

Microsoft Azure

WHAT IS IT AND HOW CAN MY BUSINESS
BENEFIT FROM USING IT?

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WHAT IS MICROSOFT AZURE?

Microsoft Azure is a cloud computing platform and business infrastructure that's designed to provide a way for businesses to easily build and manage customised applications and services. These applications and services are deployed on an enterprise-grade data center infrastructure that's supported or managed by Microsoft.

The applications and services can be used as standalone products, or they can be integrated with one another. Azure is both an IaaS (Infrastructure as a Service) and a PaaS (Platform as a Service) cloud offering to businesses and organisations looking to cut costs while streamlining business processes and improving customer service.



DIFFERENT MICROSOFT AZURE PRODUCT TYPES.

Microsoft Azure services are categorised into several primary product types:

COMPUTE.

The Compute services offer scalable APIs and cloud applications, batch computing, virtual machines and machine scale sets, remote apps that run on any type of device, distributed applications that can be built and scaled by developers, and a variety of open source tools for managing containers.

WEB AND MOBILE.

The Web and Mobile services include web and mobile app creation for any type of device, API app creation and management, event processing using serverless codes, scalable push notification hubs, and increased mobile engagement.

DATA AND STORAGE.

Azure Data and Storage services provide SQL managed and relational DaaS (Database as a Service), scalable and highly available cloud storage, hybrid cloud storage, low latency data access, SQL data warehouse, SQL server database, and search-as-a-service.

INTELLIGENCE.

Azure Intelligence provides access to Cortana for advanced analytics and big data, and API capabilities including text analytics, face API, app commands, customer recommendations, search autosuggest, speech to text, and Bing spell check.

DISASTER RECOVERY.

Many organisations choose the Azure storage and data backup services as an alternative to running their own data center infrastructure.

ANALYTICS.

Azure Analytics services include real-time stream analytics, big data insight, a repository for big data workloads, distributed analytics, data catalogs and app data visualisation, predictive analytics, data lakes and HDInsight.

INTERNET OF THINGS (IoT)

Azure IoT services offer untapped data analysis, IoT asset management, real-time analytics for all IoT devices, scalable push notification hubs and predictive analytics.

NETWORKING.

Azure Networking services are comprehensive and include VPNs and VPN gateways, incoming traffic routing, dedicated private network for Azure connections, high availability performance for fast access to applications and DNS (Domain Name System) hosting.

MEDIA AND CDN.

Azure Media and Content Delivery Network services provide video and audio streaming capabilities including a media player, encoding, speech and vision analytics, content encryption and on-demand streaming. The CDN is delivered using Microsoft's global data center network.

HYBRID INTEGRATION.

Azure Hybrid Integration services allow connection to both public and private cloud environments, enterprise to cloud integration, server backup in the cloud, private cloud recovery and protection.

IDENTITY AND ACCESS MANAGEMENT.

Azure Identity and Access Management services allow you to control data access using multi-factor authentication, single sign-on configurations, on premise directories, consumer identity and access management and active directory domain services.

DEVELOPER SERVICES.

The Developer services provide tools for developers to rapidly create environments, deploy mobile apps, build and manage apps, track projects, detect and diagnose web app problems, access reporting and monitoring, and share code using a variety of app programming languages.

MANAGEMENT AND SECURITY.

Azure Management and Security services accommodate administrators by providing tools that simplify cloud management such as automated processing, scheduling, log analytics, threat visibility and detection and key vaults.

Currently these are the main product categories for Azure services. It is important to note you should routinely check back to the Microsoft Azure website for newly added products and services.



AZURE'S MOST POPULAR USES.

When you look at the many capabilities of Microsoft Azure, it is easy to see why so many organisations choose the Azure platform over Amazon's platform.

First and most important, Microsoft provides a Service Level Agreement that guarantees an uptime 99.95 percent. Additionally, they are accredited with a list of security certifications that include ISO 27007, PCI DSS, HIPAA, SOC 1, SOC 2, FedRAMP and UK G-Cloud.

Microsoft Azure technical support is also top notch with support available around the clock 24/7. Additionally, the platform provides a generous amount of high availability features, automated software and security patching, and network load balancing capabilities.

Many companies also like the fact that you can run solutions such as Office 365, Skype, Xbox, and Bing on the same cloud you use for Azure. That said, there are many favored solutions that attract organizations to Azure.

SOME OF THE MORE POPULAR SOLUTIONS INCLUDE THE FOLLOWING:

APPS.

Azure provides a highly flexible platform for app development that allows developers to use their creativity and focus on problem solving instead of having to worry about infrastructure issues and problems.

Azure's app service provides intuitive tools that enable developers to build a broad range of applications and deploy them across any type of device. This includes web apps, business solutions, and mobile apps.

The Microsoft Integration service provides a way to integrate the apps and solutions into internal organization processes. Azure also offers an on-demand development test environment that is scalable and allows your developers to easily detect problems prior to the release of apps and solutions.

ACTIVE DIRECTORY AND MULTI-FACTOR AUTHENTICATION.

The Active Directory is a popular solution mainly because it is very comprehensive when it comes to identity and access management. Active Directory helps you to easily manage individual users and groups and secure access to applications both on the premises and in the cloud. This includes all of the online solutions provided by Microsoft such as Office 365.

With Active Directory, you can simplify user access without sacrificing security using single sign-on across many devices and operating systems. The security configurations allow users to access applications using a mobile app or web-based access panel and by entering their organization credentials.

The Active Directory service is offered in three different versions that include Free, Basic, and Premium. This ensures Azure can meet the many different security requirements for businesses of all sizes.

Multi-factor authentication provides your organisation with an additional layer of security which adds peace of mind to data access and security. It also helps you to reduce potential threats and unauthorised access using monitoring technology and security alerts.

AZURE STORAGE, BACKUP AND RECOVERY.

A disaster recovery plan can be a costly proposition for most organizations. This is why the storage backup and recovery solutions are popular with many companies.

Using the storage services, you only pay for the space you use. Microsoft maintains the infrastructure and implements all the necessary security and high performance solutions to safeguard data and ensure it is always accessible.

Additionally, Microsoft uses Blob storage which provides hot and cool storage. This allows you to frequently access hot data at a lower cost in addition to less frequently accessed cool data at a lower storage cost.

Azure Backup is a service that protects your data regardless of where it is stored such as in your data center, in the cloud, or at your branch offices, etc. Data sources and applications are protected up to 54400GB with three different copies of data stored in three different locations.

Data encryption takes place prior to data transmission. It is then sent to Azure and stored in an encrypted format. Many organizations like this solution because it provides a cost effective alternative to tape backup.

Azure Recovery services provide your organisation with simplified disaster recovery. This is achieved using automated replication which functions according to policies you establish and control. This includes the protection of your physical servers, VMware servers and Hyper-V.

HDINSIGHT.

Because data analysis is critical to the success of any organisation, Azure's HDInsight is a popular solution with many businesses. HDInsight utilises Apache Hadoop software to store and analyze large amounts of data. Analysis includes structured and unstructured data, server logs, emails, GPS signals, Twitter feeds, and much more.

Azure uses industry standard servers that are both reliable and scalable to allow organizations to analyze large amounts of data at a lower cost. Plus, Apache Hadoop is designed to handle any file type or format which allows you to ask any type of question used for data analysis.

OTHER SOLUTIONS INCLUDE:

BIG COMPUTE: HPC AND BATCH.

This is a computing resource you can access on-demand. The technology enables you to run batch and parallel compute jobs as well as expand your in-house HPC cluster to the cloud. This allows you to increase capacity and access advanced networking technologies such as RDMA (Remote Direct Memory Access) and more.

RDMA technology is particularly useful if your organization runs high performance computing workloads. The HPC (High Performance Computing) pack also allows you to easily schedule jobs which keeps job scheduling unified in one location.

VIRTUAL MACHINES.

Azure provides a robust platform for virtual machine management. This includes managing Windows servers, SharePoint, SQL server, and other virtual machines. Additionally, you can perform development and testing, run Microsoft enterprise applications, and configure the size of a virtual machine to handle heavy workloads without any latency.

VIRTUAL NETWORK.

Azure provides virtual network services that enable you to create cloud environments or a hybrid combination of on the premises and cloud solutions. Many organizations favor the hybrid solution because it provides a way to connect to Azure resources from in-house Windows servers using an IP-based network.

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THE TOP

10 REASONS WHY MICROSOFT AZURE IS MORE SECURE THAN YOUR IN-HOUSE IT INFRASTRUCTURE.

Contrary to many perceptions of cloud computing, Microsoft Azure is in fact a safe and secure cloud-based solution. Here's ten reasons why Azure is more secure than an in-house IT infrastructure:

1. Microsoft was recently the first cloud service provider to be recognized by data protection authorities for its commitment to European Union privacy laws.
2. Microsoft was the first cloud services provider to comply with the international **ISO 27018** cloud privacy standard.
3. Microsoft provides a standalone Azure service known as *Azure Government* which is in compliance with the strict security and privacy requirements of government agencies.
4. Role-based access control allows you to control who has access to specific programs, applications, and data. The controls provide a way to assign permissions for both individuals and groups for specific services, subscriptions, and operation levels.
5. The *Key Vault* helps you to protect the cryptographic secrets and keys used by Azure services and applications. The vault offers tools for encryption such as storage account keys, .PFX files, data encryption keys, authentication keys and passwords, all of which are safeguarded by an HSM (Hardware Security Module). The HSMs use validated FIPS 140-2 Level 2 hardware.

The Key Vault also provides an easier way for developers to manage the key process by quickly creating keys for development and testing before transitioning to production keys. The developers can also grant and revoke rights to production keys as well. Microsoft can never view or access your keys and you maintain full control over key management.

6. Azure provides secure networking that ensures virtual machines can securely connect to one another. Microsoft deploys security technologies that automatically block unauthorized incoming traffic to its datacenters as well as within the data center itself. Additionally, your in-house network connects securely to the cloud using a Virtual Private Network (VPN).
7. The Azure Security Center provides you with uniform visibility so you can easily view the security status for all resources. This allows you to quickly detect any problems and easily verify that the correct security configurations are being used.
8. CustomiSed Policies for your subscriptions are defined according to your organization's specific security requirements such as application type, data sensitivity, and more.
9. Microsoft provides a variety of security solutions for Azure that you can enable such as anti-malware, firewalls, threat detection systems, analytics and reporting, and more. This helps you to stay on top of both current and new cloud threats and enables you to remediate problems and recover quickly.
10. Multi-Factor Authentication provides an additional layer of security when you login to resources, and applications. This protects your organization using a variety of authentication methods such as app notification, phone call, text messages and other options.

Real-time authentication tools are used to detect any suspicious use of account credentials with immediate alerts forwarded to your IT administrators. The multi-factor authentication service also helps you to secure Virtual Private Networks, remote desktop and IIS web applications, and Active Directory Federation Services using LDAPP (Lightweight Directory Access Protocol) and RADIUS (Remote Authentication Dial-In User Service) authentication.

When used with Office 365 or platforms such as Salesforce and Dropbox, Azure multi-factor authentication also helps you to provide secure access to documents and applications. Developers can easily integrate multi-factor authentication into all applications, databases, transaction processes, administrator accounts, and more.



WHAT ARE THE ADVANTAGES OF USING MICROSOFT AZURE?

As you learn more about Microsoft Azure, you will find many advantages of using this type of platform, some of which include:

PAY AS YOU GO PRICING.

Azure pricing is set up so you only pay for the services you use. Instead of paying up front costs for resources you may or may not use, Azure pricing is flexible with ability to scale up or down on resources as your business needs change. This means there are no wasted resources occupying your IT budget providing you with the flexibility to allocate the funds to critical business initiatives.

CUSTOMISED APPLICATIONS.

Instead of using a one-size-fits-all approach, Azure provides you with the tools necessary to customize applications and solutions to suit specific business requirements. Additionally, you can easily view, manage, and prioritize all Azure applications including virtual machines, team projects, web apps, storage, networks, databases, and much more.

SECURITY.

Microsoft has an extensive track record for producing award winning secure enterprise solutions using a powerful set of security practices and technologies. They also employ an entire team of skilled IT security professionals in each data center to continually safeguard access to the Azure environment. This includes mitigation and management methodologies as well as routine penetration testing that would otherwise be costly for many organizations to implement on the premises.

DATA CONTROL AND PRIVACY.

Microsoft deploys advanced technologies that help to protect your privacy. Instead of losing control of your data when you connect to Azure, Microsoft provides you with complete control over the collection, access, use, and distribution of your company data.

TRANSPARENT DATA STORAGE AND ACCESS.

Instead of not knowing what Microsoft is doing with your data, you are provided with complete visibility and control over data storage and access. Microsoft explains exactly how they secure and store your data. The company also undergoes routine third-party audits to maintain security certifications that back up what they claim. Then you are provided with the tools to maintain complete control over who can access your data and for what purpose.

COMPLIANCE CERTIFICATION.

Meeting compliance standards can prove to be costly for a lot of organizations. By using Azure, you never have to worry about meeting compliance standards. Instead, Microsoft data centers undergo rigorous security audits to achieve the necessary security certifications. The third-party audits are often performed by the British Standards Institute.

REDUCED IT COSTS.

Using Microsoft Azure helps you to reduce costs associated with expanding IT infrastructure on the premises as your business grows. Additionally, you save IT administration costs associated with employing a team to test, debug, secure, and distribute applications. There are also no costs involved with maintaining security, creating a disaster recovery plan, implementing storage and recovery solutions, and more.

SCALABILITY AND FLEXIBILITY.

Azure is both flexible and scalable and allows you to customise applications for up to millions of users. Azure solutions conform to your individual business requirements and can easily change as often as your business requirements change.

HIGH AVAILABILITY AND RELIABILITY AT A REDUCED COST.

When you use Azure, you have access to an enterprise grade data center without the hassles and costs of maintaining a data center facility on the premises. Your data is automatically backed up with redundancy and can easily be recovered using automatic failover.

HYBRID CAPABILITY.

If you prefer to keep your solutions and applications on the premises, you can still connect to Azure in the cloud using a hybrid model. Communications integrate seamlessly between in-house solutions and the cloud in addition to mobile devices as well.

WINDOWS OPERATING SYSTEM.

Microsoft Azure is built on Windows. This allows you to develop applications using programming languages such as C#, C++, and Visual Basic. These are the same languages that are used with existing Windows apps which makes it easy to find developers with skills in Windows technologies.

RELIABILITY.

Microsoft supports Azure with managed data centers across more than 18 regions worldwide. Additionally, they perform extensive health monitoring and back their services with a 99.95 percent uptime guarantee in your Service Level Agreement.

FASTER APPLICATION RELEASE.

Instead of being impeded by the underlying infrastructure needed to develop applications, Azure allows your developers to focus on building and testing applications. This means applications can be released quickly and in a fraction of the time it would take if you developed applications over in-house IT.



AZURE CUSTOMER SUCCESS STORIES.

Here is what other customers say about Azure:

“HEINEKEN looked at Amazon Web Services—and chose Microsoft Azure. “With Azure, we didn’t have to invest in managing servers, so we could focus on delivering the most successful campaign,” says Ewout Barendregt, Global Center of Excellence Manager at HEINEKEN. To help deliver that successful campaign, the company used the Azure Content Delivery Network to make the digital content available quickly, reliably, and globally to 10.5 million consumers.”

“French grocery chain Chronodrive halves inventory processing time by upgrading to Azure Premium Storage with more than 60 grocery stores in France, two in Italy, and more on the way. Chronodrive needs up-to-the-minute knowledge of what’s selling in each store so that it can order the right inventory for the next day. To stay agile, competitive, and operationally lean in a highly competitive and fast-growing market, Chronodrive migrated its entire on-premises datacenter to the cloud in late 2014, with most workloads moving to Microsoft Azure.”

“GE Healthcare, a division of General Electric, provides transformational medical technologies and services that are shaping a new age of patient care. The company wanted a more flexible, scalable platform for delivering applications healthcare providers worldwide rely on. To meet its goals, it pursued a cross-platform cloud strategy and decided to deploy multiple applications on Microsoft Azure.”

CONCLUSIONS.

For many enterprises and small businesses, cloud computing represents the answer for moving a business forward. Microsoft Azure places the necessary tools within reach to level the playing field for businesses of all sizes.

If you are on the fence about moving to the cloud, why invest in costly onsite IT resources when you can access advanced technologies for less? At the very least, from reading this article you can see that it is well worth your time to take a look at Microsoft Azure to learn about the many ways it can help your business compete in the 21st century marketplace.

ABOUT OUR IT DEPARTMENT.

Our IT Department is a Microsoft Gold certified IT services organisation that's based in the heart of London. For over 20 years, we've provided our clients with an award winning fully managed IT support service and a comprehensive range of cutting edge technology solutions.

As part of our range of services and solutions, we also help small businesses to do incredible things with Microsoft Azure, from hosted computing and networking to data storage and analytics. Visit our Microsoft Azure service and solutions page on our website to find out more about our Microsoft Azure services.

SOME OF OUR MANY ACCREDITATIONS.

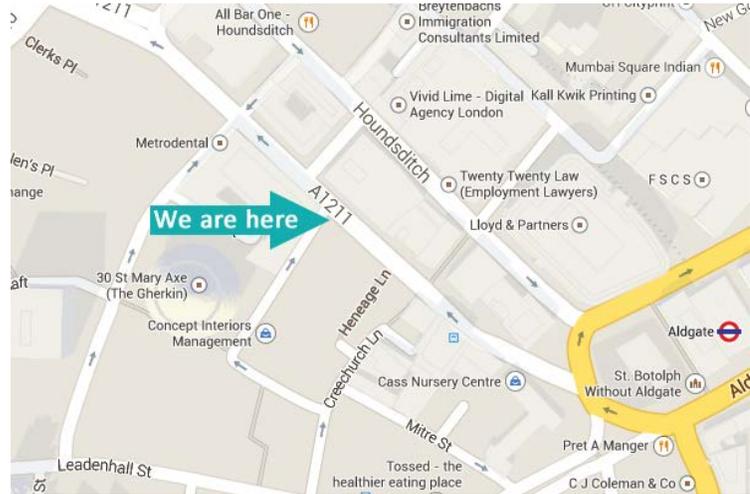


WHERE TO FIND US.

Bevis Marks office address

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EC3A 7JB

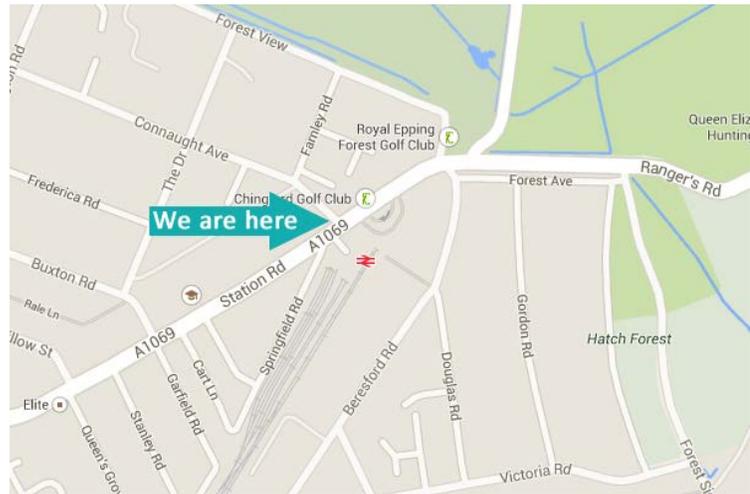
Located within a short walking
Distance of the Gherkin.



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Chingford train station.



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