



Windows Virtual Desktop

The best virtual desktop experience,
delivered on Azure

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Technical Specialist for WVD,
EMEA



Agenda - WindowsVirtualDesktop

Part I

- WVD Overview
- Office improvements
- Connectivity
- Partner

Part II

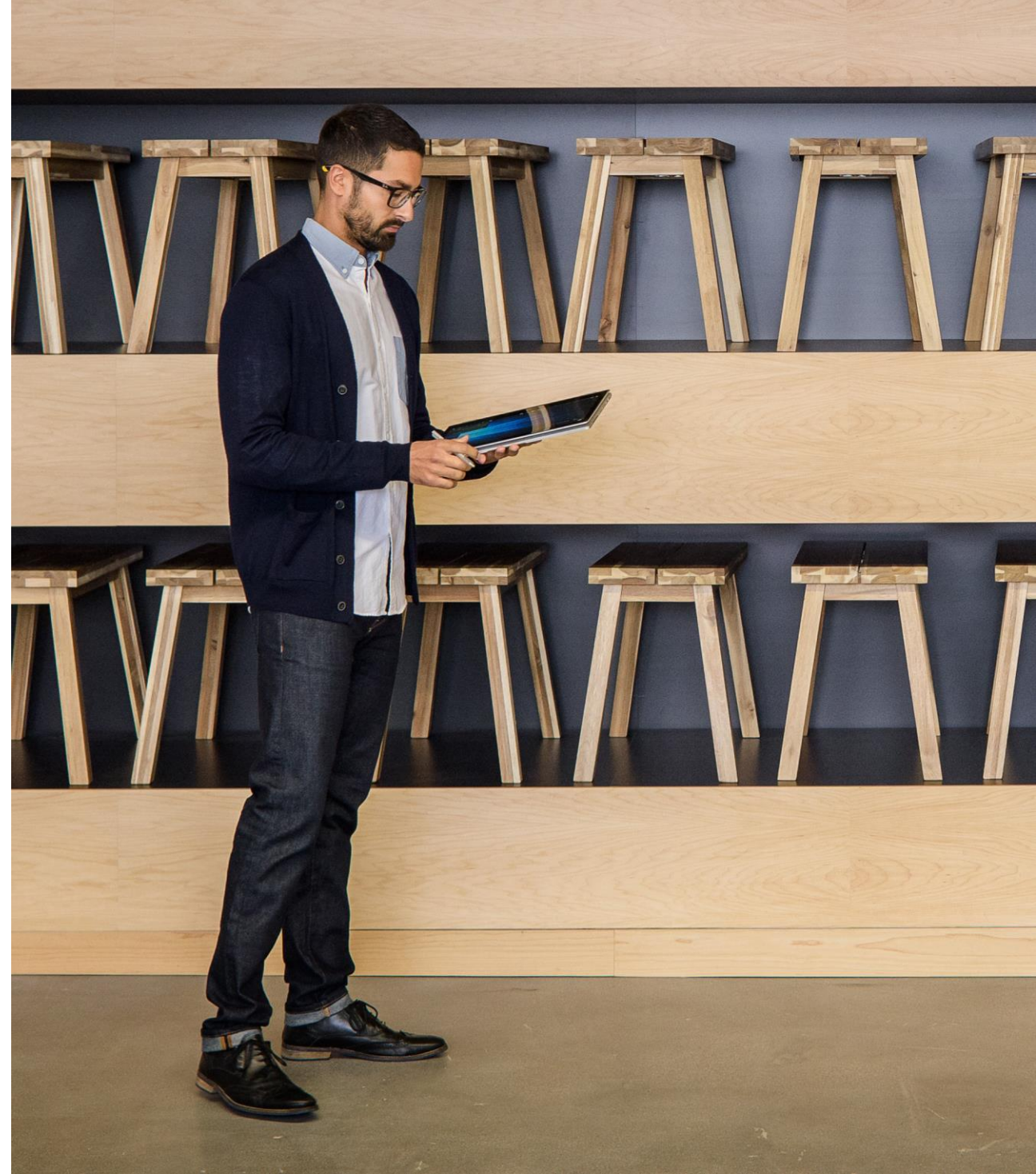
- Licensing and pricing
- Roadmap
- Prerequisites

Part III

- Design considerations
- Deployment
- User access
- Profile & Image Management

Part IV

- Wrap up and Q&A



Agenda - WindowsVirtualDesktop

Part I

WVD Overview

Office improvements

Connectivity

Partner

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Roadmap

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Part III

Design considerations

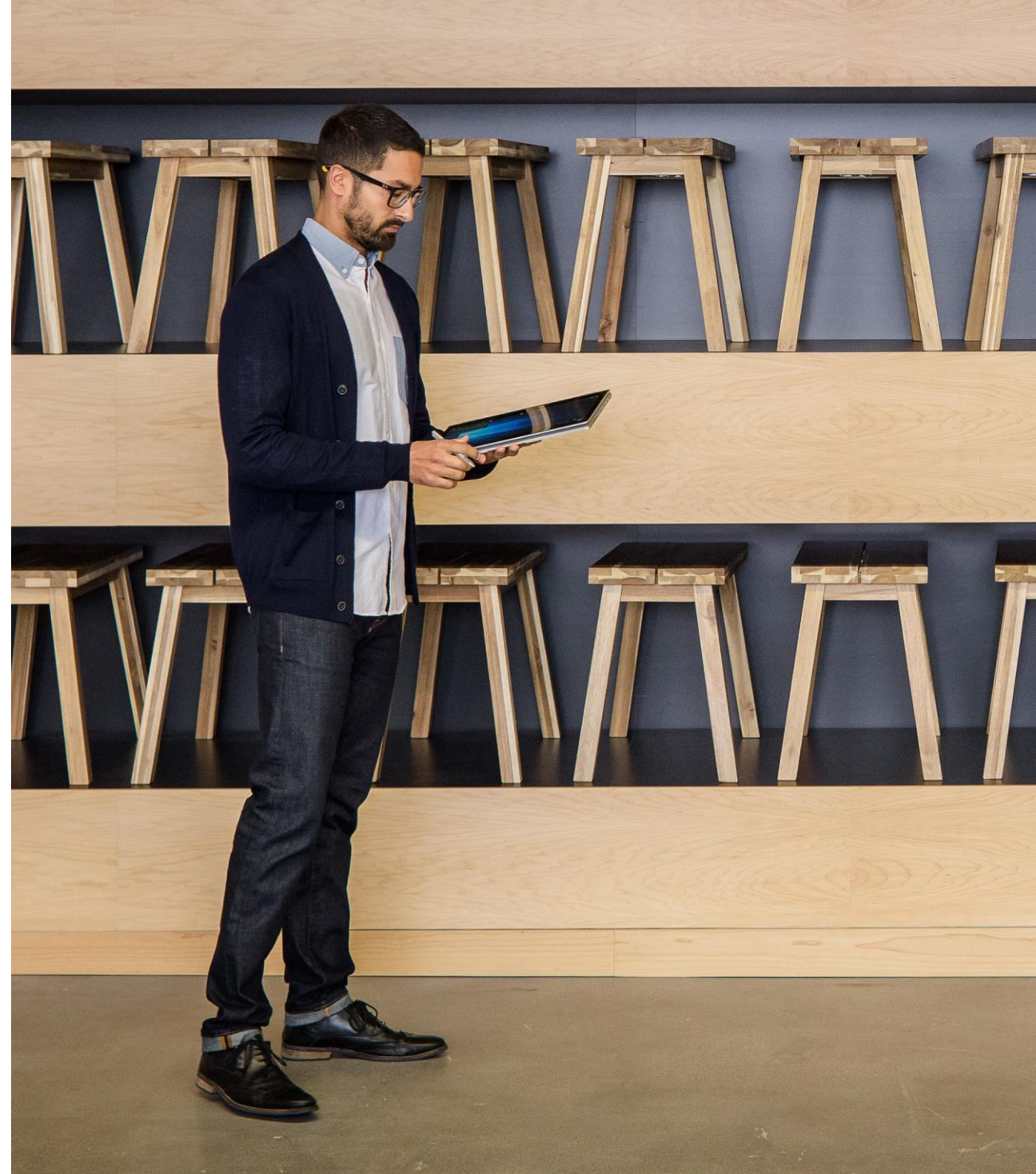
Deployment

User access

Profile & Image Management

Part IV

Wrap up and Q&A



Modern Workplace mit Microsoft 365

complete, intelligent solution which helps everyone to be creative and collaborate securely



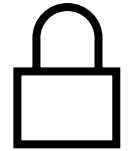
Unlocks
creativity



Built for
teamwork



Integrated
for simplicity



Intelligent
security

Intelligent security



Identity & access management

Azure AD
Conditional Access



Threat protection

Microsoft Threat Protection



Information protection

Microsoft
Information Protection



Security management

Microsoft Secure Score

What is Windows Virtual Desktop?

Microsoft service on Azure for VDI/RDSH management

Major evolution of RDS

Enables a multi-session Windows 10 experience, optimized for Office 365 ProPlus

Windows 7 virtual desktop with free Extended Security Updates

Supports Windows Server RDS (2012R2 +)

Most flexible service allowing you to virtualize both desktops and apps

Integrated with the security and management of Microsoft 365



Native Windows Virtual Desktop

High Level Architecture

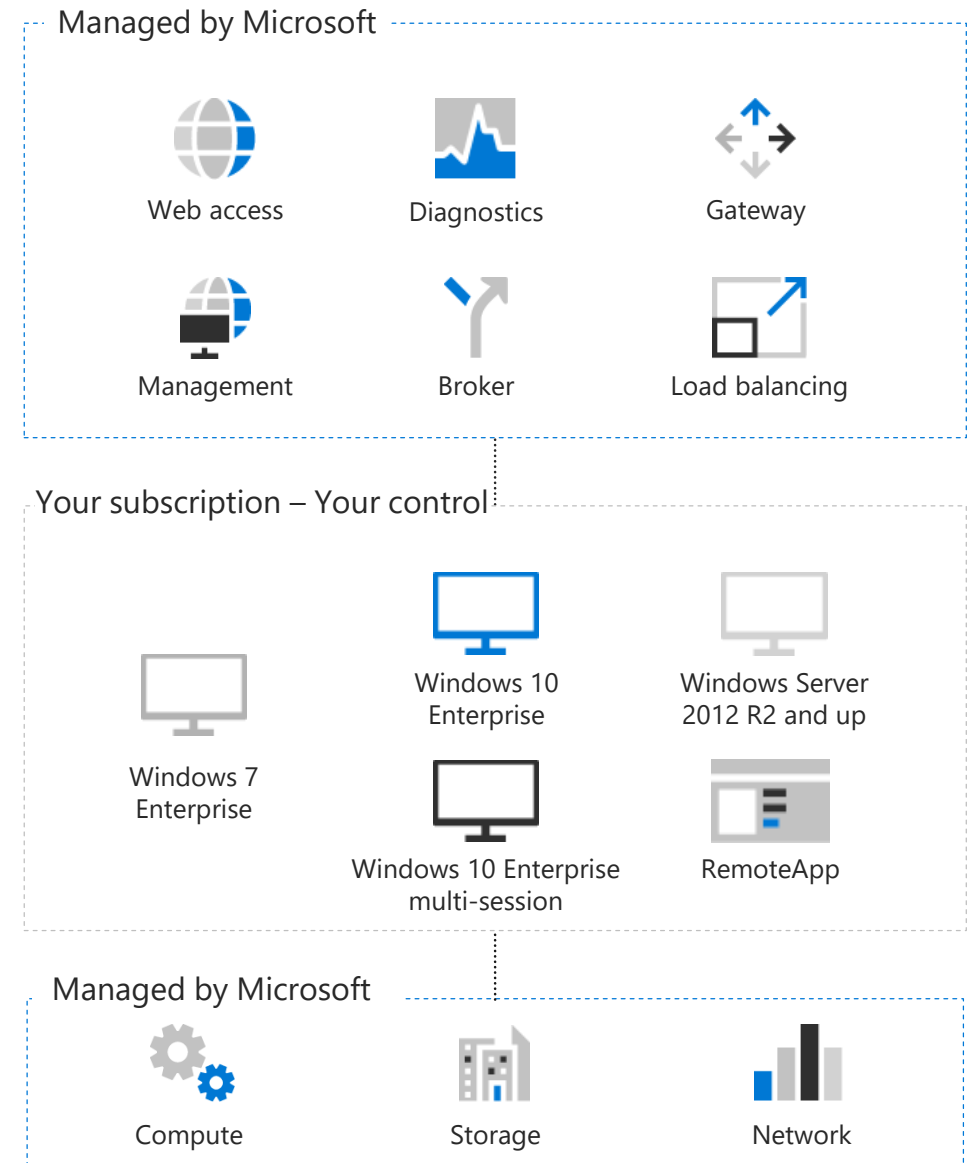
Use Azure Active Directory identity management service

Provide virtualization infrastructure as a managed service

Deploy and manage virtual machines in Azure subscription

Manage using existing tools like Configuration Manager or Microsoft Intune

Connect easily to on-premises resources



Supported OS

Windows 7 Single-Session – published desktop only

Windows 10 Enterprise Single-Session

Windows 10 Enterprise Multi-session – New*

Windows Server 2012 R2

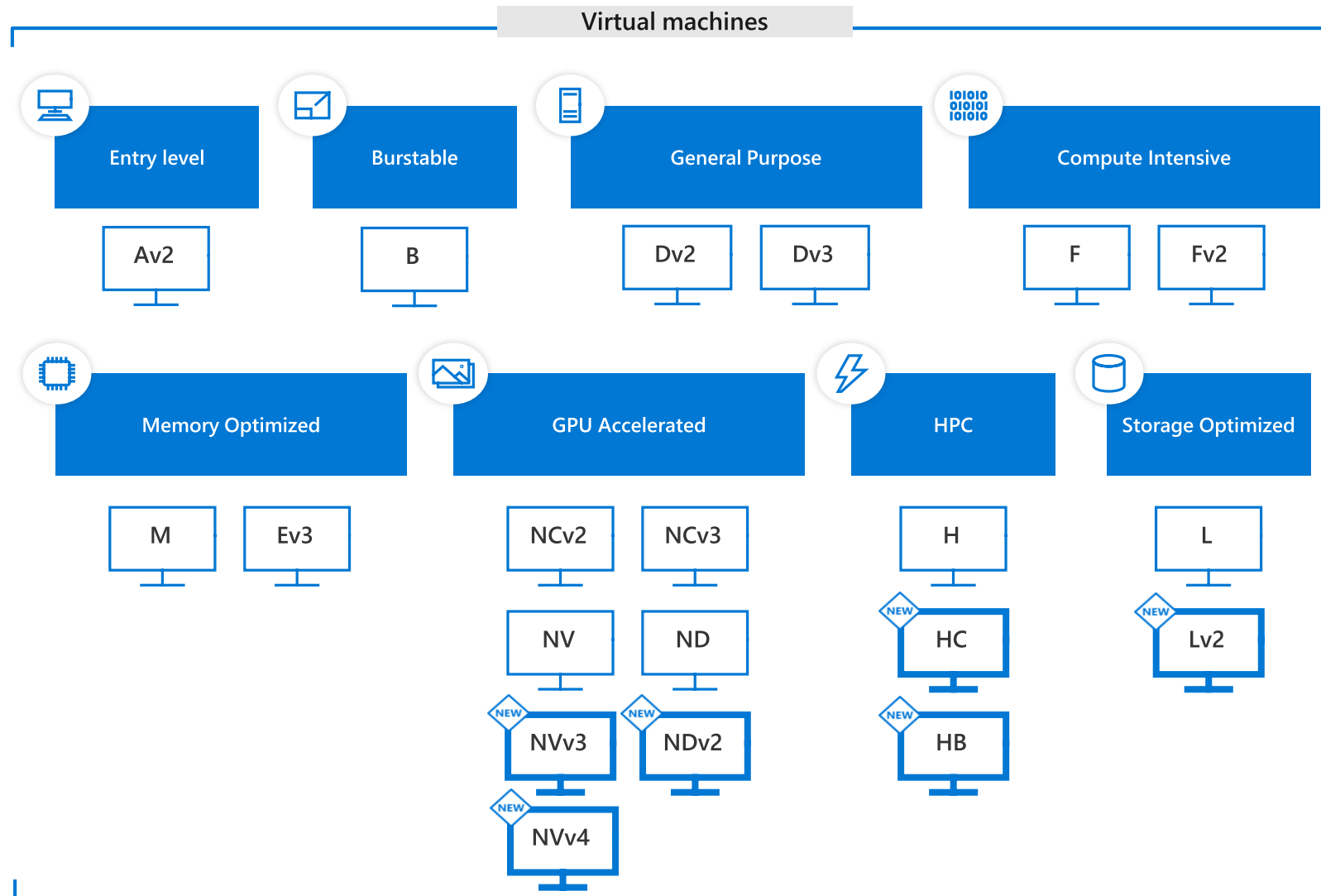
Windows Server 2016

Windows Server 2019

VMs in customer's Azure subscription



Azure Compute, providing choice and flexibility



Virtualization hosts today

Windows Server Desktop Experience

Scalable multi – session **legacy**
Windows environment

Windows Server

Multiple sessions

Win32

Office 365 ProPlus

Long-Term Servicing Channel

Windows 10 Enterprise

Native single – session **modern**
Windows experience

Windows 10

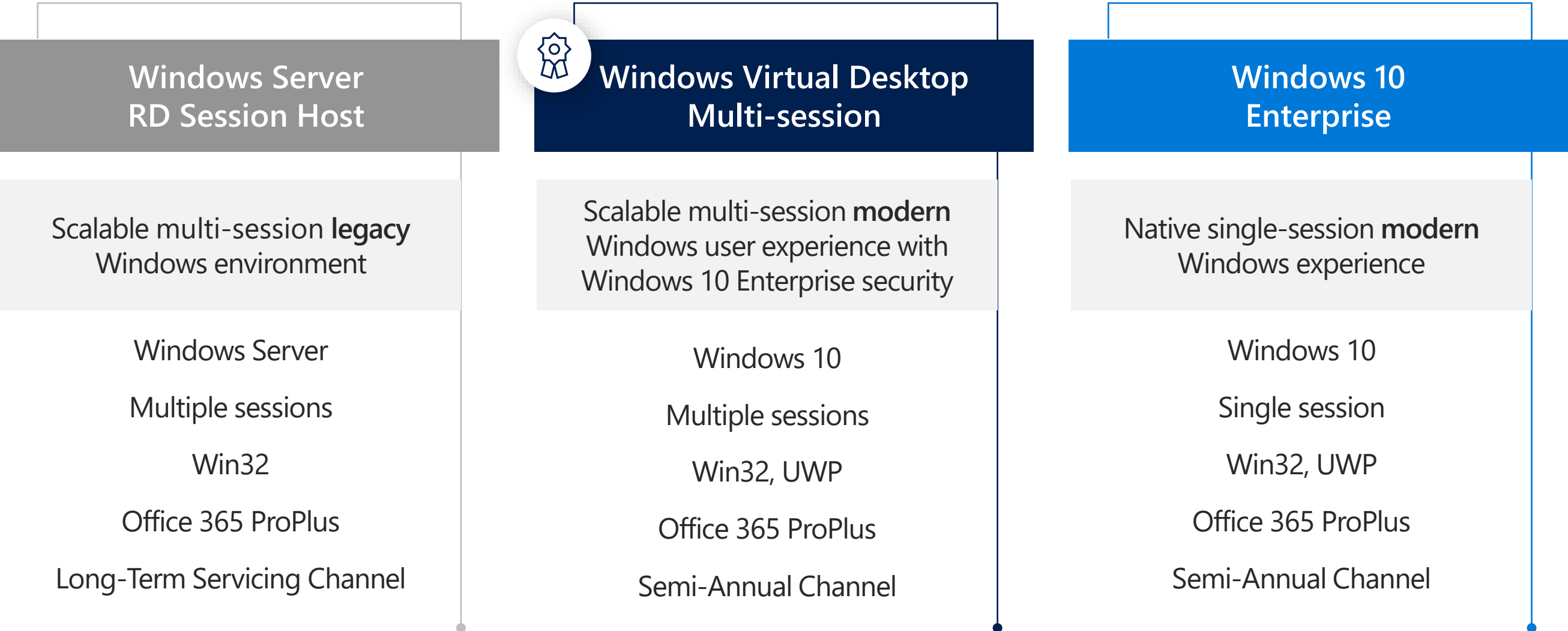
Single session

Win32, UWP

Office 365 ProPlus

Semi-Annual Channel

Virtualization hosts of the future





Office Improvements

Optimized for Office 365 ProPlus

A full Windows 10 desktop combined with Office 365 ProPlus will deliver the most productive virtualized experience to your users.

Our goal

Provide the best experience of Office 365 ProPlus in virtualized environments.



Making Office 365 ProPlus the best experience in Windows Virtual Desktop with FSLogix

With the acquisition of FSLogix, WVD will provide three core pieces of technology

- **Profile Containers:**

Dramatically speeds up logon and application launch times

- **Office Containers:**

Making Office much more performant in multi-user virtual environments.

Eg: Outlook OST file, OneDrive cache, Windows Search DB and Skype for Business GAL.

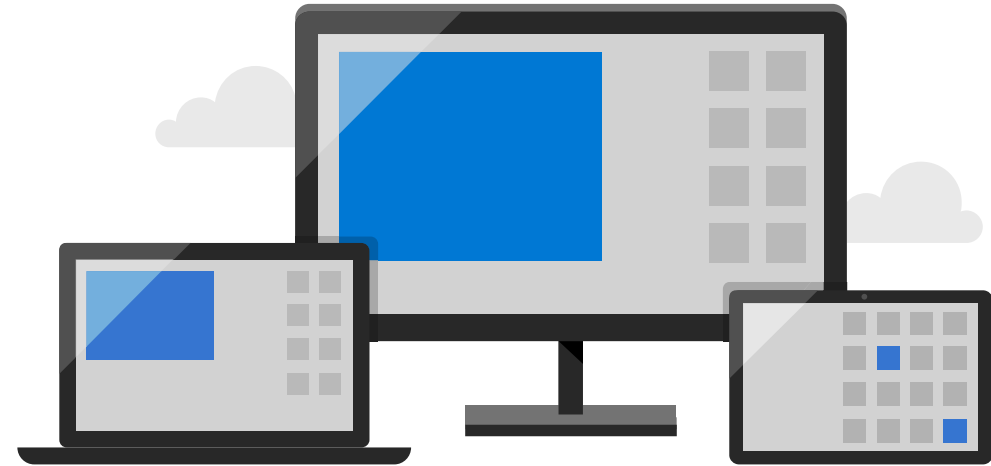
- **App Masking:**

Helps minimize the number of images to be maintained and hence reduces costs for large organizations.

Allows enterprises to have a single OS image for all pools of VM's with no apps installed

- **Java Redirection:**

Pins apps and websites to specific versions of Java co-existing on same machine



Filter by title

Windows Virtual Desktop

> Overview

> Tutorials

> How-to

> Concepts

- Windows Virtual Desktop environment
- Bandwidth recommendations for remote sessions
- Delegated access in Windows Virtual Desktop
- Host pool load-balancing methods
- FSLogix profile containers and Azure files
- Storage options for FSLogix profile containers
- Partner integrations
- Windows 10 Enterprise multi-session FAQ
- Data locations

> Troubleshoot

> Reference

> Resources

Storage options for FSLogix profile containers in Windows Virtual Desktop

10/14/2019 • 2 minutes to read •

Azure offers multiple storage solutions that you can use to store your FSLogix profile container. This article compares storage solutions Azure Storage offers for Windows Virtual Desktop FSLogix profile container user profiles.

Windows Virtual Desktop offers FSLogix profile containers as the recommended user profile solution. FSLogix is designed to roam profiles in remote computing environments, such as Windows Virtual Desktop. At sign-in, this container is dynamically attached to the computing environment using a natively supported Virtual Hard Disk (VHD) and a Hyper-V Virtual Hard Disk (VHDX). The user profile is immediately available and appears in the system exactly like a native user profile.

The following tables compare the storage solutions Azure Storage offers for Windows Virtual Desktop FSLogix profile container user profiles.

Azure platform details

Features	Azure Files	Azure NetApp Files	Storage Spaces Direct
Platform service	Yes, Azure-native solution	Yes, Azure-native solution	No, self-managed
Regional availability	All regions	Select regions	All regions
Redundancy	Locally redundant/zone-redundant/geo-redundant	Locally redundant	Locally redundant/zone-redundant/geo-redundant
Tiers and performance	Standard Premium Up to max 100k IOPS per share with 5 GBps per share at about 3 ms latency	Standard Premium Ultra Up to 320k (16K) IOPS with 4.5 GBps per volume at about 1 ms latency	Standard HDD: up to 500 IOPS per-disk limits Standard SSD: up to 4k IOPS per-disk limits Premium SSD: up to 20k IOPS per-disk limits We recommend Premium disks for Storage Spaces Direct
Capacity	100 TiB per share	100 TiB per volume, up to 12.5 PiB per subscription	Maximum 32 TiB per disk
Required infrastructure	Minimum share size 1 GiB	Minimum capacity pool 4 TiB, min volume size 100 GiB	Two VMs on Azure IaaS (+ Cloud Witness) or at least three VMs without and costs for disks
Protocols	SMB 2.1/3. and REST	NFSv3, NFSv4.1 (preview), SMB 3.x/2.x	NFSv3, NFSv4.1, SMB 3.1

Is this page helpful?

Yes

No

In this article

Azure platform details

Azure management details

Next steps

Documentation material

Azure NetApp Files

<https://docs.microsoft.com/en-us/azure/virtual-desktop/create-fslogix-profile-container>

Storage Spaces Direct (S2D)

<https://docs.microsoft.com/en-us/windows-server/remote/remote-desktop-services/rds-storage-spaces-direct-deployment>

Azure Files (AD auth in public preview)

[AD for AzureFiles public preview](#)

<https://docs.microsoft.com/en-us/azure/virtual-desktop/fslogix-containers-azure-files>



Connectivity

Clients



Web Browser – HTML5 Compatible



Windows & MAC OS Client (Download & Install new Client)



Mobile IOS & Android – Preview

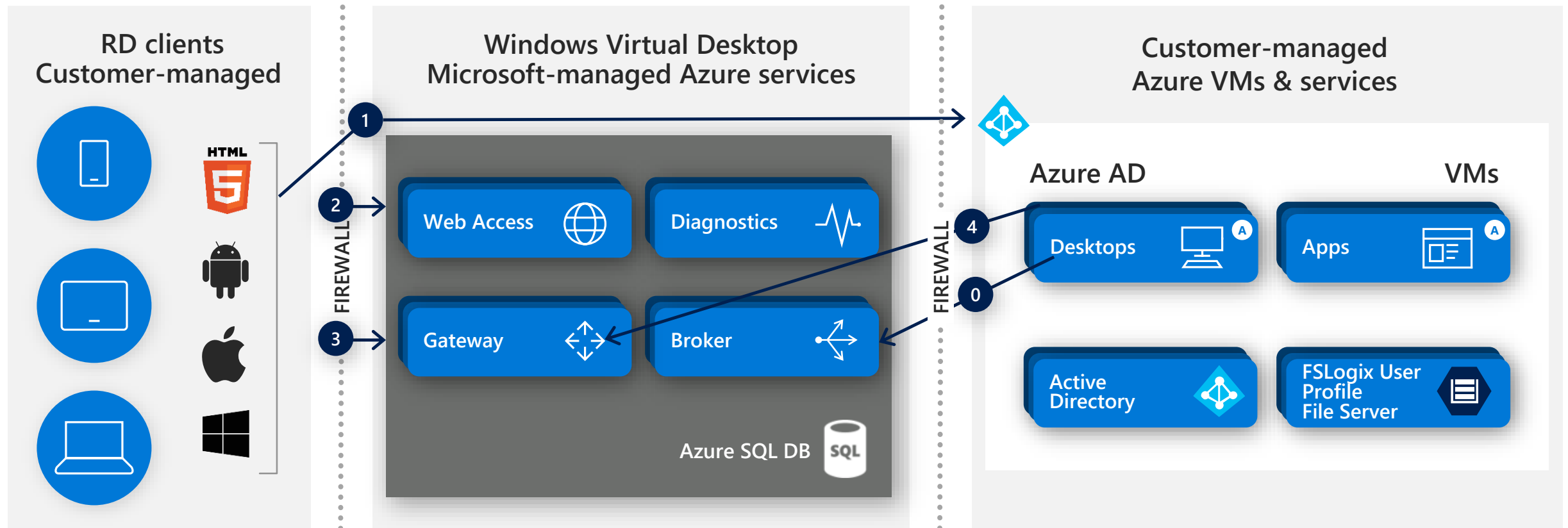


Thin Client (OEM) – Check with your hardware vendor

User Connection Flow

- 1 User launches RD client which connects to Azure AD, user signs in, and Azure AD returns token
- 2 RD client presents token to Web Access, Broker queries DB to determine resources authorized for user
- 3 User selects resource, RD client connects to Gateway
- 4 Broker orchestrates connection from host agent to Gateway

RDP traffic now flows between RD client and session host VM over connections 3 and 4

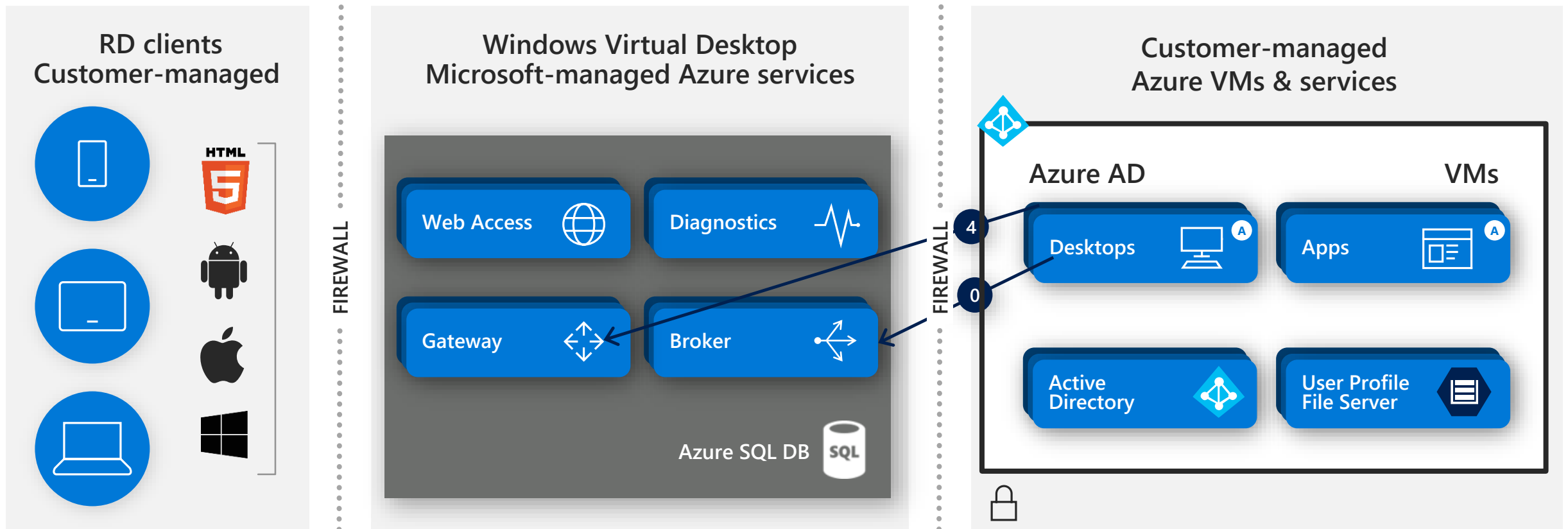


Improved Isolation: Reverse Connect

Outbound WebSocket connections from VMs to Broker and Gateway

Bidirectional communications between VMs and RD infra over https (443)

No inbound ports need be opened on the VM.





Partner



Approved partners and value-added partners



System integrators



[WVD Whitepaper with partner \(german\)](#)



Comprehensive
partner ecosystem



Global presence

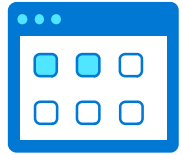


Consistent standards
and IT architectures

[Aka.ms/wvdpartner](https://aka.ms/wvdpartner)

Citrix + Windows Virtual Desktop available worldwide

Delivering enterprise value and unified management around Windows Virtual Desktop



Workspace Experience

Include WVD workloads within Citrix Workspace for central access to all apps, desktops and files



Image Management

Simplify management by layering OS, apps and user data on WVD resources and rapidly provisioning updates



Hybrid Cloud Journey

Accelerate the move to Azure for on-prem customers by enabling management of on-prem and WVD workloads from one console



Environment Management

Optimize host performance, accelerate application delivery, and enhance scalability for WVD

WVD High Level Architecture



High Level Architecture



Microsoft

CITRIX

Provided by Citrix



Workspace



Director



Gateway



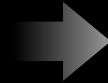
MCS



Delivery
Controllers



Load
balancing



Your Subscription with WVD entitlement



Windows 7
Enterprise



Windows 10
Enterprise



Windows 10
Enterprise
multi-session



Windows
Server



FSLogix



Provided by Microsoft



Compute



Storage



Networking



Top ten Citrix value adds to Windows Virtual Desktop



Hybrid cloud management

Citrix Virtual Apps and Desktops provides a single management interface for Citrix workloads, on-premises or in Azure.* Migrate, capacity burst, or load balance between datacenter and cloud.

*Windows 10 Enterprise support available only in Azure.



Citrix HDX technology

Our leading-edge protocol delivers user experiences on any device, over any connection. Leverage built-in optimizations for interactive multimedia performance for Microsoft Teams, Skype, and industry-standard telework apps.



Performance and security analytics

Targeted specifically at app and desktop virtualization, our analytics tools give administrators deep visibility into user behavior and session responsiveness. This gives IT the power to catch small issues before they become big ones.



Workspace environment management

Optimize user density and logon performance with a suite of technologies targeted to improve user experience while maximizing the value of IT spend.



Session recording

Access full record and playback of user sessions for issue diagnosis, compliance, or security audits.



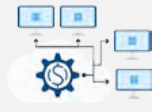
Citrix app protection and watermarking

Protect your environment from accidental or malicious data leakage.



Advanced monitoring

Admin and helpdesk tools built for enterprise scale. Monitor site and session health, track user sessions, diagnose issues, and more.



AutoScale

Scale your environment up or out based on schedule or load. Make the best use of your existing datacenter investment and ramp sessions into the cloud as needed. Scale cloud workloads dynamically on demand.



Citrix provisioning

Tools that simplify administration and enhance environment reliability. Rapidly deploy environments of any scale.



Citrix app layering

Flexible OS, application, and user layer technology enables an enhanced user experience while leveraging nonpersistent environments.

Horizon Cloud on Microsoft Azure – GA since March 2020

Extending Windows Virtual Desktop capabilities to Horizon Cloud



Broad endpoint support with enhanced remote experience



Enhanced user environment management



Global brokering with cloud-optimized architecture



Flexible desktop options and configurations



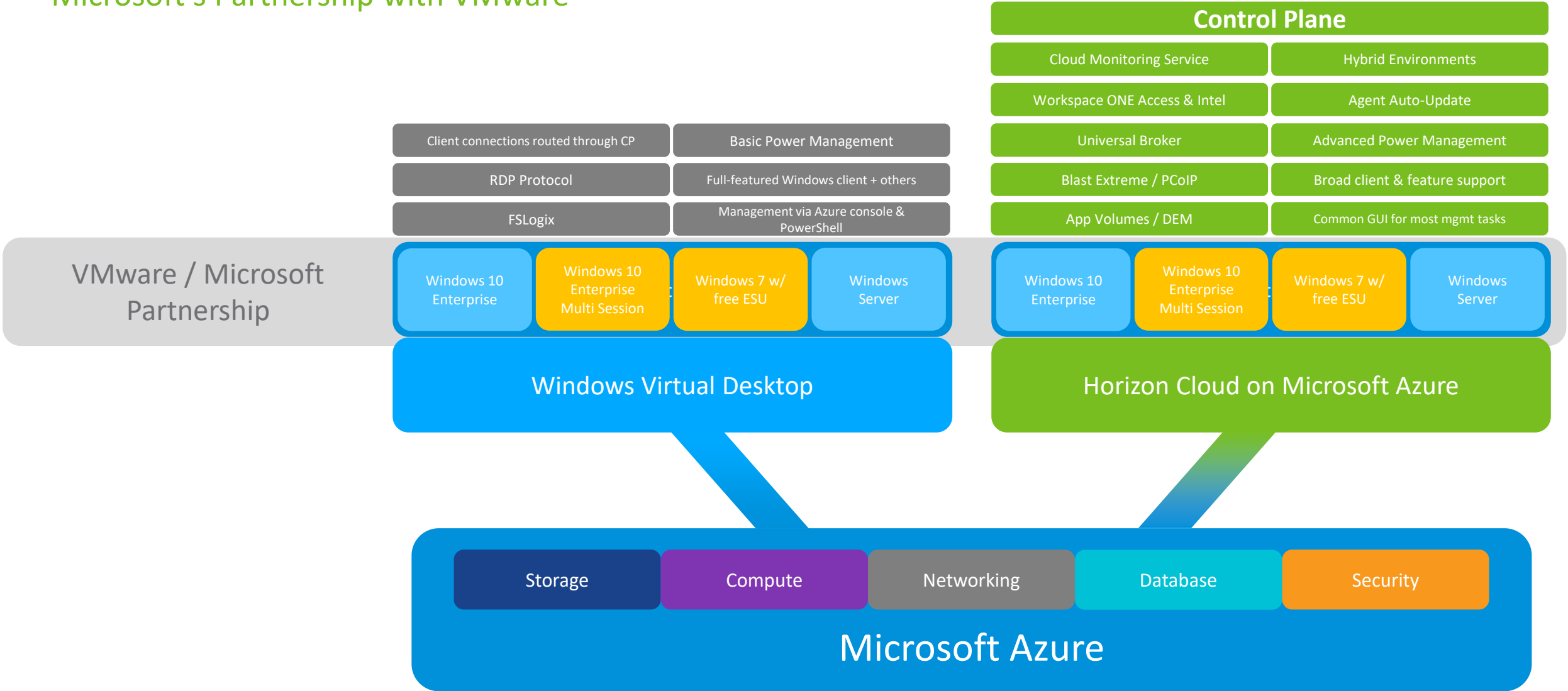
Real-time audio video & peripheral support



Hybrid environment support

Windows Virtual Desktop

Microsoft's Partnership with VMware



Break



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Many customers are already eligible for Windows Virtual Desktop

Windows Virtual Desktop Licensing Requirements

Client

Customers are eligible to access Windows 10 single and multi-session and Windows 7 with Windows Virtual Desktop if they have one of the following licenses:*

- Microsoft 365 E3/E5
- Microsoft 365 A3/A5/Student Use Benefits
- Microsoft 365 F1
- Microsoft 365 Business
- Windows 10 Enterprise E3/E5
- Windows 10 Education A3/A5
- Windows 10 VDA per user

Server

Customers are eligible to access server workloads with Windows Virtual Desktop if they have one of the following licenses:

- RDS CAL license with active Software Assurance.

* Customers can access Windows Virtual Desktop from their non-Windows Pro endpoints if they have a Microsoft 365 E3/E5/F1, Microsoft 365 A3/A5, or Windows 10 VDA per user license.

Azure Usage Charges



Pay only for the virtual machines (VMs), storage, and networking consumed when the users are using the service

Take advantage of options such as one-year or three-year Azure Reserved Virtual Machine Instances, which can save up to 72 percent versus pay-as-you-go pricing. Now with monthly payment options!

You have the flexibility to pick any VM and storage options to match your use cases

FSLogix entitlements

Access to FSLogix technology*

FSLogix technology, which improves the performance of Office 365 ProPlus in multi-user virtual environments, is now available at no additional cost for Microsoft 365 customers

Microsoft 365 E3/E5/F1/Business

Microsoft 365 A3/A5/Student Use Benefits

Windows 10 Enterprise E3/E5

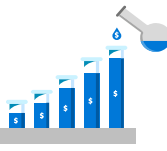
Windows 10 Education A3/A5

Windows 10 VDA per user

Remote Desktop Services (RDS) CAL ★ **NEW**

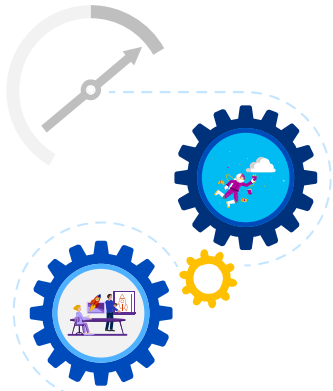
Remote Desktop Services (RDS) SAL ★ **NEW**

*Including Office 365 Container, Profile Container, App Masking and Java Redirection



Windows Virtual Desktop Superior Economics is Driven by Infrastructure, Licensing, and Labor Savings

Infrastructure



**~70%*
Savings**

- Windows 10 experience at multi-session cost
- Cost effective compute and storage
- Flexible network provisioning
- Best value compute rate
- Opex spend aligned to business usage

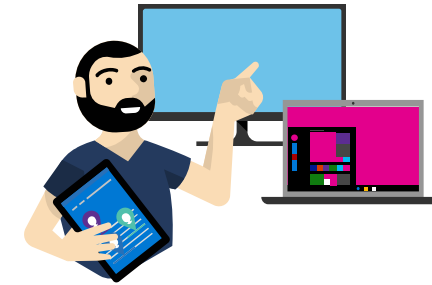
Licensing



**~60%*
Savings**

- WVD management service included with the licenses you already own
- Savings on RDS CAL with multi-session deployment
- 3-year Win7 ESU included

Labor



~60%
Savings**

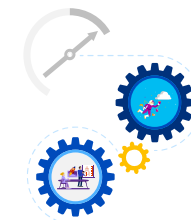
- Lower labor cost because compute and storage move to cloud
- Lower labor cost when you use PaaS services

Note: Infrastructure includes compute, storage (IaaS/PaaS), and networking

*See [Example Scenario: WVD Economic Benefits](#)

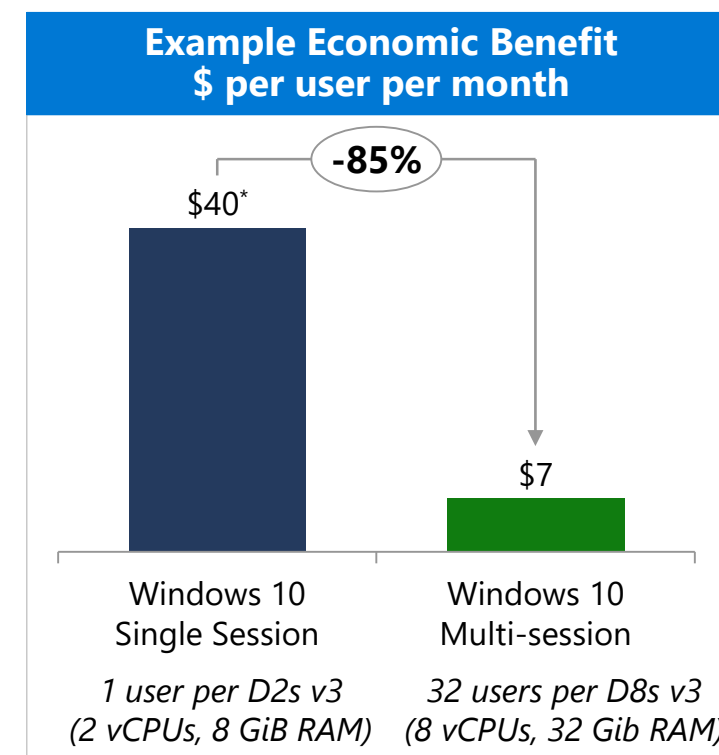
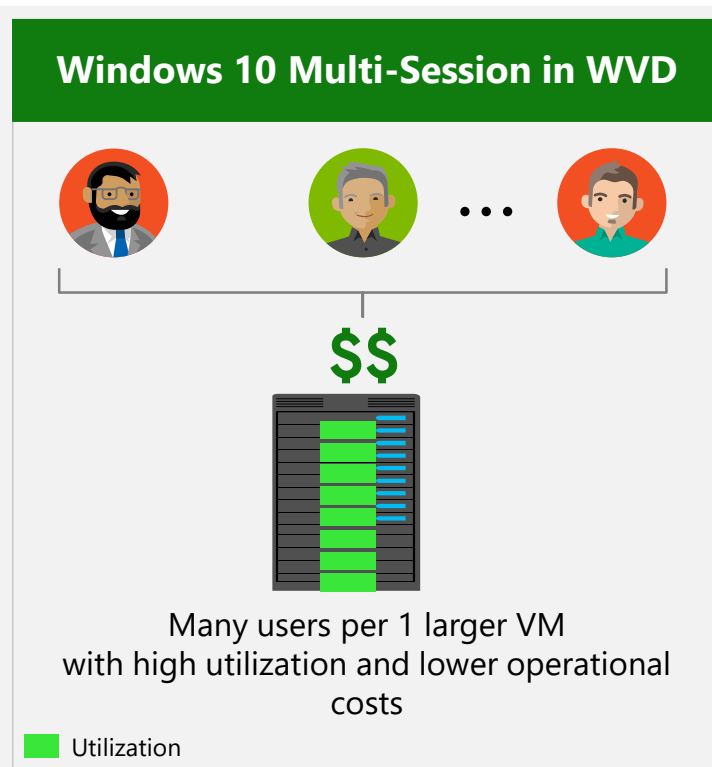
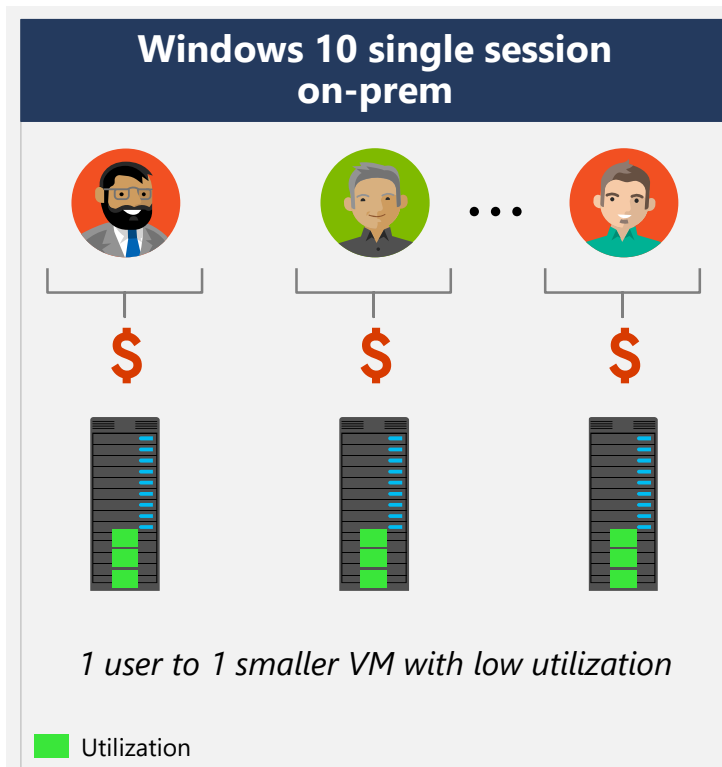
**IDC: Assessing the Business Value of VDI in the Public Cloud

Windows 10 Experience at Multi-session Cost



Customer Scenario – From Windows 10 single session on-prem to Windows 10 Multi-Session in WVD

- Trade many small dedicated VMs for few large shared VMs (with higher utilization and lower operational costs)

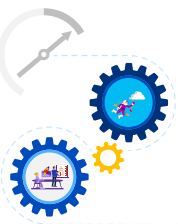


Note: WVD is the only way to run Windows 10 Multi-Session

Note: Figures are illustrative and based on pre-configured assumptions; actual savings vary by user requirements and infrastructure configuration

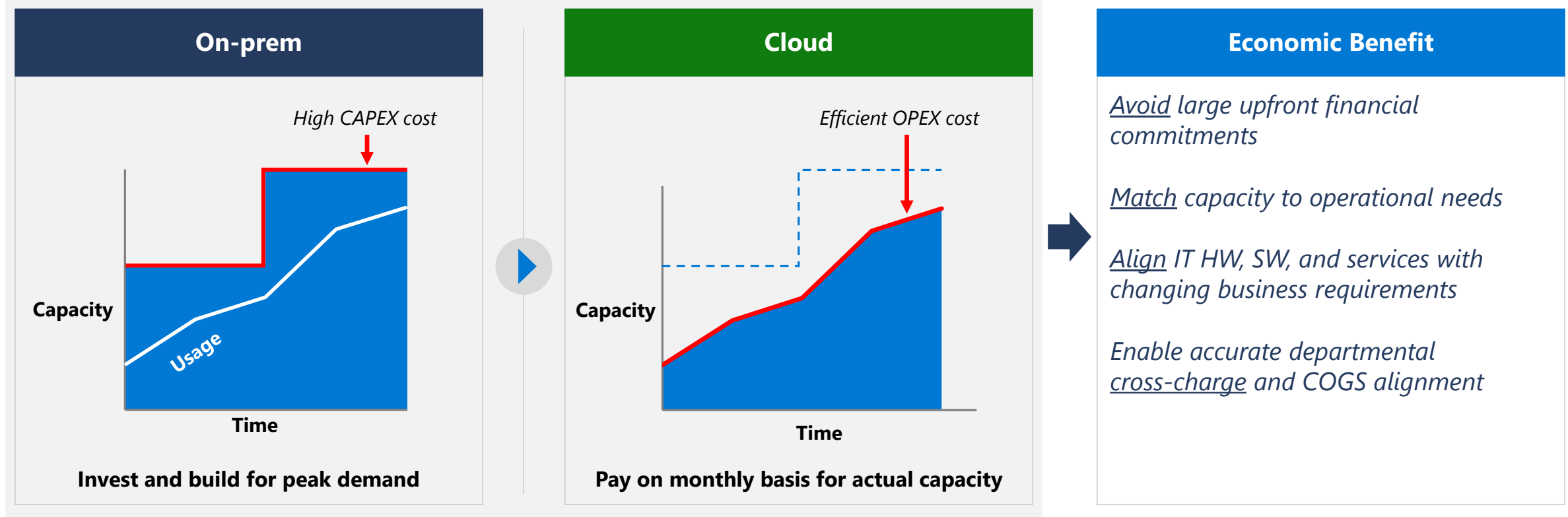
*The \$40 PUPM for single session cost is modeled for a common configuration: Windows 10 single-session in WVD starts at ~\$15 per user per month for 1 vCPU, 2 GiB RAM configuration

Opex Spend Aligned to Business Usage



Customer Scenario – On-prem to Cloud

- From up-front Capex commitment to flexible Opex investment



Note: Figures are illustrative and based on pre-configured assumptions; actual savings vary by user requirements and infrastructure configuration

Cost-advantaged licensing

Management Service Included With the Licenses you Already Own



Customer Scenario – From on-prem virtualization to WVD

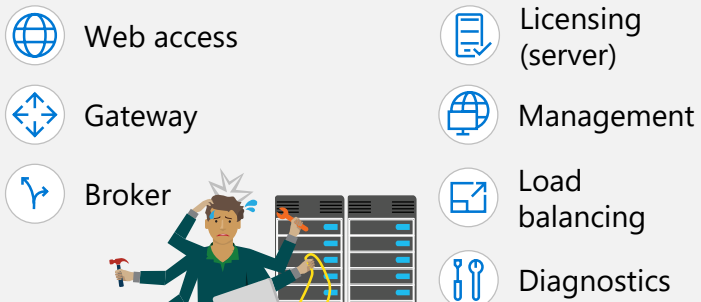
- WVD management service included with the licenses* most Microsoft customers own
- Eliminate the infrastructure cost associated with on-prem management services



On-prem Virtualization

Management Services
deployed by IT

Management service deployment



WVD

Management Services
provided by WVD

**Management
Service**

Provided by WVD



Economic Benefit

***No management
infrastructure needed***

No additional licenses required

Reduced labor cost

*See Appendix for WVD Client licensing requirements, including specific SKUs

Note: Figures are illustrative and based on pre-configured assumptions; actual savings vary by user requirements and current licensing position

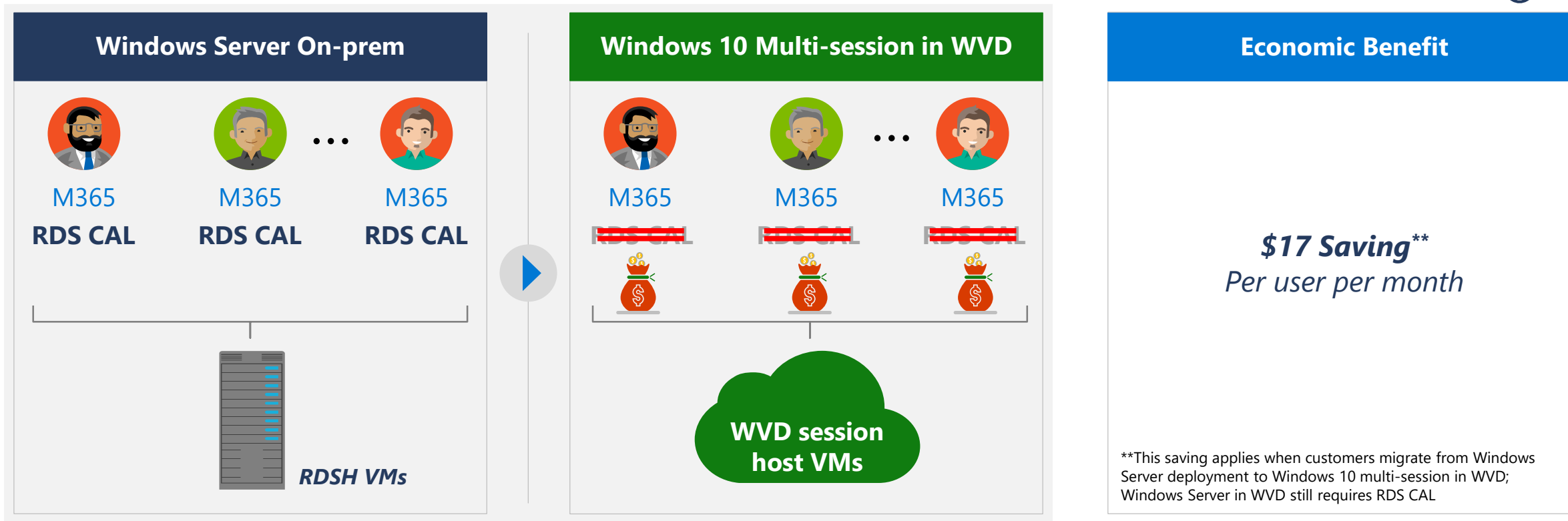
Note: Customers who require Citrix or VMware management services to meet their needs will incur additional cost

Savings on RDS CAL with Multi-session Deployment



Customer Scenario – From Windows Server on-prem to Windows 10 Multi-Session in WVD

- Save on RDS CAL when migrating from Windows Server on-prem to Windows 10 Multi-Session* in WVD



*Customers can leverage the license (e.g. M365 E3/E5, Win 10 E3/E5) they already own. See Appendix for a complete list of WVD licensing requirements

Note: Figures are illustrative and based on pre-configured assumptions; actual savings vary by user requirements and current licensing position

Note: Customers need to fully refactor desktops and apps when migrating from Windows Server deployment to Windows 10 multi-session in WVD

WVD Infrastructure Cost* at a Glance



Customer Requirements

- User Type: Medium (Microsoft Office apps users)
- # of Users: 1,000
- Peak Concurrency: 80%
- Profile Storage Requirement: 20GB / user
- Network egress: 100 kpbs / user

Key Infrastructure Assumptions

• Compute:

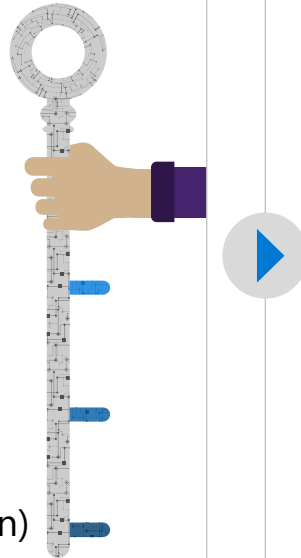
- East US
- 3-year Reserved Instance
- D8s v3 (for multi-session)
- 4 users/vCPU (for multi-session)
- D2s v3 (for single-session)

• Storage:

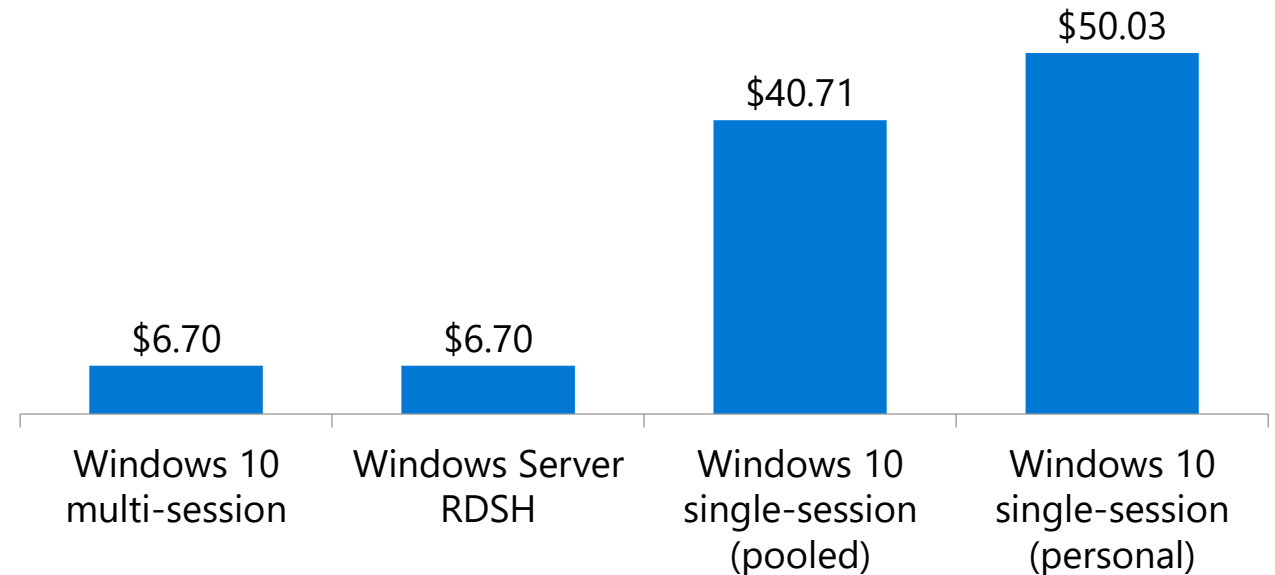
- Azure NetApp Files

• Networking:

- Virtual Network (East US Same Region)



WVD Infra Cost* Per User Per Month



Note: Results generated by WVD Solution Configurator, an excel-based tool for sizing WVD opportunities; figures are rounded for simplicity

*License cost not included; Many customers already own licenses that qualify them for WVD (e.g. Win10 E3/E5, M365 E3/E5, VDA) and incur no additional license cost for WVD

Pricing Considerations

- Region
- Total user count
- Multi Session Users v 1:1 VDI users
- Peak concurrency
- Work hours per day/week
- Virtual Machine Specification
- Reserved Instances v Automation
- Profile storage requirements
- Network Egress





Roadmap



WVD Roadmap

Active Directory auth. for Azure Files

Currently in public preview - [AD and AzureFiles public preview](#)

WVD Roadmap

Active Directory auth. for Azure Files

Currently in public preview - [AD and AzureFiles public preview](#)

Windows Virtual Desktop deployment through Azure Portal

IT Pros can manage Windows Virtual Desktop deployments using the Azure Portal.
Existing customers should use migration and porting steps.

WVD Roadmap

Active Directory auth. for Azure Files

Currently in public preview - [AD and AzureFiles public preview](#)

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Windows Virtual Desktop support for Microsoft Teams

Windows Virtual Desktop supports A/V redirection for Microsoft Teams, including P2P technology to improve performance.

WVD Roadmap

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Windows Virtual Desktop supports A/V redirection for Microsoft Teams, including P2P technology to improve performance.

Location choice for Windows Virtual Desktop service data

Windows Virtual Desktop allows IT Pros to pick the region best-suited to deploy their VMs. Additionally, they can choose to store their service metadata in either US or EU geographies

Public roadmap: [WVD roadmap](#)

MSIX app attach (in preview)

Native format is MSIX (no re-packaging)

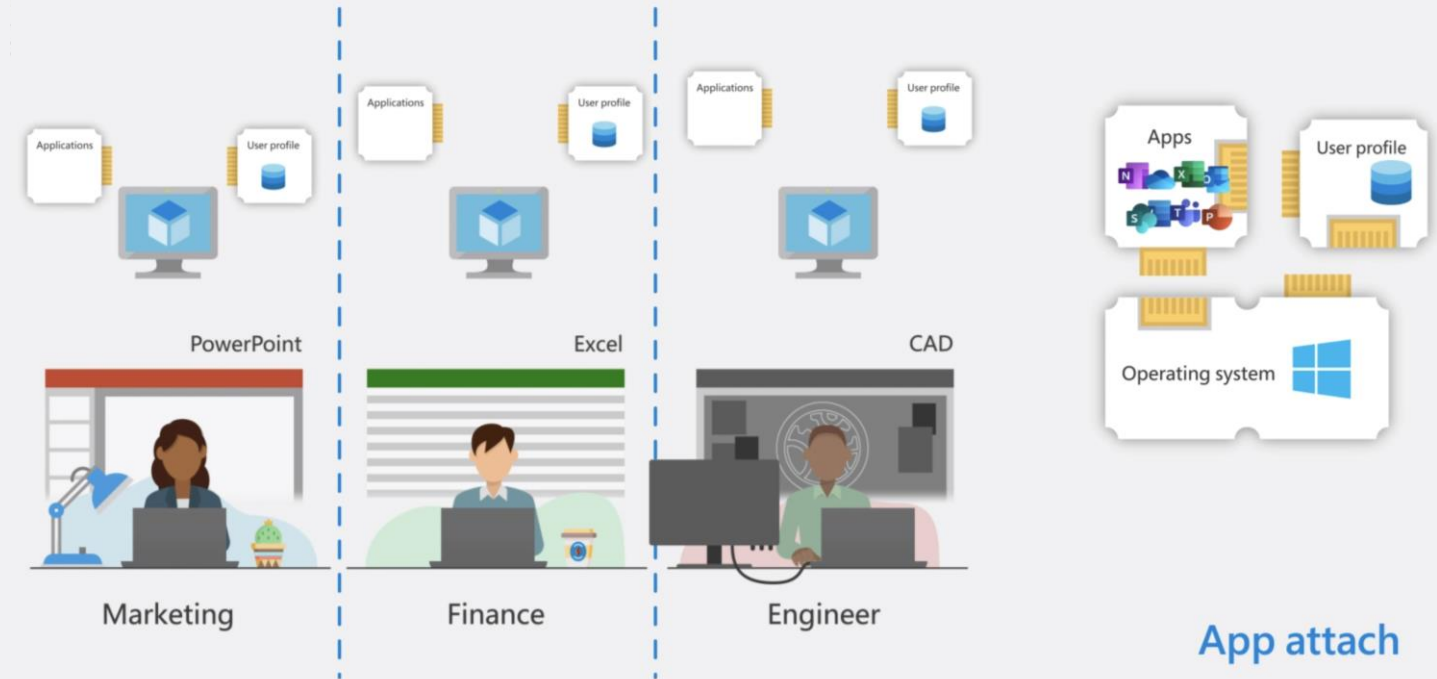
Minimal performance impact

MSIX Apps can be stored off the windows disk

Remotely mount the apps to the VM on-demand

Apps groups are assigned to users, and they're available instantly on login

Looks and feels local to the user and to windows



App Assure | WVD Announcement

Microsoft's application compatibility promise

Microsoft is committed to ensuring your apps work on the latest versions of our software. If you encounter any issues, we will help you remediate them at no additional cost!

Windows Virtual Desktop	
WINDOWS 10 ENTERPRISE MULTI-SESSION	WINDOWS 10 ENTERPRISE
Virtualized apps that run on Windows Server RDSH will run on Windows 10 Enterprise multi-session as part of WVD	Apps running in any Windows 7 & Windows 10 VDI environment will run on Windows 7/Windows 10 Enterprise as part of WVD and Apps running on Windows 7 & Windows 10 client devices will run on Windows 7/ Windows 10 Enterprise as part of WVD

To learn more or to request assistance go to <https://aka.ms/AppAssure>

Prerequisites



Prerequisites to deploy Windows Virtual Desktop

Design Decisions

STEP 1

Choose an identity strategy

Azure AD

- Azure AD DomainServices or
- VM with ActiveDirectory (AD) configured (in Azure or onpremises)
- ExpressRoute or VPN to on-premises AD and AppBackends

STEP 2

Choose where to host FSLogix profiles

- Fileserver (Storage Spaces Direct)
- Azure Files with Azure ADDS (with AD auth in preview)
- Azure NetApp Files

STEP 3

Make sure you have all credentials needed

- Subscription Admin
- Azure AD global Admin
- Active Directory Admin
- WVD Tenant Admin

Prerequisites to deploy Windows Virtual Desktop

Design Decisions

[Get started at aka.ms/startwvd](https://aka.ms/startwvd)

STEP 4

Have all required network configurations/ FW rules in place for:

- connection to WVD BackendServices
- download DSC extension during hostpool deployment
- connect to onpremises backends
- DNS setting on Azure network - Domain controller or AAD DS could be reached (domain join)

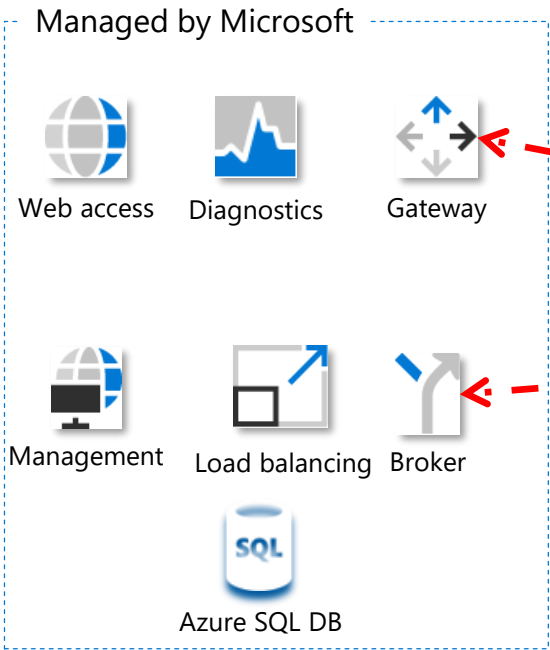
STEP 5

Decide which Image to use

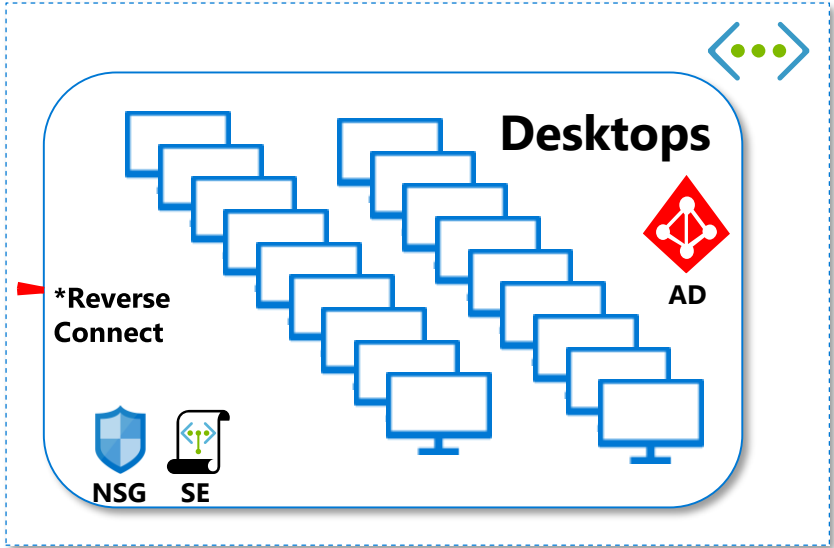
- WVD Image from Azure Marketplace
- Create your own image

Desktop VNET Outbound Connections

Address	Outbound port	Purpose
*.wvd.microsoft.com	TCP port 443	Service traffic
*.blob.core.windows.net	TCP port 443	Agent, SXS stack updates, and Agent traffic
*.core.windows.net	TCP port 443	Agent traffic
*.servicebus.windows.net	TCP port 443	Agent traffic
prod.warmpath.msftcloudes.com	TCP port 443	Agent traffic
catalogartifact.azureedge.net	TCP port 443	Azure Marketplace
kms.core.windows.net	TCP port 1688	Windows 10 activation

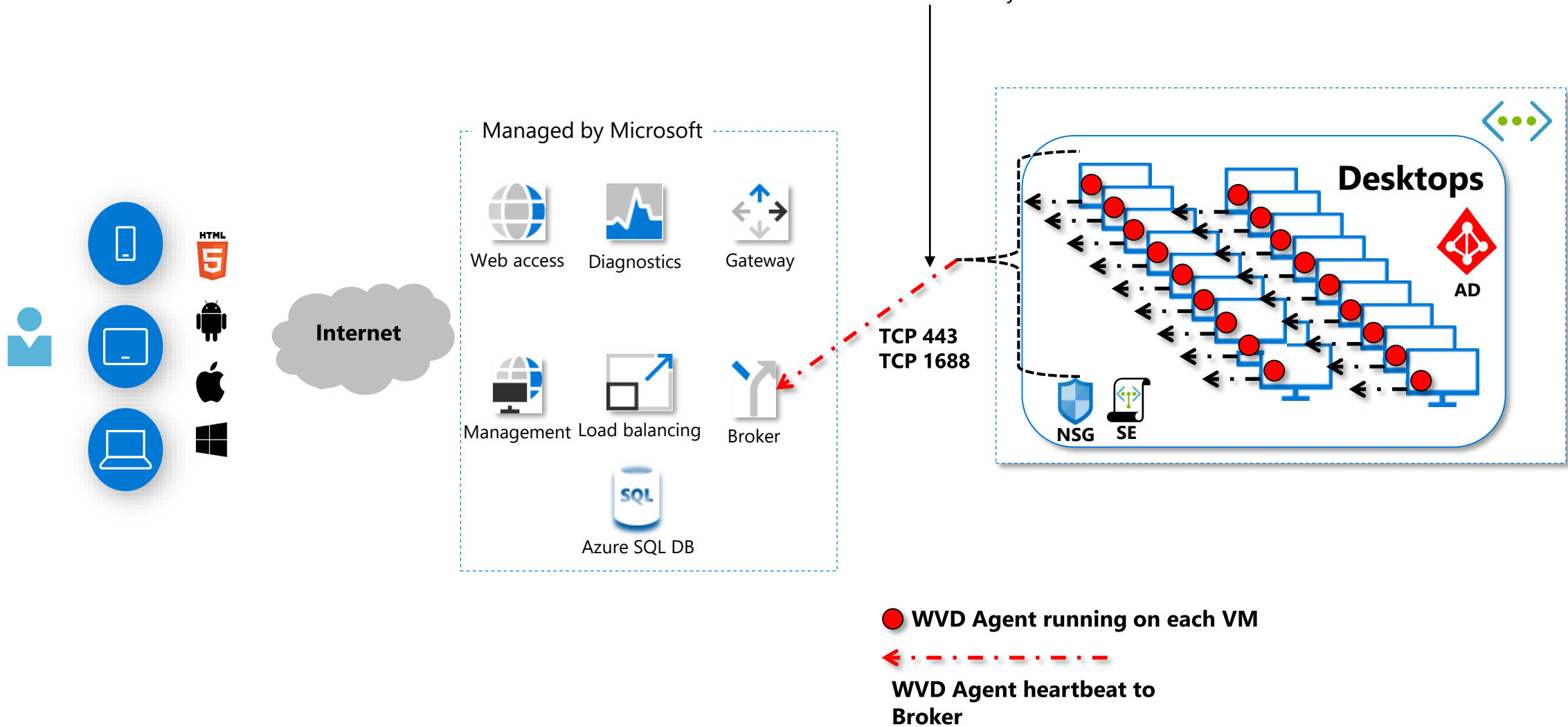


TCP 443
TCP 1688



WVD – Desktop Agent -> Broker

WVD Agent connects to the Broker using a heartbeat. It lets the Broker know that there is a VM ready for connections.



Break



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- Profil & Image Management

Part IV

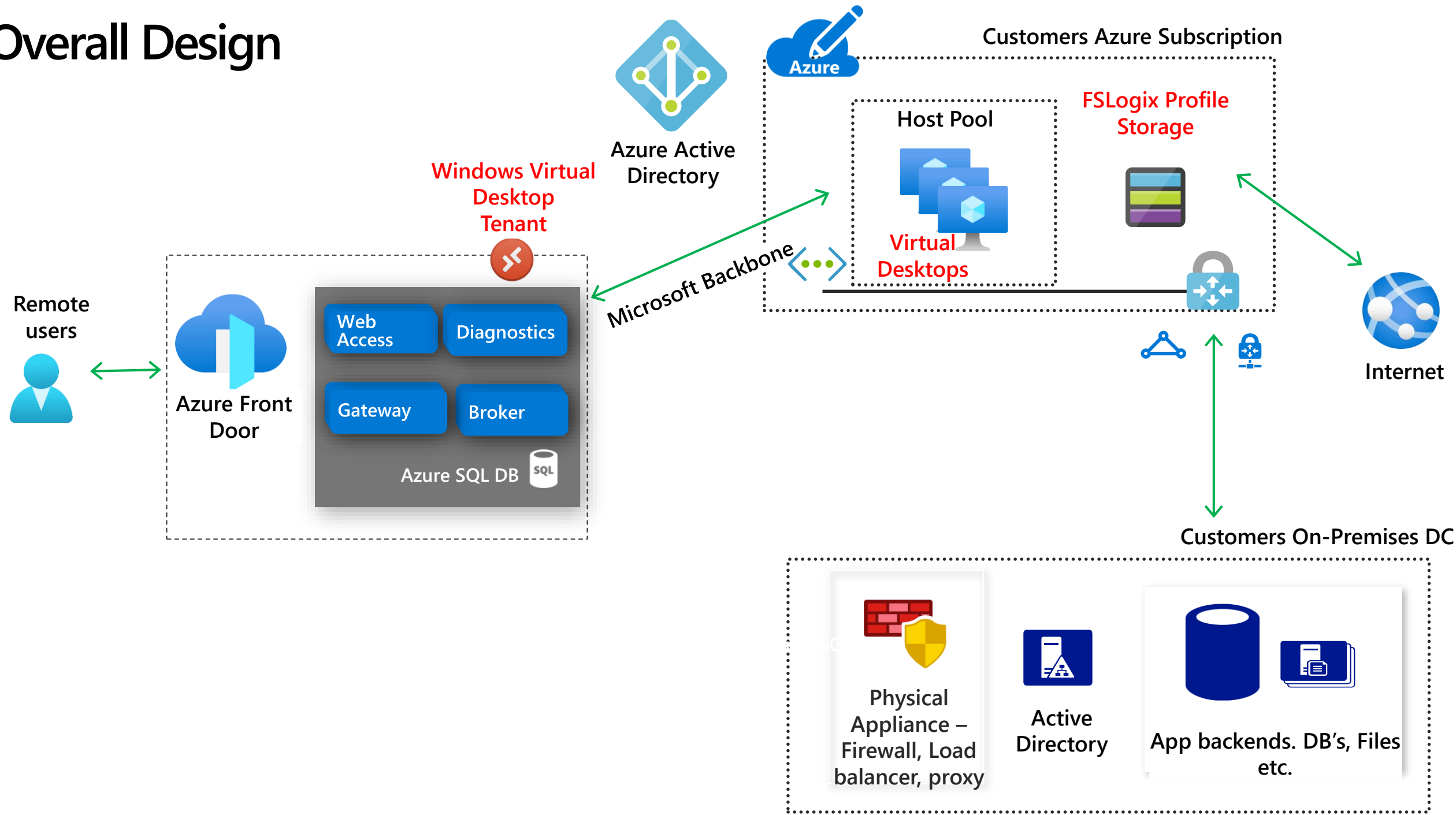
- Wrap up and Q&A



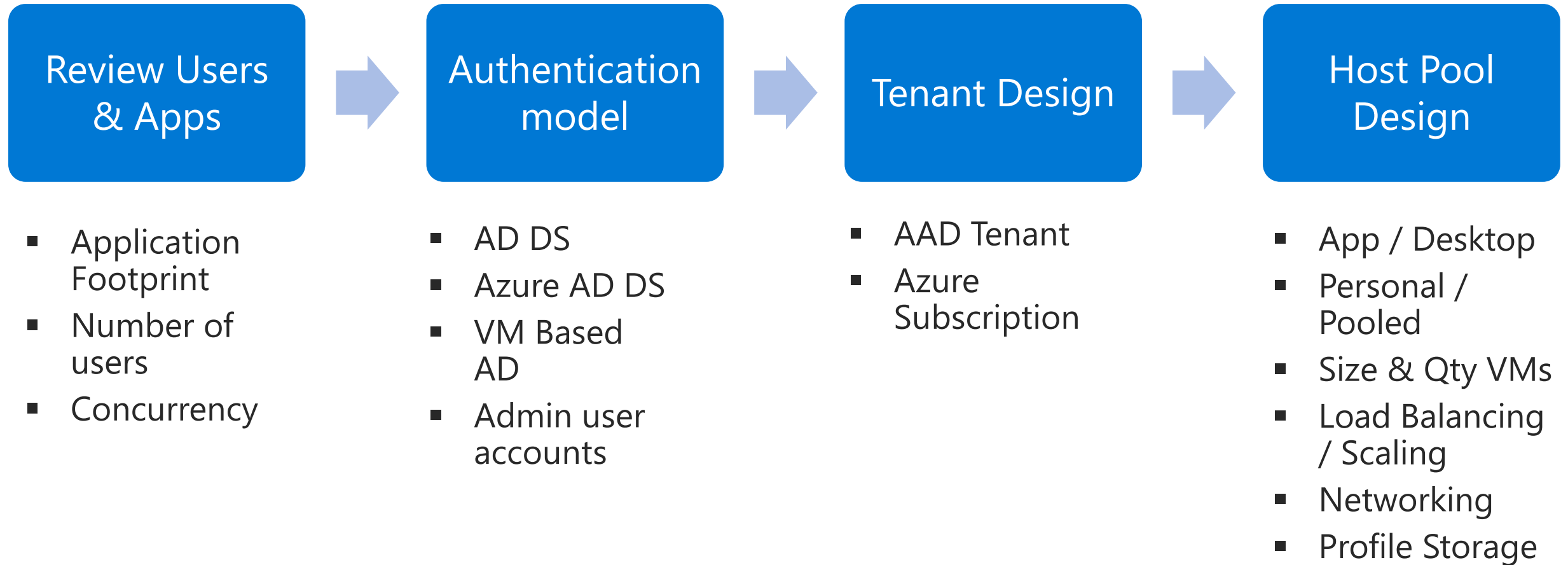
Design considerations



Overall Design



High Level Process



Review Users & Apps

- Application Footprint
- Application Resource utilisation
- Number of users
- Concurrency
- User work patterns
- Access Requirements



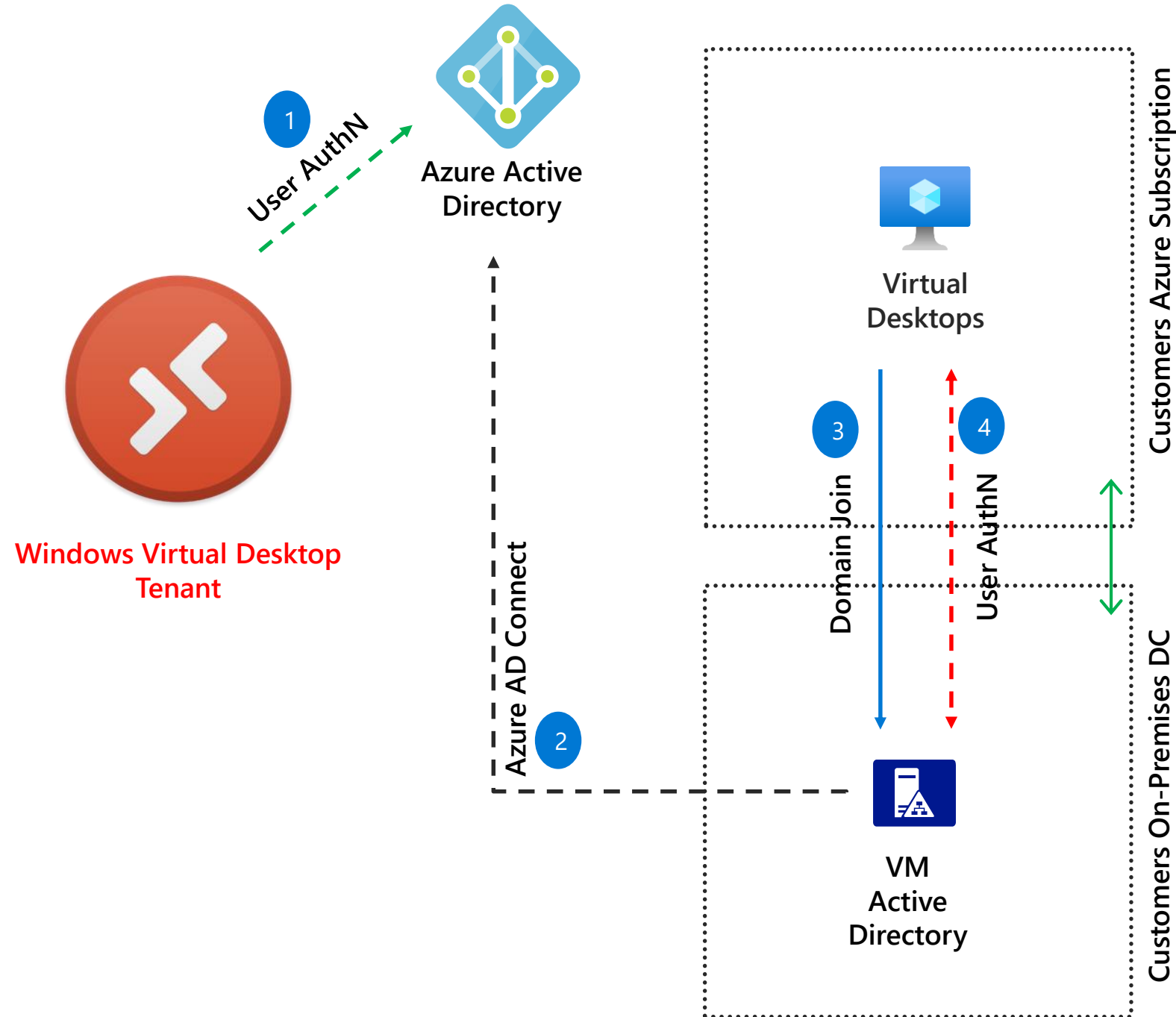
<https://www.lakesidesoftware.com/assessments/wvd>



<https://www.liquidware.com/solutions/solutions-platform/microsoft>

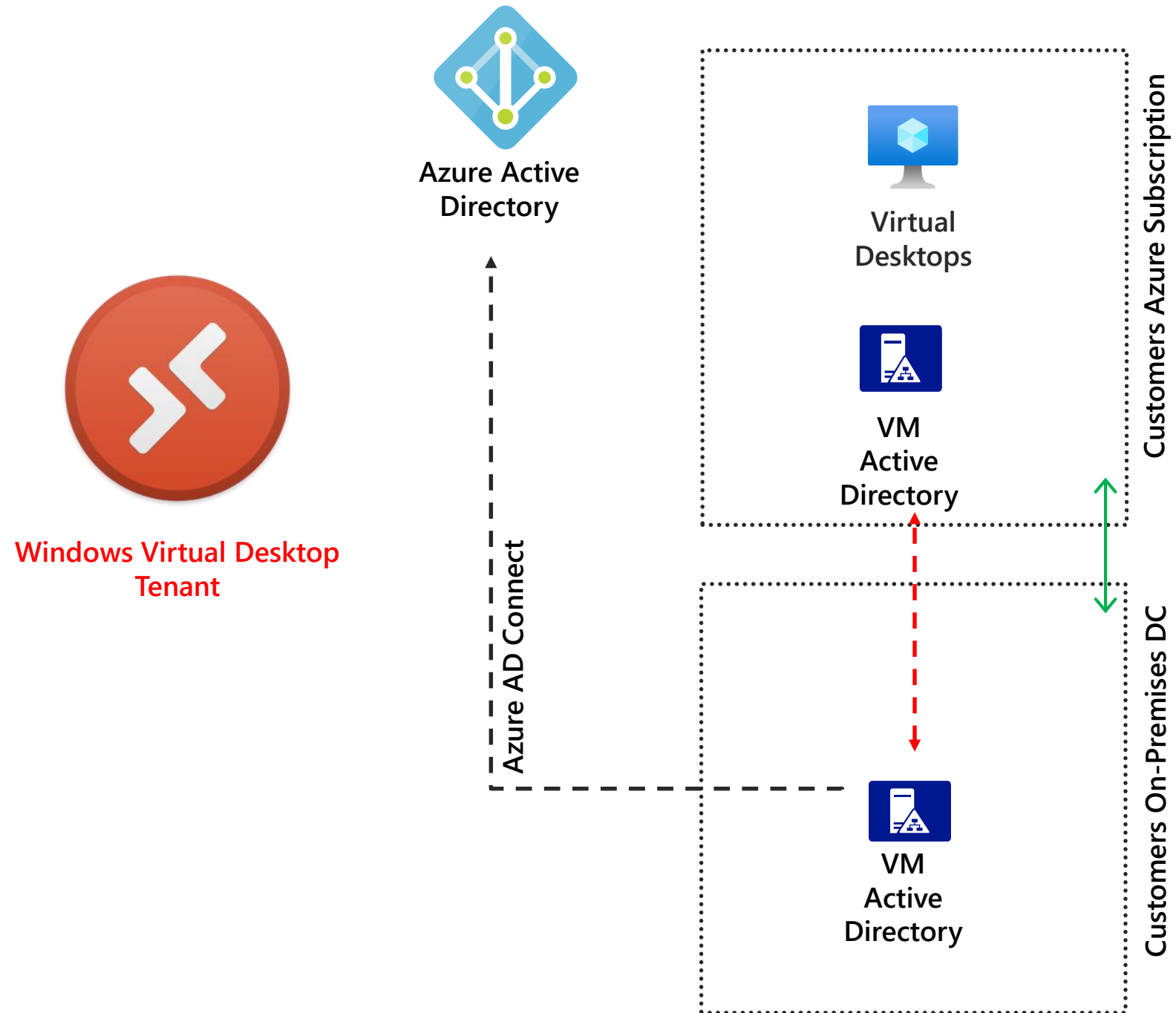
Authentication Model

- WVD Session Host VM's are domain joined
- Two Active Directory Options
 - Active Directory (AD DS)
 - Azure Active Directory Domain Services (AAD DS)



Authentication Model

- WVD Session Host VM's are domain Joined
- Two Active Directory Options
 - **Active Directory**

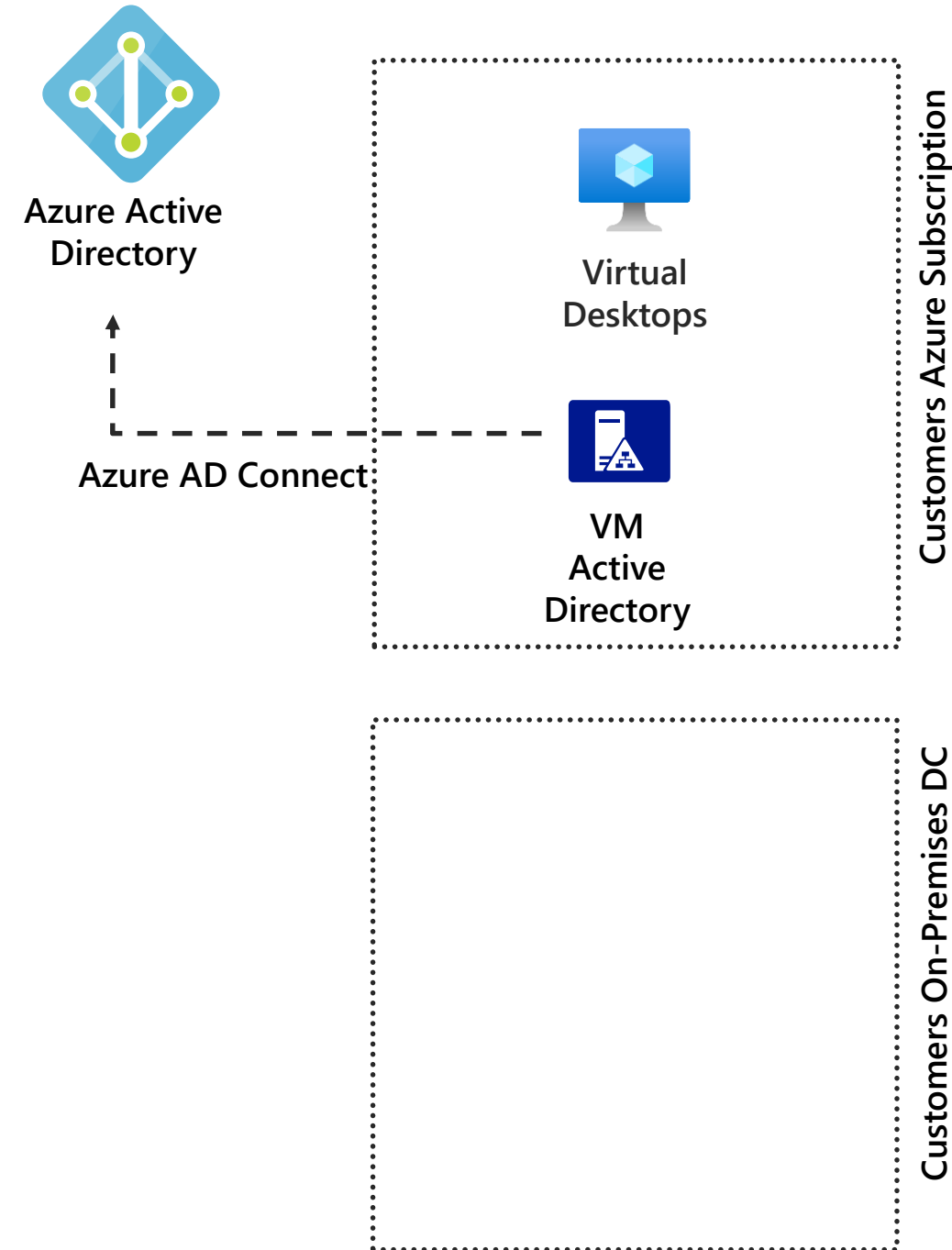


Authentication Model

- WVD Session Host VM's are domain Joined
- Two Active Directory Options
 - **Active Directory**



Windows Virtual Desktop
Tenant

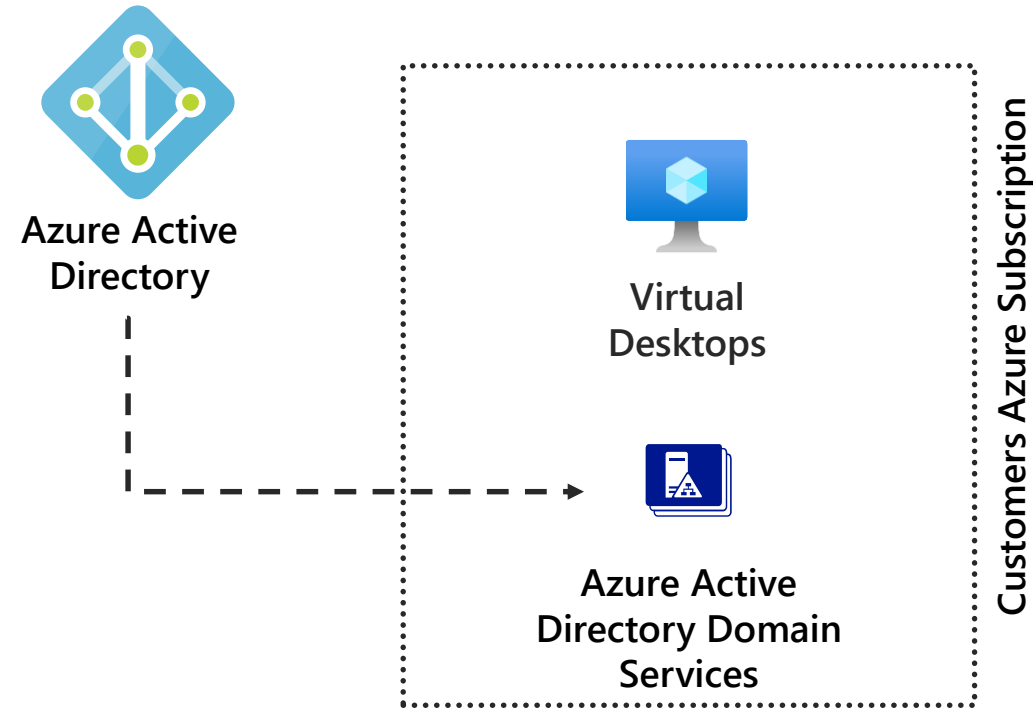


Authentication Model

- WVD Session Host VM's are domain Joined
- Two Active Directory Options
 - **Azure Active Directory Domain Services (AAD DS)**



Windows Virtual Desktop
Tenant

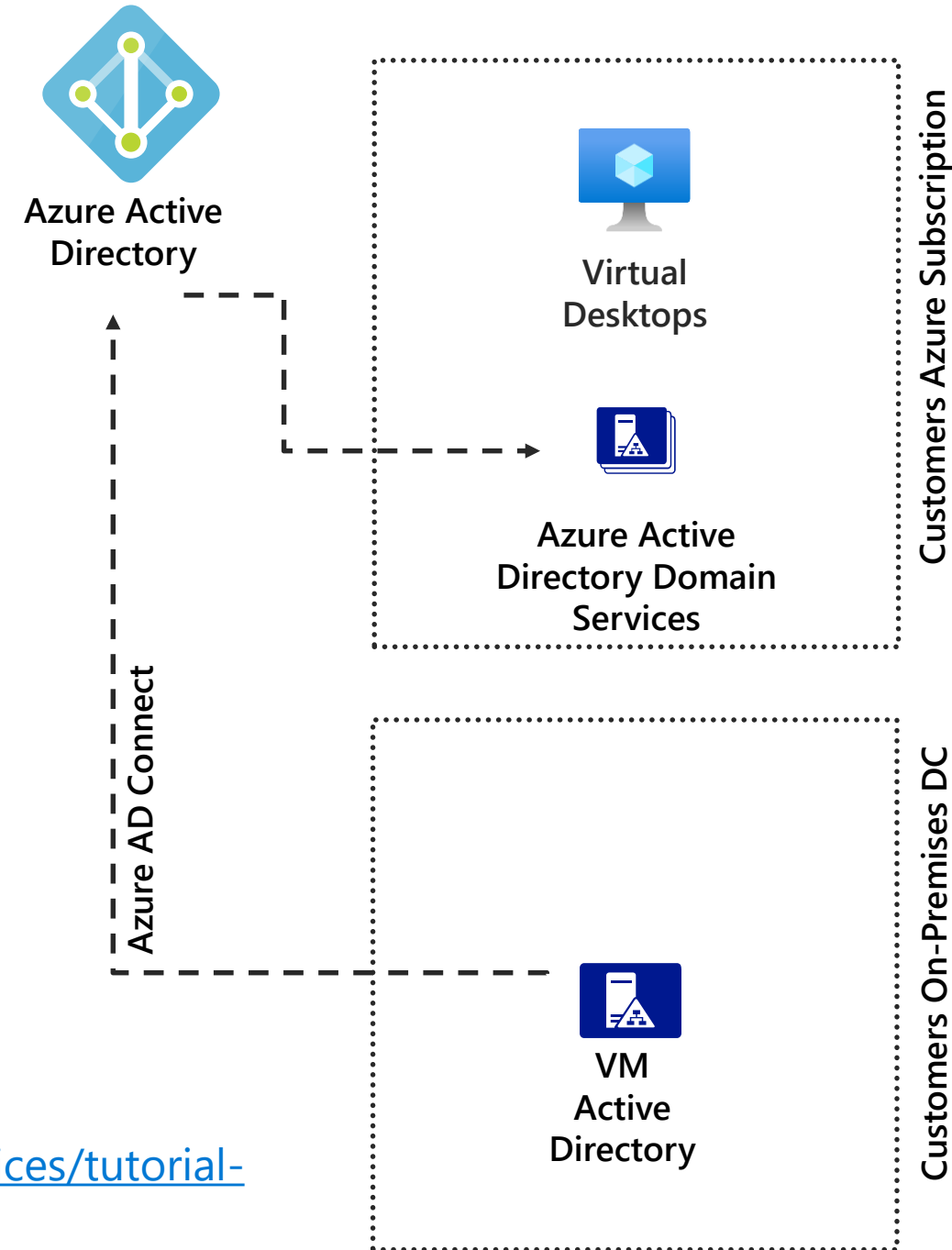


Authentication Model

- WVD Session Host VM's are domain Joined
- Two Active Directory Options
 - **Active Directory Domain Services**



Windows Virtual Desktop
Tenant



<https://docs.microsoft.com/en-us/azure/active-directory-domain-services/tutorial-configure-password-hash-sync>

Authentication Model

- Single Sign On
 - AAD Federation, ADFS or third party federation service

Windows Virtual Desktop
Tenant



Azure AD Connect



Customers Azure Subscription



VM
Active
Directory

Customers On-Premises DC

<https://docs.microsoft.com/en-us/azure/active-directory-domain-services/tutorial-configure-password-hash-sync>

Required Accounts

 **Azure AD Global Admin** – Required to consent that the WVD service can use your AAD

 **WVD Admin** – Required for all WCD Specific tasks such as creating host pools etc






 **Subscription Admin** – Owner / Contributor on subscription required to create all Azure infrastructure such as VM's

 **AD Admin** – Required to complete domain join of VM's created above.

Required Accounts


 WVD Admin


RD Client





FIREWALL


Windows Virtual Desktop

Web Access 

Diagnostics 

Gateway 



Broker 

Azure SQL DB 

FIREWALL


 Subscription Admin


Azure Subscription


 Azure AD Global Admin


Azure AD


VMs

Desktops  ^A












Apps  ^A

Active Directory 

User Profile File Server 

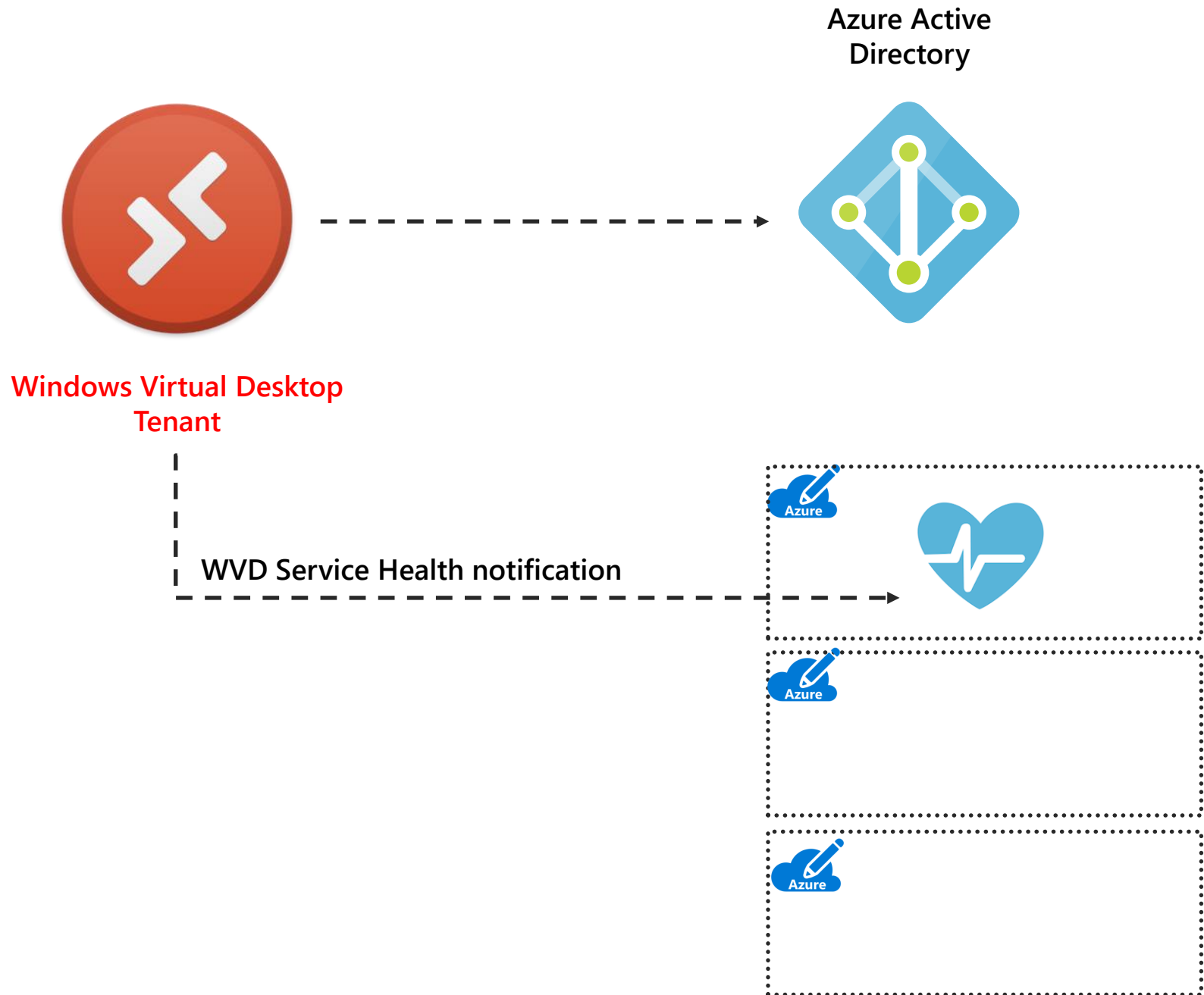
 AD Admin

Ships with built-in RDS roles

	Create (New-Rds*)	Read (Get-Rds*)	Update (Set-Rds*)	Delete (Remove-Rds*)	Authorize (* - RdsRoleAssignment)
RDS Owner					
RDS Contributor					
RDS Reader					
RDS Operator		 (Diagnostic activity)			

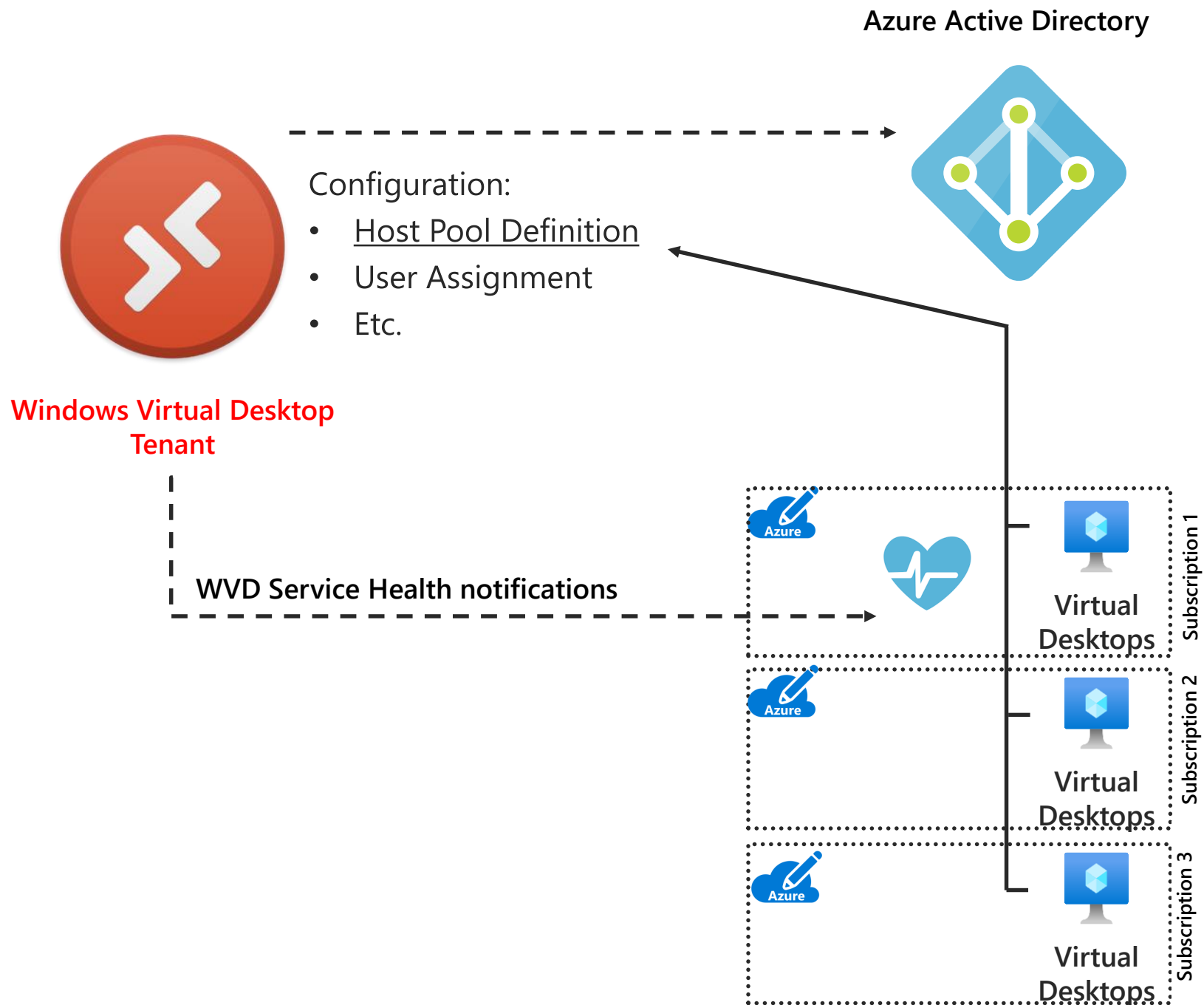
Tenant Design

- Azure Active Directory
- Azure Subscription(s)



Tenant Design

- Azure Active Directory
- Azure Subscription(s)



Host Pool Design

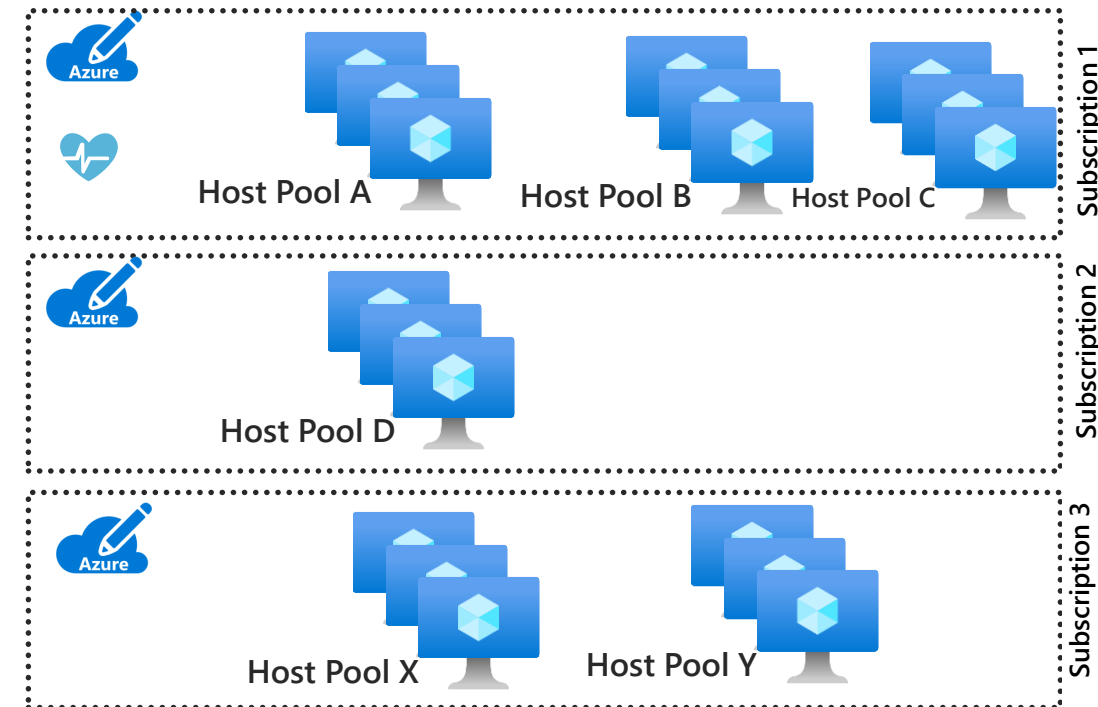
- App / Desktop
- Personal / Pooled
- Size & Qty VMs
- Load Balancing
- Networking
- Profile Storage



Windows Virtual Desktop
Tenant

Configuration:

- Host Pool Definition:
 - Host pool A, B, C, D...X, Y



Host Pool Design

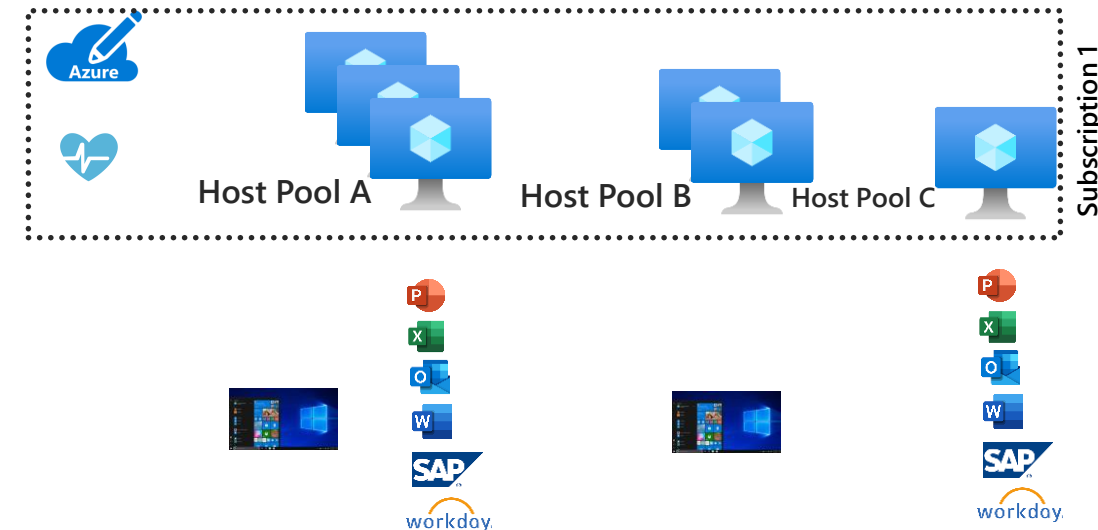


Windows Virtual Desktop
Tenant

Configuration:

- Host Pool Definition:

- **App / Desktop**
- A Host Pool can present both a:
 - Published Desktop
 - RemoteApp group.
- A RemoteApp Group can have one or more applications
- NOTE: a user can only be presented either a Published Desktop OR a RemoteApp Group from the same Host Pool



Host Pool Design

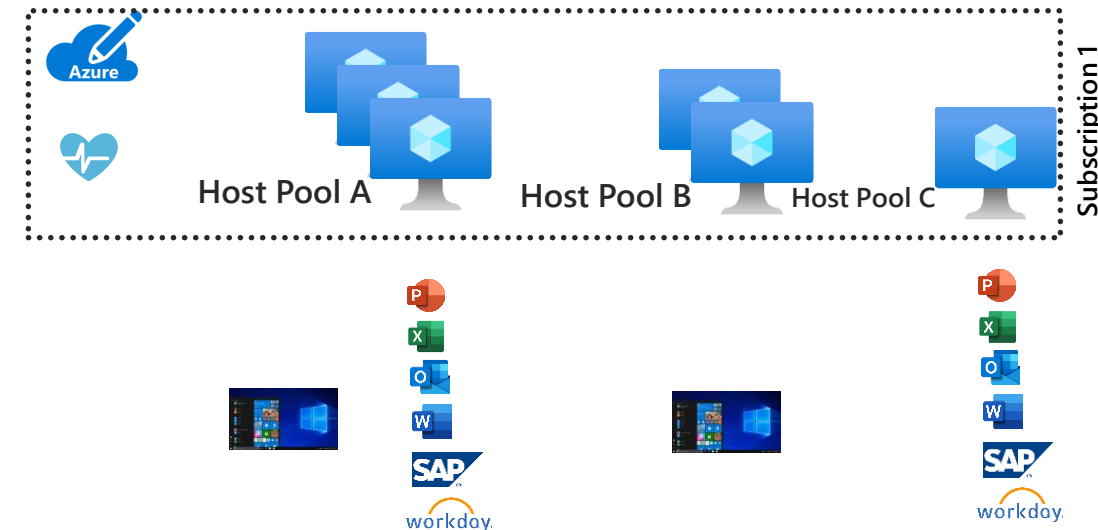


Windows Virtual Desktop
Tenant

Configuration:

- Host Pool Definition:

- **Pooled / Personal Desktop**
- A Published Desktop can be either:
 - **Pooled** – users are directed to the best VM in the pool in multi session OS host pool (RDSH/SBC)
 - **Personal** – Users will be assigned at connection to their own VM (VDI)
 - Personal also supports “**Direct Assignment**” to pre assign a user to a specific VM



Host Pool Design

- **Size & Quantity of VM's**
- Default Recommendation is D4s_V3 – 4vCpus, 16GB – for multi session
- D2s_V3 – 2vCpus, 8GB - for single session

Task Worker (Light)	Knowledge Worker (Medium)	Professional Worker (Heavy)	Power Worker
Data Entry, Call Centre	Word, Excel, database apps, internet browser	PowerPoint, Acrobat, Internet based video	3D CAD
6 users per vCPU 250 MB Memory per user	4 users per vCPU 450 MB Memory per user	2 users per vCPU 650 MB Memory per user	1 user per vCPU 1.5 GB Memory per user GPU requirement
20 GB user storage per user for profiles			

Host Pool Design

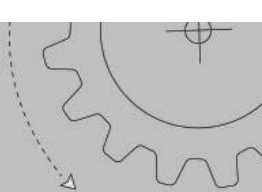
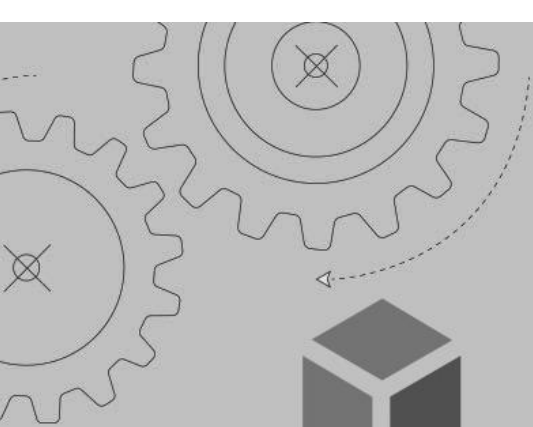
- **Size & Quantity of VM's**
- WVD does not introduce any specific limitations.
- However there are some Azure Service Limits that will affect WVD Host Pools - you need to be aware of:

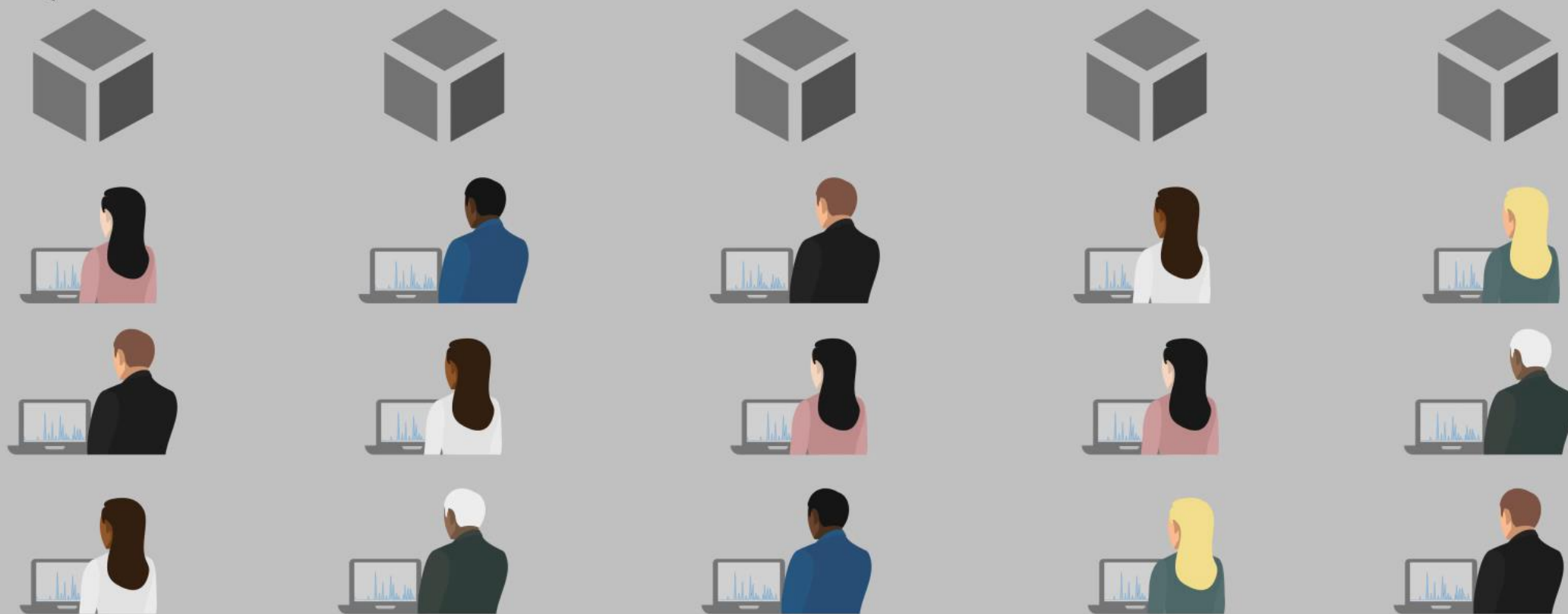
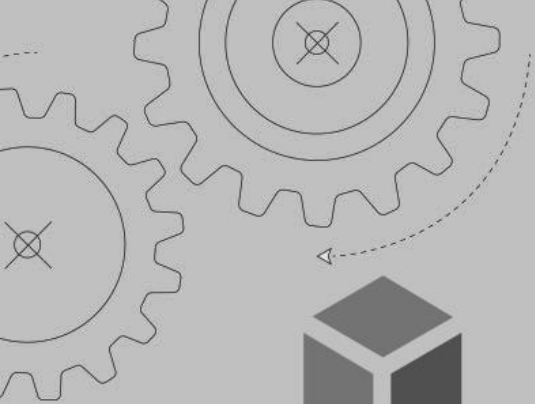
<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/azure-subscription-service-limits>

- Consider more smaller vs fewer large VM's. More smaller may allow more to be powered off at the end of the day.

Host Pool Design

- **Load Balancing**

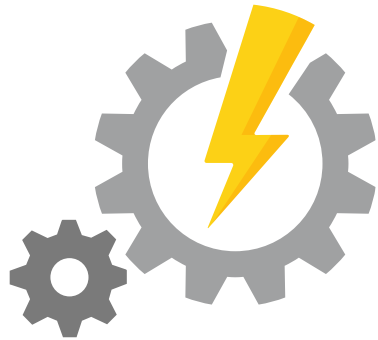




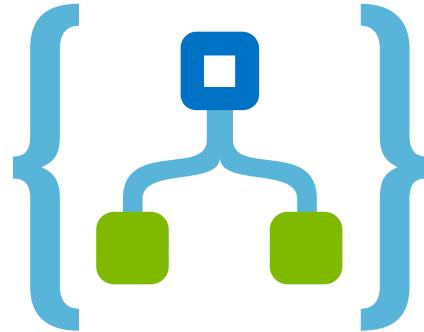
Breadth Mode

Host Pool Design

- **Scaling**



Automation
Account



Logic App

<https://docs.microsoft.com/en-us/azure/virtual-desktop/set-up-scaling-script>

Host Pool Design

- **Networking**

Requirements

Network must route to chosen Authentication Model, including DNS set on vNet

VMs must domain-join this AD

This AD must be in sync with Azure AD so users can be associated between the two

Considerations

	Connectivity Type	Special Considerations
ExpressRoute	Hybrid	Dedicated network through service provider
Site-to-Site VPN	Hybrid	Limited bandwidth compared to ExpressRoute
Azure AD Domain Services	Isolated	Must synchronize from Azure AD

WVD Bandwidth Recommendations

<https://docs.microsoft.com/en-us/azure/virtual-desktop/bandwidth-recommendations>

- Guidelines to deliver smooth experience
- As a given App's frame rate or display resolution increases, bandwidth requirement also rise
- Other scenarios can impact bandwidth requirements:
 - Voice or video conferencing
 - Real-time communication
 - Streaming 4K video

Typical display resolutions at 30 fps	Recommended bandwidth
About 1024 × 768 px	1.5 Mbps
About 1280 × 720 px	3 Mbps
About 1920 × 1080 px	5 Mbps
About 3840 × 2160 px (4K)	15 Mbps

Workload	Sample applications	Recommended bandwidth
Task worker	Microsoft Word, Outlook, Excel, Adobe Reader	1.5 Mbps
Office worker	Microsoft Word, Outlook, Excel, Adobe Reader, PowerPoint, Photo Viewer	3 Mbps
Knowledge worker	Microsoft Word, Outlook, Excel, Adobe Reader, PowerPoint, Photo Viewer, Java	5 Mbps
Power worker	Microsoft Word, Outlook, Excel, Adobe Reader, PowerPoint, Photo Viewer, Java, CAD/CAM, illustration/publishing	15 Mbps

Host Pool Design

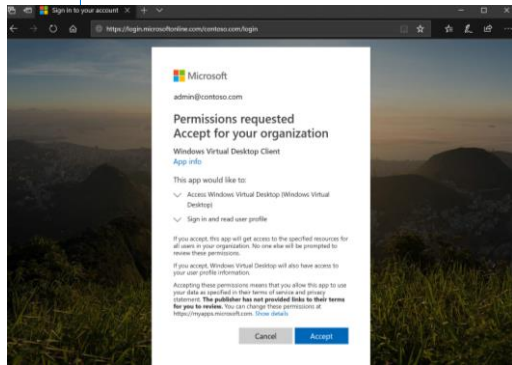
- **Profile Storage**

- FSLogix requires an SMB File share to store the User and Office VHD(x) files:
- **Azure NetApp Files**
 - Microsoft service delivering NetApp On-Tap disk technology
 - Supports native AD with NTFS ACL's
 - Highest IOPS of any Azure storage service, 4TiB minimum storage size
- **Azure Files**
 - Supports AAD DS only. AD support is currently in Public Preview
 - No minimum storage requirements
- **VM Based Storage service**
 - Storage Spaces Direct / SoftNas other vendors in the marketplace
 - Constrained by VM throughput
 - Added VM management

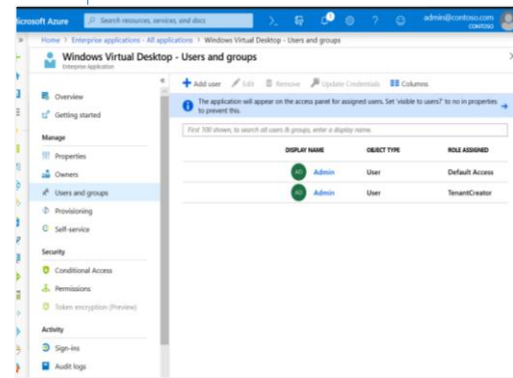
Deployment



Deploy Windows Virtual Desktop



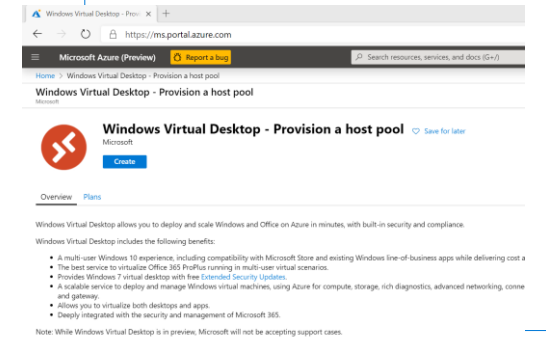
Grant Azure AD consent



Assign a Tenant Creator



Create your tenant



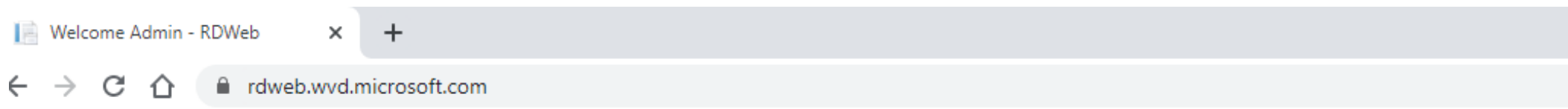
Deploy HostPool

Documentation: aka.ms/wvdpreview

Getting Started Guide: aka.ms/startwvd

Authorise App

<https://rdweb.wvd.microsoft.com/>



Windows Virtual Desktop Consent Page

Select consent option

Select "Server App" to give the consent to the back-end web app to specific tenant

Select "Client App" to give the consent to the front end client app to specific tenant

Please note that if you choose to consent to "Client App" only, then user will need to consent at every sign-in.

Also allow 30 seconds delay between consenting "Server" and "Client" apps so that the changes are propagated in Azure.

Consent Option:

AAD Tenant GUID or Name:

Authorise App

<https://rdweb.wvd.microsoft.com/>



tom@mycitrixcloud.onmicrosoft.com

Permissions requested Accept for your organization

Windows Virtual Desktop

[App info](#)

This application is not published by Microsoft or your organization.

This app would like to:

- ✓ Read directory data
- ✓ Read all users' basic profiles
- ✓ Read all users' full profiles
- ✓ Read all users' full profiles
- ✓ Read all users' full profiles
- ✓ Read all groups
- ✓ Read directory data

If you accept, this app will get access to the specified resources for all users in your organization. No one else will be prompted to review these permissions.

Accepting these permissions means that you allow this app to use your data as specified in their [terms of service](#) and [privacy statement](#). You can change these permissions at <https://myapps.microsoft.com>. [Show details](#)

Cancel

Accept

Assign Tenant Creator

Thank you - RDWeb

Thank you - RDWeb

Contoso - Overview - Microsoft

portal.azure.com/#blade/Microsoft_AAD_IAM/ActiveDirectoryMenuBlade/Overview

Microsoft Azure

Search resources, services, and docs (G+)

admin@M365x382591....

CONTOSO

Home > Contoso - Overview

Contoso - Overview

Azure Active Directory

Documentation

Search (Ctrl+)

Switch directory

Delete directory

All Azure AD security features are now in one place. You can find 'Security' at the bottom of the menu on the left. Try it out. →

Overview

Getting started

Diagnose and solve problems

Manage

Users

Groups

Organizational relationships

Roles and administrators

Enterprise applications

Devices

App registrations

Identity Governance

Application proxy

Licenses

Azure AD Connect

Custom domain names

Mobility (MDM and MAM)

Password reset

Company branding

User settings


Properties

M365x382591.onmicrosoft.com

Contoso

Azure AD Premium P2

Sign-ins



What's new in Azure AD

Stay up to date with the latest release notes and blog posts.

36 entries since July 20, 2019. View archive

☒ All services (36)

☐ Collaboration (4)

☐ User Authentication (7)

☐ Access Control (2)

☐ Directory (3)

☐ Identity Security & Protection (4)

New feature

Group Management - Collaboration

September 20, 2019

Bulk manage groups and members using CSV files in the Azure AD portal (Public Preview)

New feature

Your role

Global administrator

More info

Find

Users

Search

Azure AD Connect sync

Status Enabled

Last sync Less than 1 hour ago

Create

User

Guest user

Group

Enterprise application

App registration


Other capabilities

Identity Protection

Privileged Identity Management

Tenant restrictions

Assign Tenant Creator

 Enterprise applications | All applications
Citrix Cloud - Azure Active Directory

Overview

Overview

Diagnose and solve problems

Manage

All applications

Application proxy

User settings

Collections

Security

Conditional Access

Activity

<<

+ New application

Columns

Try out the new Enterprise Apps search preview! Click to enable the p





Application Type

Enterprise Applications

Applications status

Any

wind

Name	Homepage
 Windows Virtual Desktop	https://mi
 Windows Virtual Desktop Client	
 Windows Virtual Desktop Client selfhost	
 Windows Virtual Desktop selfhost	https://mi

Assign Tenant Creator

Windows Virtual Desktop | Overview

Enterprise Application

Overview

Diagnose and solve problems

Manage

Properties

Owners

Users and groups

Provisioning

Self-service

Security

Conditional Access

Permissions

Token encryption

Activity

Sign-ins

Properties



Name ⓘ

Windows Virtual Desktop

Application ID ⓘ

5a0aa725-4958-4b0c-80a9-...

Object ID ⓘ

38754863-188c-4d54-b279-...

Getting Started



1. Assign users and groups

Provide specific users and groups access to the applications

[Assign users and groups](#)



Windows Virtual Desktop | Users and groups

Enterprise Application



Overview



Diagnose and solve problems



Manage



Properties



Owners



Users and groups



Provisioning



Self-service



Security



Conditional Access

+ Add user



Edit



Remove






Update Credentials



The application will appear on the Access Panel for assigned users. Set 'vis

First 100 shown, to search all users & groups, enter a display name.

	Display Name	Object Type	Role assigned
<input type="checkbox"/>	 CH Chris	User	TenantCreator
<input type="checkbox"/>	 TO Tom	User	Default Access
<input type="checkbox"/>	 WV wvd	User	Default Access

Assign Tenant Creator

Add Assignment

Citrix Cloud

Users and groups

None Selected

>

Select Role

TenantCreator

>

Users and groups

gord

GO

Gordon

Gordon@mycitrixcloud.onmicrosoft.com

Selected

Selected items

GO

Gordon

Gordon@mycitrixcloud.onmicrosoft.com

Remove

Create WVD Tenant

```
Install-Module -Name Microsoft.RDInfra.RDPowerShell  
Import-Module -Name Microsoft.RDInfra.RDPowerShell
```

```
Add-RdsAccount -DeploymentUrl https://rdbroker.wvd.microsoft.com
```

```
New-RdsTenant -Name YourTenantName -AadTenantId YourAADTenantID -  
AzureSubscriptionId YourSubscriptionID
```

Note: Subscription is just for WVD Service Health Notifications

```
New-RdsRoleAssignment -RoleDefinitionName "RDS Owner" -SignInName Username -  
TenantName YourTenantName
```

Note: Service Principal

<https://docs.microsoft.com/en-us/azure/virtual-desktop/create-service-principal-role-powershell#create-a-service-principal-in-azure-active-directory>

Deploy a Host Pool & Session Host through Azure Portal

Create Windows Virtual Desktop

Basics Configure virtual machines Virtual machine settings Windows Virtual Desktop information Review + create

Mark

Image source ⓘ Blob storage Managed image **Gallery**

My Saved [Testing] Create

Recently

Service P Project d

Select the manage a

Category Subscript

Get Start

AI + Mac

Analytics Instance

Blockchain Region *

Compute Hostpool

Container Desktop i

Database Default desktop u

Windows Virtual E metadata to be st

Service metadata

Basics

Image OS

Disk Type

Usage AD domain

Total Admin Pa

Virtual Confirm p

Specify de

Virtual

Configure

Virtual ne

vmSubnet

Create Windows Virtual Desktop - Provision a host pool

Basics Configure virtual machines Virtual machine settings **Windows Virtual Desktop information** Review

Windows Virtual Desktop tenant group name * ⓘ Default Tenant Group ✓

Windows Virtual Desktop tenant name * ⓘ YourTenant ✓

Windows Virtual Desktop tenant RDS Owner ⓘ

UPN * ⓘ wvdadmin@microsoft.com ✓

Password * ⓘ

Confirm password * ⓘ ✓

You cannot enter a user account that requires MFA. If you intend to use MFA, consider creating a service principal for this purpose. ⓘ

you must select an existing virtual network that has access to the Active Directory. If you do not see it listed, you must re-start the deployment with the correct Azure location selected. ⓘ

Deploy a Host Pool & Session Hosts with ARM Templates

Deploy: <https://github.com/Azure/RDS-Templates/tree/master/wvd-templates/Create%20and%20provision%20WVD%20host%20pool>

Update: <https://github.com/Azure/RDS-Templates/tree/master/wvd-templates/Update%20existing%20WVD%20host%20pool>

Custom deployment

Deploy from a custom template

TEMPLATE



Customized template
8 resources



Edit template



Edit paramet...



Learn more

BASICS

Subscription *

Tom's Microsoft Subscription - MyCitrixCloud AAD



Resource group *

Create new



Location *

(Europe) North Europe



SETTINGS

_artifacts Location ⓘ

<https://raw.githubusercontent.com/Azure/RDS-Templates/master/wvd-templates/CustomizedTemplate/arm-template.json>

_artifacts Location Sas Token ⓘ

Rdsh Image Source ⓘ

Gallery



Vm Image Vhd Uri ⓘ

Rdsh Gallery Image SKU ⓘ

Windows-10-Enterprise-multi-session-with-Office-365-ProPlus



Rdsh Custom Image Source Name ⓘ

Deploy a Host Pool & Session Hosts with Terraform



<https://youtu.be/YmbmpGdhl6w>

Deploy a Host Pool & Session Hosts with AzureDevOps

Windows 10 1909 Build

Tasks Variables Triggers Options Retention History

Pipeline
Build pipeline

Get sources
Windows Virtual Desktop CI-CD master

Packer Build
Run on agent

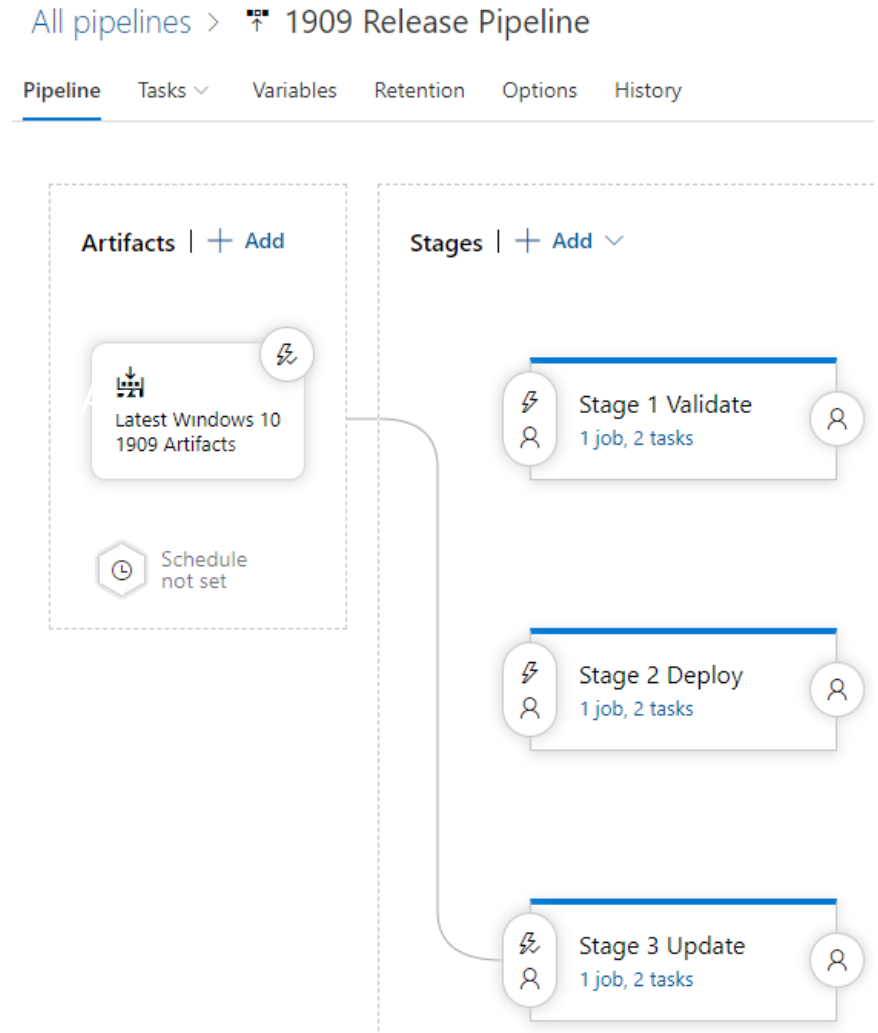
Use Packer 1.3.4
Packer Tool Installer

Build immutable image
Build machine image

Copy Files to: \$(build.artifactstagingdirectory)
Copy files

Save Build Variables BuildImage
Variable Save Task

Publish Artifact: Build Image and WVD Template
Publish build artifacts



WVD Deployment Troubleshooting Options

[WindowsVirtualDesktop Documentation – Troubleshooting](#)

[WindowsVirtualDesktop Diagnostic Service](#)

[WindowsVirtualDesktop TechCommunity](#)

Create a SupportTicket

Deployment Logfiles:

Azure Activity Logs

on VM: C:\WindowsAzure\Logs\Plugins\Microsoft.PowerShell.DSC\

Identify and diagnose issues

Tenant and host pool creation

Session host virtual machine configuration

Troubleshoot Windows 7 virtual machines in
Windows Virtual Desktop

Troubleshoot the Windows Virtual Desktop
management tool

Remote Desktop service connections

Remote Desktop client issues

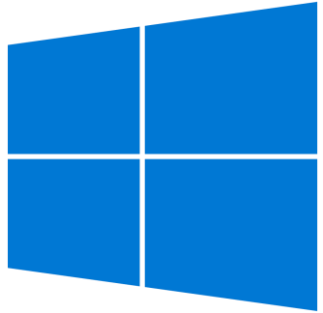
Windows Virtual Desktop PowerShell

Diagnosing graphics performance issues

User access



User Access - Clients



Windows 10, 7



HTML5

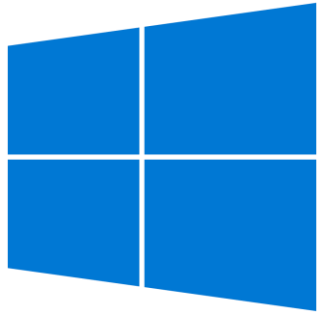


Android



macOS
iOS

Support for thin clients



Windows 10 IoT Enterprise



Linux SDK
Ubuntu 18.04

Client features

	Windows	Web	Android	macOS	iOS
Desktop Experience	✓	✓	✓	✓	✓
RemoteApp Experience	Integrated	Immersive	Immersive	Integrated	Immersive
Multi-factor Authentication	✓	✓	✓	✓	✓
Conditional Access	✓	✓	✓	✓	✓
Localized	17 languages	17 languages	English (US)	17 languages	17 languages
3rd Party Plugin support	✓				
Dynamic Resolution	✓	✓		✓	
Multimonitor	✓			✓	
Subset of Monitors	✓				
Microsoft Teams support	Coming soon				





WVD User Access Troubleshooting Options

[WVD Webaccess](#)

[WindowsVirtualDesktop Diagnostic Service](#)

[WindowsVirtualDesktop TechCommunity](#)

Create a SupportTicket



Info

Microsoft-Remotedesktop
Version 1.0.21.1
© 2019 Microsoft Corporation
Alle Rechte vorbehalten

Support-ID
b6c61494-8dc1-44ef-ba64-bf2c78d5e0d3

Supportinformationen sammeln

Aufzeichnung starten

Profile & Image management



Traditional options

You can continue to use your existing solution

Whilst FSLogix is the default for WVD, it is possible to use any profile solution and some customers prefer to use existing solutions.

Roaming profiles

Local profiles

Citrix UPM

VMware DEM

Appsense/Ivanti

Liquidware Labs

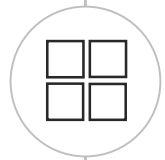
With the acquisition of FSLogix, eligible customers get access to three core pieces of technology



Profile Container

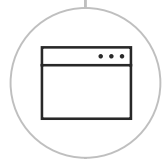
Replacement for roaming profiles and folder redirection. Dramatically speeds up logon and application launch times.

- Includes Office 365 Container, which roams Office cache data (Outlook OST, OneDrive cache, Skype for Business GAL, etc.) and Windows Search DB with user in virtual desktop environments.



App Masking

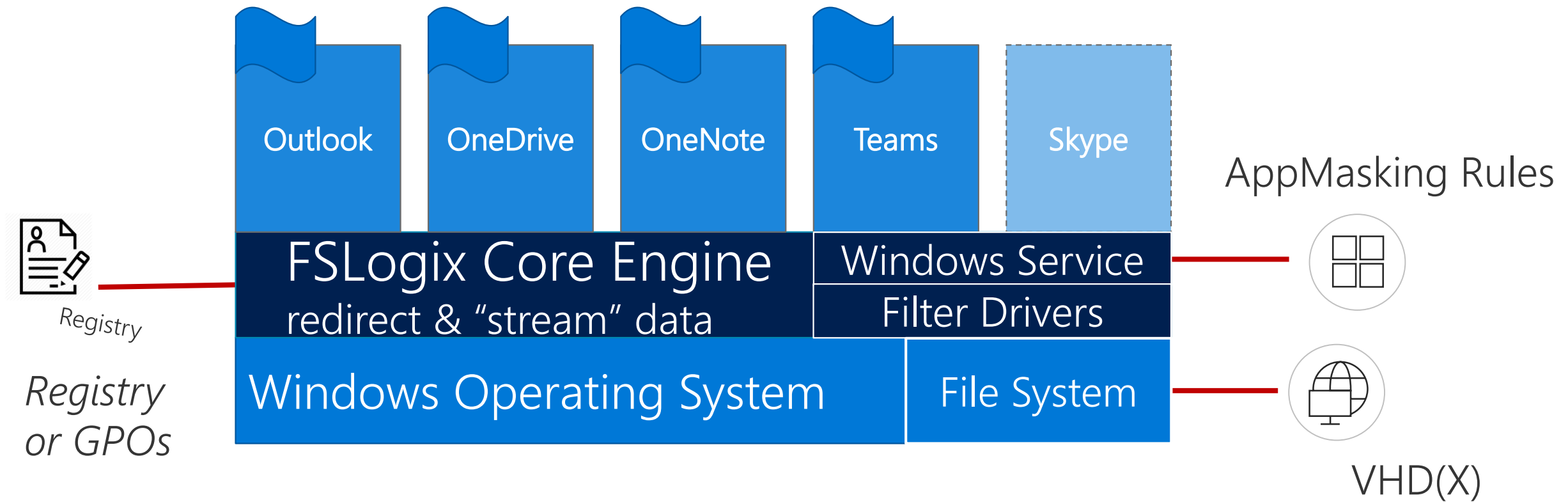
Minimize number of gold images by creating a single image with all applications. Excellent app compatibility with no packaging, sequencing, backend infrastructure, or virtualization.



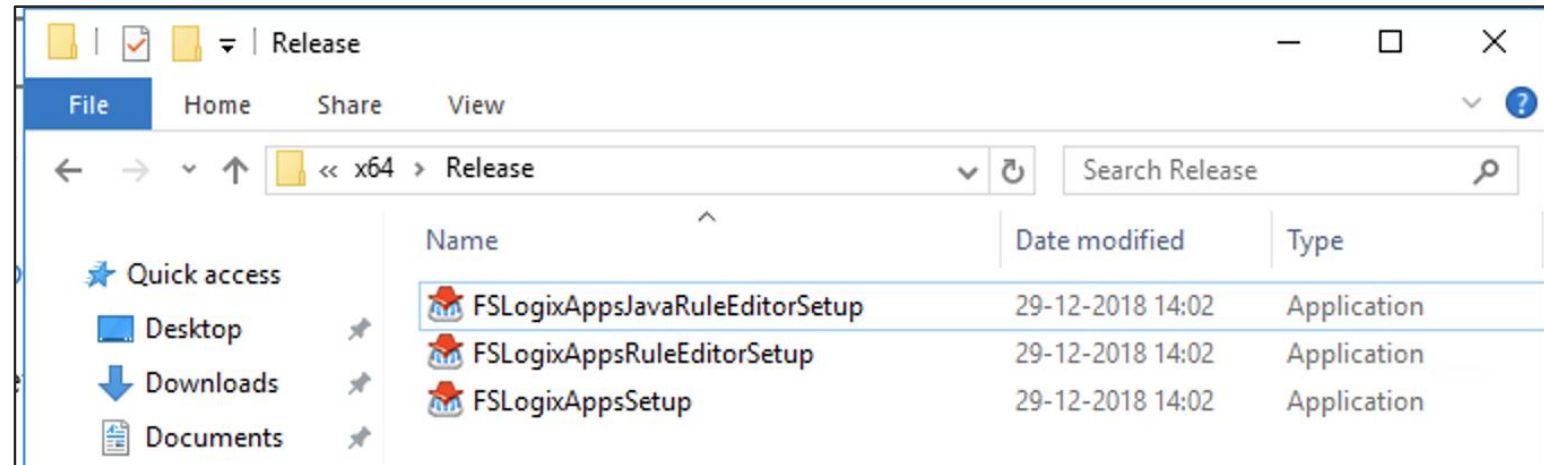
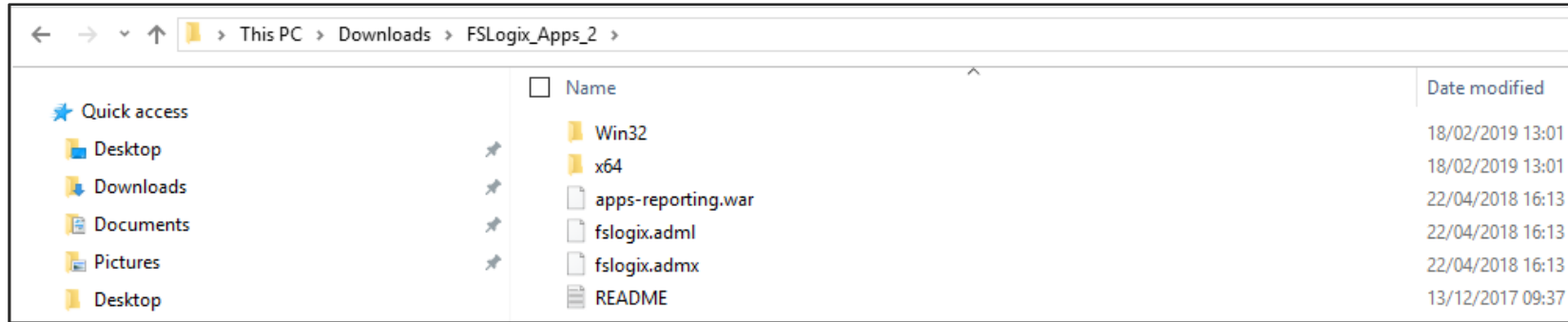
Java Redirection

Helps protect the enterprise from vulnerabilities of multiple installed versions of Java by mapping specific versions to individual apps or websites.

FSLogix Filter-Driver architecture

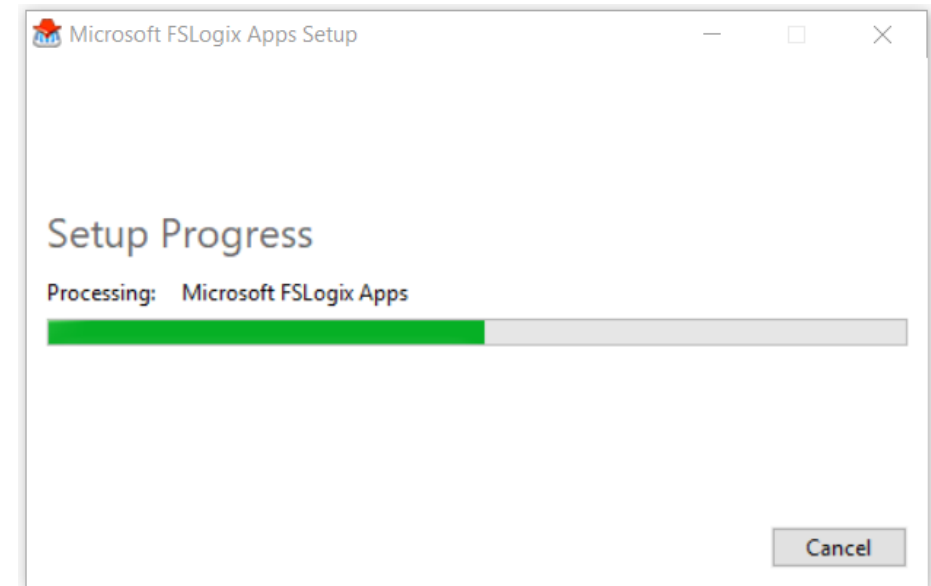
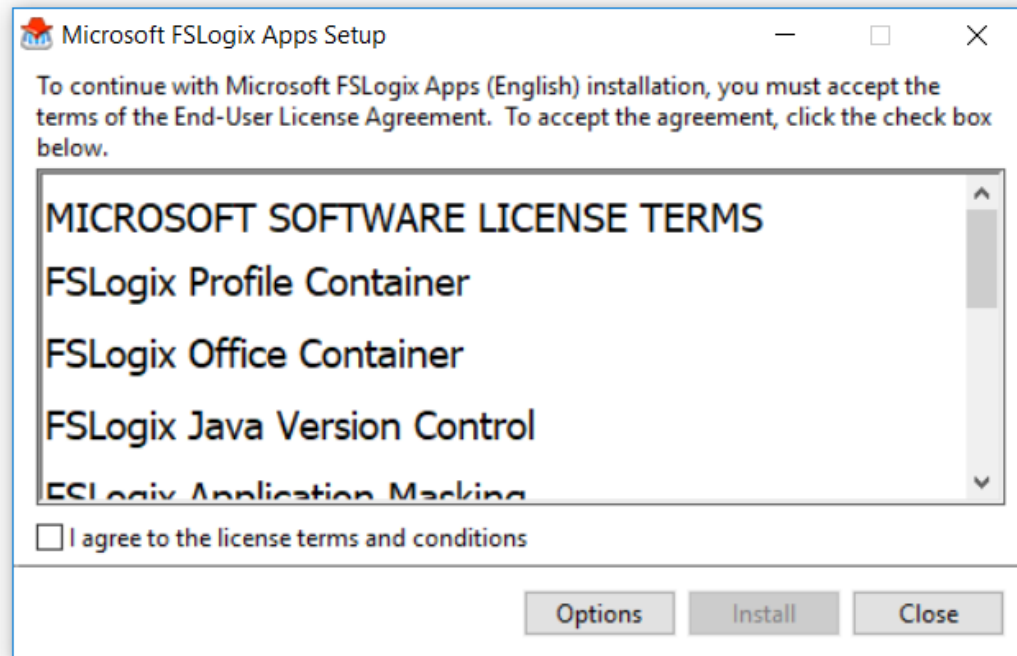


FSLogix software



https://aka.ms/fslogix_download

FSLogix software



Benefits



Container



Profile Container



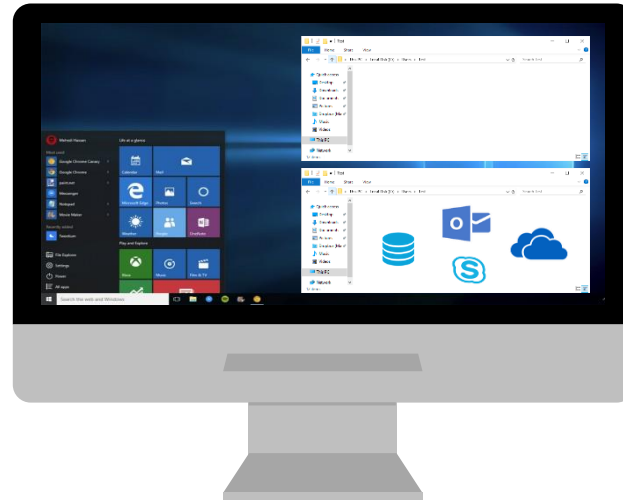
Office 365 Container



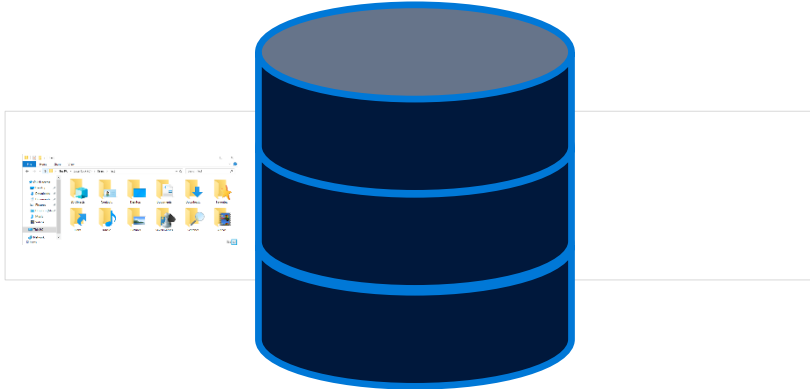
App Masking



Java Redirection



SMB Storage



Places entire user profile in network-based container.

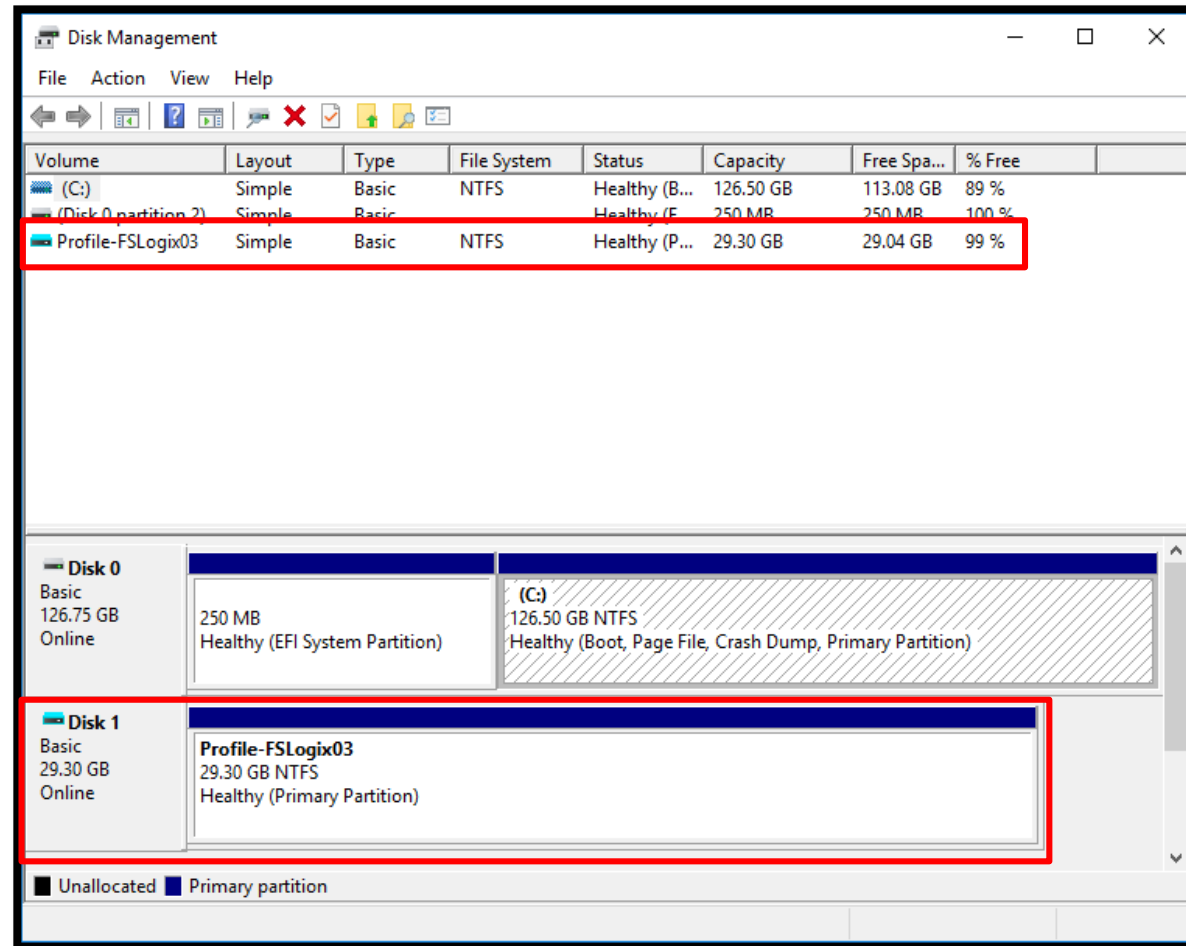
Extremely fast logon times.

Virtually eliminates profile corruption.

Works alongside existing User Environment Management platforms.

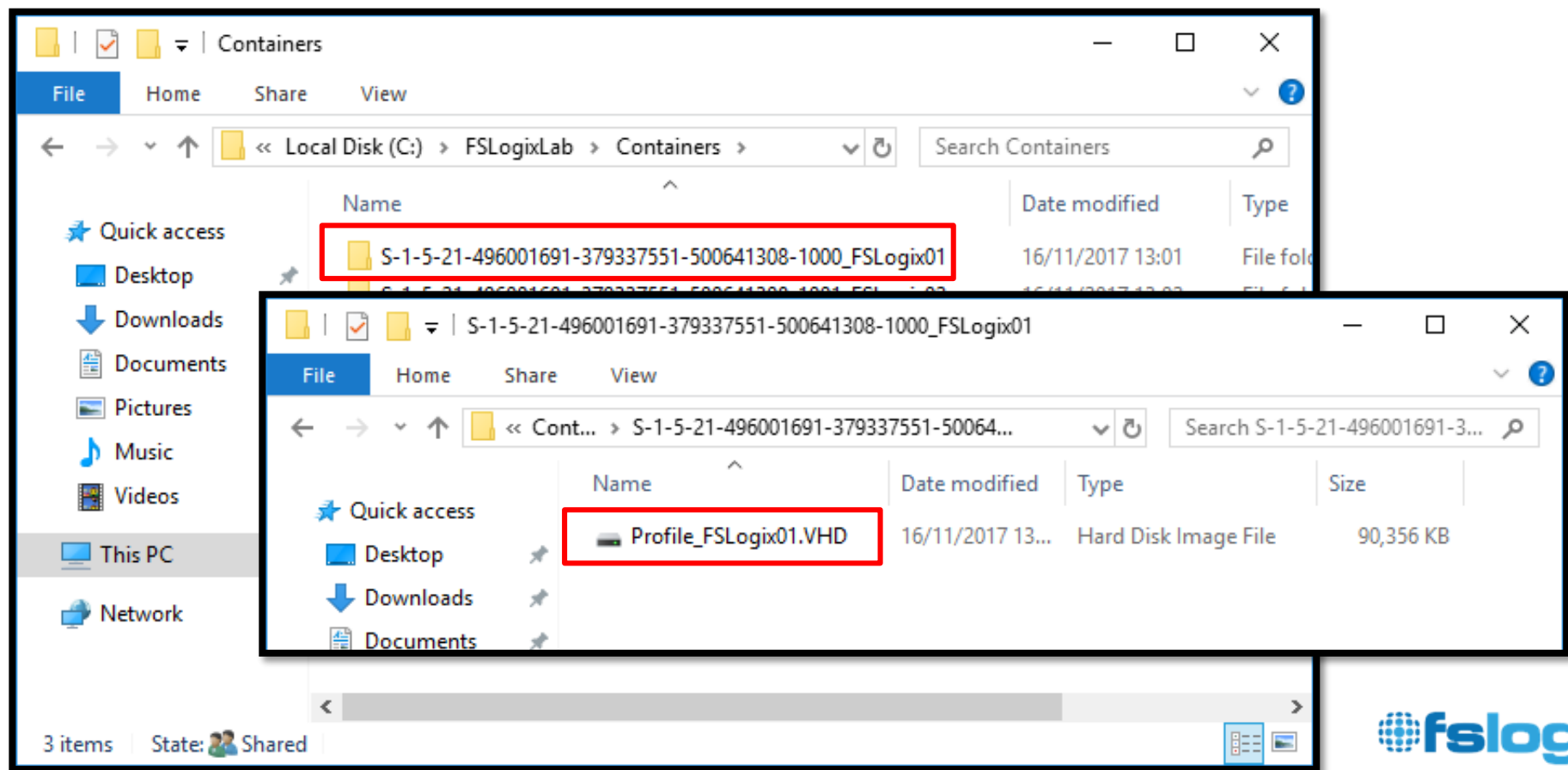
Containers

Disk Management



Containers

File Store



Concurrent Session

Concurrent User Profile Access – Multiple Devices

- Supports this by using Differencing Disks (Unlike Microsoft UPD)
- HKLM\SOFTWARE\FSLogix\Profiles
- You cannot use a RW profile on more than one machine at the same time under ANY circumstances.

Value Name	Type	Value
ProfileType	DWORD	0=Normal (Default) 1= RW 2=RO 3=RW Fallback to RO

<https://docs.microsoft.com/en-us/fslogix/configure-concurrent-multiple-connections-ht>

Profile Containers

Profile Exclusions

- Create redirections.xml using Profile Configuration Tool or using an XML editor
- Windows Temp and IE Temp is default excluded
 - C:\Users\Local_USERNAME – name for the local (exclusions) profile
- Use RedirXMLSourceFolder registry setting.

```
<?xml version="1.0"?>
<FrxFolderRedirection ExcludeCommonFolders="108">
  <Includes />
  <Excludes>
    <Exclude>AppData\Local\Google\Chrome\User Data\Default\Cache</Exclude>
    <Exclude>AppData\Local\Google\Chrome\User Data\Default\Cached Theme Images</Exclude>
    <Exclude>AppData\Local\Google\Chrome\User Data\Default\JumpListIcons</Exclude>
    <Exclude>AppData\Local\Google\Chrome\User Data\Default\JumpListIconsOld</Exclude>
  </Excludes>
</FrxFolderRedirection>
```

<https://docs.microsoft.com/en-us/fslogix/>

Benefits



Container



Profile Container



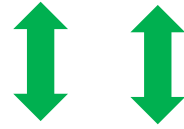
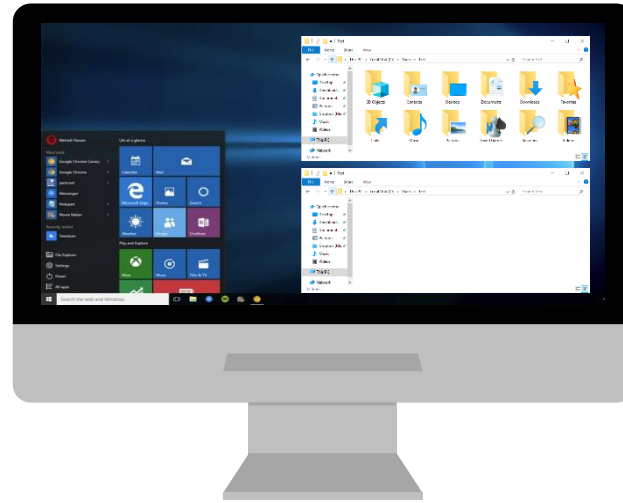
Office 365 Container



App Masking



Java Redirection



SMB Storage



Places Office 365 cache data in network-based container.

Enables roaming of Outlook OST, OneDrive cache, Windows Search, and more...

Office apps have native performance and behavior.

Works alongside other profile management platforms.

Profile vs. Office Container

Profile Container

Places entire user profile in network-based container.

Extremely fast logon times.

Everything is block-based (*eliminates Roaming Profiles, which is file-based*)

Prepares your profile for WVD

Virtually eliminates profile corruption and folder redirection.

Works **independent** alongside existing User Environment Management platforms.

Recommended by Microsoft

Office Container

Places Office 365 cache data in network-based container.

Office apps have native performance and behavior.

Works **only in conjunction** with Profile Container or any other 3rd party profile solutions.

Ways to install Applications

Traditional MSI or manual installation





Benefits



Container



Profile Container



Office 365 Container



App Masking



Java Redirection



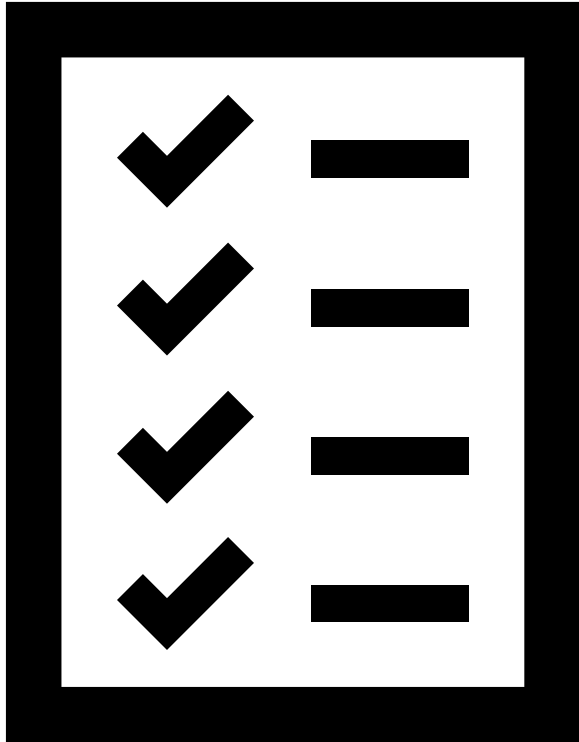
Application Management without sequencing, snapshotting, packaging, or virtualization.

All apps installed in base image.

- Only apps a user is entitled to are revealed.
- App entitlements can be changed in real time.
- Works with fonts, plugins, and more...
- Excellent app compatibility

Massively reduce the number of gold images that must be maintained

Manual build/Checklist



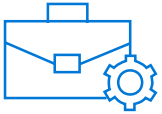
Pros

Can be fast to implement
Requires no special skills

Cons

Error Prone
May not be truly repeatable

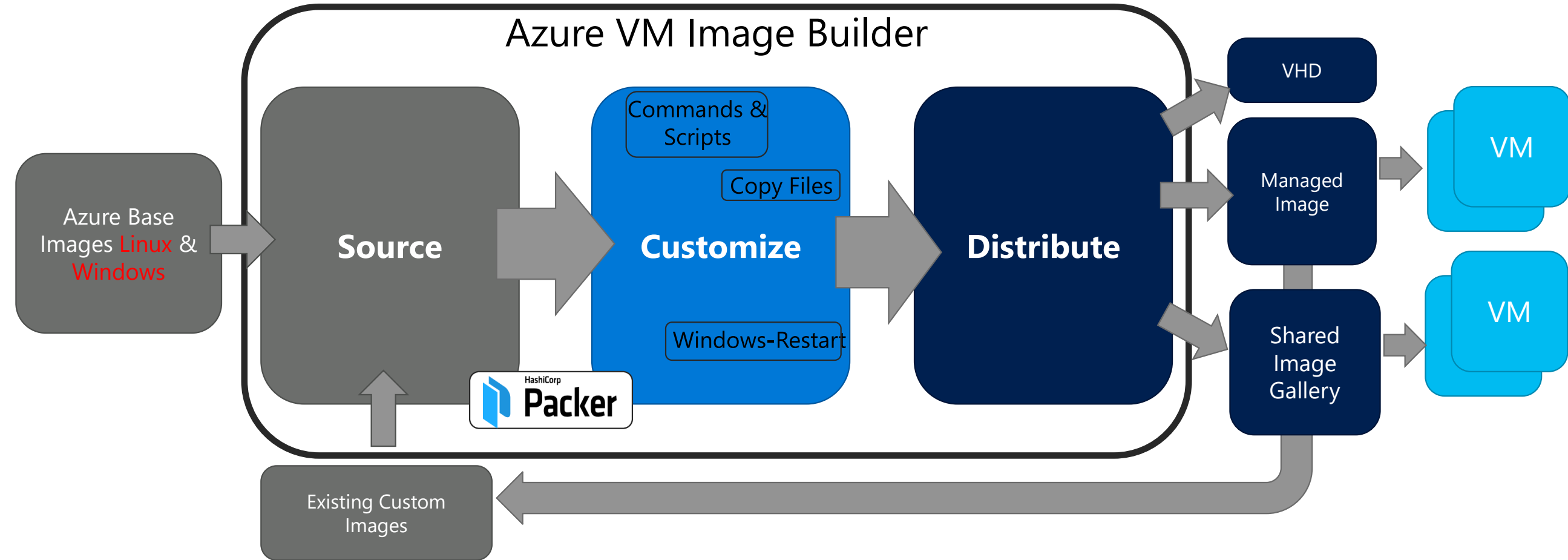
Master Image Management



Master image can be managed by any already existing process and technologies including

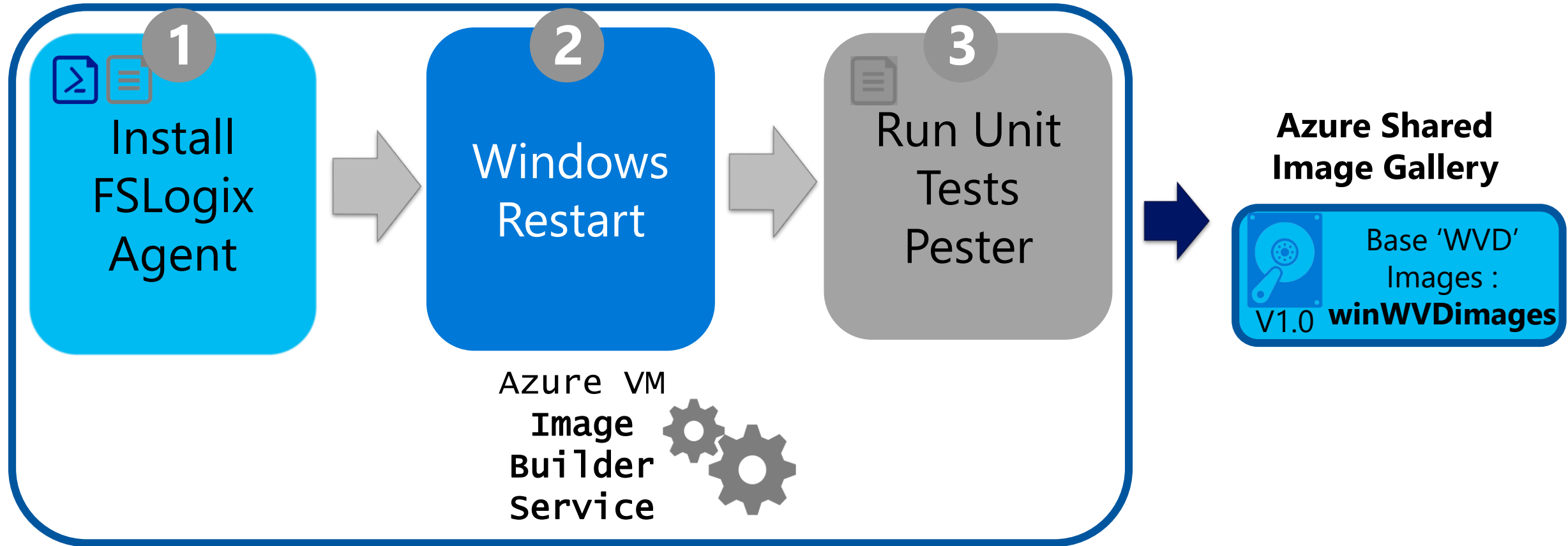
- Azure Update Management
- System Center Configuration Manager / Endpoint Manager
- Intune
- ARM Script provided by Microsoft
- Azure Automation
- 3rd party

Azure VM Image Builder



<https://aka.ms/azvmimagebuilder>

Create a Win 10 Custom Image with AzureImageBuilder and Unit Tests

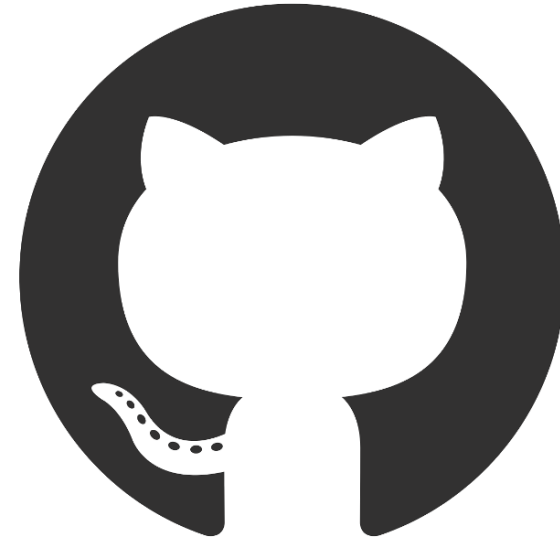


<https://aka.ms/azvmimagebuildertesting>

Automation

- Create or update VMs for a host pool
 - [Create and provision host pool](#)
 - [Update VMs in existing host pool](#)

ARM Template to Update an existing Windows Virtual Desktop hostpool
- Scale your host pool
 - [Scaling script](#)
- Azure Runbook support



ARM template for provision Hostpool

- This ARM template creates a new WVD hostpool.
- This template deploys the following resources:
- <rdshNumberOfInstances> new virtual machines as SessionHost

Note: Template does not delete or deallocate old Session Host instances, so you may still incur compute charges. These virtual machine instances may need to be deleted manually.



```
{
  "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {
    "rdshImageSource": {
      "type": "string",
      "metadata": {
        "description": "Select the image source for the session host vms."
      },
      "defaultValue": "Custom VHD",
      "allowedValues": [
        "Custom VHD",
        "Custom Image"
      ]
    },
    "VmImageVhdUri": {
      "type": "string",
      "metadata": {
        "description": "[Required when rdshImageSource = Custom VHD] URI of the sysprepped image vhd file to be used to create the session host VMs. For example, https://rdsstorage.blob.core.windows.net/vhds/sessionhostimage.vhd"
      },
      "defaultValue": ""
    },
    "rdshGalleryImageSKU": {
      "type": "string",
      "metadata": {
        "description": "[Required when rdshImageSource = Gallery] Gallery image SKU."
      },
      "allowedValues": [
        "Windows-10-Enterprise-multi-session",
        "2016-Datacenter",
        "2012-R2-Datacenter"
      ],
      "defaultValue": "Windows-10-Enterprise-multi-session"
    }
  }
}
```

ARM Template for update host pool images

This template will remove or stop the old instance of WVD Hostpool session hosts and creates new virtual machines and registers them as session hosts to wvd host pool.

There are different sets of parameters you must enter to successfully deploy the template:

- ActionOnPreviousVirtualMachines
- VM image Type
- RDSH VM Configuration in Azure
- Domain and Network Properties
- Authentication to Windows Virtual Desktop



```
{
  "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {
    "rdBrokerURL": {
      "defaultValue": "https://rdbroker.wvd.microsoft.com",
      "type": "string",
      "metadata": {
        "description": "The Broker URL of the Windows Virtual Desktop deployment the session hosts will be connected to."
      }
    },
    "existingTenantGroupName": {
      "defaultValue": "Default Tenant Group",
      "type": "string",
      "metadata": {
        "description": "The name of the tenant group in the Windows Virtual Desktop deployment"
      }
    },
    "existingTenantName": {
      "type": "string",
      "metadata": {
        "description": "The name of the tenant in the Windows Virtual Desktop deployment."
      }
    },
    "existingHostpoolName": {
      "type": "string",
      "metadata": {
        "description": "The name of the hostpool to be in the RDS Tenant."
      }
    },
    "actionOnPreviousVirtualMachines": {
      "defaultValue": "Delete",
      "allowedValues": [
        "Deallocate",
        "Delete"
      ]
    }
  }
}
```

Agenda - WindowsVirtualDesktop

Part I

- WVD Overview
- Office improvements
- Connectivity
- Partner

Part II

- Licensing and pricing
- Roadmap
- Prerequisites

Part III

- Design considerations
- Deployment
- User access
- Profil & Image Management

Part IV

- Wrap up and Q&A**



Windows Virtual Desktop

The best virtual desktop experience, delivered on Azure

Microsoft service on Azure for VDI/RDSH management

Major evolution of RDS

Enables a multi-session Windows 10 experience, optimized for Office 365 ProPlus

Windows 7 virtual desktop with free Extended Security Updates

Supports Windows Server RDS (2012R2 +)

Most flexible service allowing you to virtualize both desktops and apps

Integrated with the security and management of Microsoft 365

Important:

Please verify all prerequisites are in place before you start



Q&A

Thank you

