



Azure Meetup

LEIPZIG

GRÜßE AUS LEIPZIG!

AZURE MIGRATE

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- Seit 2019 bei SoftwareONE / COMPAREX
- Erst als Solutions Architect Future Datacenter im Solution Sales Team
- Jetzt als Principal Consultant & Architect im Azure Consulting Team
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AGENDA

1. Azure Migrate Overview
2. Azure Migrate Assessment & Migration
3. Azure Migrate Demo
4. Azure Migrate Lessons-learned



AZURE MIGRATE OVERVIEW

AZURE MIGRATE OVERVIEW

- Unified Migration Plattform
- Wide range of tools (Microsoft and 3rd Party)
 - Movere
 - Cloudamize
 - ...
- Assessment of existing systems
- Replication & Migration
 - VMs / Servers
 - Databases
 - Web Applications
 - Data

AZURE MIGRATE OVERVIEW

- Using Azure Migrate is free in the first place
- When using 3rd Party offerings or Movere, you need to get a license!
- Some of them have free trials as well
- Azure Migrate and Azure Migrate tools (Microsoft-provided) are free of charge, but you will pay for
 - ISV / 3rd-Party-Tools if used
 - Used Storage during replication
 - Storage Transactions during replication
 - Data Transfer during replication
 - Compute / VMs during Testmigration and after final Migration

AZURE MIGRATE OVERVIEW

- When using Dependency Visualisation for Server Assessment, it is free for the first 180 days; after this, Log Analytics charges will apply
- When replicating a VM for more then 180 days, you will pay ~21€/month/instance
- As Azure Migrate is free, there is no SLA on it!




ASSESSMENT AND MIGRATION





ASSESSMENT & MIGRATION


- Azure Migrate usually consists of two phases:
 - Assessment
 - Migration
- Both could use different tools

Assessment tools [\(Add more tools\)](#)

Azure Migrate: Server Assessment





 Discover  Assess  Overview





	Discovered servers	26
	Groups	2
	Assessments	2
	Notifications	0


 **Next step:** Start migrating your servers or optionally you can refine your application grouping with dependency analysis

Migration tools [\(Add more tools\)](#)

Azure Migrate: Server Migration

 Discover  Replicate  Migrate  Overview

	Discovered servers	13
	Replicating servers	1
	Test migrated servers	1
	Migrated servers	0

 **Next step:** You can start migrating the replicating servers to Azure

ASSESSMENT

- Assessment consists of these steps
 - Discovery / Inventory
 - Grouping
 - Assessment (with defined assumptions)
- Discovery can be done in two ways:
 - Using Appliance
 - Using CSV import

Edit properties
DemoAssessment

TARGET PROPERTIES

Target location ⓘ
West Europe

Storage type ⓘ
Premium managed disks

Reserved instances ⓘ
No reserved instances

VM SIZE

Sizing criterion ⓘ
Performance-based

Performance history ⓘ
1 Day

Percentile utilization ⓘ
95th

VM series ⓘ
5 selected

Comfort factor ⓘ
1

PRICING

Offer ⓘ
Pay-As-You-Go

Currency ⓘ
Euro(€)

Discount (%) ⓘ
0

VM uptime ⓘ
31 Day(s) per month 24 Hour(s) per day

EA Subscription ⓘ
Not applicable

Azure Hybrid Benefit
Apply Azure Hybrid Benefit and save up to 49% vs. pay-as-you-go costs with an eligible Windows Server license.

Already have a Windows Server license? * ⓘ
Yes No

[Review Azure hybrid benefit compliance](#)

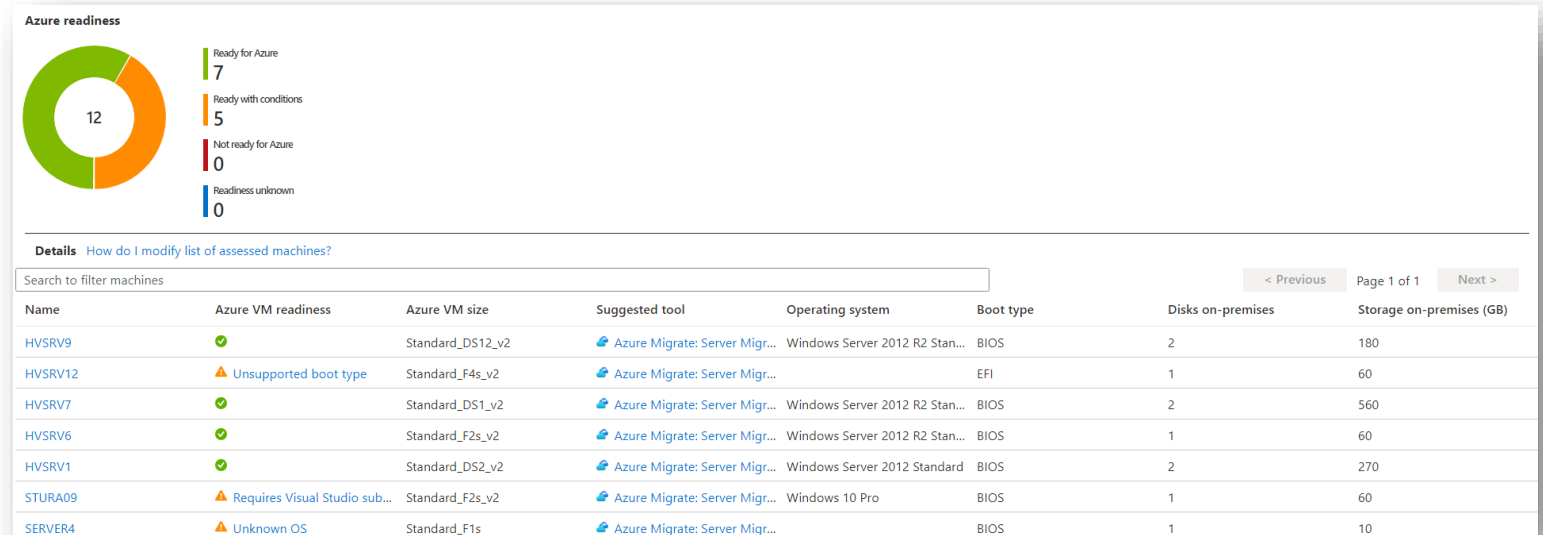
ASSESSMENT

- Using the Appliance is recommended
- It will not only collect a full list of the VMs but also monitor the resource usage
- This can be used for sizing later
- When using CSV, you can only size „as on-premises“ / as given in the CSV
- Appliance needs to run some time (at least 7 days, better 14 days) to get proper data for resource utilization

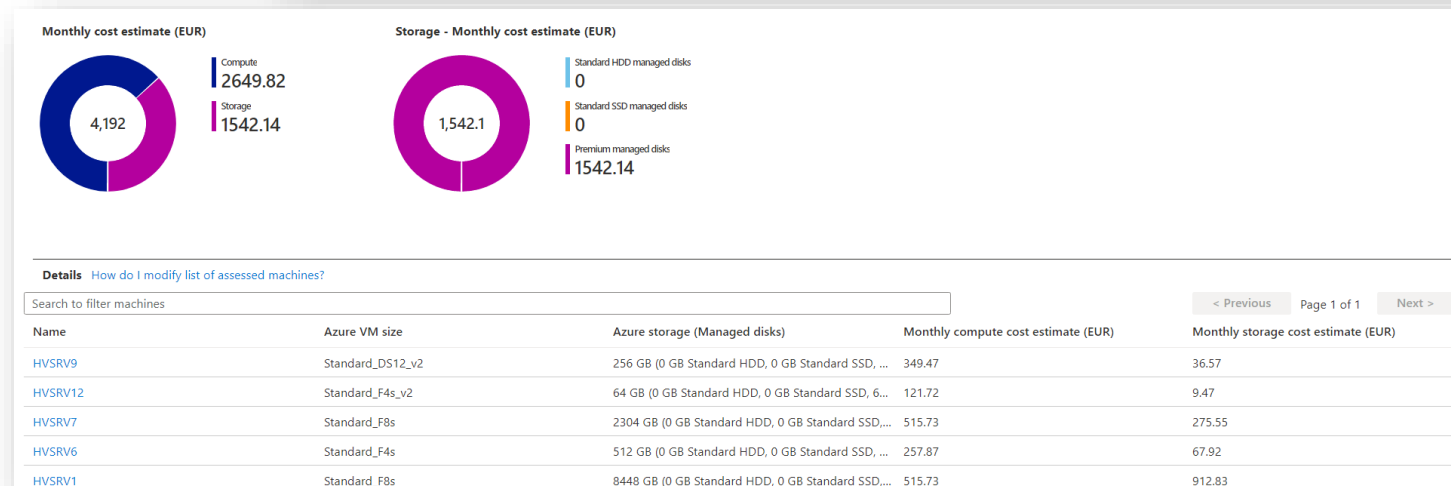
ASSESSMENT

- Assessment will provide two types of results:

- Azure readiness

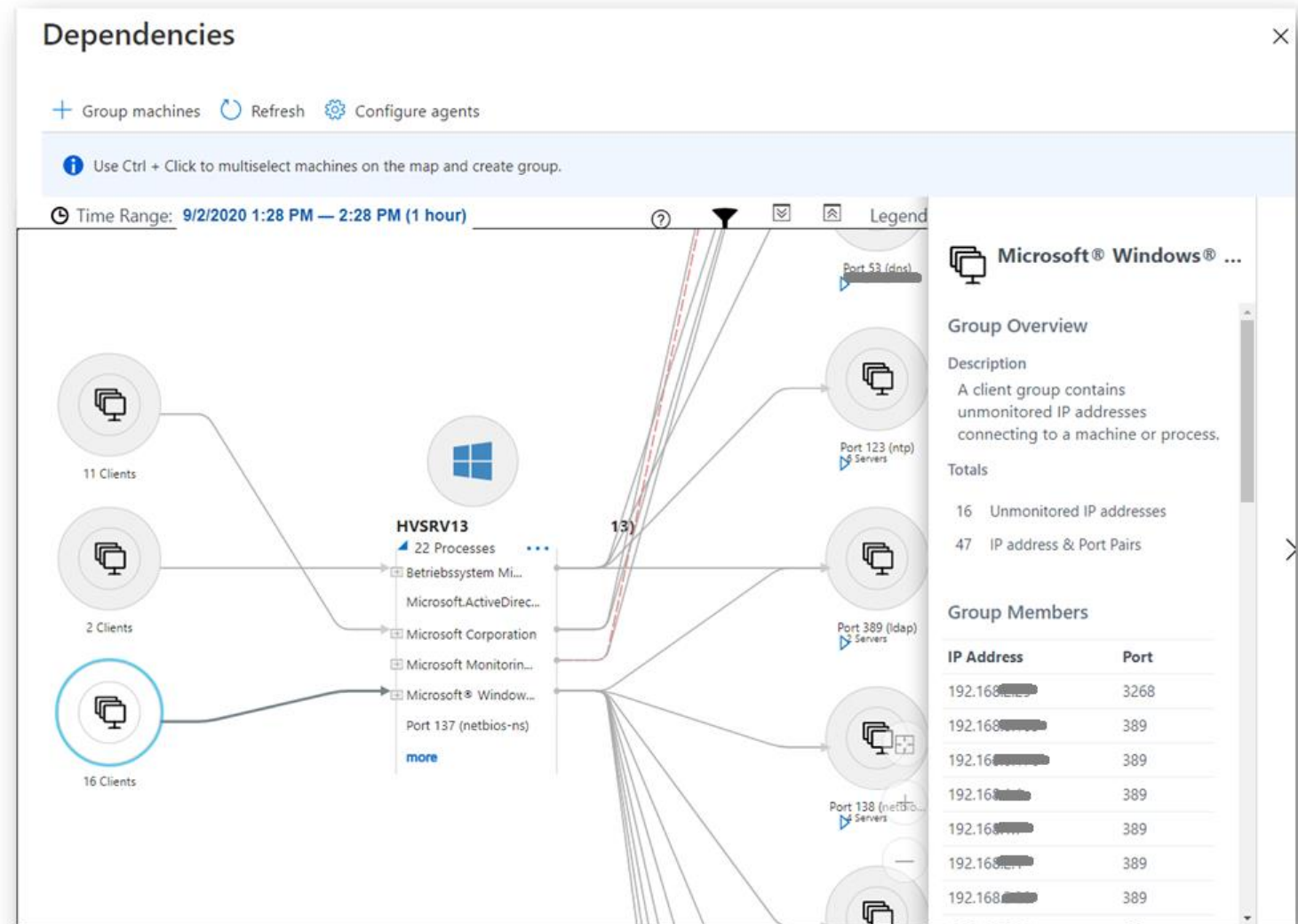


- Cost details



ASSESSMENT

- Optionally, you can set up „Dependency Analysis“ (needs Agent on Hyper-V)
- This will allow further investigation of dependencies and allows better grouping of servers for the migration



ASSESSMENT

- For VMWare environments, Application Inventory is in Public Preview

Home > Azure Migrate | Servers >

Discovered servers

ContosoMigration

Create group Create assessment Replicate Export application inventory Refresh Columns

Agentless dependency analysis is now available in preview. Click here to request access. →

Azure Migrate appliance Import based

Appliance name VMware1 (VMware)

payroll

Name	IP address	Applications Discove...	Dependencies (Agen...	Cores	Mer
PayrollWeb04	10.150.10.189,2404:f8...	2 Applications	Requires agent ins...	4	163i
PayrollDB02	2404:f801:4800:25:58...	115 Applications	Requires agent ins...	2	204i
PayrollApp01	2404:f801:4800:25:a0...	17 Applications	Requires agent ins...	2	204i
PayrollWeb01	2404:f801:4800:25:f16...	25 Applications	Requires agent ins...	2	204i
PayrollWeb02	-	17 Applications	Requires agent ins...	2	204i
PayrollDB01	2404:f801:4800:25:a8...	126 Applications	Requires agent ins...	2	204i
PayrollWeb03	10.150.10.231,2404:f8...	2 Applications	Requires agent ins...	2	204i
PayrollApp02	2404:f801:4800:25:c98...	17 Applications	Requires agent ins...	4	409i
PayrollApp03	2404:f801:4800:25:bc...	15 Applications	Requires agent ins...	1	409i

Application Inventory

PayrollDB02

Applications Roles and Features

Name	Version
Tools for .Net 3.5	3.11.50727
Active Directory Authentication Library for SQL Server	14.0.1000.169
Browser for SQL Server 2017	14.0.1000.169
ConfigMgr Client Setup Bootstrap	5.00.7958.1000
Configuration Manager Client	5.00.7958.1000
Dependency Agent	9.0.5
Microsoft .NET Framework 4 Multi-Targeting Pack	4.0.30319
Microsoft .NET Framework 4.5 Multi-Targeting Pack	4.5.50710
Microsoft .NET Framework 4.5.1 Multi-Targeting Pack	4.5.50932
Microsoft .NET Framework 4.5.1 Multi-Targeting Pack (ENU)	4.5.50932
Microsoft .NET Framework 4.5.1 SDK	4.5.51641
Microsoft .NET Framework 4.5.2 Multi-Targeting Pack	4.5.51209
Microsoft .NET Framework 4.5.2 Multi-Targeting Pack (ENU)	4.5.51209
Microsoft Analysis Services OLE DB Provider	14.0.1000.397
Microsoft Analysis Services OLE DB Provider	14.0.1000.397
Microsoft Azure Site Recovery Mobility Service/Master Target S...	9.18.4946.1
Microsoft Build Tools 14.0 (amd64)	14.0.23107
Microsoft Build Tools 14.0 (x86)	14.0.23107
Microsoft Build Tools Language Resources 14.0 (amd64)	14.0.23107
Microsoft Build Tools Language Resources 14.0 (x86)	14.0.23107
Microsoft Help Viewer 2.2	2.2.23107
Microsoft Help Viewer 2.2	2.2.23107

MIGRATION

- Once a VM is at least discovered, it can be replicated
- Replication = The blocks / bytes of the on-prem or copied to the cloud and kept in sync between on-prem and cloud then
- From that moment on, you are paying for storage / transactions
- You need to specify the future VNET and VM-Size already

Replicate

Source settings Virtual machines Target settings **Compute** Disks Review + Start replication

Select the Azure VM size and OS disk for the machines that are being migrated. Additionally, select an Availability Set if the migrated machine should be part of one. The OS disk is the disk that contains the operating system.

Target Azure VM sizes were automatically populated with the recommended sizes from the assessment DemoAssessment. You can override the selected size by clicking the dropdown and selecting a different size.

Name	Azure VM Name	Source VM Size	Azure VM Size	OS Type	OS Disk
HVSRV7 - Fileserver	HVSRV7 ✓	2 Cores, 3072 MB RAM	Standard_B2s (2... ▼	Windows ▼	HVSRV7 - Filese... ▼

Replicate

Source settings Virtual machines **Target settings** Compute Disks Review + Start replication

Select target properties for migration. Migrated machines will be created with the specified properties.

Region ⓘ

West Europe ▼

Subscription * ⓘ

Microsoft Azure Sponsorship ▼

Resource group * ⓘ

RG-AzureMigrateDemo ▼

* Replication Storage Account ⓘ

azure0migrate0demo0stor (Standard) ▼

Virtual Network * ⓘ

RG-AzureMigrateDemo-vnet ▼

Subnet * ⓘ

default ▼

Availability options * ⓘ

No infrastructure redundancy required ▼

Azure Hybrid Benefit

Apply Azure Hybrid Benefit and save up to 49% vs. pay-as-you-go virtual machine costs with an eligible Windows Server license.

Already have an eligible Windows Server License? * ⓘ

Yes No

MIGRATION

- Either before starting the replication or at least while it is running, the on-prem VM usually needs some preparation:
 - RDP needs to be reachable
 - IP needs to be dynamic
 - Drive Letters might be in the need of making them „static“
 - Some on-prem-based agents should be removed (like VMWare Agent, Backup Agent, ...)
 - There should be no pending updates

MIGRATION

- Once the VM is replicated, it can then be Migrated or Test-Migrated

The screenshot shows the Azure portal interface for a virtual machine named "SERVER5 - Web". The page is titled "Replicating machines". A search bar is present at the top. Below the search bar, there are several action buttons: "Test migration", "Clean up test migration", "Migrate", "Resynchronize", "Error Details", and "Stop replication". The "Test migration" button is highlighted with a red rectangular box. On the left side, there is a sidebar with navigation links: "Overview", "General", "Compute and Network", and "Disks". The main content area displays the "Migration status" table.

Migration status	
Status	Protected
Health	✓ Healthy
Test migration status	⚠ Never performed
Configuration issues	✓ No issues
Last synchronized	9/2/2020, 2:21:58 PM
Last app-consistent sync	-

- Testmigration is highly recommended first and makes sure VM is working without affecting the (still productive) on-prem VM

MIGRATION

- The real and final Migration will usually shutdown the on-prem VM, replicate last deltas and then spin-up the VM on Azure

Migrate

RG-Demos

Shutdown machines before migration to minimize data loss? * ⓘ

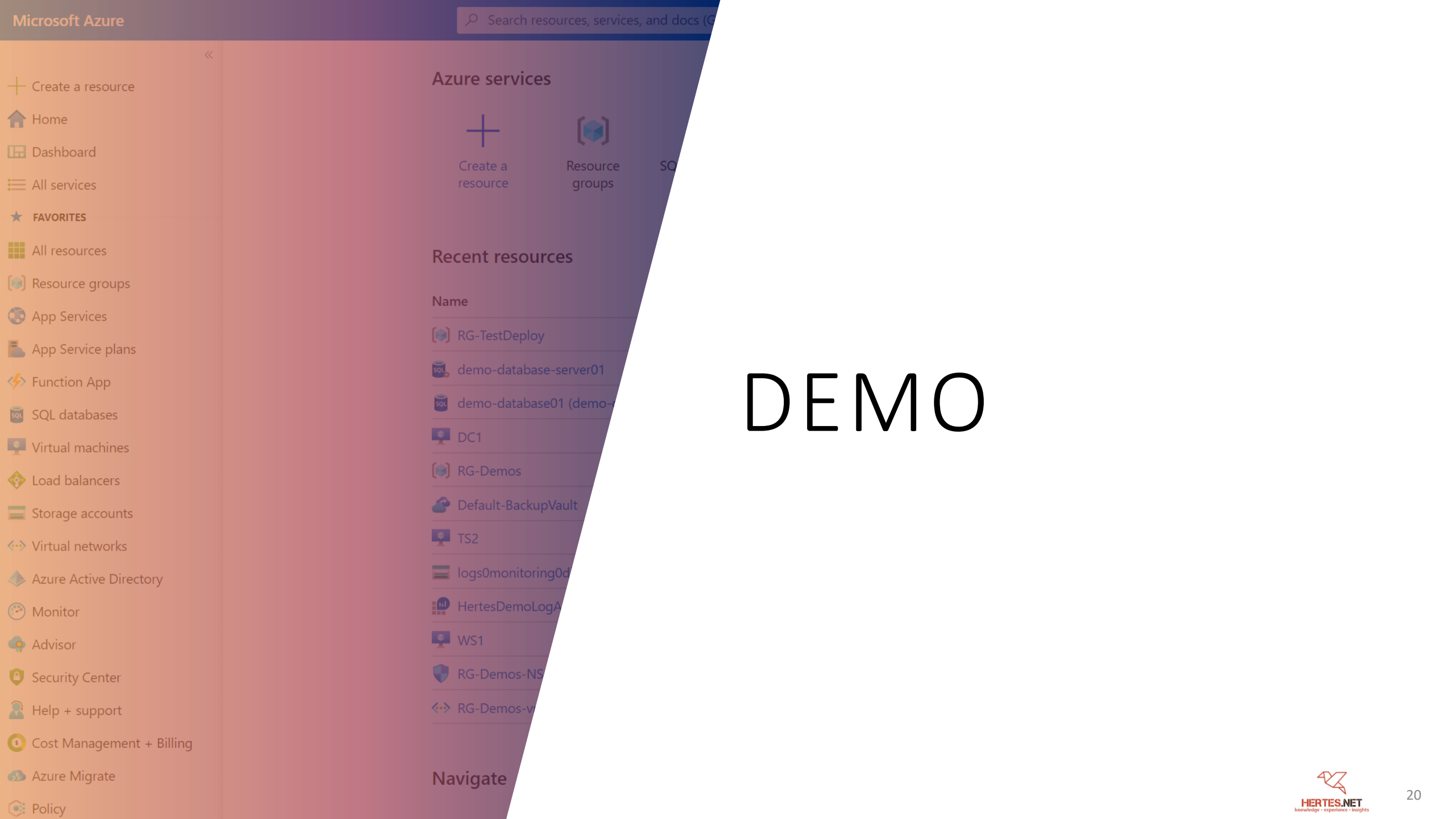
Yes

Other

* Virtual machines

Filter items...

Name	Health	Test migration status	Target configurations
<input checked="" type="checkbox"/> SERVER5 - Web	<input checked="" type="checkbox"/> Healthy	Never performed	-



DEMO

[All services >](#)



Azure Migrate

Microsoft

Search (Ctrl+/)


<<


Get started

Explore more

 Overview

Migration goals

 Servers


 Databases

 VDI Web Apps Data Box

Manage

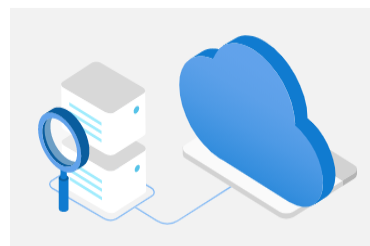
 Discovered items

Support + troubleshooting

 New support request

Migrate your on-premises datacenter to Azure

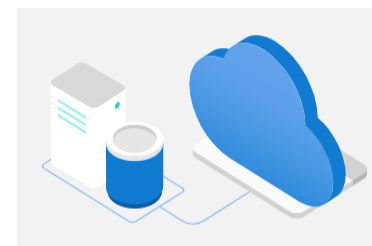
Discover, assess and migrate your on-premises applications using Microsoft or third-party tools, or [find an expert](#) to help with your migration. [Learn more](#)



Windows and Linux servers

Discover, assess and migrate your on-premises VMware and Hyper-V virtual machines or Physical servers to Azure.

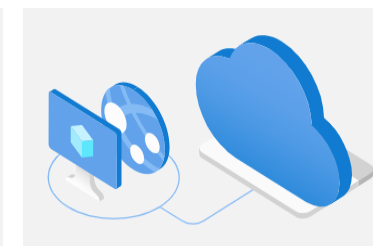
Assess and migrate servers



SQL and other databases

Assess and migrate your on-premises databases to Azure SQL Database Managed Instance or Azure SQL Database.

Assess and migrate databases



[Explore more scenarios](#)

Assess and migrate web apps, migrate data and assess virtual desktop infrastructure (VDI). Find guidance on various migration activities

[Explore more](#)



LESSONS LEARNED

LESSONS LEARNED

- Make sure, customer knows and understands the requirements for Azure Migrate
- ...and is able to provide / implement them!
 - This affects network / firewalling / proxy topics
 - This affects virtualization environment (Hyper-V / VMWare)
 - A lot of access rights are needed on several systems (vCenter, Azure Subscription, Azure AD, ...)

LESSONS LEARNED

- When using VMWare,
 - Make sure there is sufficient rights on vCenter
 - Make sure Appliance can talk to vCenter AND Hosts
 - Make sure to have a VMWare Customer Connect login to download VDDK

LESSONS LEARNED

- Never customize the Migrate Appliance VM (beside VDDK)
 - No domain join
 - No antimalware agent
 - Nothing!
- Appliance is non activated Windows Server – needs re-arm after 180 days

LESSONS LEARNED

- QoS / Traffic Shaping sometimes can be tricky...

LESSONS LEARNED

- Plan for the unforeseen!
 - Setting up Azure Migrate can be done within a single days...
 - ...or could take a whole week!

A person wearing a dark cap and glasses is seated at a wooden table, working on a laptop. The laptop screen displays a code editor with a dark background and light-colored text. The person is holding a smartphone in their left hand. The background is a blurred city street at night, with warm yellow and orange lights from buildings and street lamps. A dark blue semi-transparent rectangle is overlaid on the left side of the image, containing the text "QUESTIONS?".

QUESTIONS?

THANK YOU!

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