Advance your Cloud Journey with Microsoft Azure
A Compute Portfolio for Every Workload

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Customers are at different stages in their journey to the cloud

IDC MaturityScape Benchmark: Future Enterprise—Maturity Distribution Across the Stages

IT buyers are at varying stages of cloud journey, with over half in the earliest two phases.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Ad Hoc</td>
<td>8.9%</td>
</tr>
<tr>
<td>Opportunistic</td>
<td>36.7%</td>
</tr>
<tr>
<td>Repeatable</td>
<td>35.6%</td>
</tr>
<tr>
<td>Managed</td>
<td>14.9%</td>
</tr>
<tr>
<td>Optimized</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

Challenges, priorities and requirements from cloud vary across these groups.

Source: IDC MaturityScape Benchmark: Future Enterprise Worldwide, 2020
Infrastructure advancements for cloud bring valuable capabilities

Customers gain benefits derived from cloud well beyond TCO—especially more mature cloud customers.

**ON PREMISES CONSISTENCY AND RESILIENCE**
Ease of migration, interoperability, and flexibility

**CLOUD NATIVE SERVICES**
Customers are also thinking beyond initial phase

**ACCESS TO NEW TECHNOLOGIES**
(AI, machine learning, scaling)
Microsoft Azure Cloud Compute

Addressing the diverse needs of the market

**Azure value propositions:**
- Breadth of compute portfolio (Infrastructure for every workload)
- Cost effectiveness
- Security, reliability and compliance
- Hybrid capabilities
- Management

**Microsoft Ecosystem of Services and Partners**

- Broad range of Virtual Machines
- Support for traditional and cloud native workloads
- Specialized compute for targeted workloads
- Flexibility with location, pricing and control
What are Generation 2 Azure VMs?

- Brings benefits of Hyper V generation 2 virtual machines to Azure VMs
- Provides the foundation for SAP HANA optimized Mv2 VMs
- Provision OS disks larger than 2TB, Intel SGX (enables confidential computing), UEFI booting, and SCSI disk controllers.
- Allows easier migration from generation 2 VMs on customer premises.
Microsoft Azure Compute

VMs for every workload

Broad array of VM families for mainstream compute needs – optimized options for common workloads and use cases.

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Azure VM Series

- General purpose VMs (D, Dv2, Dv3, Dav4, Dasv4 series)
- Memory optimized VMs (E series) including Eav4 and Ev4
- Storage optimized (NVMe support, Lsv2 series)
- Compute Optimized VMs (F series)
- GPU enabled VMs (NV series)
- Burstable and entry-level CPU VMs (Av2, B series)
- Web servers, enterprise IT test/dev/staging
- Low latency storage workloads, parallel computing algorithms, industrial HPC
- Remote visualization, graphics processing
- Engineering, analysis and gaming
- In memory databases, low latency data access
- Scale out web apps, test and dev, hobbyist usage
Microsoft Azure Compute
Specialized VMs and infrastructure

Targeted portfolio of specialized compute offerings for specific needs and use cases.

SAP Hana 24 TB (incl. mission critical deployments), Cray environments

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Large memory use cases like SAP HANA, support for up to 12 TB

Large Memory VMs (M series, Mv2 series)

Confidential Computing (DCv3 series)

Dedicated Hosts (multiple VM series)

Bare Metal for specific need

High Performance Computing (HB, HC, ND, NC series, InfiniBand support)

AI, ML, HPC (ND series)

High security use cases, encryption down to execution layer

Compute intensive for deep machine learning model training for AI

Optimize for licensing, compliance and control

Big data analysis, advanced engineering algorithms (finite element analysis etc.), training, AI and machine learning
Microsoft Azure Compute

Cloud native offerings

Growing portfolio of cloud native offerings – enabling next generation cloud native application development

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Microservices based applications, hardware abstracted native PaaS architectures

Serverless and event driven architecture-based applications

Managed and self operated container clusters

Public and private container registries for sharing and reuse of container images

Cloud Native Services

AKS, Azure Container Instance, Third party container orchestration

Event Grid

Event Hubs

Service Fabric, App Service

Container registry, Docker Hub support

Azure Functions, Azure Logic Apps
Microsoft Azure Compute

DevOps Toolchain

Azure native tools and external extensions – enabling choice of DevOps based pipelines and collaboration tools.

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DevOps Toolchain

- Build templates and infrastructure as code using multiple popular frameworks
- Integration with Chef, Puppet, Ansible, Jenkins, Terraform

- Host private git code repos on Azure
- Azure Repos

- Host CI/CD pipelines supporting multiple languages, OSes and clouds, with built-in integration with GitHub
- Azure Pipelines, GitHub integration

- Third-party and first-party images and solutions
- Azure Marketplace

- Facilitate DevOps centric collaboration, sharing and planning

- Azure Boards, Azure DevOps, Azure Test Plans and Azure Artifacts
Windows, Linux and broader open source under one umbrella

Balanced focus across Windows and Linux
Almost half of all VMs in Azure public cloud run Linux-based workloads
Source: Microsoft, 2018

Open Source and Linux alliances
• Member of Linux foundation since 2016
• Microsoft has actively increased its focus on Linux in the past 5 years, and is now a significant contributor to the Linux kernel according to the Linux Foundation.
• Support for all major Linux distros including RHEL, Ubuntu, Debian, SLES, CentOS, CoreOS and Oracle Linux.
• Microsoft – Red Hat Alliance (RedHat OpenShift on Azure, SQL Server on Linux)

Support for broad set of open development tools and languages
• Support for Node.js, Python and Java, in addition to native integration with Azure DevOps
• First party support for Kubernetes
• Integrated support for Red Hat Linux and SUSE Linux

Commitment to open source
• GitHub integration and git support
• Open source Azure Service Fabric
• Member of Node.js, Cloud Native Computing and Cloud Foundry Foundations

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Breadth of compute portfolio
Cost effectiveness
Security, reliability and compliance
Hybrid capabilities
Management
Cost benefits of Azure

Three years of free security updates for Windows Server 2008 and 2008 R2 (after Extended Support end of life)

Additional Benefits for Windows Server on Azure

Azure Hybrid Benefit program enables savings with existing Windows Server licenses
- up to 49% (on demand VMs)
- up to 80% (three year with reserved VM instances)

Burstable VMs and Azure free account

Low cost of entry for compute

Optimize to desired price/performance with scale

Managing Cost

Azure Hybrid Benefit

Reserved VM Instances

Unutilized capacity with up to 90% cost savings for workloads that can tolerate interruptions
Source: Microsoft

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Unutilized capacity with up to 90% cost savings for workloads that can tolerate interruptions

Low cost of entry for compute

Spot VMs

Size flexibility across Windows and Linux-1vCPU to 480 CPUs and 1GB to 24TB of RAM, and reservations discounts

Up to 80% cost savings compared to pay-as-you-go prices
Source: Microsoft

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Breadth of compute portfolio (Infrastructure for every workload)

Cost effectiveness

Security, reliability and compliance

Hybrid capabilities

Management
Security built-in from bottom up

Azure has built-in security controls and intelligence, and meets international and industry-specific security certifications, such as General Data Protection Regulation (GDPR), ISO 27001, HIPAA, FedRAMP, SOC 1 and SOC 2.

*INDUSTRY’S FIRST SINGLE VM SLA 99.9%*

Built-in disaster recovery as a service (DRaaS) with Azure Site Recovery

Source: Microsoft

INDUSTRY LEADING SECURITY AND PRIVACY STANDARDS - 80+ AVAILABLE SECURITY CERTIFICATIONS FOR AZURE

60+ global regions, offering data residency choices in a broad set of locations

Microsoft Azure is the only major public cloud platform with built-in VM disaster recovery capability through replication to a secondary region.
A seamless hybrid environment with Azure and Azure Stack

IDC’s CloudView Survey found that 85% of companies have hybrid cloud environments.

Microsoft Azure Stack delivers an Azure-consistent cloud native environment to customer premises and the edge.

“Microsoft’s advantage is its ability to provide an ever-expanding range of native and hybrid cloud services, which few competing vendors can match.”
—IDC Market Note, Apr 2018

Consistent Tools and Integrated Management
- Azure services
- DevOps
- Containers
- Serverless functions
- Microservices
- Kubernetes
- Linux and Windows

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1 Source: IDC CloudView, April, 2017
N=6,084 worldwide respondents, weighted by country, industry and company size
Azure management capabilities

Management is a growing challenge with public cloud

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Azure Management and Governance Tools
Rich tooling to facilitate management – for hybrid and cloud native scenarios

- Azure Resource Manager (ARM), Azure Blueprints
- Azure Advisor, Cost Management
- Azure Monitor, Azure Policy
- Azure Active Directory
- Azure Arc
- Cloud Foundry
- VM Scale Sets (VMSS), autoscaling, OS image updates
- Tools
- Windows Admin Center
Cloud ecosystems are increasingly important

Ecosystem is a growing component of cloud adoption and usage. Cloud is seen as a source of access to new technologies, not just a functional solution for infrastructure or IT.

Public cloud is increasingly perceived as a source of access to a broader ecosystem of higher layer services, rather than a functional substitute for on premises IT.

The broader public cloud and technology ecosystem should be an important factor when evaluating public cloud partners.

Source: IDC, 2018

Percentage of customers that value the cloud ecosystem as a top benefit of public cloud

- 2014: 5%
- 2016: 10%
- 2018 (est): 45%

Source: IDC, 2018
Microsoft’s Cloud Ecosystem & presence across technology markets

- **Partners and Alliances**
  - Gluon, Linux Foundation, CNCF, Microsoft Partner Program

- **Enterprise Software and Operating Systems**
  - Office 365, Dynamics CRM, Desktop as a Service

- **Platform as a Service**
  - Batch and Azure Kubernetes Services, Service Fabric, App Service, Media Services, Databases

- **Infrastructure as a Service**
  - Azure Compute, Azure Storage, Azure Networking

**Emerging Enterprise Technologies**
- Microsoft AI Studio
- Internet of Things
- Azure Functions
- CosmosDB
- Service Fabric Mesh

**End User Technology**
- Windows
- Devices
- HoloLens
- Mobile
- XBox
- Games
Microsoft Continues Investments in Azure

Microsoft has been steady in its commitment and investments to grow the Azure platform

“Microsoft continues to strengthen its position as a major player in the industry, and the performance of the company’s intelligent cloud reporting segment shows that the company will be a public cloud force to be reckoned with for the foreseeable future.”

— IDC, Microsoft FY 2Q20 Growth: Cloud Revenue Consistently Powers Microsoft. IDC # US46082020

Recent announcements

• CloudEvents on Azure, an emerging Cloud Native Computing Foundation (CNCF) technology
• Open sourcing of Azure IoT Edge, available on GitHub
• Edge-IoT partnerships with Qualcomm and DJI.
• Microsoft will invest $5 billion in IoT.
• Microsoft to continue to invest over $1 billion a year on cyber security
• Azure Kubernetes Service (AKS) general availability.
• Project Kinect for Azure and Azure Blockchain Workbench
Microsoft Azure offers a cost-effective compute portfolio for all types of workloads. This includes core VMs and cloud native compute capabilities, emphasis on security and access to the strong Azure ecosystem.

Sign up for a free trial