Microsoft

Microsoft Azure Lunch & Learn Webinars

17th February 2021

Microsoft

Introduction to Azure on the OCRE Framework

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Microsoft

Agenda

- Procuring Azure on OCRE IaaS+ framework
- Education relevant Azure services
- Research Compute Tour
- Wrap up

Microsoft Azure

+

OCRE | Open Clouds for Research Environments

Microsoft OCRE Approach

MCS Digital Advisory Services

Azure Marketplace

OCRE Azure Resellers

Microsoft Cloud

Azure ProDirect

360° Azure Support

Reactive + Proactive Support

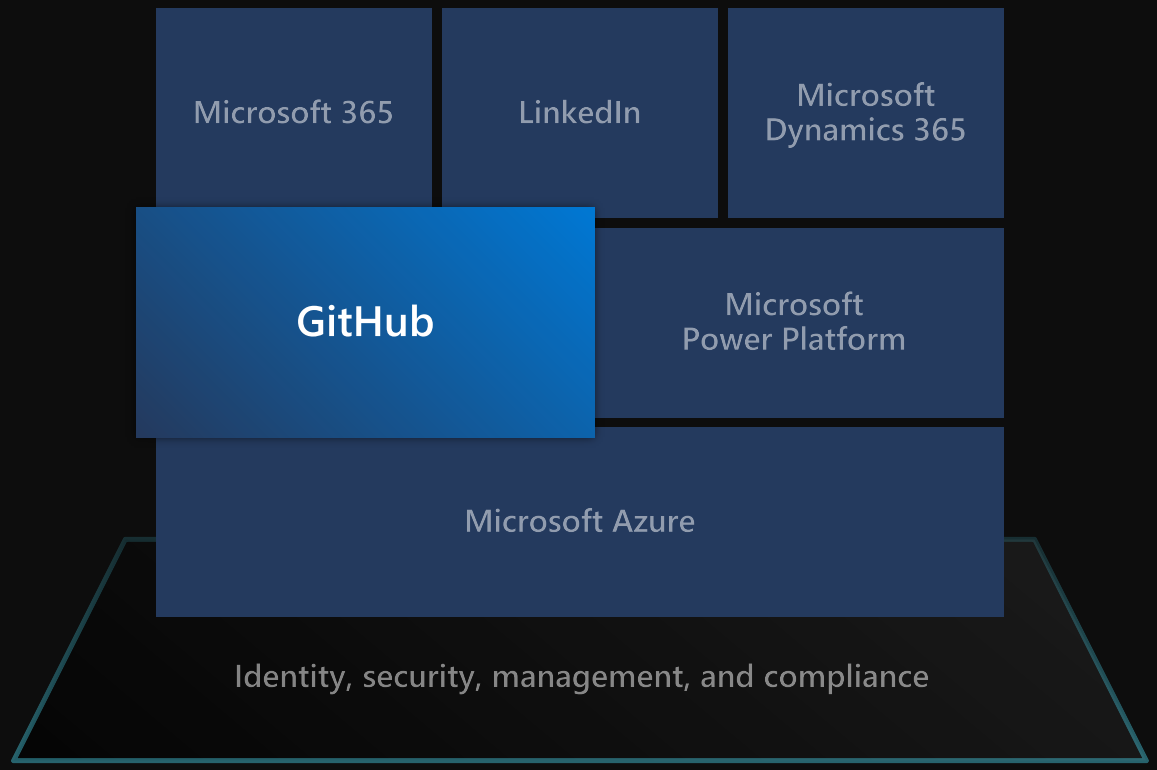
Access to a pool of ProDirect Delivery Managers

Modernize your workloads

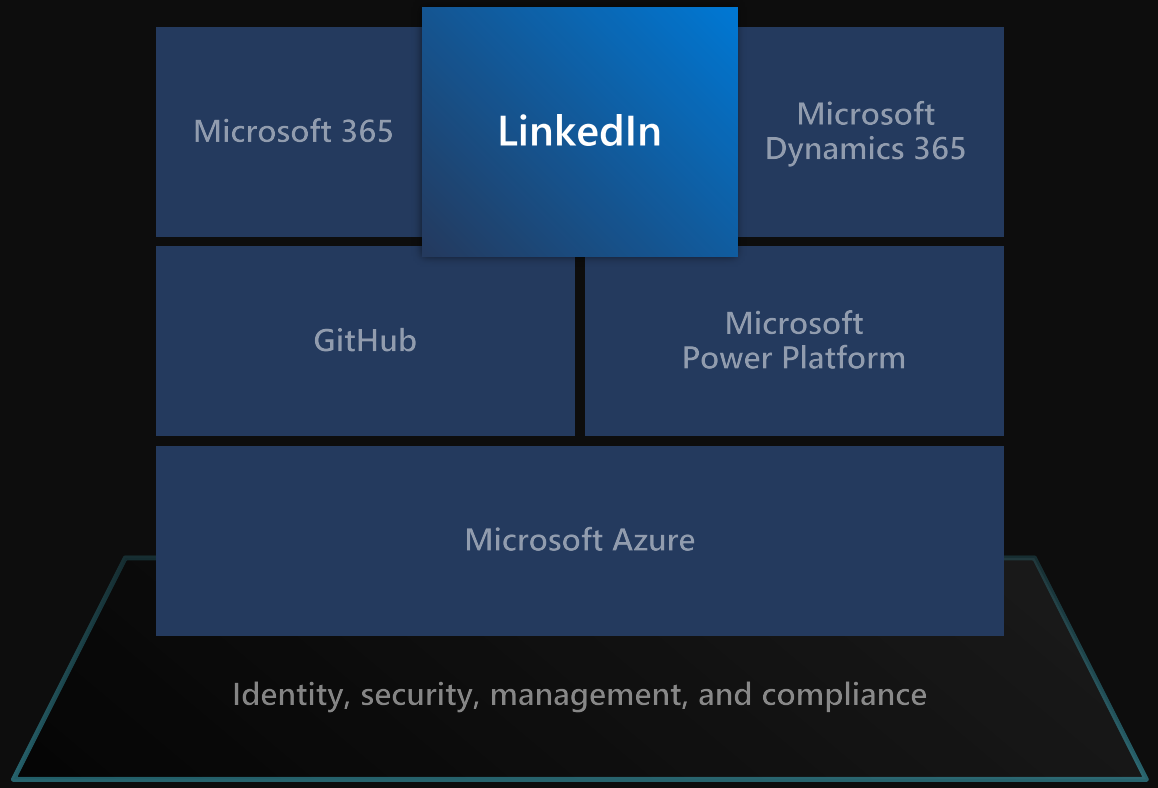
https://aka.ms/azuresupport

©Microsoft Corporation
Azure

Microsoft Cloud



Microsoft Cloud



Deal Structure – Volume Licencing

MBSA Master Agreement

CASA Master Agreement

GEANT Signature

Azure Only SCE

Azure Only EES

Amendment including Discount Transparency statement and Azure Commitment Discount

End Customer Signature

Min Order Value $1200

Note: Customer can sign multiple enrolments

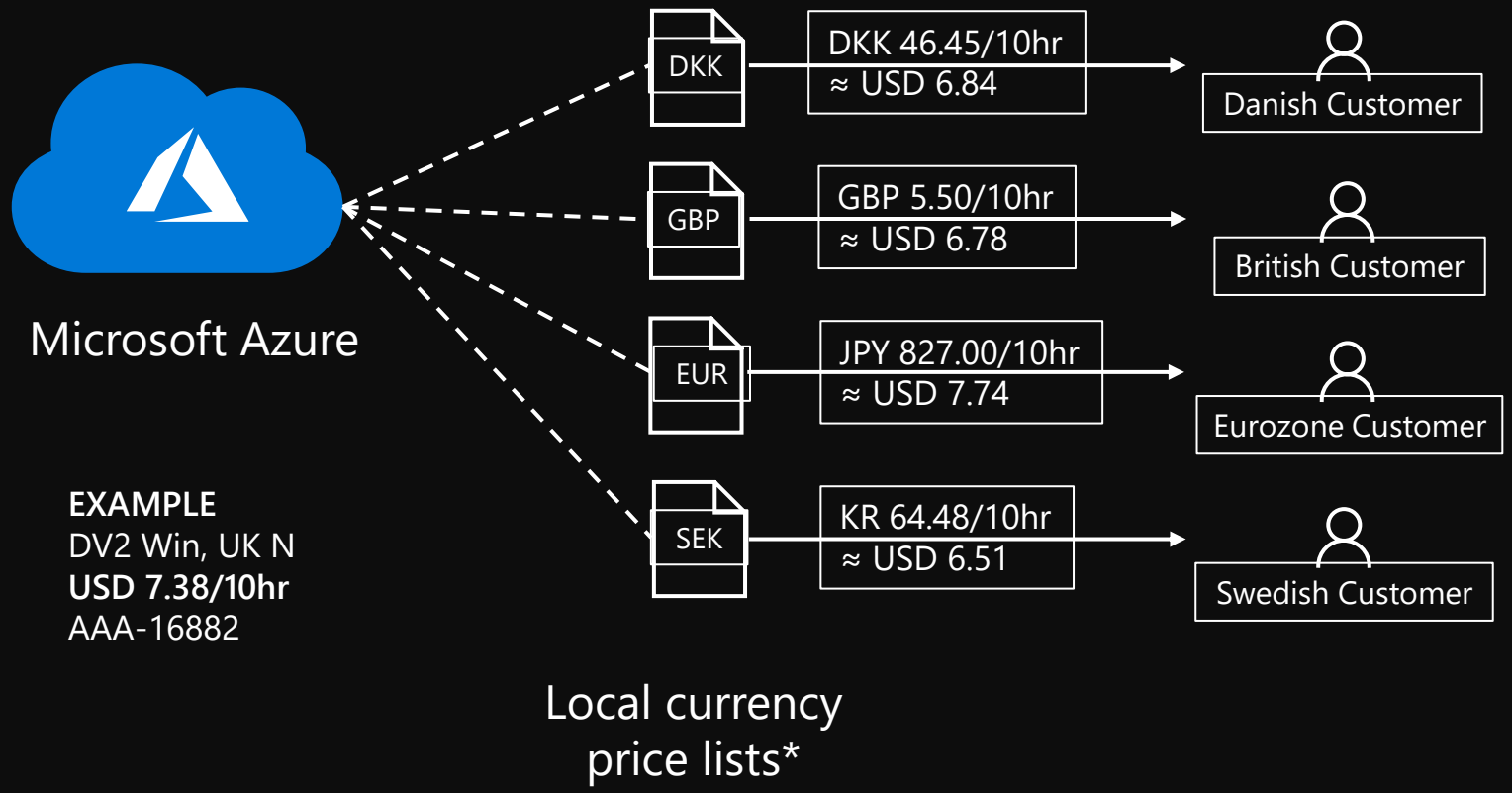
Product Terms

Online Services Terms OST

Online Services DPA

Foundational contractual components

Azure Pricing in the Enterprise Agreement



EXAMPLE
DV2 Win, UK N
USD 7.38/10hr
AAA-16882

Customers local currency Fx rate fixed for enrolment term

Customer Baseline price is fixed for enrolment term

OCRE discount applied to new price if it is lowered

**Exchange rates shown are timebound and used for example purposes only*

OCRE Azure Concessions

Sign an enrolment up to month 48
Concessions will cease at expiry or December 2025 or whichever comes earlier

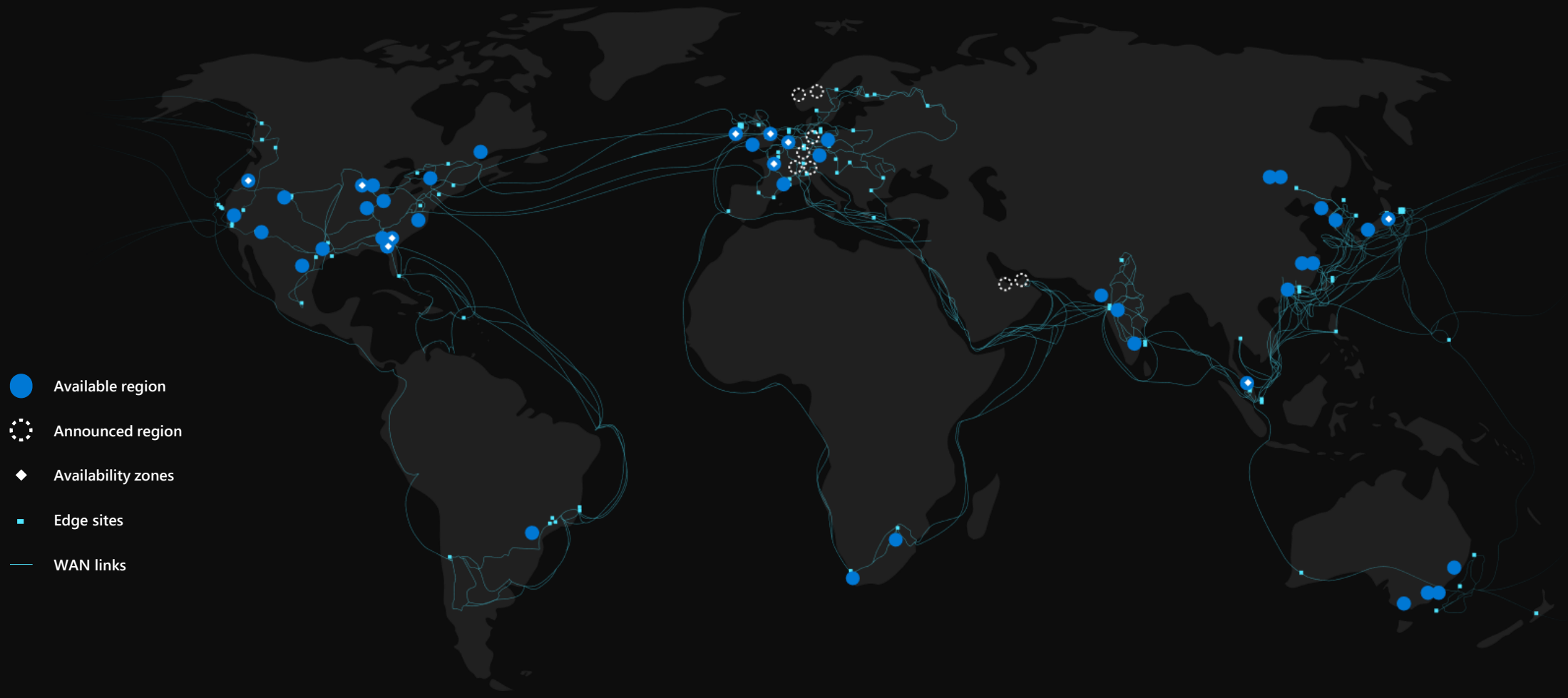
Discount on all Azure PAYG metered SKU prices

15% data egress waiver – zones 1, 2 & 3

20% discount on Azure Professional Direct Support SKU prices
Includes Step-up from Azure Standard Support

65% discount on ExpressRoute Unlimited SKU prices (zone 1)
For 12 months from official framework commencement date

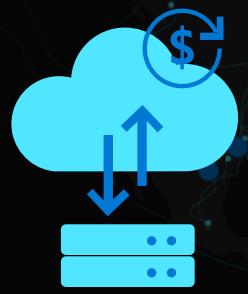
More regions than any other cloud provider



60+ Regions worldwide

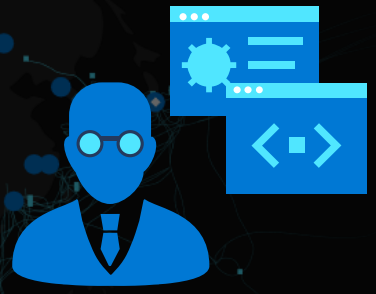
165K+ Miles of fiber and subsea cable

170 Network PoPs



Best performing cloud network

Zero Trust based network security



Developer ready

Five reasons to choose Azure

#1

Supports open-source technologies

#2

Build and deploy ML models from the data centre to the edge

#3

Aids global collaboration on exabyte-scale data sets

#4

Secures data from the cloud to the edge

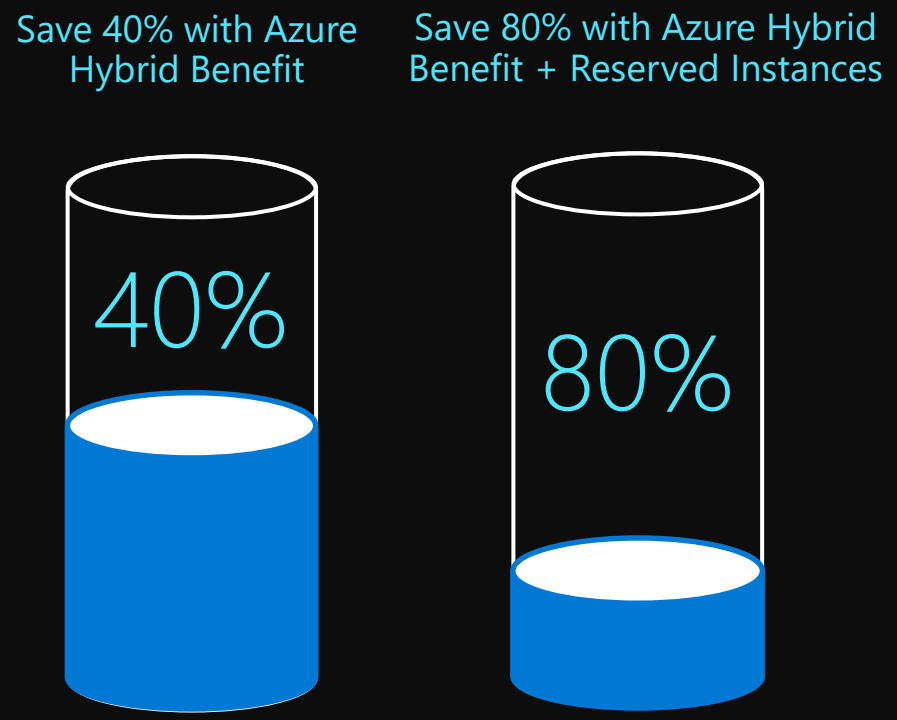
#5

Delivers true HPC-as-a-service

Save with Azure Hybrid Benefit

Re-use Windows Server and SQL Server licenses with Software Assurance in Azure

- ✓ Azure Virtual Machines
- ✓ Azure SQL Database
- ✓ Azure Dedicated Host
- ✓ Azure VMware Solutions



Azure Reservation Families

- App Service
- Azure Cache for Redis
- Azure Database for PostgreSQL
- Azure Database for MySQL
- Azure Database for MariaDB
- Azure Synapse Analytics
- Cosmos DB
- Databricks
- Data Explorer
- Disk Storage
- Dedicated Host
- Software plans
- Storage
- SQL Database
- Virtual machines

Azure Spot VMs

Scalable compute capacity at deep discounts (up to 90%*)

Capped prices
Pay up to the price you agree to in advance

Deployment options
Run interruptible workloads at scale on VMs and VMSS

Cost savings (Linux and Windows)
Unique Azure pricing and benefits with Windows Server workloads

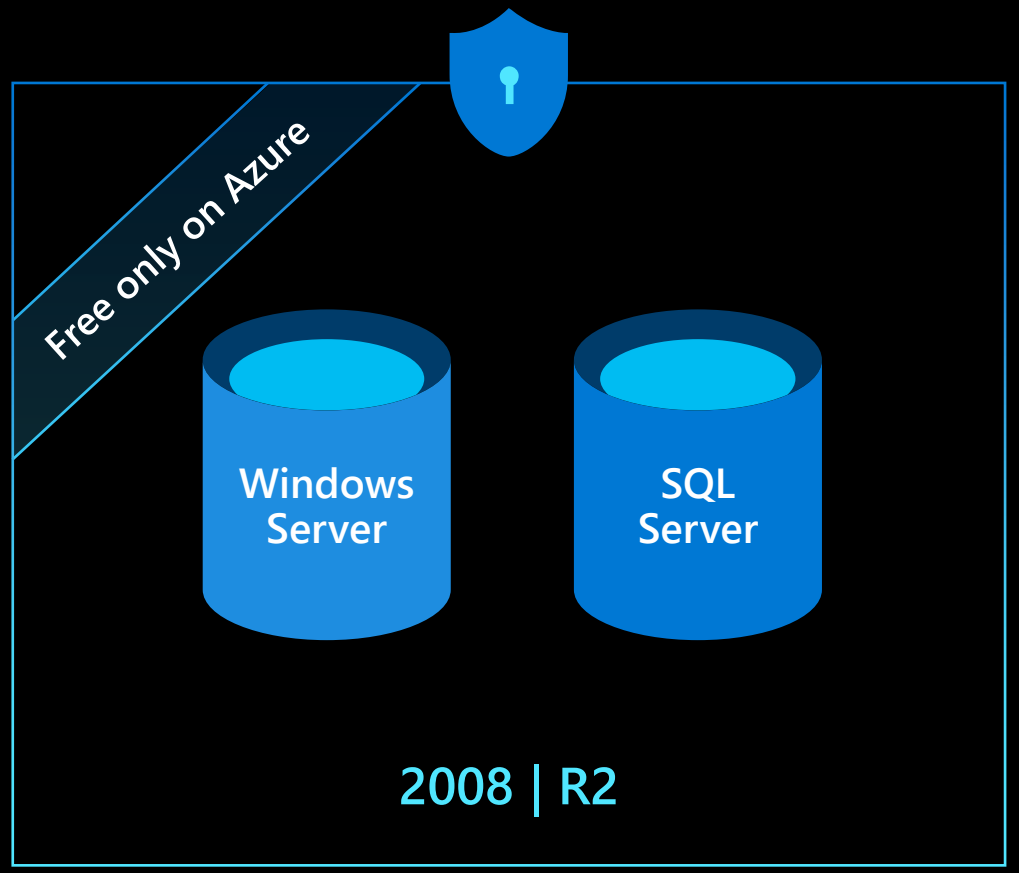
*Actual discounts may vary based on region, VM type, and Azure compute capacity available when the workload is deployed.

Get free Extended Security Updates only on Azure

THREE YEARS of security updates for your 2008/R2 workloads from date of end of support*

75% of the Server license cost to buy Extended Security Updates on-premises or on other clouds

Save even more with Azure Hybrid Benefit



* July 2019 for SQL Server 2008/R2 and January 2020 for Windows Server 2008/R2

Azure Lab Services

- Student Computer Labs from anywhere and on any device.
- Easy deployment by instructors who can set up labs for their courses.
- Transparent "all-inclusive" pricing model for easy processing & budgeting.

- Simple to use, wizard-based - up and running in a few minutes
- Cost-effective – No expensive hardware costs.
- Pay only for the time the machines are being used.
- Schedule availability and set quotas.
- Flexible – Almost any type of machine and hardware can be used by your students, even their own (+ VM Images/OS choices/sizes etc.)

Azure Lab Services

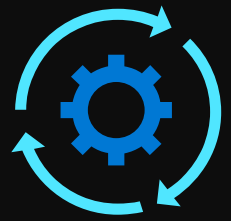
Windows Virtual Desktop

Enable a secure, remote desktop experience from anywhere

Deliver Windows 10 on any device, anywhere

Built-in intelligent security

Deploy and scale in minutes

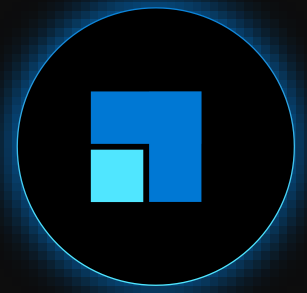


Reduce cost using existing licenses and pay only for what you use

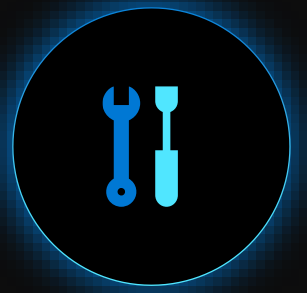
Strong partner ecosystem that helps you migrate and modernize

Azure VMware Solution

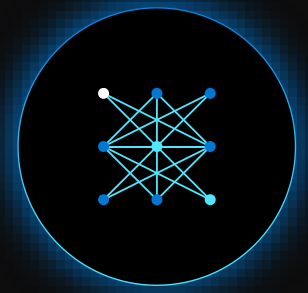
Run VMware workloads natively on Azure



Gain continuity, speed and scale with cloud infrastructure



Leverage your existing VMware skills and tools

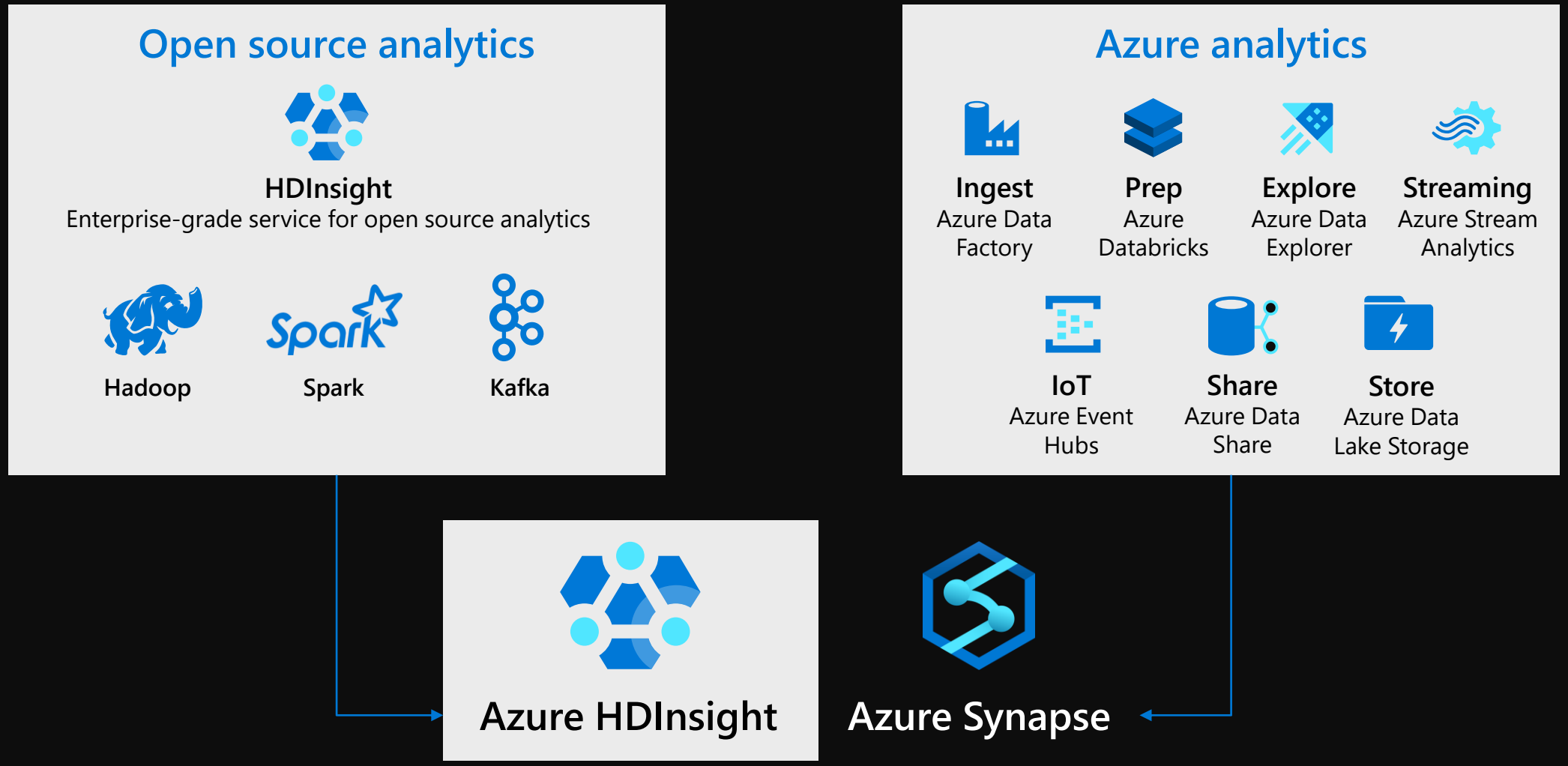


Modernize apps at your own pace with Azure services

Most cost-efficient way to run Windows Server and SQL

Fastest path to cloud

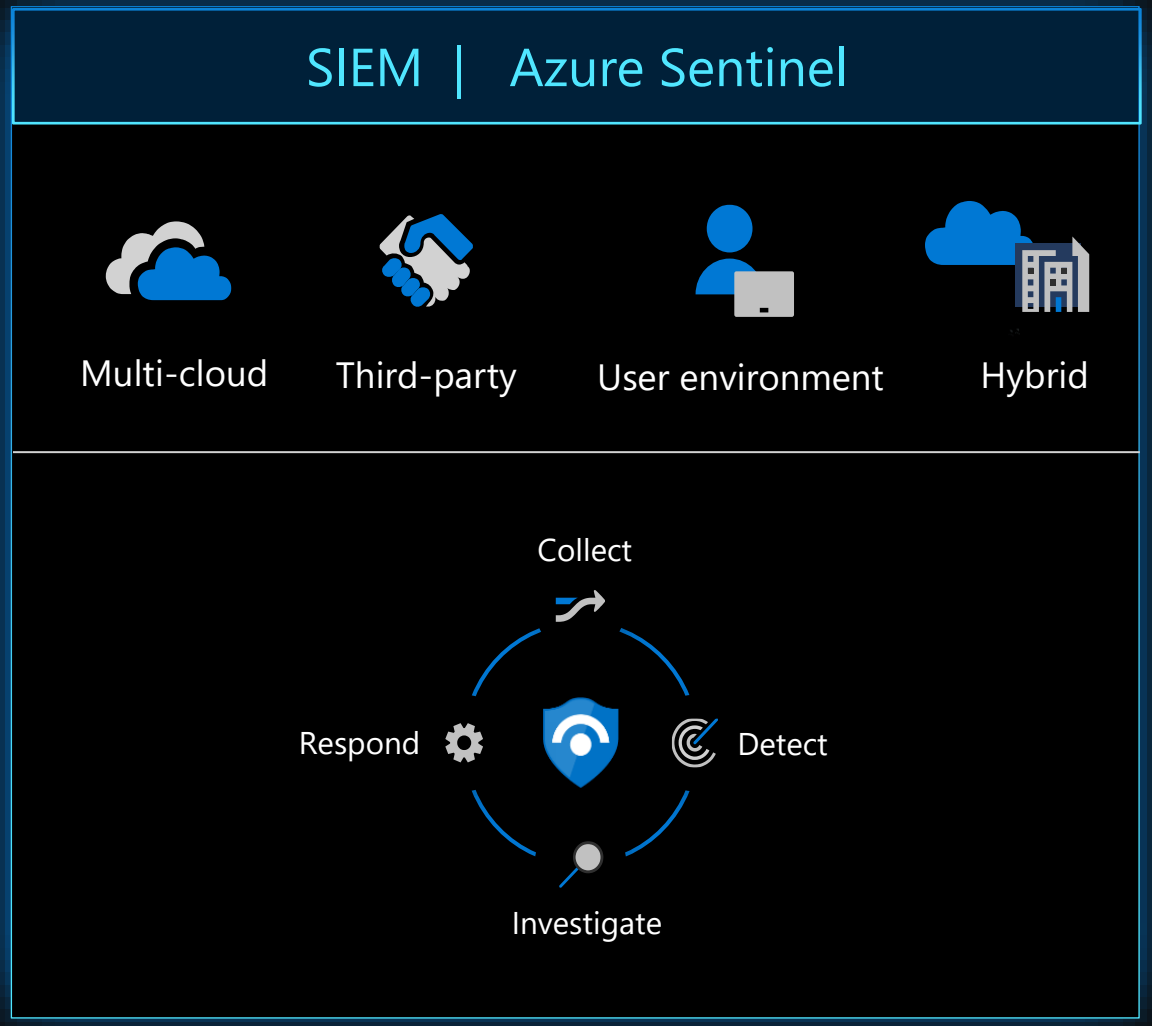
Azure is the ideal cloud for data analytics workloads



Best of open source + Azure for end-to-end analytics

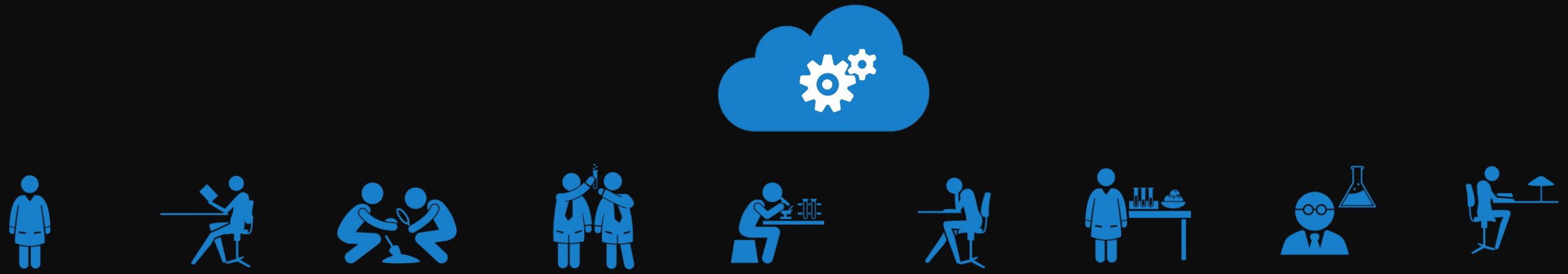
Gain insights across your entire enterprise

Visualize and investigate the attack chain with cloud-native SIEM



- Collect security data at cloud scale and integrate with your existing tools
- Leverage AI to detect emergent threats and reduce alert fatigue by 90 percent
- Respond rapidly with built-in orchestration and automation

The Cloud Democratizes Research



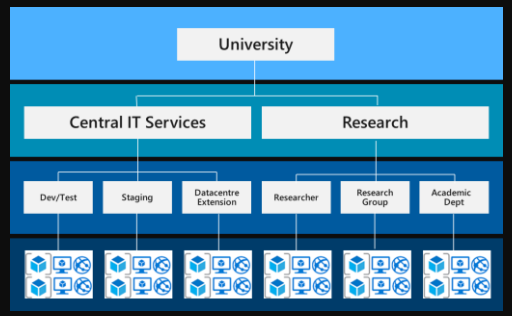
Everyone has super compute capabilities

Enabling new levels of collaboration

From PhDs to Citizen Scientists

Microsoft Azure

Azure for Research Framework – Central IT Portal

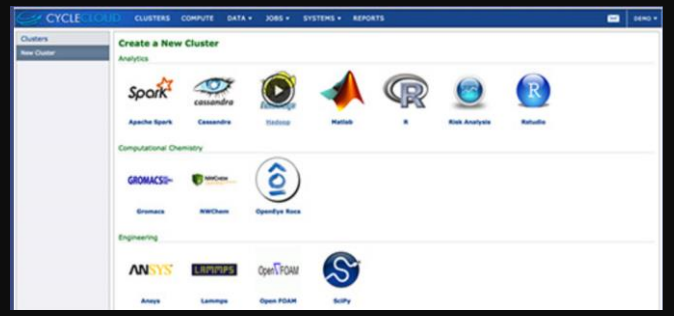


Central Research Management

Research structure, billing, account and delegation management. Central Governance of Research services is a key aim of most Universities.

Automation for Research

Immediate access to resources. No procurement process or pre-build saves time that can be directed to actual research



On demand Research services

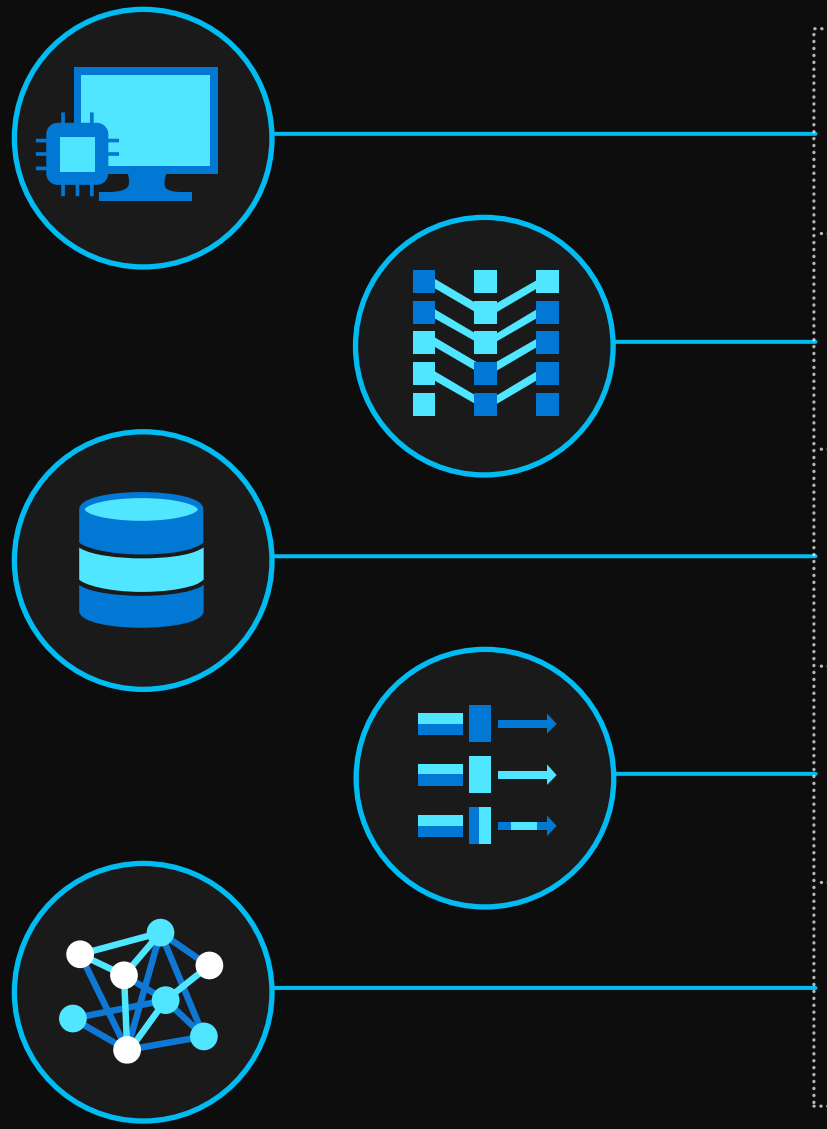
Researchers able to select their own resources without having to learn Azure or connect with Central IT

Microsoft Azure

Supporting your grant applications

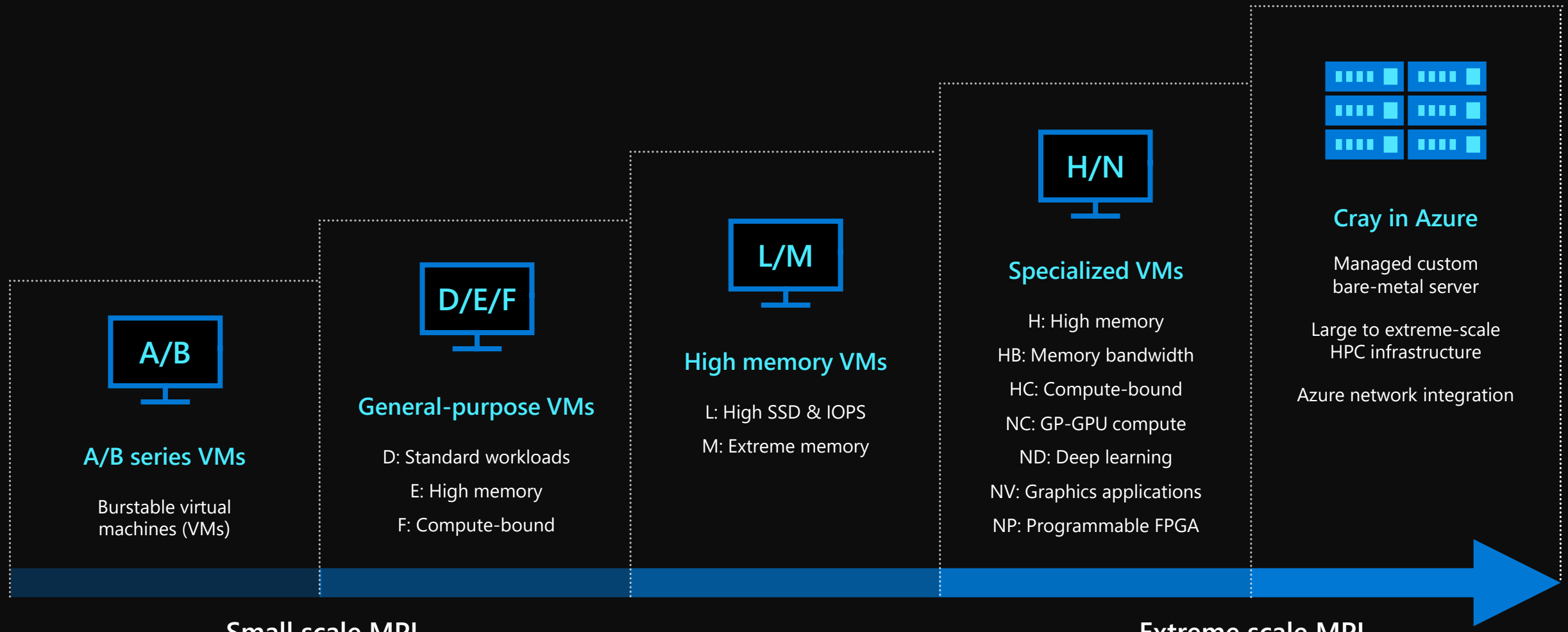
- **Microsoft can support you** by way of a supporting letter you may include on your application.
- **Customers or partners can claim** expenses related to Microsoft services or products for research efforts.
- **Eligible costs** are generated by activities fully related to the funded project actions. Typical length of projects is 3 to 5 years.
- **Your Microsoft team can support you** throughout the application process and any continued activity.

Achieve more with Azure HPC



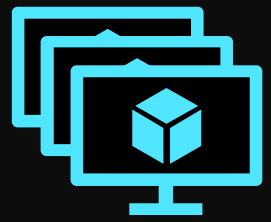
Purpose-built HPC	A full range of CPU and GPU capabilities that help applications scale to 80K+ cores
Fast, secure networking	Fast InfiniBand inter-connects as well as edge-to-cloud connectivity
High performing storage	A range of storage capabilities to support simple-to-complex storage needs
Workload orchestration	End-to-end workflow agility using known, familiar tools and processes
Intelligence services	AI, machine learning, and deep learning at supercomputer scale

Solve any HPC, AI workload—at any scale



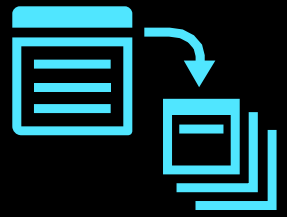
Orchestrate your workloads

Scale up your environment



Azure Virtual Machine Scale Sets

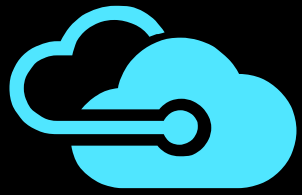
Automatically scale your application as resource demand changes for high availability and resiliency



Azure Batch

Enable cloud-scale job scheduling and compute management to run massive parallel and high-performance compute batch jobs

Manage your HPC workload



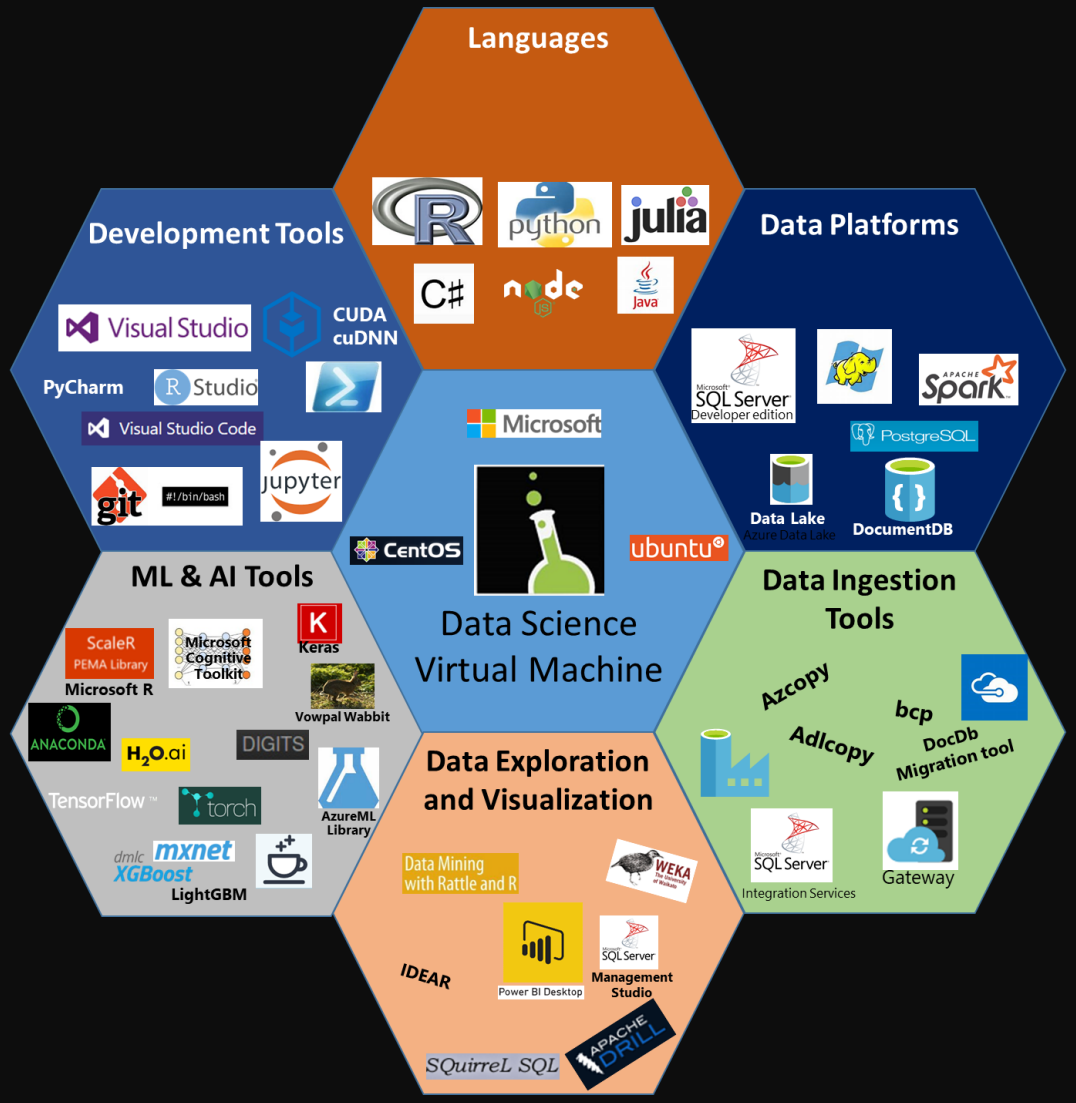
Azure CycleCloud

Create, manage, operate, and optimize HPC and big compute clusters of any scale with HPC burst and hybrid clusters

Data Science VM

Comprehensive cloud based Data Science Environment to empower Data Scientists

https://aka.ms/dsvm/overview



Machine Learning on Azure

Domain specific pretrained models
To simplify solution development

Vision

Speech

Language

Search

Familiar Data Science tools
To simplify model development

Visual Studio Code

Azure Notebooks

Jupyter

Command line

Popular frameworks
To build advanced deep learning solutions

PyTorch

TensorFlow

Scikit-Learn

ONNX

Productive services
To empower data science and development teams

Azure Databricks

Azure Machine Learning

Machine Learning VMs

Powerful infrastructure
To accelerate deep learning

CPU

GPU

FPGA

From the Intelligent Cloud to the Intelligent Edge

Azure Purview

UNIFIED DATA GOVERNANCE

Data Map

- Automate and manage metadata at scale

Data Catalog

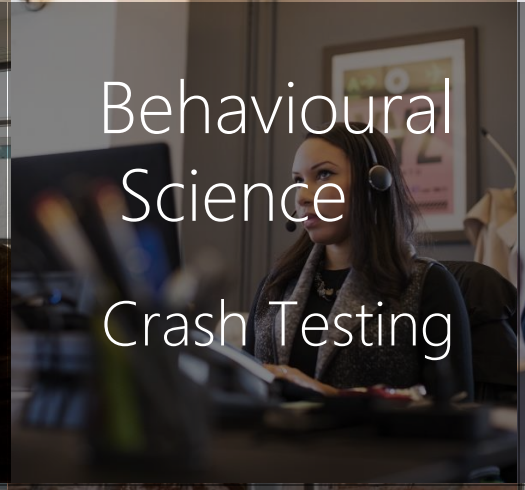
- Enable effortless discovery for data consumers

Data Insights

- Assess data usage across your organization

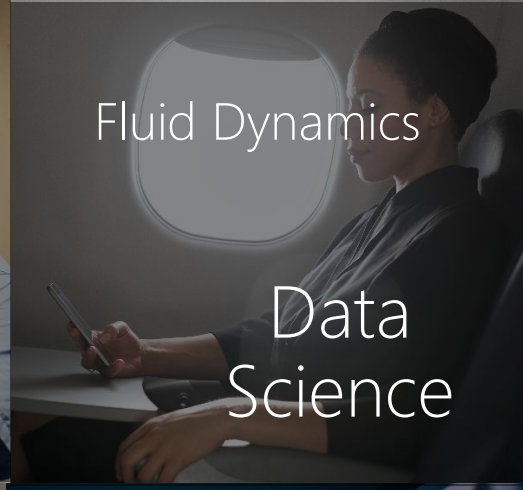
Microsoft

Astro Physics
Risk Management


Behavioural Science
Crash Testing

Product Design & Safety

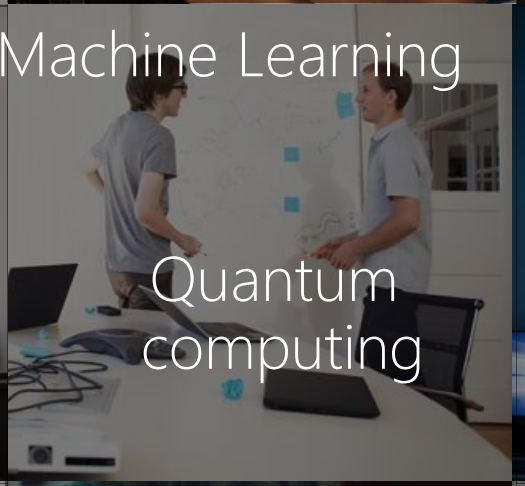
Security/ cryptography


Fluid Dynamics
Data Science

Architecture & Engineering

High Energy Physics
Genomics

Environmental Impact
Drug Design


Machine Learning
Quantum computing

Cancer Research
Circuit Design

Fundamental Science

Materials Science

Self-driving Cars
Clinical Trial Simulation

Rocket Design
Computational Chemistry

Sensor Analytics
Economic Modelling

Microsoft Azure Differentiators

Cloud Strategy	Use AAD to manage Azure resources and services e.g. RBAC etc.
	Require a true Hybrid Cloud solution for data sovereignty and managing Physical, Virtual and Container workloads with Azure Arc.
	Reduce shadow IT and manage separate commercial agreements with the same cloud vendor centrally.
	Comprehensive cost management and reporting solution.
Reduce Costs	Leverage HUB to lower my Windows and SQL consumption costs.
	Reduce support costs for Windows Server 2007 and SQL server 2008 with Azure extended support.
	Provide Windows 10 VDI services for staff and students and leverage my M365 Student Use Benefits.
	Pricing for services to remain the same for the duration of my contract i.e. no monthly price variance or FX rate impacts.
Acclerate Migration	Leverage Azure Site Recovery to migrate physical servers.
	Acclerate Web App migrations with App Migration Service to Azure App Service.
	Modernise SQL estate with SQL Server Managed Instances.
	Require the most performant HPC and specialised compute and services

Upcoming Lunch and Learn Webinar Series

Wednesday 24/2	Building a scalable cloud architecture
Wednesday 3/3	Get the support you need with Azure ProDirect
Wednesday 10/3	Hybrid learning made easy with LinkedIn
Wednesday 17/3	GitHub and the future of software

All sessions are scheduled for 12:30 CET /11:30 GMT

Register at https://aka.ms/OCRE

Microsoft Azure

Be future ready | Build on your terms | Operate hybrid seamlessly | Trust your cloud