



Windows Virtual Desktop - Azure

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WVD is Microsoft's virtualization service and delivers compelling value

Windows Virtual Desktop

Best User Experience



Enhanced Security



Simplified Management

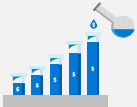


Azure



Standardized, Global, & Secure

Superior Economics



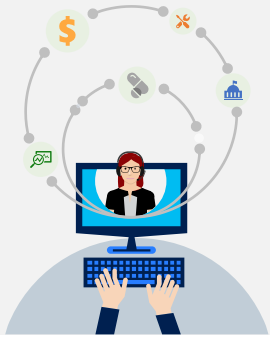
Cost effective, Flexible, & Opex

Strong Partner Ecosystem



Extensive, Integrated, & Experienced

Virtualization addresses a broad range of business needs



Security
and regulation

Financial Services

Healthcare

Government



Flexible
workforce

Mergers and acquisition

Short term employees

Contractor and partner access



Specialized
workloads

Design and engineering

Legacy apps

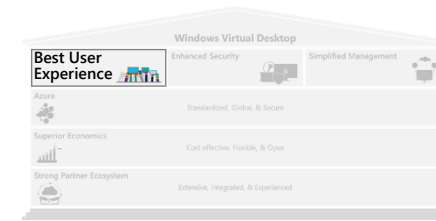
Software dev test

BYOD and mobile

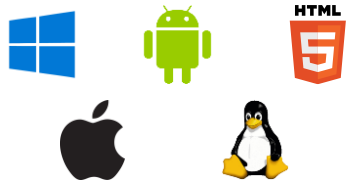
Call centers

Branch workers

Best Virtualized End-user Experience



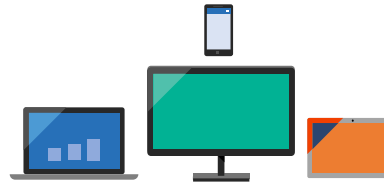
Platform of your choice



- Connect from any device of your choice (Windows, MacOS / iOS, HTML5, Android, Linux*)

* Coming soon

Windows differentiation



- Like-local Windows experience
- Extensive support for devices

Enhanced protocol



- Support for Windows Hello for Business
- Dynamically adapting bandwidth utilization

Containerized User Profiles



- Containerized User Profiles (FSLogix) with fast VHD load times

Native O365 performance



- Uncompromised O365 email and calendar performance, Real-time Outlook search
- Persistent and non persistent environments

Teams Enhancements



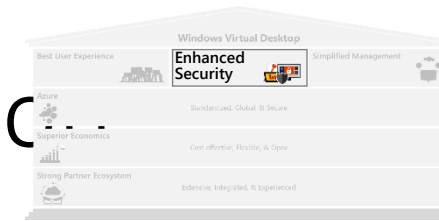
- Best conferencing and media experience
- Multimedia redirection capability, high-performance, low latency audio & video calling



Office 365 ProPlus also supported on Windows Server 2019 (with OneDrive Files-on-Demand capabilities)



Enhanced Security with Simplified Configuratio



Azure AD Security Services



Sophisticated security services easily configured through Azure AD (e.g. MFA, CA, etc.)

Reduced Attack Surface



Reverse connect technology eliminates the need to open inbound ports to the VMs

Granular Access Control



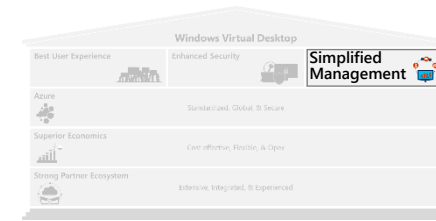
Multiple admins can be assigned role-based access control

Isolated User Sessions



Isolated user sessions in both single and multi-session environments

Efficient and Simplified Management

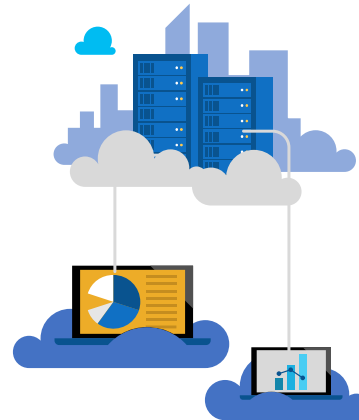


User Experience Management



- One service supports both Desktop & RemoteApp experience
- Flexible user experience through a single host pool, with multiple app groups
- Familiar Azure AD credentials, to access WVD resources

VM Management



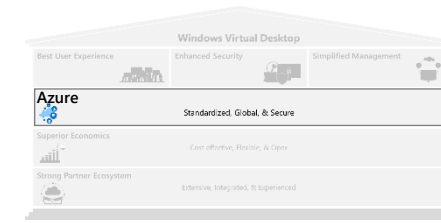
- Multiple tools for automated VM deployment
- Enhanced OS/App update tools
- Disaster Recovery with integrated Azure Site Recovery

WVD Service Management



- Simplified and effective troubleshooting using advanced diagnostic service
- 3rd party value-added services enabled by APIs

Built on Azure: Standardized, Global, and Secure Cloud



Standardized

Consistent infrastructure across regions

IaaS

Compute Storage Networking

PaaS

Uniform deployment via serverless architecture

Serverless Platform

Containers Microservices Integration services

Purpose-built, **standardized infrastructure** across geos
Modernized workloads for **simplified deployment**

Global



Largest geographical footprint of any cloud provider with more than **54 Azure regions**

Secure



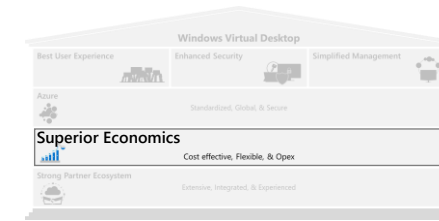
Microsoft Cyber Defense Operations Center

>3,500 full-time security professionals

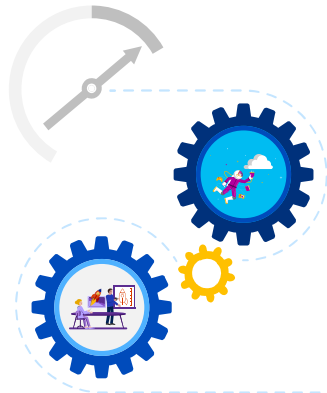
6.5 trillion global signals daily

\$1 billion annual cybersecurity investment

Superior Economics from Significant Cost Savings



Infrastructure



**~70%*
Savings**

- Windows 10 experience at multi-session cost
- Cost effective compute and storage
- Flexible network provisioning
- Best value compute rate
- Opex spend aligned to business usage

Licensing



**~60%*
Savings**

- WVD management service included with the licenses you already own
- Savings on RDS CAL with multi-session deployment
- 3-year Windows 7 ESU included

Labor



~60%
Savings**

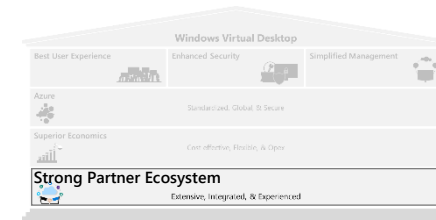
- Lower labor cost because compute and storage move to cloud
- Lower labor cost when you use PaaS services

Note: Infrastructure includes compute, storage (IaaS/PaaS), and networking

*See [Example Scenario: WVD Economic Benefits](#)

** industry analysis

Extensive Partner Ecosystem with Strong Virtual Desktop Expertise



WVD Approved Providers



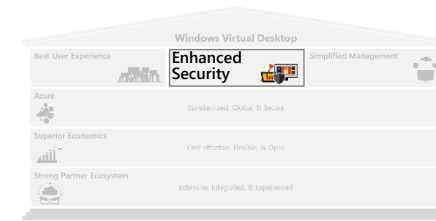
- Citrix and VMware provide value add to WVD (e.g. hybrid deployment management)
- Windows 10 Enterprise multi-session is also available with Citrix & VMware management planes
- Customer ultimately decides the management plane(s) of choice

WVD Value-Added Partners



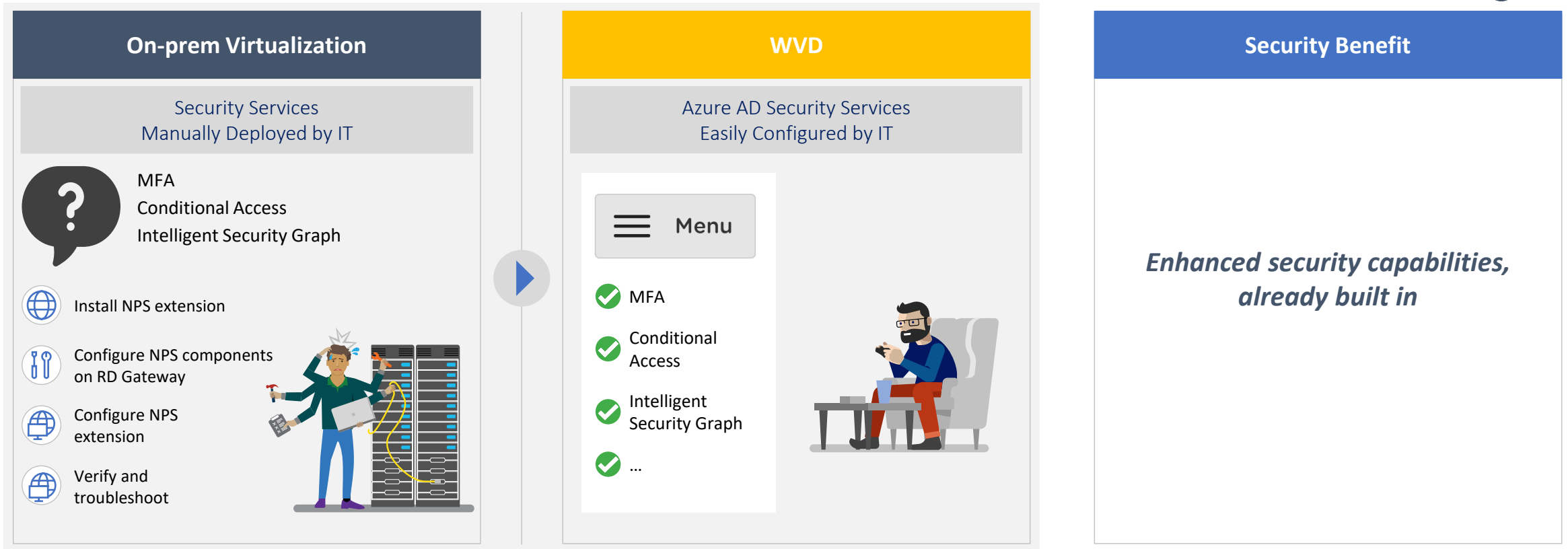
- WVD customers have access to a broad SW/Services partner network with expertise in
 - Customer Environment Assessment
 - Diagnostics & End User Experience Monitoring
 - Application Layering
 - Management
 - Printing
 - App Compatibility Assessment / Remediation

Azure AD security services are readily available



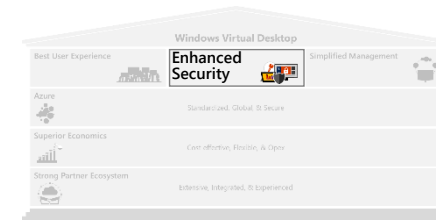
Customer Scenario – Moving from on-prem virtualization to WVD

- WVD customers can readily utilize sophisticated Azure AD security services via built-in integration



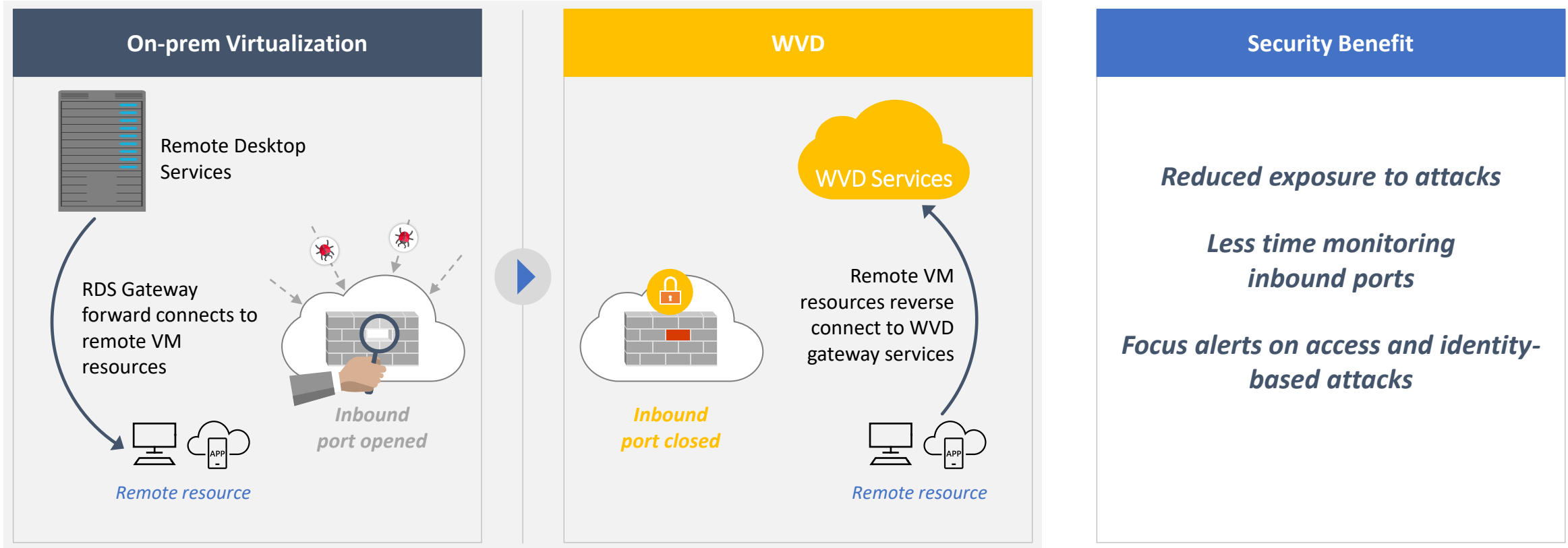
Note: with WVD on Azure AD, admin can set up Conditional Access (CA) controls once and then easily expand that CA to other applications

The attack surface is reduced, compared to on-prem

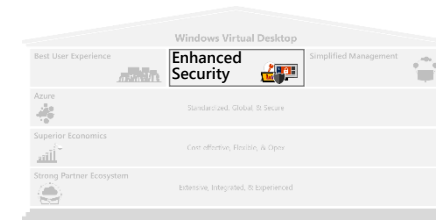


Customer Scenario – Moving from on-prem virtualization to WVD

- Reverse connect eliminates the need to open inbound ports, reducing the attack surface

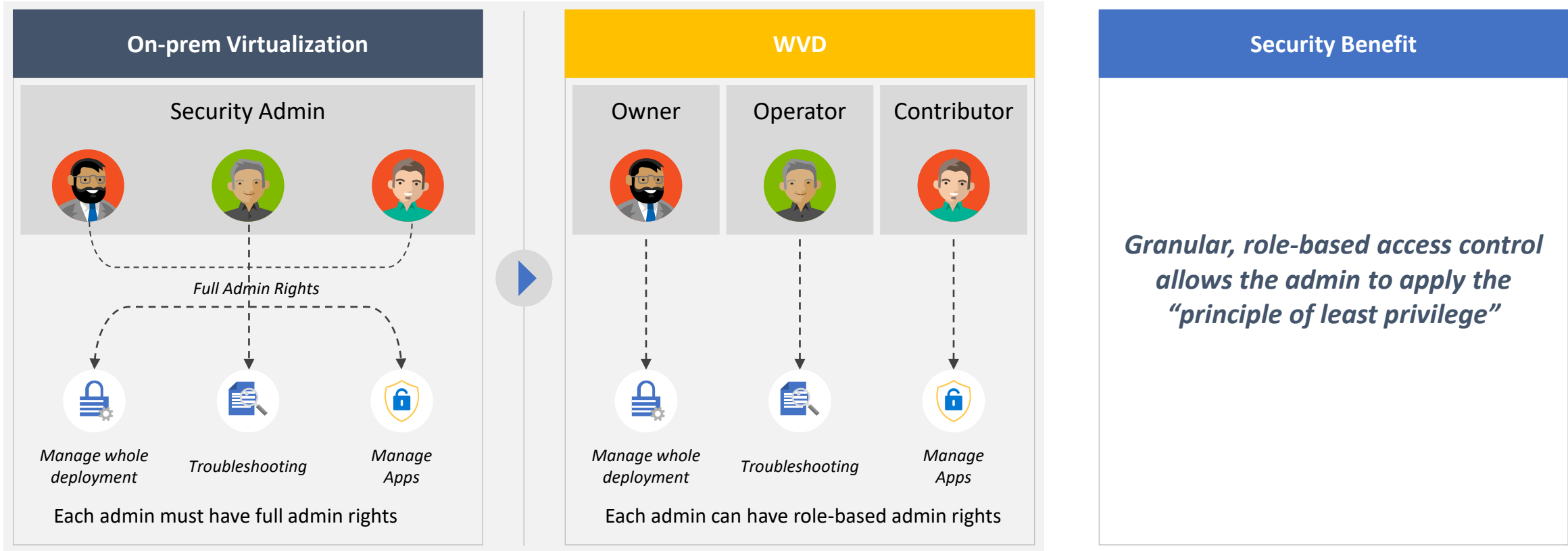


Granular access control enables role-based administration

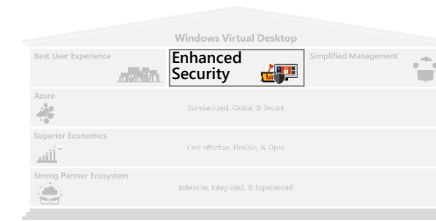


Customer Scenario – Moving from on-prem virtualization to WVD

- WVD role-based access control enables delegation of admin rights at granular level



User sessions are isolated

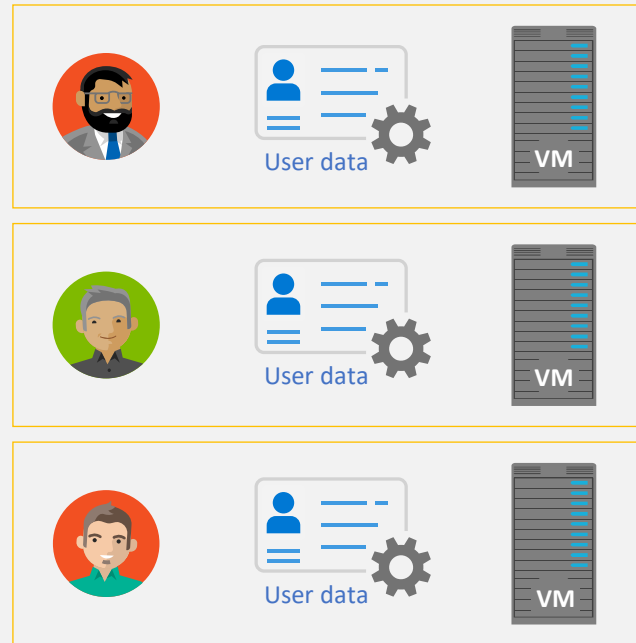


Customer Scenario – Deploys both Windows 10 Enterprise single-session and multi-session in WVD

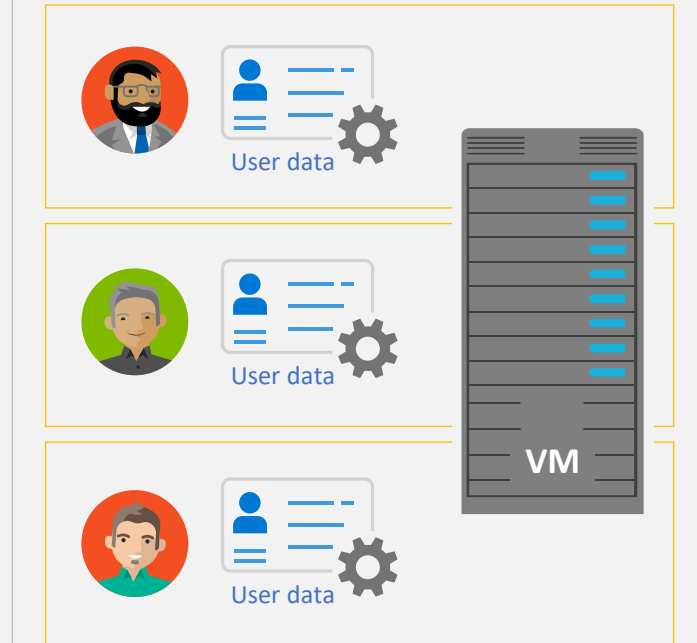
- WVD ensures user isolation in both single and multi-session environment



Windows 10 Enterprise Single-session in WVD



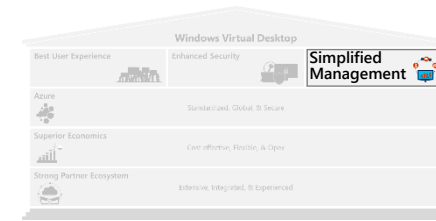
Windows 10 Enterprise Multi-session in WVD



Security Benefit

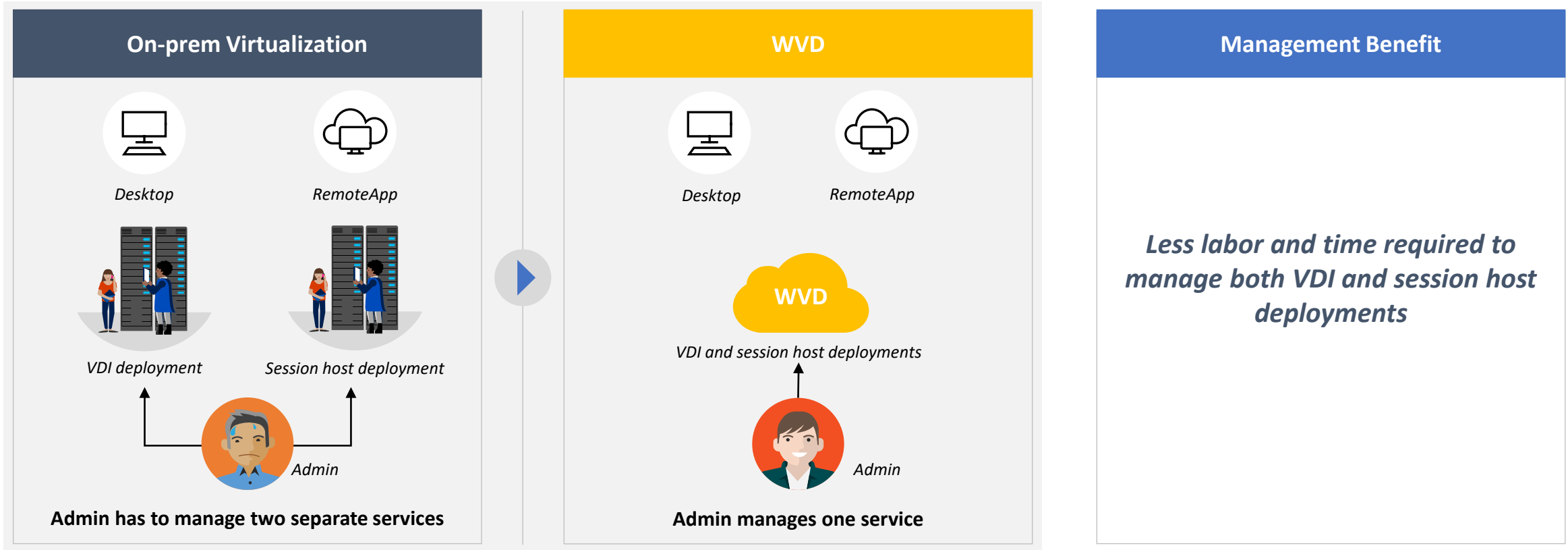
Users are always isolated, whether using single or multi-session

One service supports both desktop & RemoteApp experience

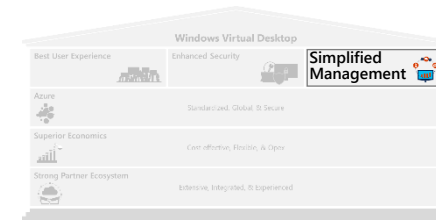


Customer Scenario – From on-prem virtualization to WVD

- Both desktop and RemoteApp are managed through one WVD service



Readily-available VM management tools



Customer Scenario – From on-prem virtualization to WVD

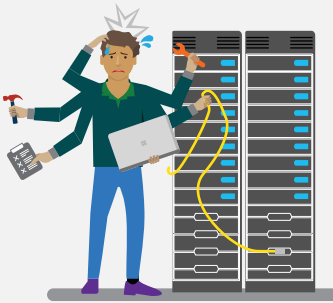
- WVD customers can leverage a broad set of VM management tools via WVD and Azure



On-prem Virtualization

Complicated VM Management
Manually Conducted by IT

- ? VM Deployment
- ? OS and App Management
- ? DR Setup and Configuration



WVD

Readily-available, Built-in Tools
Easily Utilized by IT

Menu

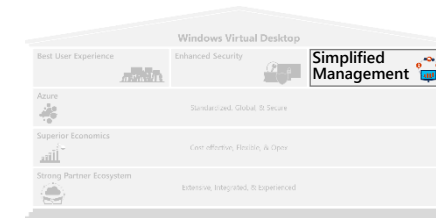
- ✓ VM Deployment (e.g. Azure Update Management)
- ✓ Multiple OS and App Management tools at choice
- ✓ DR with Azure Site Recovery
- ✓ ...



Management Benefit

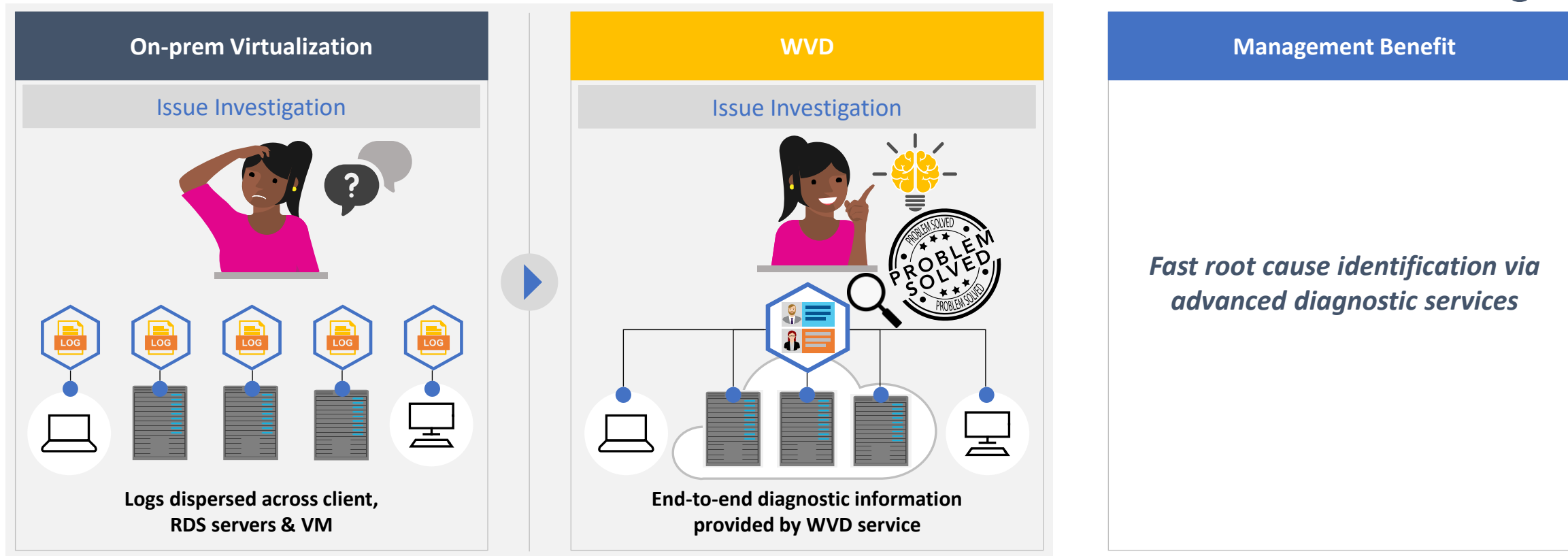
Simplified management via versatile tools and automation

Simplified and Efficient Troubleshooting with Diagnostic Service

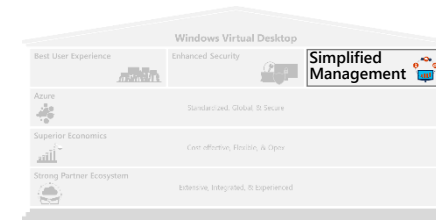


Customer Scenario – From on-prem virtualization to WVD

- Advanced Diagnostic Service enables WVD customers to identify root cause and fix issues more efficiently

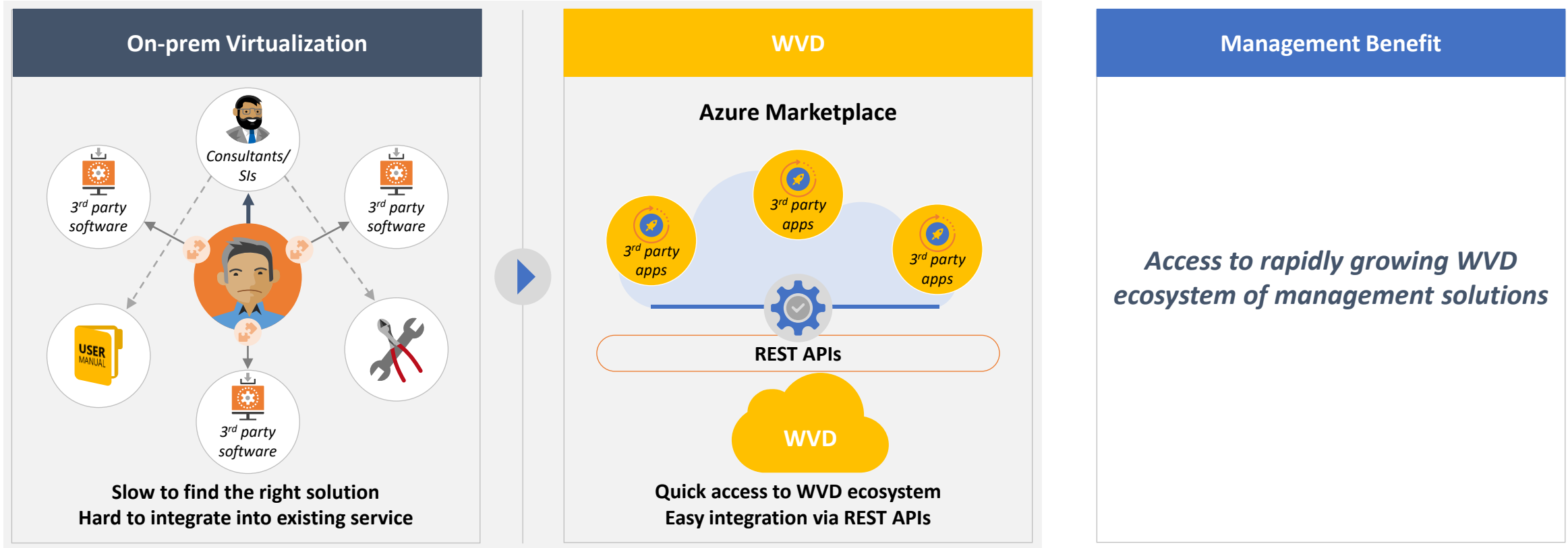


Extensive 3rd Party Value-added Services Enabled by APIs

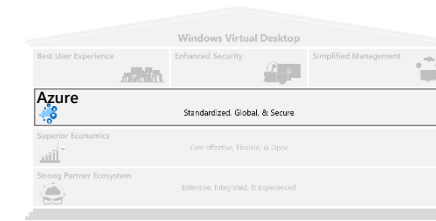


Customer Scenario – From on-prem virtualization to WVD

- WVD customers have access to best-of-breed management solutions, including 3rd party apps



Built on Azure: Standardized, Global, and Secure Cloud



Standardized

Consistent infrastructure across regions

IaaS



Compute



Storage



Networking

PaaS



Partner ecosystem across multiple sites

SI

Infosys®

HCL

DXC technology



IBM

Cognizant

ISV/IHV

vmware®

SAMSUNG



Lakeside®

liquidware®

SAP

CITRIX®

NetApp®

Purpose-built, standardized infrastructure across geos **300,000+** global partner ecosystem, leveraging consistent standards and IT architectures

Global



Largest geographical footprint of any cloud provider with more than **54 Azure regions**

Secure



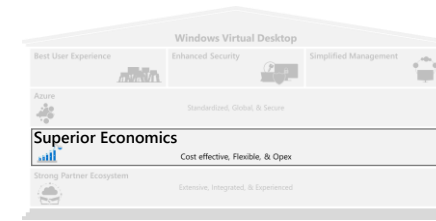
Microsoft Cyber Defense Operations Center

>3,500 full-time security professionals

6.5 trillion global signals daily

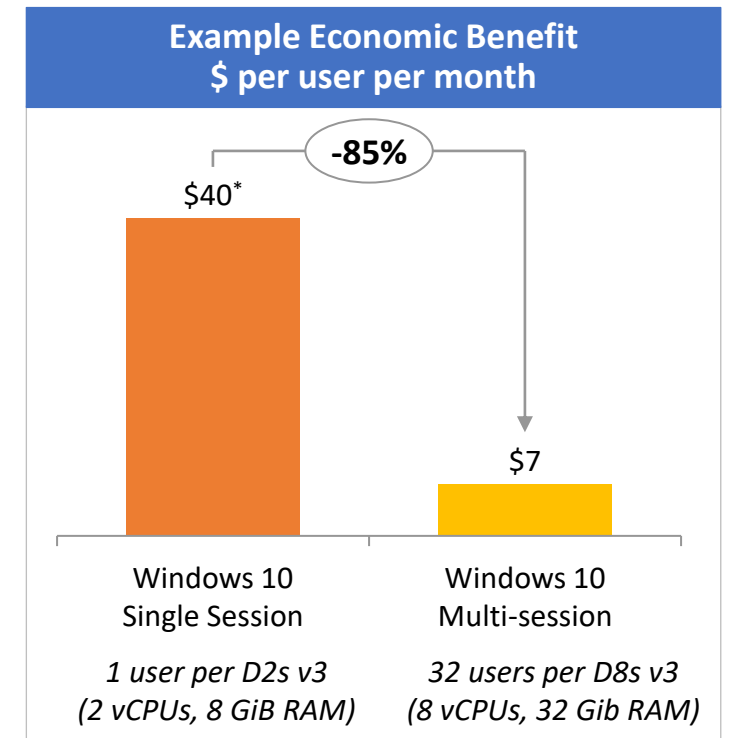
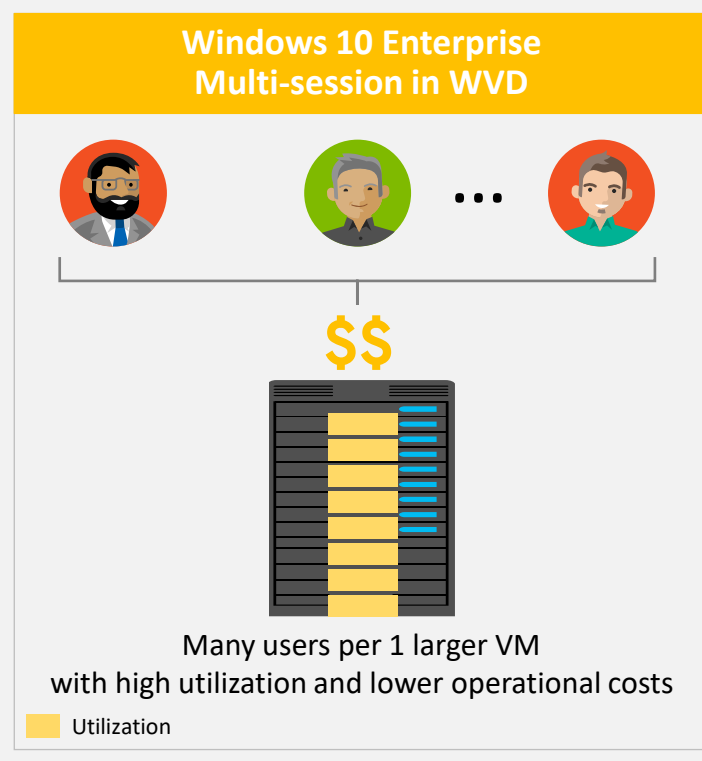
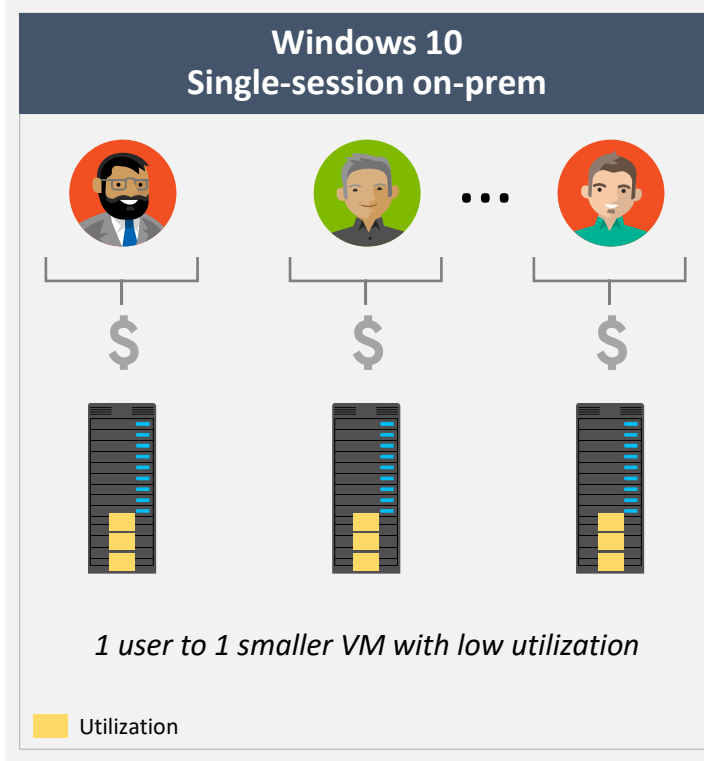
\$1 billion annual cybersecurity investment

Windows 10 Experience at Multi-session Cost



Customer Scenario – From Windows 10 single-session on-prem to Windows 10 multi-session in WVD

- Trade many small dedicated VMs for few large shared VMs (with higher utilization and lower operational costs)

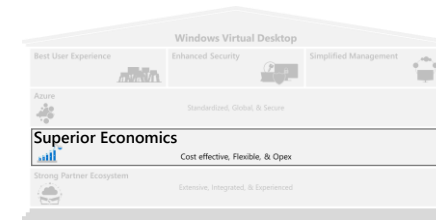


Note: WVD is the only way to run Windows 10 Multi-Session

Note: Figures are illustrative and based on pre-configured assumptions; actual savings vary by user requirements and infrastructure configuration

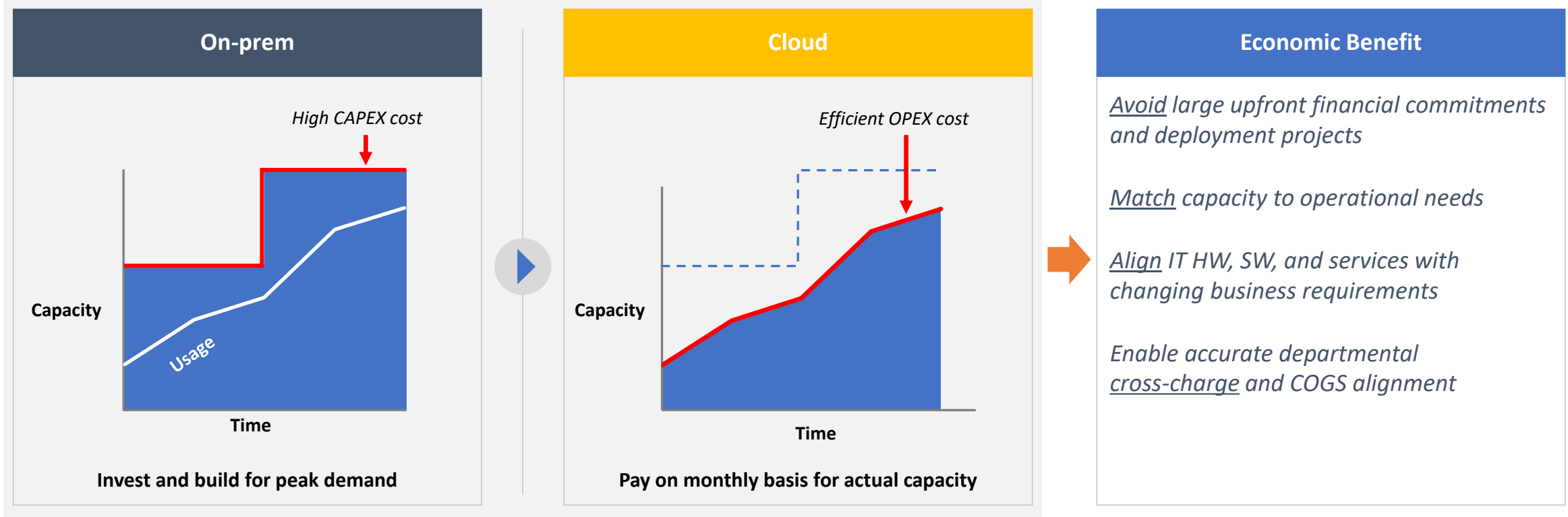
*The \$40 PUPM for single session cost is modeled for a common configuration: Windows 10 single-session in WVD starts at ~\$15 per user per month for 1 vCPU, 2 GiB RAM configuration

Opex Spend Aligned to Business Usage



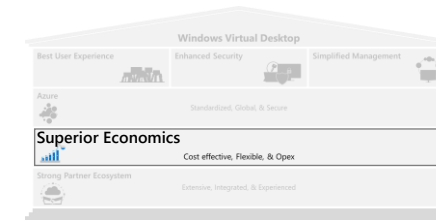
Customer Scenario – On-prem to Cloud

- From up-front Capex commitment to flexible Opex investment



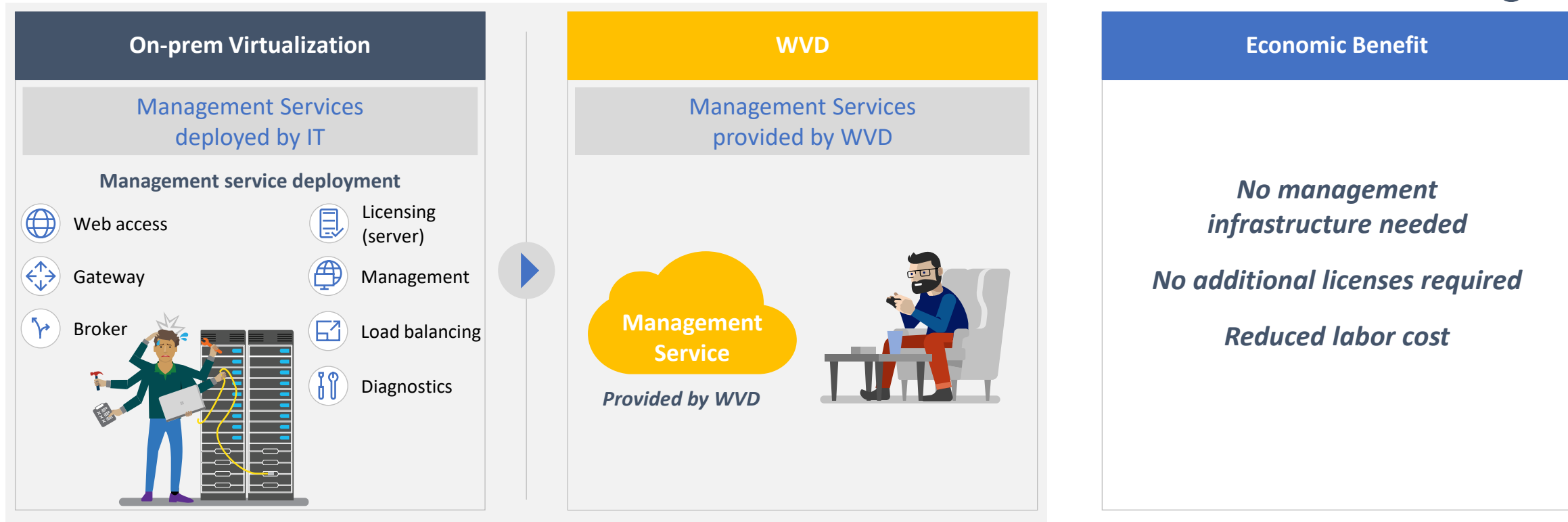
Note: Figures are illustrative and based on pre-configured assumptions; actual savings vary by user requirements and infrastructure configuration

Management Service Included With the Licenses you Already Own



Customer Scenario – From on-prem virtualization to WVD

- WVD management service included with the licenses* most Microsoft customers own
- Eliminate the infrastructure cost associated with on-prem management services



*See Appendix for WVD Client licensing requirements, including specific SKUs

Note: Figures are illustrative and based on pre-configured assumptions; actual savings vary by user requirements and current licensing position

Note: Customers who require Citrix or VMware management services to meet their needs will incur additional cost

Many customers are already eligible for WVD

WVD Licensing Requirements

CLIENT

Customers are eligible to access Windows 10 and Windows 7 with Windows Virtual Desktop (WVD) if they have one of the following licenses*:

- Microsoft 365 E3/A3
- Microsoft 365 E5/A5
- 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, Microsoft 365 A3/A5 or Windows 10 VDA per user license.*

SERVER

Customers are eligible to access Windows Server 2012 R2 and newer desktops and apps if they have an RDS CAL license with active Software Assurance (SA)



Thank You

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