

## V-locity 3: Frequently Asked Questions

### What components make up the V-locity 3 virtual platform disk optimizer and where are they installed?

V-locity<sup>®</sup> 3 consists of two components for Microsoft<sup>®</sup> Hyper-V<sup>®</sup> platforms and two components for VMware<sup>®</sup> ESX<sup>™</sup>/ESXi<sup>™</sup>:

1. The **V-locity 3 Host for Hyper-V** is installed in Windows Server<sup>®</sup> 2008/R2 operating systems that are running Hyper-V.
2. The **V-locity 3 Guest** is installed in all Windows<sup>®</sup> virtual machines, regardless of virtual platform.
3. For VMware environments, a remote **V-locity 3 Host Agent** is installed on IT management desktops. These do not have to be virtual machines, and can be any Windows operating system supported by the V-locity 3 Guest.

### Which operating systems does V-locity 3 support?

The V-locity 3 Host for Hyper-V requires Windows Server 2008/R2 with Hyper-V role.

The V-locity 3 Guest supports the following operating systems: Windows XP (requires SP2), Windows Vista<sup>®</sup>, Windows 7, Windows Server 2003, and Windows Server 2008/R2.

The V-locity 3 Host Agent for VMware supports the following operating systems: Windows XP (requires SP2), Windows Vista, Windows 7, Windows Server 2003, and Windows Server 2008/R2.

### What virtual platforms does V-locity 3 support?

The list of currently supported virtual platforms is: Microsoft Hyper-V, VMware ESX/ESXi 4.0 or later.

### Does the V-locity 3 Host for Hyper-V defragment the host's file system?

The V-locity 3 Host for Hyper-V will defragment the host NTFS file system, including any virtual hard disk files.

### Does V-locity 3 support vSphere 5?

Yes, V-locity 3 supports vSphere<sup>™</sup> 5.

### Does V-locity 3 support Citrix<sup>®</sup> XenServer<sup>®</sup>?

Yes, with limited support. The V-locity 3 Guest can install with full functionality, but there is currently no Host Agent support. As a result, no automatic special virtual disk type detection is available, nor disk compaction features. Sparse disks or VMs employing any copy-on-write technologies should have Automatic Optimization disabled outside of scheduled maintenance windows where these features are temporarily disabled.

### How would I know the host system for a particular V-locity 3 Guest?

In VMware, the V-locity 3 Guest receives this information from the separately installed V-locity 3 Host Agent and displays it. The V-locity 3 Host Agent gathers this data from the virtualization host or vCenter.<sup>™</sup> A V-locity 3 Guest over Hyper-V will display the name of the host system that the Guest is communicating with.

## Can I use V-locity 3 on VSS (Volume Shadow Copy Services) enabled drives?

Yes, you can run V-locity 3 on VSS-enabled drives. We recommend using the manual and the automatic VSS defragmentation operations that you can enable via the V-locity 3 configuration properties options.

## How do V-Aware<sup>™</sup> and CogniSAN<sup>™</sup> technologies detect resource usage across the virtual platform/storage infrastructure?

Each V-locity 3 Guest passively monitors resource usage during its own local optimization and determines when activity is impeded by other virtual machine activity on the same host or another host attached to the same storage. This invisible monitoring method requires no network resources or local resource overhead.

## What is the Automatic Space Reclamation Engine?

V-locity 3 contains a new Automatic Space Reclamation Engine, which automatically zeroes out unused data blocks on virtual disks and makes virtual disk compaction easy. In some cases, this also permits the reclamation of zeroed out free space during storage migration on the virtual platform, such as Storage vMotion<sup>™</sup> (ESX/ESXi 4.0).

## How do I reclaim zeroed out free space in ESXi 4.1 or 5.0?

In ESXi 4.1 and 5.0, Storage vMotion will not automatically reclaim virtual disk space that has previously been zeroed out by V-locity 3. VMware is working on a resolution for this issue. There is a workaround which can be performed manually during a maintenance window:

1. Install V-locity 3 on a virtual machine (VM).
2. After the Automatic Space Reclamation Engine of V-locity 3 has zeroed out free space:
3. Switch OFF the VM.
4. Inflate the .vmdk (Virtual Machine Disk) and increase it to its provisioned size.
5. Using vCenter, perform a Storage vMotion from one data store to another.

Note: When you inflate the .vmdk, it converts the .vmdk provisioning from Thin to Thick. This is expected – after the Storage vMotion it converts it back to Thin.

## Can I still manually compact virtual disks with V-locity 3?

The V-locity 3 Host for Hyper-V natively provides the ability to manually compact virtual disks. If you still wish to utilize manual disk compaction over VMware ESX, install the V-locity 2 Host Service for ESX (but not ESXi). V-locity 3 still fully supports the V-locity 2 Host Service for this purpose.

## How would I know that a virtual disk (.vhd or .vmdk file) needs to be compacted?

The V-locity 3 Host Agent/Host for Hyper-V will indicate what degree of reclamation is available from associated virtual disks and whether compaction is recommended.

## Can I manually compact all types of drives with the V-locity 3 Host for Hyper-V/V-locity 2 Host Service?

You can only compact an offline Dynamic/Thin virtual hard disk using the V-locity 3 Host for Hyper-V/V-locity 2 Host Service. Dynamic/Thin drives are volumes where the space is allocated as needed.

## Can I run I-FAAST and Directory Consolidation on the V-locity 3 Guests?

No, I-FAAST® (Intelligent File Access Acceleration Sequencing Technology) and Directory Consolidation run only on the V-locity 3 Host for Hyper-V.

## Does V-locity 3 support large volumes?

Yes, both the V-locity 3 Host for Hyper-V and V-locity 3 Guests (Hyper-V and VMware) support large volumes as they use the Terabyte Volume Engine® defrag technology, which is designed to efficiently defragment extremely large volumes of any size.

## Can I run V-locity 3 from the command prompt?

Yes, you can run V-locity 3 from the command line on Windows systems.

## Can V-locity 3 defragmentation engines cause my Dynamic/Thin provisioned volume to grow unnecessarily?

V-locity 3 applies defragmentation algorithms to minimize/eliminate potential growth of Dynamic/Thin disks.

## Does V-locity 3 support Differencing Disks/Linked Clones?

The V-locity 3 Host for Hyper-V and V-locity 3 Host Agent for ESX/ESXi will automatically detect Differencing Disks and Linked Clones\* and deliver this information to V-locity 3 Guests. V-locity 3 Guests configure settings to maximize performance and ensure no unwanted side effects occur. IntelliWrite® fragmentation prevention technology in V-locity 3 prevents up to 85% of fragmentation on the initial write and is fully compatible with these special virtual disk types. IntelliWrite is left on by default if these disk types are detected. As it is not recommended to manually or automatically defragment a Differencing Disk/Linked Clone, Automatic Defragmentation will be disabled.

## Does V-locity 3 support Live Migration (Hyper-V)/vMotion™ (ESX/ESXi)?

Yes, movement of VMs from one host virtual system running the V-locity 3 Guest to another virtual system running these is fully supported.

## Does V-locity 3 support Cluster Shared Volumes (CSV), High Availability (HA), and Clustered Servers?

Yes, these features/infrastructures are fully and natively supported and V-locity 3 is fully compatible. No special configurations are required.

\* A Differencing Disk (Hyper-V)/Linked Clone (ESX/ESXi) is a virtual hard disk that stores the changes or "differences" to an associated parent virtual hard disk for the purpose of keeping the parent intact. The Differencing Disk/Linked Clone is a separate file that is associated with the file of the parent disk. Changes continue to accumulate in these change disks until it is merged to the parent disk.

## Which port do the V-locity 3 Host for Hyper-V/V-locity 3 Host Agent (ESX/ESXi) and V-locity 3 Guests communicate through?

By default, port 8255 is used to communicate between the V-locity 3 Host for Hyper-V or V-locity 3 Host Agent (ESX/ESXi) and the V-locity 3 Guest Components. UDP is only used for the automatic Host Agent discovery. Once a connection is established, only TCP is used.

## How does the V-locity 3 Host Agent communicate with the ESX/ESXi Host/vCenter?

The Host Agent communicates with the ESX/ESXi Host or vCenter using HTTPS, by default using port 443. The port can be changed when configuring Host Agent connections to vCenter through the Host Agent UI, using the standard URL notation (:<port #>).

## What is Automatic Discovery and how does it work?

Automatic Discovery is the process by which individual V-locity 3 Guests discover either the V-locity 3 Host for Hyper-V or V-locity 3 Host Agent (ESX/ESXi).

There are three methods (in descending priority) by which a V-locity 3 Guest discovers the V-locity 3 Host within its local subnet:

- **(Hyper-V Only)** Hyper-V Extensions (If these are installed locally on the VM. If not, the next option is attempted.)
- **(Hyper-V or ESX/ESXi)** IP Multicast Protocol (If this is enabled between the host and the guests; if not, the next option is required.)
- **(Hyper-V or ESX/ESXi)** Guest configuration (Utilizing either the Registry or Command Line Interface, manual configuration for communications between the host/guests.)

## Can I use group policy to administer V-locity 3?

Currently Microsoft group policy is not supported; however, Diskeeper® Administrator can serve as a network administration tool to deploy and manage V-locity 3 installations.

## If I am using Diskeeper Administrator to manage V-locity 3 installations, what ports are needed to communicate?

In order to deploy V-locity 3 and remotely control V-locity 3 Guests with Diskeeper Administrator, the computers running V-locity 3 must be configured to allow Diskeeper Administrator to communicate via these ports:

Diskeeper Administrator Push Install port: 31029 – Diskeeper Administrator uses this port to deploy V-locity 3 to remote computers.

Diskeeper Administrator server port: 31037 – Diskeeper Administrator service receives data from remote V-locity 3 computers via this port.

Diskeeper Administrator console port: 31036 – Diskeeper Administrator remote control console receives data from remote V-locity 3 computers via this port.

Spare Diskeeper Administrator console ports: 31056, 31076, 31096, 31116, 31136, 31156, 31176, 31196, and 31216 – Diskeeper Administrator will use these ports if the default ports are unavailable.

Diskeeper Administrator SQL port: 1434 – Diskeeper Administrator uses this port if the SQL database is located on a remote computer

	Hyper-V	XenServer	ESX 3.5	ESXi 3.5	ESX 4.0	ESXi 4.0	ESX 4.1	ESXi 4.1	ESXi 5.0
<b>V-locity 3 Host for Hyper-V/V-locity 3 Host Agent</b> Automatically detects Differencing Disks/Linked Clones/Snapshots and disables defragmentation, shifting focus to IntelliWrite technology.	X				X	X	X	X	X
<b>V-locity 3 Guest</b> V-Aware and CogniSAN detect I/O activity across the virtual platform and at SAN storage levels.	X	X			X	X	X	X	X
<b>Zeroing of Free Space</b> Not required to take system off-line for space reclamation. Run live Storage vMotion to recover free space.					X	X			
<b>Zeroing of Free Space</b> Must take system off-line and perform inflate function to recover free space.							X	X	X
<b>Manual Disk Compaction</b> V-locity 3 Host for Hyper-V/V-locity 2 Host Service required.	X		X		X		X		