Microsoft Cloud Services and Platform Options

What IT decision makers and architects need to know about Microsoft cloud solutions

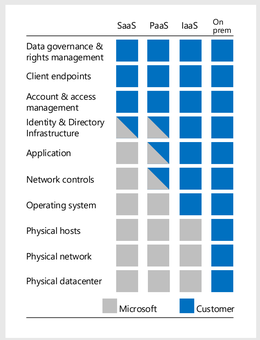
	Microsoft SaaS Services	Microsoft Azure PaaS	Microsoft Azure IaaS	Private cloud
Overview	**Software as a Service (SaaS)** Office 365 — Office Pro Plus, Exchange, SharePoint, Skype for Business, OneDrive for Business, Project, Office Delve, Planner, Yammer Microsoft Dynamics 365 Sales, Field Service, Marketing, Customer Service, Operations, Project Service Automation Microsoft AppSource Microsoft Enterprise Mobility + Security (EMS) Power BI, Azure IoT Cortana Intelligence Taking advantage of productivity workloads provided in the cloud is a first step for many enterprise organizations. • Get started quickly. • Rich feature set is always up to date. • Frees organizations to focus IT resources on strategic applications. • Includes a Microsoft Azure Active Directory tenant for use with other Microsoft cloud services.	**Azure Platform as a Service (PaaS)** Your PaaS application Your business logic and code Web and mobile backend, Compute and integration Data and advanced analytics, Media and content delivery Event streaming and messaging, Developer tools Microsoft Azure PaaS is an open, flexible platform and a growing collection of integrated services that helps you move faster, do more, and save money. Use the Azure PaaS open and flexible platform to quickly build, deploy, and manage cloud-enabled applications across the global network of datacenters managed by Microsoft. • Build modern applications and focus on functionality instead of infrastructure. • Support for many programming languages including .Net, Java, PHP, Ruby, Node.js, Python, and more. • Choice of frameworks including .Net, ExpressJS, Rails, Zend, and more.	**Azure Infrastructure as a Service (IaaS)** On-premises Your virtual network Active Directory & DNS Your line of business application Extend your IT infrastructure to the cloud by using Azure compute, storage, and networking features and resources. Choose your language, workload, and operating system. • Combine Azure IaaS with Azure PaaS features as you move existing workloads to the cloud. • Create, resize, and decommission virtual machines in minutes for dev and test scenarios. • Reduce your on-premises servers and your overall datacenter costs. • Plan, size, and scale your infrastructure to support your long-term cloud adoption plans.	**Private cloud datacenter** On-premises Active Directory & DNS Your line-of-business applications Private cloud datacenters excel at hosting services that remain on-premises to support hybrid cloud solutions. Organizations that excel with private cloud IaaS capabilities can benefit from taking this approach with a broader portfolio. • Deliver faster innovation with optimal control and security with new hybrid cloud capabilities that cut across infrastructure, applications, data, and users. • Provides the benefits of IaaS but on your terms with dedicated resources, complete control, greater potential for customization, and greater datacenter efficiency.
Core capabilities	**Office 365** Enterprise cloud productivity and collaboration services **Microsoft Dynamics 365** Enterprise cloud customer relationship management **Microsoft AppSource** One destination for business users to discover, trial, and acquire line-of-business apps. Find the right app for your business by category, industry, or Microsoft product. **Microsoft Azure Internet of Things (IoT) Suite** Connect your devices, analyze data, and integrate business systems. Transform your company when you uncover new business models and revenue streams. **Microsoft Enterprise Mobility + Security (EMS)** Keep your employees productive on their favorite apps and devices while protecting your company data and applications. • Azure Active Directory Premium • Intune • Azure Rights Management **Microsoft PowerBI** Bring your data to life. PowerBI transforms your company's data into rich visuals for you to collect and organize. **Microsoft Cortana Intelligence Suite** A fully managed big data and advanced analytics suite to transform your data into intelligent action.	**Digital Marketing** Connect with customers worldwide with digital campaigns that are personalized and scalable. **Mobile** Reach your customers everywhere, on every device, with a single mobile app build. **Business Intelligence** Drive better, faster decision making by analyzing your data for deeper insights. **E-commerce** Give customers a personalized, scalable, and secure shopping experience. **Microservices Applications** Deliver scalable, reliable applications faster to meet the changing demands of your customers. **Big data and analytics** Make the most informed decision possible by analyzing all of the data you need in real time. **Data warehouse** Handle exponential data growth without leaving security, scalability, or analytics behind. **Remote monitoring with IoT** Enhance your business' performance by monitoring devices, assets, and sensors in the cloud. **Digital media** Deliver high-quality videos to your customers anywhere, anytime, on any device. **Disaster recovery** Protect all your major IT systems while ensuring apps work when you need them most.	Microsoft Azure IaaS includes network services and virtual machines. These services can be combined with any PaaS services. **Virtual Network** Provision and manage virtual networks in Azure and securely link to your on-premises IT infrastructure. **Virtual Machines** Create new virtual machines or create and upload your own to create pre-configured virtual machines. **ExpressRoute** Connects on-premises infrastructure directly to the Microsoft network that contains Azure datacenters, without using the Internet. **Traffic Manager** Load balance incoming global traffic across multiple services running in the same or different datacenters. **Manage your environment using the Azure portal, Azure PowerShell, or the Azure Command Line Interface (CLI).**	**Microsoft Windows Server** Brings our experience delivering global-scale cloud services into your infrastructure with features and enhancements in virtualization, management, storage, networking, virtual desktop infrastructure, access and information protection, and the web and application platform. **Microsoft SQL Server** Secure, scalable database platform that has everything built in, from advanced analytics to unparalleled in-memory performance. Gain real-time insights across your transactional and analytical data. **Microsoft System Center** A simplified datacenter management experience for complex, heterogeneous workloads. Comprehensive monitoring, hardware and virtual machine provisioning, rigorous automation, and configuration management that keeps you in control of your IT—whether on-premises, in the cloud, or across platforms. **Microsoft Azure Stack** A new hybrid cloud platform product that enables you to deliver Azure services from your own datacenter. Delivers true hybrid cloud agility. You decide where to keep your data and applications — in your own datacenter or with a hosting service provider. **Microsoft Operations Management Suite (OMS)** Gain visibility and control of your hybrid cloud with simplified operations management and security across. Support Windows and Linux running in Public, Private and Hybrid scenarios.

Best for...	**Deliver end-to-end intelligent business cloud productivity**
	Start with the right fit for your business & grow at your own pace in the cloud.
	Empower employees with productivity tools surfaced in context of processes.
	Guide employees to optimal outcomes with intelligence embedded in processes.
	Stay nimble & adapt in real-time with flexible, extensible applications & platform
	
	Enterprise-wide, private social networking:
	• Share information across teams & projects
	• Connect to the right people
	
	Manage mobile devices, PCs, and applications from the cloud
	
	Manage customer relationships, including sales, service, and marketing
		• Mobile applications
		• Hybrid cloud storage with StorSimple
		• Media streaming
		• Big data solutions using HD Insights
		• Machine learning and other advanced analytics scenarios
		• B2B e-commerce
		
		• Scalable web portals and sites
		• Multichannel marketing
		• E-commerce website
		• Gaming apps
		• Video archiving
		• Internet of Things (IoT) solutions
			• Development and test environments
			• Disaster recovery of on-premises solutions
			• Big data solutions using HDInsight
			• SAP solutions
			• Application modernization to optimize IT operations and increase customer/ employees experience
			
			• SQL Server test, backup, and disaster recovery
			• Power BI solutions
			• Windows Server 2003 end of support migration
			• Datacenter expansion or replacement
				• Running core network services to support hybrid cloud environments:
				  • Windows Server Active Directory
				  • Domain Name System (DNS)
				  • Windows Server Update Services
				  • Microsoft System Center 2012 R2 Configuration Manager
				• Compliance with data sovereignty, privacy, and regulatory requirements
				
				• Legacy applications
				• Implementing a chargeback process based on consumption for business units in your organization
				• Providing delegated authority and tools to implement a self-service model
				• Constructing and spanning cloud environments across multiple datacenters, infrastructure, and service providers
				• Write applications consistently and deploy anywhere

Required skills	Plan and implement: • Identity integration with your on-premises Windows Sever Active Directory • Network connectivity (Internet or ExpressRoute for Office 365 and Microsoft Dynamics 365) • Data governance and security policy • Administrative privilege management	Design and develop modern applications using cloud principles Developer and operations resources Application lifecycle management (ALM)	Plan and implement: • Identity integration • Network connectivity (Internet or ExpressRoute) • Data governance and security policy • Administrative privilege management	Re-architect applications for the cloud Design and implement network integration: • Datacenter sites, IP addressing, route configuration • Cross-premises Azure virtual network connectivity with a site-to-site VPN connection or ExpressRoute Patch and update operating system and applications Plan and implement: • Identity integration • Data governance and security policy • Administrative privilege management	Plan hardware and software, design and implement core networking, storage, and compute capabilities Address different types of availability, scalability, and performance needs Anticipate and mitigate security risks and vulnerabilities	Manage and operate the private cloud infrastructure: • Define virtual machine sizes available for self-service provisioning • Define and measure SLAs • Monitor infrastructure and services • Consumption billing to business units

Balance of responsibility

The balance of control and responsibility for managing solutions depends on the category of the service. The following chart summarizes the balance of responsibility for both Microsoft and the customer.



Microsoft IT moves its workloads to the cloud

Microsoft IT completes its migration to the cloud in 2015

Modernization and efficiency demands are driving Microsoft IT to a "cloud first" strategy.

- Two datacenters are closing in the near future, leases on others will expire.
- Thousands of servers are reaching end of life (EOL), with replacement requiring $200 million over the next five years.

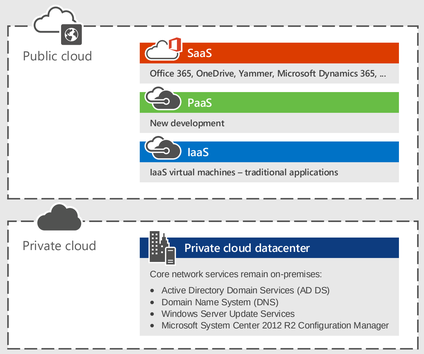
"The journey to Microsoft Azure is strategic. For Microsoft IT, this journey fundamentally changes how we enable a hybrid cloud and increase agility and scalability, while moving away from the traditional datacenter model."

Rick Stover, General Manager - Microsoft IT Service Deployment and Operation

Microsoft IT Showcase

Three-phased approach

1. Productivity workloads move to SaaS
   Microsoft IT moved quickly to take advantage of Microsoft SaaS offerings with employees using Office 365, Yammer, OneDrive for Business, and Microsoft Dynamics 365.
2. New development and modern applications move to PaaS
   New applications are optimized for cloud computing. Focus is on functionality rather than infrastructure.
3. Existing applications move to IaaS
   Existing applications are moved to IaaS virtual machines using one of two approaches:
   - Lift and shift—existing virtual machines are shifted to the cloud.
   - Build in the cloud—applications are prebuilt in Azure and traditional methods are used to back up and restore data.

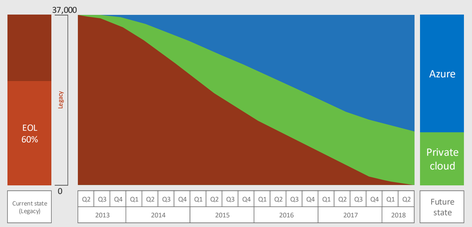


Microsoft IT's hybrid cloud infrastructure

Even though a complete migration to the public cloud is the goal, retaining core network services in traditional datacenters for the near future results in a hybrid cloud.

Microsoft Azure adoption timeline

Taking advantage of SaaS services allows Microsoft IT to focus on developing new strategic applications in Azure PaaS and migrate existing applications from expiring hardware to Azure IaaS.



More cloud architecture models

- Microsoft Cloud IT Architecture Series — http://aka.ms/cloudarch
- Microsoft Cloud Security for Enterprise Architects — http://aka.ms/cloudarchsecurity
- Microsoft Cloud Identity for Enterprise Architects — http://aka.ms/cloudarchidentity
- Microsoft Cloud Storage for Enterprise Architects — http://aka.ms/cloudarchstorage
- Microsoft Cloud Networking for Enterprise Architects — http://aka.ms/cloudarchnetworking
- Microsoft Hybrid Cloud for Enterprise Architects — http://aka.ms/cloudarchhybrid
- Microsoft Mobility and Security for Enterprise Architects — http://aka.ms/cloudarchmobility

September 2016

Microsoft