



Azure Migrate

Strumenti e modalità per una gestione efficace del Cloud



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Agenda

Microsoft Azure: la visione del cloud di Microsoft

La migrazione al cloud: pianificare e valutare le attività

Migrazione delle identità di Active Directory

Pillole: scenari di migrazione della posta

Strategie di migrazione per SQL Server e applicazioni

Pillole: migrare Business Central (NAV) in cloud

Migrazione di Windows Server

Windows Virtual Desktop e Cloud PC

Q & A



Speaker



Flora Gitti

Sales Manager
Customer base



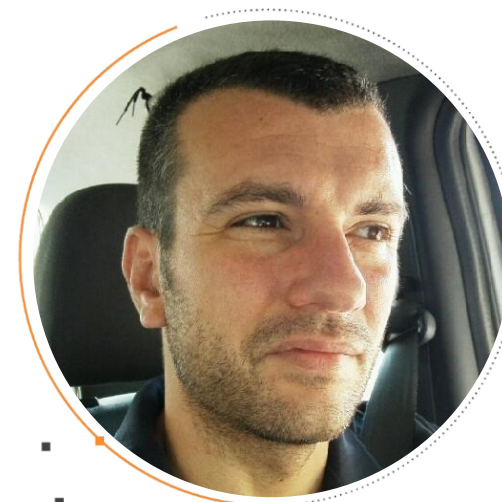
Alberto Duò

PreSales
Azure & Modern Workplace



Alvise Giacomini

Azure & MWP
Solutions Architect



Fabio Lazzaro

Azure & MWP
Solutions Architect



Obiettivi



Il webinar introdurrà nel mondo **Azure** e darà informazioni su come:

- pianificare e valutare un ambiente locale per la migrazione al cloud
- migrare i servizi di autenticazione, server e dati

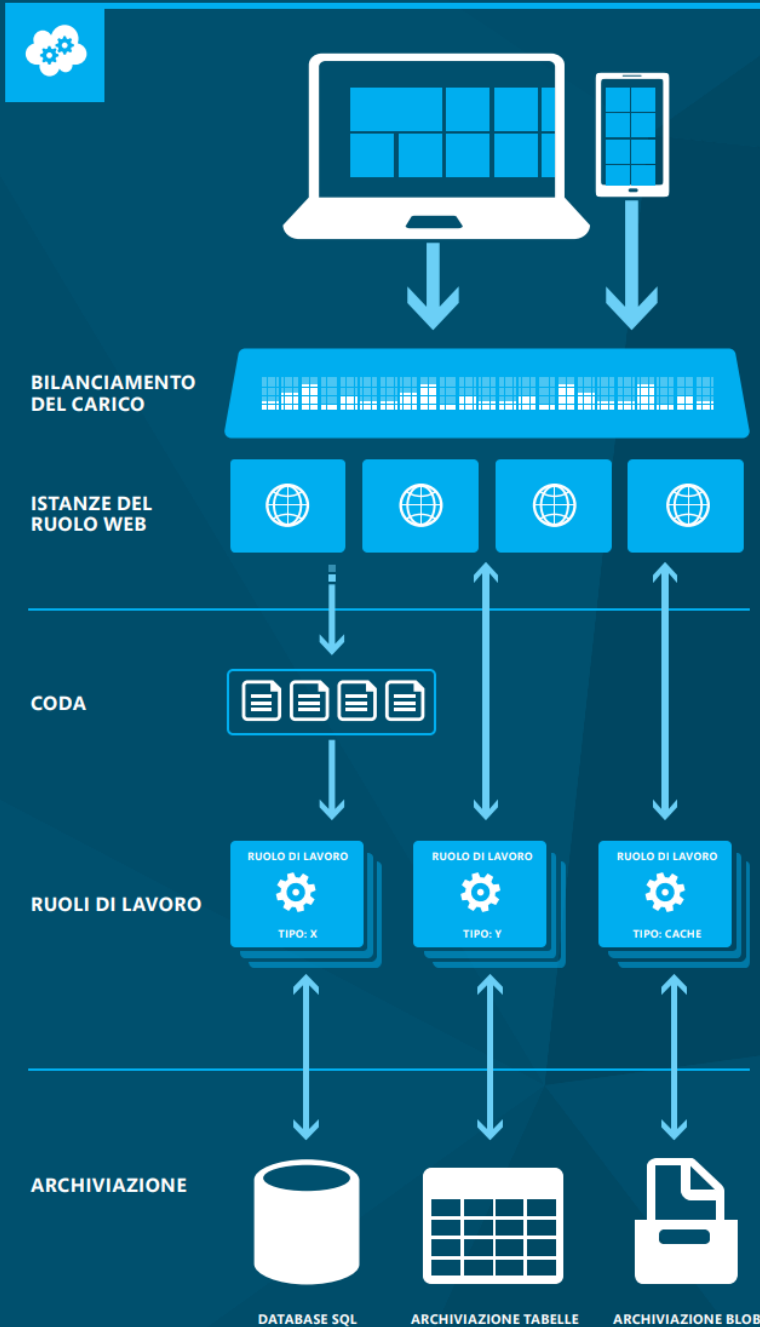
Faremo una panoramica sul servizio **Windows Virtual Desktop** e un accenno alla versione di Windows in cloud su server Azure, il **Cloud PC**



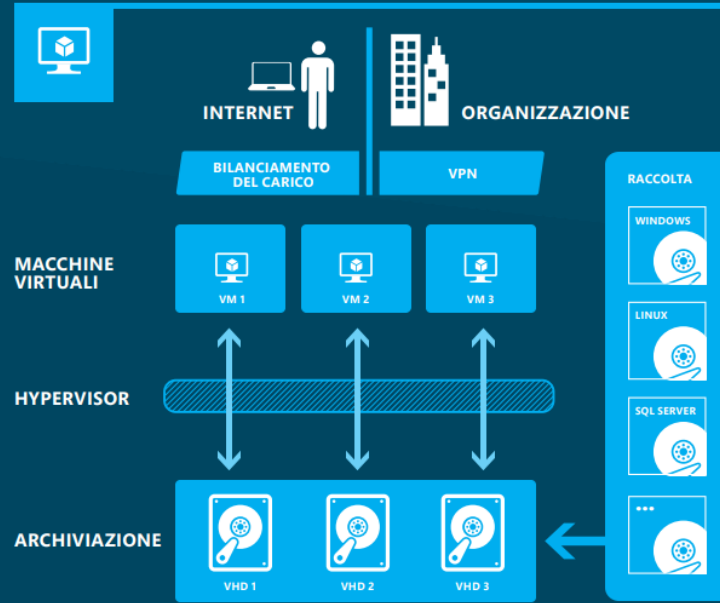
- Microsoft Azure: la visione del cloud di Microsoft



SERVIZI CLOUD

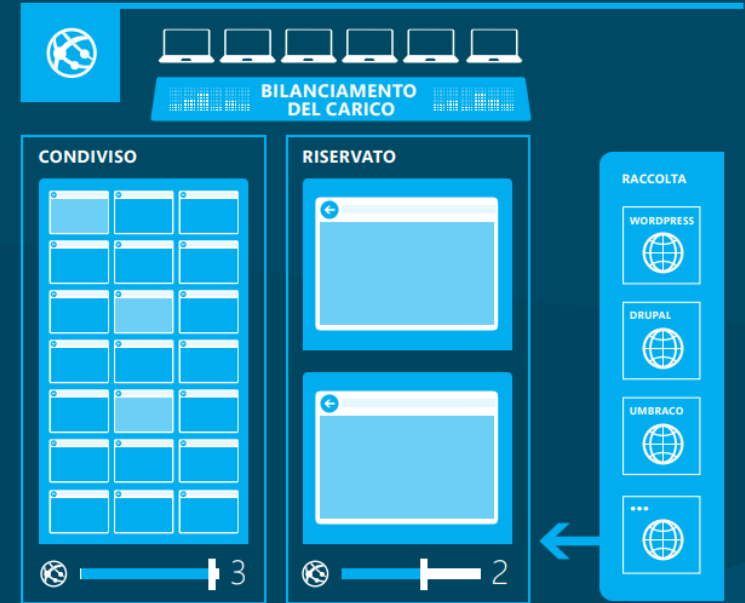


MACCHINE VIRTUALI



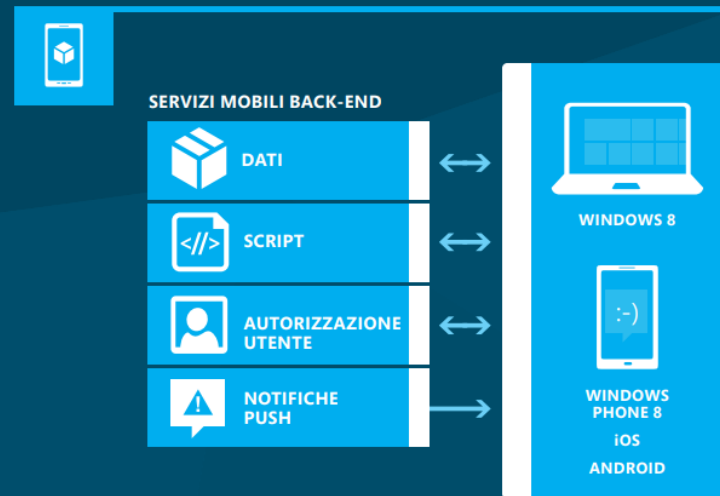
Le macchine virtuali possono essere eseguite sia nel sistema operativo Windows sia in quello Linux e possono essere create da immagini del disco rigido virtuale (VHD) archiviate come BLOB. È possibile creare dischi rigidi virtuali in locale e caricarli, scegliere da una raccolta disponibile o modificare una macchina virtuale in esecuzione e salvare l'immagine nella raccolta personale.

SITI WEB

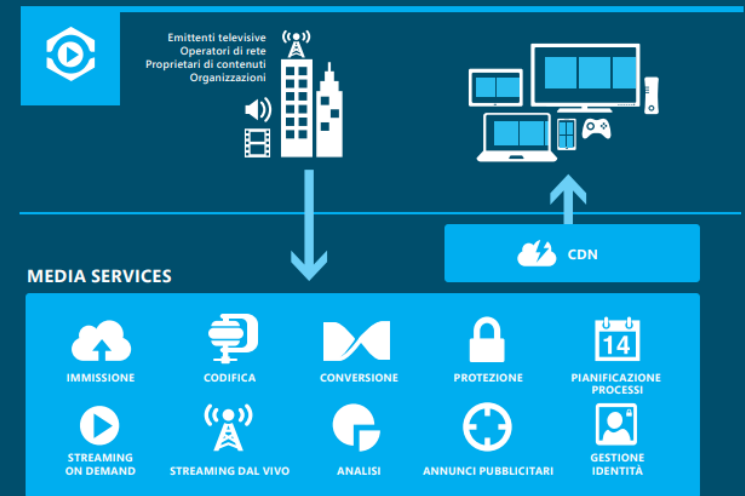


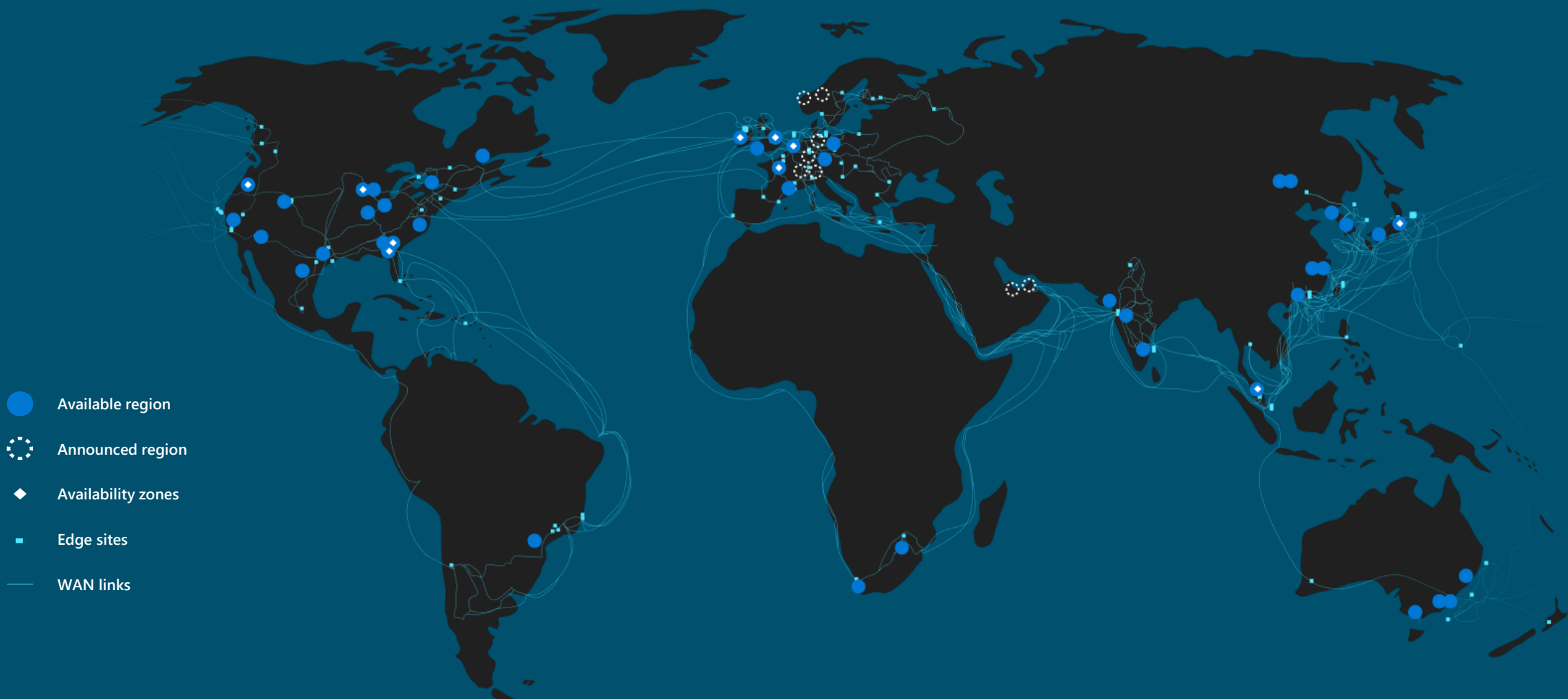
Con Siti Web è possibile condividere lo spazio in una macchina virtuale o riservare un computer al sito Web in uso. È possibile creare siti con database SQL e MySQL, oltre a distribuire software open source comuni da una raccolta. Per applicare la scalabilità orizzontale a più istanze, utilizzare il dispositivo di scorrimento nel portale di Windows Azure.

SERVIZI MOBILI



MEDIA SERVICES





60 Regions worldwide

130K+ Miles of fiber and subsea cable

160+ Edge sites

200+ ExpressRoute partners

Copertura mondiale grazie a una rete globale di data center

Aperta, ampia e flessibile



Microsoft Azure

Languages



CMS



Devices



Databases



ORACLE

Operating Systems



Azure è Certificata

GLOBAL



ISO 27001



ISO 27018



ISO 27017



ISO 22301



SOC 1
Type 2



SOC 2
Type 2



SOC 3



CSA STAR
Self-Assessment



CSA STAR
Certification



CSA STAR
Attestation

US GOV



Moderate
JAB P-ATO



High
JAB P-ATO



DoD DISA
SRG Level 2



DoD DISA
SRG Level 4



SP 800-171



FIPS 140-2



Section
508
VPAT



ITAR



CJIS



IRS 1075

INDUSTRY



PCI DSS
Level 1



CDSA



MPAA



FACT
UK



Shared
Assessments



FISC
Japan



HIPAA /
HITECH
Act



HITRUST



GxP
21 CFR Part
11



MARS-E



IG Toolkit
UK



FERPA



GLBA



FFIEC

REGIONAL



EE GDPR



EU
Model Clauses



UK



China
DJCP



China
GB
18030



China
TRUCS



Singapore
MTCS



Australia
IRAP/CCSL



New
Zealand
GCIO



Japan
My
Number
Act



ENISA
IAF



Japan CS
Mark
Gold



Spain
ENS



Spain
DPA



India
MeitY



Canada
Privacy
Laws



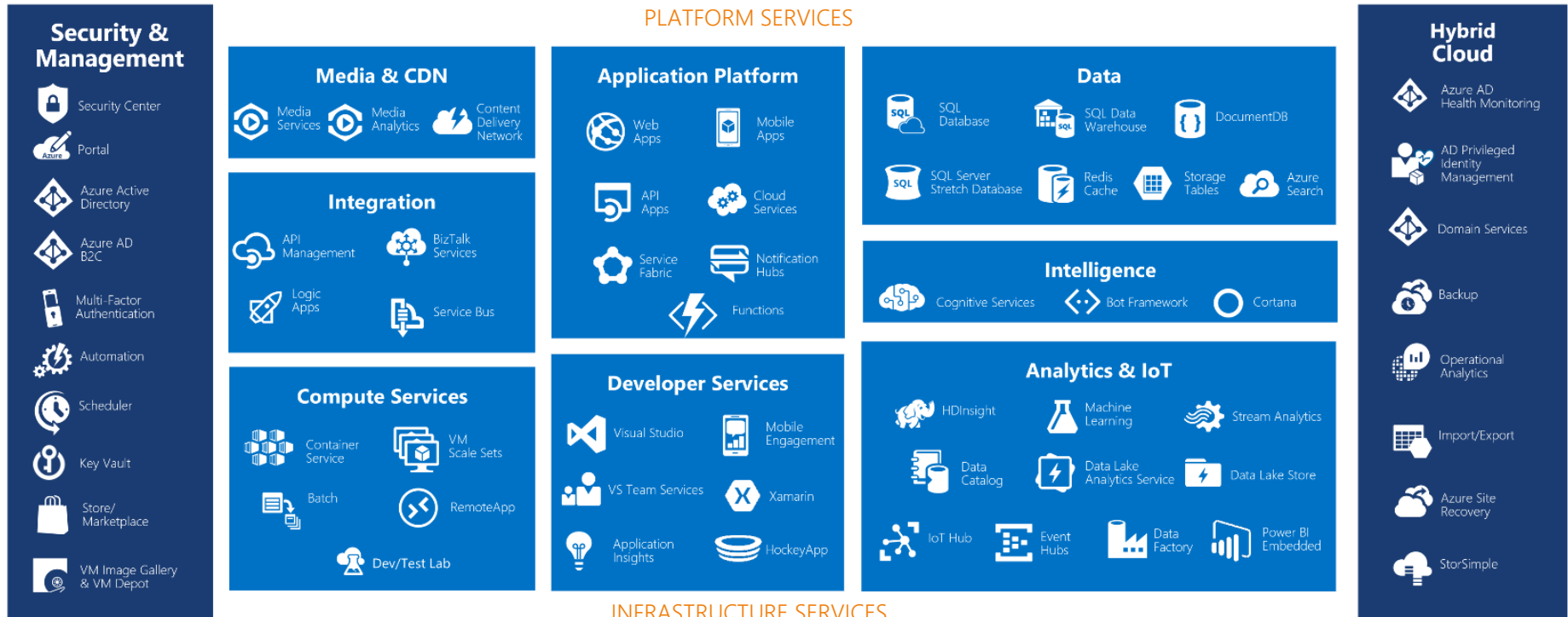
Privacy
Shield



Germany IT
Grundschutz
workbook



Servizi Azure



Servizi Azure

Monitoring & Management

Azure Portal	Azure Resource Manager	Azure Advisor	Azure Monitor	Log Analytics	Automation	Scheduler
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Networking

Virtual Network	Load Balancer
Application Gateway	VPN Gateway
Azure DNS	Traffic Manager
ExpressRoute	Network Watcher

Compute

Virtual Machines	Virtual Machine Scale Sets
Azure Container Service	Azure Container Registry
Functions	Batch
Service Fabric	Cloud Services

Databases

SQL Database	SQL Data Warehouse
SQL Server Stretch Database	DocumentDB
Redis Cache	Data Factory

Security + Identity

Security Center	Key Vault
Azure Active Directory	B2C
Domain Services	Multi-Factor Authentication

Intelligence & Analytics

HDInsight	Machine Learning
Cognitive Services	Azure Bot Service*
Data Lake Analytics	Power BI Embedded
Azure Analysis Services	

Web & Mobile

Web Apps	Mobile Apps
Logic Apps	API Apps
Content Delivery Network	Media Services
Search	

Internet of Things & Enterprise Integration

Azure IoT Hub	Event Hubs
Stream Analytics	Notification Hubs
BizTalk Services	Service Bus
Data Catalog	

Storage

Storage: Blobs, Tables, Queues, Files, Disks	Data Lake Store
StorSimple	Azure Backup
Site Recovery	

Azure include più di 100 servizi con straordinari strumenti end-to-end per contribuire al tuo successo.



- La migrazione al cloud: pianificare e valutare le attività





Destinazioni

Cloud Only (Lift and Shift)

- **Obiettivo:** rimuovere tutti i carichi di lavoro dal locale al cloud
- **Migrazione** dei Servizi di dominio Active Directory locali
- **Destinazione finale:** solo i client sono presenti in locale, tutti i carichi di lavoro in esecuzione in Azure

Hybrid

- Spostare alcuni carichi di lavoro in Azure
- Hybrid Identity
- Spostare alcuni carichi di lavoro locali ospitati in Windows Server in sistemi gestiti come Azure Stack
- Conservare alcuni carichi di lavoro locali esistenti fino a quando non possono essere spostati in Azure



Cloud Adoption Framework

Definire la strategia

- Priorità al Progetto
- Comprendere le motivazioni



Pianificazione

- Allineamento aziendale
- Piano di adozione



Setup

- Azure setup
- Preparazione Landing Zone



Adozione

- Migrazione
- Innovazione
- Processi di miglioramento



Governance

- Prestazioni
- Metodologia
- Best practice

Gestione

- Prestazioni
- Metodologia
- Best practice



CAF: accelerare la migrazione

Consigli strategici per accelerare la migrazione al cloud

- Documentare la strategia aziendale
- Allineare il supporto dei partner
- Raccogliere dati e analizzare risorse e carichi di lavoro
- Creare un caso aziendale
- Creare un piano di migrazione
- Costruire un piano di preparazione delle competenze
- Creare una Landing Zone
- Migrare i primi 10 carichi di lavoro
- Trasferire i carichi di lavoro di produzione alla governance del cloud
- Trasferire i carichi di lavoro di produzione alle operazioni cloud



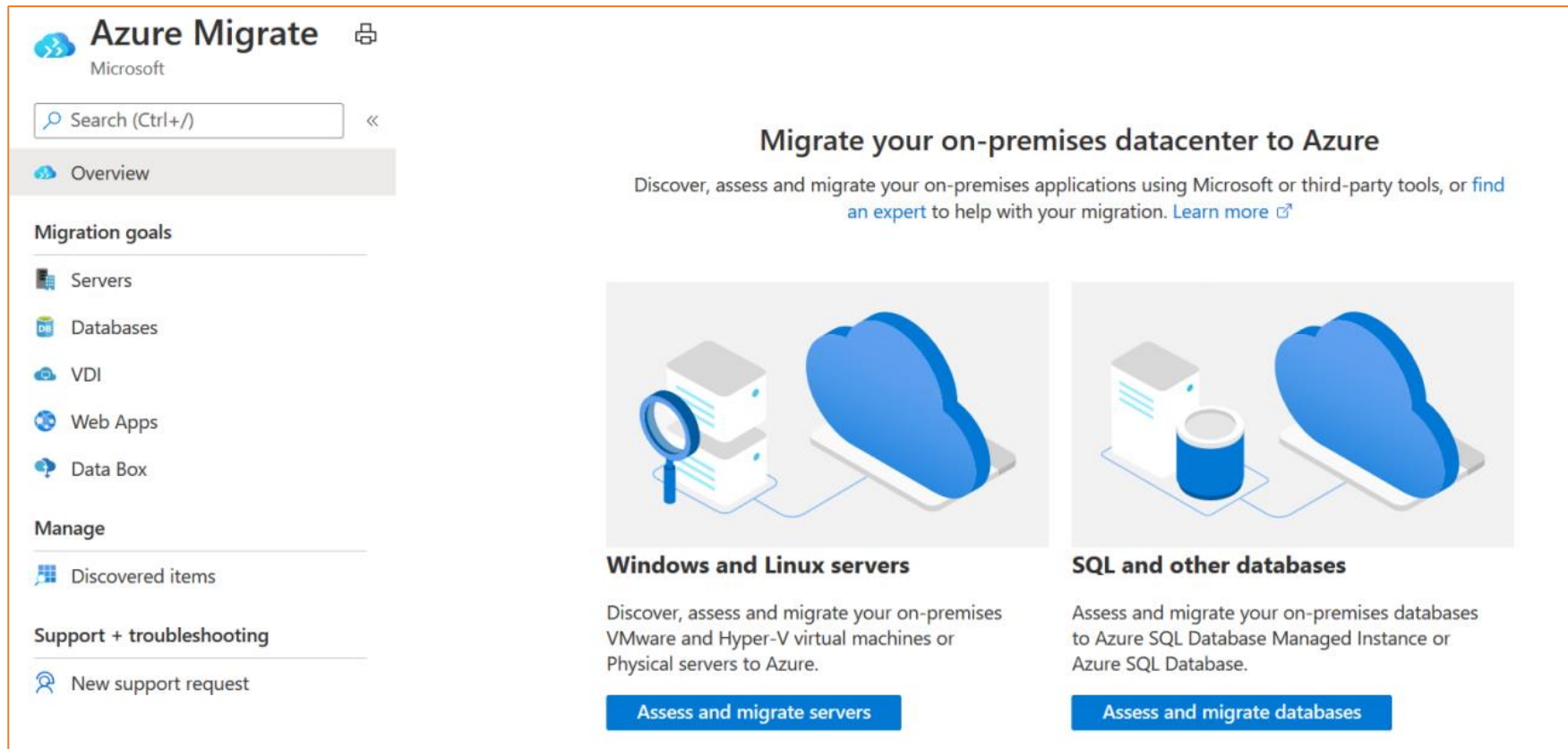
CAF: Azure Landing Zone

Design Area	Obiettivi
Enrollment Aziendale	Verifica dei Tenant Aziendali
Identità	Verifica della gestione delle identità e degli accessi
Network e connettività	Verifica della corretta configurazione di rete per i workloads
Governance	Controllo della sicurezza e delle policy di conformità
Operatività	monitoraggio, gestione degli aggiornamenti e configurazione delle compliance
Business Continuity/Disaster Recovery	Backup e ripristino per proteggere dati e carichi di lavoro. Garantire continuità operativa durante le interruzioni



Azure Migrate

Hub centralizzato per valutare e migrare i server locali, infrastruttura, applicazioni e dati in Azure



The screenshot shows the Azure Migrate portal. On the left is a navigation sidebar with sections: Overview, Migration goals (Servers, Databases, VDI, Web Apps, Data Box), Manage (Discovered items), and Support + troubleshooting (New support request). The main content area is titled "Migrate your on-premises datacenter to Azure" and includes a sub-header "Discover, assess and migrate your on-premises applications using Microsoft or third-party tools, or find an expert to help with your migration. Learn more". Below this are two cards: "Windows and Linux servers" with a button "Assess and migrate servers" and "SQL and other databases" with a button "Assess and migrate databases".

Azure Migrate Microsoft

Search (Ctrl+ /) <<

Overview

Migration goals

- Servers
- Databases
- VDI
- Web Apps
- Data Box

Manage

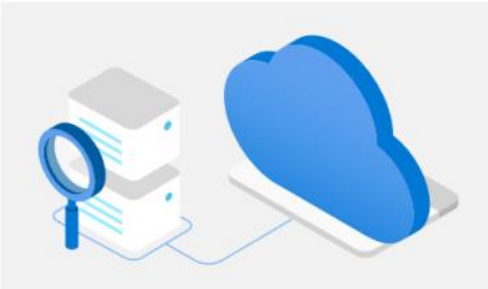
- Discovered items

Support + troubleshooting

- New support request

Migrate your on-premises datacenter to Azure

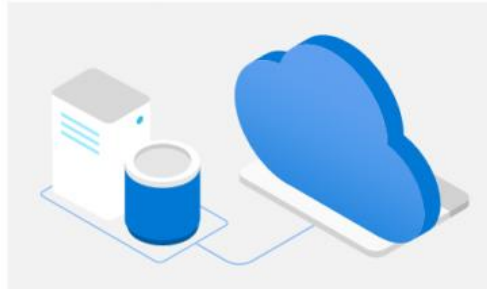
Discover, assess and migrate your on-premises applications using Microsoft or third-party tools, or [find an expert](#) to help with your migration. [Learn more](#)



Windows and Linux servers

Discover, assess and migrate your on-premises VMware and Hyper-V virtual machines or Physical servers to Azure.

[Assess and migrate servers](#)



SQL and other databases

Assess and migrate your on-premises databases to Azure SQL Database Managed Instance or Azure SQL Database.

[Assess and migrate databases](#)



Azure Migrate tools

Tool	Assess e migrazione	Info
Azure Migrate: Server Assessment	Assess servers	Discovery e assessment on-premises VMware VMs, Hyper-V VMs e Server fisici
Azure Migrate: Server Migration	Migrate servers	Migrare VMware VMs, servers fisici, altre Macchine virtualizzate e VMs nel cloud pubblico su Azure
Data Migration Assistant	Assess on-premises databases per la migrazione verso Azure	Individua i problemi che bloccano la migrazione del database. Identifica le funzioni non supportate e il percorso giusto per la migrazione del database.
Azure Database Migration Service	Migrate on-premises databases su Azure	Migrare su Azure SQL database, Azure SQL Managed Instance, o SQL in IaaS VM
Movere	Assess servers	Fornisce il ridimensionamento basato sulle prestazioni, sui costi pianificazione e analisi delle dipendenze
Web app migration assistant	Assessment on-premises web apps e migrazione su Azure	Migrare .NET and PHP web apps su Azure
Azure Data Box	Migrazione dati offline	Spostare grandi quantità di dati offline in Azure



- **Migrazione delle identità di Active Directory**



AD DS on IaaS

Connettere network on-prem verso Azure tramite VPN o ExpressRoute
Deploy AD DS domain controllers come IaaS VMs in Azure

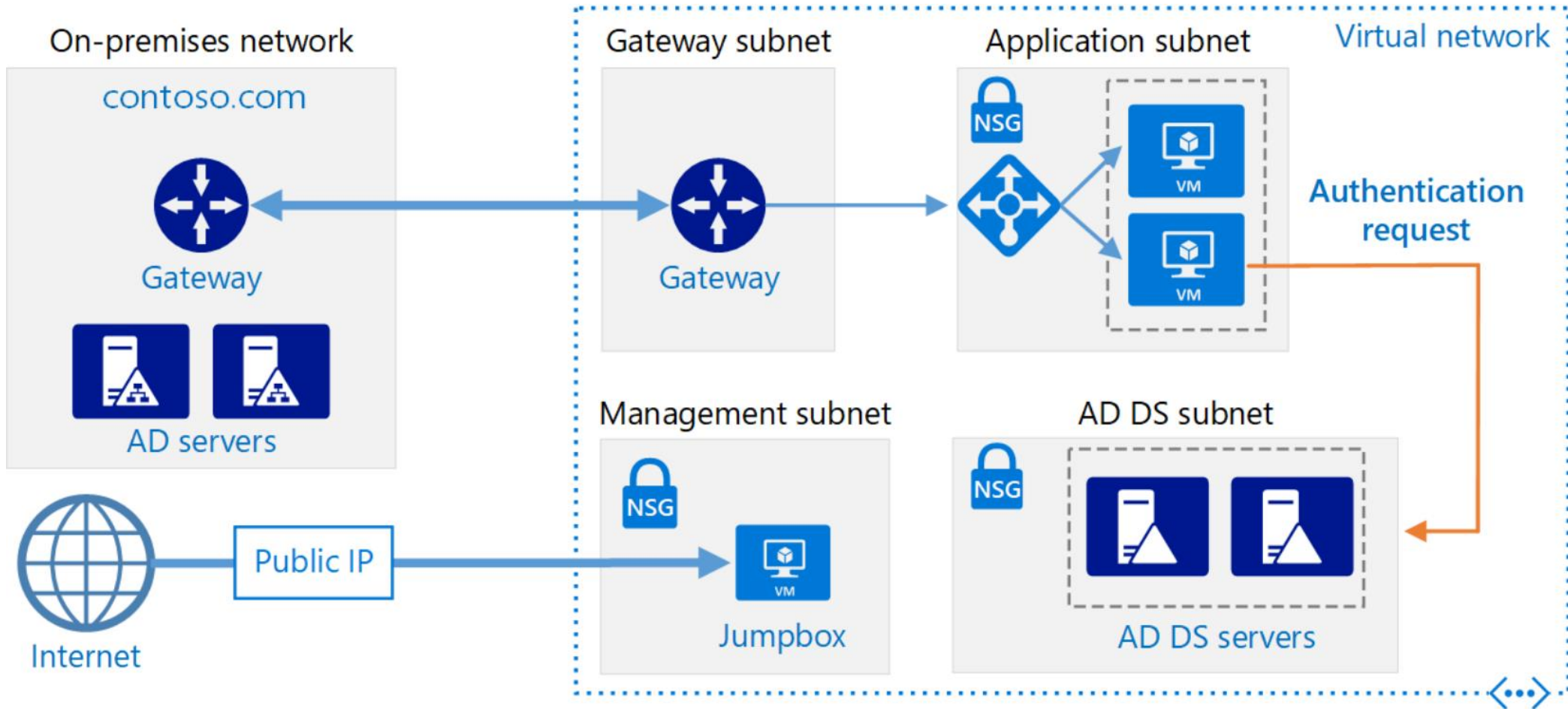
- Configurazione come AD DS domain controllers **in un sito separato**
- Configurazione come AD DS domain controllers **in un sottodominio di una foresta on-prem**

Pro Custom GPO, Schema extensions, custom AD partitions

Contro Gestione VM e running costs



AD DS on IaaS



ADDS vs AAD vs AADDS

Active Directory Domain Services

Funzionalità di identity e authentication, computer object management, group policy, trusts.

LDAP directory access protocol.

E' il componente centrale di molte organizzazioni con un environment IT on-prem.

Azure Active Directory

Cloud Based Identity e servizi di autenticazione per Microsoft 365, Azure e applicazioni SaaS.

Può essere sincronizzato con gli environment AD DS per gestire le identità per chi lavora in cloud.

Azure Active Directory Domain Services

Servizio di gestione dei domini compatibile con le funzionalità AD DS, domain join, group policy, LDAP e Kerberos/NTLM authentication.



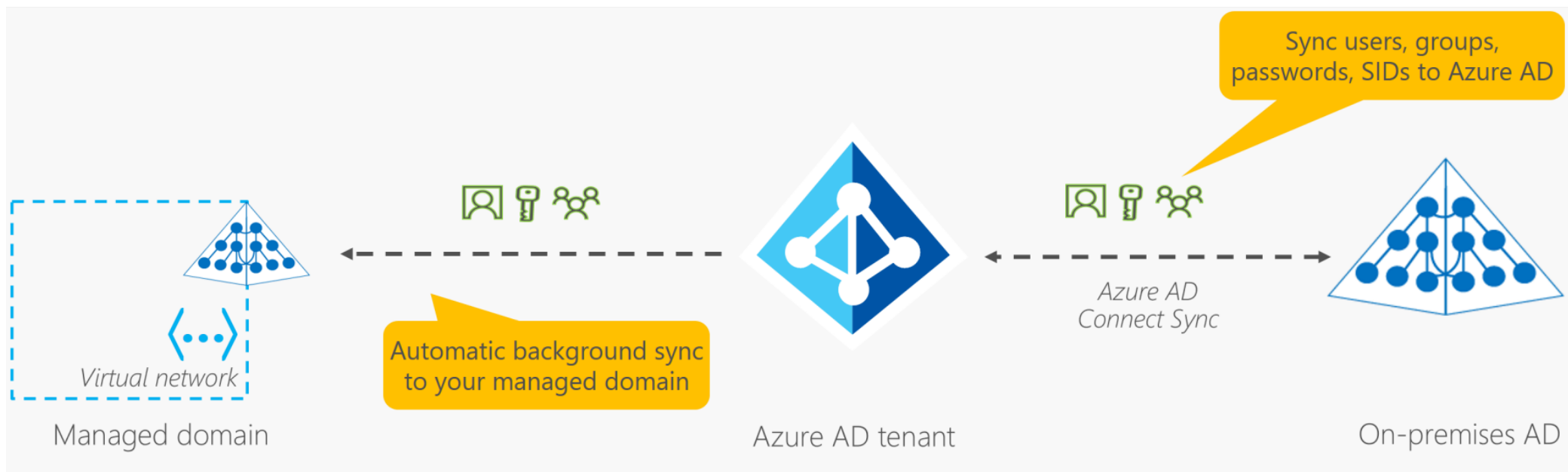
Managed Domain vs Self-Managed Domain

- **Self-Managed**

Domain con VM e Active directory Domain Services
Risorse da gestire

- **Managed Domain**

Azure Active Directory Domain Services
Microsoft crea e gestisce le risorse



Foresta di Trust in uscita in AADDS vs ADDS on-premis

TRUSTING



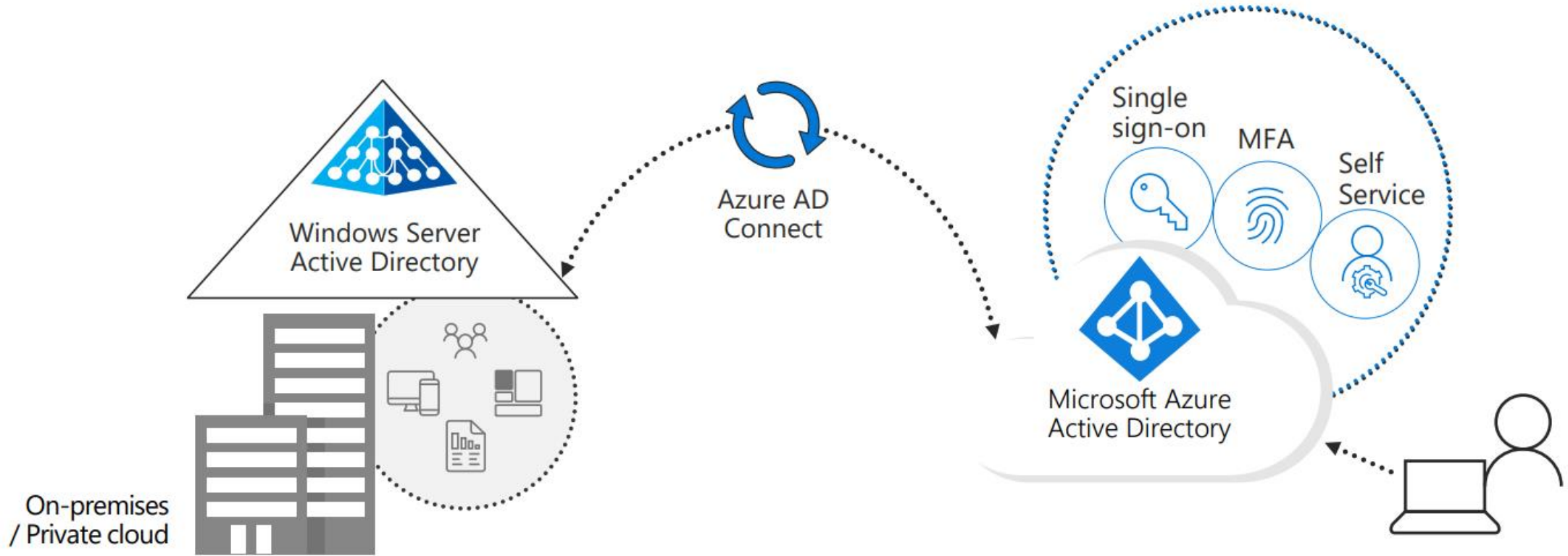
One-way outbound forest trust



TRUSTED



AD Connect



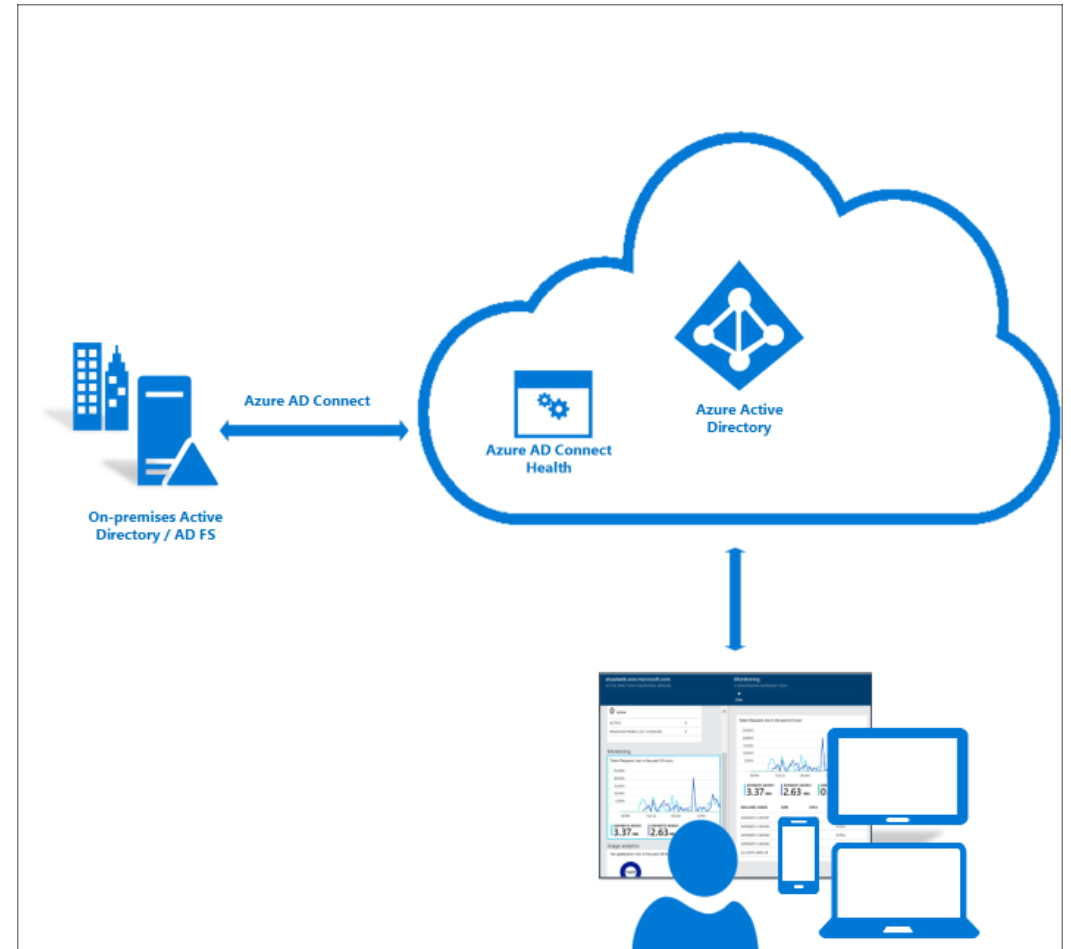
AD Connect – Prerequisiti

- Livello Foresta 2003 o sup
- Writable domain controllers
- Windows Server 2008 o sup
- Domain joined for Express Settings
- Password Hash Synchronization
 - *Windows Server 2008 R2 SP1 o sup*
- Password Writeback
 - *I DCs devono essere Windows Server 2012 o sup*
- Porte
 - *Outbound: 80/443/5671*



AD Connect - Licensing

- **Incluso nella licenza di Azure AD/Microsoft 365:**
 - Wizard di installazione*
 - Synch da on-premises a Azure AD*
 - Writeback per Exchange hybrid deployment*
- **Richiede Azure AD Premium:**
 - Writeback (password, group, etc.)*
 - Connect Health*
- **Licenze aggiuntive per:**
 - SQL Server (se serve)*



Metodi di autenticazione in Azure AD

Cloud authentication

Cloud-only

Password Hash Sync +
Seamless SSO

Pass-through authentication
+ Seamless SSO

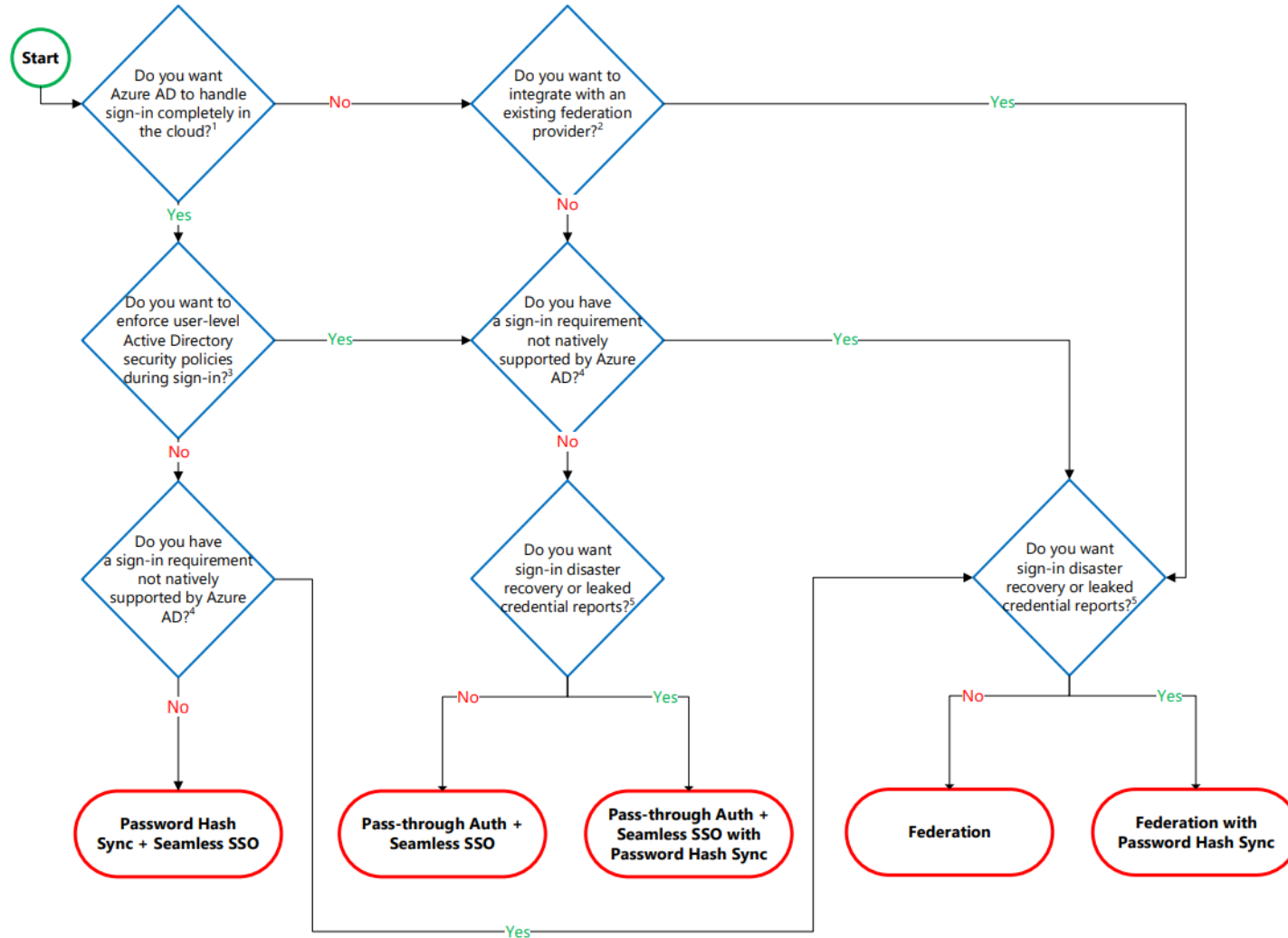
Federated authentication

AD FS

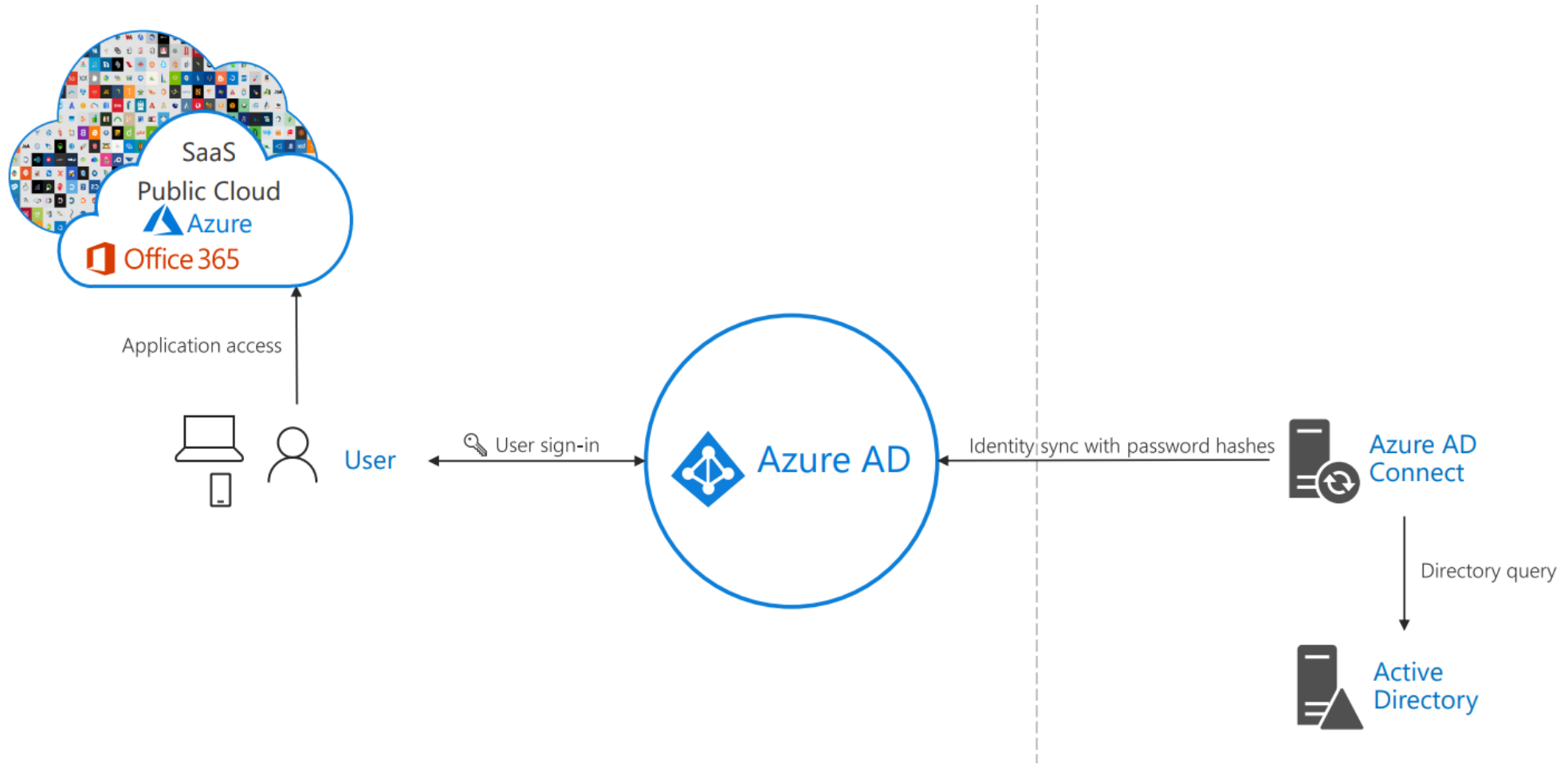
Third party federation
providers



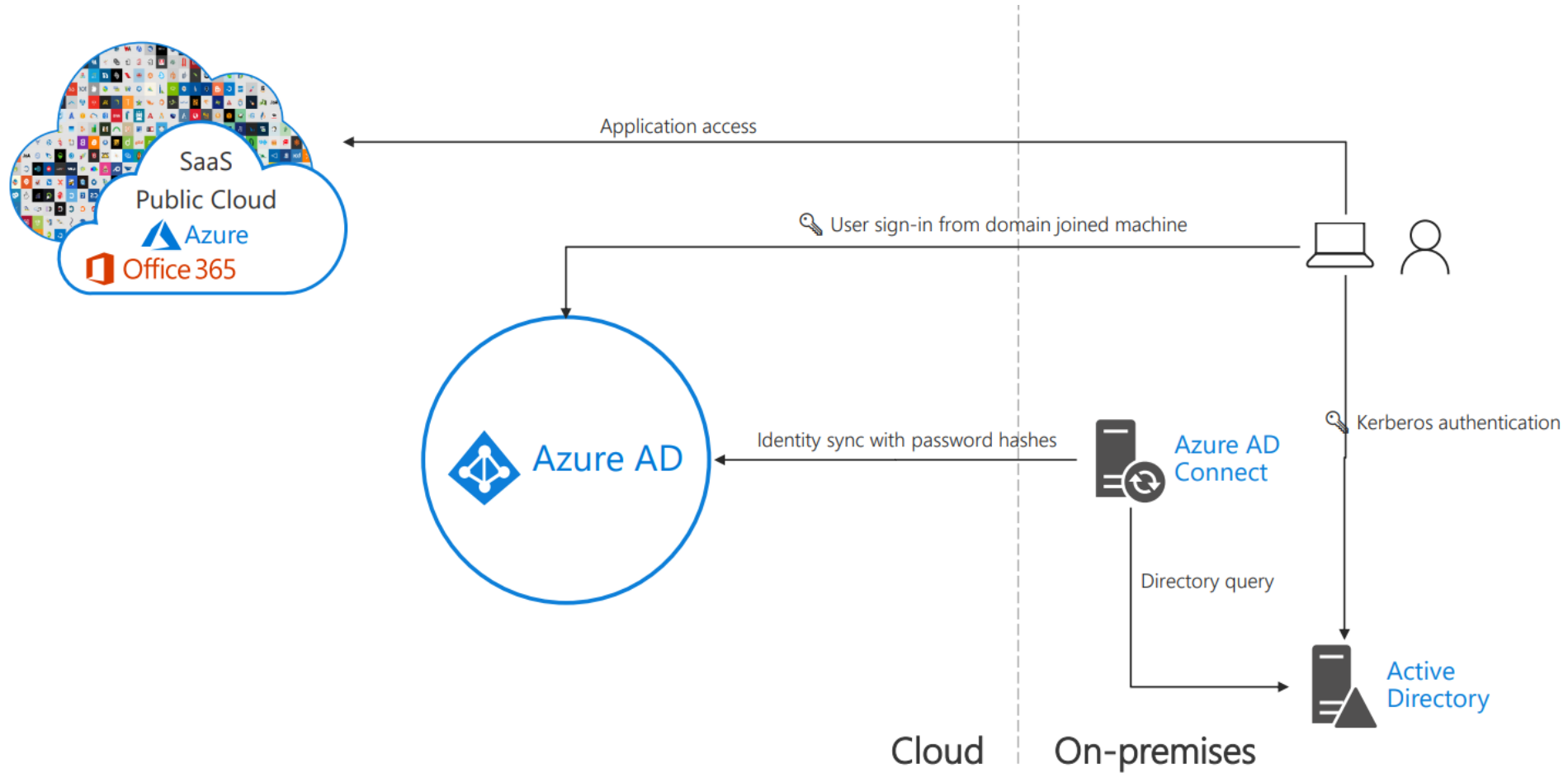
Azure AD Authentication tree



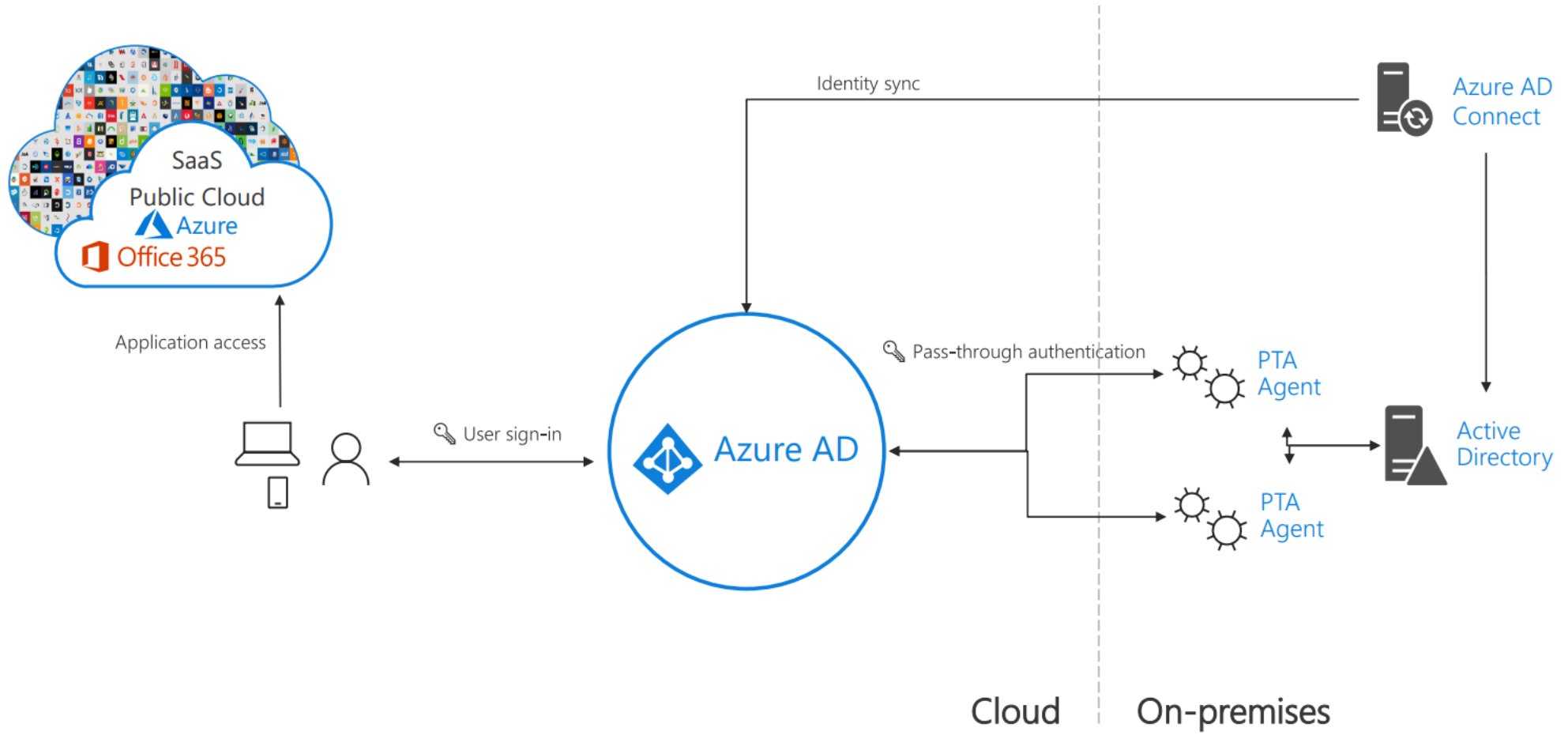
Azure AD Hybrid Identity Password Hash Sync



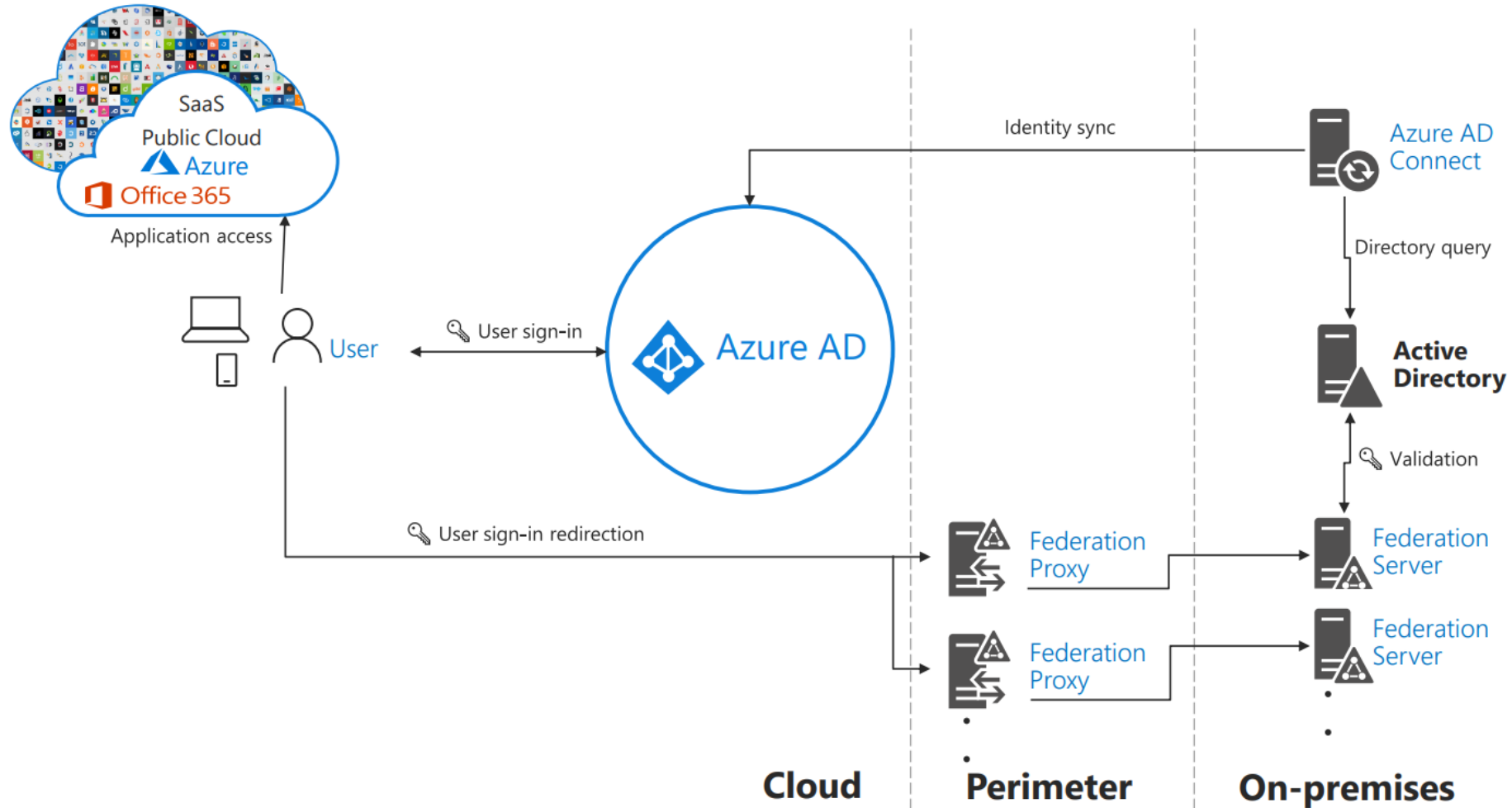
Azure Active Directory Seamless Single Sign-on (SSO)



Azure Active Directory Pass-through authentication



Federated authentication



- Strategie di migrazione per SQL Server e Applicazioni



Migrare in Azure



Azure Data Services

SQL Server on Azure Virtual Machines



Best for re-hosting and apps requiring OS-level access and control

Automated manageability features and OS-level access

Infrastructure as a Service

Azure SQL Managed Instance



Best for modernizing existing apps

Offers high compatibility with SQL Server and native VNET support

Platform as a Service

Azure SQL Database



Best for building new apps in the cloud

Pre-provisioned or serverless compute and Hyperscale storage to meet demanding workload requirements



SQL Server on Azure virtual machines



Customer challenge

I want to migrate to the cloud as fast as possible but maintain operating system control and complete SQL Server functionality



Solution

Get the combined performance, security, and analytics of SQL Server, backed by the flexibility, security, and hybrid connectivity of Azure

Key features

SQL Server and OS server access

Expansive SQL and OS versions

Windows, Linux, Containers

File stream, DTC, and Simple Recovery model

SSAS, SSRS, and SSIS

Azure differentiators

Free Extended Security Updates for SQL Server 2008/R2

Automated Backups and Security Updates

Point in Time Restore with Azure Backup

Accelerated storage performance with Azure Blob Caching

435 percent overall return on an Azure IaaS investment over five years¹



SQL Server on Azure deploy



Customer challenge

I want to build modern apps, potentially multi-tenanted, with the highest uptime and predictable performance



Solution

Azure SQL Database is a highly scalable cloud database service with built-in high availability and machine learning

Key features

Single database or elastic pool

Hyperscale storage (100TB+)

Serverless compute

Fully managed service

Private link support

High availability with AZ isolation

Azure differentiators






Industry highest availability SLA of 99.995%

Industry only business continuity SLA with 5 second RPO and 30 second RTO

Price-performance leader for mission-critical workloads while costing up to 86 percent less than AWS RDS (GigaOm)



IaaS vs PaaS

-  Business continuity
-  High availability
-  Automated backups
-  Long term backup retention
-  Geo-replication

-  Scale
-  Advanced security
-  Version-less
-  Built-in monitoring
-  Built-in intelligence



Azure SQL DB



Customer challenge

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- Price-performance leader for mission-critical workloads while costing up to 86 percent less than AWS RDS (GigaOm)



Azure SQL DB Service Tiers



*Not in managed instance



Azure SQL DB Managed Instance



Customer challenge

I want to migrate to the cloud, remove management overhead, but I need instance-scoped features (Service Broker, SQL Server Agent, CLR...)



Solution

Managed instance combines leading security features with SQL Server compatibility and business model designed for on-premises customers

Key features

- Single instance or instance pool
- SQL Server surface area (vast majority)
- Native virtual network support
- Fully managed service
- On-premise identities enabled with Azure AD and AD Connect

Azure differentiators

- Near zero downtime migration using log shipping
- Fully managed business continuity with failover groups
- Projected return on investment of 212 percent over three years¹
- The best of SQL Server with the benefits of a managed service



Azure SQL DB Managed Instance Service Tiers



vCore model Independent scalability



Azure SQL DB Managed Instance o SQL DB



Azure SQL managed instance

Single instance

SQL Server surface area (vast majority)

Native virtual network support

Fully managed service

Instance pool

Pre-provision compute resources for migration

Enables cost-efficient migration.

Ability to host smaller instances (2Vcore)



Azure SQL Database

Single database

Hyperscale storage (up to 100TB)

Serverless compute

Fully managed service

Elastic pool

Resource sharing between multiple databases to price optimize

Simplified performance management for multiple databases

Fully managed service



PostgreSQL, MariaDB, MySQL



Fully managed community database

Take advantage of a fully managed service while still using the tools and languages you're familiar with



Built-in high availability for lowest TCO

Ensure your data is always available without the need for additional costs



Intelligent performance and scale

Improve performance with built-in intelligence and up to 16TB storage and 20K IOPs



Industry-leading security and compliance

Protect your data with enhanced security features including Advanced Threat Protection



Integration with the Azure ecosystem

Build apps faster with Azure services and safeguard your innovation with Azure IP Advantage



▪ Migrazione di Windows Server



Migrare Windows Server



Requisiti

VMware

Migrate VMware virtual machines running Windows and Linux OS to Azure VMware Service

Hyper-V

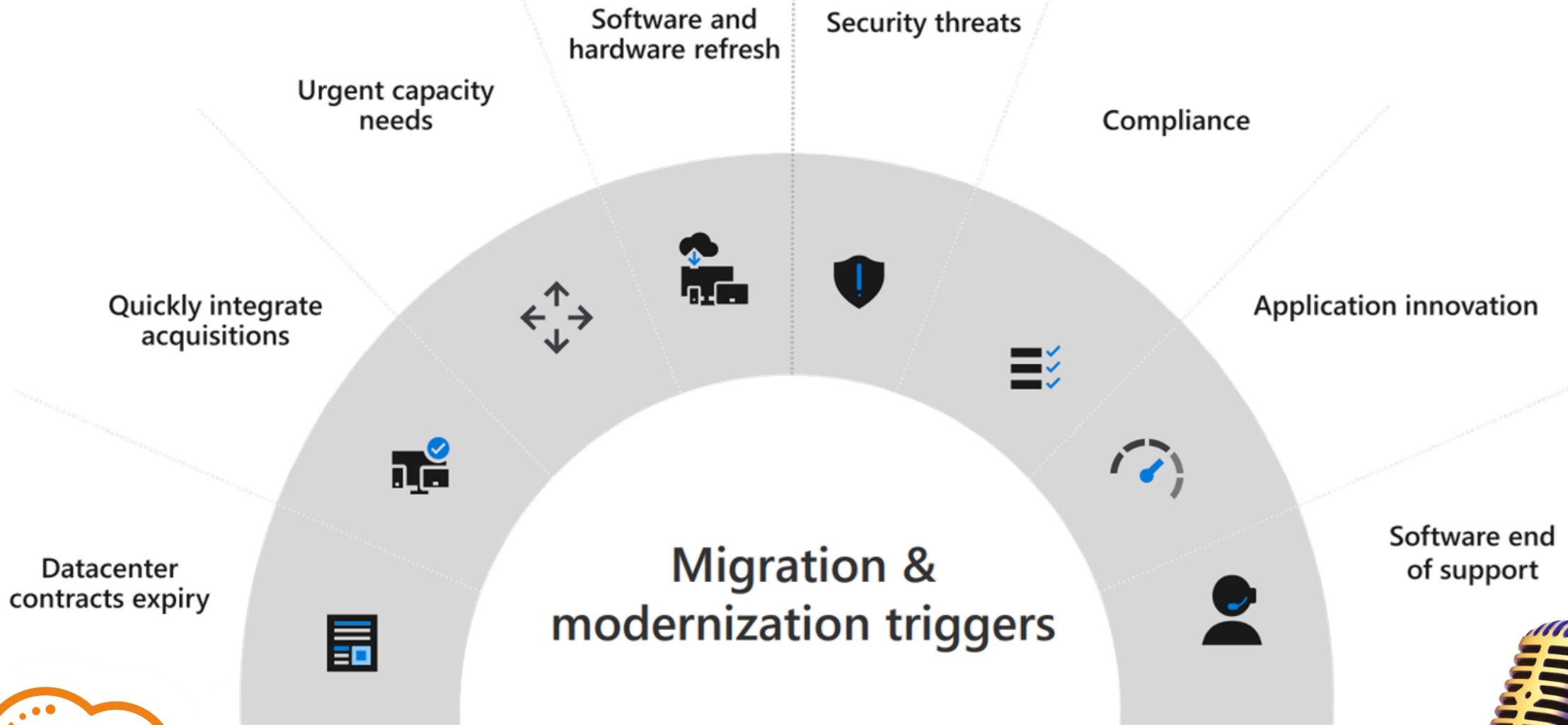
Migrate Hyper-V VMs running Windows and Linux OS to Azure IaaS VMs

Physical

Migrate physical machines running Windows and Linux OS to Azure IaaS VMs



Triggers di migrazione



End of Support



No security updates



Compliance & regulatory concerns



Additional cost for support + patches



Missed innovation opportunities



2008 | R2



Windows Server



Ended January 14, 2020



SQL Server



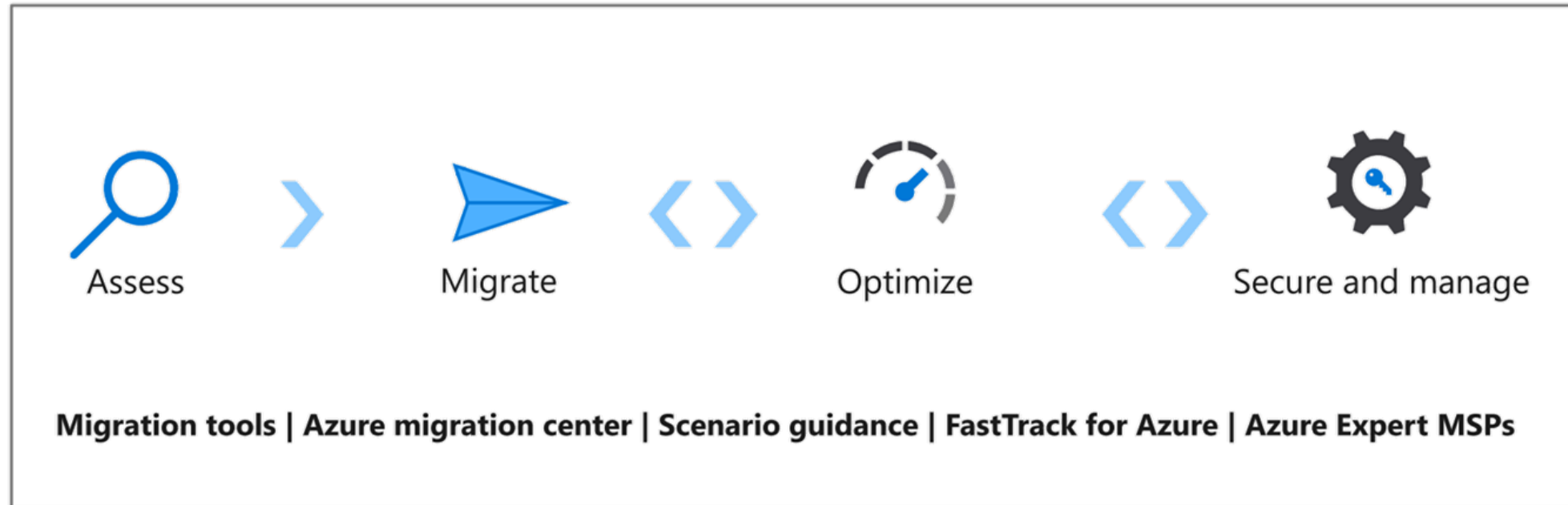
Ended July 9, 2019



Rappresenta un' opportunità per modernizzare l'infrastruttura



Esperienza di migrazione ad Azure unificata ed estensibile



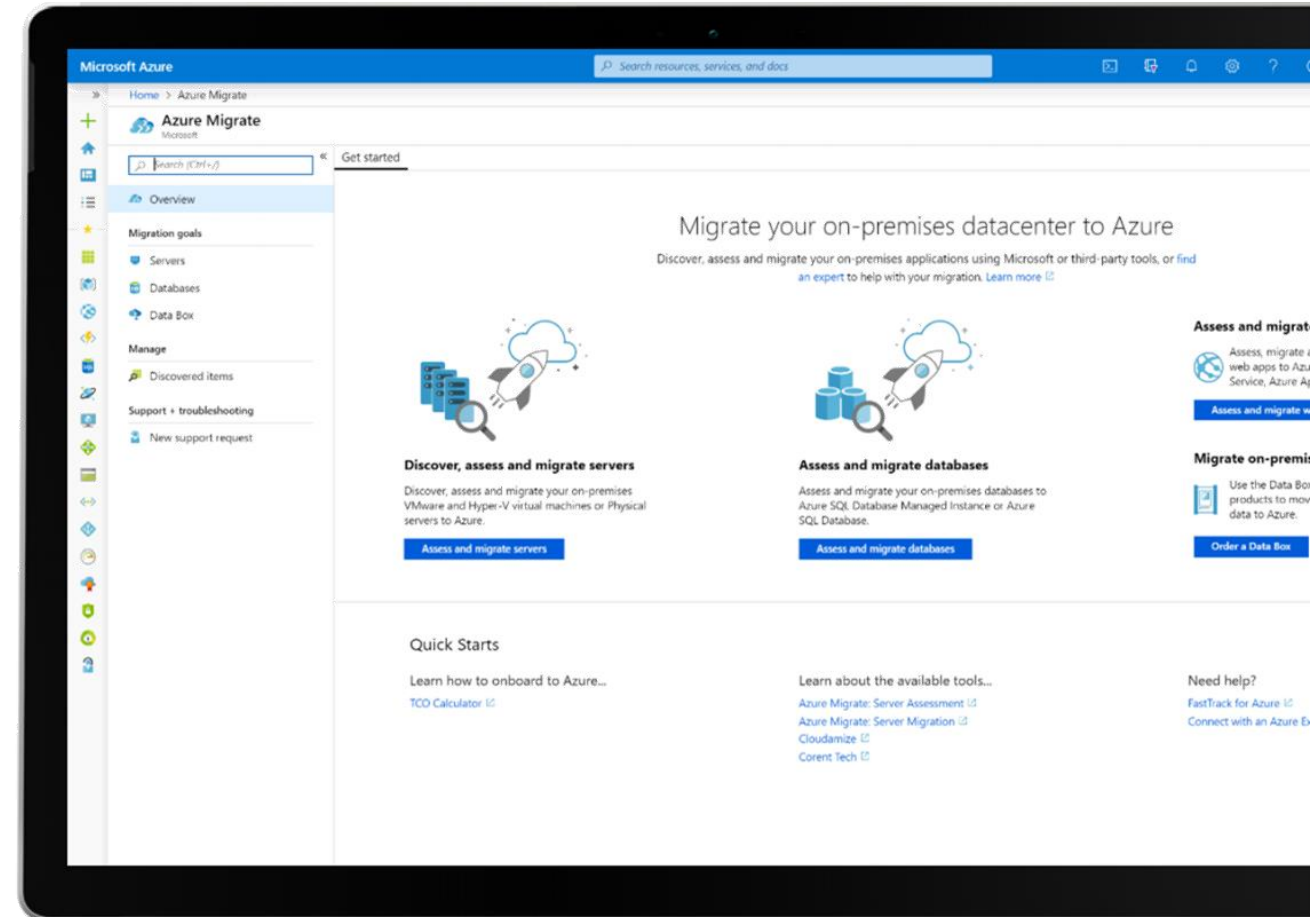
Azure Fundamentals

Target architecture | Governance | Connectivity | Security | Training & Readiness



Azure Migrate

- ✓ **Agentless migration:**
Windows Server & Linux
- ✓ **VMware, Hyper-V, Physical** server migration
- ✓ **SQL / Non-SQL** data migration
- ✓ **Web app** migration to Azure App Service
- ✓ Migration from **on-premises, AWS, & GCP**
- ✓ Integrated with **third-party solutions**



Strumenti per ogni fase e per ogni esigenza

Goal is successful Azure migration: Pick the right tool for the job



Assess



Migrate



Optimize



Secure & Manage

Azure Migrate: Server Assessment

Data Migration Assistant (DMA)

SQL Server Migration Assistant (SSMA)

Azure Migrate: Server Migration

Azure Database Migration Service

Azure Data Box

Azure Cost Management

Azure Advisor

Azure Security & Management
(e.g., Blueprints, Security Center,
Backup, Monitor)

We embrace ISV solutions

MOVERE

Cloudamize

CloudAtlas®

BitTitan

CHEF™

STRATOZONE®

turbonomic

Zerto

Corent

intigua

stiim™

ATTUNITY

DATOMETRY

MORPHIS

Ispirer

Informatica

QuerySurge

EOS
WEBINARS



Migrazione delle VM Hyper-V

- ✓ **Deploy** di Azure Migrate: Strumento di Migrazione Server nell'ambiente Hyper-V che ospita le VM da migrare
- ✓ **Discover** delle VMs da migrare e ne valuta le dipendenza
- ✓ **Replica** delle VM in Azure
- ✓ **Esecuzione** di una migrazione di prova per verificare il corretto funzionamento
- ✓ **Esecuzione** della migrazione



Migrazione dei workloads VMware

Migrazione verso la soluzione Azure VMware o Azure IaaS VM

Per migrare verso la soluzione Azure VMware, deploy e configurazione di VMware HCX

- **Deploy** on-premises VMware HCX OVA (Connettore)
- **Attivazione** VMware HCX
- **Associare** l'ambiente on-premises alla soluzione Azure VMware
- **Configurare** l'interconnessione (compute profile, network profile(s) e service mesh)
- **Verifica** dello stato dell'appliance
- **Migrazione** on-premises VMware VMs con VMware HCX

Per migrare verso Azure IaaS VMs, usare Azure Migrate



Migrazione dei server fisici

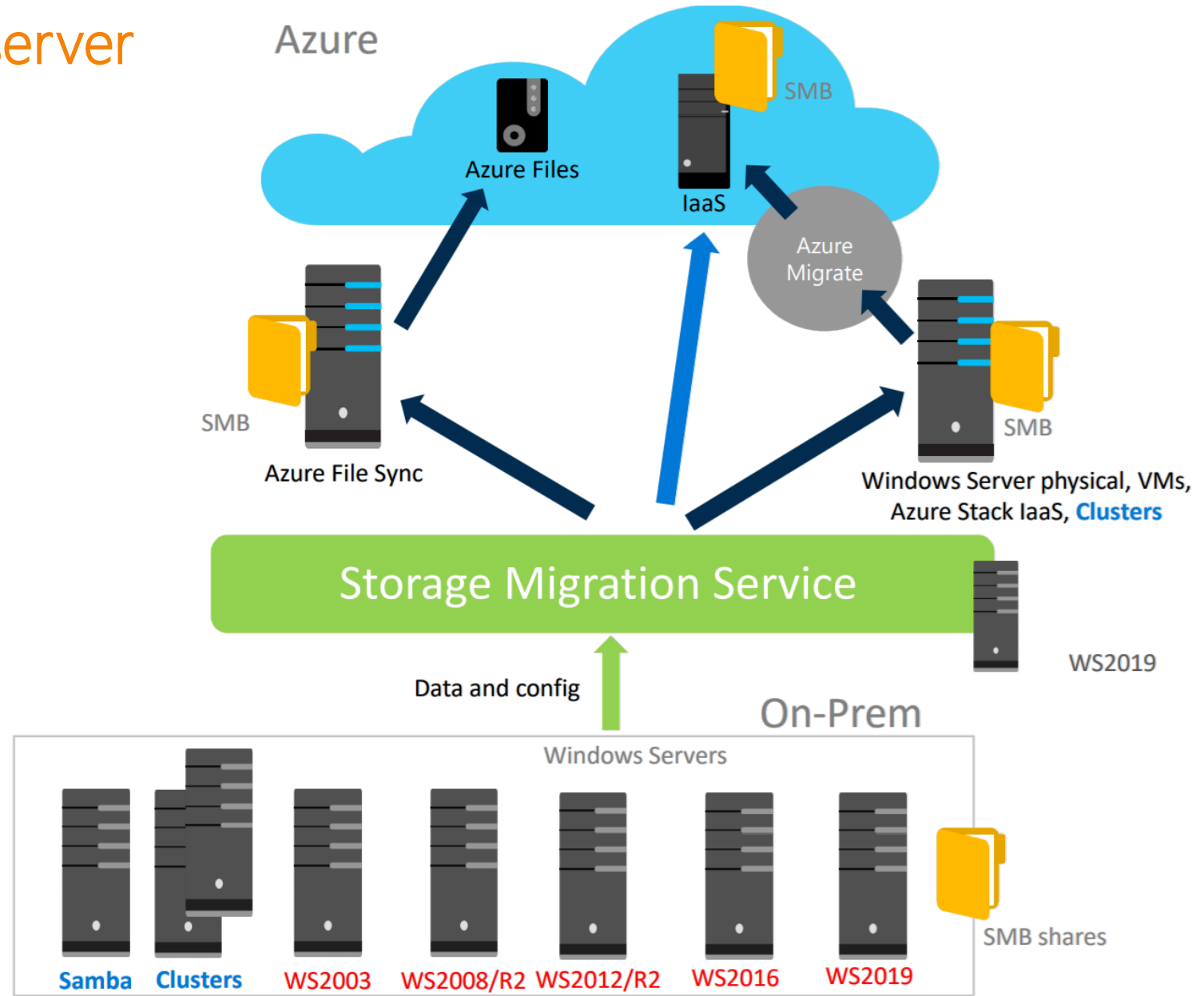
Per migrare i server fisici serve un appliance di replica dei seguenti componenti:

- Configuration server:
Questo server **coordina** le **comunicazioni tra on-premises e Azure**.
Gestisce inoltre la **replica dei dati** su Azure.
- Process server: funziona come **replication gateway**

L'appliance di replica usa MySQL e deve comunicare con un Azure URL.
Dopo il deploy dell'appliance di migrazione, è possibile valutare e migrare i server fisici su Azure.
E' necessario installare il mobility service agent su ogni macchina fisica che si desidera migrare.



Storage migration server



▪ Windows Virtual Desktop e Cloud PC





Windows Virtual
Desktop



Azure



La virtualizzazione può soddisfare un'ampia gamma di esigenze aziendali



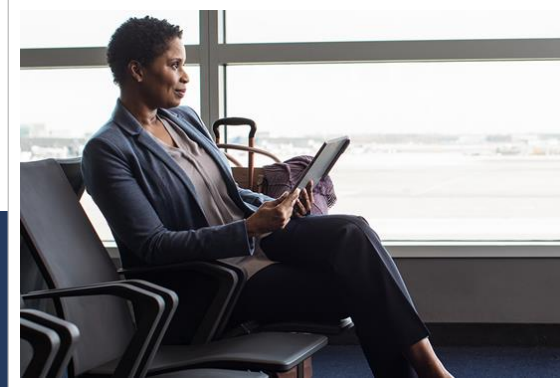
Security and regulation

Financial services
Healthcare
Government



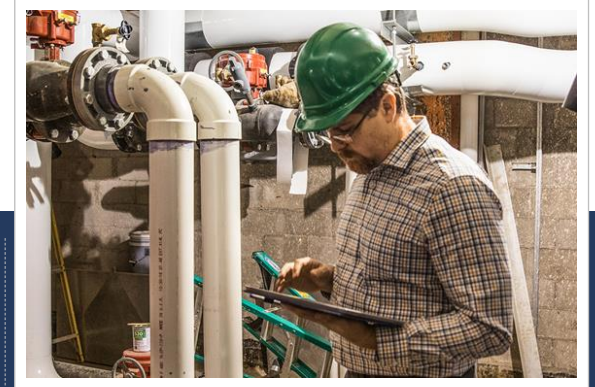
Elastic workforce

Mergers and acquisition
Short term employees
Contractor and partner access



Specific employees

BYOD and mobile
Call centers
Branch workers



Specialized workloads

Design and engineering
Legacy apps
Software dev test



Traditional virtualization hosts

Windows Server Desktop Experience

Scalable multi-session legacy
Windows environment

Windows Server

Multiple sessions

Win32

Office Perpetual

Long-Term Servicing Channel

Windows 10 Enterprise

Native single-session **modern**
Windows experience

Windows 10

Single session

Win32, UWP

Office 365 ProPlus

Semi-Annual Channel



Virtualization hosts today



Windows Server multi-session

Scalable multi-session legacy
Windows environment

Windows Server

Multiple sessions

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 sessions

Win32, UWP

Office 365 ProPlus

Semi-Annual Channel

Windows 10 Enterprise VDI

Native single-session modern
Windows experience

Windows 10

Single session

Win32, UWP

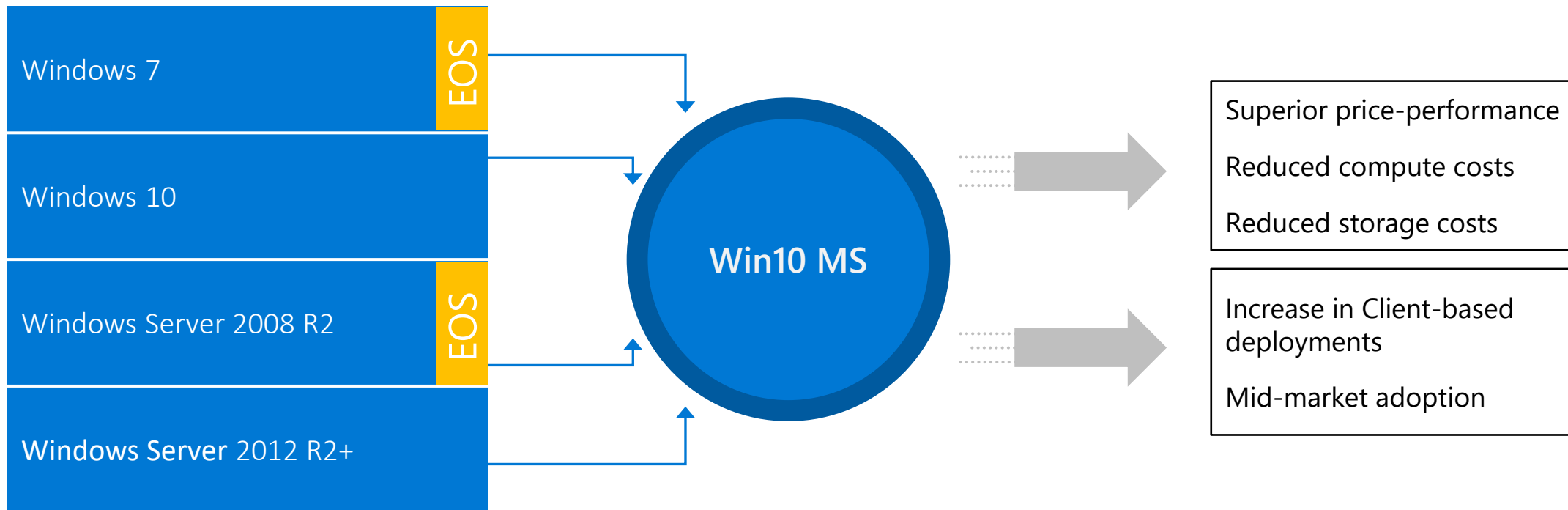
Office 365 ProPlus

Semi-Annual Channel

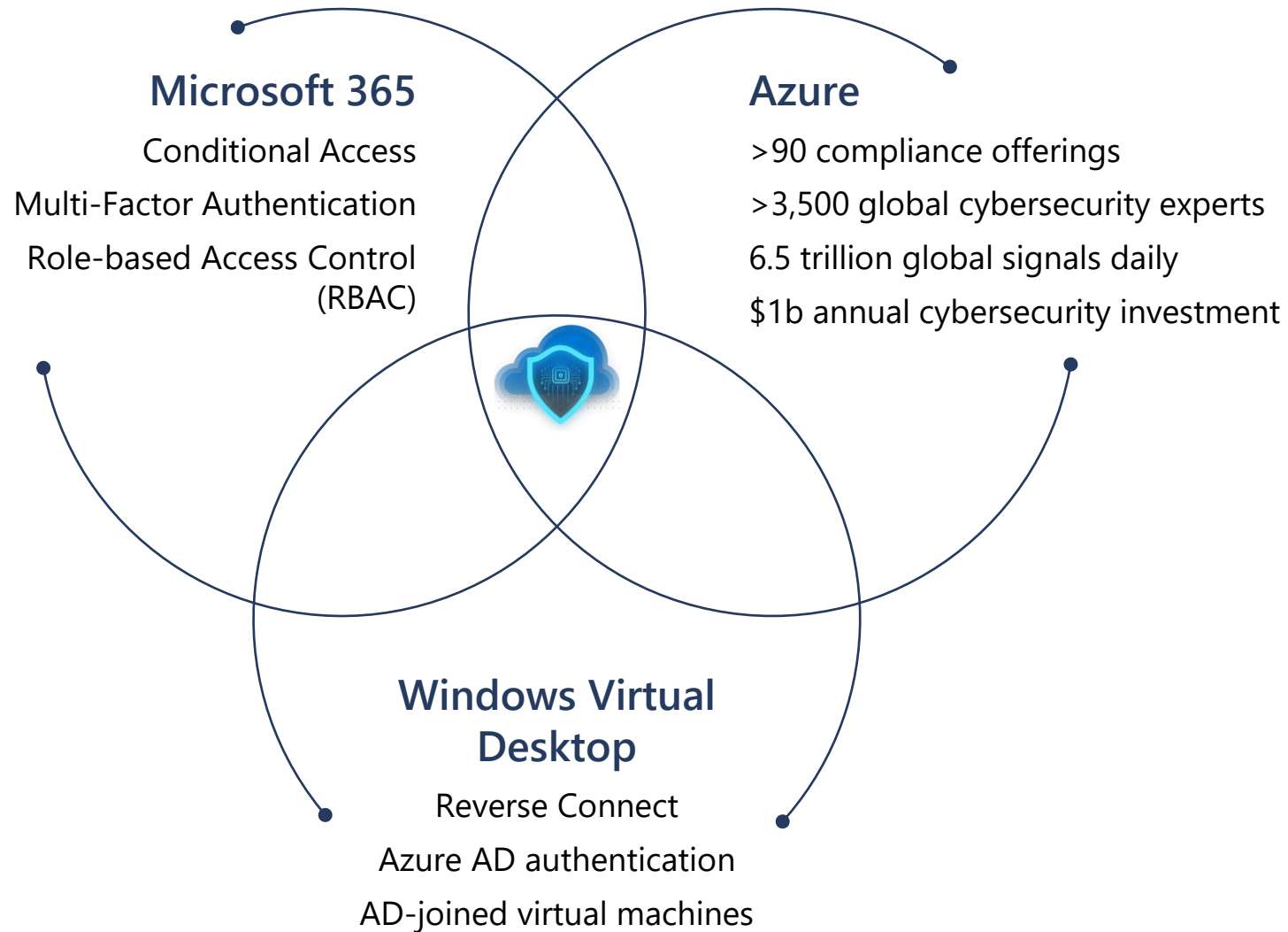


The **ONLY** multi-session Windows 10 experience

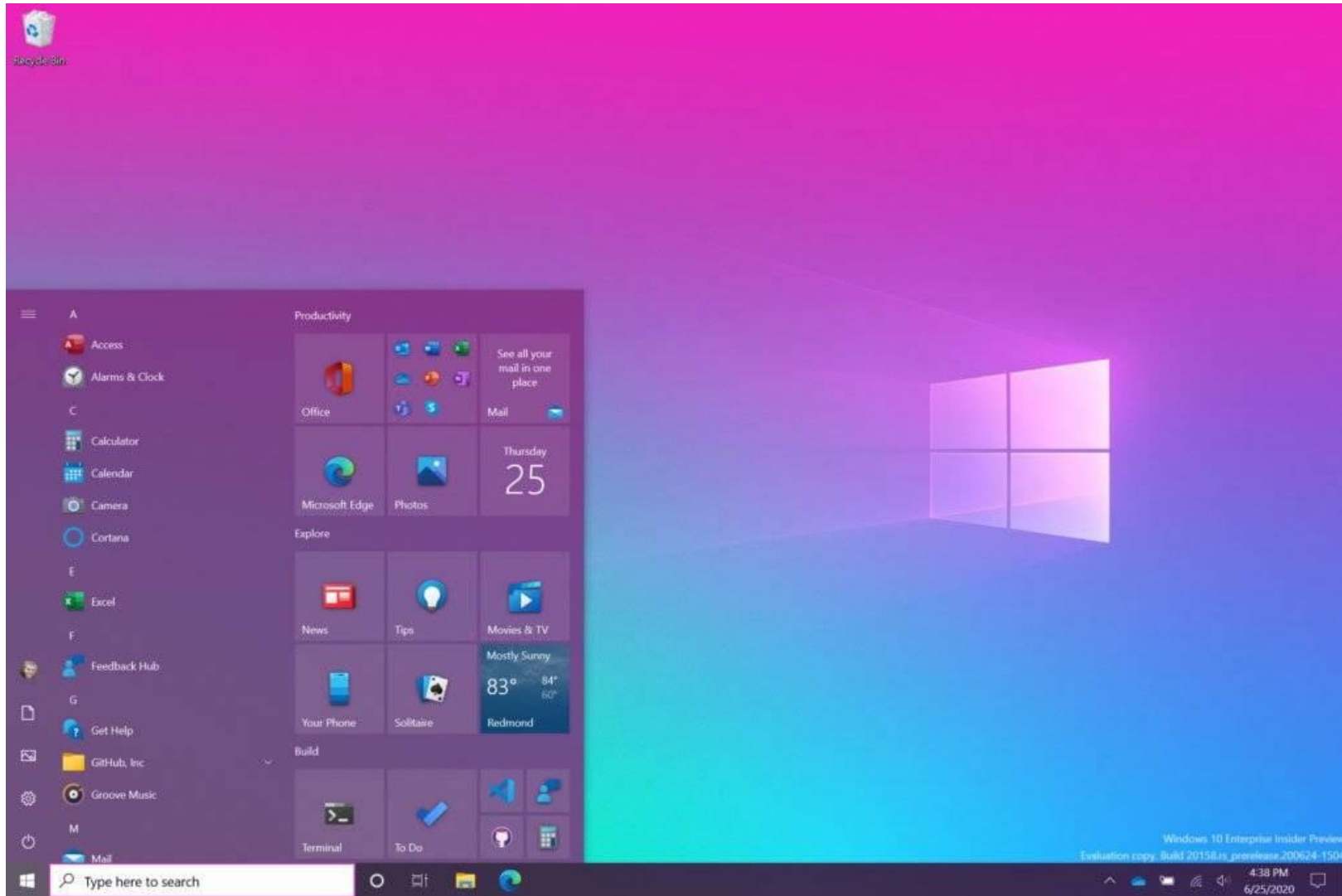
Multiple users active simultaneously on the same VM
Each user's data is isolated from every other user



Sicurezza



Cloud PC



Grazie!



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- Milano
- Padova
- Treviso
- Udine
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