

EBOOK

Microsoft Azure

A compelling choice of cloud computing platform for organisations of all sizes and industries.



Introduction

What is Microsoft Azure?

Microsoft Azure is a versatile cloud computing platform that offers a wide range of services that can be used for virtual computing, storage, analytics, and networking, for example. It allows organisations to innovate, grow, and manage applications in the cloud on a global network of Microsoft-managed data centres, providing flexibility, scalability, security, integration, hybrid cloud capabilities, and cost-effectiveness.

ON PREMISES	INFRASTRUCTURE AS A SERVICE	PLATFORM AS A SERVICE	SOFTWARE AS A SERVICE	BENEFITS
APPLICATIONS	APPLICATIONS	APPLICATIONS	APPLICATIONS	OPTIMISED COSTS FLEXIBILITY SCALABILITY ENHANCED SECURITY COMPLIANCE BACKUP, RECOVERY, AND FAILOVER SIMPLIFIED MONITORING AND MANAGEMENT INTEGRATION HYBRID CAPABILITIES
DATA	DATA	DATA	DATA	
RUNTIME	RUNTIME	RUNTIME	RUNTIME	
MIDDLEWARE	MIDDLEWARE	MIDDLEWARE	MIDDLEWARE	
OPERATING SYSTEM	OPERATING SYSTEM	OPERATING SYSTEM	OPERATING SYSTEM	
VIRTUALISATION	VIRTUALISATION	VIRTUALISATION	VIRTUALISATION	
SERVERS	SERVERS	SERVERS	SERVERS	
STORAGE	STORAGE	STORAGE	STORAGE	
NETWORKING	NETWORKING	NETWORKING	NETWORKING	
DEPLOYED AND SERVICED IN AZURE				

- You can outsource your IT infrastructure and create your own web apps on Azure, paying for what you use, without purchasing or maintaining the groundwork.
- The payment options include a pay-as-you-go model for usage and scaling, and a reserved instances model for consistent monthly costs.
- Wavenet’s Azure expertise will optimise your solution to reduce costs, increase resilience and security, and improve operational excellence throughout.
- Azure can be used to replace or supplement your on-premise servers.
- Azure perfectly integrates with Microsoft products such as Office 365, Outlook, and SharePoint, with license synergy.
- The support for open-source technologies enables developers to use their preferred languages, frameworks, operating systems, databases, and devices for tailored integrations.
- Connect your on-premises infrastructure to Azure for increased mobility and a reliable hybrid cloud platform.
- Azure ensures strong security and compliance with certifications like ISO 27001, HIPAA, and GDPR.

Infrastructure as a Service (IaaS)

Azure IaaS

Azure Infrastructure as a Service (IaaS) is a cloud computing model that provides virtualised computing resources, such as virtual machines (VMs), storage, and networking, over the internet.

By using Azure IaaS, you can easily migrate your on-premises workloads to the cloud, extend your data centre to Azure, and build new applications with high scalability and availability, flexibility and cost-effectiveness.

Key features and benefits of Azure IaaS

- **Virtual Machines:** Azure IaaS provides a wide range of VM sizes and types, including Windows and Linux VMs, GPU-optimised VMs, and memory-optimised VMs, to meet various workload requirements.
- **Storage:** Azure IaaS provides different types of storage options, including performance-tiered options for Azure Files, and Azure Managed Disk Storage, Object Storage, Table Storage and more, to meet various data storage requirements.
- **Networking:** Azure IaaS provides networking services, such as Azure Virtual Network, Azure Load Balancer, and Azure VPN Gateway, to enable secure connectivity between your on-premises network and Azure.
- **Security:** Azure IaaS provides security features, such as Azure Security Centre, Azure Firewall, and Azure DDoS Protection, to help protect your resources and data in the cloud.
- **Scalability:** Azure Virtual Machine Scale Sets provides automatic scaling of virtual machines based on demand, enabling you to easily handle spikes in traffic or usage.
- **Hybrid Cloud:** Azure IaaS enables you to integrate your on-premises infrastructure with the cloud, enabling hybrid cloud scenarios such as disaster recovery, backup, and extending your data centre to Azure.

Billing of Microsoft Azure services commence from the point in which resources are provisioned. This means that you may be paying for the new Azure services as well as your existing environment for a short period of time during the migration process.



Azure Virtual Desktop (AVD)

What is Azure Virtual Desktop (AVD)?

Azure Virtual Desktop is a cloud-based virtual desktop infrastructure (VDI) solution provided by Microsoft Azure that allows you to securely access your Windows desktop and applications from anywhere, on any device. It provides a flexible and scalable solution for remote access, with features for user management, security, and cost optimisation.

An organisation often adopts Azure Virtual Desktop to mitigate risks that are related to contracts, regulations, compliance, sovereignty, an elastic workforce, and to support the modernisation of their desktop environment and flexible working / BYOD culture.

AVD target outcomes



Productivity on a
PC, Laptop, Phone,
Tablet or Browser



Safe access to
company data
& applications



Supporting end
users during cloud
migration & transition



Optimising the
costs of enabling
the workforce

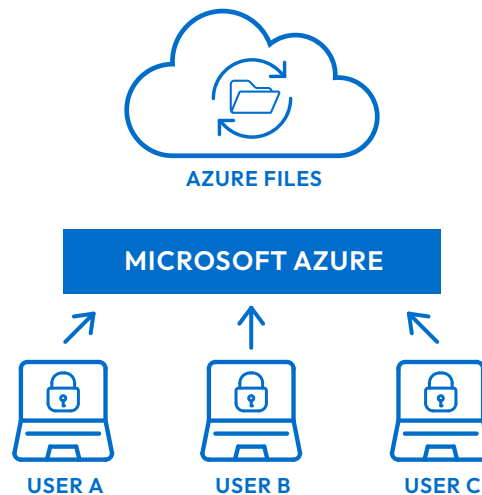
Key features and benefits of Azure IaaS

- **Remote access:** Azure Virtual Desktop provides remote access capabilities, allowing you to securely access your Windows desktop and applications from anywhere, on any device.
- **Multi-session Windows 11:** Azure Virtual Desktop supports multi-session Windows 11, allowing you to run multiple users on a single virtual machine, reducing the number of VMs required and optimising costs.
- **Integration with Microsoft 365:** Azure Virtual Desktop integrates with Microsoft 365, allowing you to run your desktop and applications with the latest version of Office and other Microsoft productivity tools.
- **Security:** Azure Virtual Desktop leverages security features and services, such as Microsoft Entra ID, Conditional Access and Multi-Factor Authentication, ensuring the protection of your virtual desktop and applications.
- **User management:** Azure Virtual Desktop provides user management capabilities, allowing you to manage users and assign desktops and applications based on their roles and responsibilities.
- **Scalability:** Azure Virtual Desktop is highly scalable, allowing you to easily add or remove virtual desktops and applications based on your business needs.

Azure File

What is Azure Files?

Azure Files is a cloud-based file storage service provided by Microsoft Azure that enables you to create fully managed file shares in the cloud, offering a familiar experience to users accustomed to on-premises file shares without the management overhead of the underlying infrastructure (PaaS). It provides a simple and scalable solution for storing and sharing files in the cloud, with features for high availability, performance, and security.



Key features and benefits of Azure Files

- **Fully managed file storage:** Azure Files provides a fully managed file storage solution, eliminating the need for you to manage and maintain file servers in your on-premises environment.
- **Scalability:** Azure Files is highly scalable, allowing you to store and share large amounts of data across multiple file shares.
- **High availability:** Azure Files provides high availability, with automatic failover and built-in redundancy to ensure that your files are always available.
- **Performance:** Azure Files provides high-performance access to your files, with support for multiple protocols including Server Message Block (SMB) and Network File System (NFS).
- **Security:** Azure Files provides built-in security features, including encryption, access control, and network isolation, ensuring that your files are protected from unauthorised access.
- **Integration with other Azure services:** Azure Files integrates with other Azure services, such as Azure Active Directory, Azure Backup, and Azure Site Recovery, allowing you to easily manage and protect your files.

Azure Backup and DR

Backup and Disaster Recovery

In the case of service disruption or accidental deletion or corruption of data, Azure backup and disaster recovery can reestablish your business services in a timely and orchestrated manner, with an end-to-end backup and disaster recovery solution that is simple, secure, scalable, cost-effective and can also be integrated with an on-premises data protection solution.

Azure Geo-Redundant Backup (GRS)

Azure GRS (Geo-Redundant Storage) Backup is a backup and disaster recovery solution provided by Microsoft Azure that helps you to protect your data and applications against unplanned outages and data loss. It provides a geographically dispersed backup solution, with data replication to a secondary Azure region, ensuring that your data is available even in the event of a regional disaster.

Key features and benefits of Azure GRS Backup

- **Data replication:** Azure GRS Backup replicates your data to a secondary Azure region, providing a geographically dispersed backup solution that ensures data availability in the event of a regional disaster.
- **Automatic failover:** Azure GRS Backup provides automatic failover to the secondary region, allowing your applications to continue running even in the event of an outage in the primary region.
- **Continuous data protection:** Azure GRS Backup provides continuous data protection, ensuring that your data is always up-to-date and available for restore.
- **Encryption:** Azure GRS Backup provides encryption for your data both at rest and in transit, ensuring that your data is protected against unauthorised access.
- **Granular backup and restore:** Azure GRS Backup provides encryption for your data both at rest and in transit, ensuring that your data is protected against unauthorised access and accidental or malicious deletion.
- **Integration with other Azure services:** Azure GRS Backup integrates with other Azure services, such as Azure Site Recovery, providing a comprehensive backup and disaster recovery solution for your Azure resources.
- **Default policies include:** 30 daily restore points, 12 monthly restore points, UK South to UK West backup regions. Additional recovery points can be added at additional cost and are subject to your exact requirements. Azure backup policies can be tailored on a per resource basis and aligned to budgetary and compliance requirements to ensure they remain cost effective.

This is a point-in-time backup and is not live replication. For high availability and replicated backups Azure Site Recovery (ASR) should be considered for Zonal failover. Additional recovery points can be added at additional cost and are subject to your exact requirements.



Azure Site Recovery

Azure Site Recovery helps your business to keep doing business, even during major IT outages.

Azure Site Recovery is a disaster recovery and business continuity service provided by Microsoft Azure that helps you to protect and recover your on-premises and Azure applications and data in the event of an outage. It is easy to deploy with failover, and failback processes that help to keep your applications running during planned and unplanned outages.

Key features and benefits of Azure Site Recovery

- **Replication:** Azure Site Recovery provides replication capabilities, allowing you to replicate your on-premises infrastructure to Azure and existing Azure infrastructure to other Azure Zones or Regions for disaster recovery purposes.
- **Failover:** Azure Site Recovery provides failover capabilities, allowing you to failover to Azure in the event of an outage, ensuring business continuity.
- **Testing:** Azure Site Recovery provides testing capabilities, allowing you to test your disaster recovery plan without impacting production workloads.
- **Integration with other Azure services:** Azure Site Recovery integrates with other Azure services, such as Azure Backup, Azure Virtual Machines, and Azure Storage, providing a comprehensive solution for disaster recovery and business continuity.
- **Scalability:** Azure Site Recovery is highly scalable, allowing you to protect and recover large-scale and complex environments with ease.

Firewall for Azure

Is a firewall required in Azure?

In an on-premises environment, a firewall is one of the most essential security components. If you are using a virtual machine in Azure, you need to ensure that you have a firewall in place in order to protect your data.

Without a firewall, your data is at risk of being compromised by malicious actors. Azure has multiple firewall offerings depending on use case, such as Azure Firewall and Azure Web Application Firewall.

Azure Firewall has a number of security features built into their firewall depending on the SKU chosen, such as Denial of Service protection, access control lists, and traffic monitoring.

Azure also supports third-party Network Virtual Appliances (NVAs) from many leading firewall vendors, such as Watchguard, Fortinet, Cisco, Palo Alto, which can be used to offer consistency with the protection already offered to your on-premises networks. Wavenet's Azure consultants will advise you on the best firewall solution to meet the needs of your business.



WAVENET.CO.UK

0333 234 0011

Wavenet Limited
One Central Boulevard
Blythe Valley Park
Solihull, West Midlands
B90 8BG
contact@wavenet.co.uk

wavenet



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& Connectivity



Unified
Communications
& Voice



Contact Centres



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& IoT



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