

NIC
EMPOWER

November 13-15, Oslo Spektrum

Marcel Meurer

Reach out to the sky with Azure Virtual Desktop

About me

Focus on:

- Azure Virtual Desktop
- Community tools

From:

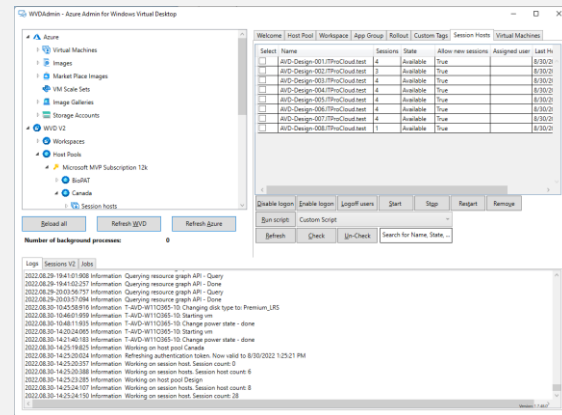
- Germany

Business:

- Consulting
- Development
- Community

Connect:

- www.linkedin.com/in/marcelmeurer/
- x.com/MarcelMeurer
- blog.ITProCloud.de



Agenda

What was new* in the last months

- Hibernation
- Multi-Media redirection, New AppAttach, ...
- Last minute previews
- Entra ID only access
- Azure Stack HCI & AVD
- ...

Hibernation support 🤪

Hibernation support

- Only for specific Azure Images
- Not available for custom images *
- Workaround to use custom images

Create a virtual machine ...

[Create new](#)


Instance details

Virtual machine name * ⓘ AVD-TEST-HIB ✓

Region ⓘ (Europe) West Europe ▼

Availability options ⓘ No infrastructure redundancy required ▼

Security type ⓘ Standard ▼


Image * ⓘ  T-WVD-O365-10_2024-05-08_15-56-20 - x64 Gen1 ▼
[See all images](#) | [Configure VM generation](#)

VM architecture ⓘ ☐ Arm64 ☒ x64

Run with Azure Spot discount ⓘ ☐

Size * ⓘ Standard_D4ads_v5 - 4 vcpus, 16 GiB memory (€296.56/month) ▼
[See all sizes](#)

Enable Hibernation ⓘ ☐

 [Learn more](#) ⓘ

Hibernation support

Custom images?

Yes:

- Using Azure Compute Galleries
- Create a fitting definition

Create a virtual machine ...

[Create new](#)


Instance details


Virtual machine name * ⓘ ✓


Region ⓘ ▼

Availability options ⓘ ▼


Security type ⓘ ▼
[Configure security features](#)

Image * ⓘ  ▼
[See all images](#) | [Configure VM generation](#)

VM architecture ⓘ ☐ Arm64 ☒ x64
 Arm64 is not supported with the selected image.

Run with Azure Spot discount ⓘ ☐
 To enable Azure Spot, please change your hibernation settings. Azure Spot instance is not currently supported with hibernation.

Size * ⓘ ▼
[See all sizes](#)

Enable Hibernation ⓘ ☒ 

Hibernation support

Configuring Autoscale with Hibernation

General Ramp-up **Peak hours** Ramp-down Off-peak hours

Repeats on Mon, Tue, Wed, Thu, Fri

Time zone (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna

Start time (12 hour system) * 09:00 AM

Start VM on Connect Yes No

Disconnect settings

When disconnected for (min) * 0

Perform Hibernate

Log off settings

When logged off for (min) * 0

Perform Hibernate

Logoff & Timeout Configuration

Schedules

Use schedules to define timeouts for disconnected sessions based on the local time and weekday. This allows to faster logoff disconnected sessions after business hours and frees up resources.

Enabled	Timeout in minutes	Weekdays	From (local time)	To (local time)	Prefer Hibernation	Remove
<input checked="" type="checkbox"/>	240	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	00:00 am	12:00 Midnight	<input checked="" type="checkbox"/>	

Hibernation support

Some potential issues with
Credential Guard

Fix: Install the Hyper-V role 🤖

AzureHibernationExtension

↑ Enable automatic upgrade 🗑️ Uninstall

ⓘ Automatic extension upgrade is not supported for this extension. [Learn more](#)

Type

Microsoft.CPlat.Core.WindowsHibernationExtension

Version

1.0.1

Status

Provisioning succeeded

Status level

Info

Status message

Enabling hibernation succeeded. Response from the powercfg command: The hiberfile size has been set to: 8589463552 bytes.

<https://learn.microsoft.com/en-us/azure/virtual-machines/windows/hibernate-resume-troubleshooting-windows>

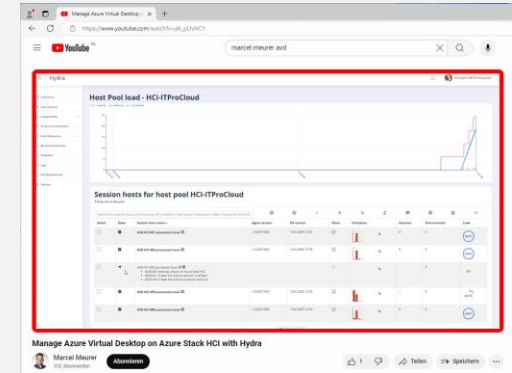


Demo Time

Multimedia redirection advanced 📺

Multimedia redirection advanced

- Redirection of videos and audio
- Call redirection (some websites, insider release)
- Youtube, Teams, ...



- <https://learn.microsoft.com/en-us/azure/virtual-desktop/multimedia-redirection-intro>

Icon State	Definition
	A greyed out icon means that multimedia content on the website can't be redirected or the extension isn't loading.
	The red square with an "X" inside of it means that the client can't connect to multimedia redirection. You may need to uninstall and reinstall the extension, then try again.
	The default icon appearance with no status applied. This icon state means that multimedia content on the website can be redirected and is ready to use.
	The green square with a play button icon inside of it means that the extension is currently redirecting video playback.
	The green square with a phone icon inside of it means that the extension is currently redirecting a WebRTC call. This icon also appears when both video playback and calls are being redirected at the same time.



Demo Time

The “New” AppAttach 🧐


The “New” AppAttach

- One app to any host pool (in the same region)
- Assigned per user/group
- Update on the fly
- Entra ID only is supported

Subscriptions: Microsoft MVP Subscription 12k – Don't see a subscription? [Open Directory](#) + [Subscription settings](#)

Filter by name... All resource groups All locations All tags No grouping

1 items

<input type="checkbox"/> Name ↑↓	Type ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
<input type="checkbox"/>  Paint.net	App attach package	AVD.Ressources	West Europe	Microsoft MVP Subscription 12k

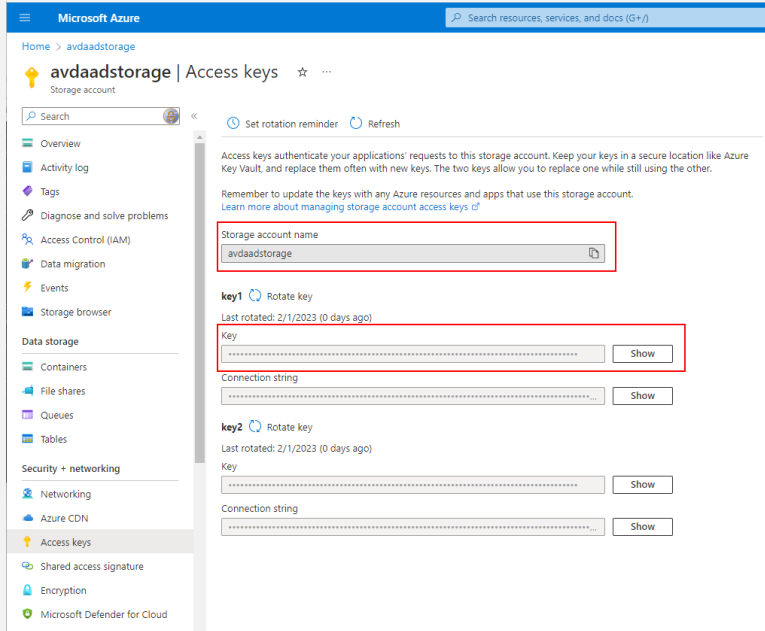
- <https://learn.microsoft.com/en-us/azure/virtual-desktop/app-attach-overview?pivots=app-attach>



Demo Time

Entra-Id only & FSLogix 

Entra-Id only & FSLogix



Situation:

- Doesn't work by design
- User's identity today is not known by Azure files

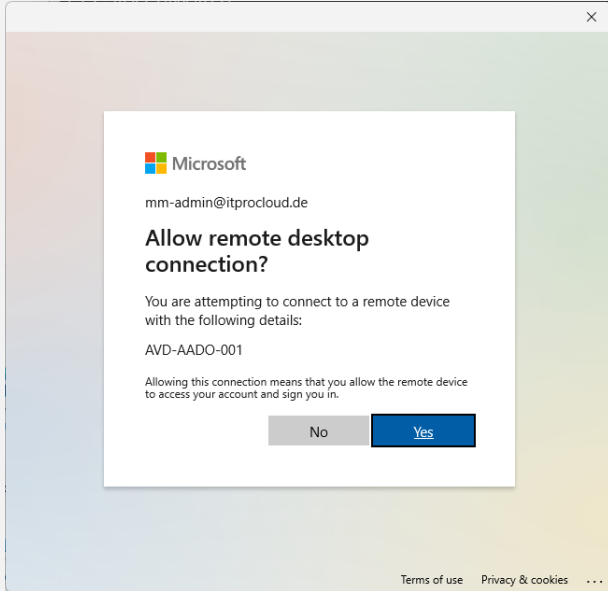
Workaround:

- Configure FSLogix to run in the system account
- Give system account storage account identity
- Only use one storage account for profiles and not for other data
- <https://blog.itprocloud.de/Using-FSLogix-file-shares-with-Azure-AD-cloud-identities-in-Azure-Virtual-Desktop-AVD/>

Entra-Id only & FSLogix

And:

- By default, Entra asked to allow logon to a specific host
 - Also for synced identities!
- Remembers the last 15 hosts
- Remembers for 30 day
- Solved by using SSO for AVD
- Hint: Documentation has an error



Entra-Id only & FSLogix

The issue in the documentation:

```
PowerShell

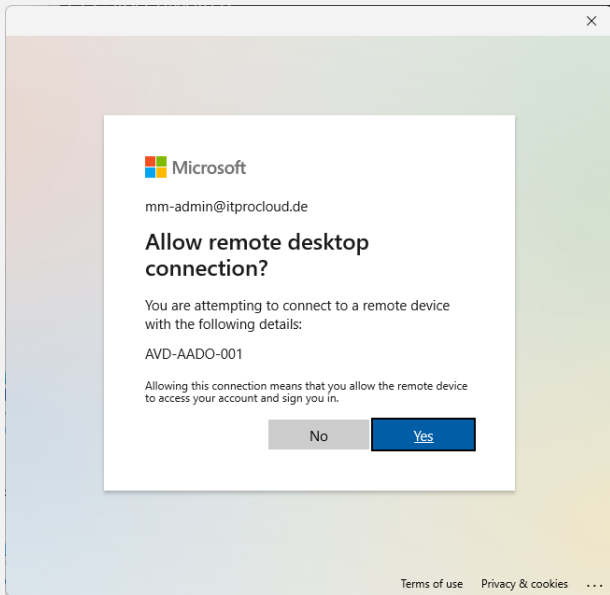
Import-Module Microsoft.Graph.Authentication
Import-Module Microsoft.Graph.Applications

Connect-MgGraph -Scopes "Application.Read.All","Application-RemoteDesktopConfig.ReadWrite.All"
```

Correct is:

```
Connect-MgGraph -Scopes  
"Application.Read.All", "Application-  
RemoteDesktopConfig.ReadWrite.All", "Directory.Read.All"
```

<https://learn.microsoft.com/en-us/azure/virtual-desktop/configure-single-sign-on>





Demo Time

Clipboard transfer directions

Clipboard transfer directions

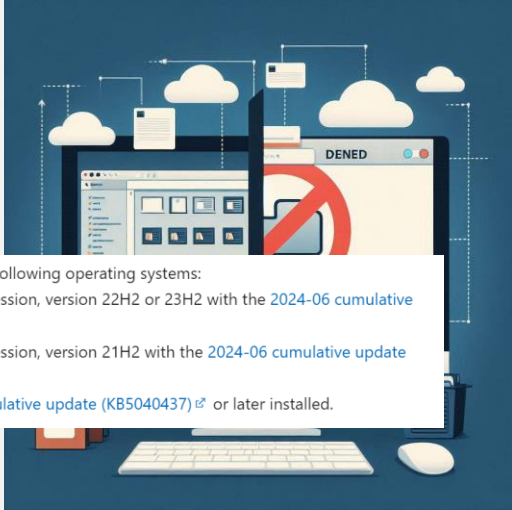
Options (per user or per host)

- Disable clipboard transfers from session host to client, client to session host, or both
- Allow plain text only
- Allow plain text and images only
- Allow plain text, images, and Rich Text Format only
- Allow plain text, images, Rich Text Format, and HTML only

Prerequisites:

- Windows 11 / Server 2022 **from a specific release/update**
- Configure with Intune, GPO, or RegKeys
- Related to: Watermarking and Screen Capture Protection

- <https://learn.microsoft.com/en-us/azure/virtual-desktop/clipboard-transfer-direction-data-types>

- 
- The illustration shows a virtual desktop environment with a blue background. In the center, there is a monitor displaying a 'DENIED' error message with a red prohibition sign. To the left of the monitor is a keyboard and a mouse. Above the monitor, there are several white clouds and a network diagram with arrows indicating data flow. The overall scene suggests a virtual desktop session where clipboard transfer has been blocked.
- Your session hosts must be running one of the following operating systems:
 - Windows 11 Enterprise or Enterprise multi-session, version 22H2 or 23H2 with the [2024-06 cumulative update \(KB5039212\)](#) or later installed.
 - Windows 11 Enterprise or Enterprise multi-session, version 21H2 with the [2024-06 cumulative update \(KB5039213\)](#) or later installed.
 - Windows Server 2022 with the [2024-07 cumulative update \(KB5040437\)](#) or later installed.

The Windows Lock Screen

The Windows Lock Screen

Lock screen vs. disconnected

Active Directory login (called legacy)

- Lockscreen is shown

Entra ID with Single-Sign-on

- User is disconnected – for security reasons

- <https://learn.microsoft.com/en-us/azure/virtual-desktop/configure-session-lock-behavior>

Configure the session lock behavior

Select the relevant tab for your configuration method.

Intune Group Policy

To configure the session lock experience using Intune:

1. Sign in to the [Microsoft Intune admin center](#).
2. [Create or edit a configuration profile](#) for Windows 10 and later devices, with the Settings catalog profile type.
3. In the settings picker, browse to **Administrative templates > Windows Components > Remote Desktop Services > Remote Desktop Session Host > Security**.

Settings picker

Use Intune to assign search terms to lockup settings by their keywords

Search for a setting

Add filter

Browse by category

- Remote Desktop Session Host
 - Allow Virtual Desktop
 - Connections
 - Control and Recovery Authentication
 - Logging
 - Printer Redirection
 - Profiles
 - RD Connection Broker
 - Remote Session Environment
 - Security
 - Session Time Limits
 - Temporary Failures

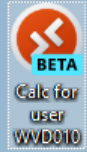
12 settings in "Security" subcategory [Select all these settings](#)

Setting name

- ☐ Always prompt for password upon connection
- ☐ Disconnect remote session on lock for legacy authentication
- ☐ Disconnect remote session on lock for Microsoft identity platform authentication
- ☐ Do not allow local administrators to customize permissions
- ☐ Require secure RPC communication
- ☐ Require use of specific security layer for remote (RDP) connections
- ☐ Require user authentication for remote connections by using Network Level Authentication
- ☐ Server authentication certificate template
- ☐ Set client connection encryption level

Uniform Resource Identifier

Uniform Resource Identifier



- Access Desktop or apps directly
- Link on the desktop
- Link on the start menu
- Note: Documentation has a lack

```
Windows PowerShell
PS C:\Users\WMeurer> Get-AzWvdDesktop -ResourceGroupName WVD.Design2 -ApplicationGroupName "D
fl

Description      : The default Session Desktop for the designer
FriendlyName     : Design Desktop X
IconContent      : {0, 0, 1, 0...}
IconHash         : bE01n2Hysr6xCdvgt4bf0t4ET8ydzH55XGM0KGTBPVc
Id               : /subscriptions/dcdce2ee-c9c8-4765-acd5-197126d21978/resourcegroups/WVD.Design2/providers
                  /Microsoft.DesktopVirtualization/applicationgroups/Desktop Application
Identity         : Group/desktops/SessionDesktop
IdentityName     : Desktop Application Group/SessionDesktop
IdentityObjectID : 8ffc8dcb-f817-410b-8247-88d7e94578a9
IdentitySystemDataCreatedAt :
IdentitySystemDataCreatedBy :
Kind             : SystemDataCreatedBy
Location         : SystemDataCreatedByType
ManagedBy       : SystemDataLastModifiedAt
Name             : SystemDataLastModifiedBy
ObjectID         : SystemDataLastModifiedByType
Plan             : Type
PlanName         : Microsoft.DesktopVirtualization/applicationgroups/desktops
PlanProduct      :
PlanPromo        :
PlanPublisher    :
PlanVersion      :
ShowInFee        :
Sku              : ApplicationType
                  : Inbuilt
                  : CommandLineArgument
                  : Allow
                  : Description
                  : /subscriptions/dcdce2ee-c9c8-4765-acd5-197126d21978/resourcegroups/WVD.Design2/providers
                  /Microsoft.DesktopVirtualization/applicationgroups/desktops

PS C:\Users\WMeurer> Get-AzWvdApplication -ResourceGroupName WVD.Design2 -Group "Standard Apps" -Name "Calc" | fl

ApplicationType : Inbuilt
CommandLineArgument :
CommandSetting   : Allow
Description      :
                  : /subscriptions/dcdce2ee-c9c8-4765-acd5-197126d21978/resourcegroups/WVD.Design2/providers
                  /Microsoft.DesktopVirtualization/applicationgroups/desktops
```

- Command line:
- `ms-avd:connect?workspaceId=3ea768c3-3cf4-402c-b7cd-0928386ed8f9&resourceId=d0035de7-690a-4bd8-7cf2-08d87088142a&username=wvd010@itprocloud.de&version=0`

<https://learn.microsoft.com/en-us/azure/virtual-desktop/uri-scheme>

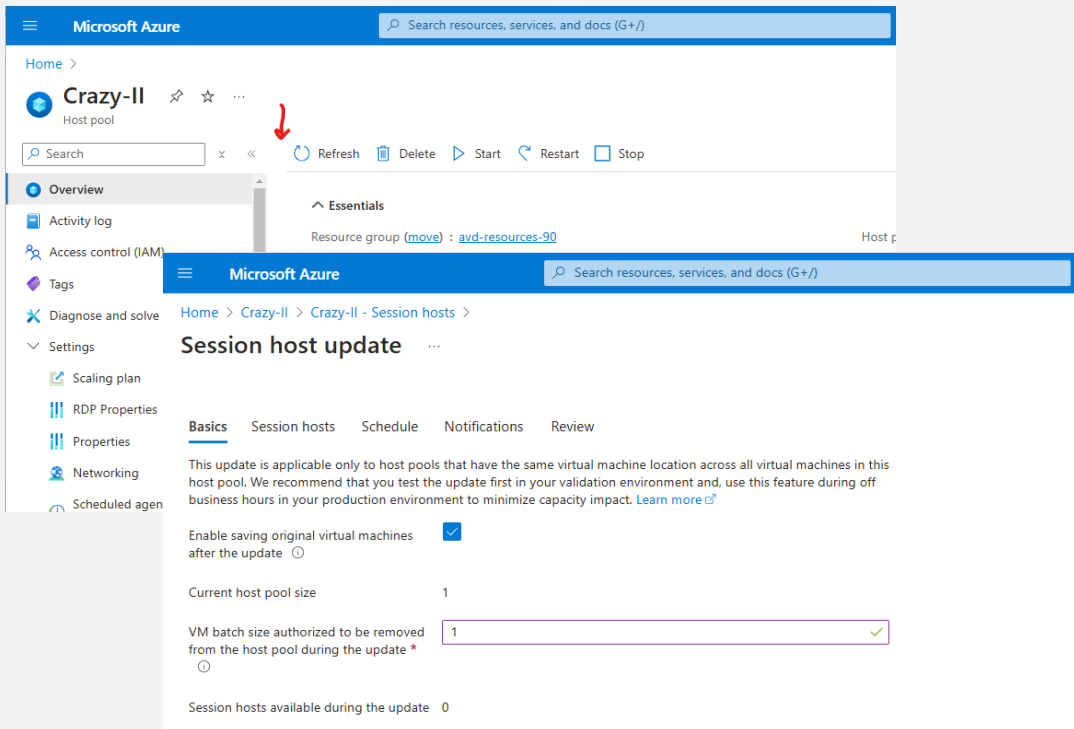


Demo Time

Session Host Update V2

(preview)

Session Host Update V2



The screenshot displays the Microsoft Azure portal interface. At the top, the 'Microsoft Azure' header includes a search bar. Below it, the breadcrumb navigation shows 'Home > Crazy-II > Crazy-II - Session hosts >'. The main title is 'Session host update'. The left sidebar contains a navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve, Settings, Scaling plan, RDP Properties, Properties, Networking, and Scheduled agent. The 'Session hosts' tab is selected, showing a 'Basics' sub-tab. The update configuration details include: 'Enable saving original virtual machines after the update' (checked), 'Current host pool size' (1), 'VM batch size authorized to be removed from the host pool during the update' (1, with a green checkmark), and 'Session hosts available during the update' (0). A red arrow points to the 'Refresh' button in the top toolbar of the host pool overview.

- A new type of host pool: Auto managed
- No registration key
- Add and replace hosts managed by Azure
- Batch processing
- Careful: I found some lost resources

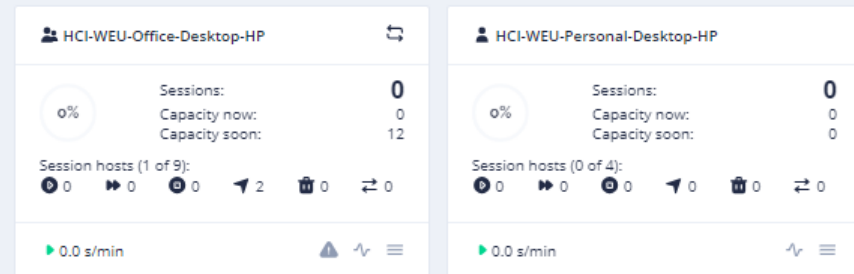
Azure Stack HCI & AVD

Azure Stack HCI

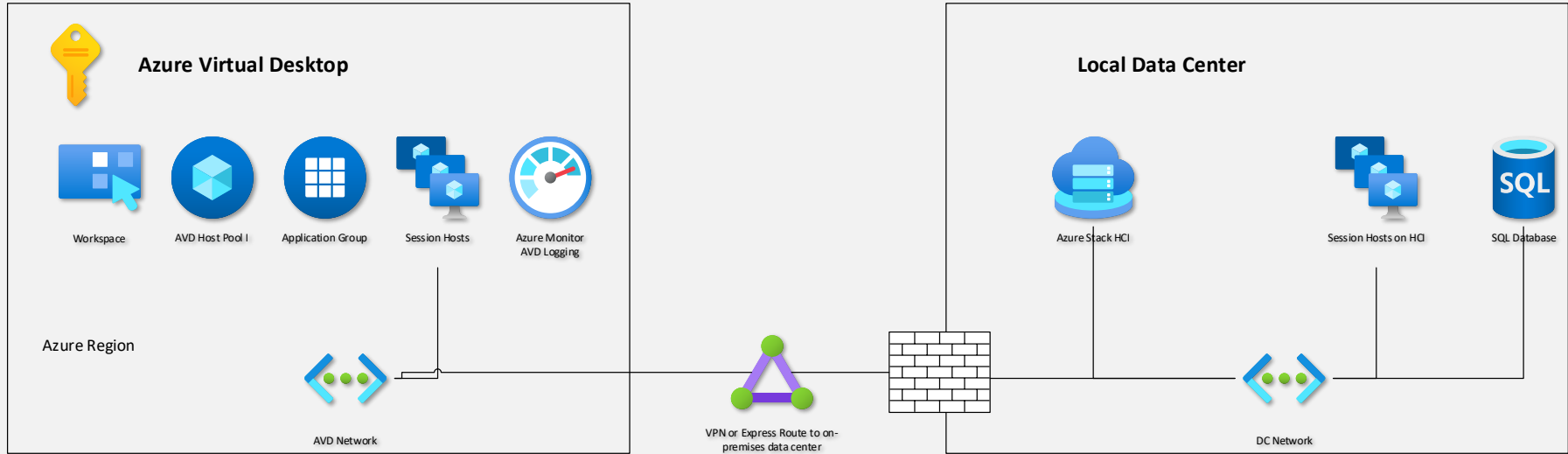
- Support from 23H2
- Autoscaling native in the Azure Portal is available
- Challenge: Golden Master Approach / Custom Images

My way to go:
Using Hydra for Azure Virtual Desktop

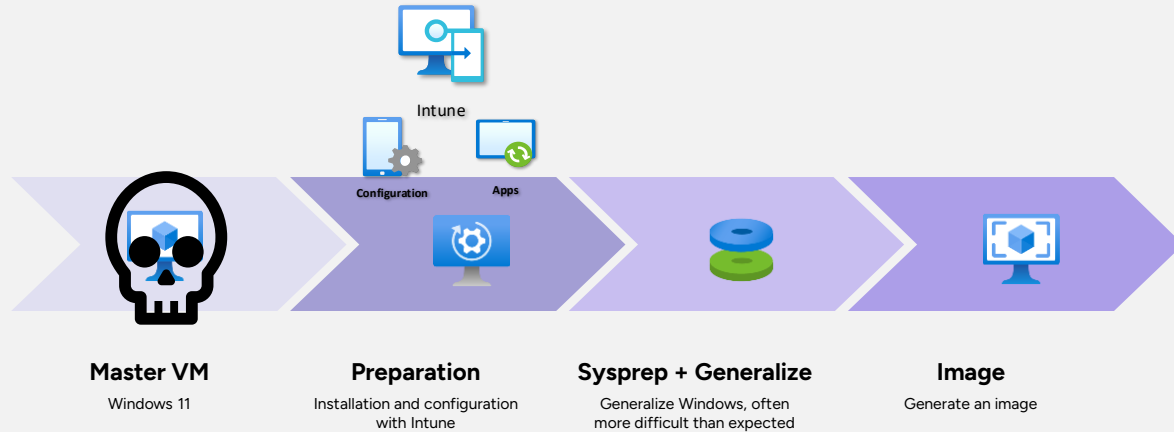
HCI Lab



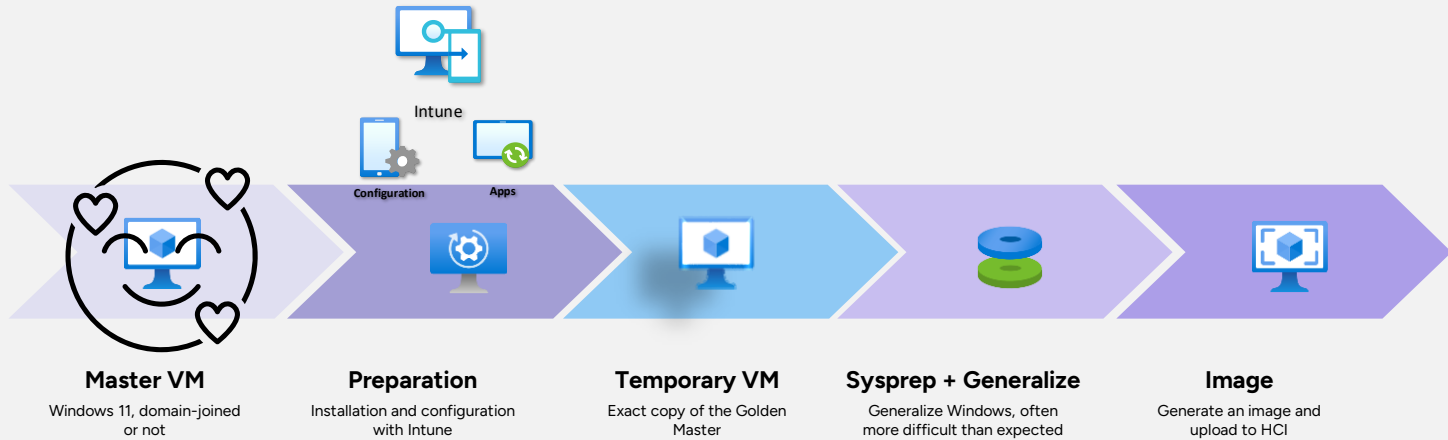
Azure Stack HCI



Azure Stack HCI



Azure Stack HCI



- Makes a copy from the Golden Master
- Works with the copy (temporary VM)
 - Sysprep
 - Generalization & grab the image
- Remove temporary VM
- The Golden Master can be reused

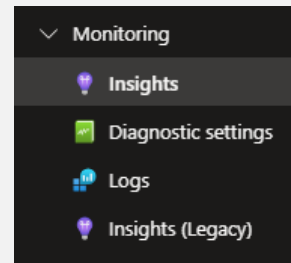
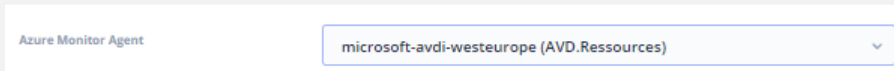


Demo Time

Retirements and Breaking Changes

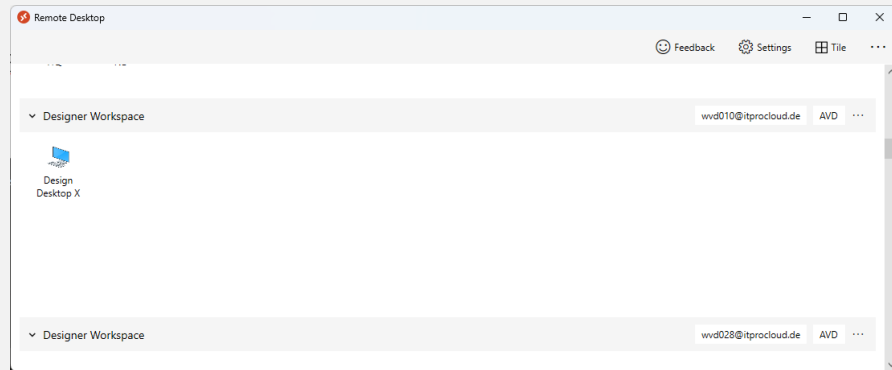
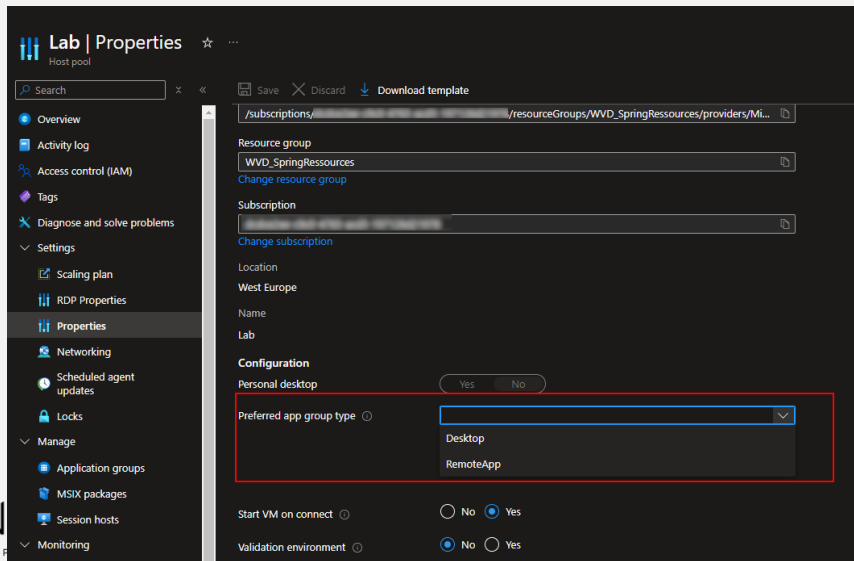
Retirements and Breaking Changes

- Azure Log Analytics Agent – August 2024
 - Uninstall the old Log Analytics Agent
 - Prepare the configuration for the new AMA (right insights)
 - Deploy the new agent
 - Or redeploy with the new agent (also available in Hydra)



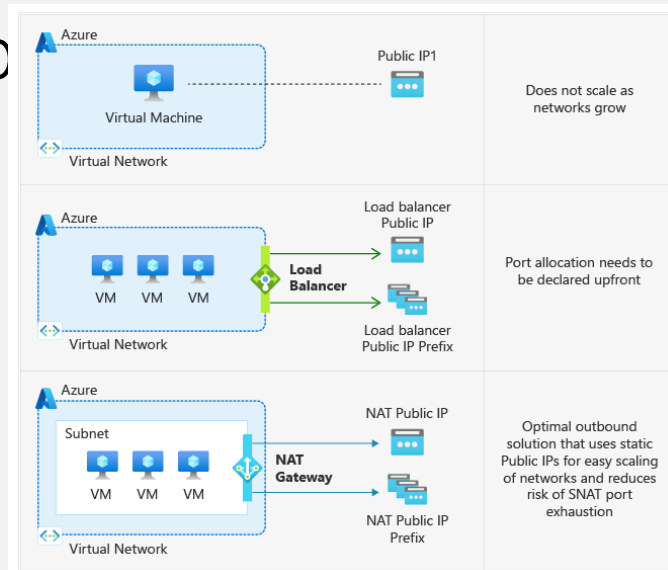
Retirements and Breaking Changes

- Preferred App Group Type – around July
 - A single user to a pool can only see the desktop or the remote apps



Retirements and Breaking Changes

- Azure Default Outbound – September 2020
 - No Internet access by default
 - You need one of the following methods:
 - Public IP
 - Load-balancer
 - NAT Gateway (#1)
 - Router / Appliance



<https://learn.microsoft.com/en-us/azure/virtual-network/ip-services/default-outbound-access>

Thanks a lot 🙏

www.linkedin.com/in/marcelmeurer/
x.com/MarcelMeurer
blog.ITProCloud.de