

Einrichtung und Konfiguration eines Failover Cluster mit Windows Server 2016 Hyper-V

Agenda

- Was ist neu in Windows Server 2016 Hyper-V / Failover
- Einrichtung eines iSCSI Targets fuer das CSV
- iSCSI Initiator Konfiguration
- Hyper-V Installation
- Failovercluster Validierung und - Einrichtung
- Failover Cluster Konfiguration
- Einrichtung der Hyper-V Rolle im Failover Cluster
- Konfiguration der Live Migration in Windows Server 2016
- Konfiguration einer VM mit WS 2016 im Failover Cluster

Wer bin ich?

- Marc Grote
- Seit 1989 hauptberuflich Itler / Seit 1995 Selbststaendig
- Microsoft MVP fuer Hyper-V seit 2014 (MVP Forefront von 2004-2014)
- Microsoft MCT/MCSE Messaging/Security/Server/MCLC /MCITP*/MCTS*/MCSA*/MC*
- MCSE Private Cloud, Server Infrastructure
- MCS Server Virtualization Hyper-V System Center/Azure
- MCITP Virtualization Administrator
- Buchautor und Autor fuer Fachzeitschriften
- Schwerpunkte:
 - Windows Server Clustering/Virtualisierung/PKI
 - System Center SCVMM/SCEP/DPM
 - Exchange Server seit Version 5.0
 - von *.Forefront reden wir nicht mehr ☹

Was ist neu in Windows Server 2016 Hyper-V

- Nano Server (Small Footprint)
- Windows Server Container (später zusätzl. Hyper-V Container)
- ReFS Accelerated VHDX Operations (Fixed Size Disk + Merge → ODX)
- Nested Virtualization (in WS2016 RTM– Windows 10?)
- Neue Shared VHDX Funkt. (Dynamic Resize, Replica, Host Backup, Downlevel Support)
- Virtual TPM – Bitlocker Support
- Linux Secure Boot
- Shielded VMs → Host Guardian Service → Virtual TPM → Tenant
- Production VM Checkpoints (Snapshots)
- Hyper-V Replica Unterstützung fuer Hot add von VHDX Dateien
- Hot add / remove von Virtual Machine Static Memory / NIC

Demo

Virtual TPM – Production Checkpoints – Hot Add / Remove RAM / NIC

Was ist neu in Windows Server 2016 Hyper-V

- Virtual Network Adapter Identification (kein CDN)
- Hyper-V Manager Verbesserungen (WinRM, IP, Workgroup, mixed Version)
- Power Management Verbesserungen (Connected Standby)
- Neuer Virtual Machine Version Upgrade Prozess (Versionierung)
- Update der IC-Version mit MU/WU
- Binäre VM Konfiguration Files (Stabilität / Performance)
- Distributed Storage QoS über Cluster
- Virtual Machine Storage Resiliency (WS2012-R2 60 Sek. – WS2016 VM Paused bei SMB, BlockStorage Paused)
- Verbessertes Hyper-V Backup (Change Block Tracking)
- Verbessertes Hyper-V Cluster Management (WMI gegen Cluster)
- PowerShell Direct

Demo

DeviceNaming - Update-VMVersion – PS Direct - VMCX

Windows Failover Clustering

- Virtual Machine Cluster Resiliency
 - Quarantine (Kein Cluster Join fuer 2 Stunden, VM Drain, nicht mehr als 20% Hosts)
 - Isolated (Node kein Active Member, VMs werden weiter gehostet)
 - Konfiguration per PS (Get-Cluster)
- Rolling Cluster Upgrade
- Host Resource Protection (Resource Allocation Tracking in VM)
- Cloud Witness
 - Azure Storage Account
- Host Guardian Service (VM Isolation fuer Tenants)
- Site Aware Cluster
 - Failover Affinity, Storage Affinity, Cross-Site Heartbeating
- Verbessertes Cluster Log
 - TimeZone, VerboseDiagnostic EventViewer, Active Memory Dump

Demo

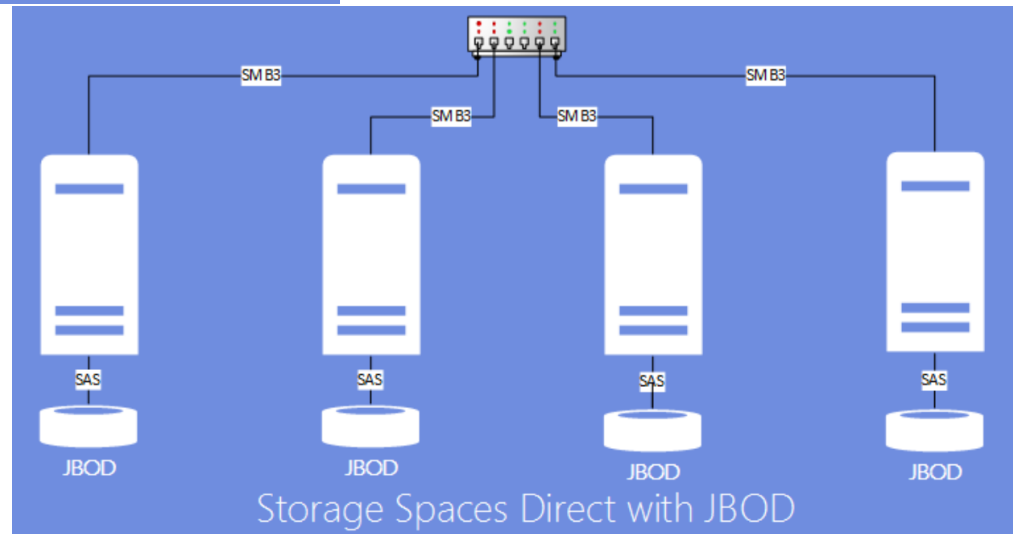
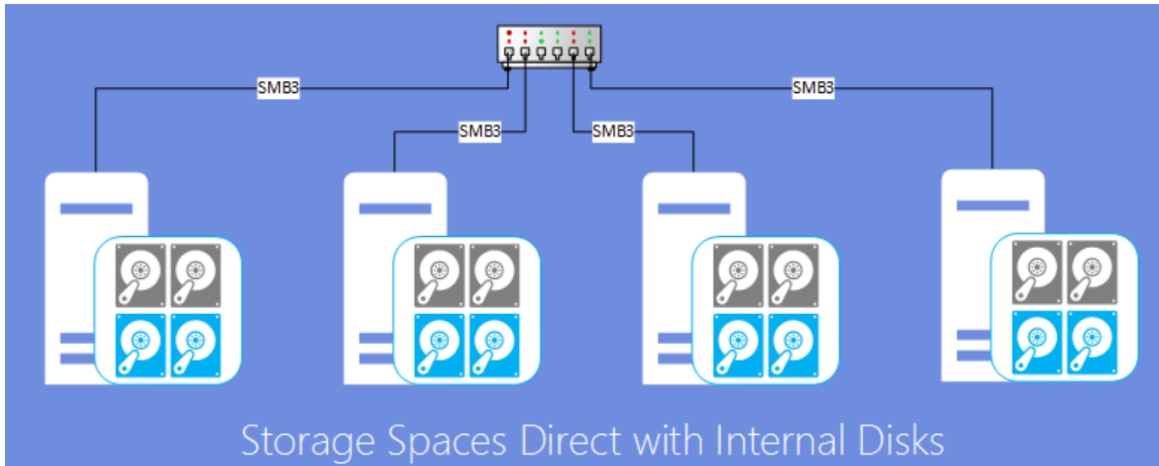
Rolling Cluster Update – Cloud Witness



Storage Services

- Virtual Machine Storage Resiliency
- Storage Spaces Direct
- Storage QoS fuer Cluster (SMB3 / SOFS)
- Bessere stretched Hyper-V Cluster mit Storage Replica
- Storage Spaces Rebalancing (Optimize-StoragePool)

Storage Spaces Direct



Source: <https://technet.microsoft.com/en-us/library/mt126109.aspx>

Storage Replica

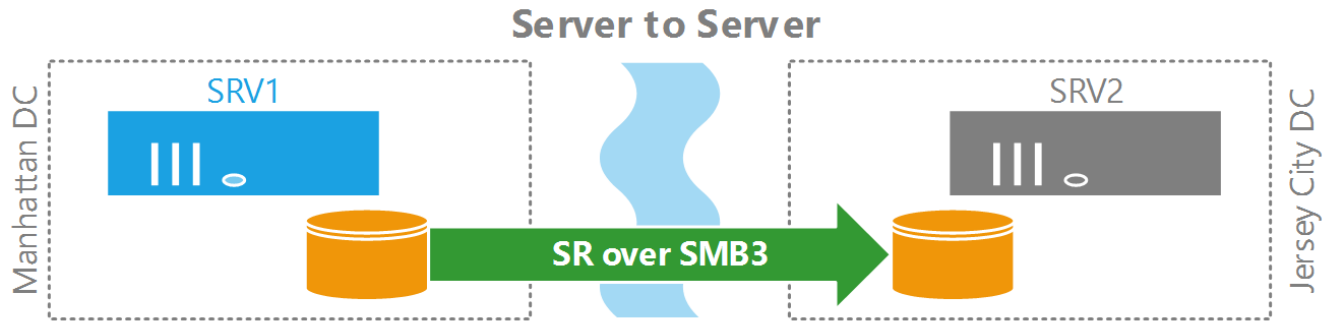
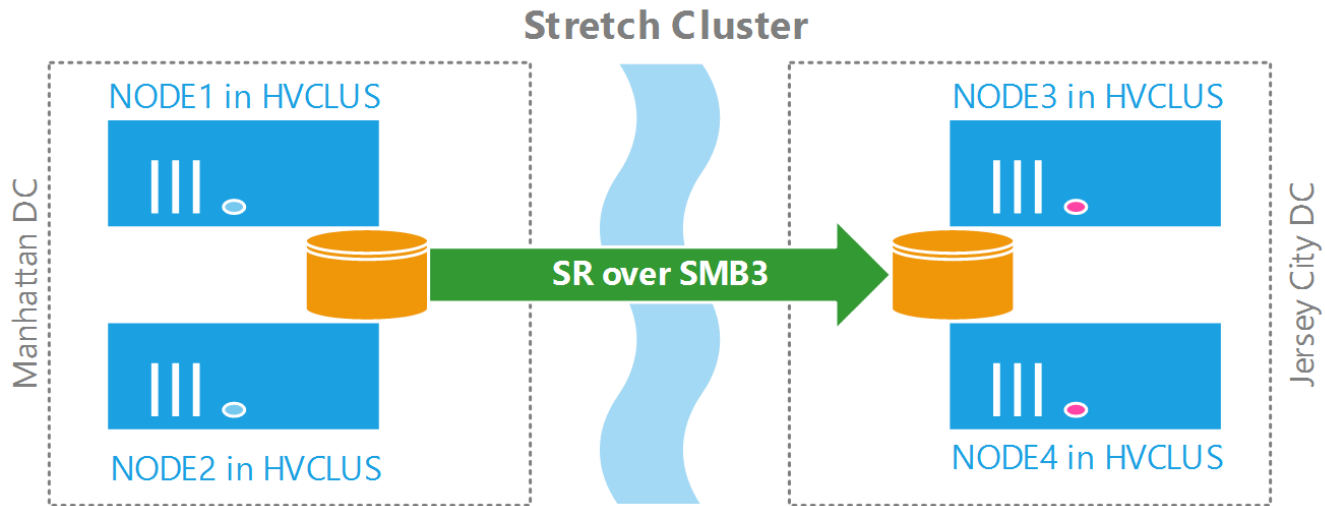


Figure 1



Cluster Konfiguration

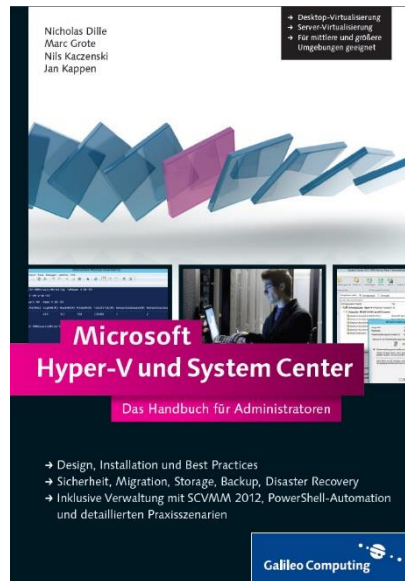
Demo



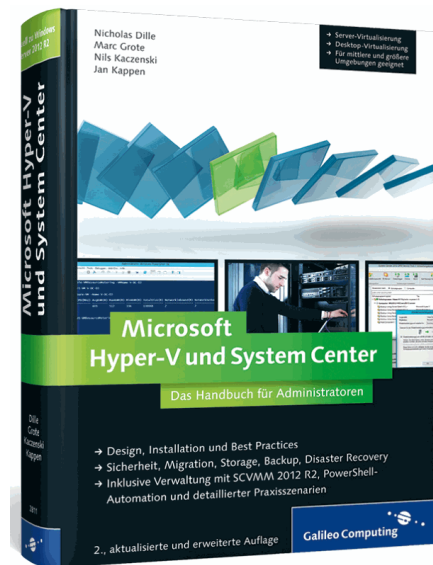
Fragen?

A graphic consisting of three overlapping question marks. The front-most one is a medium blue, the middle one is a lighter blue, and the back-most one is a dark blue. They are all rendered in a bold, sans-serif font with a slight drop shadow.

Die Buecher



Hyper-V und
System Center
2012



Hyper-V und
System Center
2012 + R2

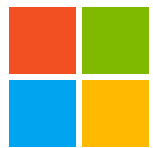
Hyper-V und System Center 2016 in Planung

Kontakt

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wir danken unseren cim sponsoren

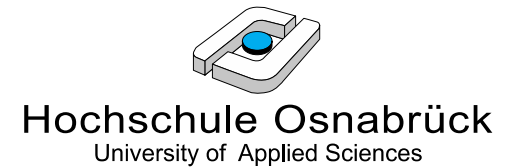


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