

A command line tool to perform instant provisioning of VMs - VMProv

Instant provisioning of VMs – compatible with SCVMM R2 – using low cost non SAN storage

Turn any backups such as System Center Data Protection Manager generated VHDs at secondary data center into an instant disaster recovery solution

The current state of art - wait for file copy to complete before provisioning the VM

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. One of the most common scenarios is checking out a VM from a management solution such as System Center Virtual Machine Manager (SCVMM). This leads to a VHD file copy operation and one has to wait until the file copy has completed before the VM can be provisioned and utilized.

What's wrong with the current state of the art

The current solutions lead to a number of inefficiencies:

- The admin has to for a VM file copy to complete before the VM can be booted
- Meaningless data is copied e.g. data blocks that are not in use by the file system inside the VM.
- Data is copied, and then immediately overwritten e.g. after a VM is provisioned, the admin installs some new software which overwrites a significant part of the data that was copied during the VM provisioning.

The Solution – VMProv – a command line initiated utility

VMProv is based upon the patent pending VHDCopy utility. VMProv allows a VM to be provisioned and be available for use within seconds, well before the accelerated file copy has finished. Once the file copy finishes, the provisioned VM is no different than if it had been utilized after the file copy operation had finished. While the file copy is happening, the VM is fully available, and you may install any updates or new software. All changes made to the VM while the file copy is happening are preserved.

VMProv does use a mini file system driver to accomplish its functionality, in addition to the command line tool VMProv.exe.

Competitive Analysis

SCVMM 2008 R2 implements Rapid Provisioning in two different cases:

- If the storage hardware allows for instant creation e.g. via mirroring
- If the VHD file had already been copied previously

VMProv complements SCVMM 2008 R2 by allowing instant provisioning in general – the two special conditions need not be met for instant provisioning to be feasible.

VMProv complements, but does not require SCVMM 2008 R2.

VMProv turns Microsoft System Data Protection Manager generated VHDs at the secondary data center into an instant disaster recovery solution that does not need SAN storage.

VMProv Advantages

- Instant Disaster Recovery solution
- Solution to provide SLAs – VM is answering TCP pings in a few minutes on demand and without SAN storage
- Reduced OpEx
- Minimize data copied - all the advantages of VHDCopEE
- Scriptable Command line tool that easily integrates into existing management solutions via Power Shell or other scripting solutions
- Significant improvement in productivity and resource usage
- Supports Windows Server 2008 R2 Clustered Shared Volumes
- Instant provisioning solution
- Instant disaster recovery solution that complements your backup solution
- Complements Microsoft System Center VMM and Microsoft Data Protection Manager if deployed.

VMProv requirements

- Must be executed on a Windows Server 2008 R2 system with Hyper-V with administrative privileges

VMProv Limitations

- Source VHD file must be at rest - this can be a snapshot volume mounted as a read only volume
- Clustered Shared Volumes must be temporarily placed in redirected mode

VMProv is available – Try before you buy

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