

# vRanger Pro® 4.5

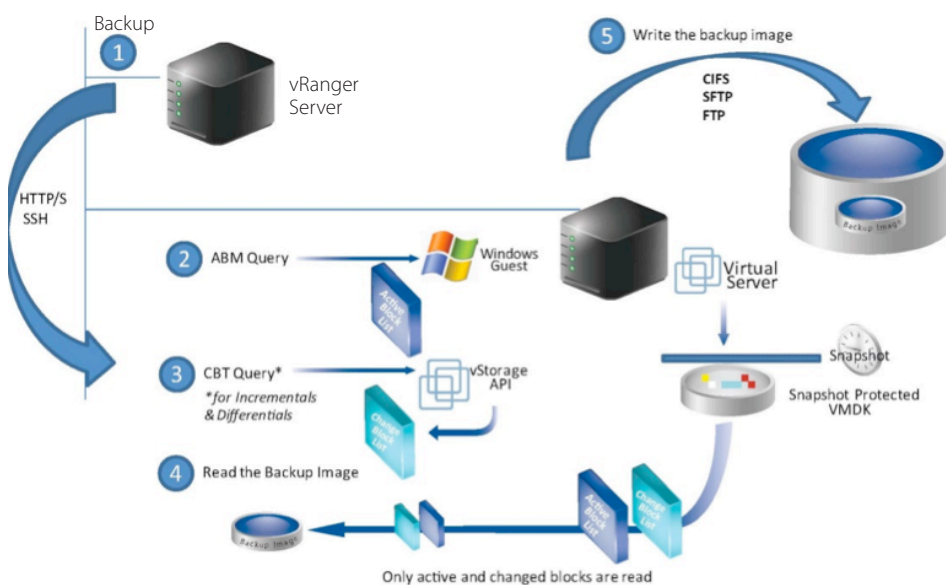
## Image-Based Backup, Recovery and Data Protection Management

When used on complex, virtualization platforms, traditional backup processes can waste valuable time and expensive storage space -- preventing you from getting the most from your technology investments.

vRanger Pro 4.5 offers breakthrough, patent-pending technology that significantly speeds your full, incremental and differential backups while dramatically reducing the size of your backup image. It's built on the world's only data protection platform optimized for image-based data handling— offering better performance, reliability, and scalability. The Active Block Mapping and Change Block Tracking features of vRanger Pro 4.5 make it the fastest and most efficient image-based backup and recovery solution on the market.

### BENEFITS

- Performs backups 33 percent faster than previous version
- Reduces backup image size by 25 percent, compared to previous version
- Provides agent-less object-level recovery for Microsoft Exchange from images
- Assures application backup integrity with Vizioncore VSS
- Simplifies backup archive management



### vRanger Pro Architecture: How It Works

1. vRanger Pro is downloaded and integrated into vCenter to detect the VMs in the environment.
2. Next, it initiates a point-in-time backup of the VMware ESX Server guest OS
3. It then executes a VSS process, temporarily freezing the OS and flushing data to disk for the point-in-time backup.
4. It opens the VMDK using VMware Snapshot, 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.
5. Using ABM and CBT, vRanger Pro reads only active and changed blocks into the backup image.
6. Lastly, it writes the backup image into the repository and makes updates in vCenter notes about the backup status for each VM.

## Key Features and Benefits

**Active Block Mapping** – Speeds full, incremental and differential backups with patent-pending technology that reads, transmits and stores only active blocks.

**Change Block Tracing** – Queries the vStorage API to retrieve changed blocks — rather than scanning the image to find them.

**Object-Level Recovery for Microsoft Exchange** – Enables fast restore of individual e-mail objects from the vRanger Pro image archive using Quest Recovery Manager for Exchange (license required).

**VSS Driver** – Lets you insert a runtime process for guests with database applications to ensure backup data integrity and log file truncation.

**Custom Backup Groups** – Allows you to group your VMware assets, no matter how they're organized in vCenter, and assign dynamic backup jobs that act on the current list of VMs as they change; that means there's no need to constantly reconfigure the backup job.

**Encrypted Repositories** – Provides Advanced Encryption Standard 256 — established by U.S. government as a 128-bit block size with a 256-bit key — to secure images in the backup archive repository.

**Recovery Support for Thin-Disk Provisioning** – Enables restore of VMs utilizing only the storage space required by the content in the VM.

## Additional Capabilities

**Image-Based, Agentless Backup and Recovery** – Uses binary injection at run-time on VMware ESX hosts to eliminate the administrative burden of license tracking and maintenance upgrades.

**Full, Incremental and Differential Backup** – Enables a complete backup cycle for protected images that is optimized for speed and resource efficiency.

**VM Backup Job Multi-Streaming** – Enables multiple protection jobs to run simultaneously to back up, replicate and recover images as well as dramatically improve overall performance times.

**Dynamic Resource Management** – Optimizes real-time use of critical resources in a virtual environment to ensure the highest efficiency and complete jobs faster -- without going beyond resource capacity.

**Direct-to-Target Architecture** – Distributes job execution and movement of data to improve protection performance and ensure seamless scalability.

**Synthetic Recovery** -- Provides a single-pass restore, reading each required block from multiple full, incremental and differential backup images in the repository for the fastest, most efficient results.

**Instant File-Level Recovery (FLR)** – Allows you to quickly restore a single file from a backup image in the repository via a one-step process.

**Remote Management** – Lets you manage data protection jobs through a central console over LAN and WAN connections for the ultimate control across all systems and sites in an environment.

**vAPI and PowerShell Access** – Enables you to automate scripting of data protection jobs to reduce administration burdens and human error.

## About Quest Software, Inc.

Quest simplifies and reduces the cost of managing IT for more than 100,000 customers worldwide. Our innovative solutions make solving the toughest IT management problems easier, enabling customers to save time and money across physical, virtual and cloud environments. For more information about Quest go to [www.quest.com](http://www.quest.com).



5 Polaris Way, Aliso Viejo, CA 92656 | PHONE 800.306.9329 | WEB [www.quest.com](http://www.quest.com) | E-MAIL [sales@quest.com](mailto:sales@quest.com)

If you are located outside North America, you can find local office information on our Web site.

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## 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 guests

#### Object-Level Restore

Microsoft Exchange 2003-2010 e-mail objects including messages, folders, and contacts using Recovery Manager for Exchange (RME)

#### Full Image Restore

Any supported guest

#### Platform

VMware ESX 3.x, VMware ESX 4.x, ESXi

#### vCenter Server

2.0.1-2.5 u5, 4.0-4.0 u1

#### APIs

vCenter Server APIs, vStorage API, Windows API, Vizioncore vAP

### 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 one CPU license (quad CPU ESX host requires four CPU licenses)  
Number of cores does not matter