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Microsoft Windows Virtual Desktop

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Windows Virtual Desktop – the value in EDU

Students can access Labs/VMs/Apps via the Internet from anywhere, any device, any time

Your school can deploy VDI in minutes, not days & leverage existing M365 A3/A5 licensing

Your student can show up with any BYOD system and still get their apps and/or full student desktop

Your IT staff does not have to install or configure anything on the Student's BYOD system

Your school can re-use low performing hardware leveraging high performance Azure GPU based VM to each student

WVD Use Cases In Education

Elastic Student & Faculty Support

Student turnover per semester

Seasonal faculty/class requirements

BYOD and mobile support

Seasonal Testing w/locked down Windows 10

Specialized workloads

Access to class-specific Apps or Desktops

Design and engineering (GPU)

Legacy Win32 apps

Win10-only apps

Software dev test (+offshore)

Windows Virtual Desktop

New Microsoft Azure service for VDI

Supports Students & Faculty with

- Remote desktops - both Pooled and Personal
- Remote App publishing

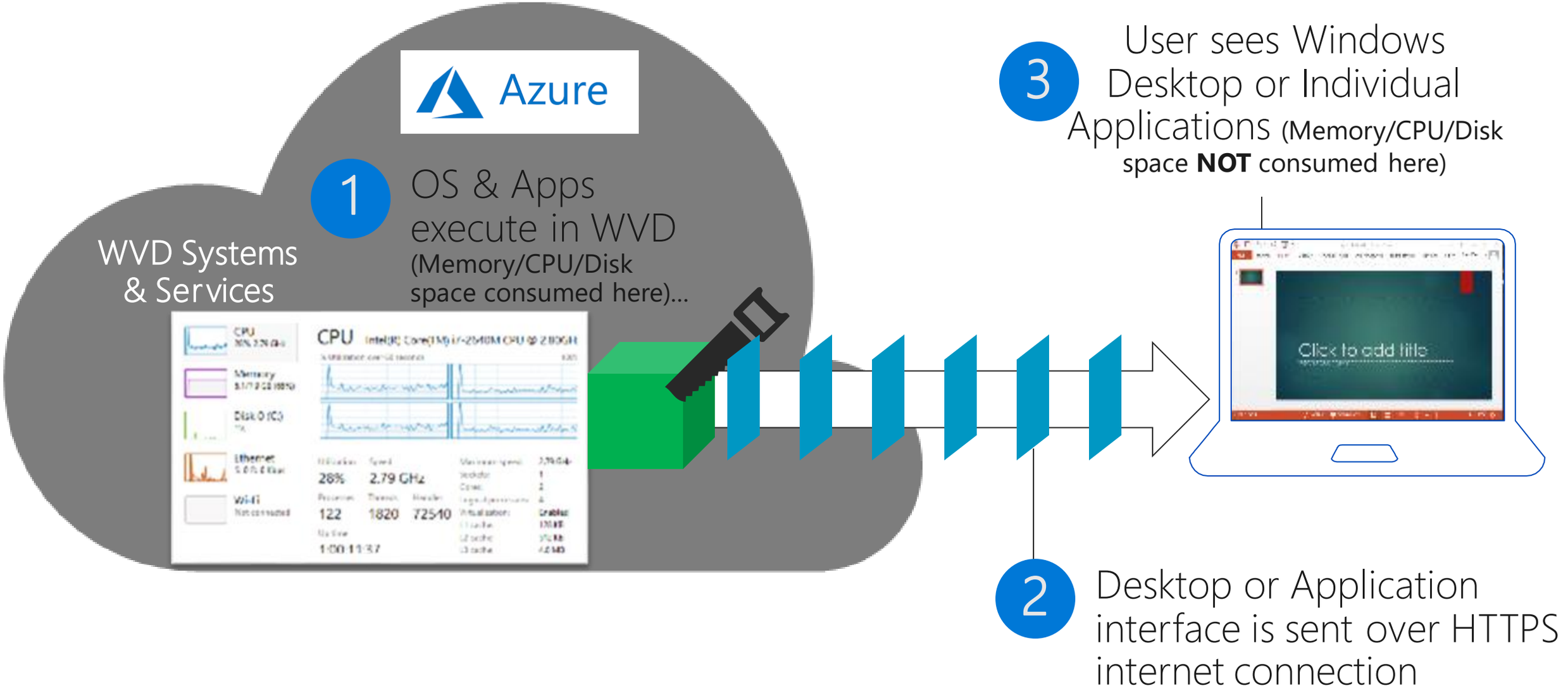
Benefits:

- Minimal infrastructure setup
- Integrated with the security and management of AD & Azure AD (MFA)

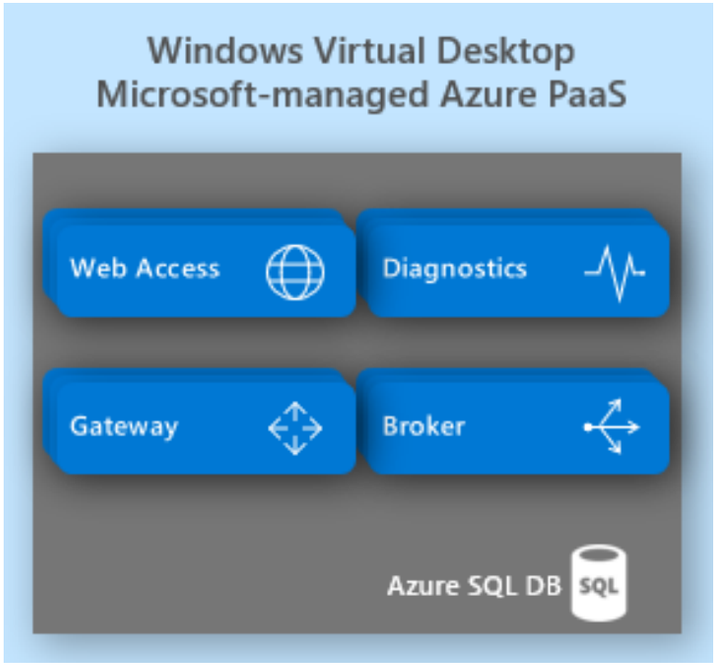
Leverage existing:

- Group Policy-based management in AD
- Windows management tools (patch, update, monitor WVD systems with tools you use today)
- Org strengths in AD and AAD management

WVD – Remote Apps & Remote Desktop Concepts



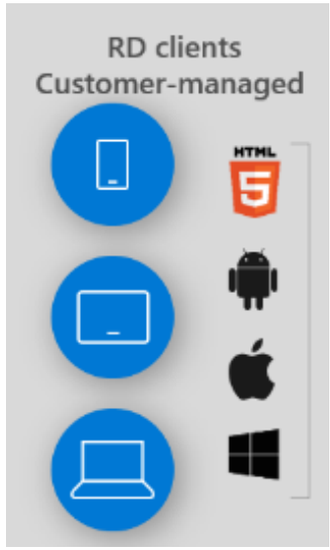
The Technical Innovations in WVD

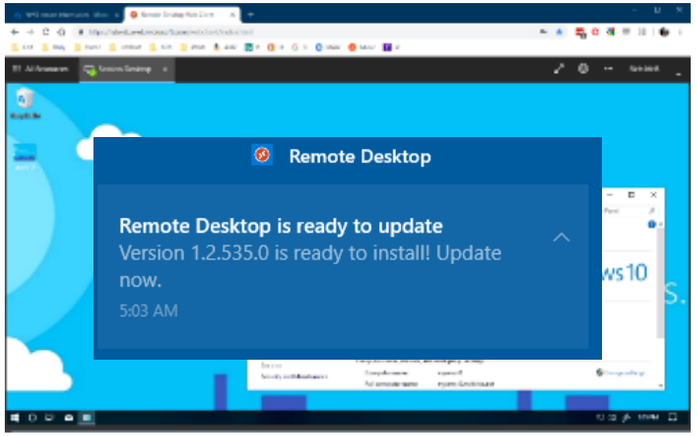


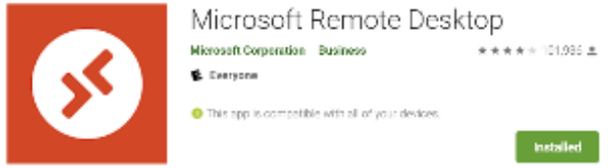
PaaS Services to Supplant Server Farms

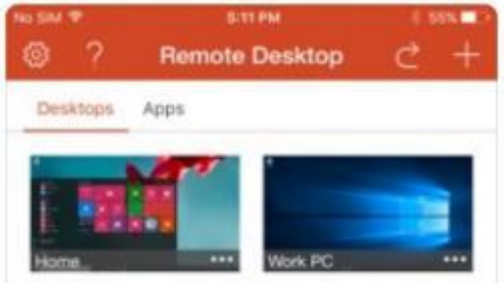
HTML5 and New Full Clients

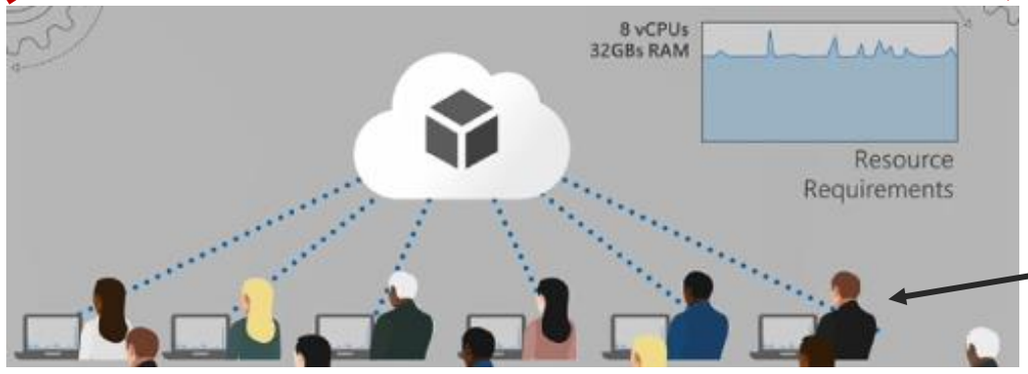
Multi-user Windows 10











Profile Management Solution (FSLogix)

- User's Profile
- VHD on Network Share
- Mounted at logon
- Seamless, fast

What Makes Windows Virtual Desktop (WVD) Unique?
Windows 10 is now Multi-User

Windows 10 Enterprise for Virtual Desktops

- 1 Windows 10 VM, multiple users
- GPU and broad VM options based on scale requirements

Binary compatibility with Windows 10

Only available through Windows Virtual Desktop in Azure

Managed like you manage Windows 10 today

Virtualizing Windows 10 Multisession

- Windows 10 Enterprise for Virtual Desktop
- Multiple or single session

Windows 10

Scalable multi-user legacy Windows environment.

Windows 10

Single/multi user

Remote App

Full Desktop only

Virtualizing Windows Server

- Windows Virtual Desktop support remote desktop session host
- Remote App

Windows Server

Scalable multi-user legacy Windows environment.

Windows Server

Multiple sessions

Legacy Win32

Office 2019 Perpetual

Virtualizing Windows 7

- 3 years ESU included
- Allow to leverage full Windows 7 desktop
- Use App Assure or something else first
- Last Resort

Windows 7

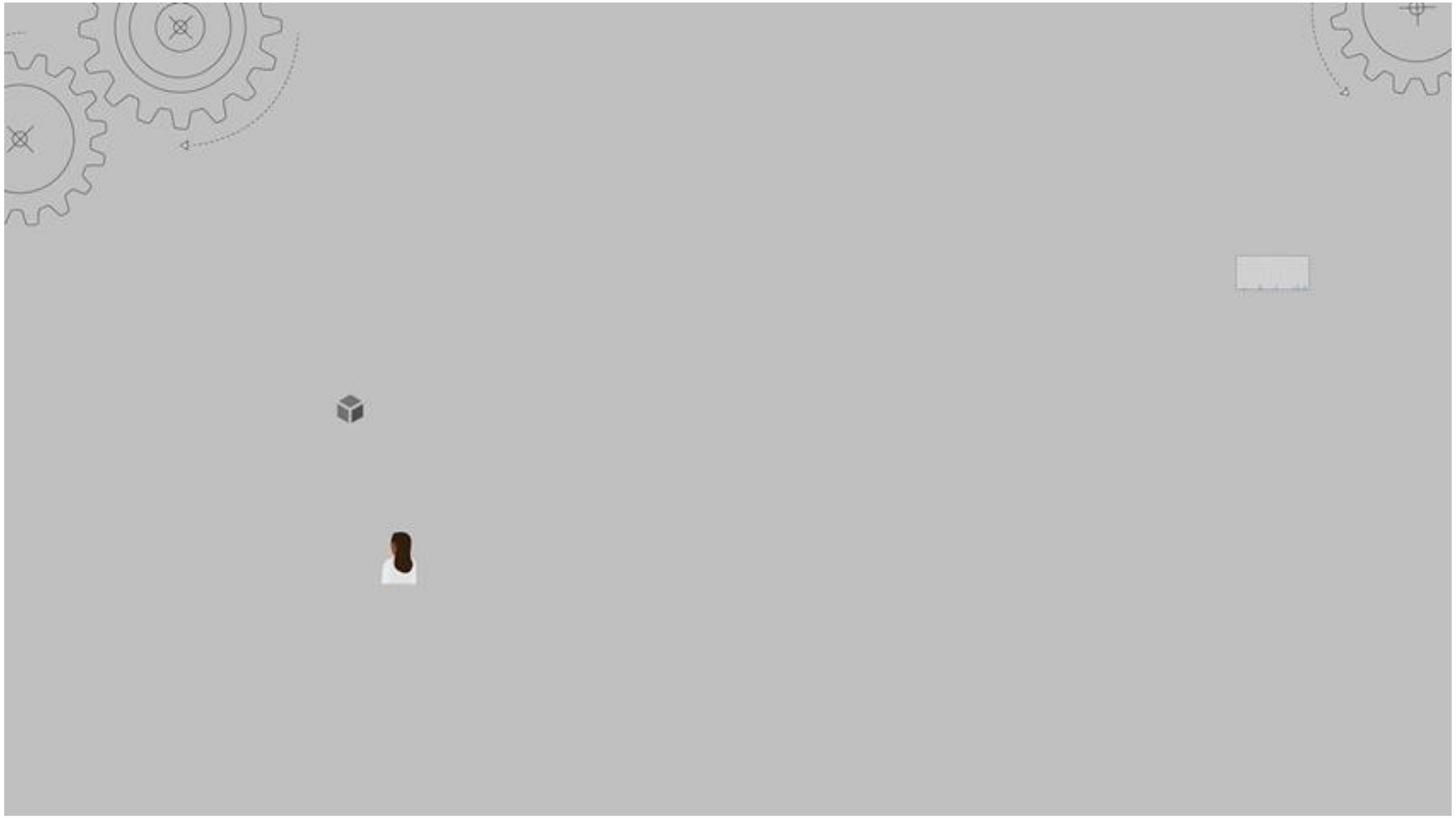
Single user

Legacy Win32

Full Desktop only

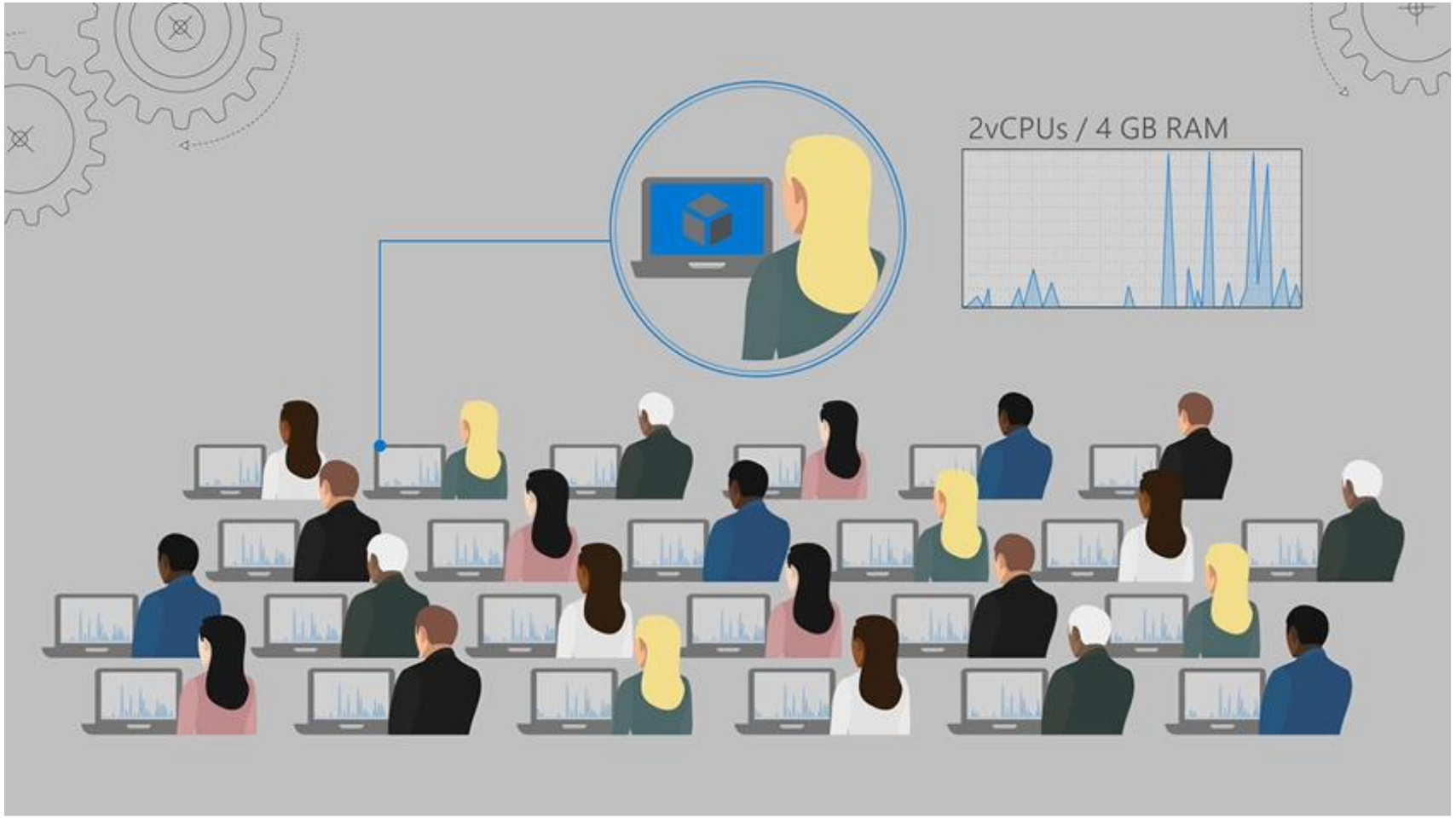
Classic VDI Approach: Dedicated VM per User

- 1VM/User
- VMs largely underutilized
- FIVE Systems to monitor, patch, manage



WVD Windows 10 Multi-User Lowers Costs, Simplifies Management

- 1VM/Multi User VM
- VM utilization upside
- ONE System to monitor, patch, manage



Technical Insights

Native Windows Virtual Desktop

High Level Architecture

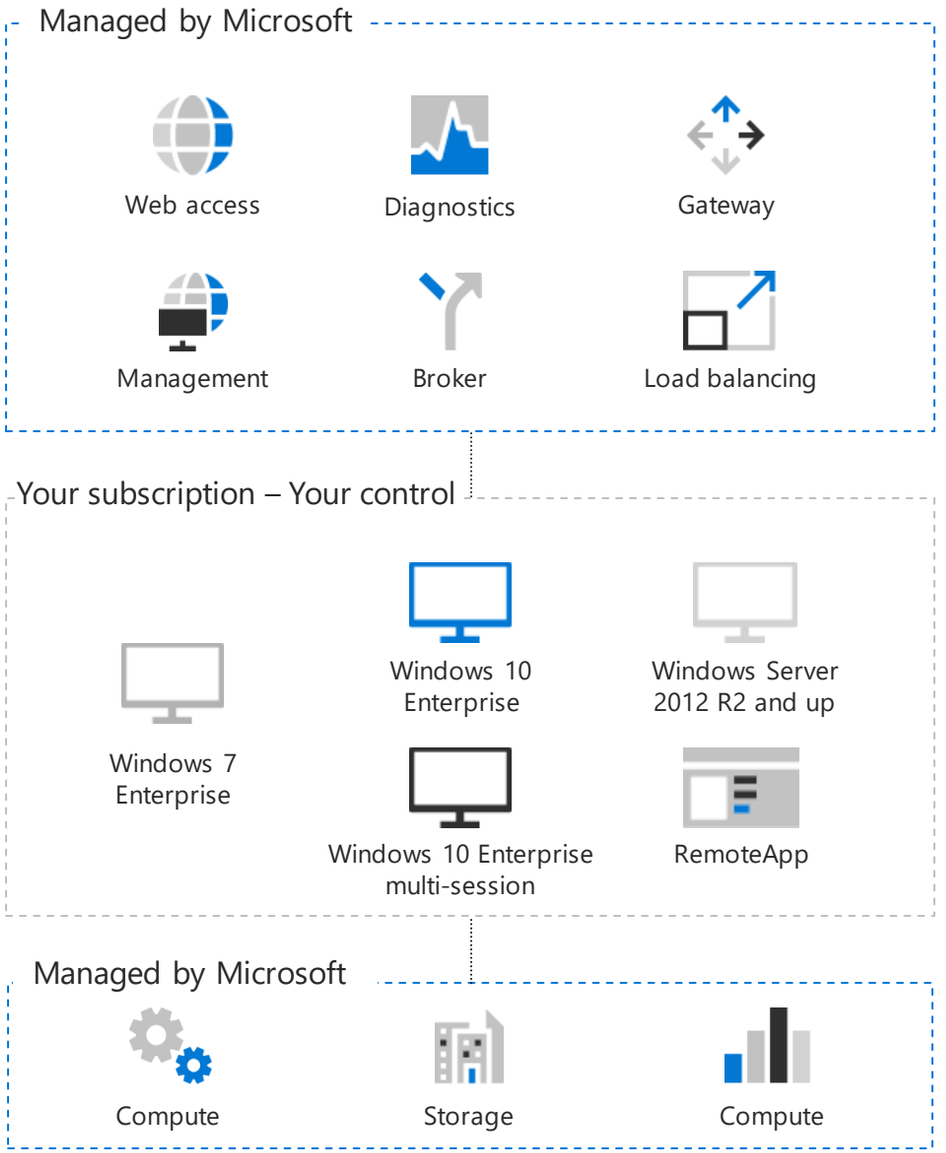
Use Azure Active Directory identity management service

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



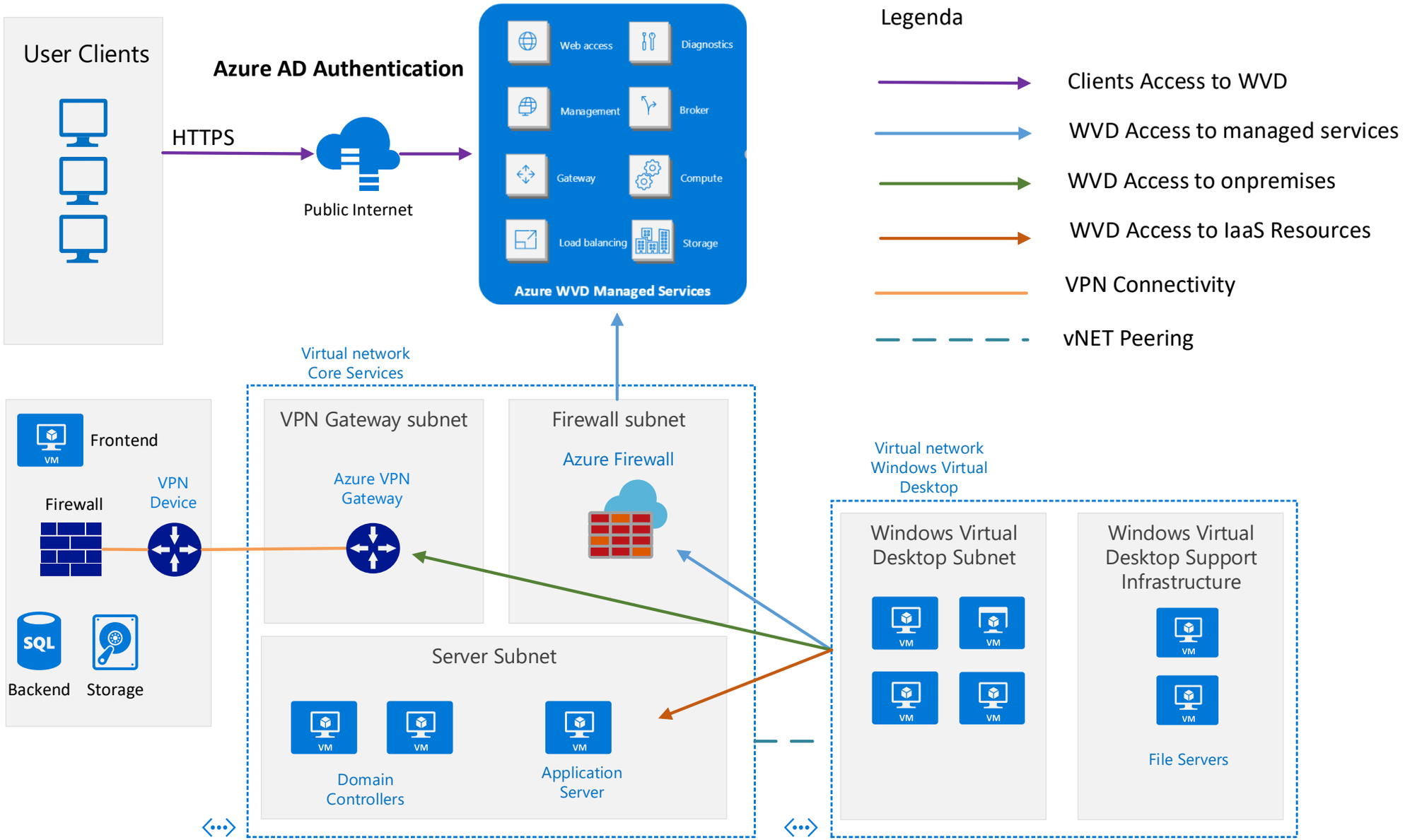
Service Features

Diagnostics, monitoring, and alerts

- Track the health and performance of your Windows Virtual Desktop environment with Azure Monitor, Log Analytics

- **Role-based access controls**
- Windows Virtual Desktop uses a role-based access controls model to manage access to the tenant environment.

Connectivity Flow



Full desktop vs. RemoteApp

Based on what your users need to do.

Full desktop	Use RemoteApp
Provide a full desktop experience with access to the Company infrastructure, under the control and the policy of the IT department	Provide only the needed set of applications to each group of users

WVD Session Hosts are deployed in your infrastructure

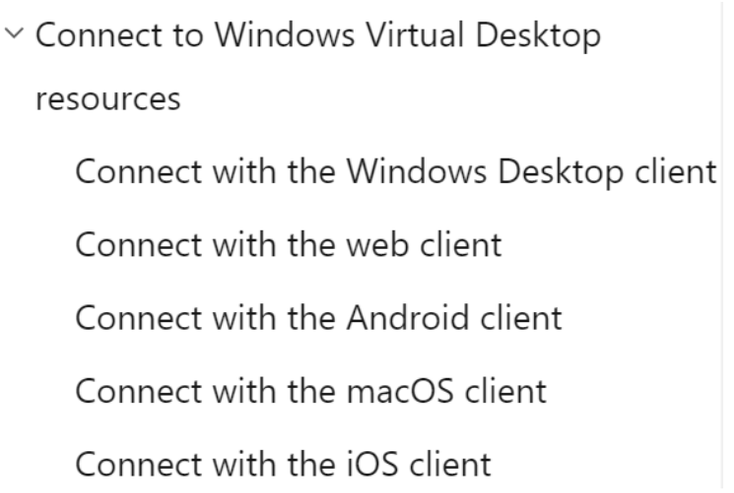
You can enforce your policies and your security posture

You can further limit session exposure with a broad set of RDP Properties

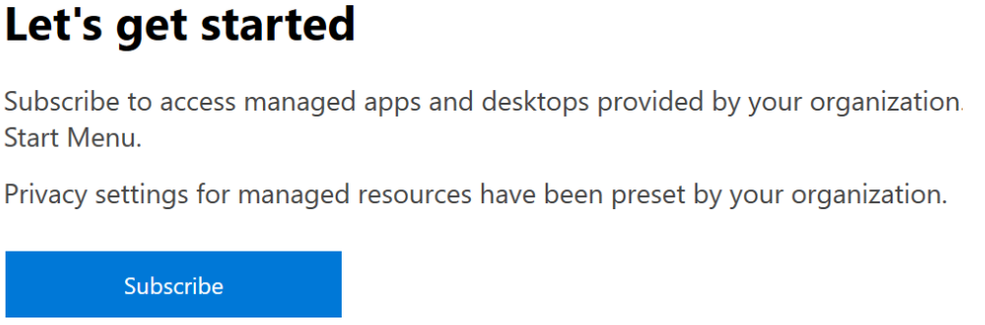
User Access Experience

Access Flow

- **User downloads and launches WVD client for his OS**

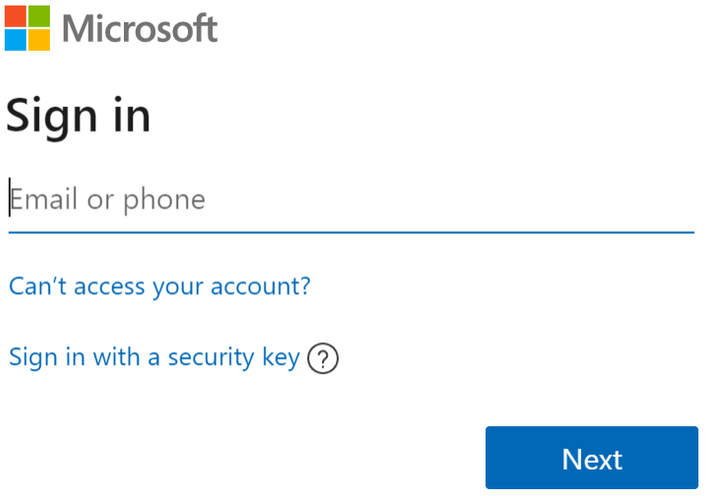


- **User subscribes to his WVD Feed**

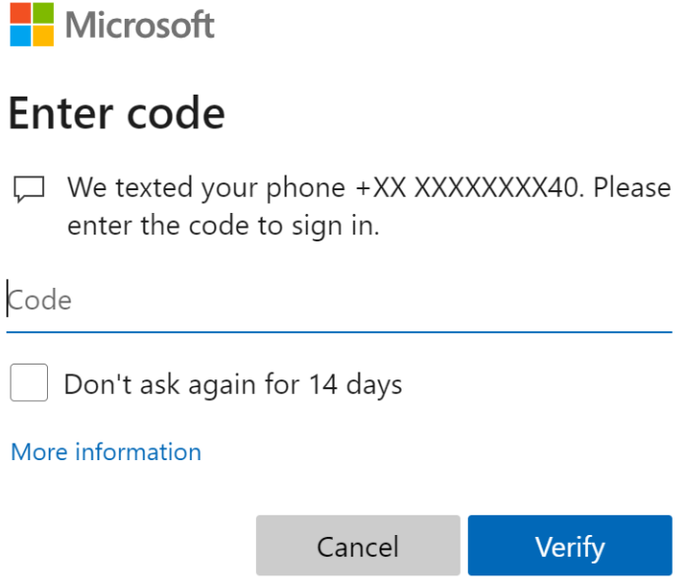


Access Flow

- **Azure AD Authentication requested**

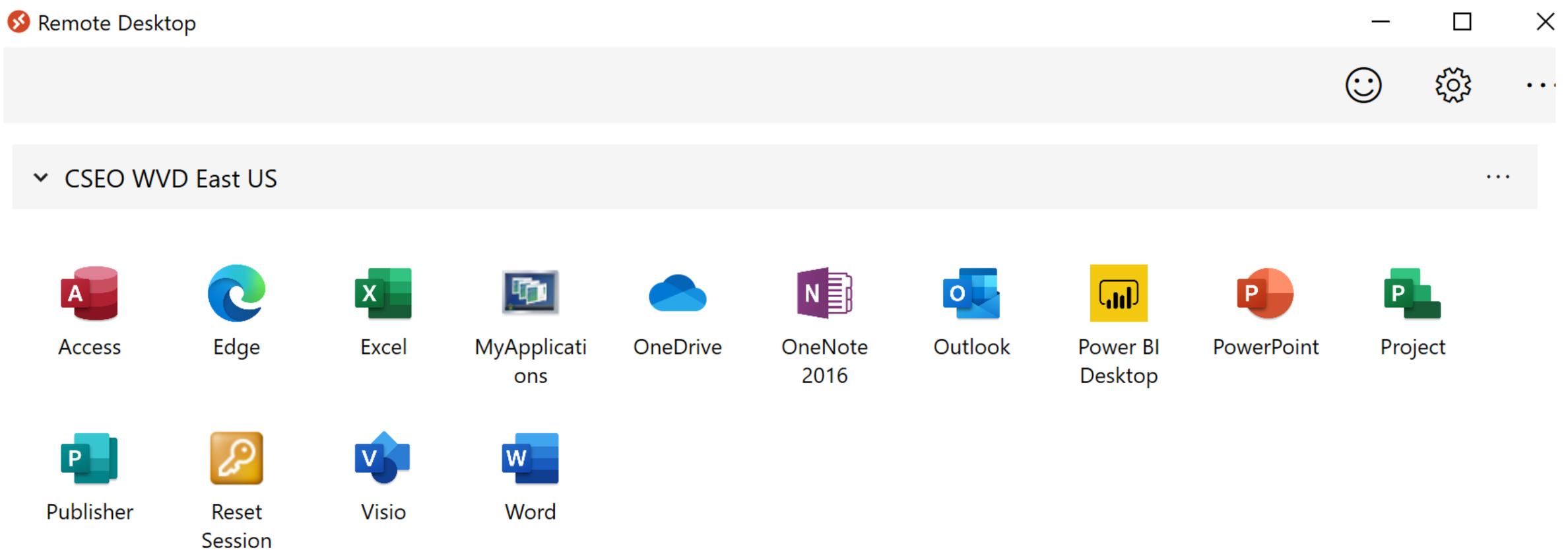


- **2nd Factor Authentication requested – if enabled**



Access Flow

- **User can access published application / desktop**



Deployment Overview

Prerequisites to deploy Windows Virtual Desktop

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

STEP 1

Choose an identity strategy

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

STEP 2

Choose where to host FSLogix profiles

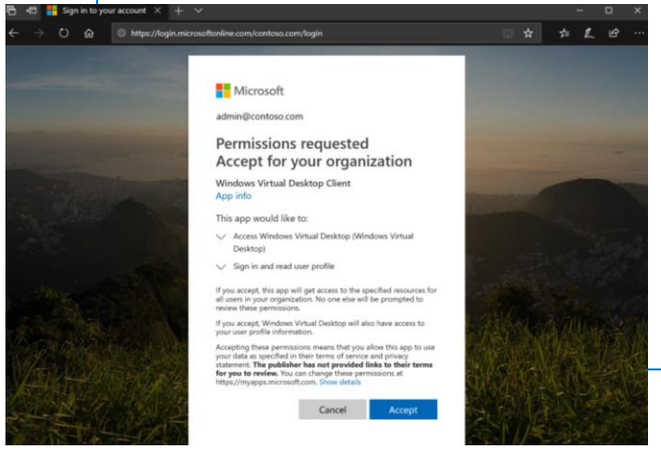
- Fileserver
- Azure Files with Azure ADDS
- Azure NetApp Files

STEP 3

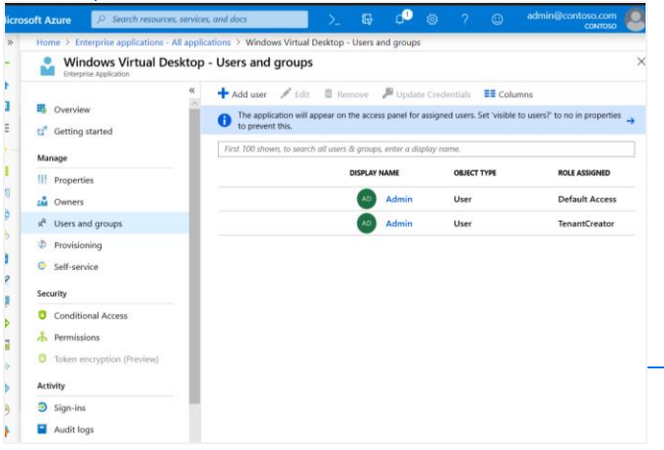
Make sure you have all credentials needed

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

Create Windows Virtual Desktop tenant



Grant Azure AD consent



Assign a Tenant Creator

Create your tenant

Automation

- Create or update VMs for a host pool
  - Create and provision host pool
  - Update VMs in existing host pool
- Scale your host pool
  - Scaling script

WVD Deployment and management options

Deployment

Onboarding will be through Azure Marketplace or through GitHub using ARM templates to deploy new or update existing host pool

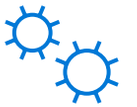
Management

Azure Portal will enable native integration post GA for deployment and management alongside other Azure services

Use REST API's to set and manage WVD directly, build complex workflows – sample UI and outlines for customers will be provided

PowerShell is the best option for repeatable deployment, Azure integration, and DSC

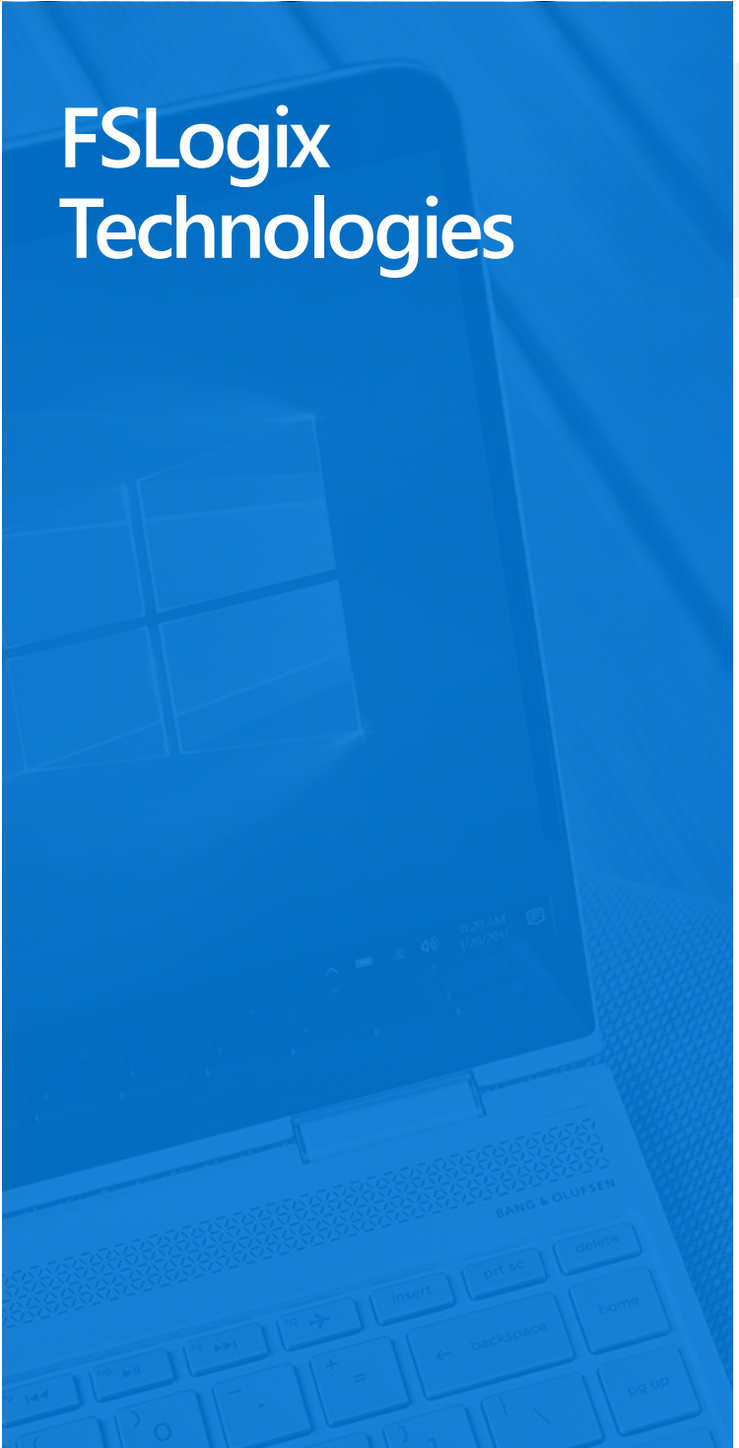
Other options include Terraform or partner management solutions



Hosting partners

Leverage multitenancy support to scale the number of customers

FSLogix Technologies



With the acquisition of FSLogix, eligible customers will get access to the technology

Profile Container

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

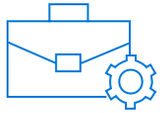
- Includes Office 365 Container, which roams Office cache data (Outlook OST, OneDrive cache, Skype for Business GAL, etc.) and Windows Search DB with user in virtual desktop environments.

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.

Implementation Guidance – infrastructure management

Master Image Management



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

- Azure Update Management
- System Center Configuration Manager
- 3rd party

Best practices document will be provided to assist in configuration of a golden image for WVD

Application masking technology to minimize the number of golden images and simplify app image management

Demo
Infrastructure Quick Tour

Microsoft 365

Thank you

Resources – Getting Started

Required Reading: Getting started with Windows Virtual Desktop

PG Sessions and Summary Guidance:

- All you need to know about Windows Virtual Desktop | On Demand
- Webcast resource guide: All you need to know about Windows Virtual Desktop

YouTube sessions:

- Azure Academy Virtual Desktop Series
- Optimizing your applications for Windows Virtual Desktop
- Azure Windows Virtual Desktop Public Preview Walkthrough
- Azure Windows Virtual Desktop FSLogix Profile Management Walkthrough

Online Tutorials:

- Tutorial: Create a tenant in Windows Virtual Desktop Preview
- Tutorial: Create service principals and role assignments with PowerShell
- Tutorial: Create a host pool with Azure Marketplace
- Tutorial: Manage app groups for Windows Virtual Desktop Preview

Key EDU Resources

- Azure Hour led by EDU technical team
  - 300-400 level weekly AMA talks with updates, news, and focus on specific Azure technology drill-downs
  - https://aka.ms/edu/azurehour
- US EDU Azure Team YouTube channel
  - Training, workshops, nuggets of Azure content)
  - https://www.youtube.com/channel/UCFFl4q9VC-nquBdCnQ5igrQ
- Azure EDU GitHub repo
  - Workshops, templates, etc.
  - https://github.com/Microsoft-USEduAzure
- Microsoft Higher Education Data Community and Microsoft K12 Data Community on Teams:
  - Higher Ed Professionals: https://aka.ms/MHEdatacommunity
  - K12 Professionals: https://aka.ms/MK12datacommunity
  - Microsoft Employees: https://aka.ms/EDUdatacommunities
- Azure External Higher Education Collaboration Forum – Global community for students and faculty to collaborate