Azure Virtual Desktop (AVD)

@directorcia

http://about.me/ciaops

Remoting 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

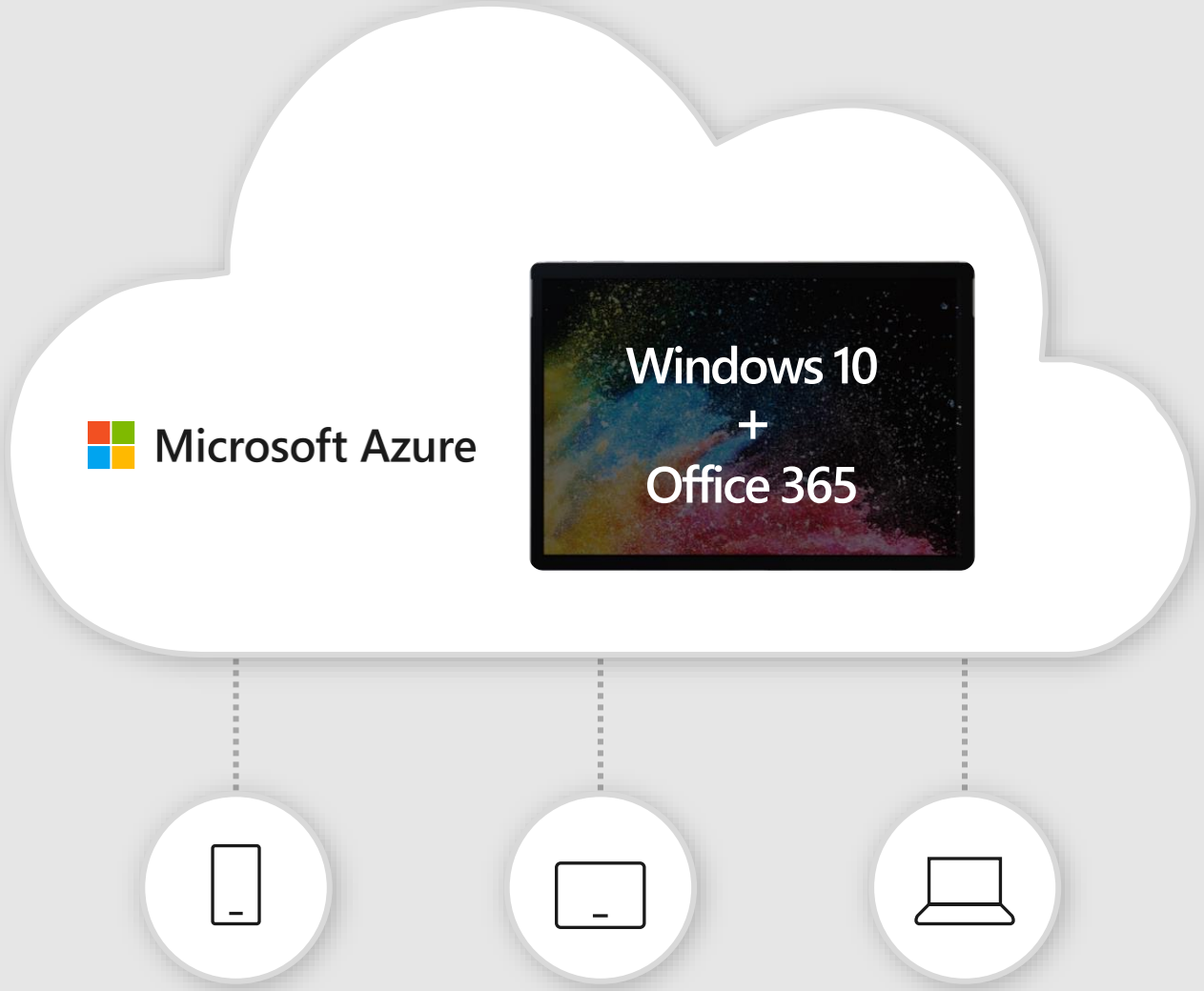
Legacy apps

Software dev test

Azure Virtual Desktop

The best virtual desktop experience, delivered on Azure

- The only multi-user Windows 10 experience
- Optimized for Office 365 ProPlus
- Deploy and scale in minutes



What is Windows Virtual Desktop

Microsoft service on Azure for VDI/RDSH management

- Enables a multi-user 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
- Integrated with the security and management of Microsoft 365

High level architecture

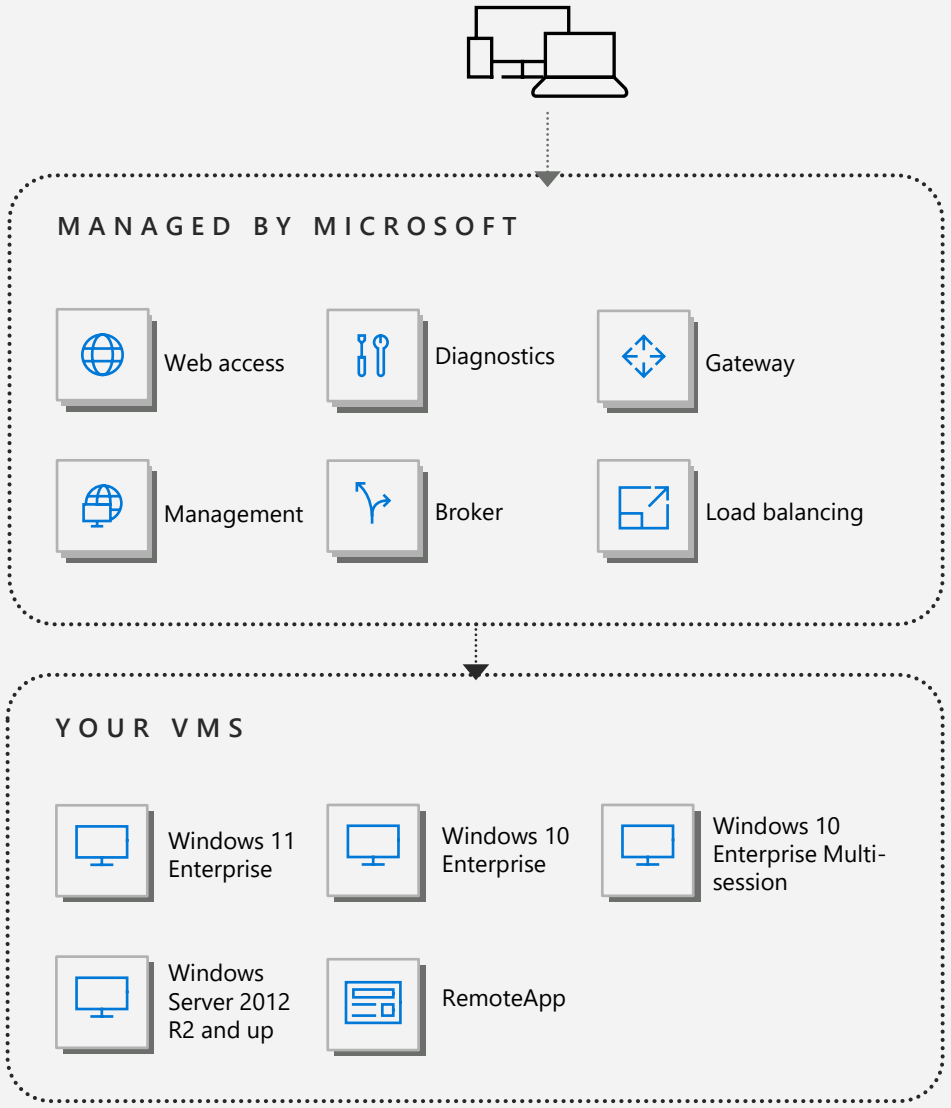
Provides virtualization infrastructure as a managed service

Tools for easy diagnostics and load balancing

Utilizes Azure Active Directory identity management service

Deploy and manage VMs in Azure subscription

Simply connect to on-premise resources



Prerequisites to deploy Windows Virtual Desktop

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

STEP 1

Choose an identity strategy

- Azure ADDS
- Azure AD Join
- VM with AD configured
- ExpressRoute or VPN to on-premises DC

STEP 2

Choose where to host FSLogix profiles

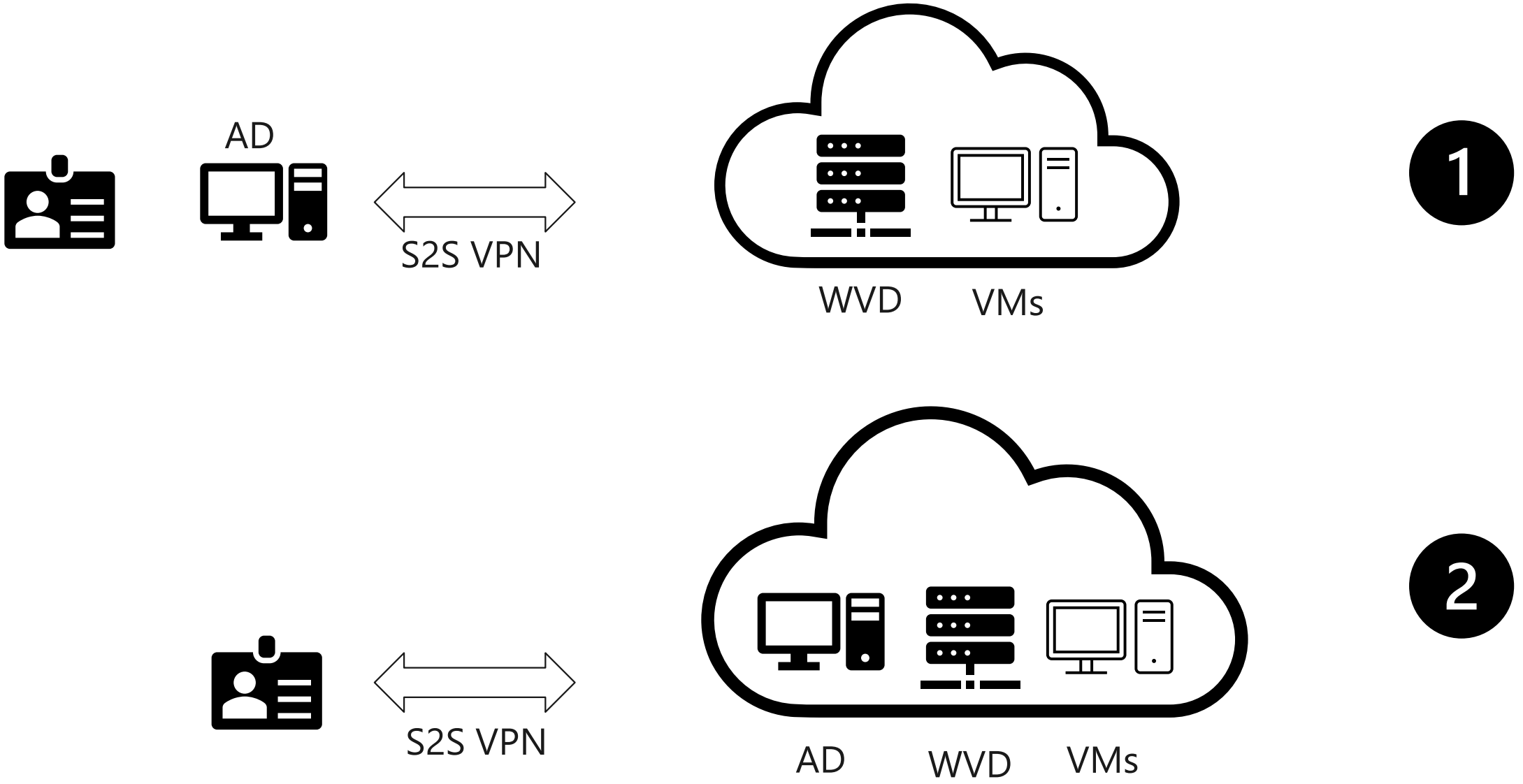
- Fileserver
- Azure Files with Azure ADDS
- Azure NetApp Files

STEP 3

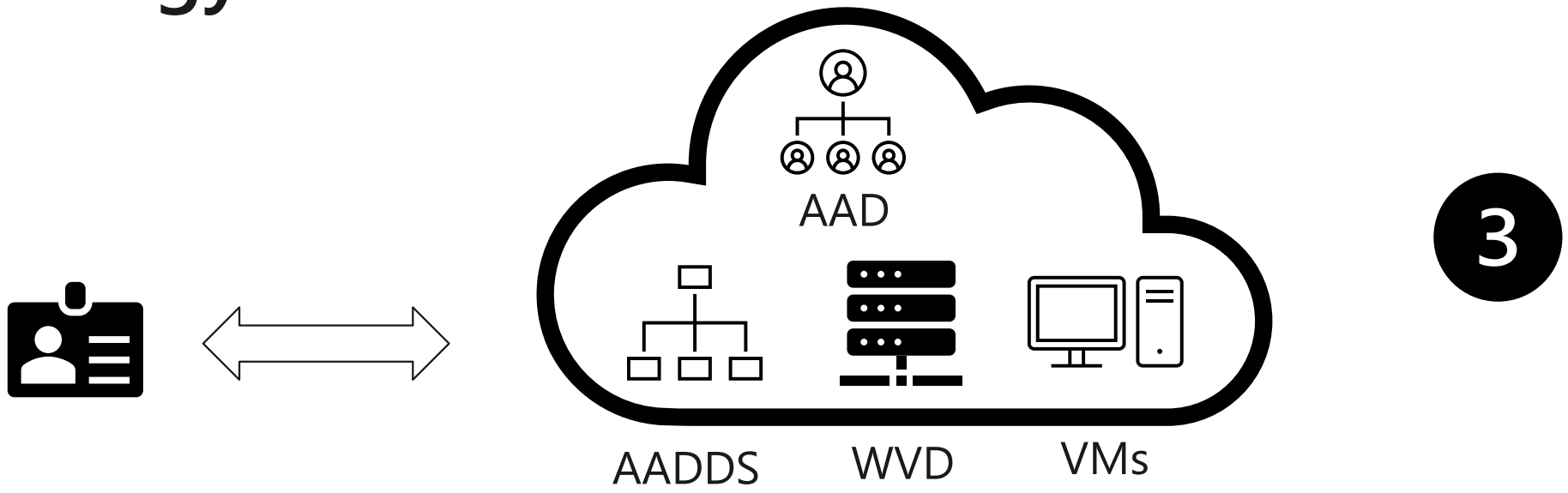
Make sure you have all credentials needed

- Subscription admin
- Azure AD global admin
- Active directory administrator
- WVD tenant admin

Identity strategy



Identity strategy



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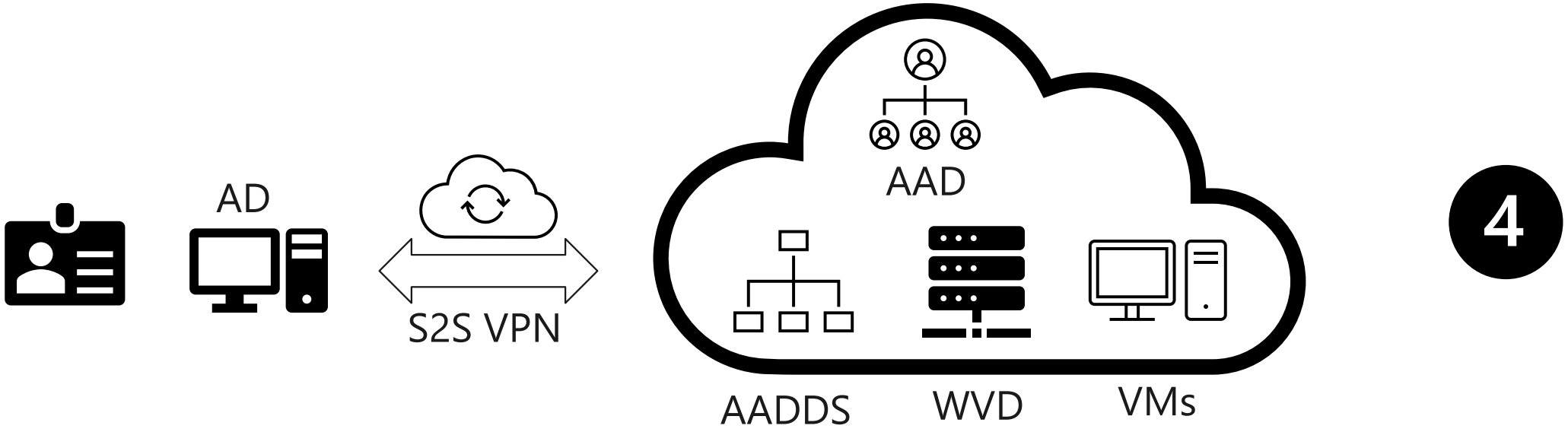

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Most customers are already eligible for WVD

Client

Customers are eligible to access Windows 10 single and multi session and Windows 7 with Windows Virtual Desktop (WVD) 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 Premium**
- **Windows 10 Enterprise E3/E5**
- **Windows 10 Education A3/A5**
- **Windows 10 VDA per user**

**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.*

Server

Customers are eligible to access Server workloads with Windows Virtual Desktop (WVD) if they have one of the following licenses:

- **RDS CAL license with active Software Assurance (SA)**

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!

Prerequisites

Requirements

Azure subscription

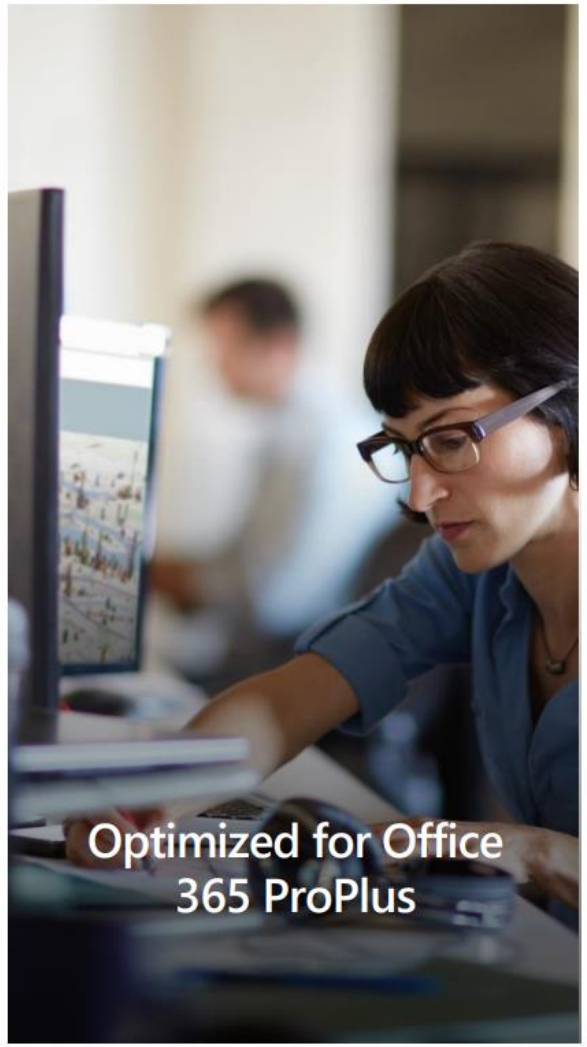
Azure Active Directory

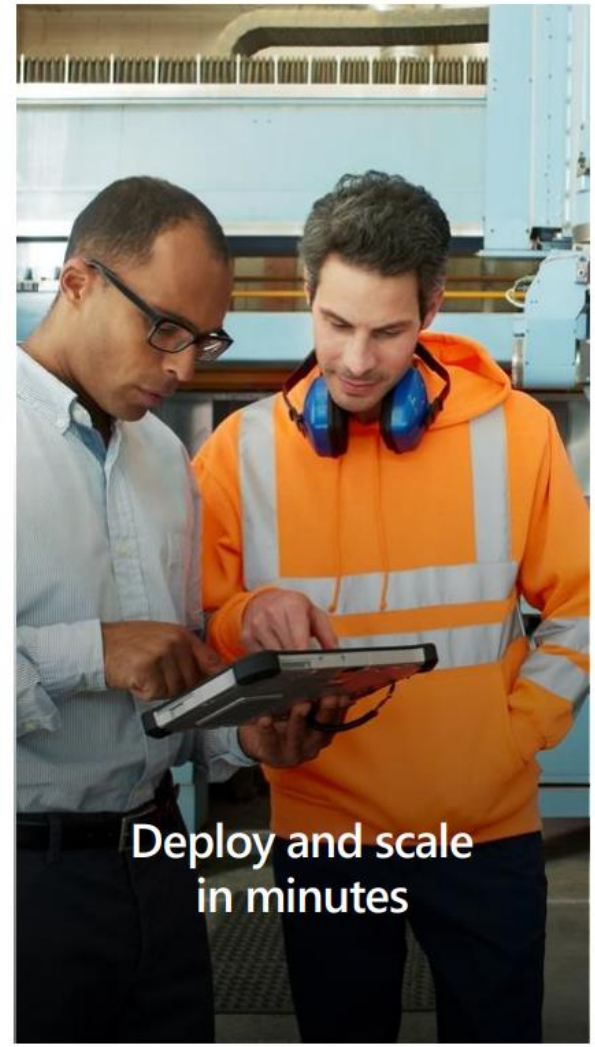
Determine your identity strategy (AD, Azure AD DS)

All associated Azure resources (image, virtual network, storage) in one region

Required credentials (Azure AD, WVD tenant, Service principle, etc.)

Windows Virtual Desktop





How to deploy Windows Virtual Desktop

Get started at aka.ms/startwvd

Deploy a full desktop

Create a new host pool

Add an existing VM to the host pool

Publish a full desktop to a user

Use HTML5 client to connect to the desktop

How to deploy Windows Virtual Desktop

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Deploy a Remote App

Publish Notepad++ as a RemoteApp to a second user

Use the Windows client to connect to the RemoteApp

How to deploy Windows Virtual Desktop

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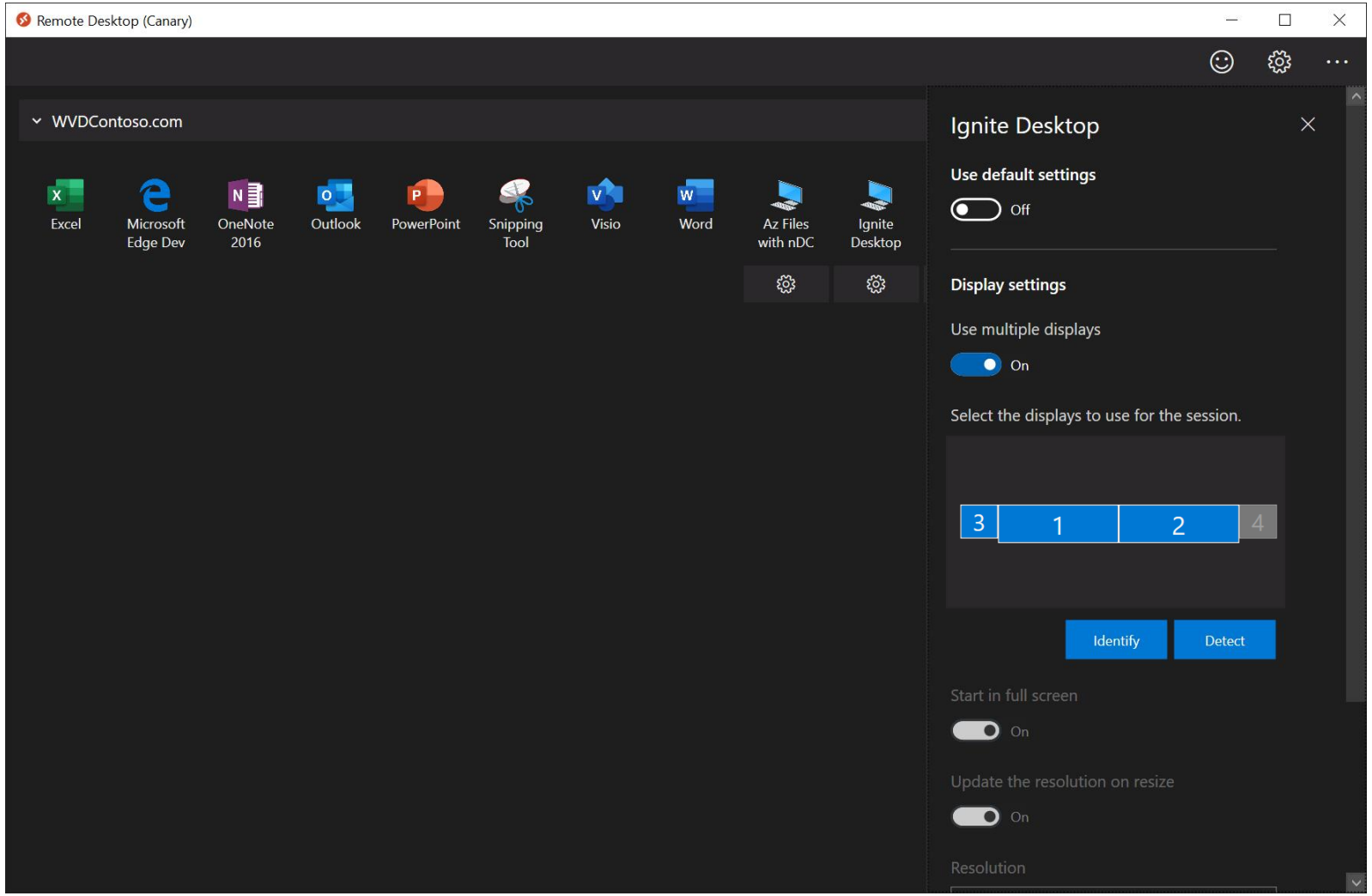
Use the Windows client to connect to the RemoteApp

Learn how Azure Files can be used for FSLogix

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	Coming soon				
Microsoft Teams support	Coming soon				

Client feature: Subset of monitors

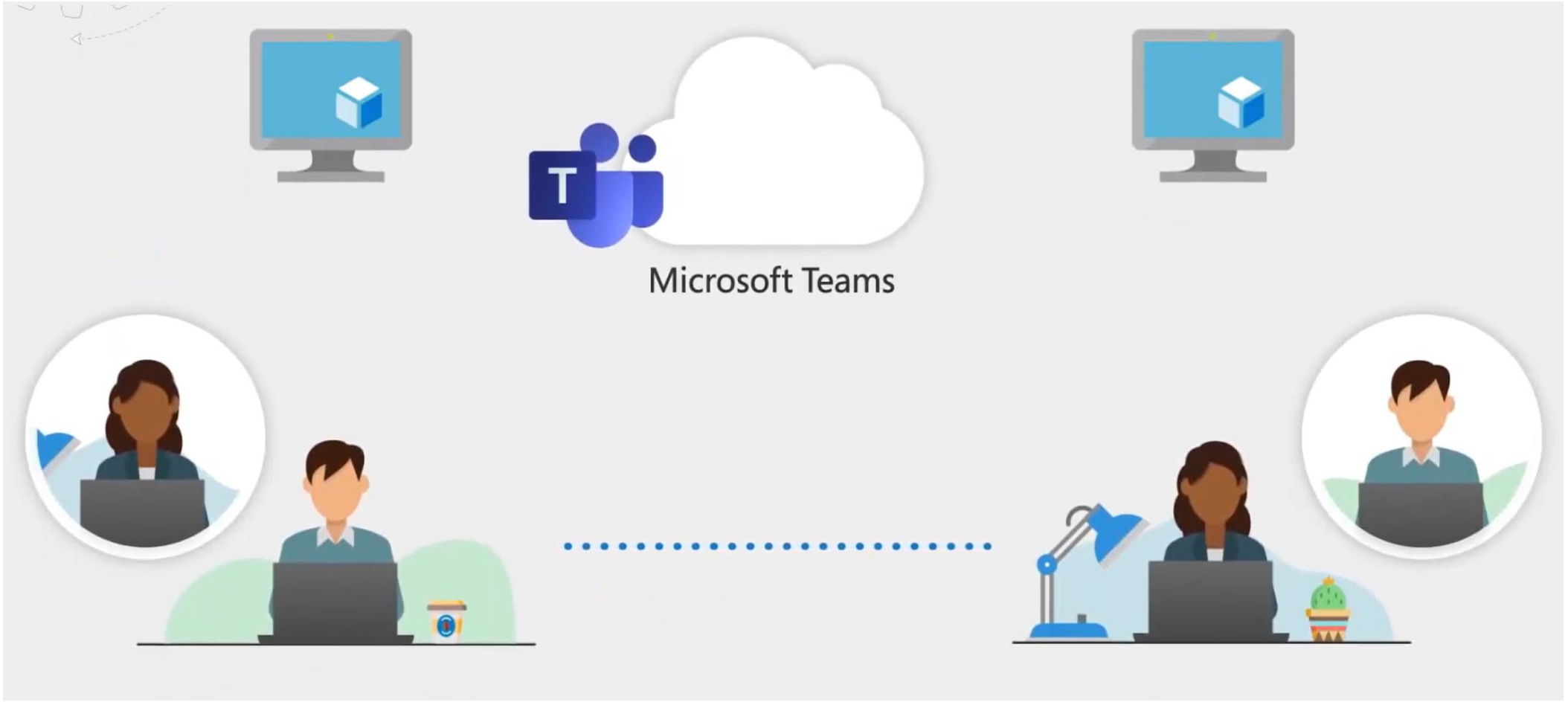


Select subset of displays to use in a desktop session

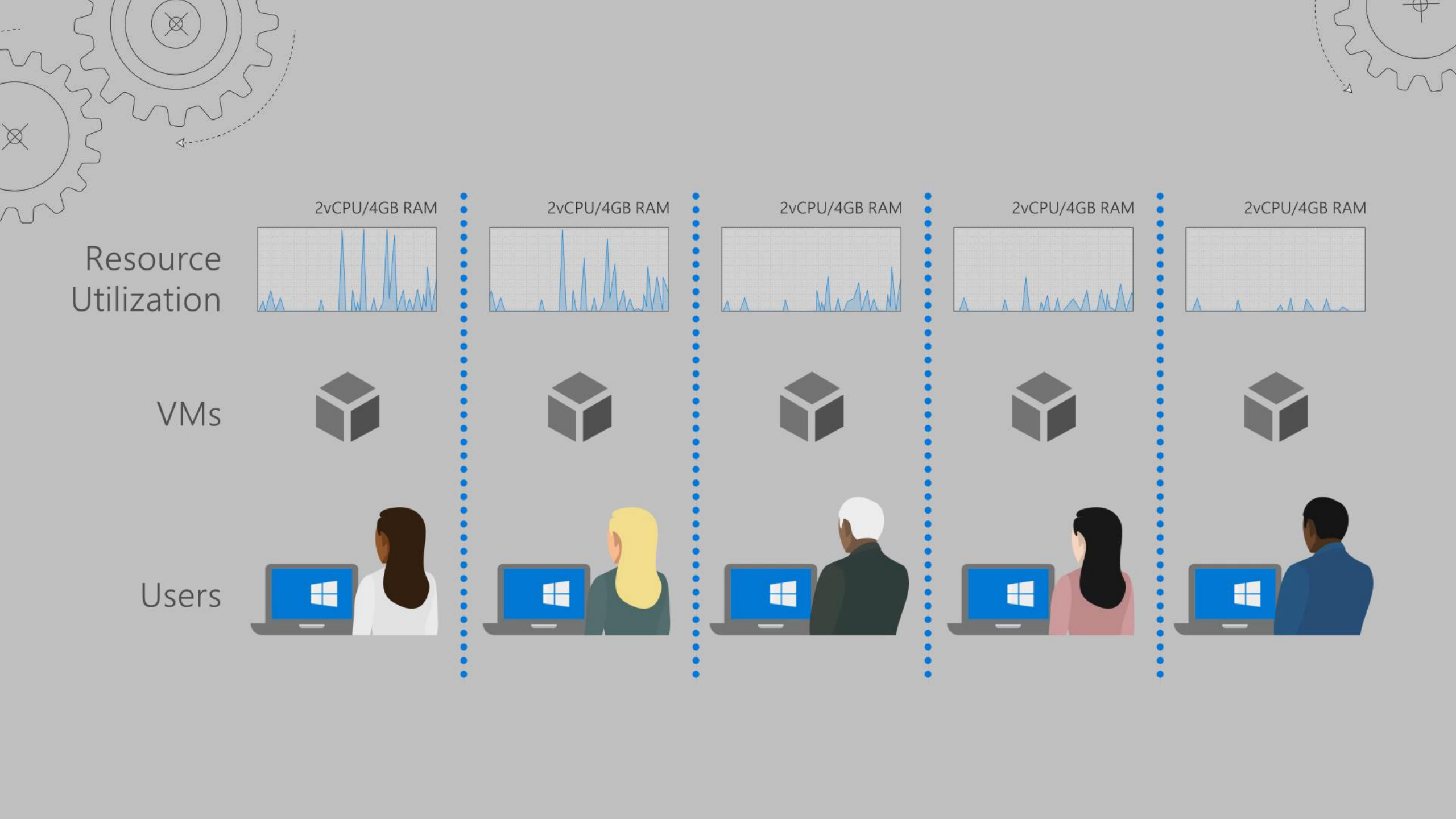
Device redirections

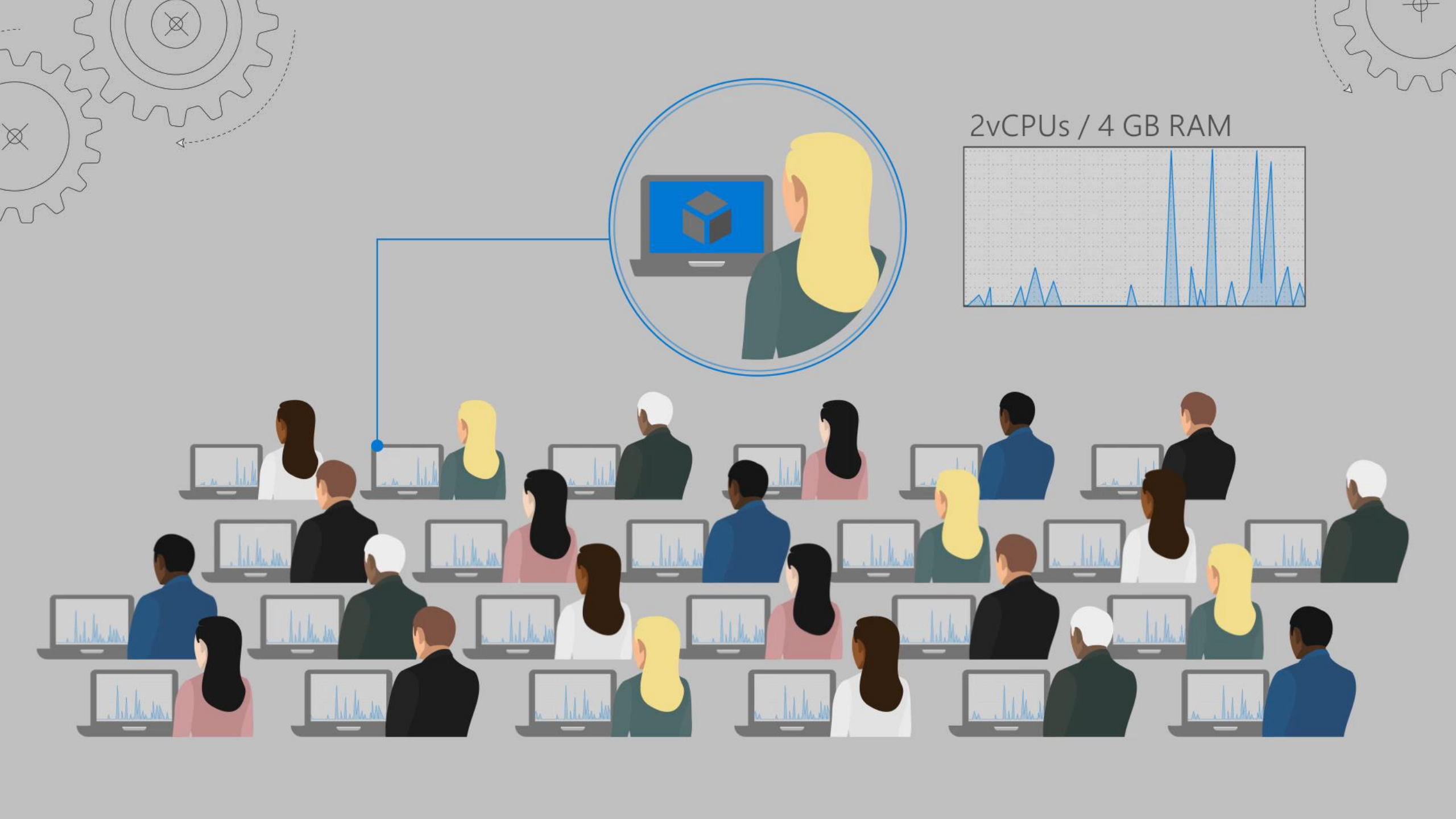
	Windows	Web	Android	macOS	iOS
Keyboard + mouse	✓	✓	✓	✓	✓*
Multitouch	✓	✓	✓		✓
Pen	✓	✓			
Audio out	✓	✓	✓	✓	✓
Microphone	✓			✓	✓
Camera	✓			✓	✓
Clipboard	Text, Image, File	Text	Text	Text, Image, File	Text, Image
Local storage	✓		✓	✓	✓
Printer	✓	✓		✓	
Smartcard	✓				
USB	✓			✓	

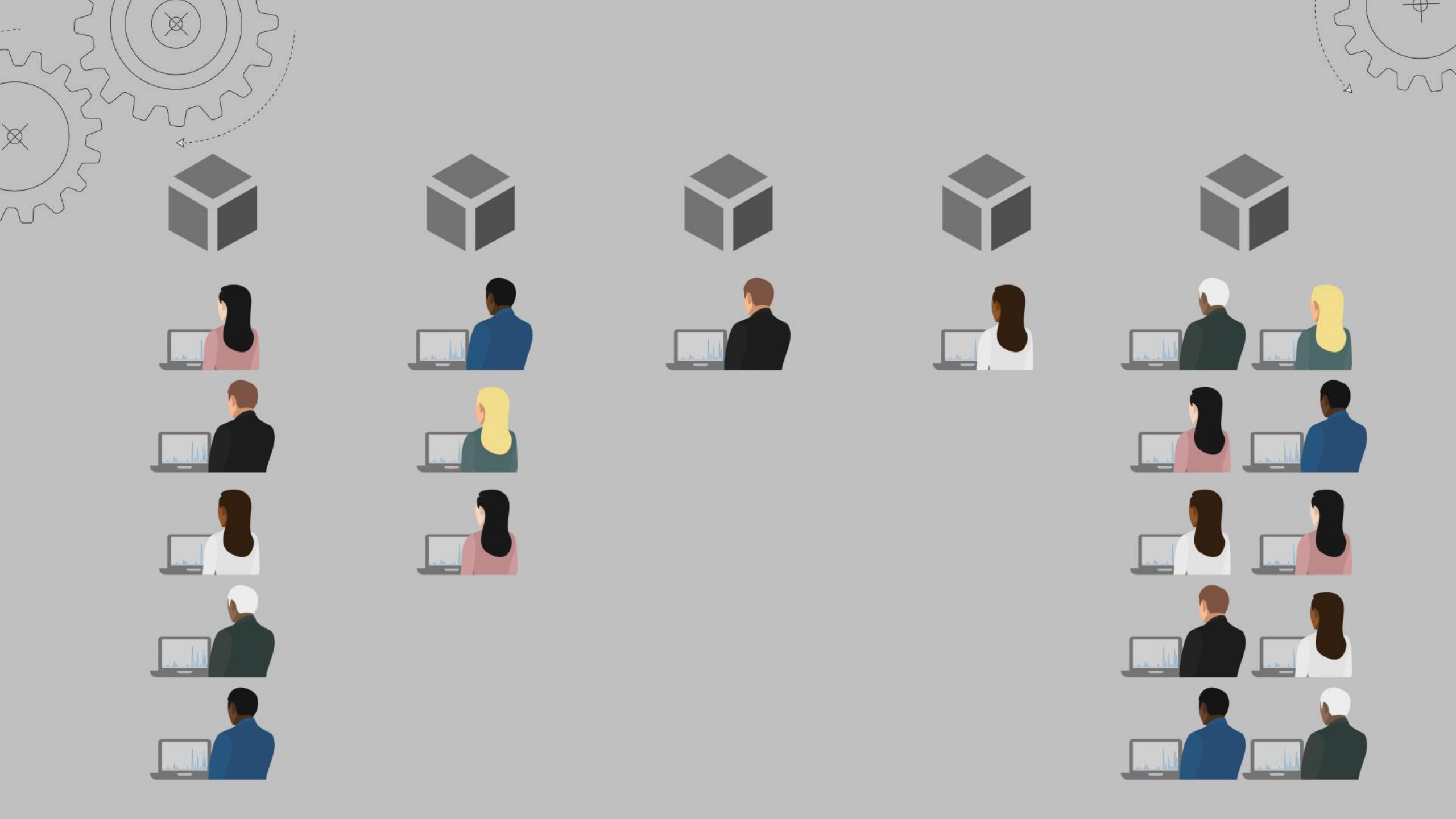
Microsoft Teams support

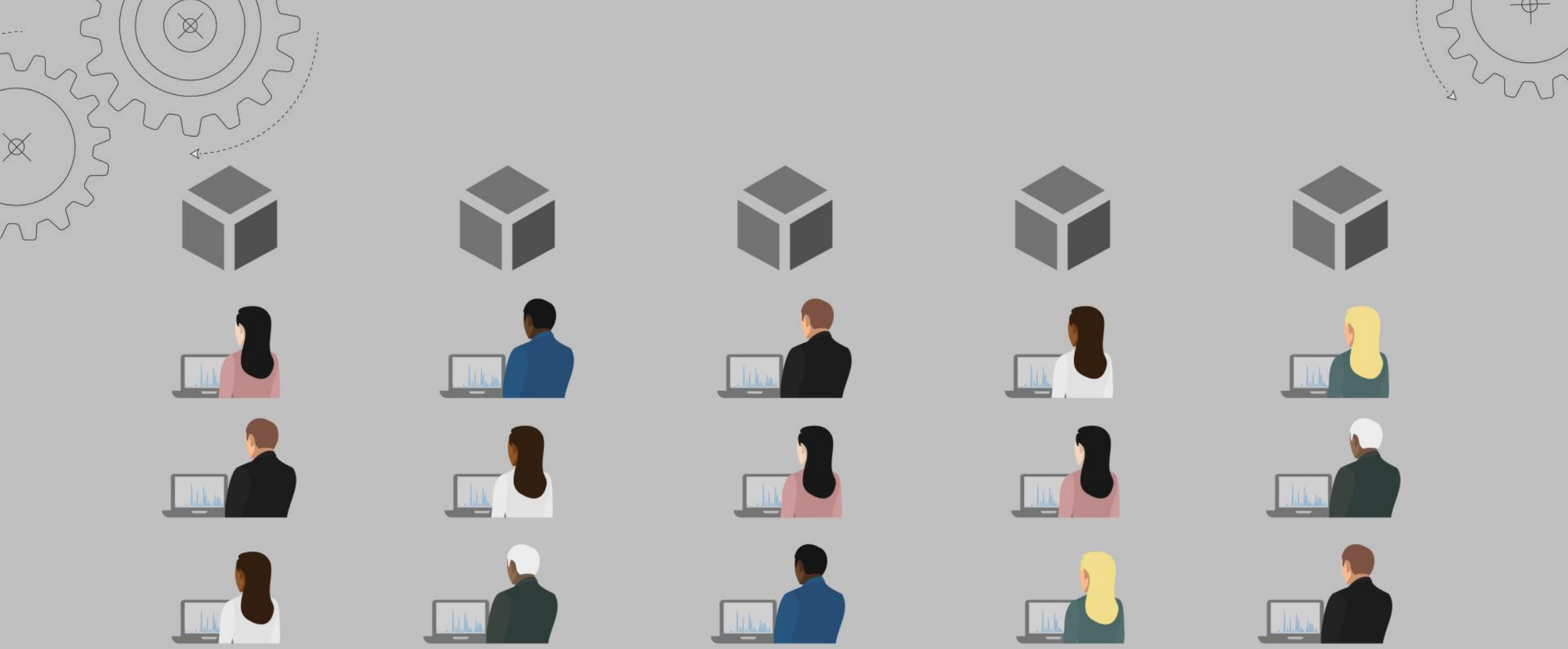


Audio/Video calling optimization for Teams on Windows Virtual Desktop


2vCPU/4GB RAM
2vCPU/4GB RAM
2vCPU/4GB RAM
2vCPU/4GB RAM
2vCPU/4GB RAM
Resource Utilization
VMs
Users


2vCPUs / 4 GB RAM





Breadth Mode

Multi-user Windows 10 experience

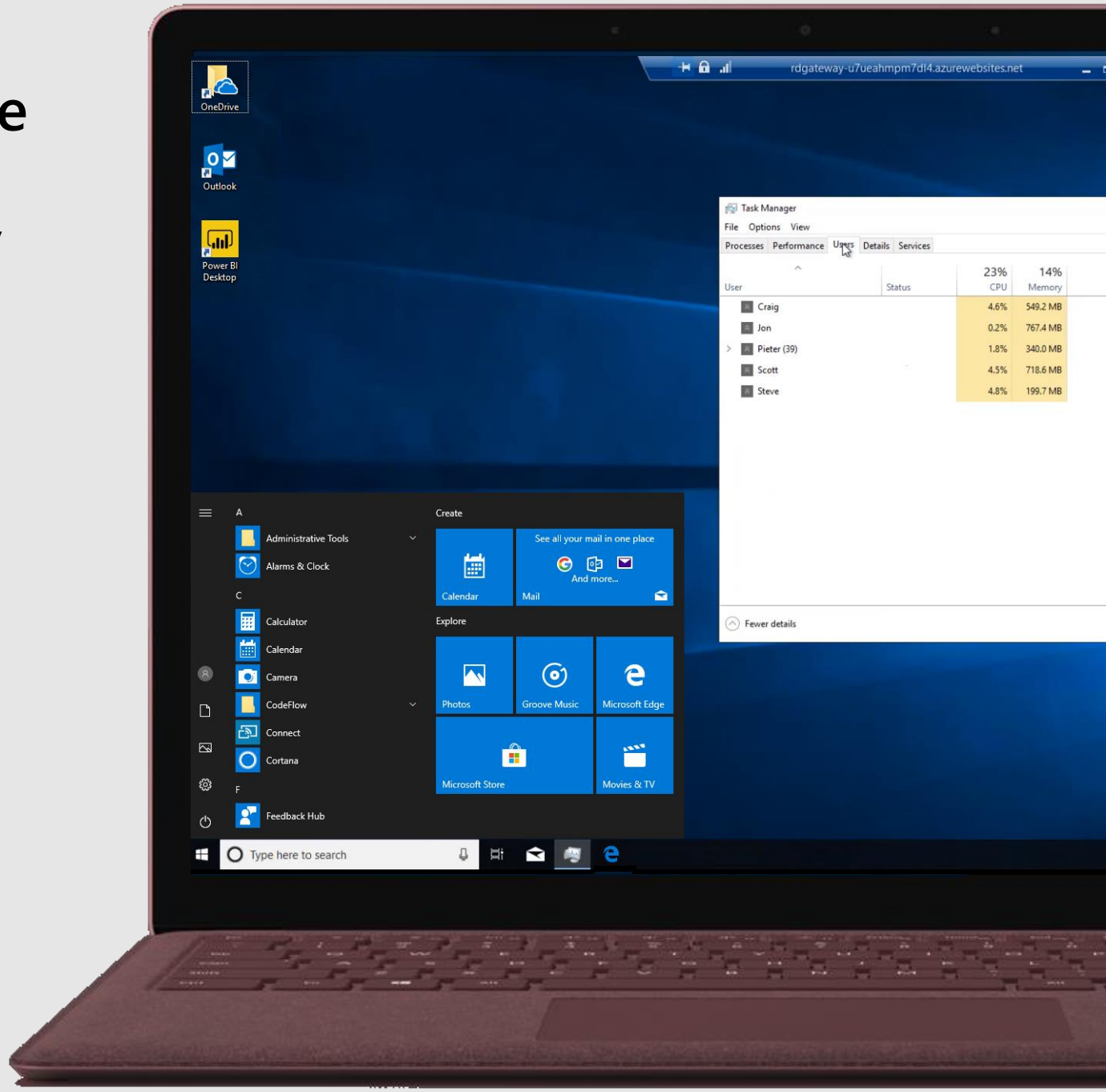
Windows 10 Enterprise with multi-session capability

Semi-annual channel cadence

Great application compatibility

Support for Modern Apps like Edge, Cortana and Microsoft Store

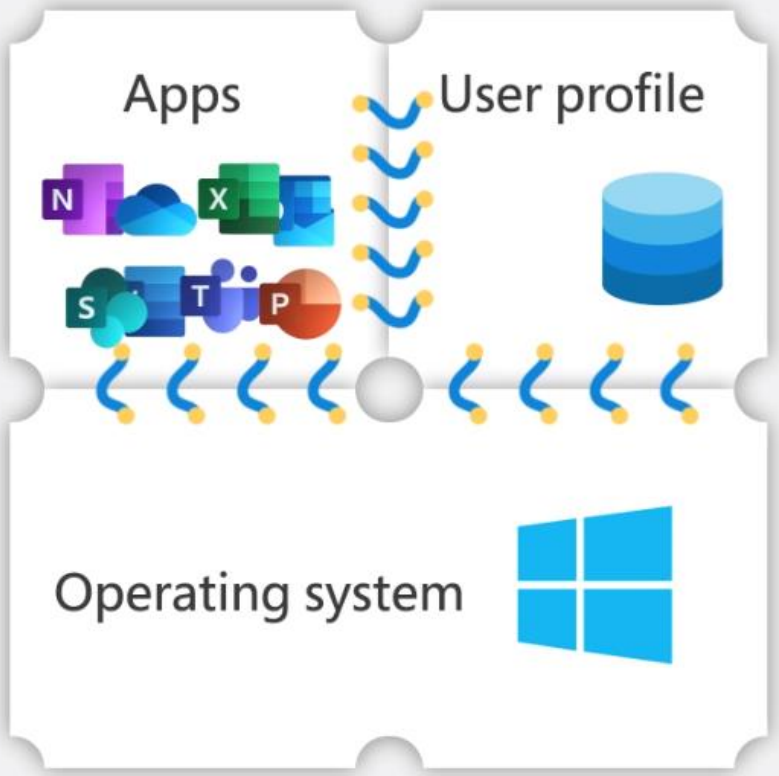
Optimized for Office 365 ProPlus



FSLogix

- Profile is stored in VHD/VHD(X)
- Same approach used by UPD
- Mounted at Login – faster login and no target storage requirement
- Size of Profile doesn't impact logon time
- VHD(X) = Block Transfer decreases network utilization
- Caching from Windows Cache Manager
- Profile Container redirects everything from the user profile.
- Filter driver causes profile to appear local – broader application support

Physical workstation: all components closely coupled



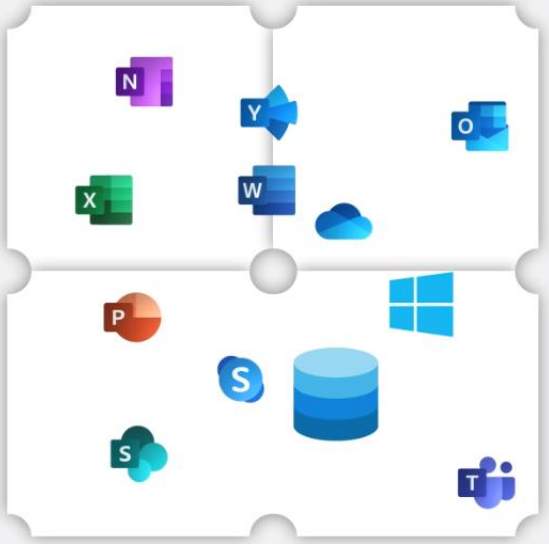
End-user compute environment

3 main components

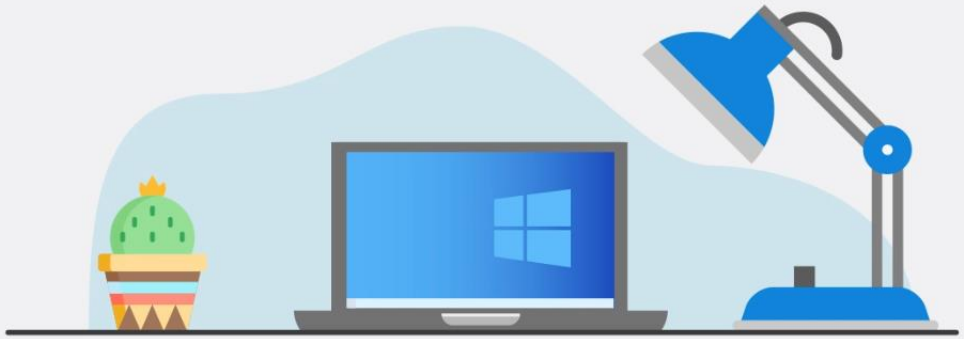
Operating system

Applications

User defined data



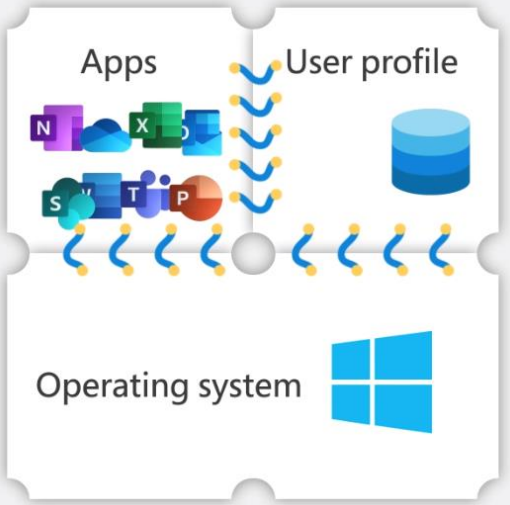
Data, applications, and OS

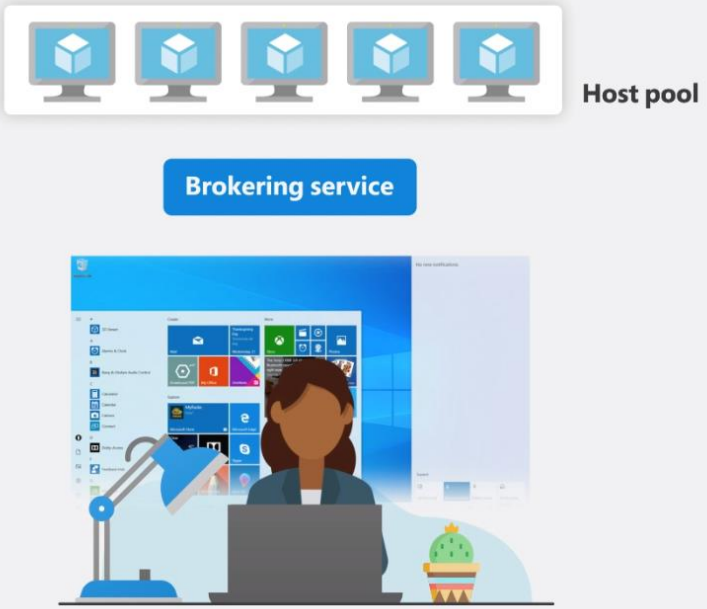


Virtualized compute environments

In an optimized virtualization environment,

a brokering service routes a user to a virtual machine from a host pool to a VM with the resources available to host the user's app or desktop workloads



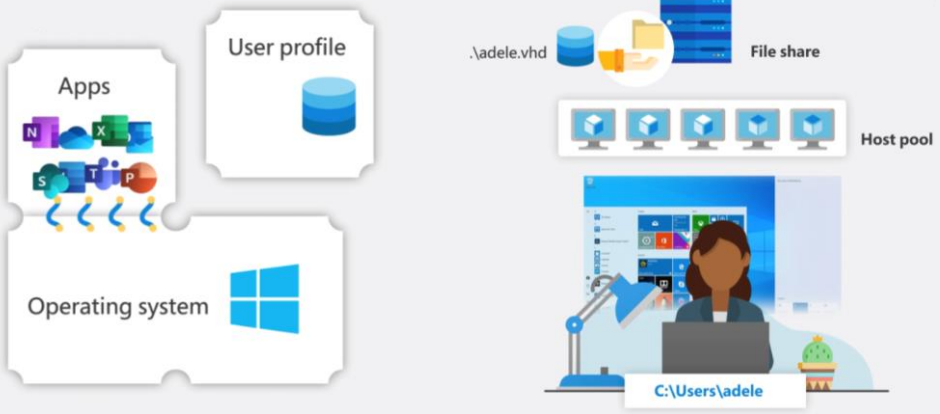


The promise: completely dynamic environments

Roaming user profiles get us half-way there

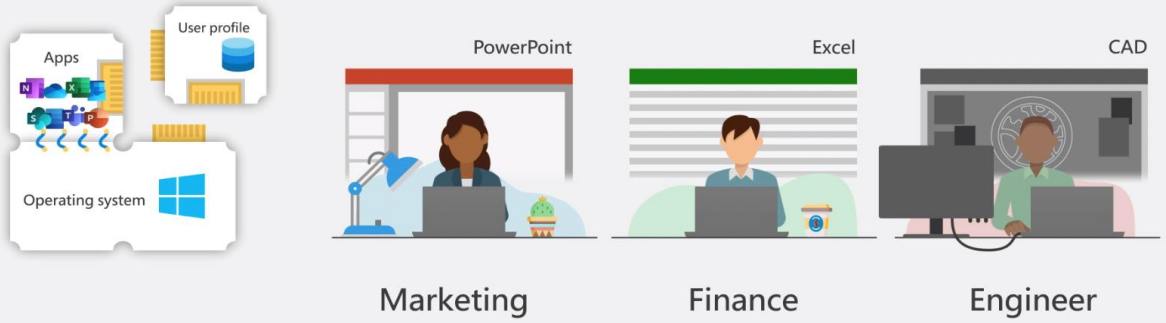
With FSLogix we've separated the user profile layer from the virtual machine

To the user it feels like you're saving and accessing files from a local disk

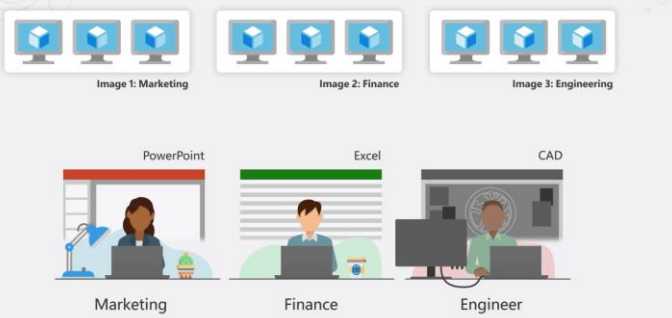


But—what about the apps?

- In a shared or pooled virtual machine, this is a challenge
- Each user might need a different set of apps
- They can be assigned to a different VM with each logon



Current options

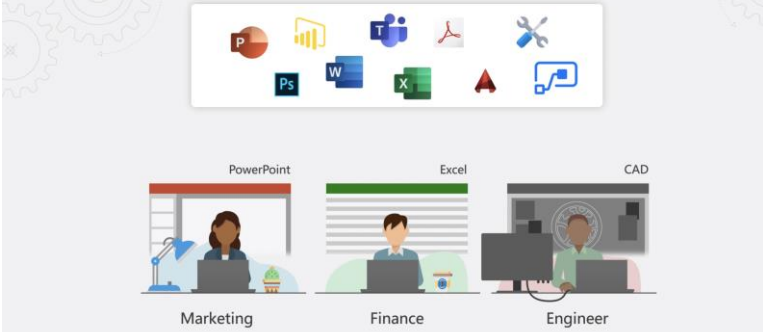


Current option 1: Multiple images by role

OPTION 1

Multiple images by role

- Manage numerous VM pools customized for different users' roles
- These images would all need to be individually maintained and patched
- High overhead



Current option 2: Mega single image with hidden apps

OPTION 2

Traditional App layering

- Image can get bloated
- Additional policies
- App licensing could be challenging

Current option 3: Streaming apps

OPTION 3

App streaming

- Requires apps to get cached into OS during user session
- Need to manage app streaming infra
- Possible need to repackage/ sequence the app

MSIX app attach

Native format is MSIX (no re-packaging)

Minimal performance impact

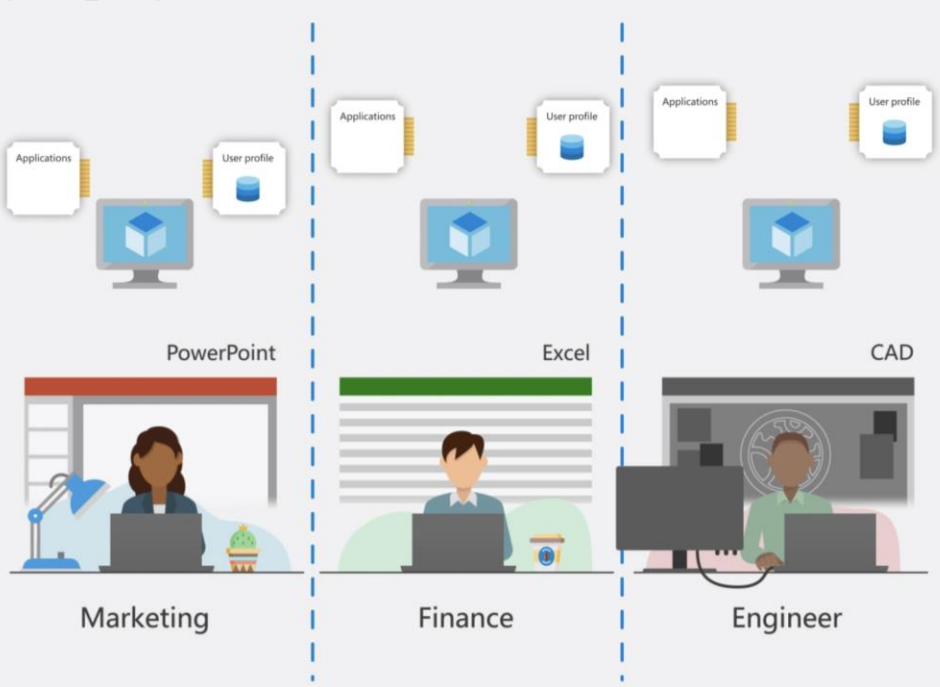
MSIX Apps can be stored off the windows disk

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 attach

Recommendations:

- Keep all Azure resources in same region
- Have a separate pool for apps and desktops
- Consider Azure files for profiles and app attach
- Use Reserved instances, SA and automation to save on VM costs

DEMO

Summary

- Microsoft service offering on Azure for VDI/RDSH management
- Enables a multi-user Windows 10 experience, optimized for Office 365
- Supports full desktop and RemoteApp
- Utilizes Azure Active Directory identity management service
- Use Azure service to deploy, scale and manage

Resources

- Getting started: WVD - https://techcommunity.microsoft.com/t5/windows-it-pro-blog/getting-started-windows-virtual-desktop-arm-based-azure-portal/ba-p/1374466
- WVD Virtual event - http://aka.ms/wvdvirtualevent
- Windows Virtual Desktop – https://azure.microsoft.com/en-us/services/virtual-desktop/
- Enable remote work faster with new Windows Virtual Desktop capabilities – https://www.microsoft.com/en-us/microsoft-365/blog/2020/04/30/enable-remote-work-faster-new-windows-virtual-desktop-capabilities/
- The next big innovation in Windows Virtual Desktop is here! - https://www.linkedin.com/pulse/next-big-innovation-windows-virtual-desktop-here-freek-berson/
- Getting started with FSLogix profile containers on Azure Files in WVD - https://techcommunity.microsoft.com/t5/windows-it-pro-blog/getting-started-with-fslogix-profile-containers-on-azure-files/ba-p/746477

CIAOPS Resources

- Blog – http://blog.ciaops.com
- Free SharePoint Training via email – http://bit.ly/cia-gs-spo
- Free Office 365, Azure Administration newsletter – http://bit.ly/cia-o365-tech
- Free Office 365, Azure video tutorials – http://www.youtube.com/directorciaops
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