

# A command line tool to perform optimized VHD file copy operations

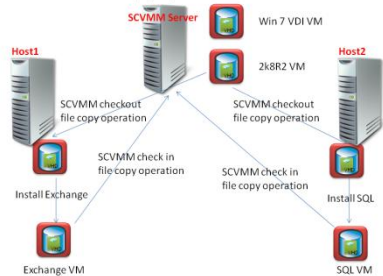
## Migrate to Microsoft Windows Server 2008 R2 Clustered Shared Volumes more efficiently

### The VM File Copy Problem

Virtualization related storage files (VHD, VMDK etc.) typically range in size from tens of GBs to hundreds of GBs. Copying such large files can tax a server bus, performance of other running VMs, as well as network performance.

Unfortunately, many of the usage scenarios for Virtual Machines directly lead to a file copy. For example:

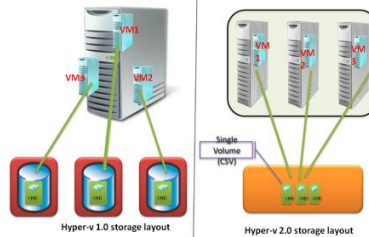
Figure-1 Hyper-V usage scenario showing file copy operations



- Checking in or out a file to/from a management solution such as SCVMM is a file copy operation as shown in Figure-1
- Moving VMs from a test server to a production server is a file copy operation
- Load balancing of VMs leads to a file copy operation

- Migrating from Hyper-V 1.0 based on Windows Server 2008 to Hyper-V 2.0 based on Windows Server 2008 also leads to a file copy, as shown in Figure-2.

Figure-2 Storage layout changes between Hyper-V 1.0 and Hyper-V 2.0



Industry analysts estimate that a typical production server will have 6 to 8 VMs running, and 8-10 VMs installed. A test server may have 16 VMs running and up to 32 VMs installed. Starting a VM simply to migrate it can lead to performance issues for the already running VMs. Further, some VMs by definition should not be fired up where they reside, e.g. a Master VM inside a management library.

Clearly, a solution to efficiently copy non running VM files is needed.

### The Solution

VHDCopy can accelerate VHD file copies for certain cases. VHDCopy Enterprise Edition (VHDCopEE) can accelerate a VHD file copy in a wider range of scenarios. Both these scenarios are depicted in Table I

	Source VHD Volume Type	Copy Type
VHDCopy	local	Accelerated
VHDCopy	network	Non Accelerated
VHDCopy	CSV redirected access mode	Non Accelerated
VHDCopEE	local	Accelerated
VHDCopEE	network	Accelerated
VHDCopEE	CSV redirected access mode	Accelerated

Table I – VHDCopy and VHDCopEE behavior with various types of volumes

### VHDCopy & VHDCopEE Advantages

- Significant reduction in disk I/O – up to 90% depending upon VHD file contents
- File copy up to 10X faster
- Optimization works even when source VHD file is on a network volume or Clustered Shared Volume (VHDCopEE)
- Complements, but does not require Microsoft System Center Virtual Machine Manager 2008 R2 Rapid Provisioning
- Get SAN storage features such as Instant Clones or Instant Provisioning while using Clustered Shared Volumes and low cost storage

### VHDCopEE requirements

- 64 bit Windows Server 2008/Vista executable – also available as a Windows Server 2008 executable

### VHDCopy requirements

- 32 bit or 64 bit Windows 7 executable

### Try before you buy

Obtain your fully functional evaluation copy by emailing [sales@VMUtil.com](mailto:sales@VMUtil.com) . VHDCopy is available at no cost.