Hyper-V to Azure Migration – Lessons learned und ein Blick hinter die Kulissen

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Agenda

- Hyper-V Ausgangslage

- Azure Ausgangslage

- Migration - Möglichkeiten

- Migration - Tools

- Migration - Stolpersteine und Lösungen

- Fazit

Hyper-V Ausgangslage

Hyper-V Ausgangslage

- Hyper-V auf Windows Server 2012 R2 / 2016 / 2019

- Cluster

- SAN / S2D / ???

- Gen 2 VMs

- Windows / Linux VMs

Hyper-V Ausgangslage

- Konsolen-Sitzung

- Host-based Backup

- Hyper-V Manager

- Failover-Cluster Manager

- SCVMM

- WAC

Azure Ausgangslage

Azure Ausgangslage

- Hyper-V

- Keine Cluster → Single Hosts

- Kein SAN → JBODs

- Gen 1 VMs → Gen 2 VMs (Preview)

- Windows / Linux VMs

Generation 2 feature	On-premises Hyper-V	Azure
Secure Boot	✔	✖
Shielded VM	✔	✖
vTPM	✔	✖
Virtualization-Based Security (VBS)	✔	✖
VHDX format	✔	✖

Azure Ausgangslage

- Keine Konsolen-Sitzung → Serielle Notfall-Konsole

- Kein Host-Zugriff (VM-Backup)

- Management über Azure Portal

- SCVMM

- PowerShell

- REST

Virtual machines
Mountain IT

＋ Add　🕐 Reservations　☰☰ Edit columns　↻ Refresh　｜　◆ Assign tags　▶ Start　↻ Re

**Subscriptions:** All 6 selected – Don't see a subscription? Open Directory + Subscription settings

| Filter by name... | All subscriptions ▾ | All resource groups ▾ | All types |

1 of 7 items selected

■ NAME ↑↓	TAGS ↑↓	TYPE ↑↓	STATUS
☐ 🖥 HONOLULU-CL01	1 ✏	Virtual machine	Stopped (deallocate
☐ 🖥 HONOLULU-CL02	✏	Virtual machine	Stopped (deallocate
✔ 🖥 honolulu-dc01	1 ✏	Virtual machine	Stopped (deallocate
☐ 🖥 HONOLULU-HV01	1 ✏	Virtual machine	Stopped (deallocate
☐ 🖥 HONOLULU-NAN-...	1 ✏	Virtual machine	Stopped (deallocate
☐ 🖥 HONOLULU-SAC01	1 ✏	Virtual machine	Stopped (deallocate
☐ 🖥 HONOLULU-SRV01	1 ✏	Virtual machine	Stopped (deallocate

Migration – Möglichkeiten

Migration – Möglichkeiten
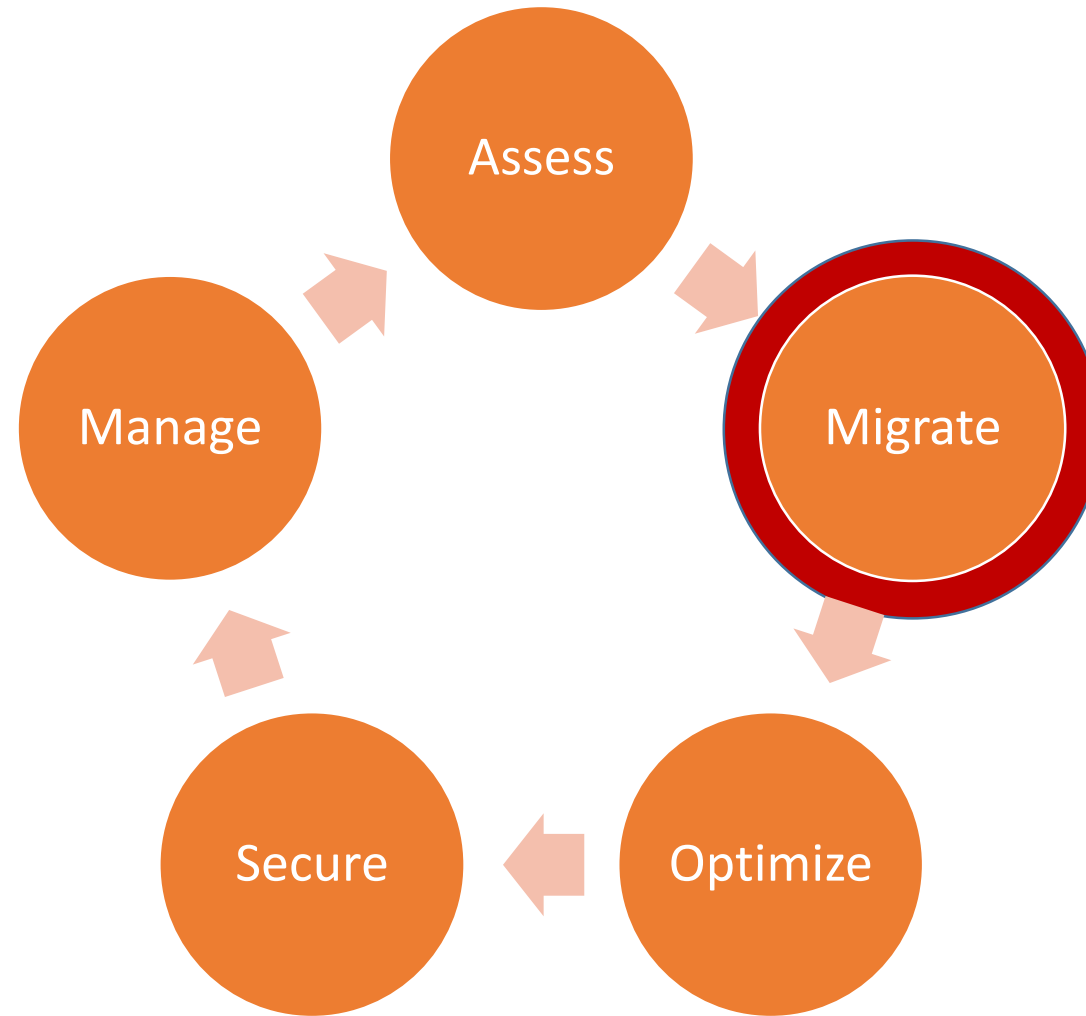
Migration – Möglichkeiten

- Upload von VHDs (Offline-Transfer)

  - hohe Downtime

  - viel Aufwand

- Neuinstallation und Workload-Migration

  - mäßige Downtime

  - viel Aufwand

```powershell
$rgName = "myResourceGroup"
$urlOfUploadedImageVhd = "https://r
Add-AzVhd -ResourceGroupName $rgNar
        -LocalFilePath "C:\Users\Publi
```

```powershell
$imageConfig = New-AzImageConfig `
    -Location $location
$imageConfig = Set-AzImageOsDisk `
    -Image $imageConfig `
    -OsType Windows `
    -OsState Generalized `
    -BlobUri $urlOfUploadedImageVhd `
    -DiskSizeGB 20
New-AzImage `
    -ImageName $imageName `
    -ResourceGroupName $rgName `
    -Image $imageConfig
```
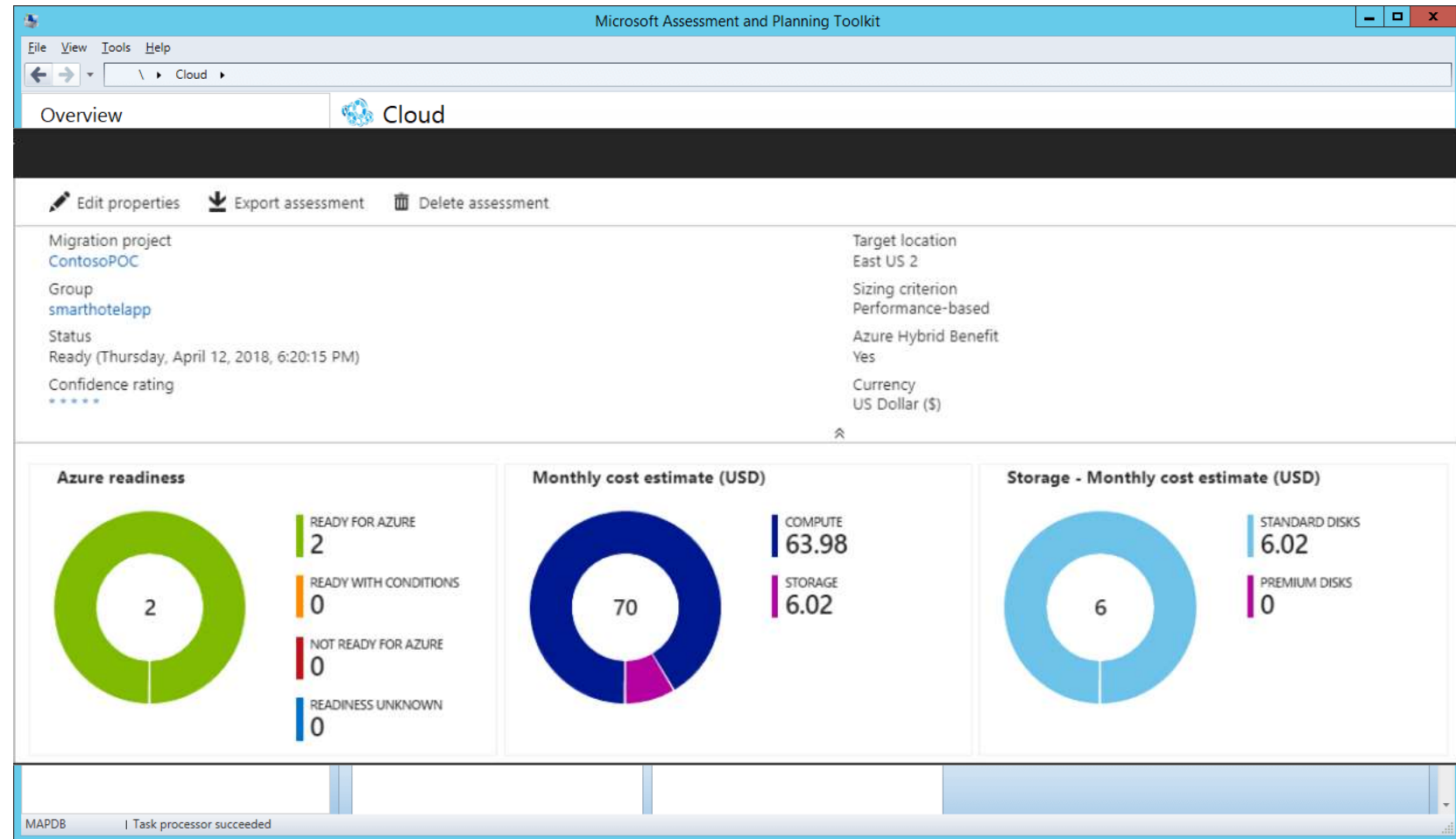
s.net/my
eVhd `
/HD.vhd"

Migration – Möglichkeiten

- Azure Site Recovery

  - Geringe Downtime

  - Mäßiger Aufwand

  - Sehr guter VMware Support

  - Guter Hyper-V Support

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CONFERENCE **Germany**
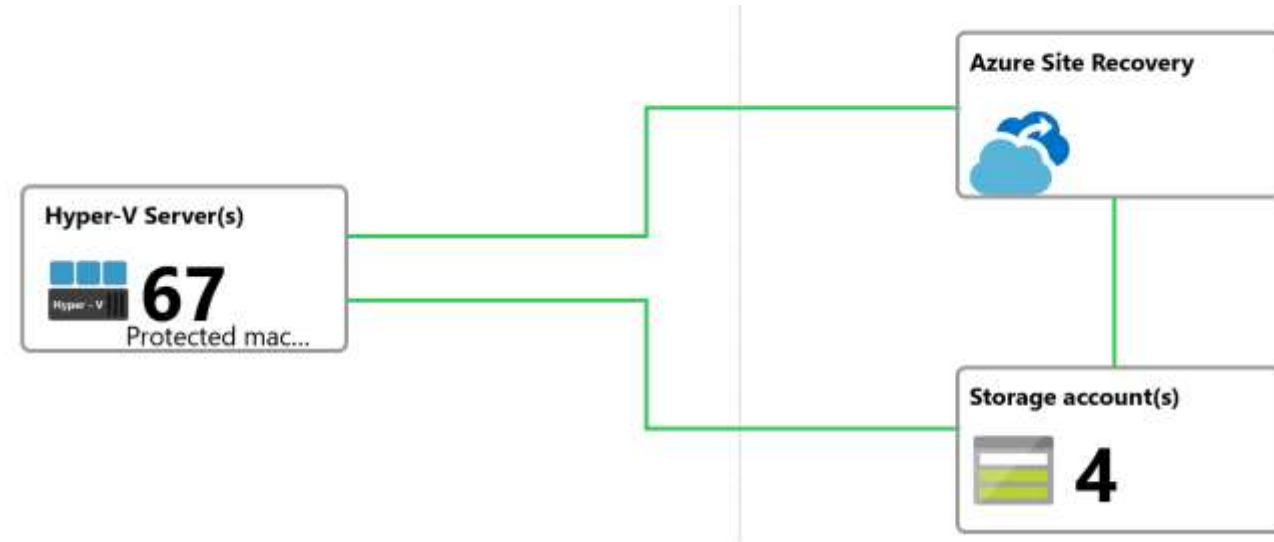
Migration – Tools
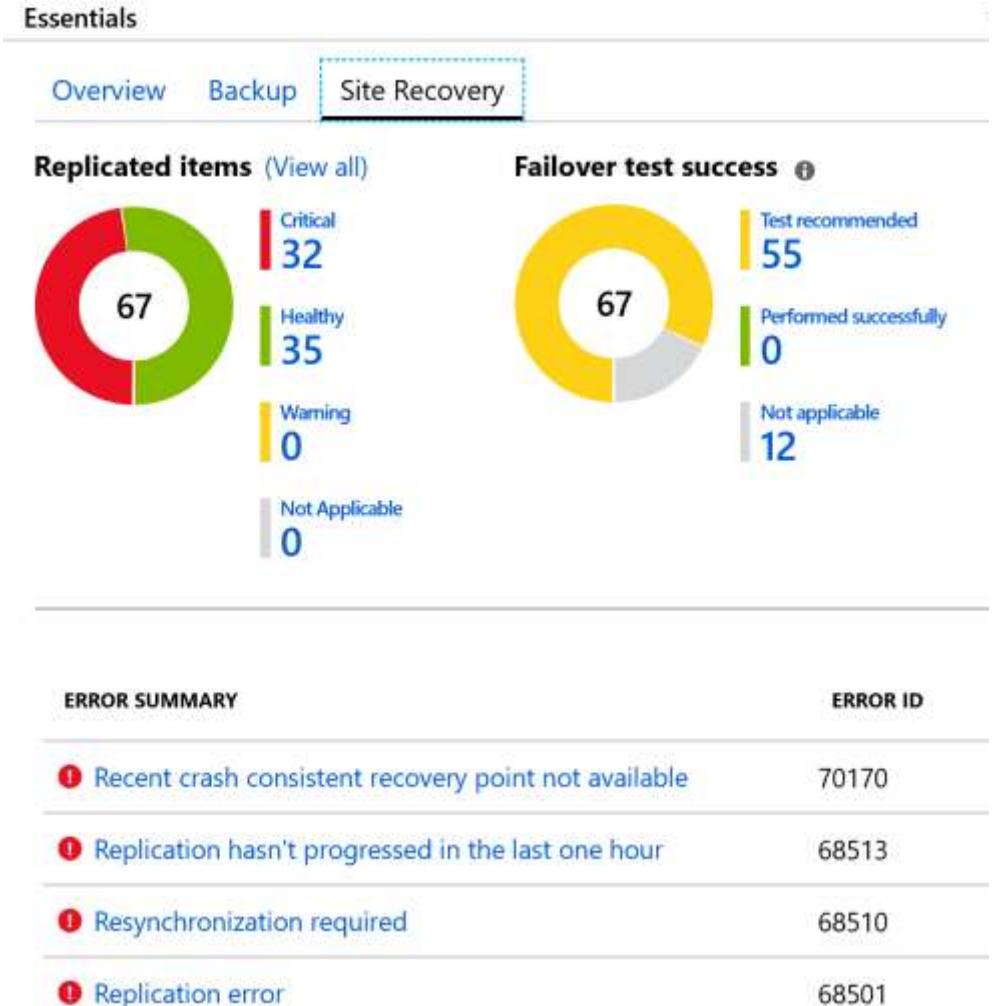
Migration - Tools

- Assessment

  - MAP Toolkit

  - Azure Migrate

  - Cloudamize

  - CloudScape

  - Movere

  - ...

Migration - Tools

- Migrate
  - Azure Site Recovery
  - Cloudamize
  - Movere
  - Zerto
  - ...

Migration – Stolpersteine und Lösungen

Migration - Stolpersteine

- Azure Site Recovery – Hyper-V Support:

  - Kein Disk-Resizing während Replikation

  - Keine statischen IPs für Linux supportet

  - Keine verschlüsselten Disks

  - Kein Import / Export Service

  - Kein Failback mit Managed Disks

  - Nur 64 Bit

Migration - Stolpersteine

- Azure Site Recovery – Hyper-V Support:

  - Maximal 300 GB OS-Disk bei Gen 2

  - Keine Shared VHDs

  - Keine Linux Gen 2

- OS-Konfiguration

  - san policy=onlineall

  - RDP enabled

  - Firewall konfiguríert

Migration - Stolpersteine

- Azure Migrate Hyper-V Support not GA

- Premium Storage max size (35 TB per Account)

- Bandbreite / Firewall

- Churn

ASR Replication Storage Target	Source Disk I/O Size	Source Disk write churn that than can be handled by ASR Service per disk
Standard storage	8K	2 MB/sec per disk
Premium P10 disk	8K	2 MB/sec per disk
Premium P10 disk	16K	4 MB/sec per disk
Premium P10 disk	32K	8 MB/sec per disk
Premium P20/P30 disk	8k	5 MB/sec per disk
Premium P20/P30 disk	16K	10 MB/sec per disk
Premium P20/P30 disk	32K	20MB/sec per disk

Fazit

Fazit

- Vollständiges und umfängliches Assessment

- Abgleich mit allen Einschränkungen und Support-Matrixen

- Puffer planen

- Nicht migrierbare Systeme neu bereitstellen

- Limits beachten

- "Keep calm - it's an evolution"

Fragen!?

Feedback nicht vergessen!!!

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