Library may fail with the "*No content type 'XXX' found in web YYY*" error.
- Importing Picture Library export may result in IDs changed for some items.
- Importing Project Tasks list export does not preserve column order.
- Importing SharePoint list export does not preserve Validation Settings
- Some Rating Settings of Discussion lists values are not restored.

Veeam Explorer for Microsoft SQL Server

- Transaction log backup requires that at least one image-level backup of SQL Server VM is performed. This particularly means that transaction log backup will not function after full SQL Server VM restore is performed, or for newly appearing databases, until first image-level VM backup is performed.
- Point in time restores from replicas and backups created with Backup Copy jobs are not supported.
- Point in time restore with fine tuning requires that all nodes of the same AlwaysOn availability group are located in the same time zone.
- Transaction log backups is not supported for Windows Server 2008 or earlier guests on Hyper-V 2012 R2.

Veeam Explorer for Storage Snapshots

- VMs with virtual disk files located on different storage volumes are not supported. Only disks residing on the same datastore with VMX file will be available for all restore types.
- Virtual disk restore fails for VMs with absolute path to virtual disks in VMX file.
- Storage snapshots and volumes with name starting with "Veeam_" are automatically excluded from processing.

EMC VNX(e)

- Legacy SnapView snapshot technology is not supported in favor of VNX Snapshot.
- Concurrent operations from the same LUN (such as backup and restore) is not supported due to EMC VNXe limitation.

NetApp

- Infinite volumes are not supported.
- vFiler DR units are not supported, and are automatically hidden by the UI.
- Configurations with VM stored on a non-default vFiler based on qtree (instead of volume) is not supported.

HPE StoreOnce Catalyst

- Quick Migration of Hyper-V virtual machines running from backup residing in a Catalyst store is not supported due to HPE StoreOnce limitation.
- For performance reasons, Veeam will use High Bandwidth mode. This may result in high bandwidth utilization during remote backup. We recommend that you configure remote Catalyst store use Low Bandwidth mode manually using HPE StoreOnce user interface.

Globalization

- Non-Latin characters are not supported in the: product's installation path; job names; backup target path and file names; accounts and passwords; source or destination path of SSH-enabled file copy operations; virtual machine properties; in VM file and folder names for multi-OS file level recovery to the original location.
- Some user interface (UI) controls may appear misplaced with the product installed on Eastern locales, and when non-standard diplay's DPI setting is set. To work around the issue, change DPI setting back to 100% using Display settings of the Windows Control Panel.

PowerShell

- Restores from imported backups residing on a CIFS share are not supported through PowerShell.

Upgrade

- First Hyper-V backup and replication job run after upgrade will not use the changed block tracking information, and thus may take longer than expected.

Installing Veeam Backup & Replication

Veeam Backup & Replication Server

To install Veeam Backup & Replication 9.0 server and management console:

1. Download the latest version of Veeam Backup & Replication 9.0 ISO from: www.veeam.com/vmware-esx-backup-download.html.
2. Mount the product ISO and use autorun, or run the *Setup.exe* file.
3. Click the Veeam Backup & Replication tile.
4. Accept the terms of Veeam Backup & Replication License Agreement to install the product.
5. Provide setup program with your license file.
6. Review the default installation settings. To change the defaults, select "Let me specify different settings" check box to be taken through additional wizard steps.
7. Click **Install** to start the installation and follow the setup wizard steps.
8. Once the installation is complete, download and install the latest available update from www.veeam.com/updates.html.
9. If you have previously used any VMware VADP-based VM backup solution (including Veeam), reset CBT for all VMs in the environment. For more information, refer to Veeam support article KB1940.
10. Launch the Veeam Backup product by clicking the **Veeam Backup & Replication** product icon on your desktop, and specifying localhost as the backup server.

Veeam Backup Enterprise Manager

If you want to manage one or more Veeam Backup servers with centralized management web UI, install Veeam Backup Enterprise Manager. You only need one Enterprise Manager installation per environment.

To install Veeam Backup Enterprise Manager:

1. Mount the product ISO and use autorun, or run the *Setup.exe* file.
2. Click the Veeam Backup Enterprise Manager tile.
3. Accept the terms of License Agreement to install the product.
4. Provide setup program with your license file.
5. Review the default installation settings. To change the defaults, select "Let me specify different settings" check box to be taken through additional wizard steps.
6. Click **Install** to start the installation and follow the setup wizard steps.
7. Once the installation is complete, download and install the latest available update from www.veeam.com/updates.html.
8. Once the installation is complete, access the Veeam Backup Enterprise Manager web UI by clicking the **Veeam Backup Enterprise Manager** product icon on your desktop.

Veeam Backup & Replication Search Server

Veeam Backup & Replication can optionally offload guest file system catalog crawl and search to Microsoft Search Server (including free, Express Edition). This allows for improved search performance in environments with more than few hundreds protected virtual machines, and enables you to get search results much faster.

To enable Microsoft Search Server integration, install Microsoft Search Server and apply Veeam Search Server integration components. You can have more than one Search Server in your environment depending on amount of virtual machines indexed.

It is recommended that you install Microsoft Search Server on a separate computer.

To install Microsoft Search Server:

1. Download the 32-bit or 64-bit package of the Microsoft Search Server. To download free version of Microsoft Search Server, use the following links:

   Microsoft Search Server 2008 Express: x86 package, x64 package

   Microsoft Search Server 2010 Express: x64 package.

2. Install Microsoft Search Server using the default settings. At the end of installation, select the checkbox to launch SharePoint configuration wizard.

3. Go through the SharePoint configuration wizard, accepting the default settings.

4. Go to the Start menu, locate link to Search Server Administration page and launch it. Make sure the account specified under Default content access account has Read access rights to the catalog share on your Veeam Backup Enterprise Manager server, as well as NTFS permissions on the folder backing this share.

To install Veeam Backup Microsoft Search Server Integration:

1. Mount the product ISO, and run the *Veeam_Backup_SearchServer_Setup.exe* setup file from Search folder.

2. Accept the terms of License Agreement to install the product.

3. Specify the installation folder.

4. For service account, specify any account who is Local Administrator on this computer.

To add newly installed Search Server to Veeam Backup Enterprise Manager:

1. Open Veeam Backup Enterprise Manager web UI.

2. Click on the Configuration tab, select the Search Servers tab, and add the newly installed search server there. Note that you cannot add the same Search Server to more than one Enterprise Manager server.

3. Give the Search Server some time to crawl the guest file system index catalog, and use the **Files** tab in the Enterprise Manager web UI to test search for guest files. Make sure you have performed backup of at least one VM with guest indexing option enabled.

Uninstalling Veeam Backup & Replication

1. From the **Start** menu, select **Control Panel > Add or Remove Programs**.

2. In the programs list, select **Veeam Backup & Replication** and click the **Remove** button.

3. In the programs list, select and remove any additional remaining Veeam components, such as **Veeam Backup & Replication Search Server Integration**.

Upgrading Veeam Backup & Replication

Veeam Backup & Replication 9.0 supports automated in-place upgrade from version 8.0 (any update level) and 7.0 Patch #4 that preserves all products settings and configuration.

Note that new behavior-modifying engine enhancements, such as backup I/O control or backup from storage snapshots are not enabled upon upgrade. This ensures your existing jobs do not change behavior when you upgrade to v8.

Upgrade checklist:

1. Are you using Veeam ONE to monitor your backup infrastructure? If yes, upgrade it first. Veeam ONE supports monitoring of backup servers version 9.0 and 8.0.

2. Are you running Veeam Backup & Replication 8.0 or 7.0 Patch #4? To upgrade from previous versions, contact Veeam Technical Support.

3. Is your backup server to be upgraded installed on the supported operating system? If not, you must migrate the server to the supported OS first, before performing the upgrade. Refer to the Veeam support KB article KB1803 for more information on how to perform the migration.

4. Are you using Cloud Connect? If yes, check with your Cloud Connect service provider if they have already upgraded their system to at least the version you are upgrading to.

5. Ensure there is no active processes, such as any running jobs and restore sessions. Do not stop running jobs, let them complete successfully instead. Disable any periodic and Backup Copy jobs, so that they do not start during the upgrade.

6. Perform a backup of the corresponding SQL configuration databases used by backup and Enterprise Manager servers, so that you can easily go back to previous version in case of issues with upgrade. Note that built-in configuration backup functionality does not protect Enterprise Manager configuration.

7. Are you using Veeam Backup Enterprise Manager? If yes, start the upgrade procedure from this component. Note that Enterprise Manager 9.0 supports version 8.0 and 7.0 backup servers, so you can potentially run both old and new product versions side by side.

Veeam Backup Enterprise Manager

To perform upgrade of Veeam Backup Enterprise Manager to version 9.0, you must be running version 8.0 or 7.0 Patch #4 on the supported operating system (refer to the System Requirements section of this document). To upgrade from previous versions, contact Veeam Technical Support.

1. Download the latest version of Veeam Backup & Replication ISO from: www.veeam.com/vmware-esx-backup-download.html.

2. Mount the product ISO and use autorun, or run the *Setup.exe* file.

3. Click the Veeam Backup Enterprise Manager tile.

4. Follow the setup wizard steps as outlined above. Be sure to select the same SQL database and instance that was used by the previous Veeam Backup Enterprise Manager version.

5. If you have Veeam Backup & Replication server installed on the server, upgrade it immediately after completing the upgrade of Veeam Backup Enterprise Manager server.

6. Once the installation is complete, download and install the latest available update from www.veeam.com/updates.html.

Veeam Backup & Replication Server

To perform upgrade of Veeam Backup & Replication server to version 9.0, you must be running version 8.0 or 7.0 Patch #4 on the supported operating system (refer to the System Requirements section of this document). To upgrade from previous versions, contact Veeam Technical Support.

1. Download the latest version of Veeam Backup & Replication 9.0 ISO from: www.veeam.com/vmware-esx-backup-download.html.

2. Ensure that the latest run for all existing jobs has completed successfully. If some jobs have failed, re-run the failed jobs. Otherwise, job upgrade procedure may fail.

3. Ensure there are no running jobs, including restore sessions, Instant VM Recovery sessions and SureBackup jobs. Do not stop running jobs, let them complete successfully instead. Disable any periodic and Backup Copy jobs temporarily to prevent them from starting during the upgrade.

4. Mount the product ISO and use autorun, or run the *Setup.exe* file.

5. Click the Veeam Backup & Replication tile.

6. Follow the upgrade wizard steps as outlined above. Be sure to select the same SQL database and instance that was used by the previous product version.

7. Wait for the setup program to perform the upgrade.

8. Once the installation is complete, download and install the latest available update from www.veeam.com/updates.html.

9. Open the Veeam Backup & Replication user interface. If necessary, the automated upgrade wizard will automatically appear, prompting you to upgrade product components running on remote servers. Follow the wizard to complete the upgrade process.

10. If some remote servers are unavailable at the time of upgrade, you can run the Upgrade wizard at any time later from the main product menu, or by closing and re-opening the Veeam Backup & Replication user interface. Note that out-of-date product components cannot be used by jobs until they are updated to the backup server version.

11. Reset CBT for all VMs in the environment. For more information, refer to Veeam support article KB1113.

12. Enable any scheduled jobs that you have disabled before the upgrade.

Licensing

For end users, Veeam Backup is licensed per CPU Socket ("CPU Sockets") for each Managed Server. For service providers, Veeam Backup is licensed per Managed VMs ("Managed VMs") for each Managed Server. For more information, see www.veeam.com/eula.html.

The trial license key is sent to you after registering the product with Veeam Software at: www.veeam.com/vmware-esx-backup-download.html. After registering the product you will receive a trial license key. The trial license is valid for 30 days from the moment of registration.

To obtain a full license key for the desired number of sockets, refer to www.veeam.com/buy-end-user.html.

The full license includes a one-year maintenance plan. To renew your maintenance plan, please contact Veeam customer support at: renewals@veeam.com.

Updating Veeam Backup & Replication License

Veeam Backup & Replication server license is managed centrally by Enterprise Manager server. If you are using Enterprise Manager, do not update license on individual backup servers directly, as Enterprise Manager will force its license to all connected backup servers.

To install the new license file to a backup server connected to Enterprise Manager server:

1. Open **Configuration > Licensing** tab in Enterprise Manager UI, and click **Change License.**
2. Browse to the license file (**.lic**) that was sent to you after registration to install the license. To learn more, see the Licensing section.
3. The provided license file will be automatically propagated and applied to all Veeam Backup servers connected to this Enterprise Manager server.

To install the new license file to a standalone backup server that is not managed by Enterprise Manager server:

1. Select **Help** > **License** from the main menu.
2. Click the **Install** license button to browse to the license file (**.lic**) that was sent to you after registration to install the license. To learn more, see the Licensing section.

Technical Documentation References

If you have any questions about Veeam Backup & Replication, you may use the following resources:

- Product web page: www.veeam.com/vm-backup-recovery-replication-software.html
- User guides: www.veeam.com/documentation-guides-datasheets.html
- Community forums: www.veeam.com/forums

To view the product help, press the **F1** key or select **Help > Online Help** from the main menu.

Technical Support

We offer email and phone technical support for customers on maintenance and 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 accurate description of the problem you are having.
- Log files. To export the log files, select **Help > Support Information** from the main menu, and follow the wizard to export the relevant set of log files.

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

Hint	Before contacting technical support, consider searching for a resolution on Veeam community forums at 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 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 www.veeam.com/contacts.