

vRanger Pro™

Ultimate Hot Backup for Virtualized Environments

vRanger Pro raises the bar for image backup and file recovery, now providing integration with VirtualCenter, VCB and most third party backup applications.

Vizioncore's vRanger Pro is the recognized industry-standard backup and restore solution, which provides image-level hot backups simply and easily, while virtual machines (VMs) are still running. Until vRanger Pro, backup-and-recovery strategies for virtualized environments were incomplete, hard to manage and costly.

GUI Interface

vRanger Pro runs on a centralized Windows host and can run using the standard Windows scheduler, eliminating the need for complex scripting. The GUI offers a Startup Wizard and VirtualCenter integration for ease of operation, as well as compression options to save storage space. vRanger Pro will compress VMDK files before sending them to the chosen destination server, which can be the local VMFS, a Linux server or a Windows server. NAS, SAN, Novell, UNC and mapped drives are also supported if accessible by the Windows host.

Differentials

A differential engine backs up only the changes made since the last full backup image and reduces the size of the backup files on disk, allowing users to increase the frequency of backups performed. Differential characteristics, such as ratio of differential size to full image size, number of days between full backups, and number of days to retain backups, can all be configured to suit customer needs. vRanger Pro also supports differential backups via the VCB Framework.

VSS

vRanger Pro includes a VSS driver that utilizes the Microsoft® Volume Shadow Copy Service to pause application writes. This feature will enable quiescing of supported databases to provide a "transactionally consistent" backup image that can be used to recover the application as well as the image.

P2V Disaster Recovery

Leveraging the P2V engine vConverter, vRanger Pro provides a safe, reliable way to capture image-level backups of any physical Windows server. A backup job can be configured for a physical server in just a few clicks with no disruption to the source machine. This agent-less, reboot-free process provides the ultimate flexibility in configuring environments while maintaining the low RTO of image-level backups.

Restores

vRanger Pro provides a full-image restore to any VMware® ESX Server without users needing to know the prior configuration. vRanger Pro will reduce or eliminate the need to create manual installs and configurations to the backup image. Restores are efficiently relocated and up and running fast because the image is compressed and all configurations are included. For Windows guests, file-level restores are available to provide for an advanced level of protection.

Database Backend

vRanger Pro captures the details about time it takes for a particular backup process allowing you to trend and plan for the next backup window. In addition, users can record IP addresses, compression ratios and which VMs are located on the various LUNs. Details about backups and VMs are stored in the repository and can be accessed for reporting and analysis.

TECHNICAL DATASHEET

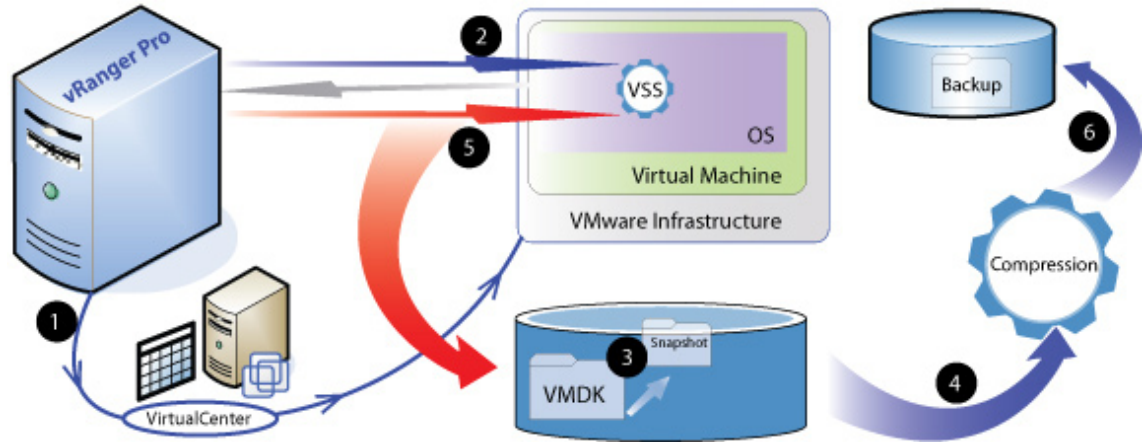


How vRanger Pro Works ...

Step 1: vRanger Pro initiates a point-in-time backup of VMware ESX Server guest operating systems (files).

Step 2: vRanger Pro executes the VSS process:

- a) The VSS initiates the "commit" shadow copy phase.
- b) The VSS tells writers to quiesce the data and temporarily freeze requestor (application) I/O write requests for the several seconds required to create the shadow copy of the volume or volumes. The VSS flushes the file system buffer and then freezes the file system, which ensures that file system metadata is written and that the data is written in a consistent order.



Step 3: vRanger Pro will use the VMware API to add a snapshot (utilizing the VMware Sync Driver), which unlocks the VMDK for read-only purposes. The snapshot will house any additional changes to the VMDK until it is committed to the VMDK file and the file is restored to the original state.

Step 4: While the snapshot is open and housing the changes to the VM, vRanger Pro will begin compressing the VMDK file, which will essentially make a copy of the VMDK and eliminate the "white space" as well as significantly shrink the data size.

Step 5: Once a snapshot is open, the VSS thaws the file system, releasing writers from their temporary inactive phase, and all queued write I/Os are completed.

Step 6: vRanger Pro provides options for location of the compressed file to be sent to a Windows or Linux destination, or a particular VMFS or LUN.

Step 7: Snapshots are dealt with after compression is complete and prior to transfer of the compressed file. vRanger Pro handles the snapshots with a committing algorithm to reduce or eliminate any downtime for the VM.

Step 8: Once all changes to the VMDK in the snapshots are committed, the VMDK is returned to the original state and locked once again.

Step 9: Upon completion of this process, vRanger Pro will perform one more step, which is to add an information file. Used in the restore process, this file contains all of the information needed about the backup image, including who performed the backup, server and VMFS, and retains the permissions of the files in the archive.

The backup is complete, available for archive to tape or restore as needed.



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