

vRanger Pro™ 4.5 DPP

Image-Based Backup, Recovery & Data Protection Management

Image-based data protection uses images to reinvent data backup, transmission, and recovery to be simply better.

ABM and CBT used in combination result in faster, more efficient backup with:

- An average of 33% faster backup performance
- An average of 25% smaller backup image

vRanger Pro Data Protection Platform (DPP) is the market-leading solution for image-based backup and recovery, and the management of data protection jobs. DPP is the world's only data protection platform optimized for image-based data handling, offering better performance, reliability, and scalability.

Key new capabilities of vRanger Pro 4.5 DPP:

Active Block Mapping (ABM) - This patent-pending feature eliminates inactive blocks from protected data to speed full, incremental and differential backups. With ABM, backup jobs can complete faster than ever before possible. Only active blocks are read, transmitted and stored. Inactive blocks, including files deleted from the Windows recycle bin, are not read into the backup image.

Change Block Tracing (CBT) - This feature queries the vStorage API to retrieve changed blocks rather than scanning the image to find them.

Object-Level Recovery (OLR) for Microsoft Exchange - This capability uses proven technology from Quest Recovery Manager for Exchange (RME) to enable fast restore of individual email objects from the vRanger Pro image archive. Recover the Exchange database and then select individual email messages, folders, and other email objects for quick, simple recovery. Note that a valid license of RME is also required.

VSS Driver - Insert a runtime process for guests with database applications, to ensure backup data integrity and log file truncation. This feature, introduced with vRanger 4.5 is also supported with 4.2.3.

Custom Backup Groups - Group your VMware assets, independent of their organization in vCenter, and assign backup jobs that act on those grouped assets.. Create a backup job for a vCenter folder, to dynamically include the current list of VMs in the folder as they change without having to reconfigure the backup job.

Encrypted Repositories - Use Advanced Encryption Standard (AES)-256 encryption to secure images in the backup archive repository. AES-256 is the standard established and accepted by the US government, which uses 128-bit block size with a 256-bit key.

Recovery Support for Thin Disk Provisioning - Support for vSphere thin disk provisioning enables restore of VMs utilizing only the storage space required by the content in the VM.

Pre-existing key capabilities:

- Image-Based Backup and Recovery - Agentless
- Full, Incremental and Differential Backup
- Data Protection Platform
- VM Backup Job Multi-Streaming
- Resource Management
- Direct-to-Target Architecture
- White Space Detection
- Inline Data Validation
- Synthetic Full Recovery
- Instant File-Level Recovery (FLR)
- Remote Management
- High-speed LAN-Free (Fiber) Support
- vAPI and PowerShell Access

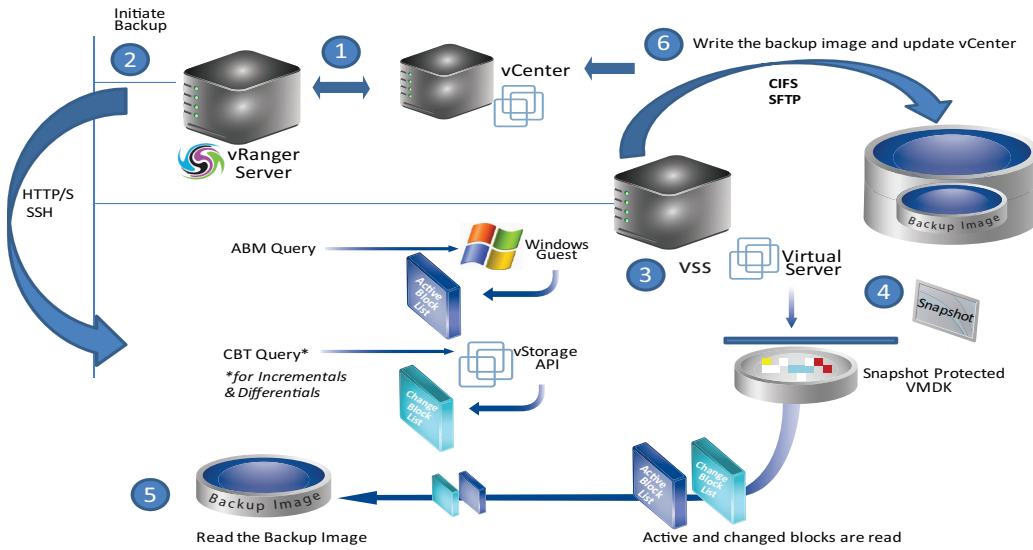
Virtual technology alignment:

- Backup GUI uses vCenter look and feel
- Update in vCenter notes
- Granular VM hierarchy selection
- Selective VM backup
- Selective network use
- Preserve disk mapping
- Rename the VM on restore

TECHNICAL DATA SHEET



vRanger Pro DPP Architecture



- vRanger Pro DPP is downloaded and integrated into vCenter to know the VMs in the environment.
- A point-in-time backup of the VMware ESX Server guest OS is initiated.
- A VSS process is executed, temporarily freezing the OS and flushing data to disk for a point-in-time backup.
- Using VMware Snapshot, the VMDK is opened. The VSS thaws the file system, enabling end-users and applications to continue. Any new writes are captured in a temporary file location until the Snapshot is released.
- Using ABM and CBT, only active and changed blocks are read into the backup image.
- The backup image is written into the repository and updates are made into vCenter notes on the backup status for each VM.

System Requirements

Virtual Environment

Full, Incremental and Differential Backup	Any guest OS that VMware supports Languages -- English, Spanish, French, Italian, German, Simplified Chinese, Japanese
Repository and Retention Type	CIFS and SFTP
File-Level Restore	Files including application databases on Microsoft Windows and Vista guests
Object-Level Restore	Microsoft Exchange 2003-2010 email objects including messages, folders, and contacts Recovery Manager for Exchange (RME) 4.8
Full Image Restore	Any supported guest
Platforms	VMware ESX 3.x, VMware ESX 4.x, ESXi
vCenter Server	vCenter Server 2.0.1-2.5 u5, 4.0-4.0 u1
APIs	vCenter Server APIs, vStorage API, Windows API, Vizioncore vAPI

vRanger Pro Operating Requirements

vRanger Server	Microsoft Windows XP, 2003-2008, Vista and 7; 32- and 64-bit Dual core, 1GB RAM (2GB recommended), > 4GB free disk space
Database Repository	SQL Express 2005-2008, SQL Server Management Studio Express 2005
Licensing	Each physical CPU socket on ESX host source requires 1 CPU license (quad CPU ESX host requires 4 CPU licenses), number of cores does not matter



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