

vOptimizer Pro™

Frequently Asked Questions

Can the vOptimizer Pro 2.2 trial license execute ROI scans against more than one virtual machine (VM)?

Yes, vOptimizer Pro 2.2 will scan all selected VMware vCenter Servers/ESX hosts and then provide the "Space and Alignment Report" for all objects examined. This report displays all over-allocated (unused) VM entered storage and displays an estimated savings amount based on values enter by the customer including storage cost and desired free space.

How does vOptimizer Pro 2.2 estimate the potential storage savings amount displayed on the Space and Alignment Report – where does the cost of customer's storage come from?

vOptimizer Pro allows each customer to enter their own storage cost estimates. Also, multiple storage acquisition costs can be specified so that customers can generate potential storage savings based on the variety of storage types in their data center.

How does vOptimizer Pro 2.2 compare with the new VMware® vSphere 4 Thin Provisioning feature?

vOptimizer Pro cannot really be compared against vSphere Thin Provisioning as each performs a different function. vSphere 4 Thin Provisioning is intended to allow VMs to consume space as needed rather than over-allocating storage to accommodate growth. There is substantial risk, however, that too many over-commitments of required storage could result in VM(s) actually failing if the storage is not really available.

vOptimizer Pro is designed to actually reclaim over-allocated storage for existing VMs. Also, the vOptimizer Pro OS "Optimization" feature can actually shrink the amount of storage being consumed by each VM. Note: This feature is turned off by default and is not recommended for production use at this time.

Additionally, vOptimizer Pro can find and resize (enlarge) existing VMs that are about to run out of storage before they actually fail.

Will vOptimizer Pro work with virtual machines that run on VMware® Workstation, VMware® Server or VMware® ACE?

No, vOptimizer Pro was designed to work only with ESX and vCenter Server (previously Virtual Center).

How does the product work with the Windows® guest OS and disk management in Windows? Does the guest OS need to be shutdown?

vOptimizer Pro:

- 1) Shuts down the guest OS through the ESX API. Shutdown is necessary to guarantee file system consistency and to prevent any changes to the file system.
- 2) Mounts the disk subsystem in Windows.
- 3) Edits (extends or shrinks) the volume/partition and NTFS based on the disk geometry as a result of the business rule.
- 4) Powers on the virtual machine. If the option to align the partition on the 64 KB offset for ESX is selected, then vOptimizer Pro also performs this necessary change in Windows. It is important for the guest OS to be powered off so that the data is completely consistent from the shutdown to power on point.

Does the time it takes to optimize a virtual machine differ much if you compare a small virtual machine (10 GB) and a big virtual machine (200 GB)?

It is relative. If a volume is full and highly fragmented, vOptimizer Pro will compact the clusters prior to optimization and this does takes time. However, if in your ongoing maintenance a virtual machine's disk is well maintained (e.g., defragmented), the time difference for bigger virtual machines will not vary that much.

Can vOptimizer Pro be installed on the same physical server as vCenter Server?

It can, but it is not a requirement. vOptimizer Pro can be installed on any physical machine that has access to ESX Servers. For example, you may install vOptimizer Pro on 32-bit or 64-bit versions of Windows® XP Pro, Windows® Vista, and Windows® Server 2008 at any service pack level.

Are the VMDK files and NTFS volumes actually shrunk or expanded?

Yes. A free space quota is selected in vOptimizer Pro, which either expands or shrinks the VMDK(s) automatically. The expansion or contraction process includes editing the partition and NTFS file system to mirror the new VMDK(s) disk size. For example, if you have a 5 GB VMDK and your free space quota expands that to 10 GB, vOptimizer Pro will edit the partition in Windows and the NTFS file system, in addition to expanding the VMDK. You will automatically receive a virtual machine able to contain up to 10 GB of data, with no added steps. If you have a 50 GB VMDK and your free space quota shrinks that to 10 GB, vOptimizer Pro will edit the partition in Windows and the NTFS file system, in addition to shrinking the VMDK.

Are there limits to the type of data store where I can use vOptimizer Pro?

No, vOptimizer Pro is not exclusive to any type data store and it will work with any storage connected to ESX (e.g. iSCSI, NFS or specific vendors such as SAN or NAS). As long as the data store can be seen by VMware® ESX, vOptimizer Pro will also see the data store. vOptimizer Pro uses VMware's API to connect to virtual machines, so any data storage will benefit.

Does vOptimizer Pro protect me from reducing the disk size of a Windows® 2003 virtual machine to a point where the volume is smaller than the data contained?

Yes, there are checks and balances in place for protection. It is impossible to create a volume smaller than the amount of space needed. Specifically, free space implementation is calculated based on business rules the user creates, which are based on a virtual machine's used space. If a virtual machine had 10 GB used space, there is no rule a user could create, or use, that would change this virtual machine to less than 10 GB.

If there was a rule that was generated and run to create a volume with less than 400 MB free space, vOptimizer Pro would inform the user of this mistake and not allow the job to run and the user would have to increase the free space quota.

Will the guest partitions be realigned at 64 KB?

Yes, at this time, vOptimizer Pro is the only product on the market with this automated feature. The option in the product to align partitions on the 64 KB offset for ESX does two things:

- 1) it changes the guest OS partition starting offset 64 KB (msinfo32, Components, Storage, and Disks)
- 2) aligns these on the VMFS 64KB boundary To read more about this topic, please review "Recommendations for aligning VMFS Partitions," at <http://www.vmware.com/vmtn/resources/608>

What are some examples of vOptimizer Pro usage?

vOptimizer Pro can be used for one-off storage optimization, project-based storage reclamation and ongoing storage rightsizing.

For one-off storage optimization:

When there is a need to allocate more virtual machines on the existing storage, run vOptimizer Pro for the existing virtual machines, reducing them in size, enabling storage reclamation and allowing allocation of more virtual machines on the existing storage.

For project-based storage reclamation:

The original template and any previously created virtual machines can be resized up or down during the storage reclamation process. Once the appropriate virtual machine size is determined, an accurate calculation of storage needs can be performed for the project.

For on-going storage rightsizing:

vOptimizer Pro uses quotas to resize virtual machine hard drives. For example: a 20 GB virtual machine with 5 GB used space, resizing with a storage quota of 5 GB would create a virtual machine with a total drive size of 10 GB (5 GB Used, 5 GB free). Resize quotas can be used to resize virtual machine hard drives up or down.

What is the storage reclamation ROI?

The storage reclamation ROI can be easily calculated:

1. Determine how much VM storage can be reclaimed – let's assume in this example that 500 Gigabytes (GB) of storage is saved by using vOptimizer Pro on a single VM
2. Obtain the cost of your storage – let's assume that this is approximately \$10 per GB at your company
3. Calculate actual storage savings for this VM 500 GB of saved storage * \$10 per GB = \$5,000 of actual savings
4. Calculate actual storage savings throughout an entire data center – while this final step could vary a great deal at each VMware customer, it is reasonable to assume that optimizing 50 VMs and reclaiming approximately 500 GB for each VM would generate \$250,000 of overall storage savings.

What is the licensing model for vOptimizer Pro?

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.

Is the per socket licensing counted on the physical server vOptimizer Pro is installed on, or is it counting sockets of the ESX hosts?

The per socket licensing is counting sockets of the ESX host.

What are the supported environments for vOptimizer Pro?*Storage Reclamation Guest Requirements*

- Microsoft® Windows® 2000 x86
- Microsoft® Windows® Server 2003 x86 and x64
- Microsoft® Windows® XP x86 and x64
- Microsoft® Windows® Vista x86 and x64
- Microsoft® Windows® 2008 x86 and x64

VMware ESX Support

- VMware® vSphere 4
- VMware® ESX Server 3.5 and 3.5, Update 1
- VMware® ESX Server 3.0.2
- VMware® ESX Server 3.0.1

Where is the best place for vOptimizer Pro to be installed in the data center for use by many administrators?

vOptimizer Pro should be installed on a central physical host in the datacenter with access to the vCenter Server and ESX hosts.

Can vOptimizer Pro be installed in a Virtual Machine?

Yes, vOptimizer Pro can be installed in VMware virtual machines (VMs) as of Version 2.1.

In a very large VMware environment at what point should the work load be split up into more than one installation of vOptimizer Pro?

For a large number of storage reclamation on a regular basis, it is suggested that vOptimizer Pro be installed once for every 50 CPU's on a physical host.

When installing vOptimizer Pro, what is the best way to divide the work load?

It is recommended that entire clusters be allocated to a single install of vOptimizer Pro to avoid any failed optimizations.

Are there any competing products that can automate VMDK resizing?

At this time, vOptimizer Pro is the only product on the market with automated VMDK resizing. Without vOptimizer Pro, VMDK resizing is a cumbersome, multistep manual and error-prone process that requires substantial preparation and extensive advanced-level administration.



For more information about vOptimizer Pro, or any of our products, please contact sales@vizioncore.com, call our support hotline at 866-260-2483 or visit our website at www.vizioncore.com.

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