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Azure Meetup
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WINDOWS VIRTUAL DESKTOP HOW TO ENJOY PERFECT PUBLISHED APPS AND DESKTOPS

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Thank you to our sponsors



About me



Responsible for Consulting at sepago GmbH

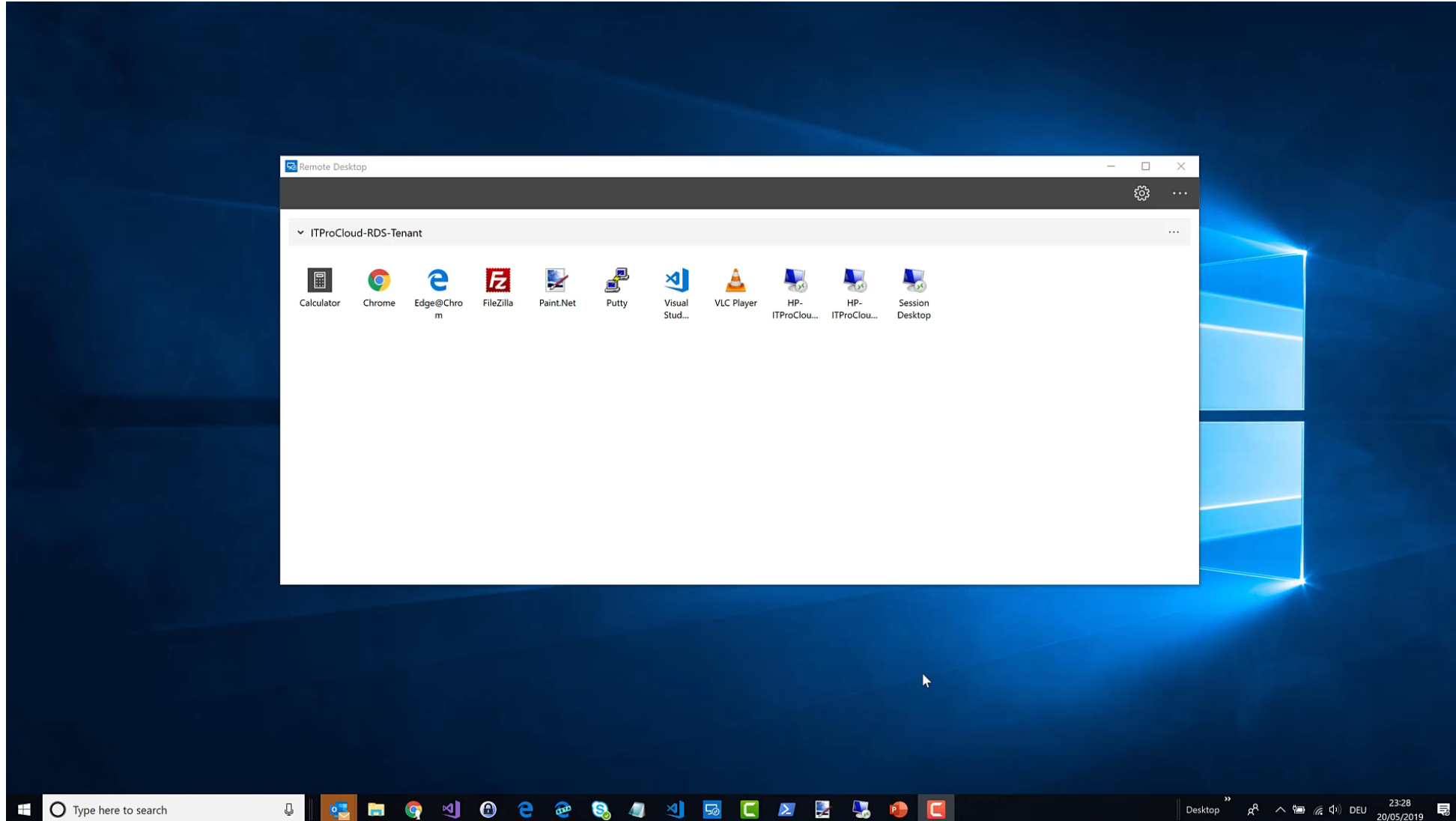
Microsoft Azure
Machine Learning
Azure Monitor / Log Analytics

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Blog: <https://blog.itprocloud.de/>



sepago[®]

Windows Virtual Desktop



Windows Virtual Desktop

- Microsoft's Virtual Desktop environment running only in Azure (*)
- All necessary infrastructure around is operated by Microsoft, compared to RDS
 - RD Gateway
 - RD Web
 - RD Broker
 - Licensing
 - ...
- Necessary infrastructure is
 - Free of charge, if you have M365 / W10E / RDS Cal
<https://azure.microsoft.com/en-us/pricing/details/virtual-desktop/>
 - Platform services – invisible for admins and users
- To be clear
 - Customer have to pay for VMs, storage, network and need the right licenses (M365 or RDS Cals)

Windows Virtual Desktop

Your subscription—your control

Desktop and remote apps



Full desktop



Remote app



Windows 10 enterprise multi-season



Windows Server 2012 R2 and newer



Windows 10 enterprise



Windows 7 enterprise full desktop

Management and policies



Image, app, and profile management



User density, VM sizing, and scaling policies



User management and identity



Network policies

Managed by Microsoft

Windows Virtual Desktop Service



Clients



Broker



Management



Gateway



Diagnostics



Load balancing

Azure Infrastructure



Compute



Storage



Networking

Image source:
<https://azure.microsoft.com/de-de/services/virtual-desktop/#featured>

Windows Virtual Desktop

Windows Server RD Session Host

Scalable multi-session **legacy**
Windows environment

Windows Server

Multiple sessions

Win32

Office 2019 Perpetual

Long-Term Servicing Channel



Windows Virtual Desktop Multi-session

Scalable multi-session **modern**
Windows user experience with
Windows 10 Enterprise security

Windows 10

Multiple sessions

Win32, UWP

Office 365 ProPlus

Semi-Annual Channel

Windows 10 Enterprise

Native single-session **modern**
Windows experience

Windows 10

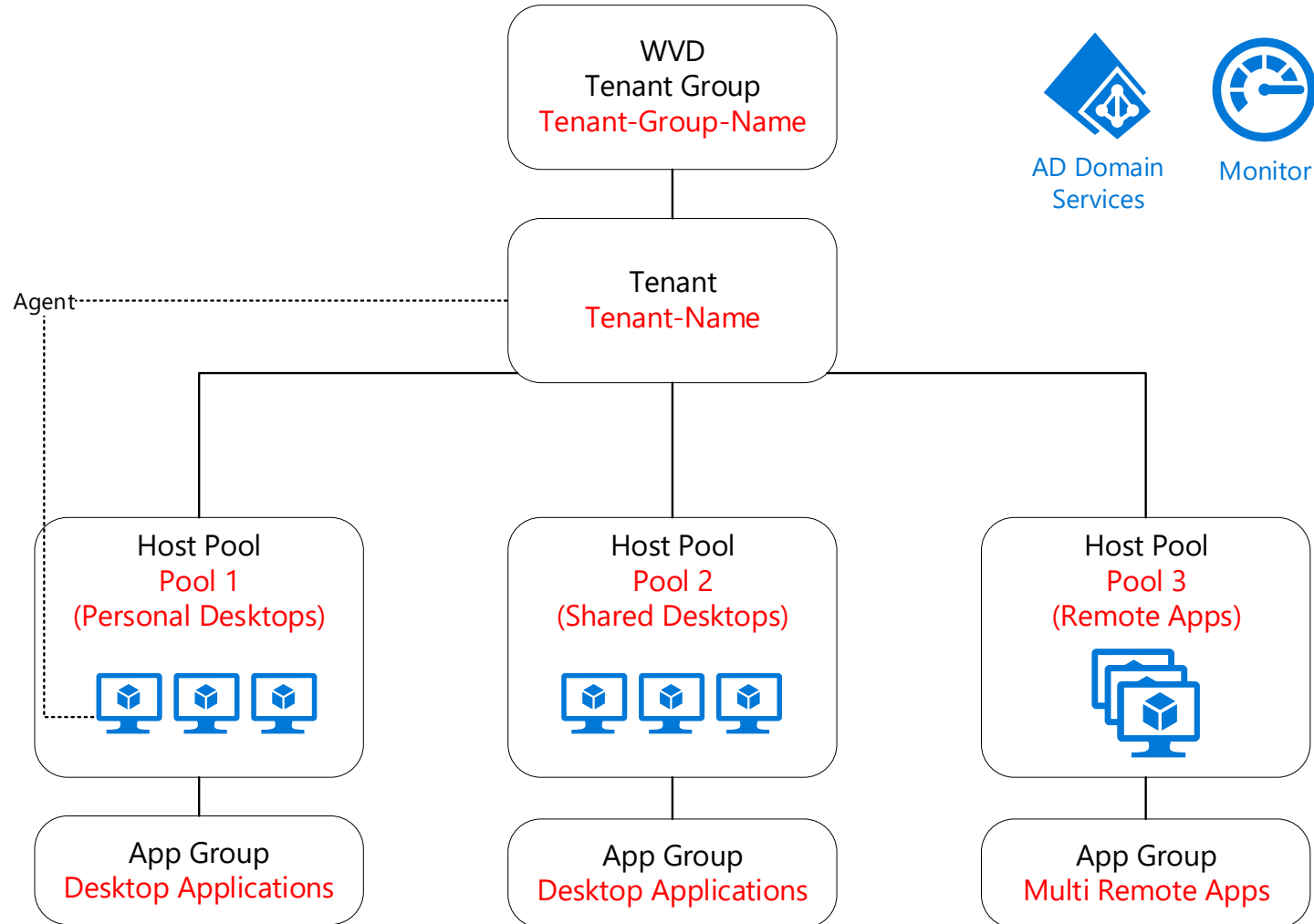
Single session

Win32, UWP

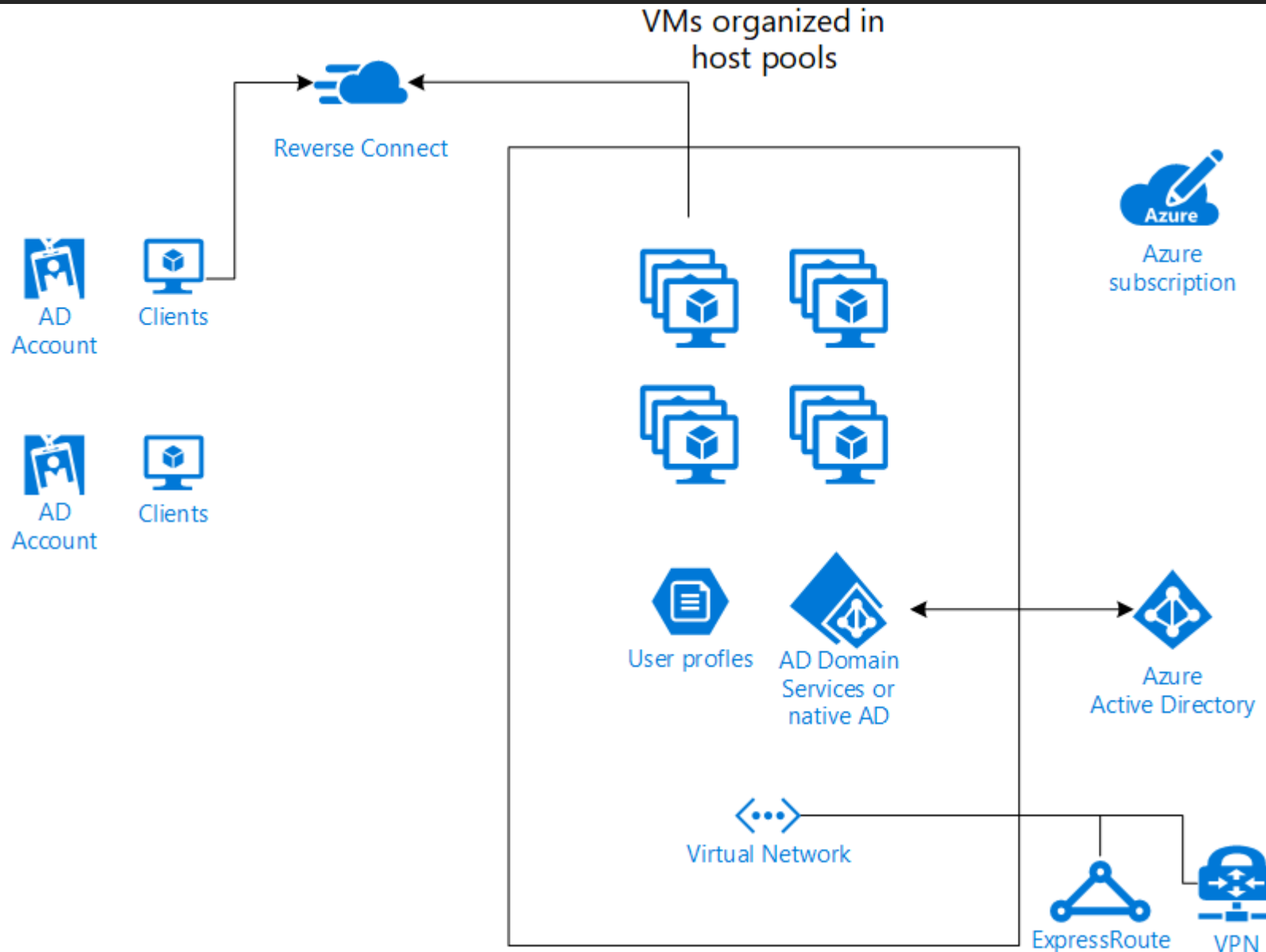
Office 365 ProPlus

Semi-Annual Channel

Windows Virtual Desktop



Windows Virtual Desktop



What to you need at least:

- Classic AD environment
- Synced directories (AD->AAD; AADDS)
- Azure subscription
- Virtual Machines
- Storage for profiles and other stuff
- Clients

Good to have

- VPN/Express route to local data center if needed
- Monitoring, scaling, etc.

Windows Virtual Desktop

Creating a host pool with WVDAdmin

DEMO

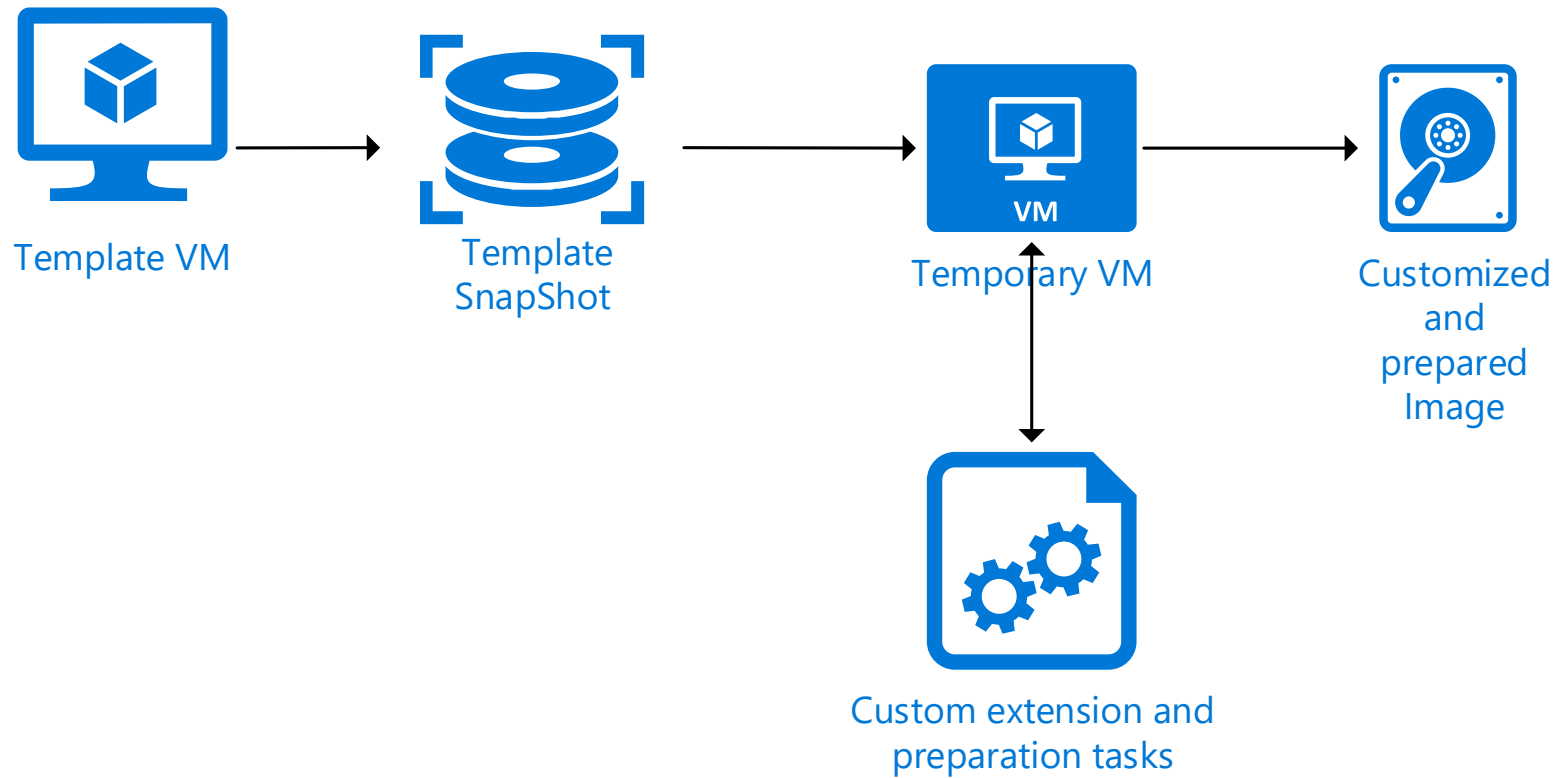
Deployments of Session Hosts

- Deployment from the Azure Market place
 - Vanilla images or syspreped images
 - Have to enter all parameters, like domain credentials, WVD SP, OU, ...
 - Limited flexibility
 - Experience for admins :-/
- Deployment from PowerShell
 - You can do anything in a high automated way
 - You need PS know-how and have to work with the Azure resources directly
 - High flexibility
 - Experience for admins 😊
- Deployment with WVDAdmin (free community tool)
 - Like deployment from PowerShell with a friendly GUI
 - Build-in image creation process from template VMs (re-usable)
 - Experience for admins ;-)

Deployments of Session Hosts

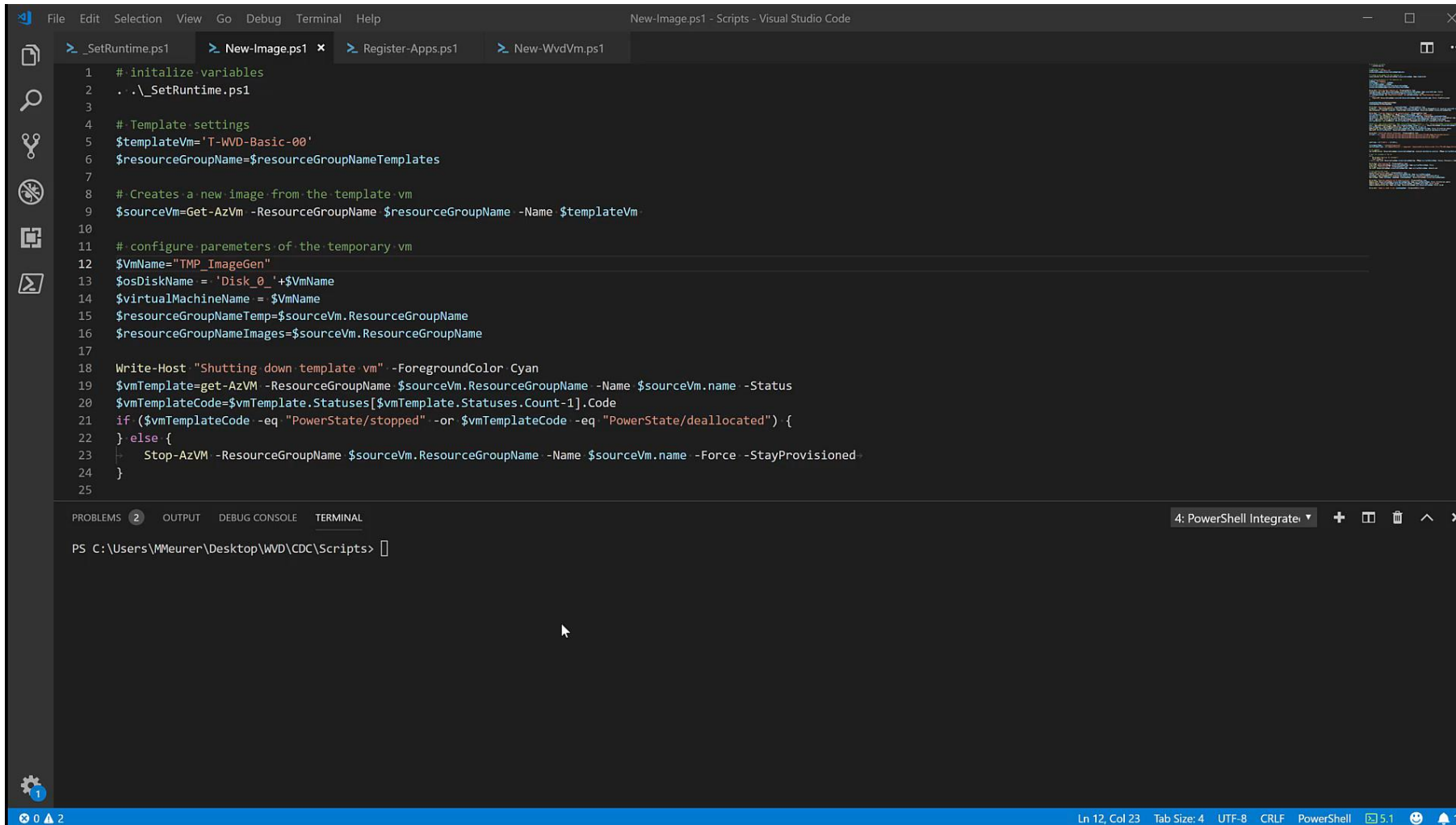
The golden image approach

Who has ever created an image?



Deployments of Session Hosts

PowerShell



The image shows a Visual Studio Code editor window with several PowerShell scripts open. The active script, 'New-Image.ps1', contains the following code:

```
1 # initialize variables
2 ..\_SetRuntime.ps1
3
4 # Template settings
5 $templateVm='T-WVD-Basic-00'
6 $resourceGroupName=$resourceGroupNameTemplates
7
8 # Creates a new image from the template vm
9 $sourceVm=Get-AzVm -ResourceGroupName $resourceGroupName -Name $templateVm
10
11 # configure parameters of the temporary vm
12 $VmName="TMP_ImageGen"
13 $osDiskName = 'Disk_0_'+$VmName
14 $virtualMachineName = $VmName
15 $resourceGroupNameTemp=$sourceVm.ResourceGroupName
16 $resourceGroupNameImages=$sourceVm.ResourceGroupName
17
18 Write-Host "Shutting down template vm" -ForegroundColor Cyan
19 $vmTemplate=get-AzVM -ResourceGroupName $sourceVm.ResourceGroupName -Name $sourceVm.name -Status
20 $vmTemplateCode=$vmTemplate.Statuses[$vmTemplate.Statuses.Count-1].Code
21 if ($vmTemplateCode -eq "PowerState/stopped" -or $vmTemplateCode -eq "PowerState/deallocated") {
22 } else {
23 Stop-AzVM -ResourceGroupName $sourceVm.ResourceGroupName -Name $sourceVm.name -Force -StayProvisioned
24 }
25
```

The terminal window at the bottom shows the PowerShell prompt: `PS C:\Users\WMeurer\Desktop\WVD\CDC\Scripts>`. The status bar at the bottom indicates the current file is 'New-Image.ps1' at line 12, column 23, with a tab size of 4, UTF-8 encoding, and CRLF line endings.

Deployments of Session Hosts

WVDAdmin

The screenshot displays the WVDAdmin interface for managing Windows Virtual Desktops. The main window is titled "WVDAdmin - Azure Admin for Windows Virtual Desktop".

Left Navigation Panel:

- Builder City
 - VDI-GPU
 - Desktop Application Group
 - Session Hosts (1)
 - WVD-VDI-G-01.ITProCloud.test
 - User Sessions (0)
 - VDI
 - Desktop Application Group
 - Session Hosts (2)
 - WVD-VDI-4.ITProCloud.test
 - WVD-VDI-5.ITProCloud.test
 - User Sessions (0)
 - MSIX-Builder
 - Development

Main Content Area:

Current view: **Session Host**

Name	WVD-VDI-5.ITProCloud.test	Sessions	0
Tenant Path	Builder City/Default Tenant Group		
Host Pool	VDI		
Last Heart Beat	3/19/2020 5:03:47 PM	<input checked="" type="checkbox"/> Allow New Session	
Agent Version	1.0.1632.1200		
Assigned User	wvd002@itprocloud.de		
Os Version	10.0.18362		
SxS Version	rdp-sxs191031003		
Update State	Succeeded		
Last Update	2/2/2020 7:58:21 PM		
Update Error Message			

Buttons: Reload all, Refresh WVD, Refresh Azure, Save Changes

Number of background processes: 0

Logs (Sessions V2):

```
2020.04.21-11:29:16:586 Information Working on app group Desktop Application Group
2020.04.21-11:29:16:586 Information Found desktop VDI Desktops
2020.04.21-11:29:16:646 Information Found 1 apps in app group
2020.04.21-11:29:16:868 Information Found desktop Design Desktop Yeah
2020.04.21-11:29:16:872 Information Found desktop Development
2020.04.21-11:29:16:879 Information Working on app group MyAppGroup
2020.04.21-11:29:16:892 Information Getting the power state of all vms and Scale Set instances...
2020.04.21-11:29:27:340 Information Reading from Azure API finished.
2020.04.21-11:29:27:359 Information Found 11 apps in app group
2020.04.21-11:29:27:361 Information Working on app group SecondAppGroup
2020.04.21-11:29:27:675 Information Found 3 apps in app group
2020.04.21-11:29:27:677 Information Reading WVD API finished.
2020.04.21-11:29:29:742 Information Reading user sessions from ARM
2020.04.21-11:29:30:850 Information Working on session hosts. Session host count: 8
2020.04.21-11:29:31:420 Information Working on session hosts. Session host count: 2
2020.04.21-11:29:32:030 Information Reading app and desktops from ARM
2020.04.21-11:37:34:992 Information Multit AAD-Tenant mode is enabled (02000-3297-42be-ab08-3ed1bf8a41c5)
2020.04.21-11:37:37:939 Information Multit AAD-Tenant mode is enabled (8fbdeb20-138e-4339-ba6b-5fea1e6efb54)
```

Version: 1.5.0.0

Deployments of Session Hosts

Building Images and roll out Session Hosts

DEMO

Kind of Disks and VM's

- Different disk sizes
 - HDD (don't use this one except for a template VM)
 - Standard SSD (my favorite)
 - Premium SSD
 - And very special: Ephemeral disks

- VMs
 - „Normal“ VMs
 - Virtual Machine Scale Sets (they don't scale in a WVD perspective!)

Disk comparison

The following table provides a comparison of ultra disks, premium solid-state drives (SSD), standard SSD, and standard hard disk drives (HDD) for managed disks to help you decide what to use.

	Ultra disk	Premium SSD 21,68\$*	Standard SSD 9,60\$*	Standard HDD 5,89\$*
Disk type	SSD	SSD	SSD	HDD
Scenario	IO-intensive workloads such as SAP HANA, top tier databases (for example, SQL, Oracle), and other transaction-heavy workloads.	Production and performance sensitive workloads	Web servers, lightly used enterprise applications and dev/test	Backup, non-critical, infrequent access
Max disk size	65,536 gibibyte (GiB)	32,767 GiB	32,767 GiB	32,767 GiB
Max throughput	2,000 MiB/s	900 MiB/s	750 MiB/s	500 MiB/s
Max IOPS	160,000	20,000	6,000	2,000

Source:
<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/disk-types>

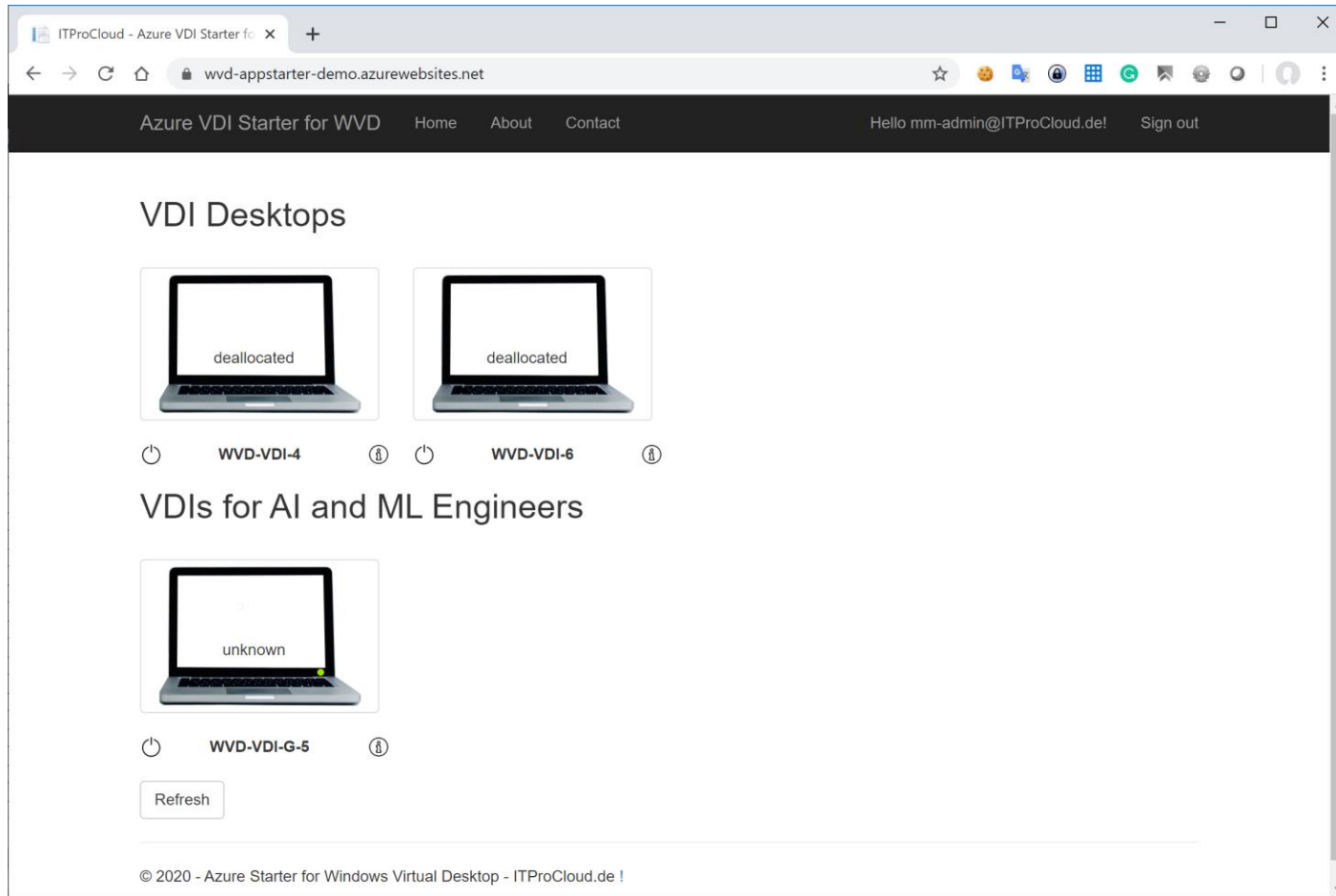
Deployments of Session Hosts

Ephemeral disks and scale sets

DEMO

Azure VDI Starter for WVD – V1

Start and deallocate your personal assigned VDIs / session hosts



- User can login with AAD to the web site
- Start there personal assigned desktop(s) (don't need permissions to the Azure portal)
- Use Remote Desktop Client to connect
- User can deallocate desktop
- Auto-deallocating after a specific time of no usage
- Free for non-commercial use
- <https://github.com/MarcelMeurer/Azure-Starter-for-WVD>

Did you know?

All Session Hosts are using FSLogix



Profile Container

Application Masking

Office 365
Container

Java Control

Questions



Feedback:

<http://feedback.azurecgn.de/>



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