Microsoft

Windows Virtual Desktop Workshop

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Windows 10 Multi-Session

Virtualization Hosts Today

Windows Server Desktop Experience

Scalable multi-user **legacy** Windows environment.

Windows Server

Multiple users

Win32

Office 2019 Perpetual

Long-Term Servicing Channel

Windows 10 Enterprise

Native single-session **modern** Windows experience.

Windows 10

Single user

Win32, UWP

Office 365 ProPlus

Semi-Annual Channel

Virtualization Hosts of the Future

Windows Server RD Session Host

Scalable multi-user **legacy** Windows environment.

Windows Server

Multiple users

Win32

Office 2019 Perpetual

Long-Term Servicing Channel

Windows 10 Enterprise Multi-session

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

Windows 10

Multiple users

Win32, UWP

Office 365 ProPlus

Semi-Annual Channel

Windows 10 Enterprise

Native single-session **modern** Windows experience.

Windows 10

Single user

Win32, UWP

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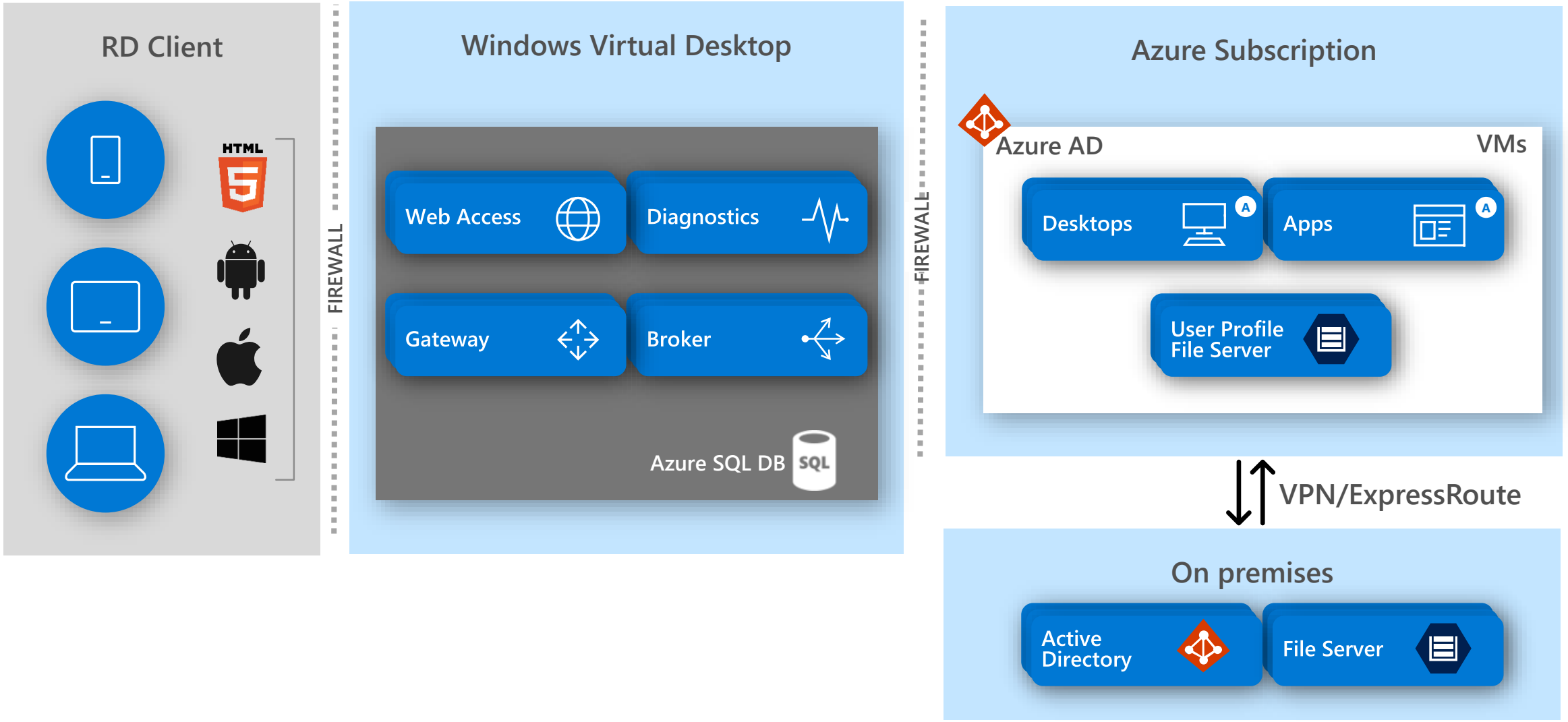
Semi-Annual Channel

Windows Virtual Desktop



Windows Virtual Desktop

High Level Architecture

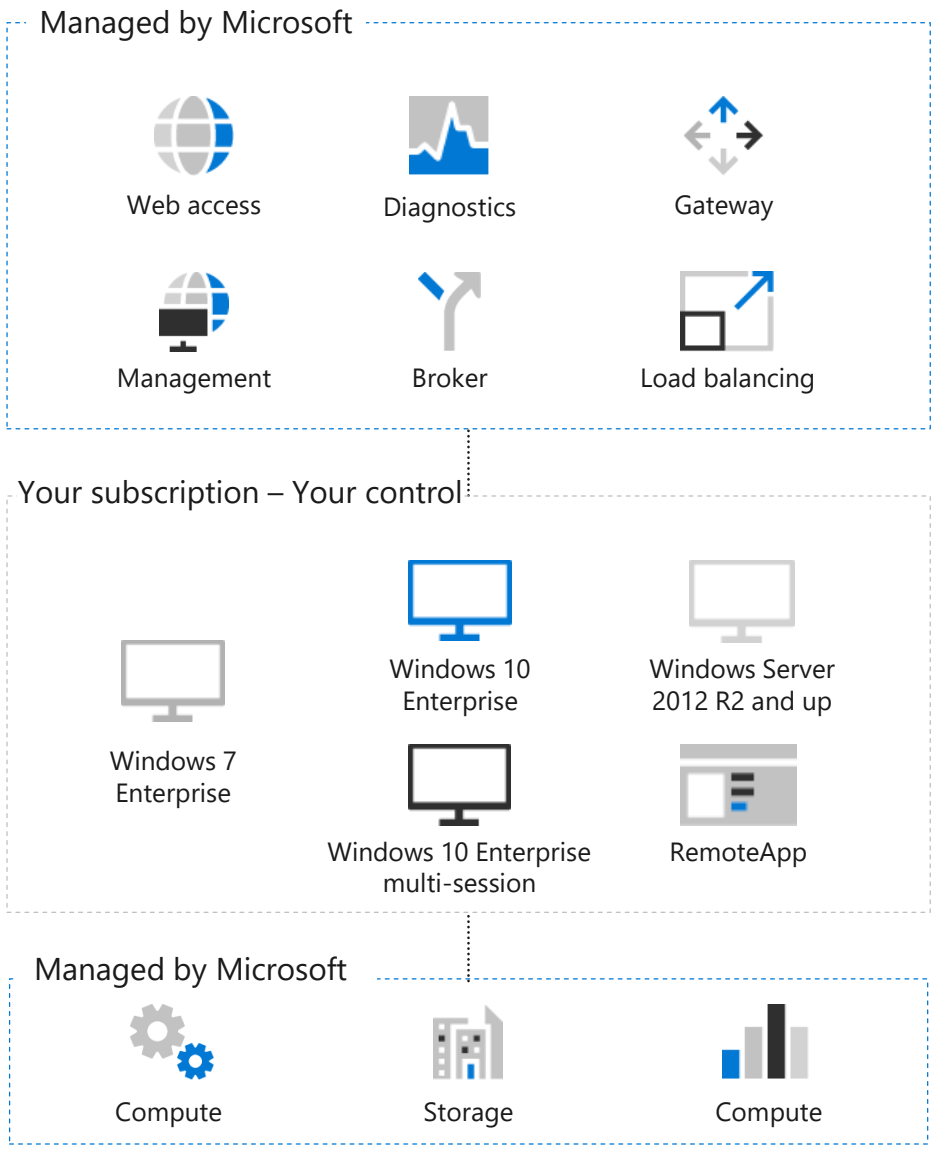
Use Azure Active Directory identity management service

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



Requirements

Azure Subscription

Azure Active Directory setup

- Full admin rights
- Azure AD Connect
- ADFS (optional for SSO)
- ADDS (optional)

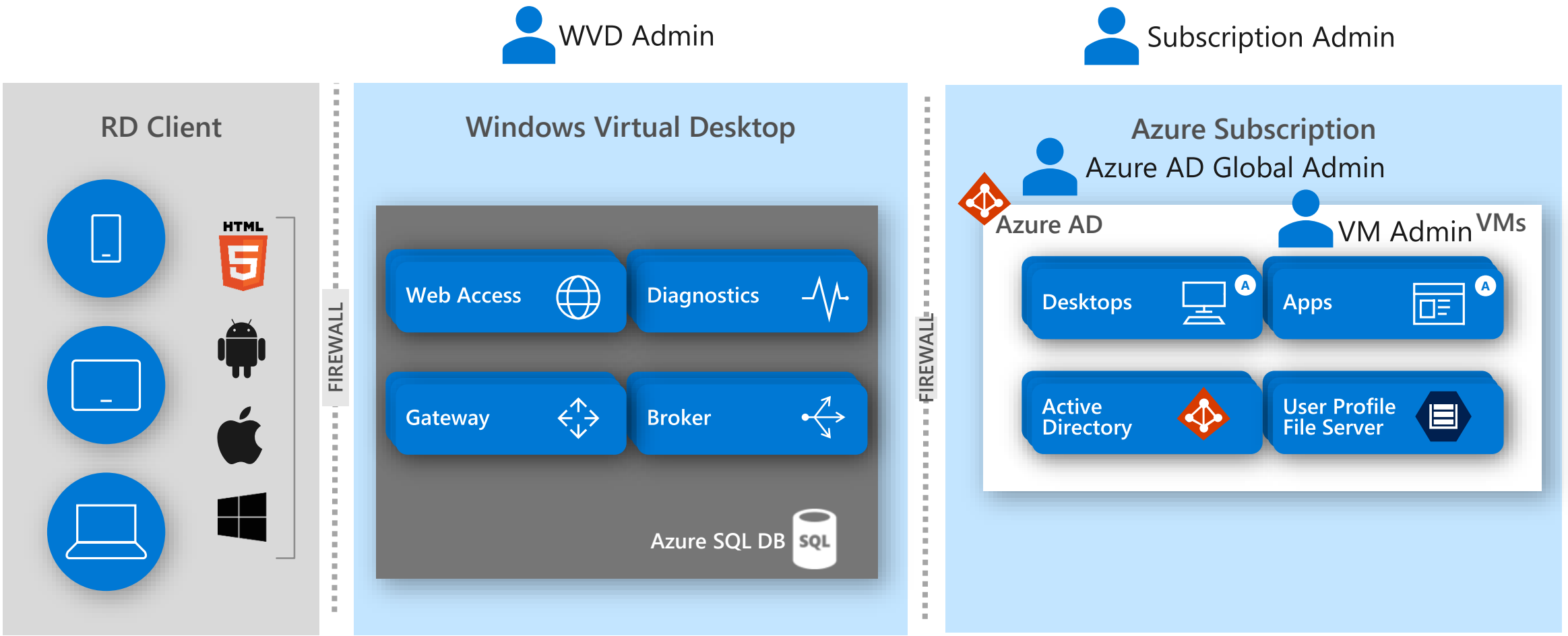
Domain controller

Optional: Networking/on-premises connectivity – express route, VPN, etc.

Entitlement check (licensing)

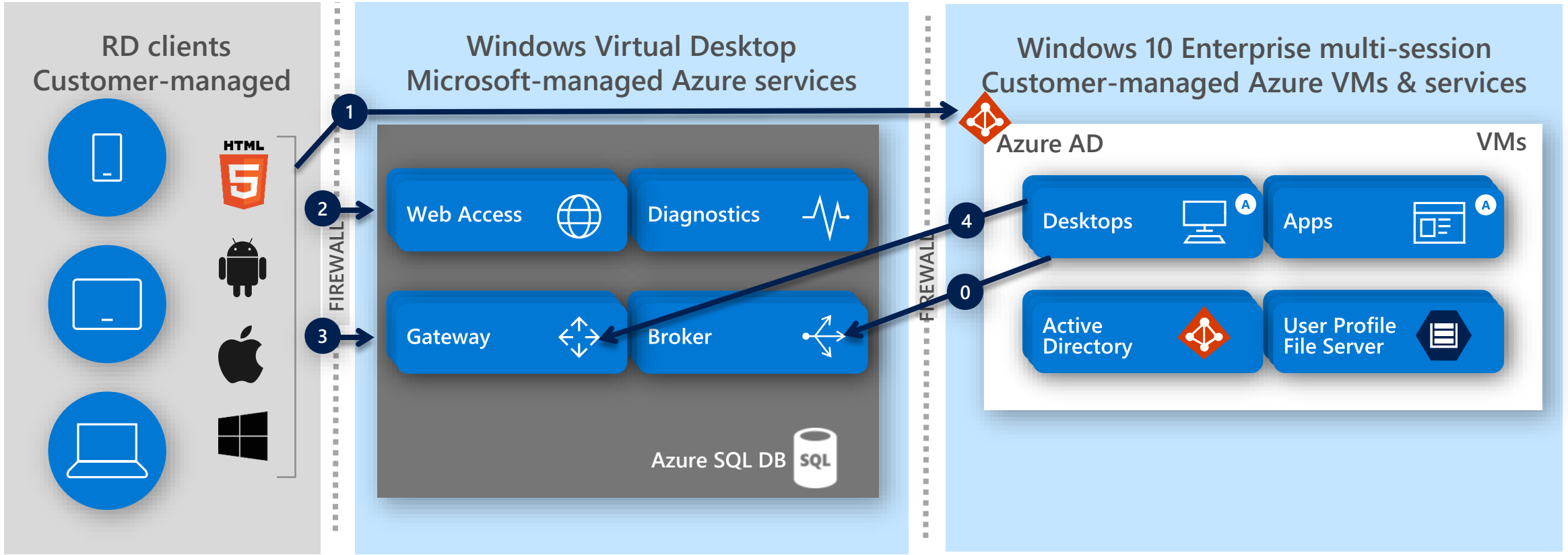
WVD Architecture Overview

Administrators



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

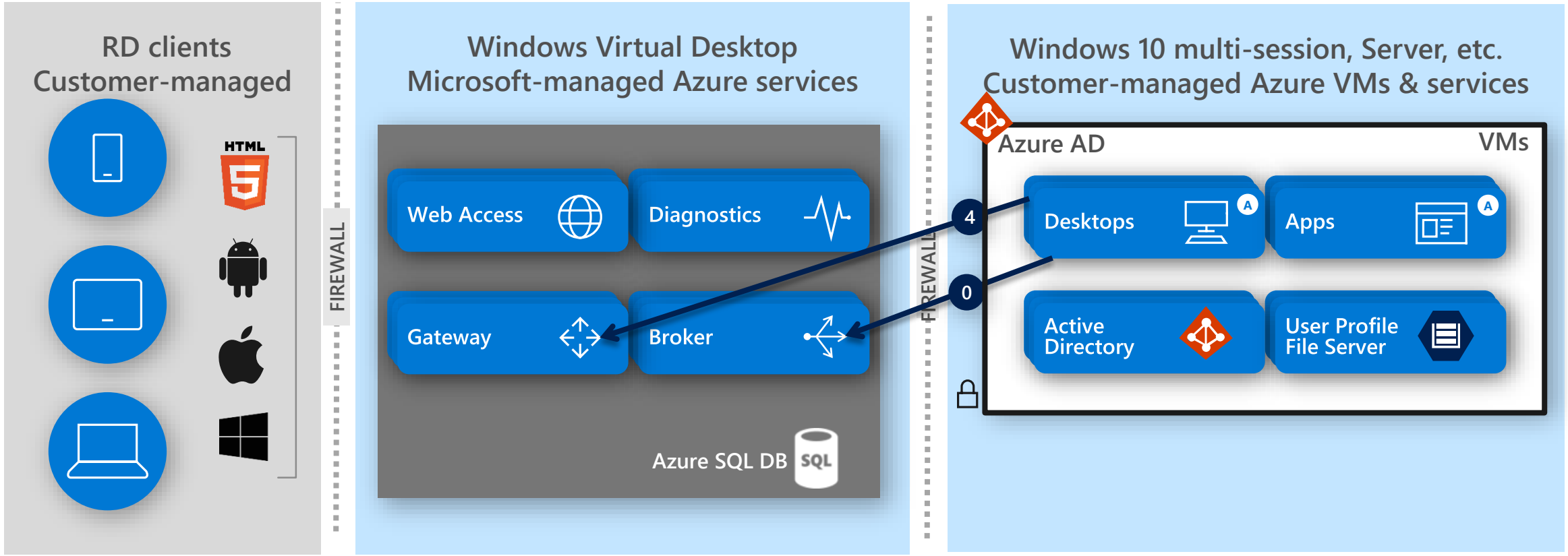


Improved Isolation: Reverse Connect

Outbound WebSocket connections from customer VMs to Broker and Gateway

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

No inbound ports need be opened to the customer environment



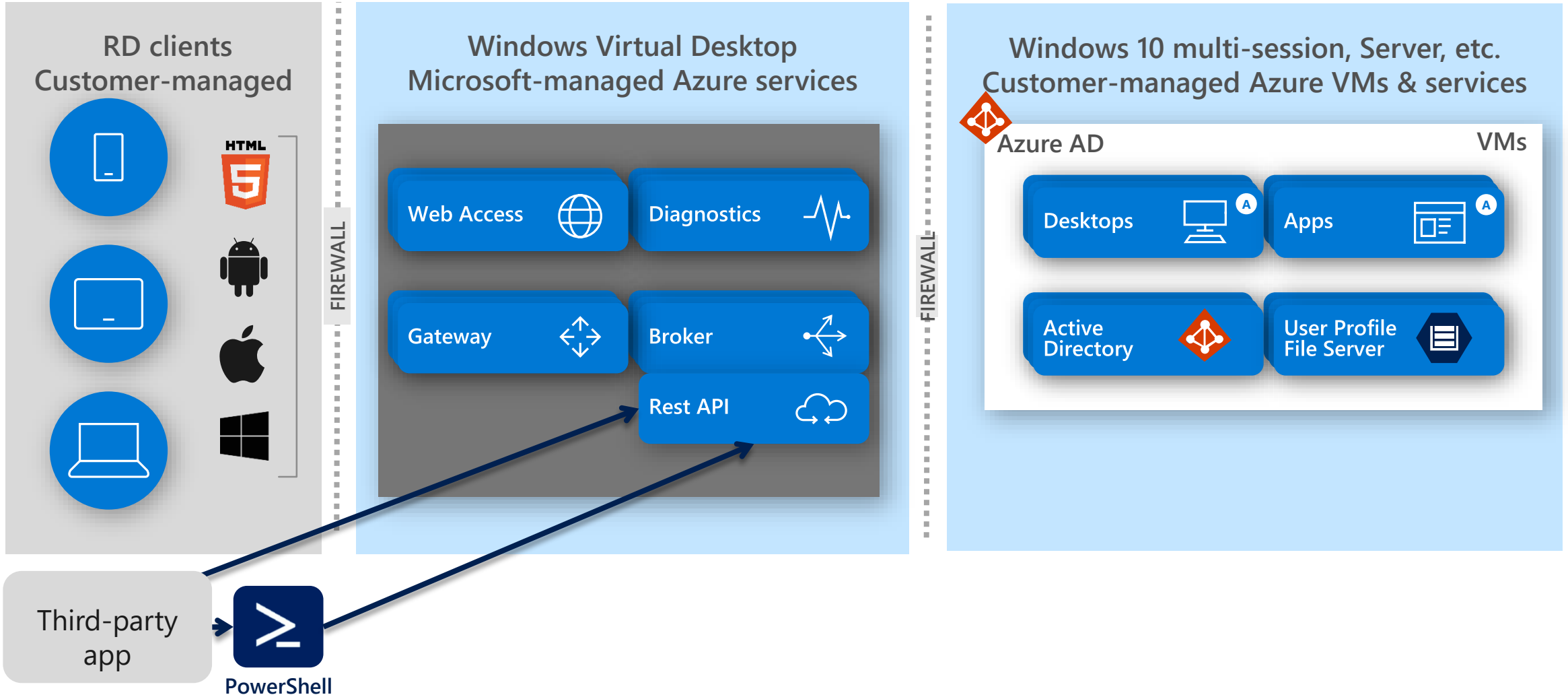
HostPool flexibility

- RemoteApp and desktop app groups
- Set different load balancing algorithms
- Single or multi-session session host VMs
- Pooled or personal session host VMs
- Windows Server 2016/19 or Windows 10/7 VMs

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.



Windows Virtual Desktop Clients

Connectivity

Remote Desktop Client (RDClient)

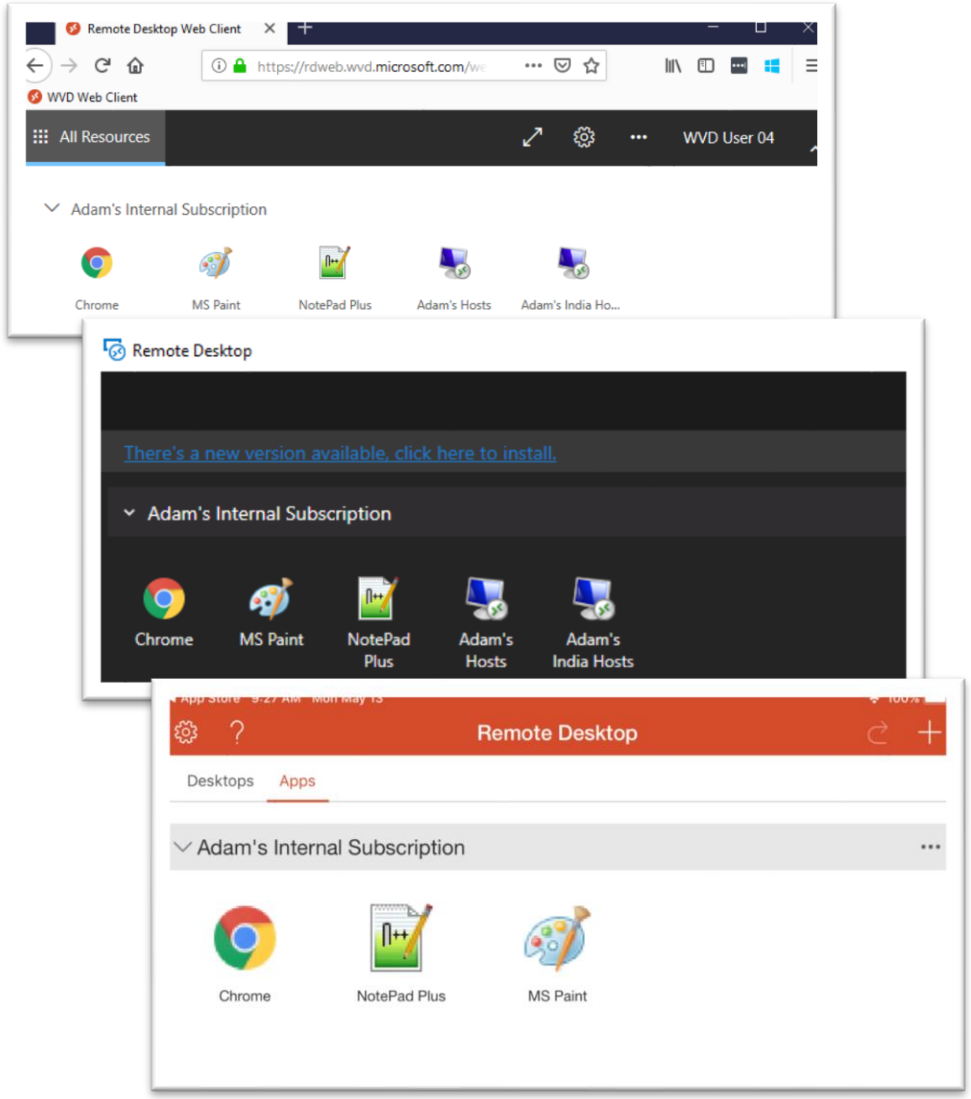
- Preferred
- Win 10\7
- Start menu integration / Notifications

Web Client

- Requires HTML5 compatibility
- Minimum integration with OS

Mobile Clients

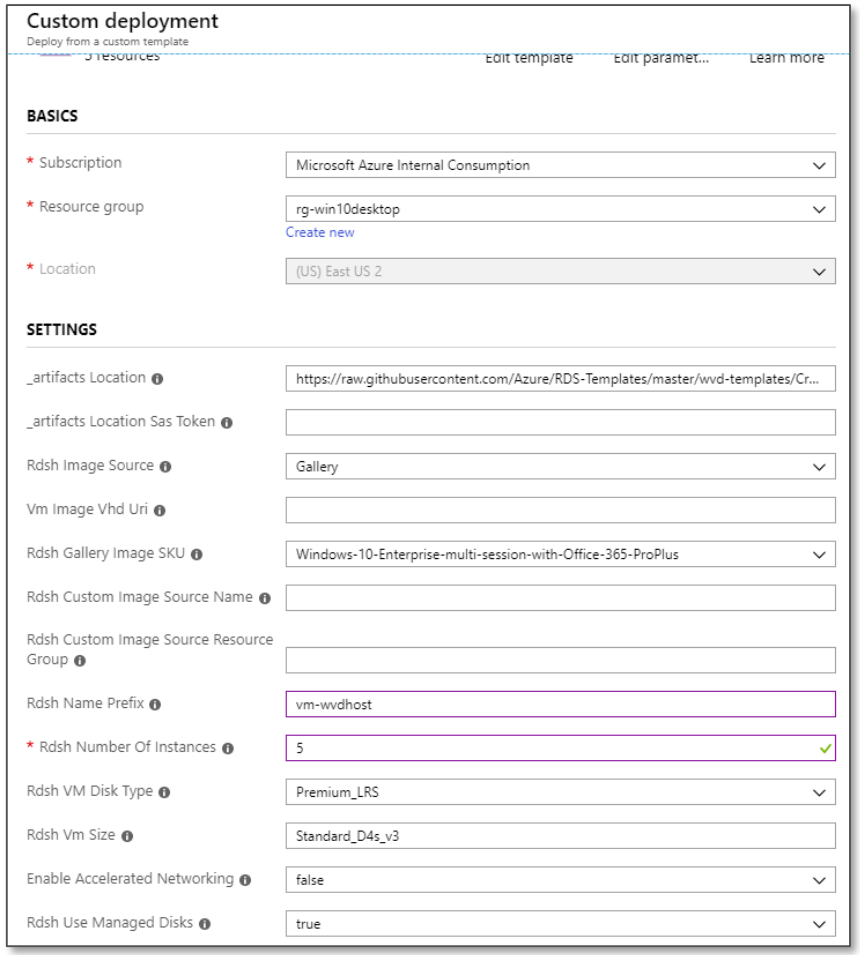
- Mac OS
- iOS
- Android

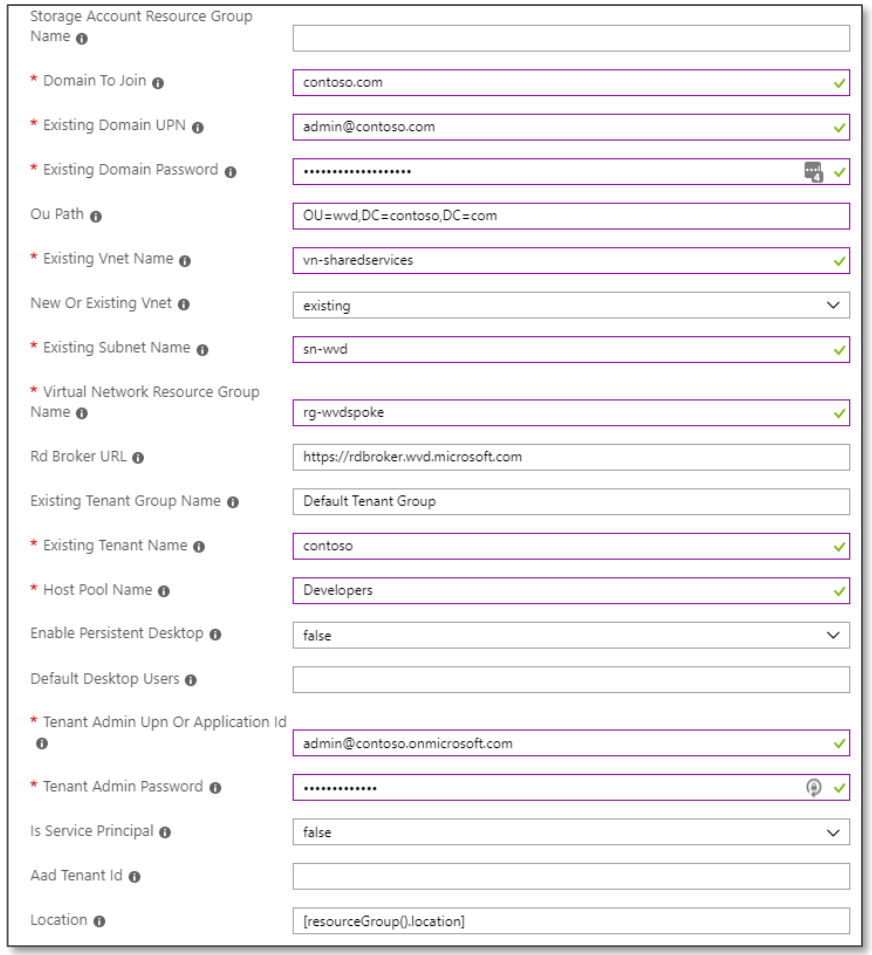


Windows Virtual Desktop Demo

Create WVD GitHub Template

https://aka.ms/wvdgithub





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Deploy Management UI

Prerequisites

Contributor on the subscription

Global Admin on Azure AD Tenant

Owner / Contributor on subscription

RD Owner or RD Contributor on the WVD Tenant

Deploy

- GitHub

  aka.ms/managementUI

Microsoft

Operation in Management UI

If management UI failed to deploy

- GitHub

  aka.ms/manuibootcamp

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Deploy Diagnostics UI

Prerequisites

WVD deployment (tenant & hosts)

RD Owner or RD Contributor on the WVD Tenant

Global Admin on Azure AD Tenant

Owner on Azure subscription

Deploy

- GitHub

  aka.ms/diagnosticsUI
- Create AD Application
- Create an Azure Log Analytics workspace
- Deploy

  aka.ms/diagnosticsUIdeploy

If diagnostic UI failed to deploy

- GitHub

  aka.ms/diaguibootcamp

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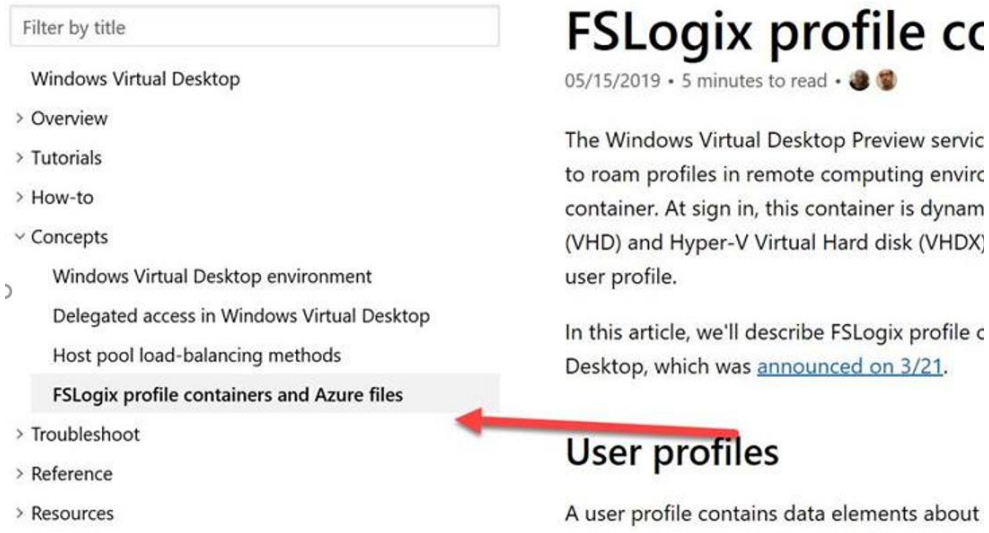
FSLogix Profile Container on Azure NetApp Files

Deploy

- Register for Azure NetApp Files

  https://docs.microsoft.com/en-us/azure/azure-netapp-files/azure-netapp-files-register

- How to setup Azure NetApp Files with WVD



Azure Files and FSLogix Profiles

Abstraction
Why are profiles?
What is Azure Files?

History
UPD
Performance / S2D

Why Azure Files
Cost vs S2D
Performance = S2D

What is coming
DC
Azure AD

Microsoft

Migrating Existing VDI/RDS environment to Azure

What are the pre-reqs to migrating RDS to Azure

Azure Subscription

- Initial account setup including active directory

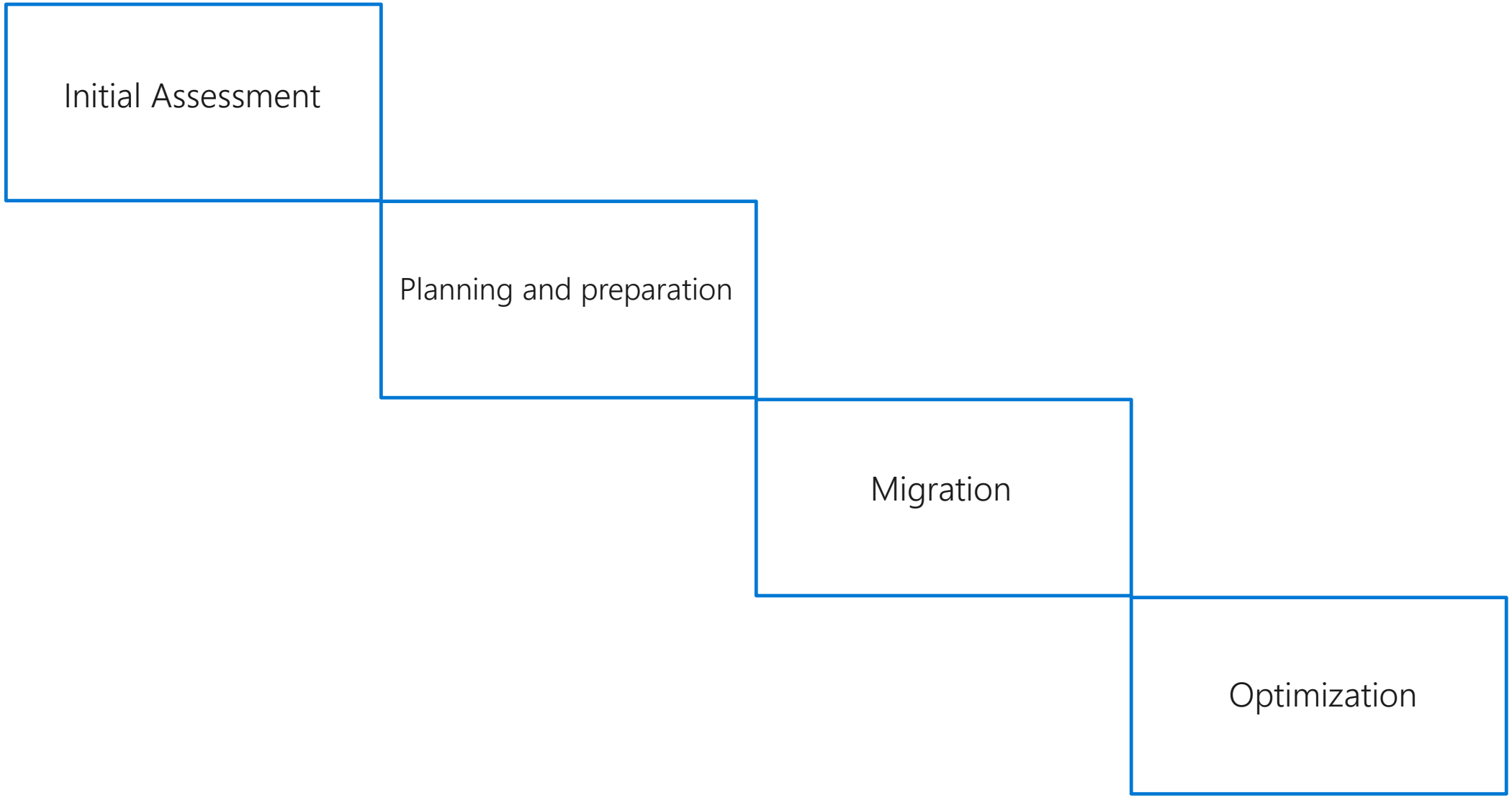
Licensing

- For RDS on Azure: Windows Server and RDS CALs/SALs
- For WVD: M365 E3/ E5/ F1, Windows E3/ E5/ A3/ A5 + [WS and RDS CALs/ SALs if RDSH workload]

Existing VM Image

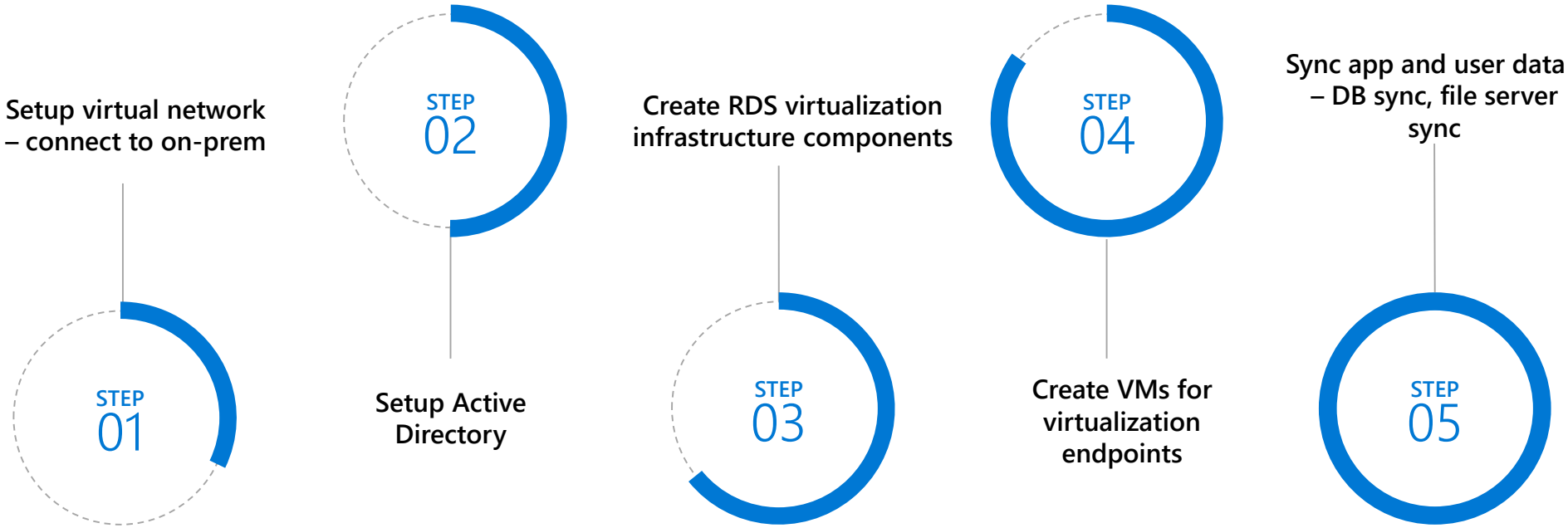
- Desktop and app images to host on Azure VMs

Migration Process of RDS workloads to Azure



Migration Process – Migration

In this step, the customer will perform the actual migration:



Note: ASR is the only Microsoft tool that performs this migration and it supports client SKUs, as well.

Migration

- Azure Site Recovery
- Azure File Sync for profiles
  - Convert the profiles (tool coming for UDP to FSLogix)

Optimization

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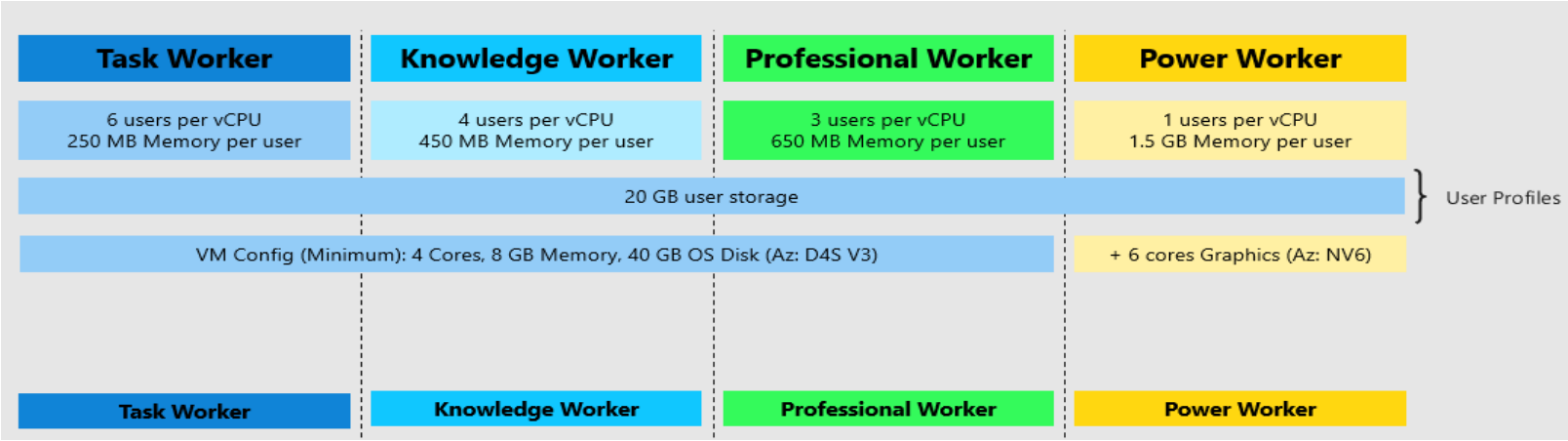
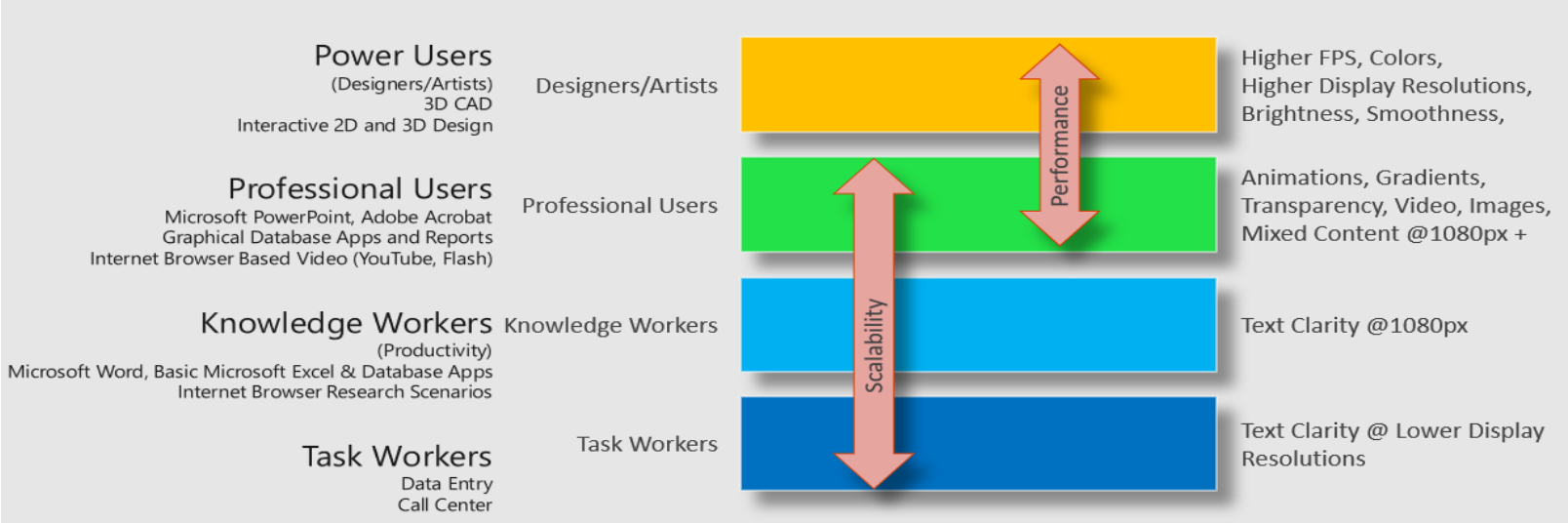
VM Sizing

Recommended VM sizing based on user personal





Microsoft Azure

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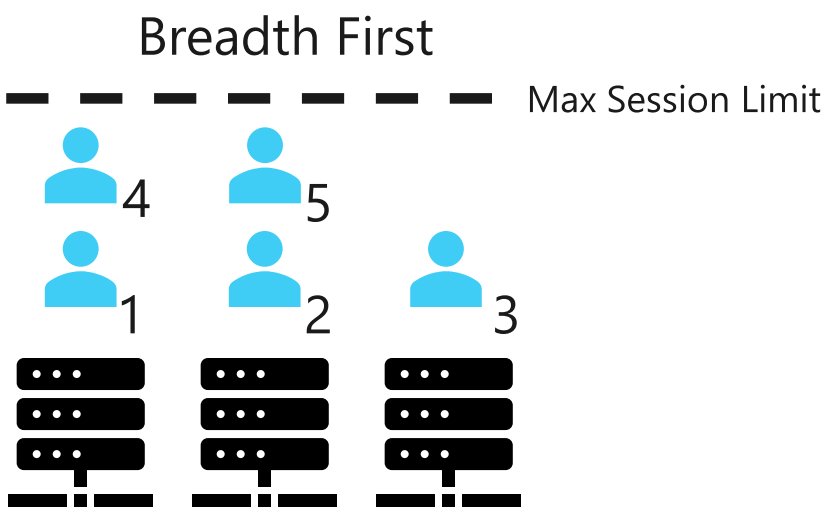
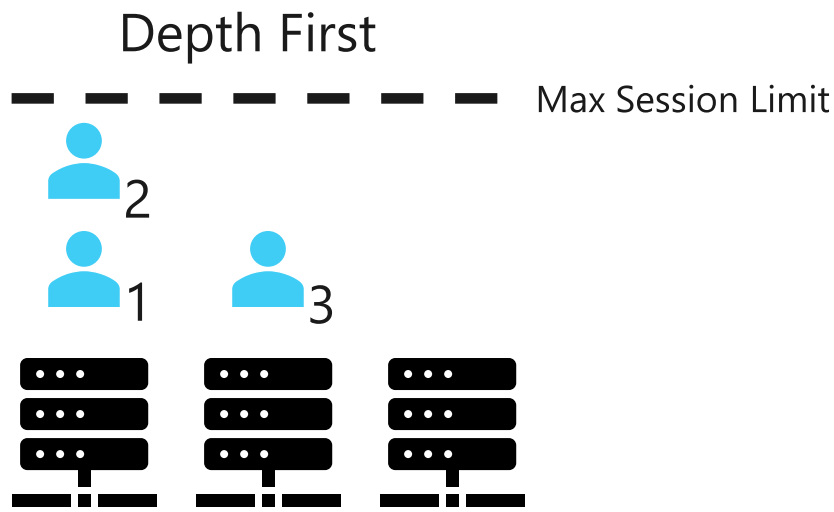
Session Load Balancing

Load Balancing

- Load Balancing Options
  - Breadth-First load balancing
    - Set-RdsHostPool <tenantname> <hostpoolname> -BreadthFirstLoadBalancer
    - Set-RdsHostPool <tenantname> <hostpoolname> -BreadthFirstLoadBalancer -MaxSessionLimit ###
  - Depth-first load balancing
    - Set-RdsHostPool <tenantname> <hostpoolname> -DepthFirstLoadBalancer -MaxSessionLimit ###





Microsoft

Session Host Scaling

Deploy

- GitHub

  aka.ms/wvdscaling

Scaling Session Hosts

- Benefits
- Current state
  - VM / Task Scheduler
  - Setup
    - Setup Config.json
    - Time bound / session count
- Future
  - Azure Automation
  - Service component in WVD
  - Event based
- Alternatives
  - PS / APIs