



## Cloud Desktop Transformation Offering

SOS Group Limited

Microsoft Best Office 365 Partner of the Year 2013 and 2014

Microsoft Country Partner of the Year 2014

# Agenda

- About SOS Group
- Cloud Desktop Technical Overview
- Cloud Desktop Service Offering
- Q&A

# About SOS Group

# About Strategic Outsourcing Services (SOS) Group

- Localized cloud partner in both professional cloud services and managed cloud services
- Custom solutions are developed for each client's unique requirements
- Expert in delivery of cloud, infrastructure, network and security services
- **24x7x365 live customer support** with immediate access to cloud professional engineer
- Winner of numerous Microsoft awards for innovation, services and support
  - Cloud Productivity, Platform, EMS & SME Solutions



# Partner program and Award – Microsoft Specific

- Microsoft Partner of the Year (O365+EMS) 2013 - 2017
- Microsoft Country Partner of the Year 2014 (Hong Kong)
- Microsoft Gold Competency: Cloud Productivity, Platform, EMS & SME Solutions
- Microsoft P-Seller
- Microsoft Partner Advisory Council

**Microsoft Partner**  
2014 Partner of the Year **Winner**  
Hong Kong SAR

Microsoft  
Partner  


Gold Cloud Platform  
Gold Cloud Productivity  
Gold Enterprise Mobility Management  
Gold Small and Midmarket Cloud Solutions

**Microsoft Partner**  
**Best Office 365 Partner of the**  
**Year 2013**

# Strategic Outsourcing Services Group – 100% Cloud Native

- ▶ Hong Kong's leading cloud-native systems integrator and managed services provider. SOS enables enterprises to transform their IT infrastructure and accelerate their digital transformation efforts using the public cloud.
- ▶ SOS's deep expertise in public cloud, ability to transition from legacy IT and agile way of working reduce significantly the time to value and costs for customer's using public cloud.
- ▶ Since 2011, SOS has completed more than 1000 successful deployments that have helped its enterprise customers reap the full benefits of the public cloud, including better security, agility, scalability and reduced costs.



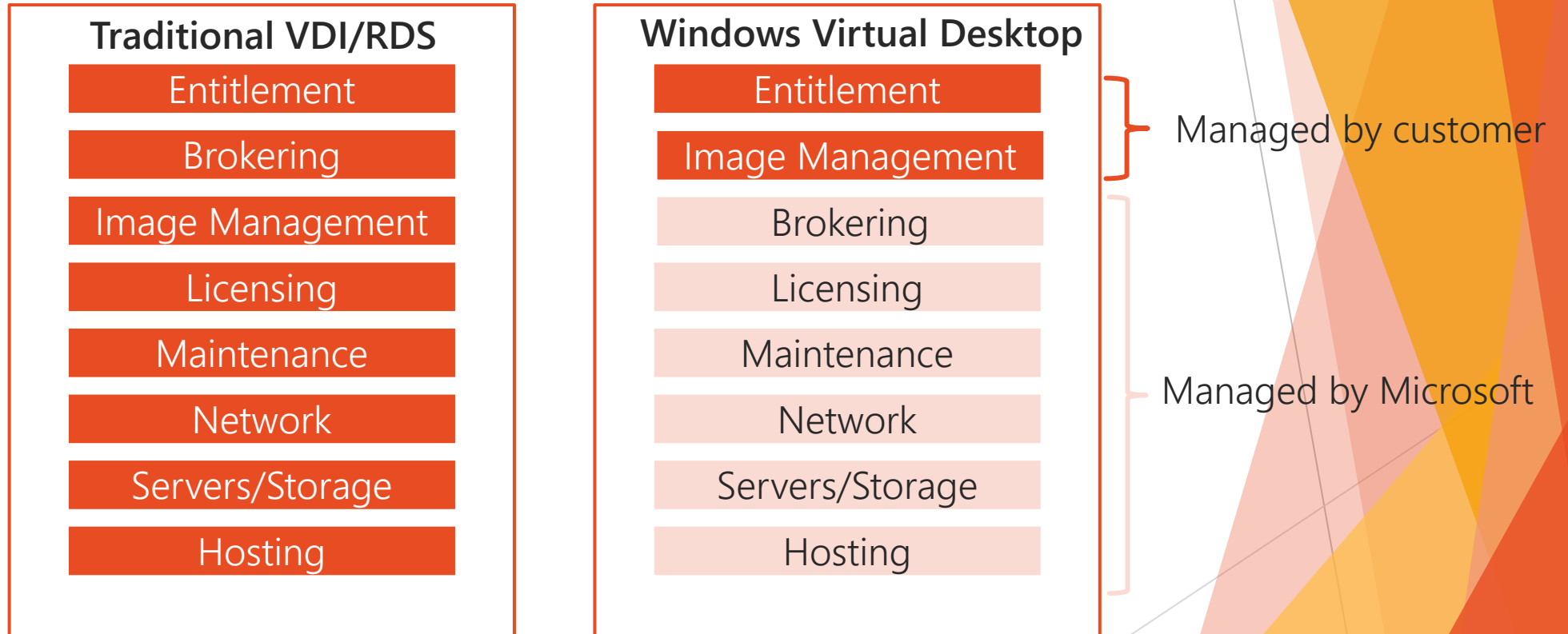
# Who Are We

- Deployed 500K+ Office 365 Seats, managing over 500 PORs (active customers)
- Only Microsoft Partner deployed over 10K EMS seats (HK)
- Microsoft Partner deployed and managed over 1,000 VM on Azure
- Key Deal Microsoft Azure Wins in Hong Kong
- Owns Microsoft Premier Contract for Customer for top-notch managed support services
- Fully managed services from consultation to managed support

# Next Generation Desktop Technical Overview



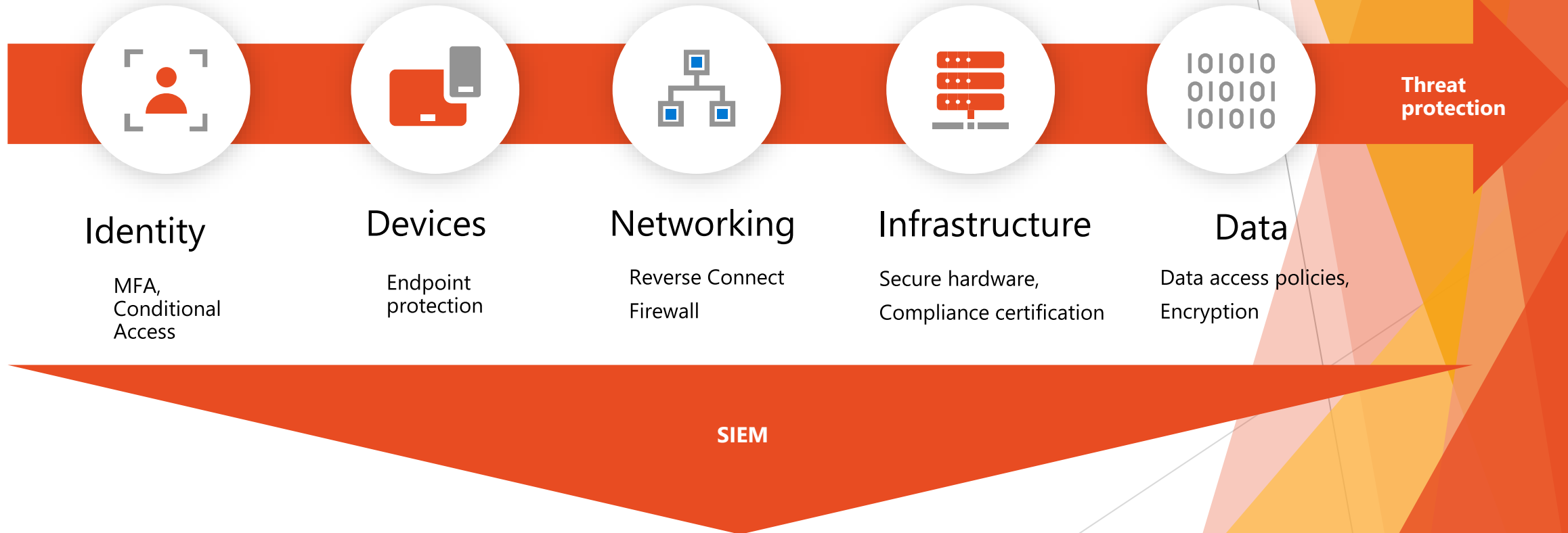
# Traditional VDI/RDS vs. Windows Virtual Desktop





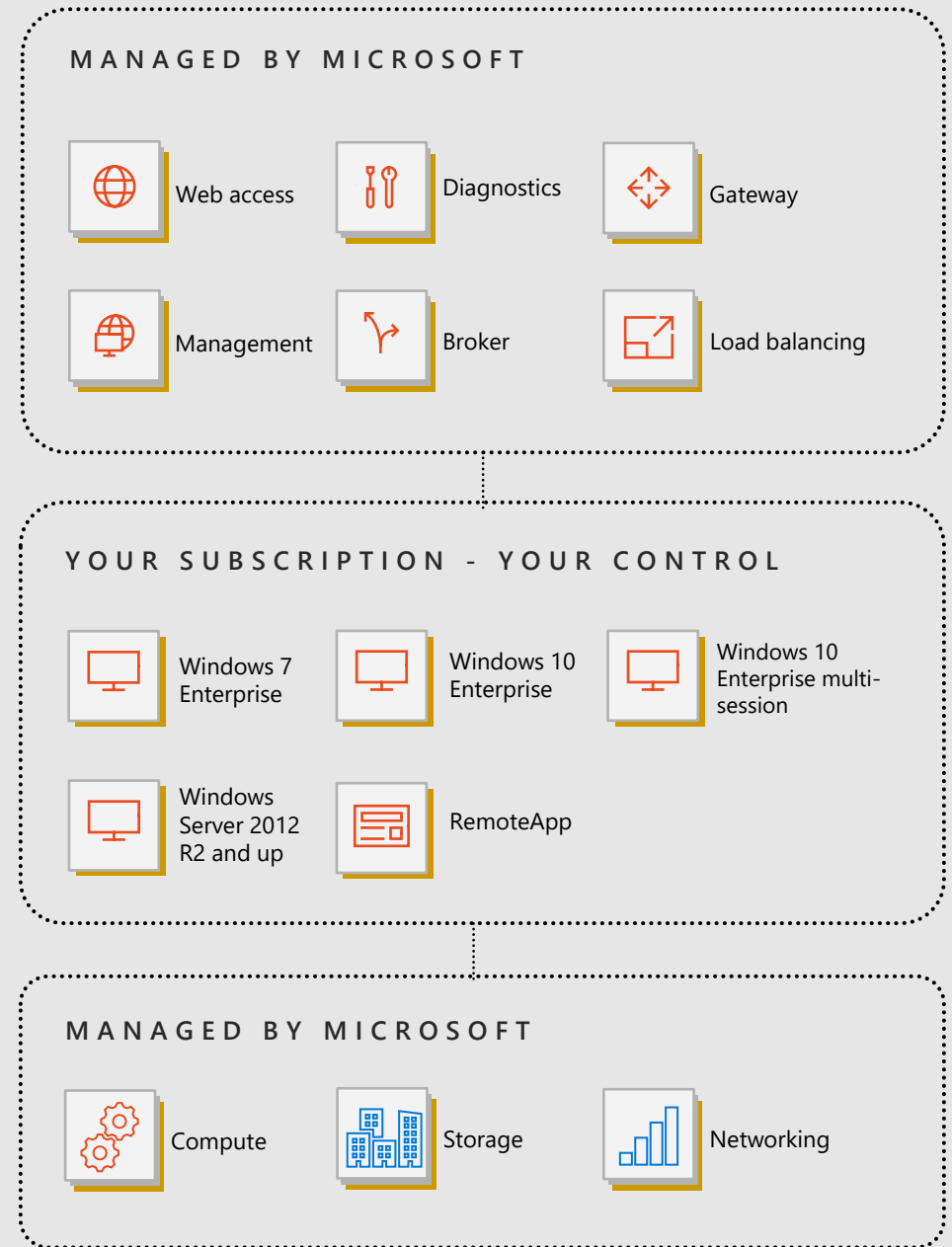
Secure your  
user data and VM's

# Microsoft provides end to end security for your virtual desktops



# High-level architecture

- ▶ Utilizes Azure Active Directory identity management service
- ▶ Provides virtualization infrastructure as a managed service
- ▶ Deploy and manage VMs in Azure subscription
- ▶ Manage using existing tools like Configuration Manager or Microsoft Intune
- ▶ Simply connect to on-premise resources



# FSLogix Technologies

With the acquisition of FSLogix, eligible customers will 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.

# Additional optimizations for WVD

- **Microsoft Teams**
  - New support for audio-visual (A/V) redirection, including peer-to-peer optimization
  - Easier to provide shared workstations and access for front-line workers
- **OneDrive**
  - Co-auth and collab capabilities in WXP, powered by OneDrive
  - OneDrive sync will run in non-persistent environments
  - Files on Demand capabilities
  - Auto populate user profile folders
- **Outlook**
  - Syncing of Inbox prior to Calendar for faster startup experience
  - Admin option to reduce calendar sync window
  - Reduce the number of folders that are synced by default
  - Windows Desktop Search is now per-user
- **Autoscaling**
  - Schedule VMs to start and stop based on business hours to reduce cost and complexity
  - Serverless, based on Azure automation and Logic Apps
- **Service tags/URL security**
  - Meets firewall connection requirements with defined service tags
- **Linux thin-client SDK**
  - Support for non-Windows devices with thin-client SDK for Linux-based devices and processes

# 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
- 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!

# Deployment options for WVD

Choose the appropriate **compute**, **user profile**, and **apps** solutions based on your user requirements



## Compute

- You can choose any VM in Azure in your region
- Lift and shift or establish new VDI infrastructure with any compute option
- Support for personal and pooled virtual machines



## User profile

- Faster login and application launch times with FSLogix
- Support for Azure Files, NetApp Files and File server cluster



## Apps

- Create a single image with all applications for all users
- Use App Masking to ensure the right applications are visible to the right users

# FSLogix entitlements

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 and Remote Desktop Services customers

Microsoft 365 E3/E5/F1/Business

Remote Desktop Services (RDS) CAL

Microsoft 365 A3/A5/Student Use Benefits

Remote Desktop Services (RDS) SAL

Windows 10 Enterprise E3/E5

Windows 10 Education A3/A5

Windows 10 VDA per user

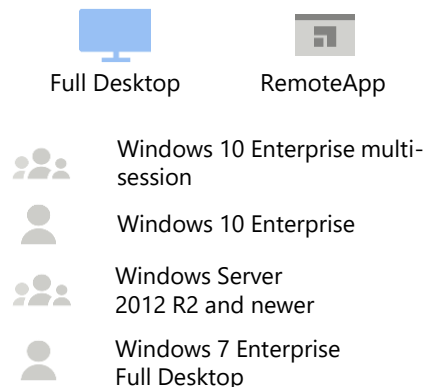


# High-level service architecture

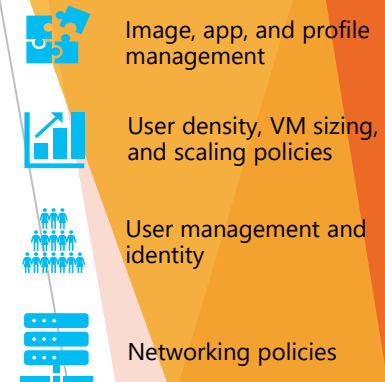
- Customer managed – Desktop/ Apps/ Management/ Policies
- Microsoft managed – Virtualization infrastructure and service
- Can connect to on-premises resources via ExpressRoute or VPN
- User authentication using Azure Active Directory identities
- Integrates with \*Systems Center Configuration Manager and \*Microsoft Intune
- Supports devices running non-Windows operating systems with Linux thin-client SDK and other tools

## Your subscription—your control

### Desktops and remote apps

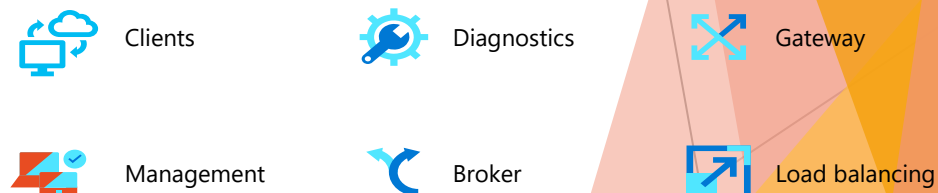


### Management and policies



## Managed by Microsoft

### Windows Virtual Desktop Service



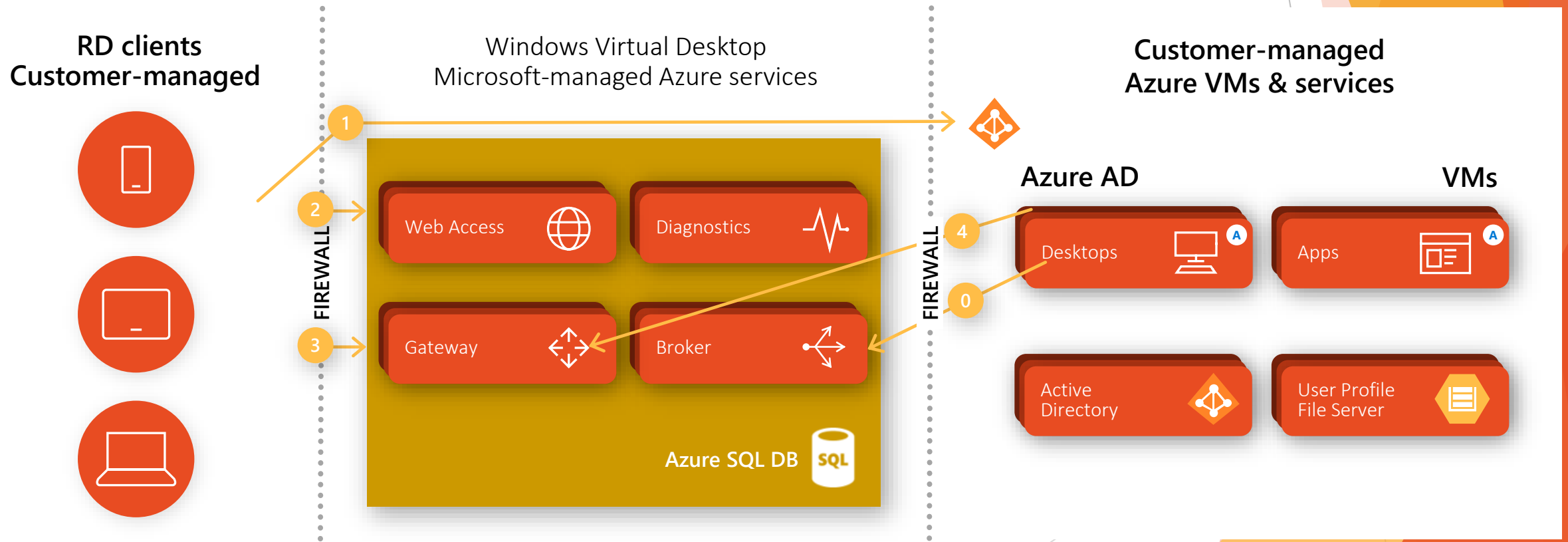
### Infrastructure



# User Connection Flow

- 0 Agents within the VM interact the WVD managed service that it's active
- 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

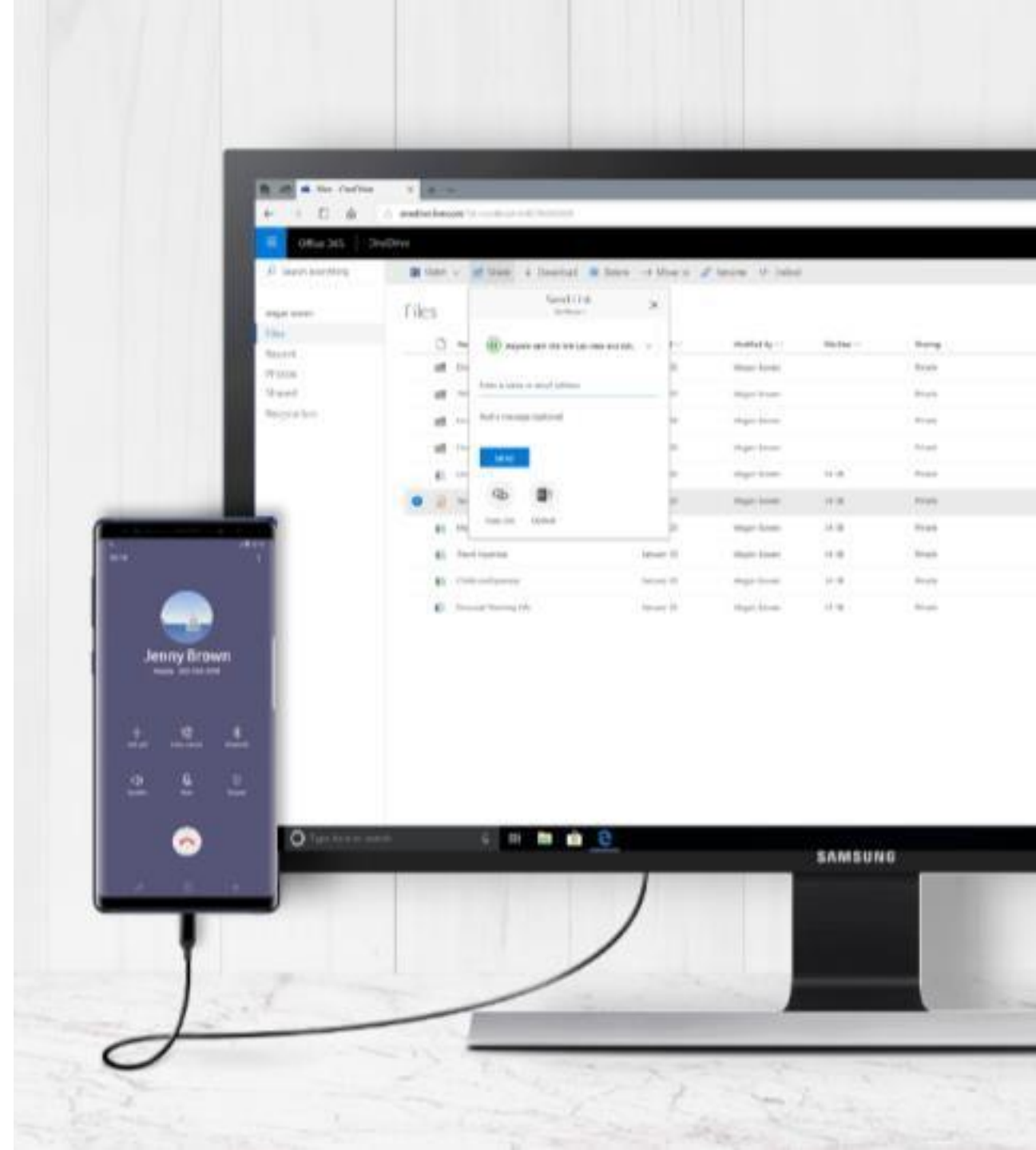


# Windows Virtual Desktop with Samsung DeX

Full screen Windows 10 and Office 365 ProPlus experience from Samsung DeX-enabled mobile devices, providing the **Windows Virtual Desktop experience on an Android endpoint**

Enhanced mobility and productivity with **small and big screen experience**, allowing customers to seamlessly switch from one application to another

**Faster speeds and reduced latency** with the new Samsung Galaxy S10 support for 5G and Wi-Fi 6



# WVD Best Practice

# Windows Virtual Desktop Host Sizing Recommendations

## Multi-Session Recommendations

The following table lists the maximum suggested number of users per virtual central processing unit (vCPU) and the minimum VM configuration for each workload. These recommendations are based on [Remote Desktop workloads](#)

Workload type	Maximum users per vCPU	vCPU/RAM/OS storage minimum	Example Azure instances	Profile container storage minimum
Light	6	2 vCPUs, 8 GB RAM, 16 GB storage	D2s_v3, F2s_v2	30 GB
Medium	4	4 vCPUs, 16 GB RAM, 32 GB storage	D4s_v3, F4s_v2	30 GB
Heavy	2	4 vCPUs, 16 GB RAM, 32 GB storage	D4s_v3, F4s_v2	30 GB
Power	1	6 vCPUs, 56 GB RAM, 340 GB storage	D4s_v3, F4s_v2, NV6	30 GB

## Single Session / Personal Desktop Recommendations

- ▶ Sizing largely dependent on the workload, apps deployed, and user type.
- ▶ We recommend at least two physical CPU cores per VM (typically four vCPUs with hyperthreading).
- ▶ If you need more specific VM sizing recommendations for single-session scenarios, check with your software vendors specific to your workload.
- ▶ VM sizing for single-session VMs will likely align with physical device guidelines.
- ▶ Use other tools to get granular level sizing and scaling recommendations.

# Rely on multi-layered security controls across hybrid environments



## Security management

Manage security state of hybrid workloads with a single view



## Threat protection

Access cloud-native SIEM and AI-driven security analytics



## Identity & access

Unify identity management and secure identities to implement zero trust



## App and data security

Encrypt data, and protect keys and secrets used by apps



## Network security

Enhance the protection of your virtual networks

**Azure Sentinel** | **Azure Security Center** | **Azure Active Directory** | **Azure Key Vault** | **Azure Firewall & DDoS**

# Network Requirements and Considerations

## Requirements

- Network must route to a Windows Server Active Directory (AD)
- This AD must be in sync with Azure AD so users can be associated between the two
- VMs must domain-join this AD

## 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 password hashes to Azure AD

# Patch management



Use one host pool as a pilot group before updating all host pools



Update VMs with existing Azure management solutions and all VMs in a host pool



Updates can be staged in a maintenance window to keep systems available after logon



All VMs must be at the same update level after maintenance window is completed



Use SCCM to manage your images



# Profile Management



## Profile Container

- The user profile is placed into a VHD container that is stored in a central location on the network or in the cloud
- This VHD is dynamically attached at user login
- Content appears to be in its native location

### Benefits

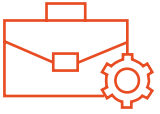
- Extremely fast login times
- Helps to eliminate profile corruption
- Uses native Windows VHD capabilities
- Easy to deploy and manage
- Seamless end-user experience



## Cloud Cache

- Cloud Cache absorbs reads and optimizes writes into cost-effective payloads
- Adds a local cache component
- Applications communicate with the local cache and the cache connects with the remote container
- If the connection to the remote container is interrupted, the apps still work because they're connected to the cache
- If the interruption is short, or data that isn't in the cache is requested during the outage, everything behaves normally
- When the connection comes back online, the system reconnects and re-syncs if necessary

# Master image management



The master image can be managed by already existing processes and technologies, including:

- [Azure Update Management](#)
- [System Center Configuration Manager](#)
- [Third-party](#)



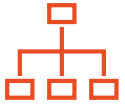
A “best practices” document helps to configure a golden image for Windows Virtual Desktop



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

[Preparing a Master Image](#)

# Host management – things to remember



- Current host management processes will continue
- Admins still need to keep the methodology updated in the cloud
- Still required
  - Master image management
  - OS Patching & updates - Security, Monthly patching, Semi-annual channel OS
  - Application updates