



Windows Virtual Desktop

The best virtual desktop experience,
delivered on Azure

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Remote Desktop Services



What is Windows Virtual Desktop

Microsoft service on Azure for VDI/RDSH management

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

Most scalable service to deploy and manage

Most flexible service allowing you to virtualize both desktops and apps

Windows 7 virtual desktop with free Extended Security Updates

Integrated with the security and management of Microsoft 365



Virtualization scenarios



Security and regulation

- Financial Services
- Healthcare
- Government



Elastic workforce

- Mergers and acquisition
- Short term employees
- Contractor and partner access



Specific employees

- BYOD and mobile
- Call centers
- Branch workers



Specialized workloads

- Design and engineering
- Legacy apps
- Software dev test

Windows Virtual Desktop

High level architecture

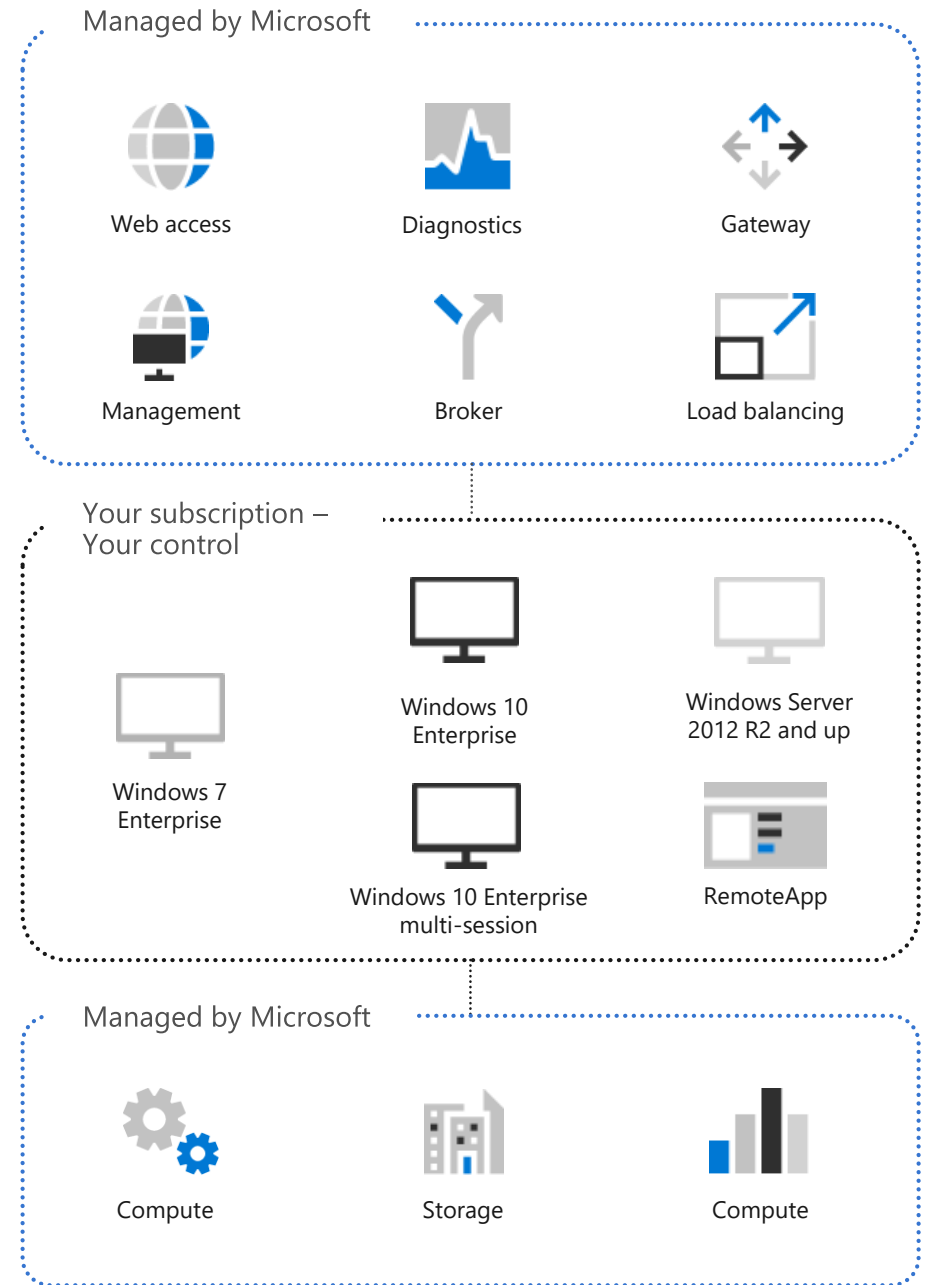
Provide virtualization infrastructure as a managed service

Use Azure Active Directory identity management 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



Virtualization hosts of the future

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

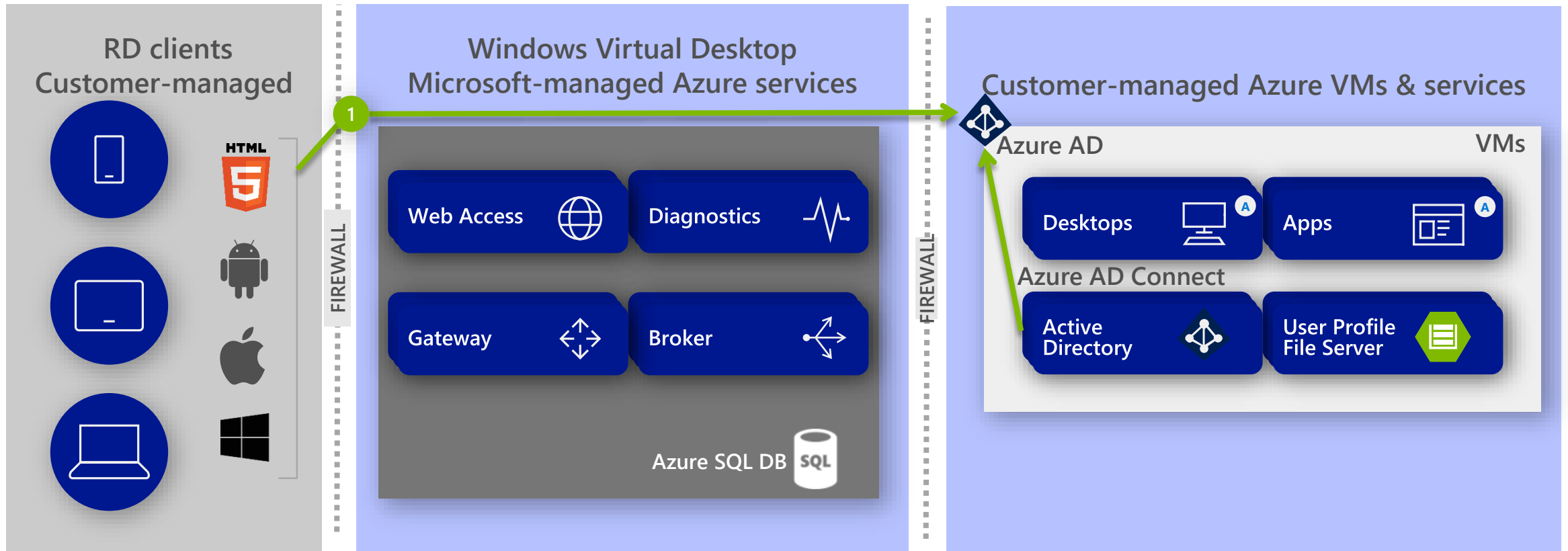
Office 365 ProPlus

Semi-Annual Channel

Authentication and Connection Flow

Azure AD Authentication

- Clients authenticate with Azure Active Directory (Azure AD) identities
- Azure AD allows usage of Conditional Access and Multi-factor Authentication
- Windows VMs are AD domain-joined for optimal app compatibility

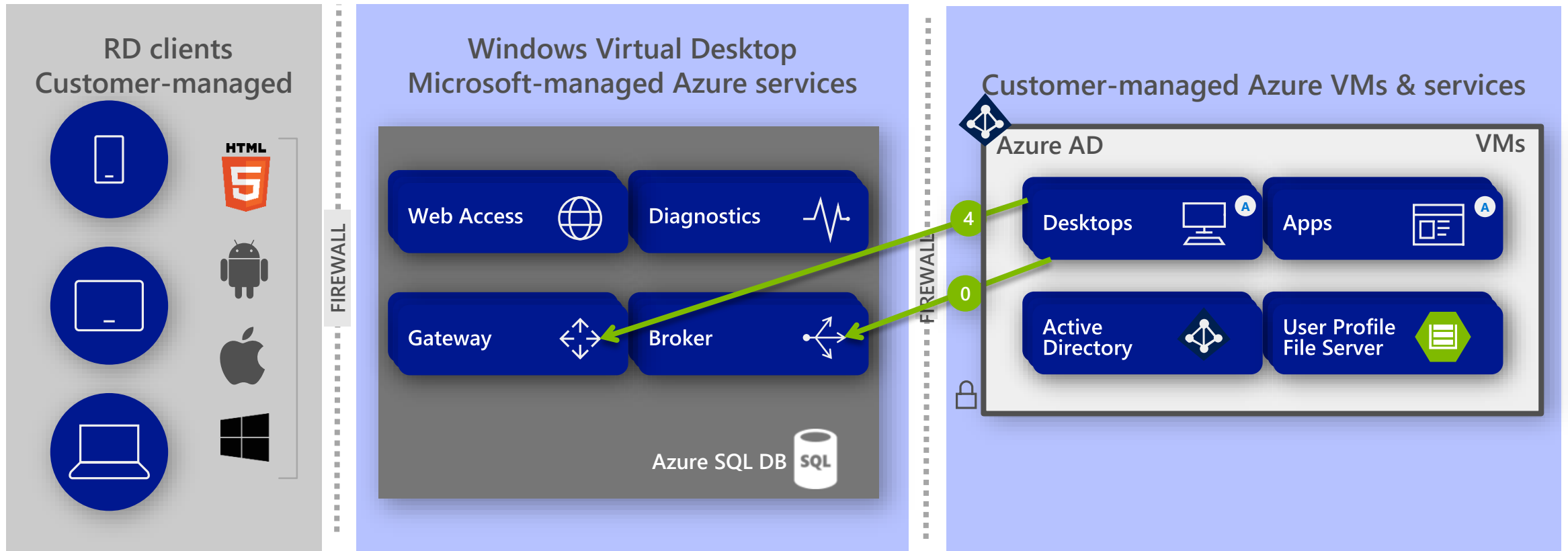


Improved Isolation: Reverse Connect

Outbound WebSocket connections from VMs to Broker and Gateway

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

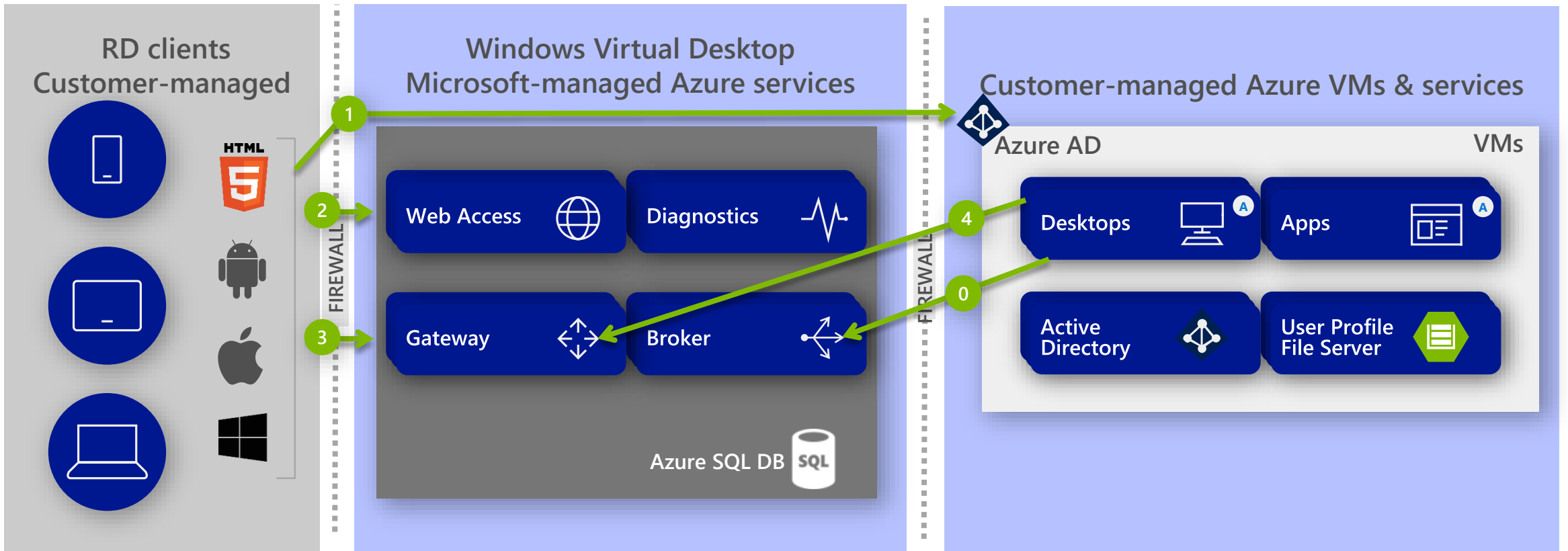
No inbound ports need be opened on the VM.



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

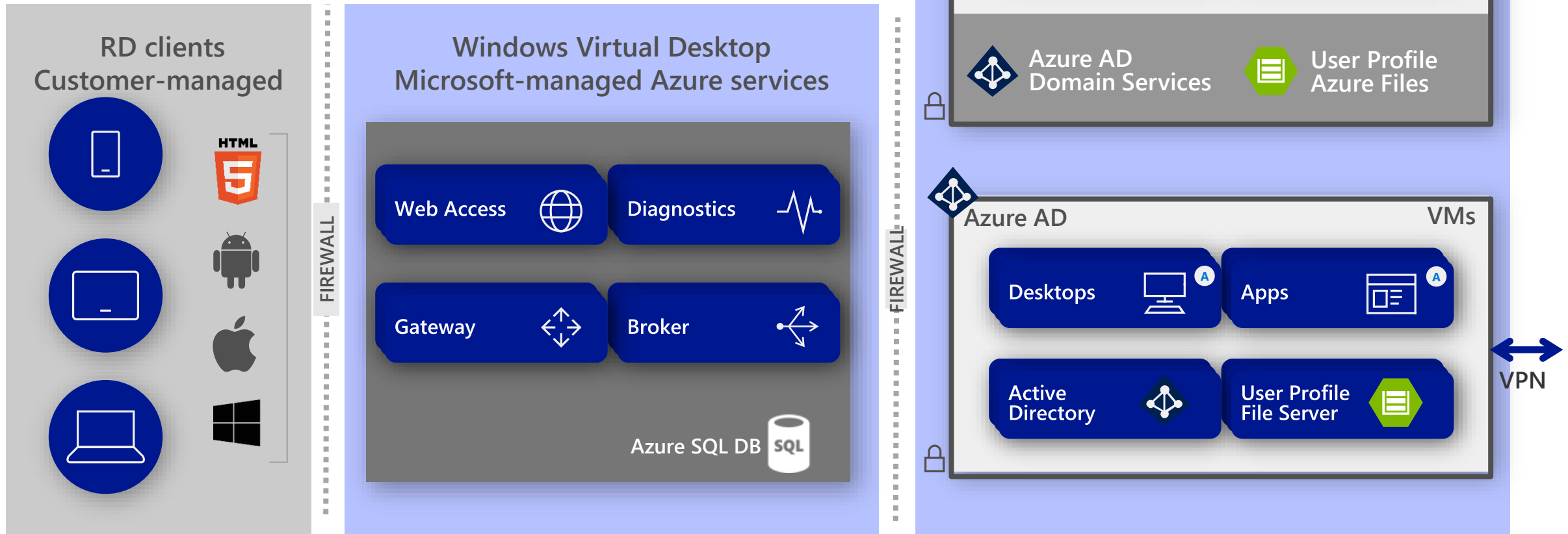


Multitenancy

Customer environments are highly isolated

Different AD configurations in each customer environment

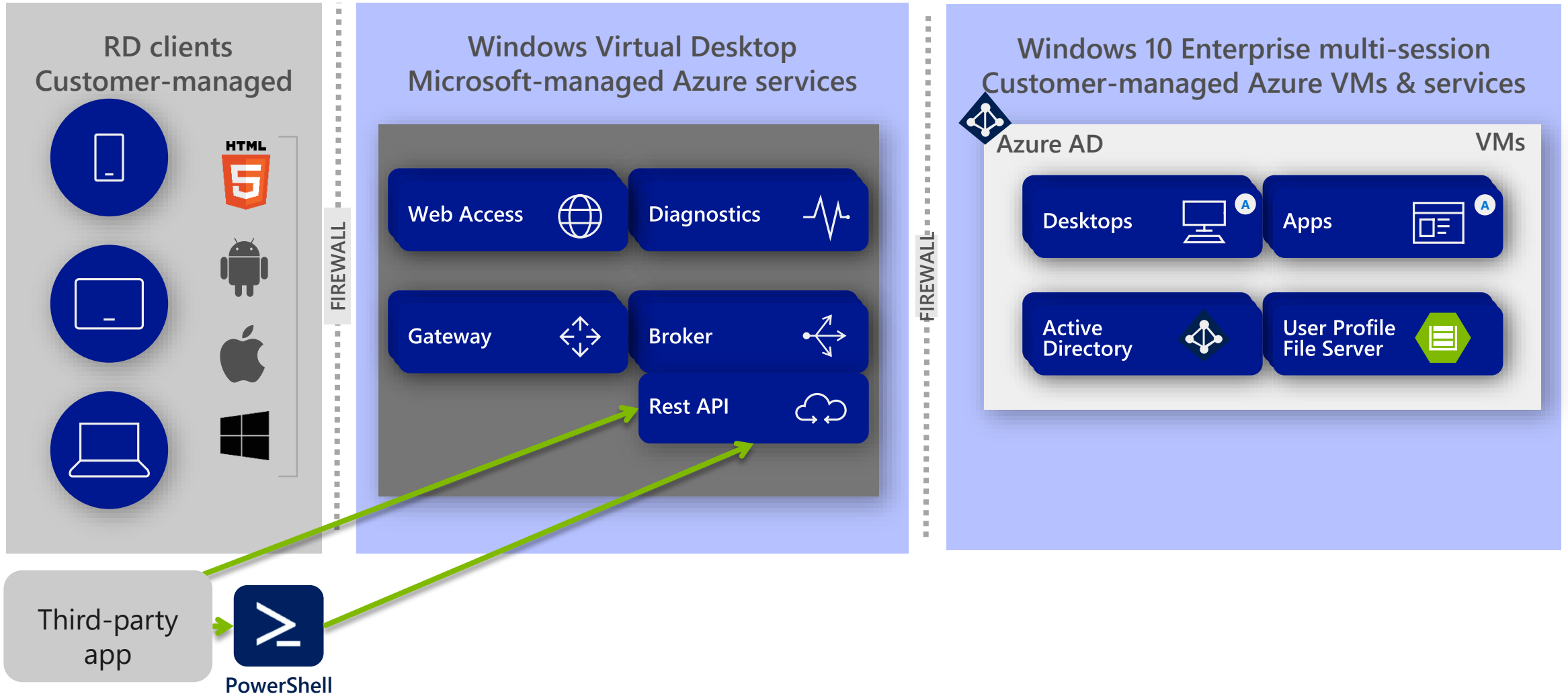
VPN from tenant environments to on-prem



Extensible Platform

Third-party apps can use PowerShell or REST API to extend Windows Virtual Desktop platform

Examples: Deployment automation, VM scaling & provisioning, Web UI to configure, monitor, and troubleshoot, etc.



Management

Deployment and management options

Deployment

Azure Marketplace or Github ARM templates
Deploy new session host pools or update existing host pool

Management

Using REST API's

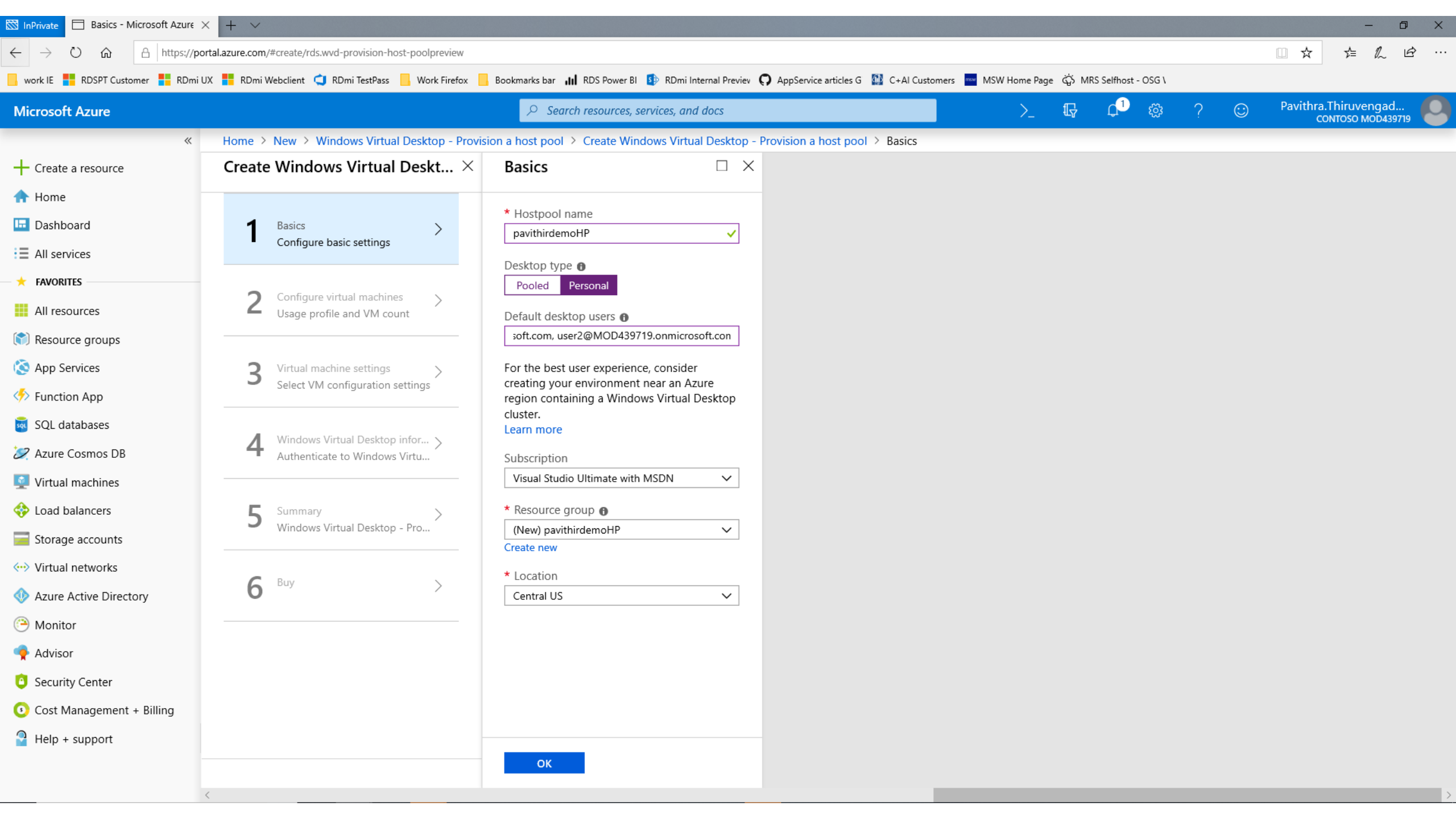
Capability to set and manage WVD setting directly
Can build complex workflows when partnered with WVD Rest APIs
Sample management UI

PowerShell

Best option for repeatable actions
Options to integrate with Azure Automation
Take advantage of Desired State Configuration

Walthrough

Marketplace template



- Create a resource
- Home
- Dashboard
- All services
- FAVORITES
- All resources
- Resource groups
- App Services
- Function App
- SQL databases
- Azure Cosmos DB
- Virtual machines
- Load balancers
- Storage accounts
- Virtual networks
- Azure Active Directory
- Monitor
- Advisor
- Security Center
- Cost Management + Billing
- Help + support

- 1 Basics**
Configure basic settings
- 2 Configure virtual machines
Usage profile and VM count
- 3 Virtual machine settings
Select VM configuration settings
- 4 Windows Virtual Desktop infor...
Authenticate to Windows Virtu...
- 5 Summary
Windows Virtual Desktop - Pro...
- 6 Buy

Basics

* Hostpool name
pavithirdemoHP ✓

Desktop type ⓘ
Pooled Personal

Default desktop users ⓘ
soft.com, user2@MOD439719.onmicrosoft.com

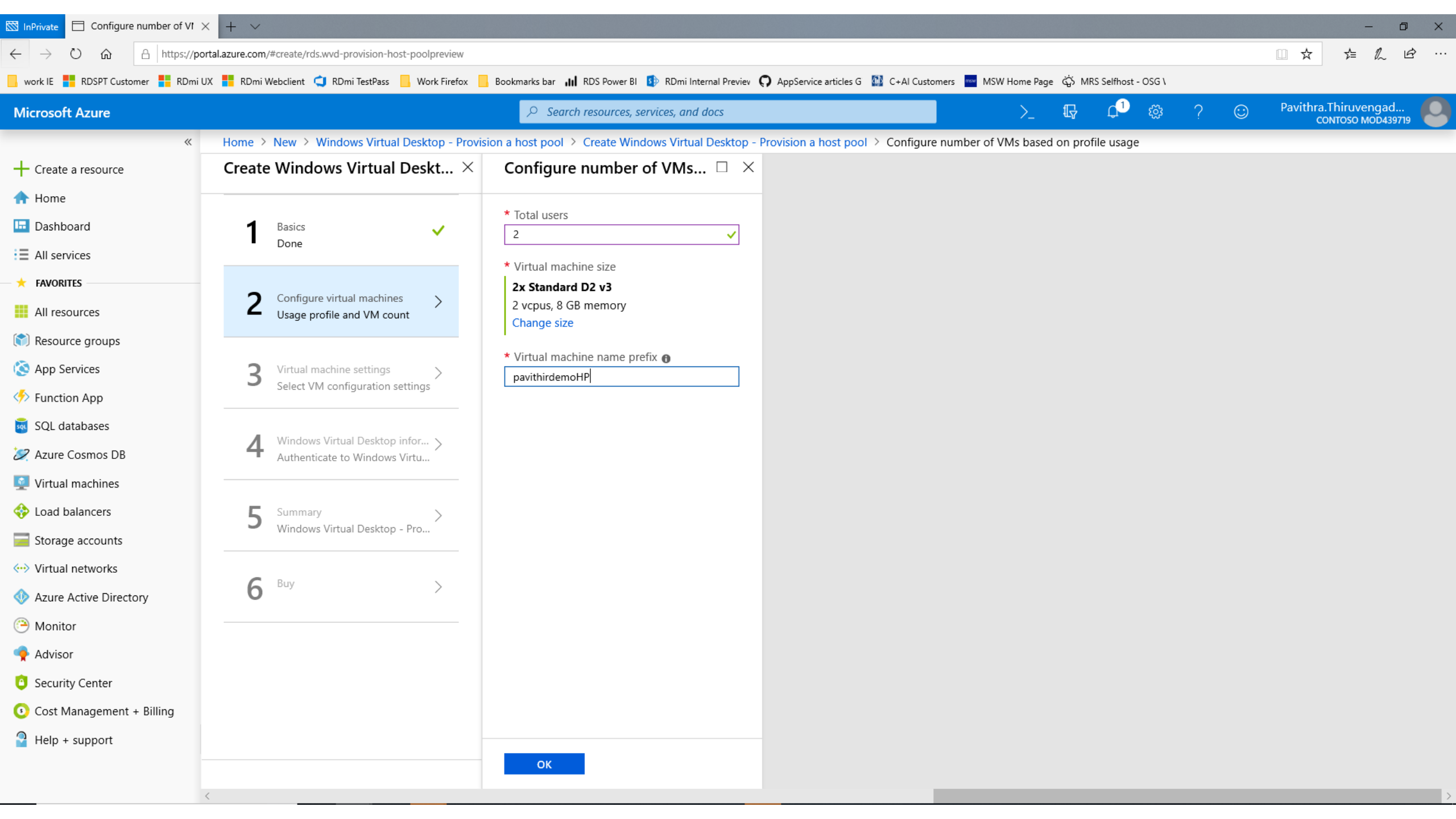
For the best user experience, consider creating your environment near an Azure region containing a Windows Virtual Desktop cluster.
[Learn more](#)

Subscription
Visual Studio Ultimate with MSDN

* Resource group ⓘ
(New) pavithirdemoHP
[Create new](#)

* Location
Central US

OK



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Home > New > Windows Virtual Desktop - Provision a host pool > Create Windows Virtual Desktop - Provision a host pool > Configure number of VMs based on profile usage

Create Windows Virtual Desk... ✕

- 1 Basics Done ✓
- 2 Configure virtual machines Usage profile and VM count >
- 3 Virtual machine settings Select VM configuration settings >
- 4 Windows Virtual Desktop infor... Authenticate to Windows Virtu... >
- 5 Summary Windows Virtual Desktop - Pro... >
- 6 Buy >

Configure number of VMs... □ ✕

* Total users ✓

* Virtual machine size
2x Standard D2 v3
 2 vcpus, 8 GB memory
[Change size](#)

* Virtual machine name prefix ⓘ

OK

- Create a resource
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1	Basics	Done	✓
2	Configure virtual machines	Done	✓
3	Virtual machine settings	Select VM configuration settings	>
4	Windows Virtual Desktop information	Authenticate to Windows Virtual Desktop	>
5	Summary	Windows Virtual Desktop - Provision a host pool	>
6	Buy		>

Configure the VMs for Az...

Image source ⁱ

Blob storage Managed image

Gallery

Image OS version

Windows 10 Enterprise multi-session ▾

Disk Type

HDD SSD

* AD domain join UPN ⁱ

wvadmin

* Admin Password ⁱ

●●●●●●●●

* Confirm password

●●●●●●●●

Specify domain or OU ⁱ

No Yes

* Virtual network ⁱ

adVNET >

* Subnets ⁱ

Review subnet configuration >

OK

- Create a resource
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Create Windows Virtual Desk... X

- 1 Basics Done ✓
- 2 Configure virtual machines Done ✓
- 3 Virtual machine settings Done ✓
- 4 Windows Virtual Desktop infor... Authenticate to Windows Virtu... >
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Authenticate to Windows ... X

* Windows Virtual Desktop tenant group name *i*


* Windows Virtual Desktop tenant name *i*

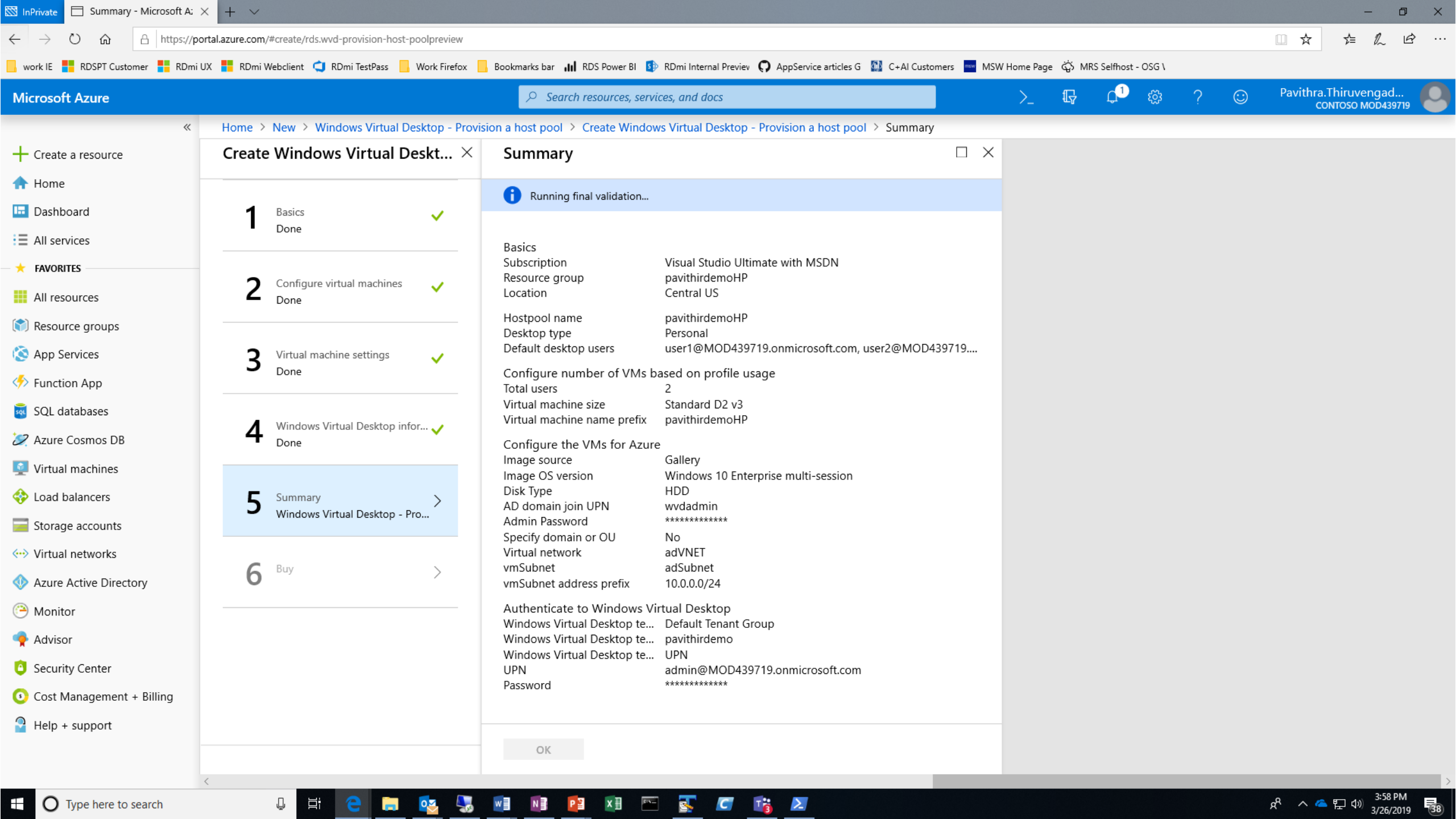
Windows Virtual Desktop tenant RDS Owner *i*

* UPN *i*

* Password *i*

* 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.



- 1 Basics Done ✓
- 2 Configure virtual machines Done ✓
- 3 Virtual machine settings Done ✓
- 4 Windows Virtual Desktop information Done ✓
- 5 Summary Windows Virtual Desktop - Pro... >
- 6 Buy >

Summary

Running final validation...

Basics

Subscription	Visual Studio Ultimate with MSDN
Resource group	pavithirdemoHP
Location	Central US

Hostpool name: pavithirdemoHP
 Desktop type: Personal
 Default desktop users: user1@MOD439719.onmicrosoft.com, user2@MOD439719....

Configure number of VMs based on profile usage

Total users	2
Virtual machine size	Standard D2 v3
Virtual machine name prefix	pavithirdemoHP

Configure the VMs for Azure

Image source	Gallery
Image OS version	Windows 10 Enterprise multi-session
Disk Type	HDD
AD domain join UPN	wvdadmin
Admin Password	*****
Specify domain or OU	No
Virtual network	adVNET
vmSubnet	adSubnet
vmSubnet address prefix	10.0.0.0/24

Authenticate to Windows Virtual Desktop

Windows Virtual Desktop te...	Default Tenant Group
Windows Virtual Desktop te...	pavithirdemo
Windows Virtual Desktop te...	UPN
UPN	admin@MOD439719.onmicrosoft.com
Password	*****

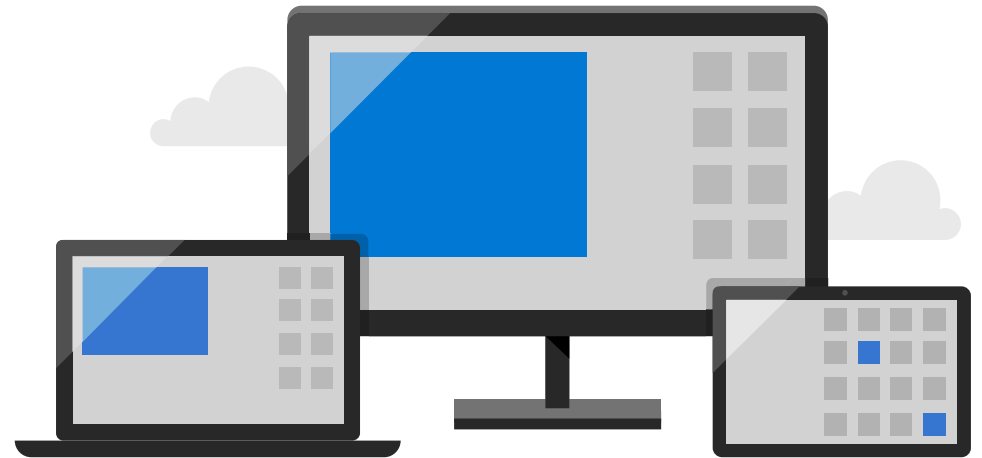
OK

Making Office 365 ProPlus the best experience in Windows Virtual Desktop

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

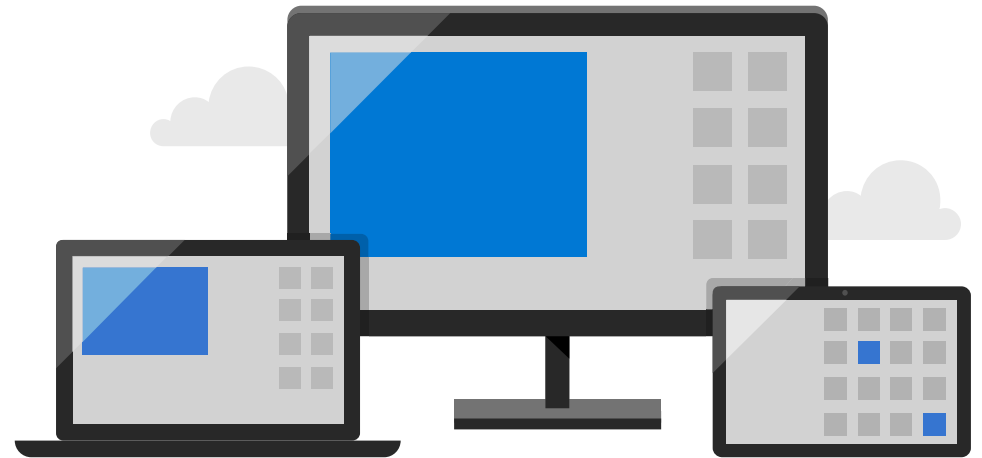
- **Office 365 Containers:** Making Office much more performant in multi-session virtual environments.

E.g. Outlook OST file, OneDrive cache, Windows Search and Skype for Business GAL.
- **Profile Containers:** Dramatically speeds up logon and application launch times
- **App Masking:** Helps minimize the number of images to be maintained and hence reduces costs for large organizations.



Office improvements in Windows Virtual Desktop

- **Outlook:** Sync Inbox before calendar for faster startup experience, Windows Desktop Search is now per-user
- **OneDrive for Business:** OneDrive sync will run in non-persistent environments, automatically populate user profile folders
- **Teams:** Currently not supported - in the roadmap



Office support dates

	Office 365 ProPlus always supported		Office 2019 Oct 2025		Office 2016 Oct 2025		Office 2013 April 2023		Office 2010 Oct 2020	
	Client Supported Until	Service Use Supported Until	Client Supported Until	Service Use Supported Until	Client Supported Until	Service Use Supported Until	Client Supported Until	Service Use Supported Until	Client Supported Until	Service Use Supported Until
Win10 SAC always supported	No end date	No end date	Oct 2025	Oct 2023	Oct 2025	Oct 2023	Apr 2023	Oct 2020	Oct 2020	Oct 2020
Win8/8.1 Jan 2023	Jan 2023	Jan 2023	n/a		Jan 2023	Jan 2023	Jan 2023	Oct 2020	Oct 2020	Oct 2020
Win7 w/ ESU Jan 2023	Jan 2023	Jan 2023	n/a		Jan 2023	Jan 2023	Jan 2023	Oct 2020	Oct 2020	Oct 2020
Windows Virtual Desktop always supported	No end date	No end date	n/a		n/a		n/a		n/a	
WS 2019 Oct 2028	n/a		Oct 2025	Oct 2023	n/a		n/a		n/a	
WS 2016 Jan 2027	Oct 2025	Oct 2025	n/a		Oct 2025	Oct 2023	Apr 2023	Oct 2020	Oct 2020	Oct 2020
WS 2012 R2 Oct 2023	Jan 2020	Jan 2020	n/a		Oct 2023	Oct 2023	Apr 2023	Oct 2020	Oct 2020	Oct 2020
Win10 LTSC 2018 Oct 2028	n/a		Oct 2025	Oct 2023	n/a		n/a		n/a	
Win10 LTSB 2016 Oct 2026	Jan 2020	Jan 2020	n/a		Oct 2025	Oct 2023	Apr 2023	Oct 2020	Oct 2020	Oct 2020
Win10 LTSB 2015 Oct 2025	Jan 2020	Jan 2020	n/a		Oct 2025	Oct 2023	Apr 2023	Oct 2020	Oct 2020	Oct 2020

■ Updates announced on September 6th

Opportunities by partner type

Desktop as a Service Provider (Hosting Partners, SIs)



Service model

Provide fully managed virtual desktop (DaaS) through Windows Virtual Desktop



GTM/Licensing

Desktop as a Service and related services through Cloud Solution Provider (CSP) program

Learn how to become a CSP Provider [here](#)



Programs/Support

Azure: Azure Everywhere, Azure Deployment offers, ECIF

Microsoft 365: Modern IT Enterprise POC, Customer Immersion Experience



Access

Windows Virtual Desktop requires:

To run Windows 10 multi-session, Windows 10 or Windows 7*

Microsoft 365 F1, E3, E5, A3, A5, Business

Windows 10 Enterprise E3, E5

Windows 10 Education A3, A5

Windows 10 VDA per user

To run Windows Server 2012 R2, 2016, 2019

Remote Desktop Services (RDS) Client Access License (CAL)
with active Software Assurance (SA)

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



Learn More

Official information on Windows Virtual Desktop

<https://azure.microsoft.com/en-us/services/virtual-desktop/>

Microsoft Mechanics - Windows Virtual Desktop

<https://aka.ms/wvdmechanics>

Ignite 2018 session list

<https://aka.ms/Ignite2018/WindowsVirtualDesktop>

Windows Virtual Desktop overview

Windows Virtual Desktop Deep Dive

A tour of Microsoft Windows Virtual Desktop

New multi-session virtualization capabilities in Windows

Office in Virtual Desktop environments