

What's New in Veeam Backup & Replication v5



"That winner can only be somebody who's actually won in one of the other categories, so it's a really big deal. So that means they really stood out, not only in the category they're in, but across every sector of the marketplace.

"And actually it was very clear, cut-and-dried. In 3 hours of deliberation, this took 10 minutes."

Jo Maitland
Executive Editor

SearchServerVirtualization.com
presenting the award for Best of Show
at VMworld 2010

Veeam "addresses major problems that virtualization administrators have... its backup verification technology and ability to reach into applications set it apart."

Judging team
SearchServerVirtualization.com

Veeam Backup & Replication™ v5 is a major new release of Veeam's industry-leading data protection and disaster recovery solution for VMware vSphere that combines agentless image-based backup and replication in a single product. Already, Veeam Software has made enhanced data protection and disaster recovery a reality for more than 15,000 customers. And with new patent-pending vPower™ technology, Veeam is taking backup to a whole new level and using virtualization to do things never before possible.

New capabilities and enhancements have been added in the following areas:

vPower

Veeam has developed a breakthrough technology in Veeam Backup & Replication v5 that lets you run a virtual machine (VM) directly from a compressed and deduplicated backup file. This ground-breaking technology eliminates the need to extract the backup and copy it to production storage—you simply start the VM from the backup in your production environment or in an isolated environment that's automatically created and managed for you. We call it vPower, and it has fundamental, far-reaching benefits. With 5 patents pending, v5 with vPower offers these industry firsts:

Instant VM Recovery **Patent-pending**

How many times have you wasted precious time trying to troubleshoot an issue while users twiddled their thumbs and went out for coffee... and management grew increasingly impatient? With vPower, users no longer have to wait while you troubleshoot the issue or extract the backup.

Instead, you can restore service in just a few minutes. It's like having a "temporary spare" for your VMs. To complete the recovery, use Storage vMotion to migrate the VM to production storage with no interruption in service or impact on users. Or, if you don't have Storage vMotion, simply replicate or hot copy the VM using these built-in capabilities in Veeam Backup & Replication.

U-AIR (Universal Application-Item Recovery) **Patent-pending**

vPower also enables quick recovery of individual objects from any virtualized application, on any OS. It's a brand-new solution to the age-old problem of what to do when users accidentally delete important emails or scripts incorrectly update records.

U-AIR™ addresses the limitations of existing object-level recovery methods. U-AIR is:

- **Inexpensive:** Doesn't require additional agents, backups or software tools
- **Universal:** Works with any virtualized application and the application's native utilities and permissions
- **Durable:** Because it is not tied to application internals, U-AIR is easy to maintain and works seamlessly with new application patches and releases

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SureBackup Recovery Verification Patent-pending

Backups are worthless if you cannot recover from them. vPower enables you to verify the recoverability of your backups—not just a few selected backups, but EVERY backup, of EVERY virtual machine, EVERY time.

vPower automates the recovery verification process, using available resources in your existing production or test environment. During recovery verification, it creates a VM in an isolated environment and runs it directly from the backup file. It starts the VM, boots the OS and confirms that everything is running normally.

You no longer have to settle for backups that “might work” or “should work” — instead, you can rest easy knowing that your backups actually do work.

On-Demand Sandbox Patent-pending

Need to quickly provision a copy of the production environment for troubleshooting? Provide Development with a safe place to test code changes? Test patches or workarounds? No problem! vPower lets you put your backups to work to provide an on-demand sandbox for testing, training or troubleshooting. Instead of using already busy production storage, waiting for hours to restore a backup, or burdening production VMs with additional snapshots, you can create an isolated test environment on the fly from your existing backups.

Just power on the required VMs to the desired restore point (full or incremental). Feel free to do anything you need, as backup files always remain read-only.

Instant File-Level Recovery from ANY file system Patent-pending

With vPower, you can quickly recover an entire VM or an individual file from the same image-level backup. Veeam instant file-level recovery enables you to restore individual files from your backups in seconds to the latest state or any point in time, and is supported on any OS or file system. Simply publish the backup on the vPower NFS datastore, add its disk to any VM that can read the corresponding file system, and then use the native tools to copy the files you need.

Guest File System Indexing

- **Instant indexing.** When Windows VMs are backed up, their disk contents can now be optionally indexed. Unlike some products, the indexing process is performed instantly by retrieving NTFS MFT data as part of the guest freezing process, so it does not affect the backup window. Guest file system details are consolidated from all backup servers to a central catalog on the Enterprise Manager server. This catalog is automatically managed per your specified data retention policy. The catalog helps to address compliance with internal or external policies for documentation of backup contents.
- **Guest file search.** The Enterprise Manager UI now provides an easy way to browse the guest file system of any Windows VM and any restore point. And if you are not sure where a particular file is located, powerful search capabilities make it easy to quickly find the correct backup file and restore point containing the required version of the file. This significantly reduces the time required to perform file-level recovery.

Other enhancements

Numerous additional enhancements suggested or requested by customers are also included to make Veeam Backup & Replication even easier and more convenient to use:

Engine

- **Customizable block size.** Enables you to optimize the processing engine based on the connection to the backup or replica destination. Larger block sizes provide faster performance to local targets due to reduced processing overhead, while smaller block sizes provide better performance over WAN connections due to better deduplication ratios and reduced incremental backup sizes, allowing for significant traffic reduction.
- **Monthly schedules.** You can now set up monthly schedules for both jobs and active full backups directly from the Veeam Backup UI, which enables you to set up advanced scenarios without relying on Windows Task Scheduler to start the job from the command line.
- **Continuous job schedule.** A new job scheduling option facilitates near-CDP protection scenarios.
- **Unsupported disks are now automatically skipped** by the processing engine, so you don't have to manually exclude them in job settings.

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Backup

- **Incremental backup mode.** A new backup mode with traditional incremental backups has been added to enable better support of disk-to-disk-to-tape (D2D2T) backups, remote site backups, and backup to deduplicating storage devices. Incremental backup mode provides you with the choice of synthetic (created from incremental data) or active (created from production storage) full backups. The new backup mode also provides faster incremental backups and makes it possible to perform restores while the backup job is running.
- **Previous full backup chain transformation.** The new incremental backup mode allows for optional transformation of previous full backup chains into rollback files going back from the current full backup. This means you only need to keep one full backup in backup storage, thus dramatically reducing required disk space.
- **VM-level retention.** In addition to restore point retention, version 5 also features VM-level retention. This ensures that full backup (VBK) file data blocks belonging to VMs removed from the job are automatically removed according to the retention policy settings. Thus, you are no longer required to perform an active full backup simply to remove data belonging to an obsolete VM.
- **Delete individual VMs from a full backup file.** You can now right-click on any VM in a backup, and delete its contents from the VBK file immediately. Corresponding VBK data blocks are marked as unused, and new VM data is stored there instead of growing the VBK file. Additionally, in the case of incremental backup mode with synthetic fulls, the next full backup file will be created without copying any unused blocks, effectively shrinking the size of the updated VBK file.
- **Enhanced backup properties.** The backup properties dialog has been enhanced to provide additional information on specific VMs.

Replication

- **Thin disk support on replica.** In addition to supporting thin disks on the source VM, replication jobs now support thin disks on the target VM, allowing you to keep thin disks thin during replication. This increases replication performance significantly for VMs with thin disks.
- **On-the-fly disk transformation.** Replication jobs now include a disk type transformation option, allowing you to replicate a source VM with thick disks to a target VM with thin disks. This translates to significant space saving on the DR site side, and improves replication performance.
- **Replica properties.** The replica VM property dialog has been added to provide detailed information about the target VM, including the amount of changed source VM data for each incremental update.

Application-aware image processing

- **Connection-free operation.** Runtime processes for guest processing (also known as the Veeam VSS agent) no longer require a direct network connection between the backup server and the processed VM. This allows you to process VMs that are behind firewalls or located in a DMZ or other network that the backup server cannot access. This functionality does not result in the loss of any features, and it does not require manual agent deployment, updates or management—unlike some other implementations of guest processing agents.
- **Granular application-aware processing.** You can now set processing settings (such as VSS processing and user accounts) for individual VMs or any virtual infrastructure container.
- **Better transaction log handling.** Transaction log are now pruned only after successful backup, instead of immediately after the snapshot is taken. This ensures you are able to restore the application by replaying the log files even if the backup fails for some reason.
- **Option to disable transaction log pruning.** You can now disable transaction log pruning when using application-aware processing to quiesce applications. This option is helpful when you additionally back up or replicate a VM with another tool that relies on transaction logs.
- **Transaction log pruning for Microsoft SQL Server.** Transaction log processing for Microsoft SQL Server has been added to ensure that logs do not grow forever when Microsoft SQL Server is backed up by Veeam Backup & Replication only.

Restore

- **VM search.** VM search has been added to all restore wizards so you can quickly locate the required VM.
- **Restore reason.** For any restore operation, a restore reason can now be supplied for later reference.
- **Restore audit.** Each restore operation now creates a restore session in the session log that lists all restored objects and restore parameters (including the user performing the restore and the restore reason, if specified).
- **Service-based restores.** Restore jobs are now managed by services, rather than being run interactively. As a result, logging off during the restore process no longer cancels the restore.
- **Original VM location prefill.** The full VM restore wizard now automatically prepopulates the original VM location to speed recovery and help to avoid input mistakes.
- **Per-disk datastore selection.** For VMs with multiple disks, you can now specify the datastore for each VM disk separately.

Native file-level restore

- **Better guest file permission handling.** Native file-level restore (FLR) now automatically adds SeBackupPrivilege to the restore operator, providing the ability to restore guest files that the corresponding user does not have NTFS permissions to access. Privilege elevation is done locally and affects the Veeam Backup UI process only.

Multi-OS file-level restore

- **Removed VMware Player requirement.** The file-level restore helper appliance now runs directly on the selected ESX(i) host. Installing VMware Player on the Veeam Backup server is no longer required, making it possible to perform multi-OS FLR even when Veeam Backup is running in a VM.
- **Preserve Linux permissions.** You can now optionally preserve Linux permissions and ownership when restoring guest files directly to a Linux server.
- **Permissions and ownership display.** The guest file browser now displays the permissions and ownership of each file.
- **ZFS support.** Wizard-driven FLR from ZFS volumes is now supported.

Jobs

- **Datastore-based jobs.** You can now create jobs by adding a datastore object as a dynamic VM selection container. Any VM with the VMX file residing on the selected datastore is automatically included in the job.
- **Granular disk exclusions.** Instead of being a global setting on a job level, virtual disk exclusion can now be configured on a per-VM or per-container basis, giving you more flexibility with job setup.
- **Per-job email notification.** In addition to global notification recipients, you can now specify different email notification recipients per job.
- **Windows Event Log events.** Veeam Backup now logs its activities to Windows event logs. Events logged are similar to vCenter events in the previous version of Veeam Backup.
- **Simple delegation.** Veeam Backup UI roles have been added to restrict users from performing operations they are not allowed to perform. For example, the Restore Operator role can perform any type of restore, but cannot manage or control jobs.
- **Source datastore monitoring.** Disk space on the source datastore is now checked before creating snapshots to help prevent situations where snapshot data fills up the datastore, causing a hard VM stop. A warning is issued if the remaining free disk space is less than the amount you specified (10GB by default). If the amount of free disk space is less than 2GB, backup of the corresponding VM will be skipped with an error logged.
- **Session history retention.** The retention policy based on time period now ensures older restore sessions are deleted automatically. This helps to prevent out of memory issues for users who have been running Veeam Backup since the early versions (Thank You!).

Enterprise Manager

- **Centralized license management.** Simplifies usage tracking and license updates across multiple Veeam Backup servers. Enterprise Manager will ensure you are in compliance by consolidating actual socket usage across all servers. If you are currently using multiple v4 licenses in your deployment, please use License Management Portal in the download area to get a consolidated license key, or email licensing@veeam.com for assistance.
- **Dashboard statistics.** Backup size statistics now display the full backup size and restore point sizes separately, to give you a better idea of the content of your backup storage.

Setup

- **Database name selection.** You can now select a database in the Veeam Backup setup program to enable multiple Veeam Backup servers to point to the same remote SQL Server database instance.
- **Disable automount.** Automount is now automatically disabled by the Veeam Backup setup program to prevent Microsoft Windows from resignaturing VMFS volumes in case of direct SAN access processing mode, and attaching processed disks as volumes in case of Virtual Appliance processing mode. You no longer need to remember to do this, however, keep in mind that this also affects automatic mounting of any external storage devices, such as USB hard drives. Such devices need to be mounted manually on first use using the Windows Disk Management snap-in.
- **CPU verification.** The Veeam Backup setup program now examines CPU capabilities to prevent accidental installation of the Veeam Backup server on a server that does not meet CPU requirements. Actual CPU requirements are the same as in the previous version.



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