

# WHOAMI

## Obecnie:

- Senior Microsoft Azure DevOps @Soft**Serve**
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 jpodoba@hotbee.eu

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 <https://github.com/jpodoba>

## Po pracy:

Mąż i ojciec,

Pasjonat lotnictwa,

Zapalony Azurowiec,            





Microsoft Azure  
User Group Poland

Wrocław

# **VDI/RDS w Azure?**

## **Przywítajmy się**

## **z Windows Virtual**

## **Desktop**

Jakub Podoba

Senior Microsoft Azure DevOps

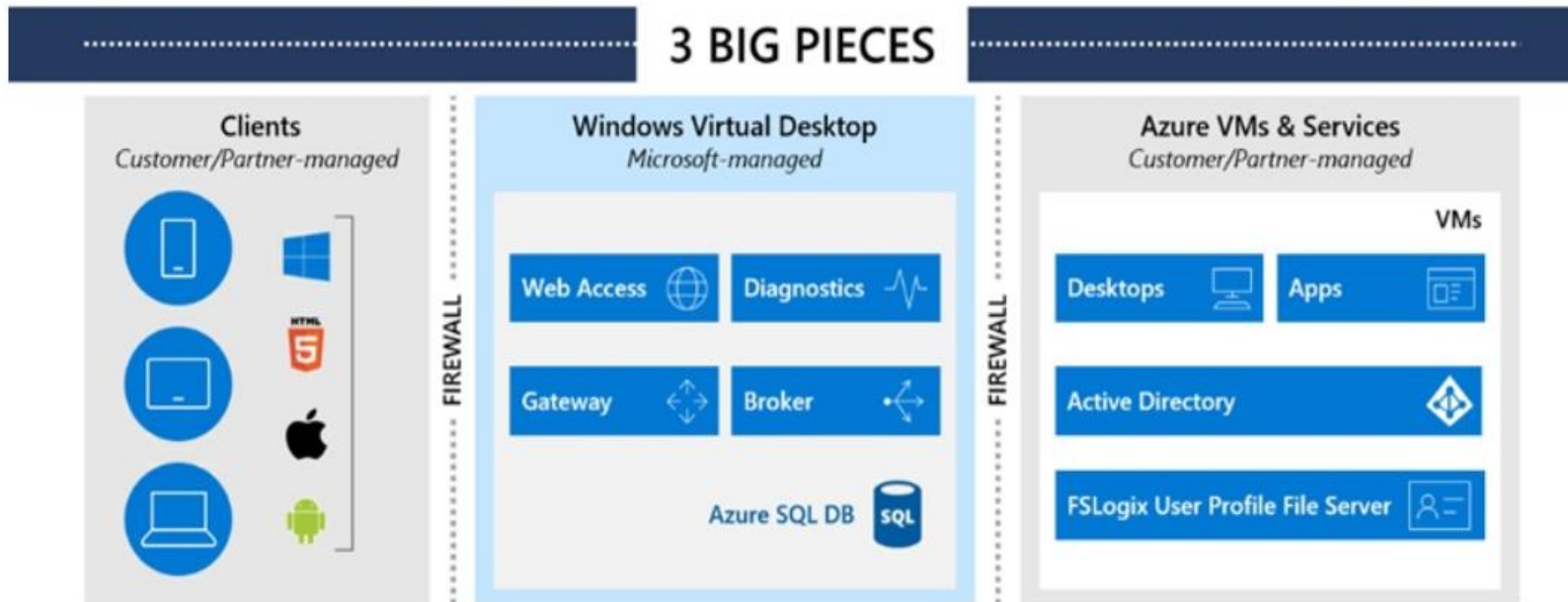
**softserve**

# Agenda

1. Co to jest WVD?
2. Trochę historii
3. Schematy wirtualizacji pulpitu i aplikacji
4. Możliwości WVD
5. Koszta
6. Demo
7. Q & A

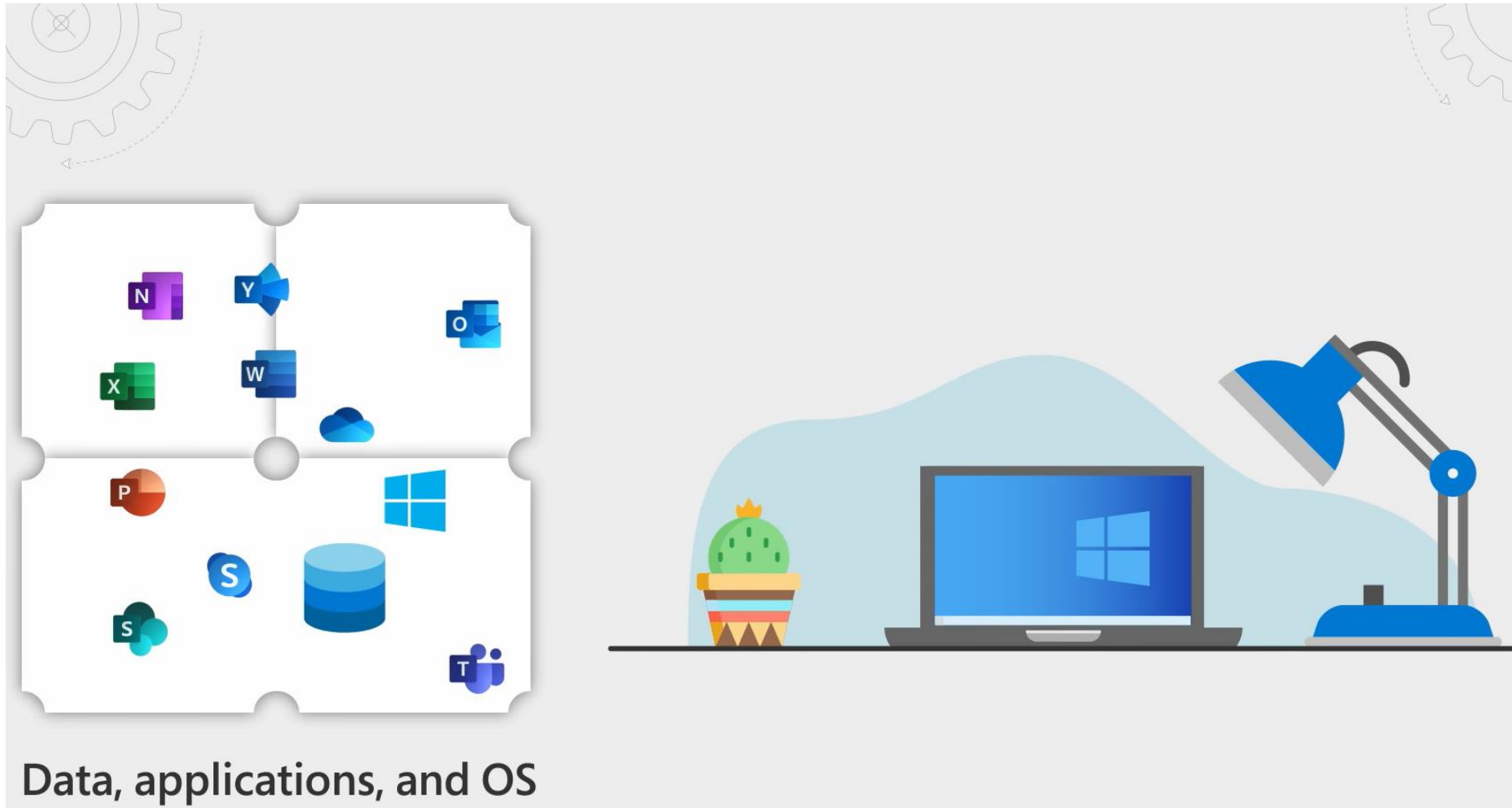
# Czym jest Windows Virtual Desktop?

## WVD Architectural Overview



Windows Virtual Desktop to platforma do virtualizacji zdalnych pulpitów i aplikacji oparta na "cloud computing".

# RDS & VDI

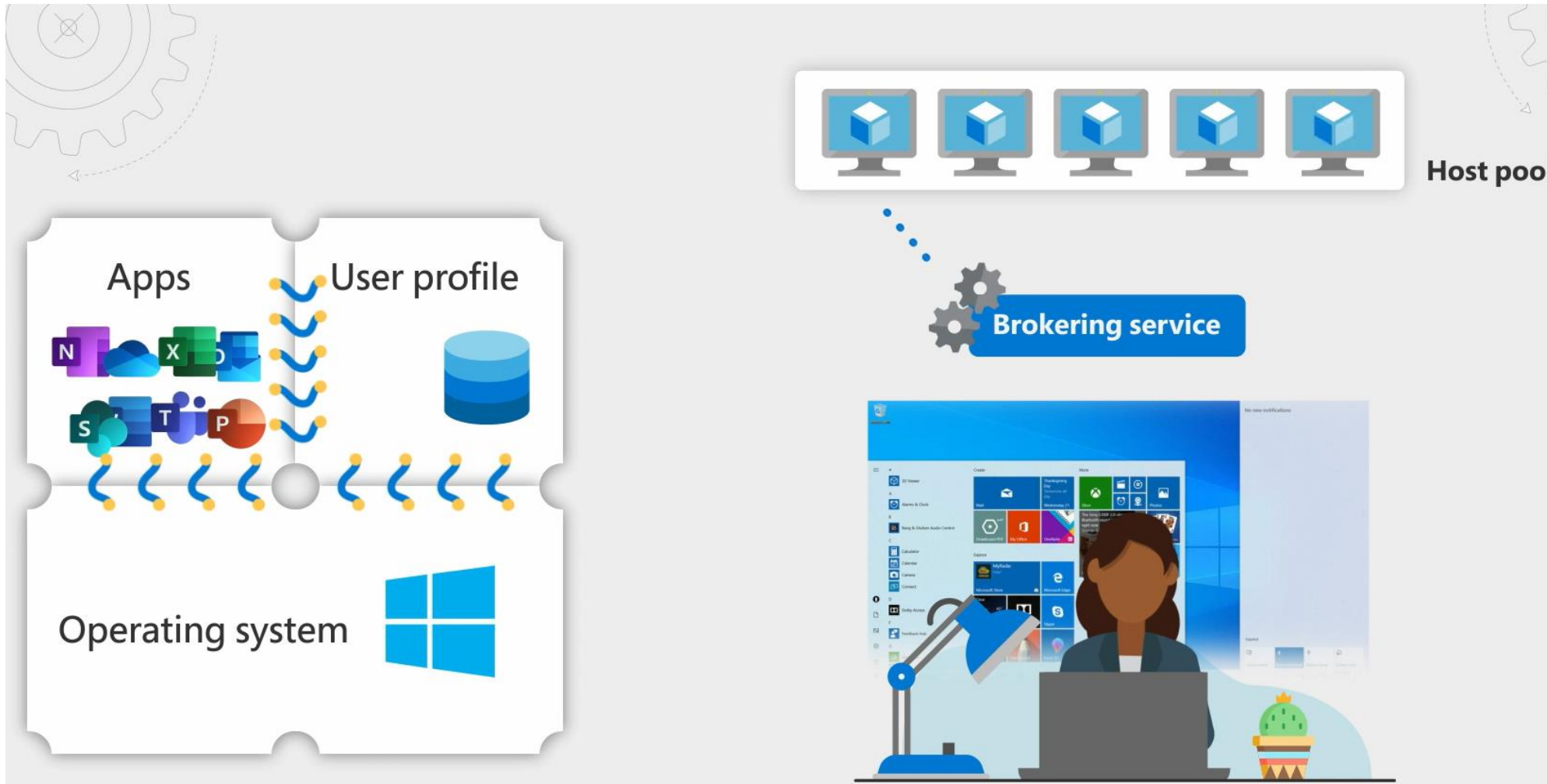


# RDS & VDI



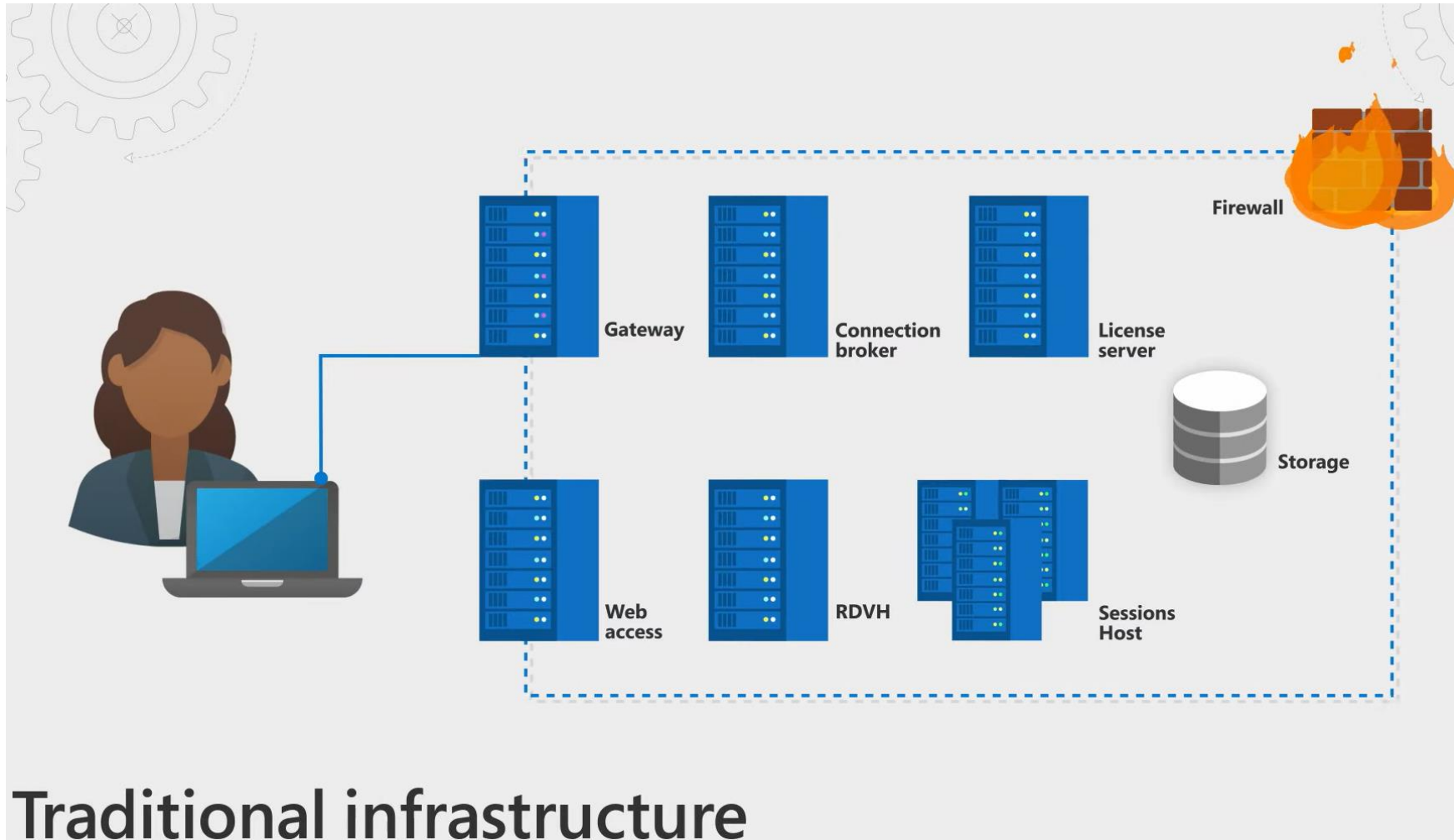


# RDS & VDI

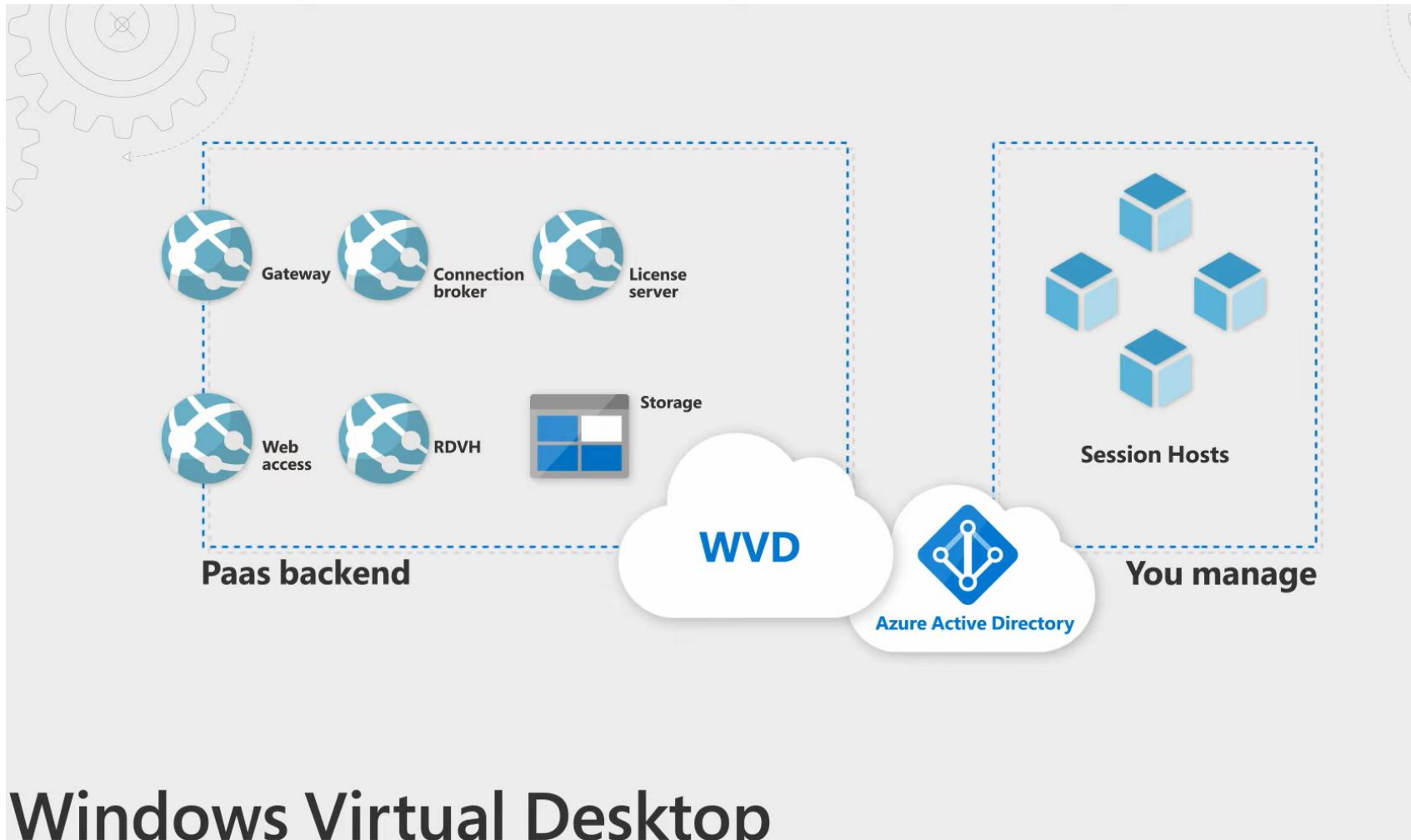




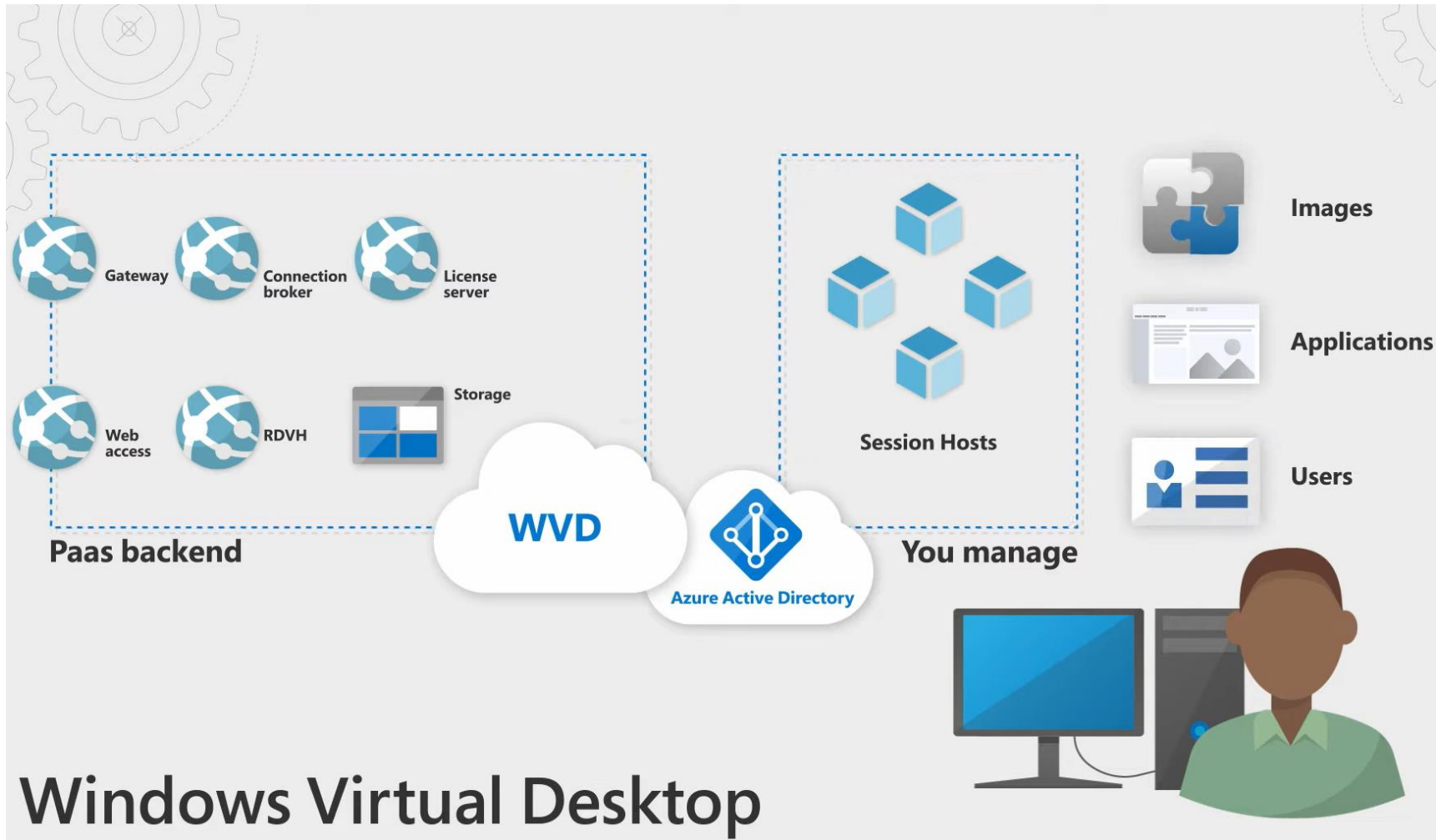
# Tradycyjne podejście:



# NOWE podejście w chmurze:



# NOWE podejście w chmurze:



# Wymagania

Aby zapewnić obsługę pulpitu wirtualnego systemu Windows, Twoja infrastruktura wymaga następujących czynności:

- [Azure Active Directory](#)
- Active Directory systemu Windows Server synchronizacja z Azure Active Directory. Można to skonfigurować przy użyciu jednego z następujących elementów:
  - Azure AD Connect (dla organizacji hybrydowych)
  - Azure AD Domain Services (dla organizacji hybrydowych lub w chmurze)
- Subskrypcja platformy Azure zawierająca sieć wirtualną, która zawiera lub jest połączona z systemem Windows Server Active Directory

# Rozmiar maszyny

Create Windows Virtual Deskt... ✕

1 Basics Done ✓

2 Configure virtual machines Usage profile and VM count >

3 Virtual machine settings Select VM configuration settings >

4 Windows Virtual Desktop inf... Authenticate to Windows Virtual ... >

Configure number of VMs... □ ✕

Usage Profile ⓘ

Light Medium Heavy Custom

\* Total users

10 ✓

\* Virtual machine size

4x Standard D8s v3

8 vcpus, 32 GiB memory

[Change size](#)

\* Virtual machine name prefix ⓘ

# Rozmiar maszyny

## Select a VM size

Browse available virtual machine sizes and their features

✕ [Clear all filters](#)

Family : **GPU** ✕ + Add filter

Showing 83 VM sizes. | Subscription: Pay-As-You-Go | Region: East US 2 | Current size: Standard\_D8s\_v3

VM SIZE <sup>↑↓</sup>	OFFERING <sup>↑↓</sup>	FAMILY <sup>↑↓</sup>	VCPUS <sup>↑↓</sup>	RAM (GI... <sup>↑↓</sup>	DATA DISKS <sup>↑↓</sup>	MAX IOPS <sup>↑↓</sup>	TEMPORARY STOR... <sup>↑↓</sup>	PREMIUM DISK SU... <sup>↑↓</sup>	COST/MON' <sup>↑↓</sup>
A1_v2	Standard	General purpose	1	2	2	2x500		No	Unavailab
A2_v2	Standard	General purpose	2	4	4	4x500		No	Unavailab
A2m_v2	Standard	General purpose	2	16	4	4x500		No	Unavailab
A4_v2	Standard	General purpose	4	8	8	8x500		No	Unavailab
A4m_v2	Standard	General purpose	4	32	8	8x500		No	Unavailab
A8_v2	Standard	General purpose	8	16	16	16x500		No	Unavailab
A8m_v2	Standard	General purpose	8	64	16	16x500		No	Unavailab
B1ms	Standard	General purpose	1	2	2	800	4 GB	Yes	Unavailab
B1s	Standard	General purpose	1	1	2	400	4 GB	Yes	Unavailab
B2ms	Standard	General purpose	2	8	4	2400	16 GB	Yes	Unavailab
B2s	Standard	General purpose	2	4	4	1600	8 GB	Yes	Unavailab



# Server OS czy Desktop OS?



# Server OS czy Desktop OS?

## System operacyjny

## Wymagana licencja

Wiele sesji systemu Windows 10 Enterprise lub  
Windows 10 Enterprise

Microsoft 365 E3, E5, A3, A5, F1, Business  
Windows E3, E5, A3, A5

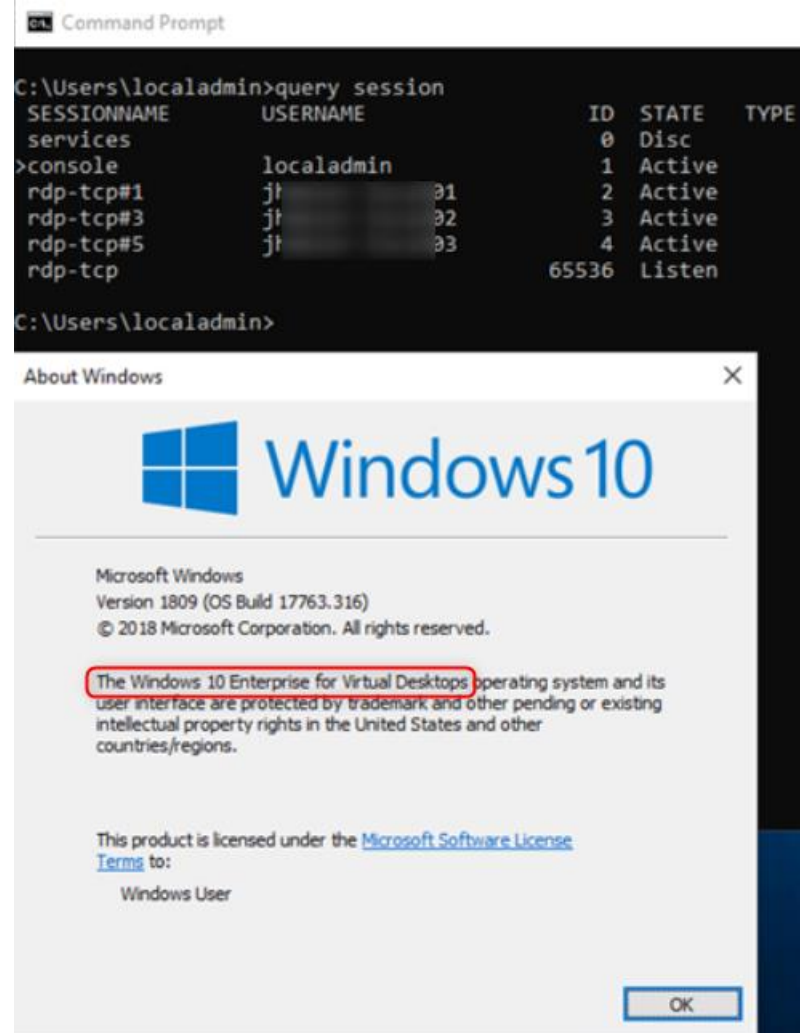
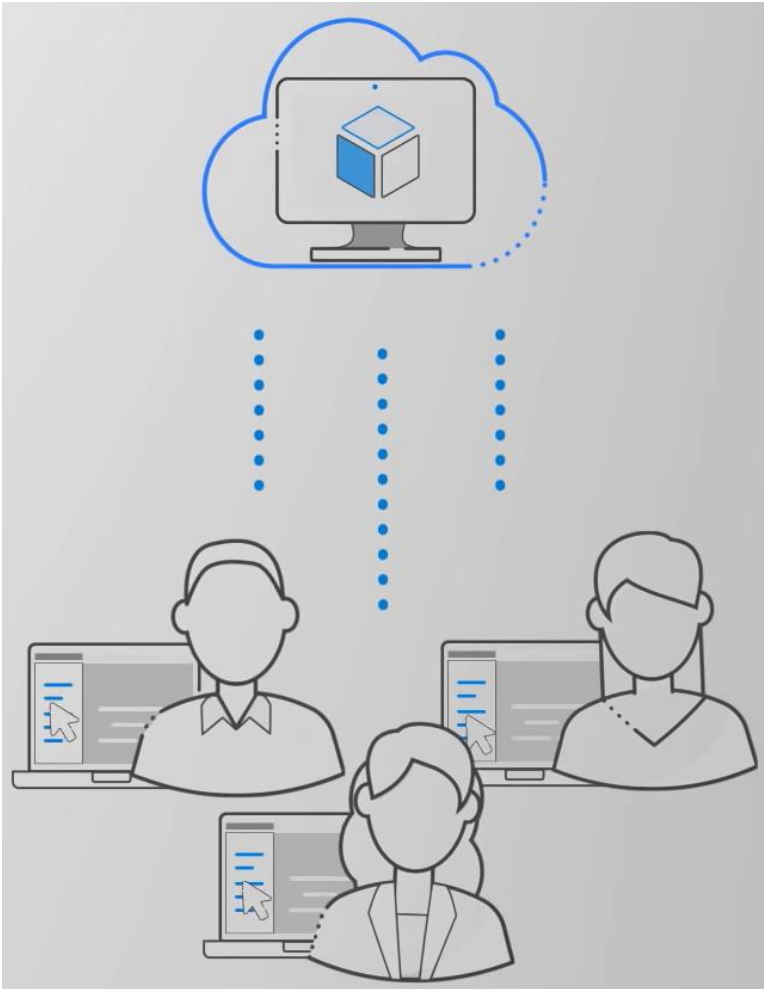
Windows 7 Enterprise

Microsoft 365 E3, E5, A3, A5, F1, Business  
Windows E3, E5, A3, A5

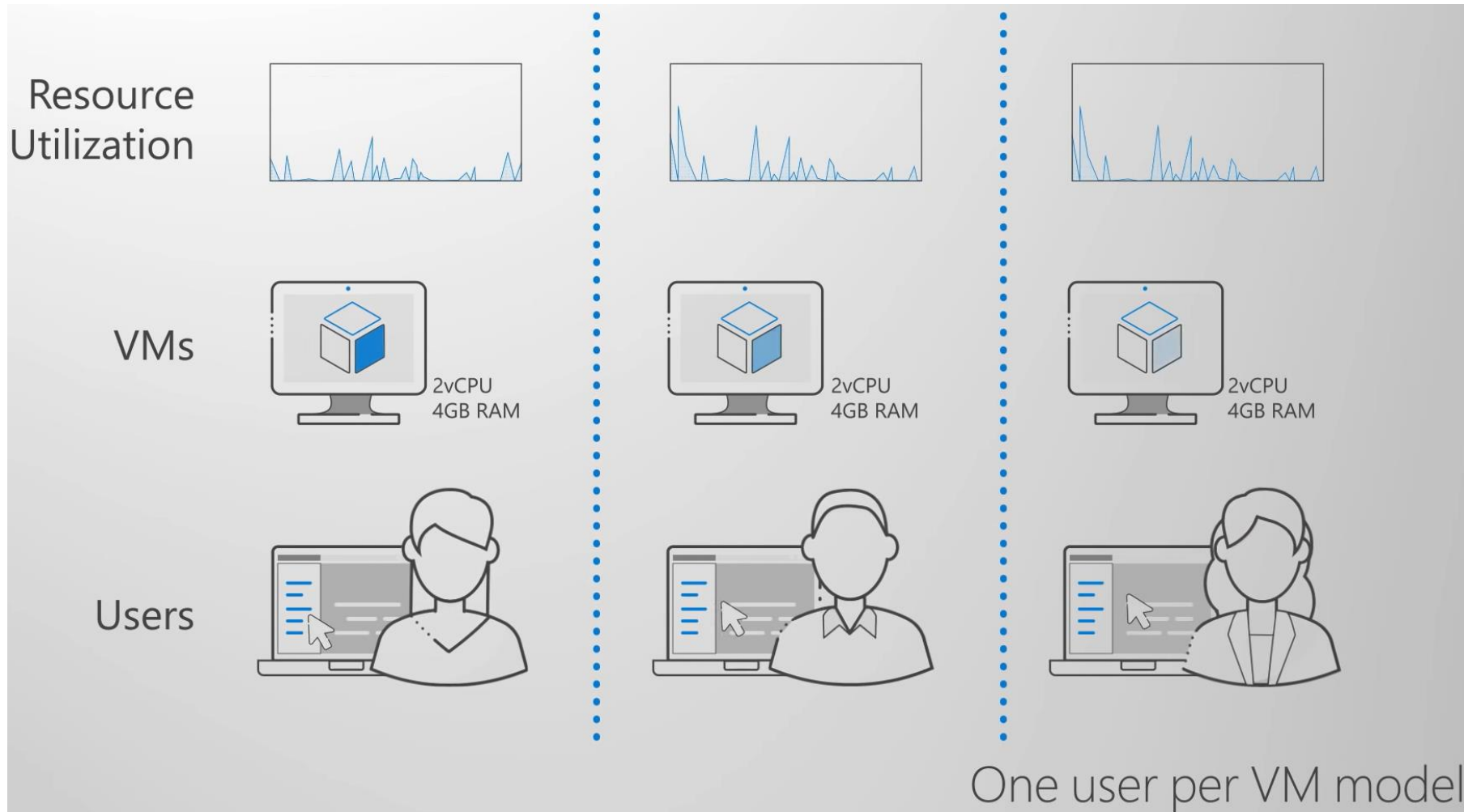
Windows Server 2012 R2, 2016, 2019

Licencja dostępu klienta usług pulpitu zdalnego z  
programem Software Assurance

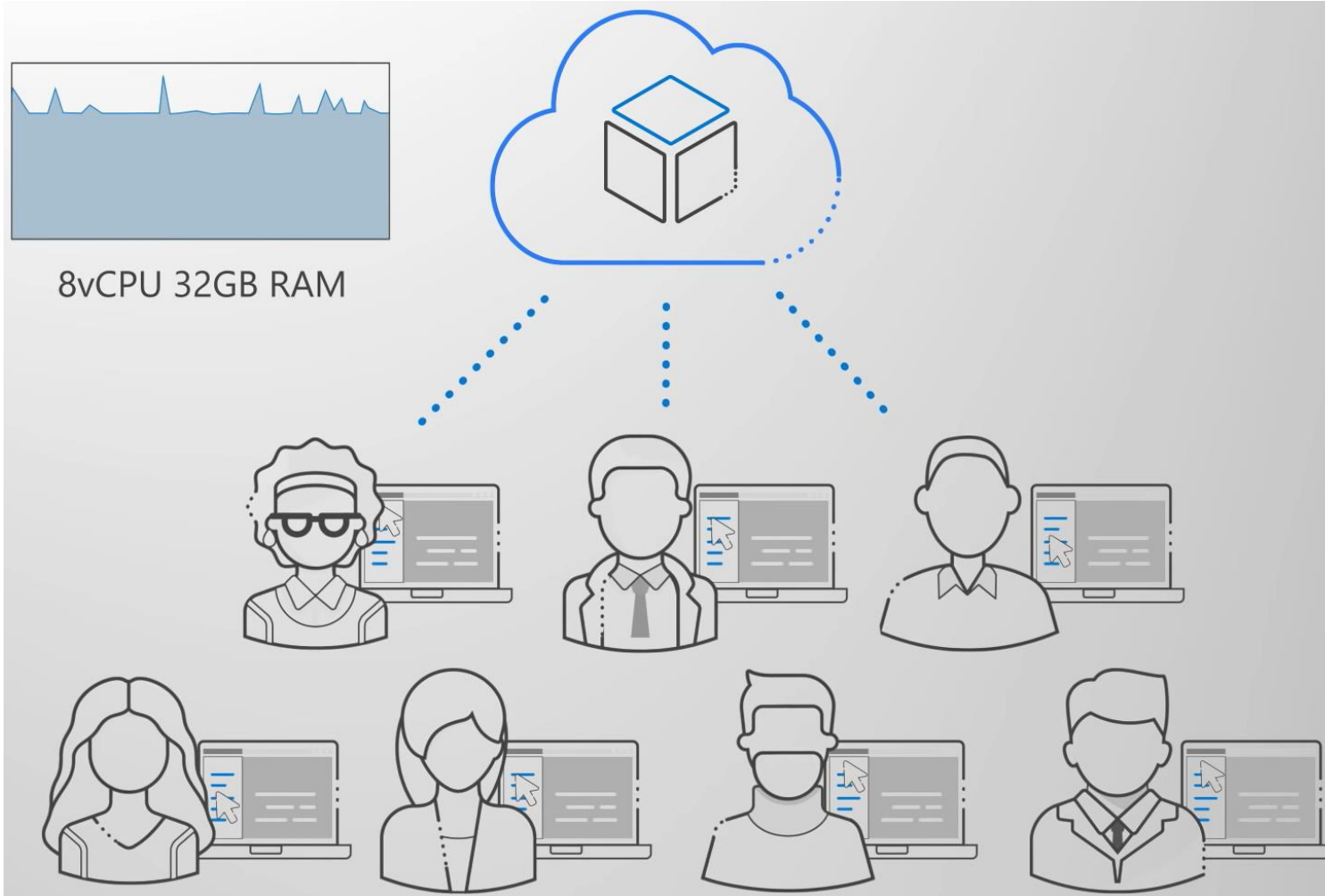
# Windows 10 Enterprise multi-session



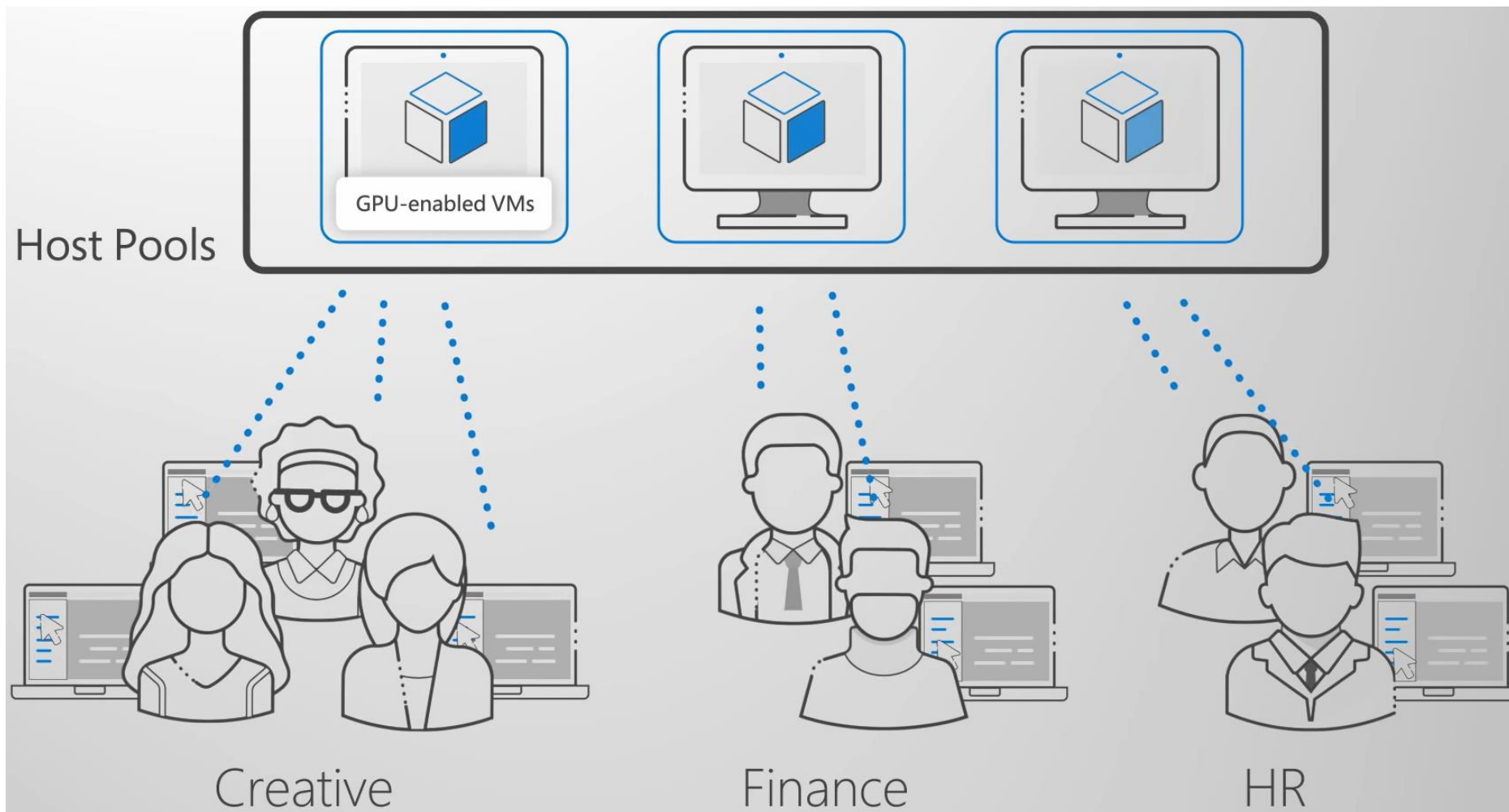
# Użytkownik per VM - Personal



# Wielu użytkowników per VM - Pooled



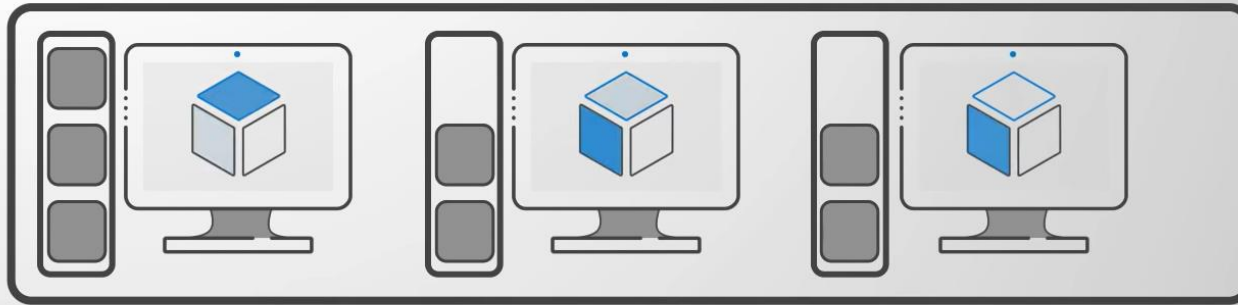
# Pula maszyn wirtualnych





# Load balancing

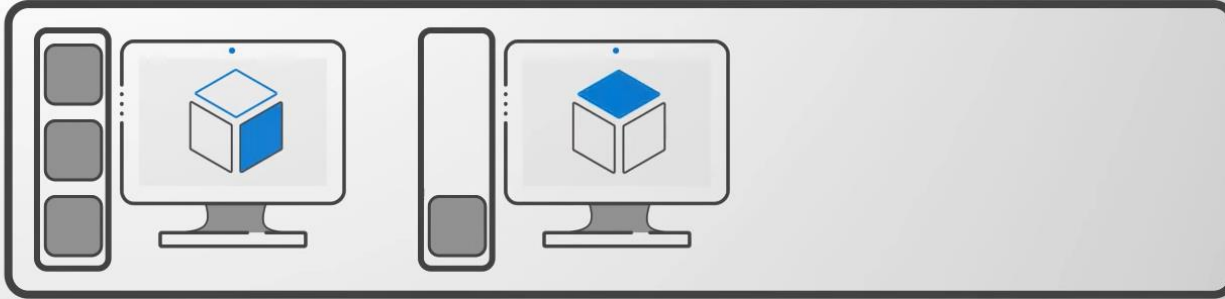
Host Pools



Breadth mode

# Load balancing

Host Pools



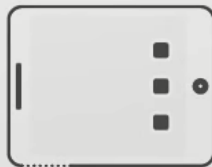
Depth mode

# Natywny klient na każdy OS:

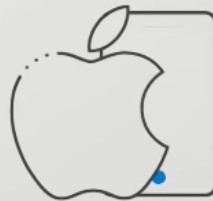
- Windows,
- MacOS,
- iOS,
- Android,
- HTML5 ( w przeglądarce)



Mac



iPad



iPhone



Android



Browser

# Nie tylko VDI ale i remoteApp

Remote Desktop

▼ WVDContoso.com



Excel



Firefox



Google  
Chrome



Notepad++



OneNote  
2016



Visual  
Stud...



Word



WordPad



Windows  
10 Enter...



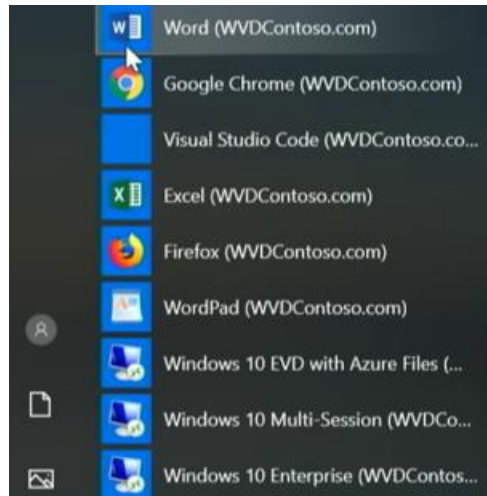
Windows  
10 EVD wi...



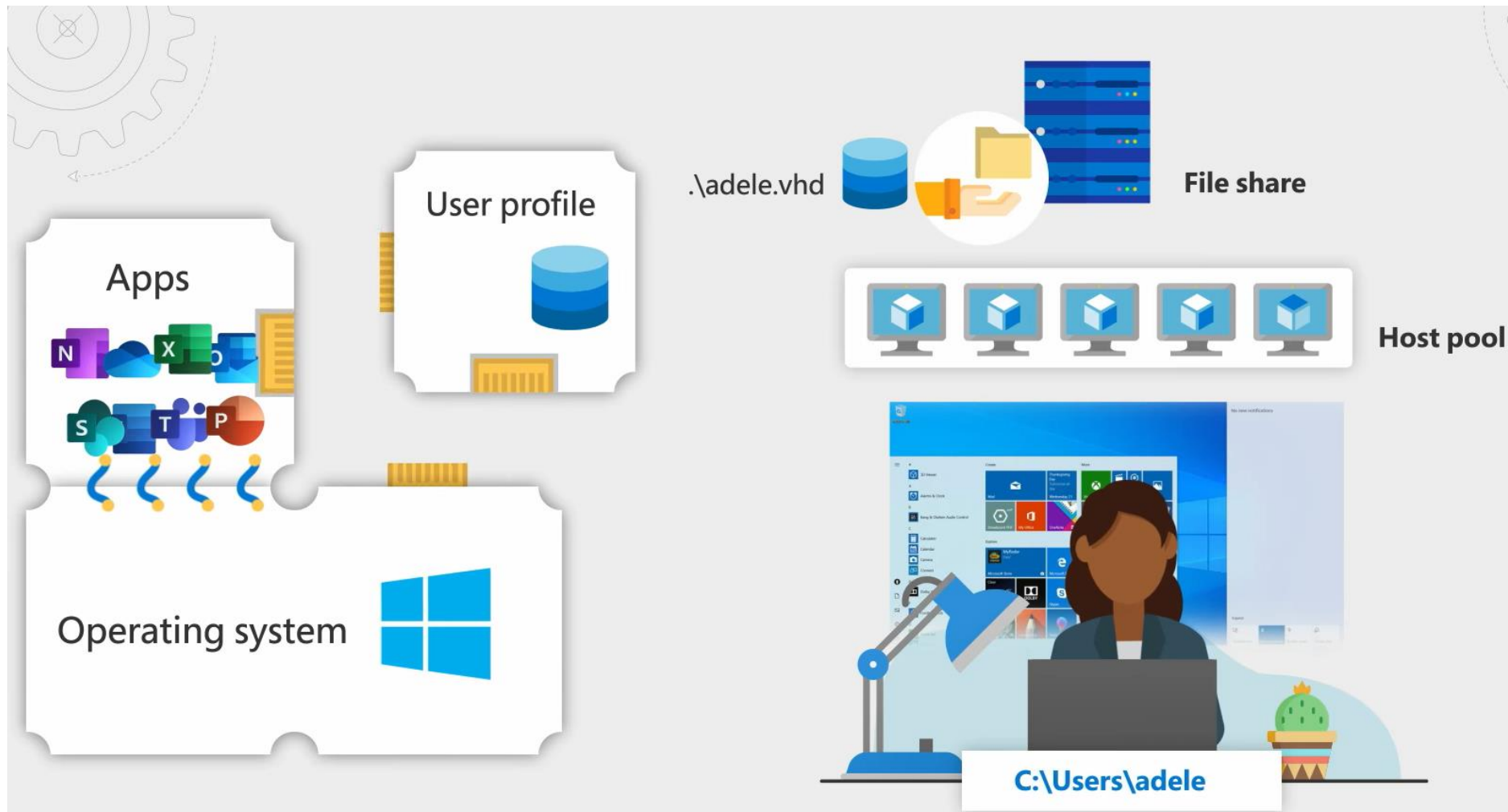
Windows  
10 Mul...



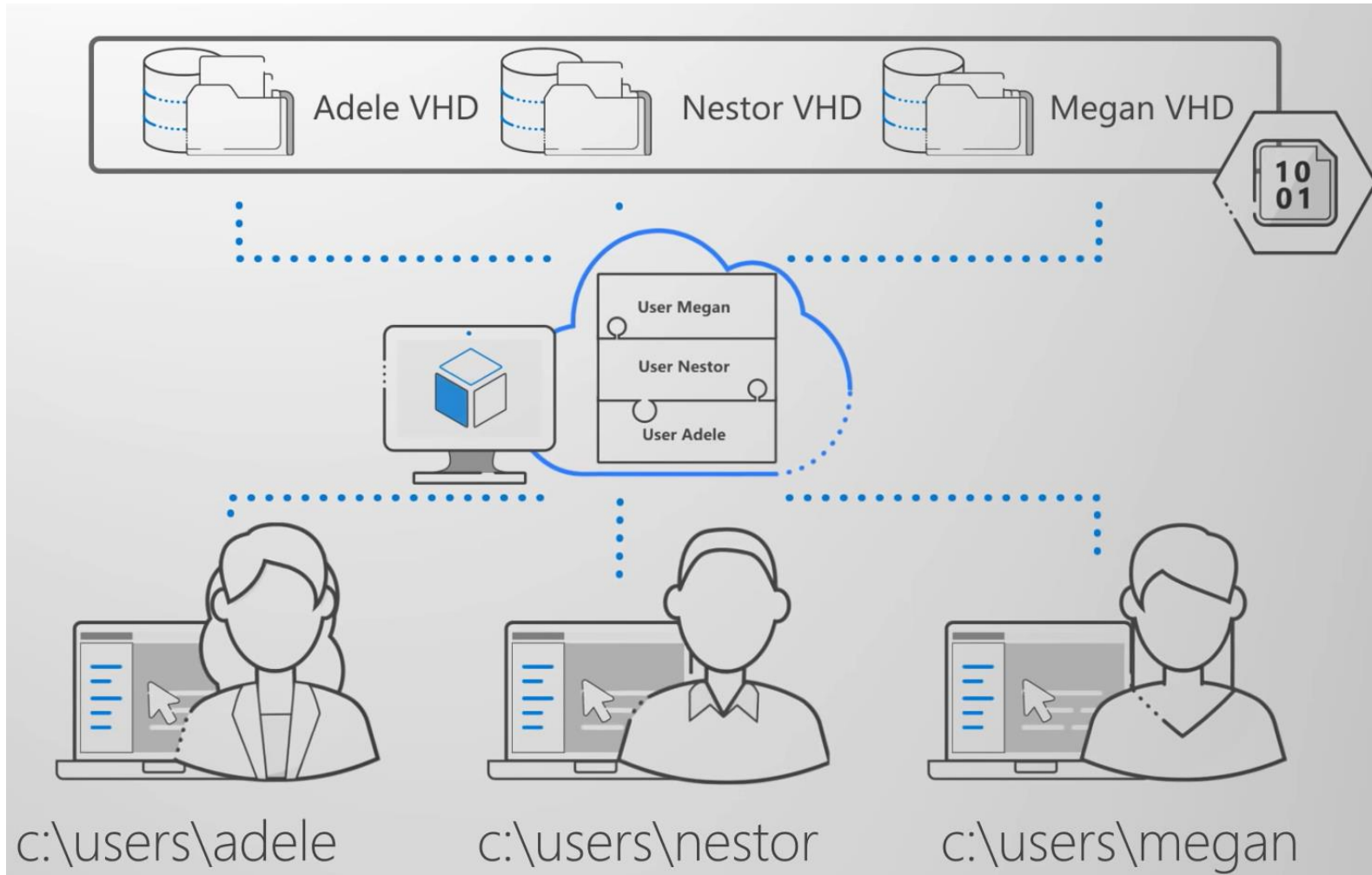
Windows 7  
Personal...



# Integracja z FSLogic

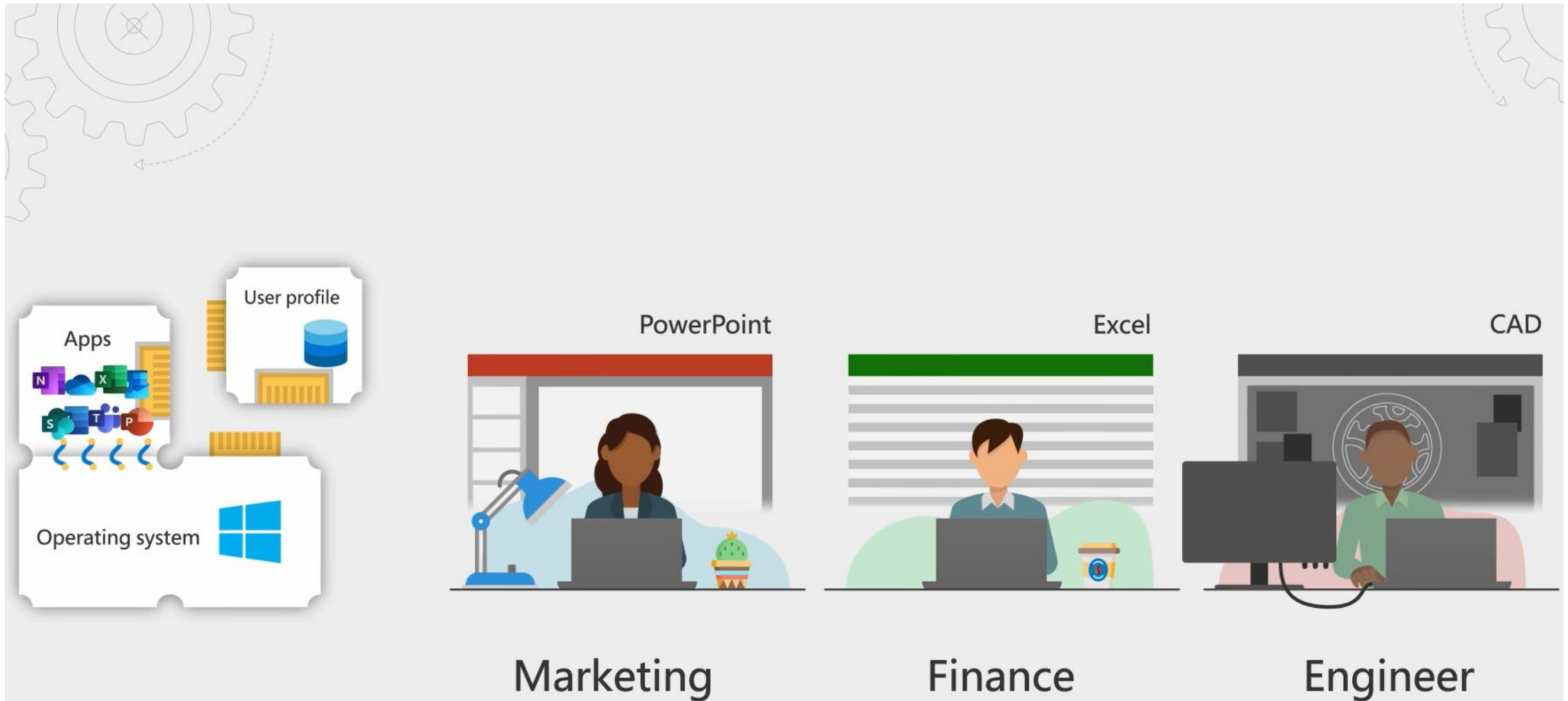


# Integracja z FSLogic

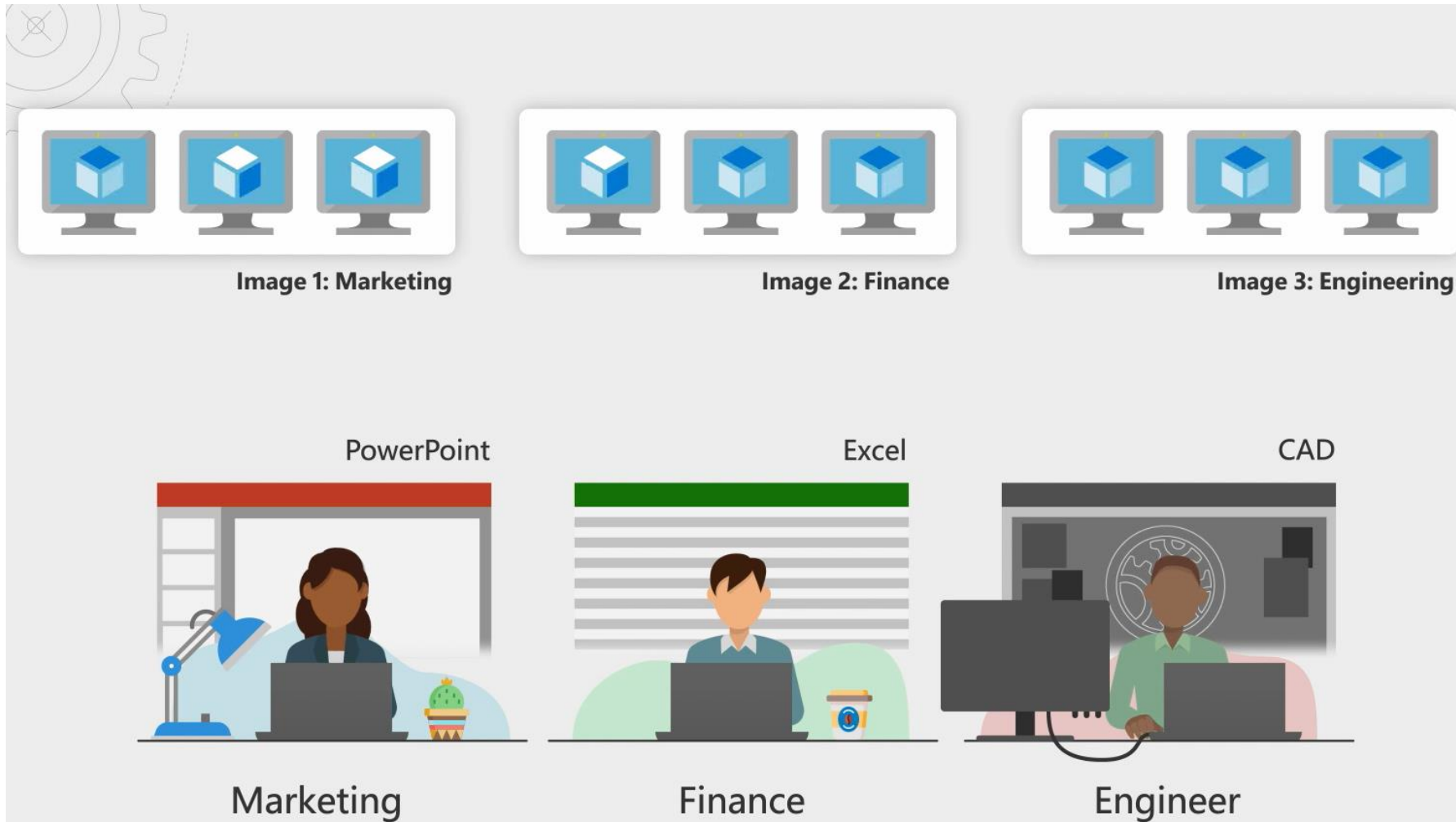




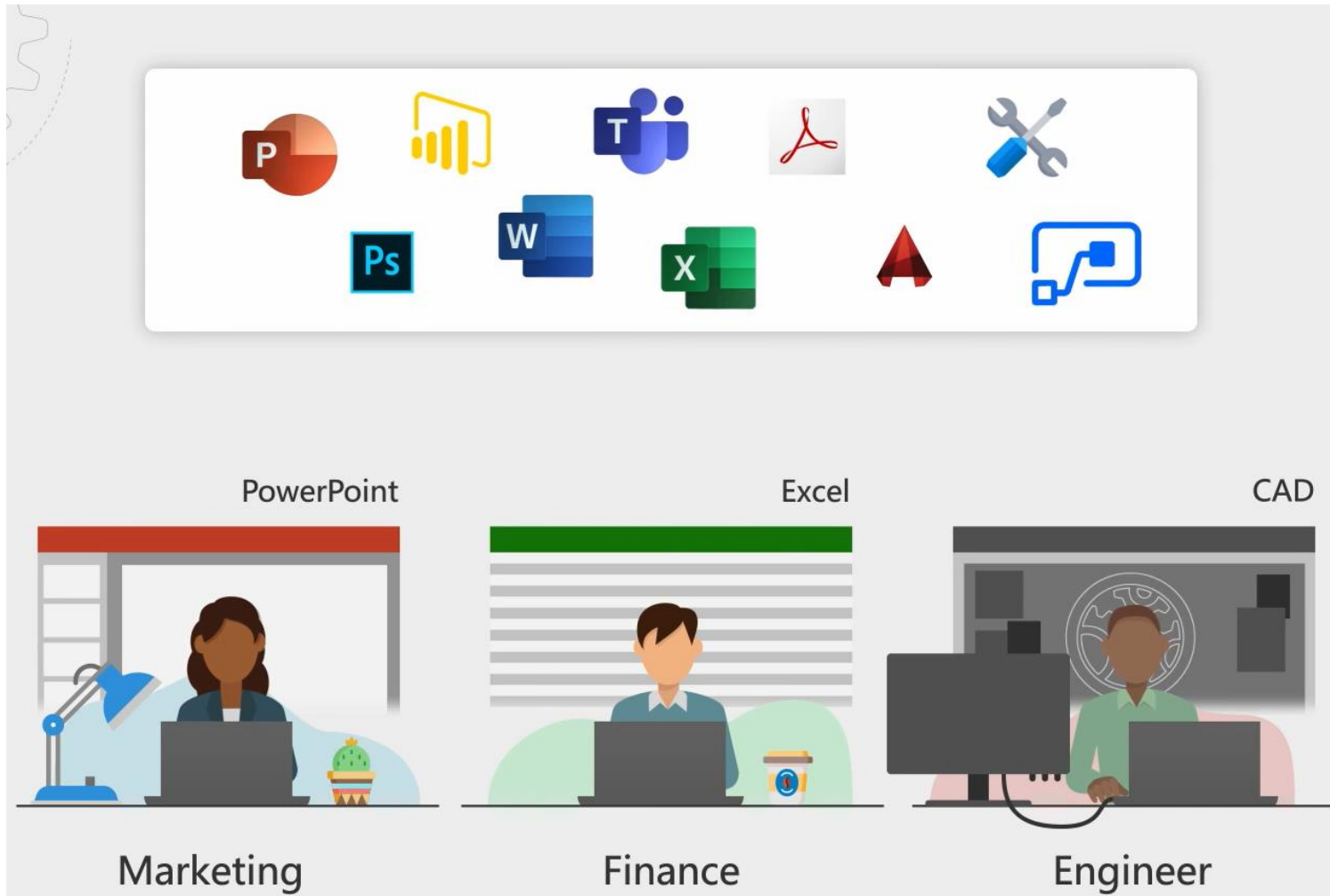
# Aplikacje i różne potrzeby użytkowników



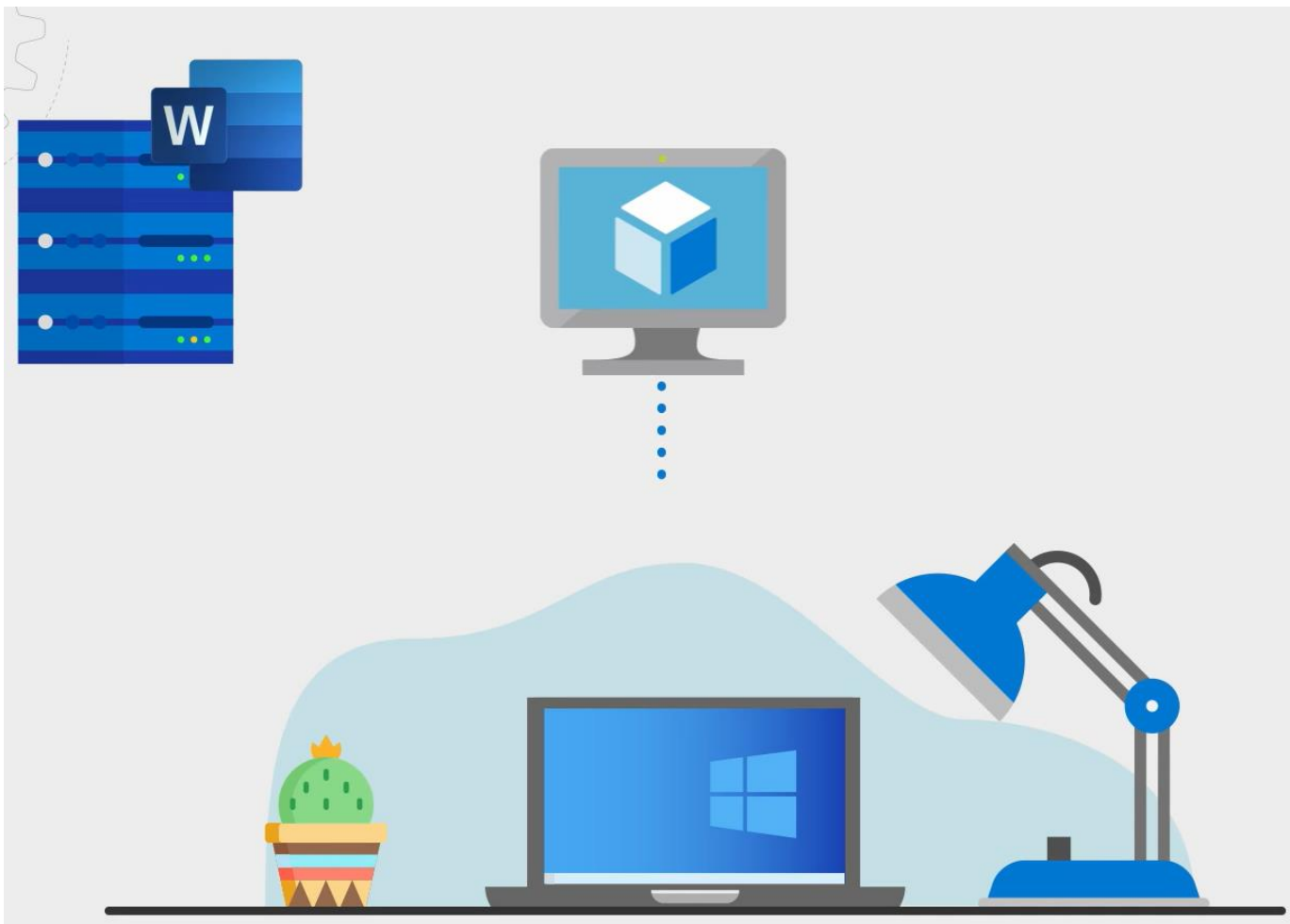
# Opcja 1 – różne obrazy dla różnych ról



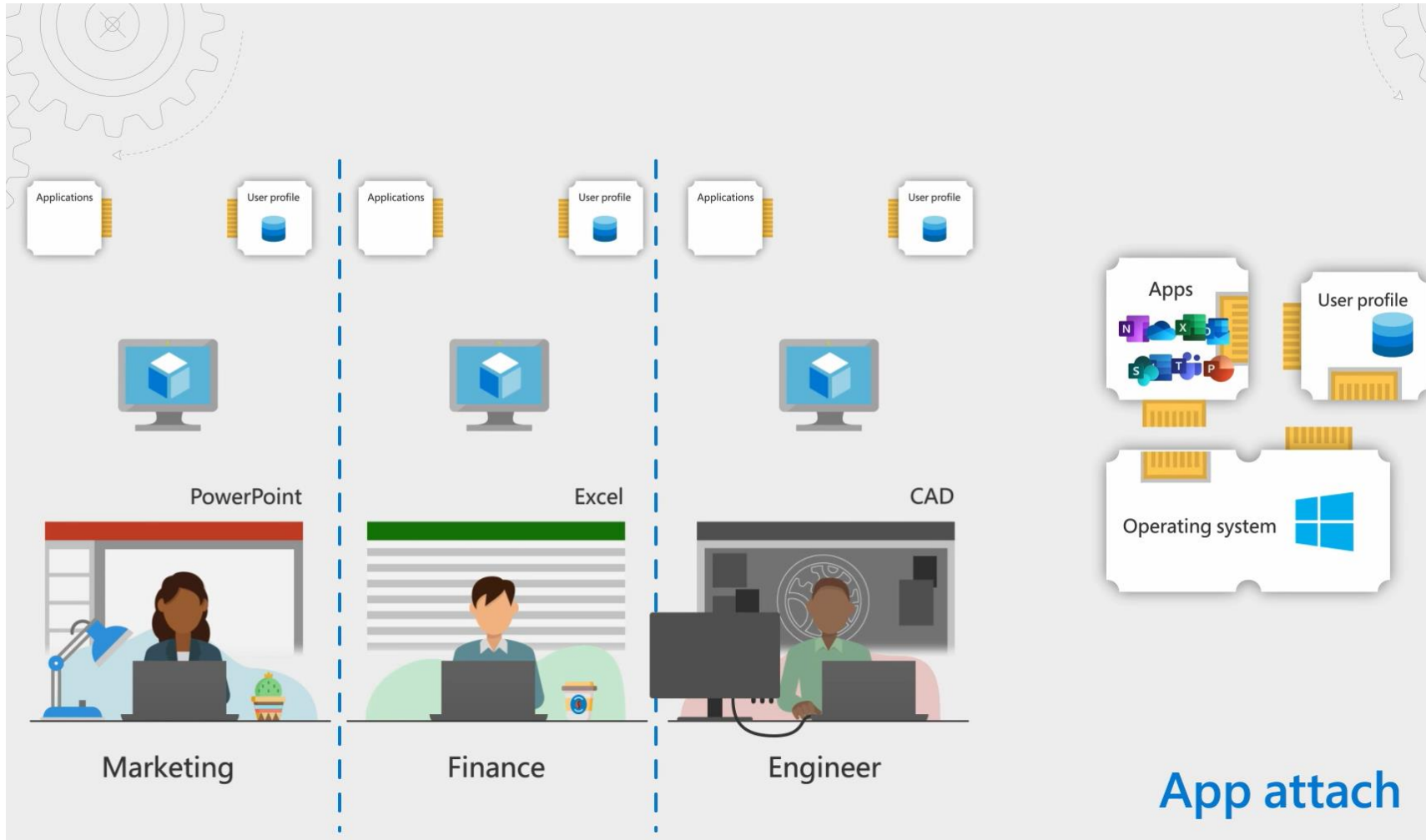
# Opcja 2 – jeden obraz i ukryte aplikacje



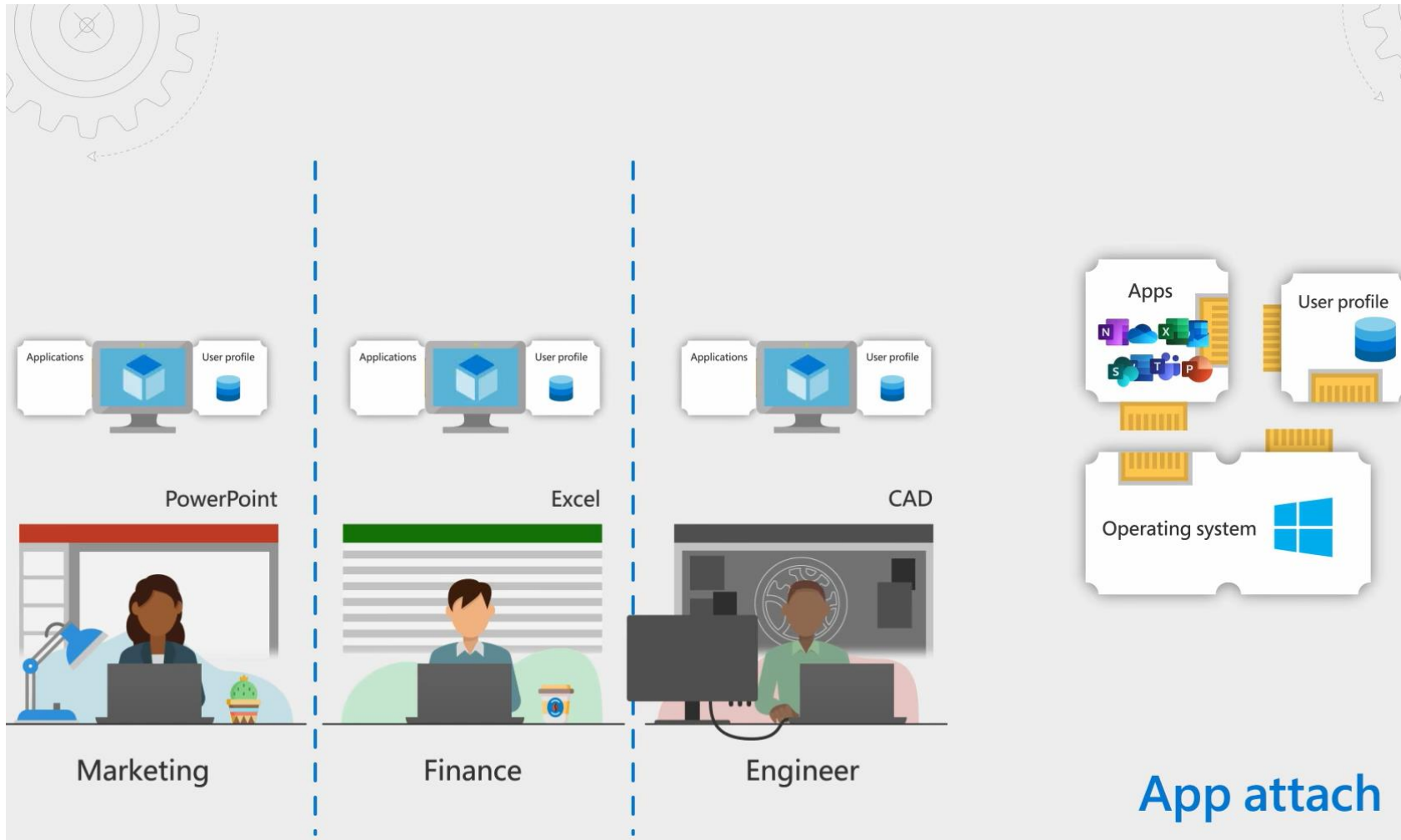
# Opcja 3 – streaming aplikacji



# App attach - MSIX

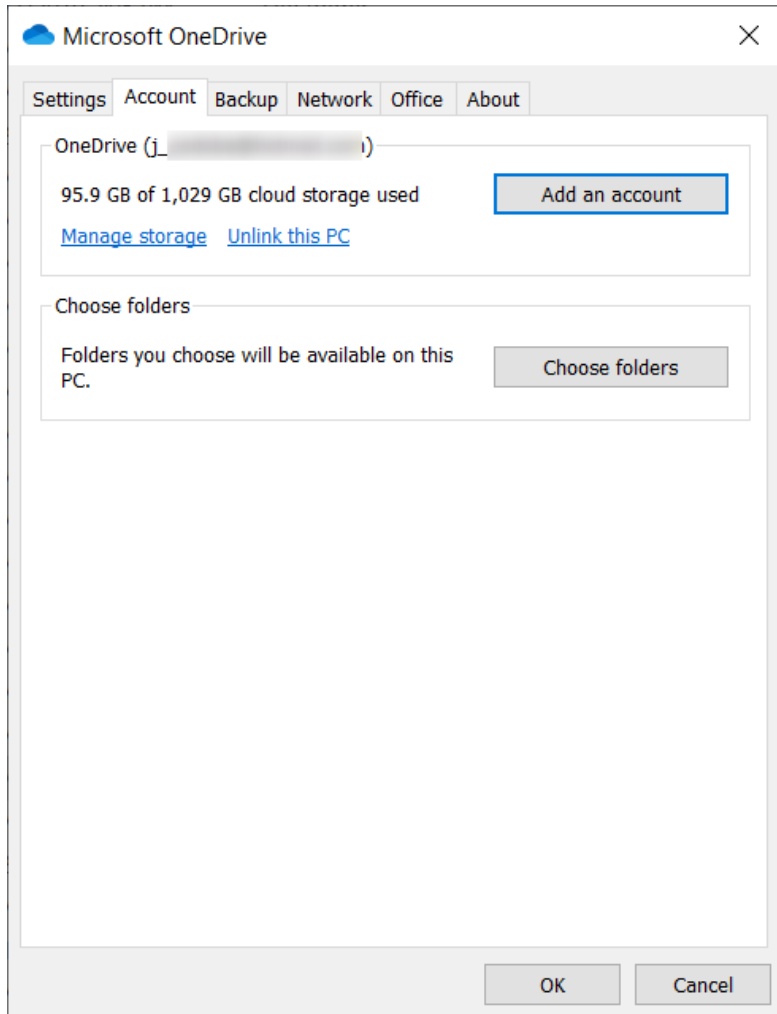


# App attach - MSIX

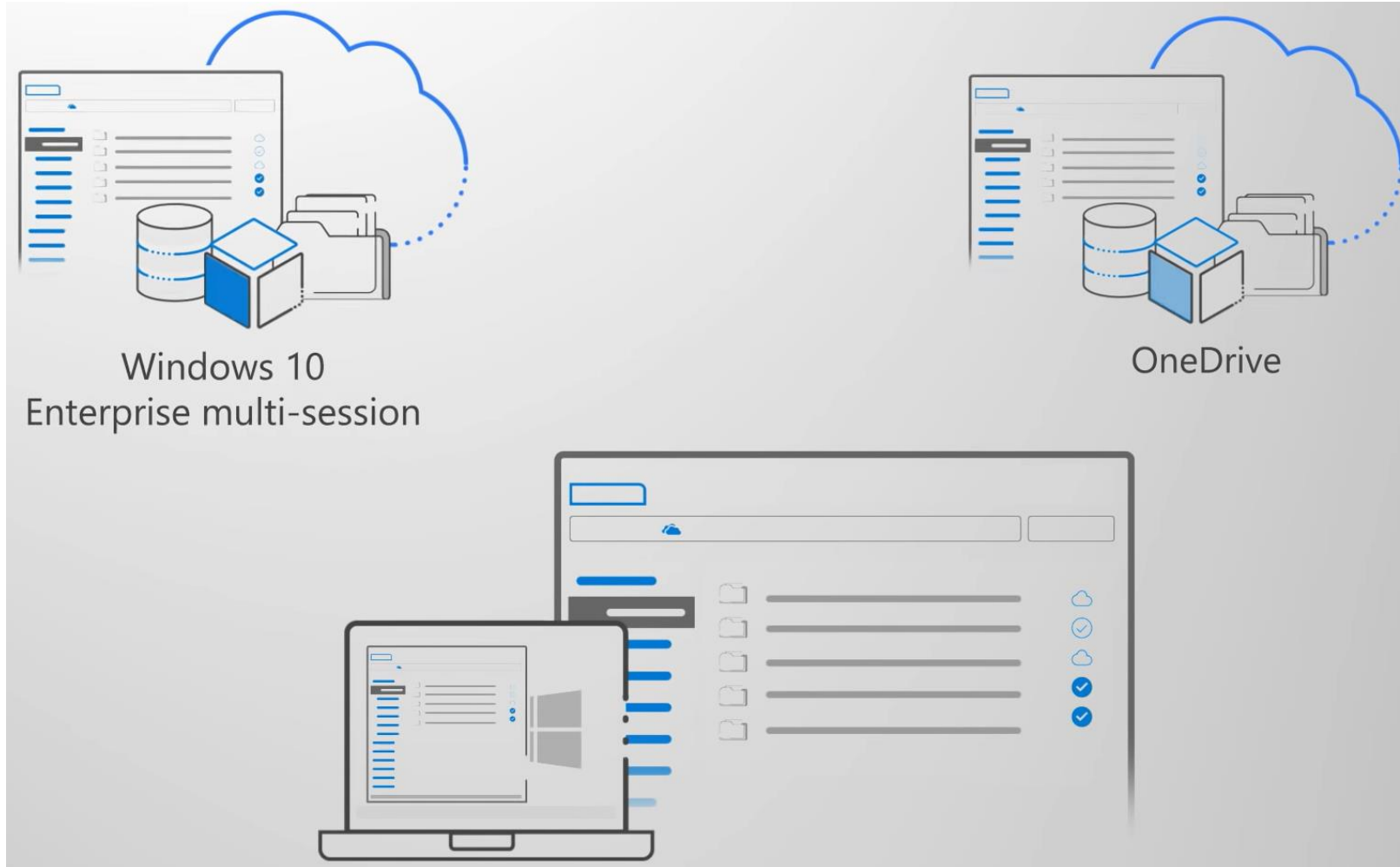




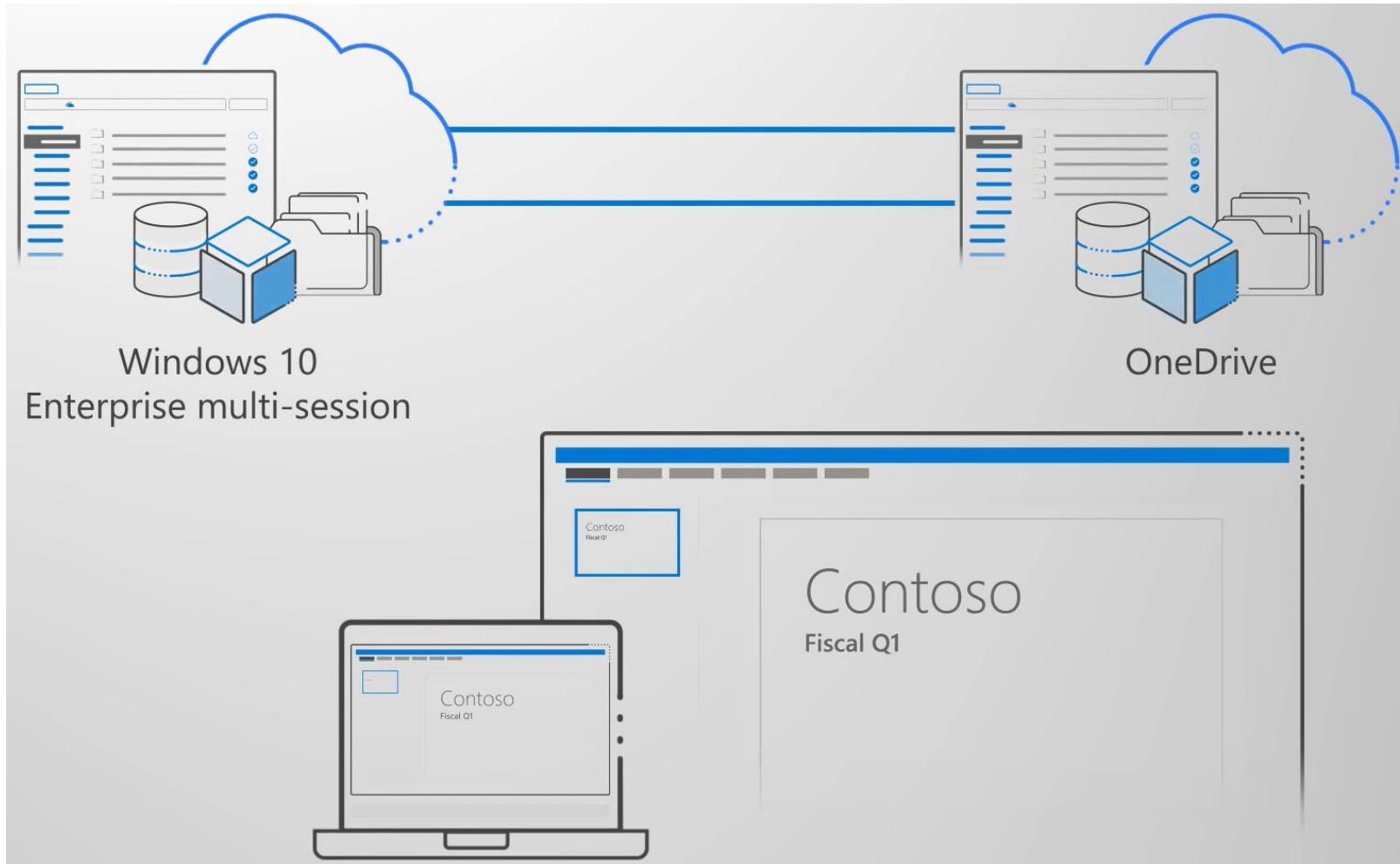
# Optymalizacja storage - OneDrive



# Integracja z OneDrive



# Integracja z OneDrive



# Optymalizacja storage – Azure File Sync

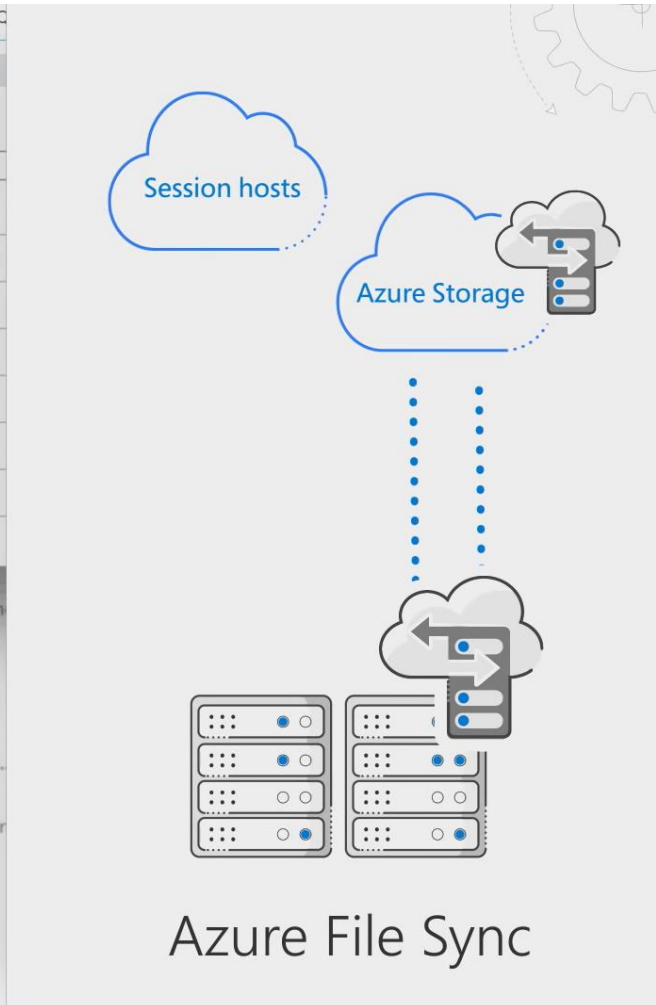
The top part of the image shows the Azure File Sync web interface. It includes a search bar, navigation tabs (Overview, Access Control (IAM), Settings), and a list of files and directories. A black box labeled "Azure Storage" is overlaid on the left side of the interface.

The bottom part of the image shows a Windows File Explorer window displaying the contents of the "filesynchOnPrem" folder. The files and folders are synchronized with the Azure Storage interface above. A black box labeled "On-premises storage" is overlaid on the bottom left of the File Explorer window.

NAME	TYPE
.SystemShareInformation	Directory
0-1-5-31-026100412-1001041077-3005006210-1117_Mag...	Directory
Tailwind Traders	Directory
Contract POC 2017 Contract.docx	File
Patrium Invoice.docx	File
Woodgrove Project	File

Name	Date modified	Type
0-1-5-31-026100412-1001041077-3005006210-1117_Mag...	7/2/2019 10:00 PM	File folder
Tailwind Traders	7/2/2019 11:40 PM	File folder
Contract POC 2017 Contract	6/20/2019 6:03 PM	Office Open XML Document
Patrium Invoice	7/2/2019 11:17 PM	Text Document
Woodgrove Project	7/2/2019 11:17 PM	Rich Text Document



# Bezpieczeństwo

multi-factor authentication

users   service settings

Before you begin, take a look at the [multi-factor auth deployment guide](#).

View: Sign-in allowed users ▼



Multi-Factor Auth status: Any ▼

bulk update

<input type="checkbox"/>	DISPLAY NAME ▲	USER NAME	MULTI-FACTOR AUTH STATUS	
<input checked="" type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	2 selected
<input type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	
<input checked="" type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	quick steps
<input type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	
<input type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	Enable
<input type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	Manage user settings
<input type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	
<input type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	
<input type="checkbox"/>	John Doe	john.doe@contoso.com	Enabled	

# Extra – Windows 7



## Your Windows 7 PC is out of support

As of January 14, 2020, support for Windows 7 has come to an end. Your PC is more vulnerable to viruses and malware due to:

- No security updates
- No software updates
- No tech support

Microsoft strongly recommends using Windows 10 on a new PC for the latest security features and protection against malicious software.

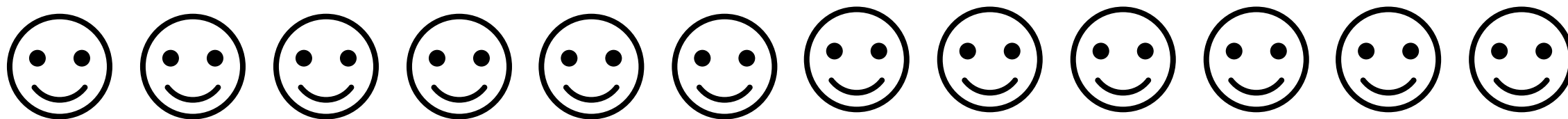
[Learn more](#)[Remind me later](#)

[Don't remind me again](#)

## Extra – Windows 7



**Extra 3 lata darmowego support'u**





**Ile to może kosztować?**



# Koszta - 10 użytkowników

Product	Unit Cost	Units	Total Cost
Microsoft 365 F1	\$10/user	10	\$100
Availability Zones – none (Single Zone)	\$0	0	\$0
Azure Monitor	Varies	10	\$1
Azure Sentinel	\$2/GB	5 GB	\$10
Cloud App Security	\$3.50/user	10	\$35
Compute & Small Disk: Server Core ADDS DC	~\$20	1	\$20
Compute: B4ms 4 cores, 16GB RAM	~\$122	1	\$122
Insights	5GB Free, then \$2.30/GB	5	\$0
Key Vault	\$0.03/10,000 transactions	1	\$0.03
Log Analytics	5GB Free, then \$2.30/GB	5 GB	\$0
Managed Disks	~\$35/256 GB	1	\$35
Network Egress	\$0.087/GB	100 GB	\$8.70
Recovery Services Vault	\$10/VM/500 GB increment + storage costs	2 VMs, 300 GB LRS	\$26.72
Security Center	~\$15/mo	2	\$30
Update Management	Free	\$0	\$0
Virtual Network Gateway	Basic: ~\$26.28	1	\$26.28

# Koszta

## 10 użytkowników pojedyncza instancja:

- \$135 – Total Microsoft 365 Licensing Costs
- \$286.51 – Total Azure Costs
- **\$421.51** – Total monthly estimated costs

## 50 użytkowników z redundancją:

- \$675 – Total Microsoft 365 Licensing Costs
- \$2,123.35 – Total Azure Costs
- **\$2,798.35** – Total monthly estimated costs



# Pytania ???



# Przydate linki:

- <http://aka.ms/WVD> (dokumentacja)
- <http://aka.ms/LearnWVD> (laby)
- <http://aka.ms/AzureNetworkHowTo> (możliwości konfiguracji sieci)
- <https://github.com/Azure/RDS-Templates> (templates, scrips)
- <https://christiaanbrinkhoff.com/2019/12/29/how-to-learn-everything-for-free-about-windows-virtual-desktop-in-the-new-year/>

# Ankieta prelegenta:

<https://tinyurl.com/wvdwroclaw>

# Dziękuję za uwagę

