

Cloud Ecosystem: Microsoft Azure, Windows Server 2012 R2, System Center 2012 R2



Public Cloud

Microsoft Azure is an open and flexible cloud platform that enables you to quickly build, deploy and manage applications across a global network of Microsoft-managed datacenters. You can build applications using any language, tool, or framework. And you can integrate your public cloud applications with your existing IT environment.

Service Categories

Cloud computing services can be divided into three different classifications. These are referred to as Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS). The classification you use depends on your requirements.

- Business Intelligence
- Applications
- Data
- Runtime
- Middleware
- Operating System
- Virtualization
- Server
- Storage
- Networking

Managed by the customer (IaaS, PaaS, SaaS)
Managed by the vendor (OS, Middleware, Applications, BI)

Microsoft Azure Services

Compute				Data Services						Network Services		
Virtual Machines Enables you to have full control over a server in the cloud, and maintain it as your business requires.	Web Sites Allows you to get started with web apps for free. You can scale as you go and build using a range of tools and languages.	Mobile Services Enables you to add backend capabilities to mobile apps, with native client support on most device platforms.	Cloud Services Allows you to create and scale Internet-facing web roles and worker roles that perform background tasks. All roles can access data stores and other services.	Storage Enables you to manage data more securely using a range of storage options. Accessible via REST APIs.	SQL Database Allows you to manage relational data with built-in high availability. You can configure, monitor, and recover backups locally or to Azure storage.	HDInsight Allows you to provision and integrate big data easily with tools including Microsoft Office and System Center. Based on Apache Hadoop.	Azure Recovery Manager Enables you to protect important services by coordinating the replication and recovery of System Center 2012 private clouds at a secondary location.	Backup Allows you to schedule backups of your local server data to Azure using PowerShell cmdlets.	Cache Enables you to make your applications scale and be more responsive under load by keeping data closer to application logic.	Virtual Network Allows you to provision and manage VPNs in Azure and securely link to your on-premises IT infrastructure.	Traffic Manager Allows you to load balance incoming global traffic across multiple services running in the same or different datacenters.	Express Route Connects on-premises infrastructure directly to Azure datacenters. Connections do not go over the public Internet and improve reliability, speed and security over typical Internet connections.
App Services												
Active Directory Provides an identity and access management solution: directory services, identity governance, security, and application access management.	Multi-Factor Authentication Used with Active Directory, it allows you to safeguard access to data and applications while employing a simple sign-in process.	Notification Hubs Enables you to deliver cross-platform push notifications from any application backend, on-premises or in the cloud.	Service Bus Provides a messaging channel for connecting your cloud applications to your on-premises applications, services, and systems.	Visual Studio Online Allows you to host code, plan and track projects, and collaborate with team members to deliver better software.	Media Services Enables you to build workflows to create, manage, and distribute on-demand media and live streaming events.	Biztalk Services Allows you to build EDI services and Enterprise Application Integration (EAI) solutions in the cloud.	Scheduler Enables you to create jobs that call services in and outside of Azure, and specify when and how often those jobs run.	CDN Increases performance by caching blobs and static content of compute instances at physical nodes globally.	BizTalk Hybrid Connections Is a feature of Azure BizTalk Services and provides a way to connect Azure Websites and Azure Mobile Services to on-premises resources.	API Management Allows you to publish APIs to developers, partners and employees securely and at scale.	Azure RemoteApp Helps employees stay productive anywhere, on a variety of devices - Windows, Mac OS X, iOS, or Android.	

On-Premises Cloud

Delivers unified management across on-premises, service provider, and Microsoft Azure environments.

App Controller Provides a common self-service experience that can help you configure, deploy, and manage virtual machines and services across private and public clouds.	Virtual Machine Manager (VMM) Provides a management solution that lets you configure and manage virtualization hosts, networking, and storage resources. It allows you to create and deploy virtual machines and services to private clouds.	Operations Manager Provides infrastructure monitoring that helps ensure the predictable performance and availability of vital applications. It can monitor your datacenter and cloud, both private and public.	Configuration Manager Manages your PCs and servers, keeps software up-to-date, sets configuration and security policies, and monitors system status while giving your customers access to preferred applications from the devices they choose.	Service Manager Delivers an integrated platform for automating and adapting your IT service management best practices. It provides processes for incident and problem resolution, change control, and asset lifecycle management.	Orchestrator Provides a workflow management solution for datacenters. It lets you automate the creation, monitoring, and deployment of resources in your environment.	Data Protection Manager (DPM) Enables data protection and recovery for your servers, including SQL Server, Exchange Server, SharePoint, virtual servers, and file servers. It provides support for Windows laptops and desktops.	Azure Pack Allows you to build a private cloud and run select Azure workloads on-premises using Azure Pack. It is built on Windows Server 2012 and System Center 2012.
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Windows Intune

Manages PCs and mobile devices from the cloud, which enables people to use a variety of devices to access corporate applications and data.

Windows Intune is available as a stand-alone cloud service or with System Center 2012 R2 Configuration Manager on-premises.

Microsoft Desktop Optimization Pack

Microsoft Desktop Optimization Pack (MDOP) is a suite of technologies available as a subscription for Software Assurance customers.

Manage Users

Users can work from anywhere, on whatever device they choose.

System Center Configuration Manager with Windows Intune

Windows Intune can integrate with System Center 2012 R2 Configuration Manager to extend on-premises PC management to cloud devices.

Administration

An administrator has a single view with a web-based console.

Device Management

Windows Intune allows you to manage all your connected devices including Windows PCs, Android devices, iOS devices, Windows Phone, and Windows RT devices.

Application Virtualization

Makes applications available without installing them directly on users' computers.

Microsoft Enterprise Desktop Virtualization

Enables and manages a Virtual PC environment on users' computers to support legacy applications.

Microsoft BitLocker Administration & Monitoring

Provides BitLocker management and improves encryption compliance.

Microsoft User Experience Virtualization

Synchronizes application and Windows settings between user devices.

Advanced Group Policy Management

Provides change control, offline editing, and role-based delegation for Group Policy objects.

Microsoft Diagnostics and Recovery Toolset

Provides a set of tools to troubleshoot and repair users' computers.

Infrastructure Provisioning and Monitoring | Automation and Self-Service | Application Performance Monitoring | IT Service Management

Delivers an enterprise-class, multi-tenant datacenter and cloud infrastructure.

Storage	Virtualization	File Services & Failover Clustering	Networking	Management	Virtual Desktop Infrastructure								
Storage Spaces Enables you to group industry-standard disks into storage pools and then create virtual disks called storage spaces from free space in the pools.	Data Deduplication Finds and removes duplication within your data without compromising data fidelity or integrity.	Storage Quality of Service Allows you to set Quality of Service (QoS) parameters for storage on a virtual machine.	Generation 2 Virtual Machines Provide advanced virtual machine features that deliver significant management, storage, and security benefits.	Online VHDX Resize Enables you to increase or decrease the size of a virtual hard disk while the virtual machine is running.	Failover Clustering Provides high availability and scalability to various types of server workloads that can run on both physical servers and virtual machines.	Cluster Shared Volumes Simplify the configuration and management of clustered virtual machines.	Server Message Block (SMB) Used by client computers to request file and print services from a server system over the network.	Hyper-V Extensible Switch Allows new capabilities to be added to the virtual switch so that you can view and manage the traffic on your server running Hyper-V.	NIC Teaming Allows multiple network adapters on a computer to be placed into a team for bandwidth aggregation and traffic failover.	SMB Multichannel Enables bandwidth aggregation and failover capability across multiple network adapters.	Local and Remote Server Management Allows you to manage multiple servers and the devices connecting them, whether they are physical or virtual, on-premises or in the cloud.	Remote Desktop Virtualization Host Integrates with Hyper-V to provide virtual machines that can be used as personal virtual desktops or virtual desktop pools.	Remote Desktop Session Host Allows your server to host Windows-based programs or the full Windows desktop for Remote Desktop Services clients.
Resilient File System (ReFS) Provides a new local file system that maximizes data availability. Data integrity ensures that business critical data is protected from errors.	SMB Transparent Failover Supports server application workloads that require the connection to the storage infrastructure to be continuously available.	Hyper-V Replica Provides asynchronous replication of Hyper-V virtual machines between two hosting servers.	Enhanced Session Mode Enables you to connect to your virtual machines with a high-fidelity experience.	Live Migration Enables you to move a running virtual machine from one physical server to another without interruption of service.	Scale-Out File Server Lets you store server application data on file shares and receive a similar level of reliability and availability as you would expect from a SAN.	Shared Virtual Hard Disks Allows you to share a virtual hard disk file (VHDX format), which provides shared storage for a virtual machine failover cluster (also known as a guest cluster).	Networking Quality of Service Helps you manage the network traffic across your network.	Network Virtualization Provides virtual networks for the virtual machines in your environment.	SMB Direct Enables network adapters with remote direct memory access (RDMA) capability to function at high speeds with very low latency, while using very little CPU.	Single Root I/O Virtualization Allows the virtual function of a physical network adapter to be assigned directly to a virtual machine. This increases network throughput and reduces network latency.	Microsoft Windows PowerShell Windows PowerShell is a task-based command-line shell and scripting language designed for system administration and management.	Remote Desktop Experiences Enables you to virtualize your application, data, and Windows operating system (OS) layers, so that you can choose the technologies that allow you to best optimize and manage your desktop infrastructure. You can perform advanced administration, enable deployment, and provide powerful user management.	