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An overview of Microsoft Azure

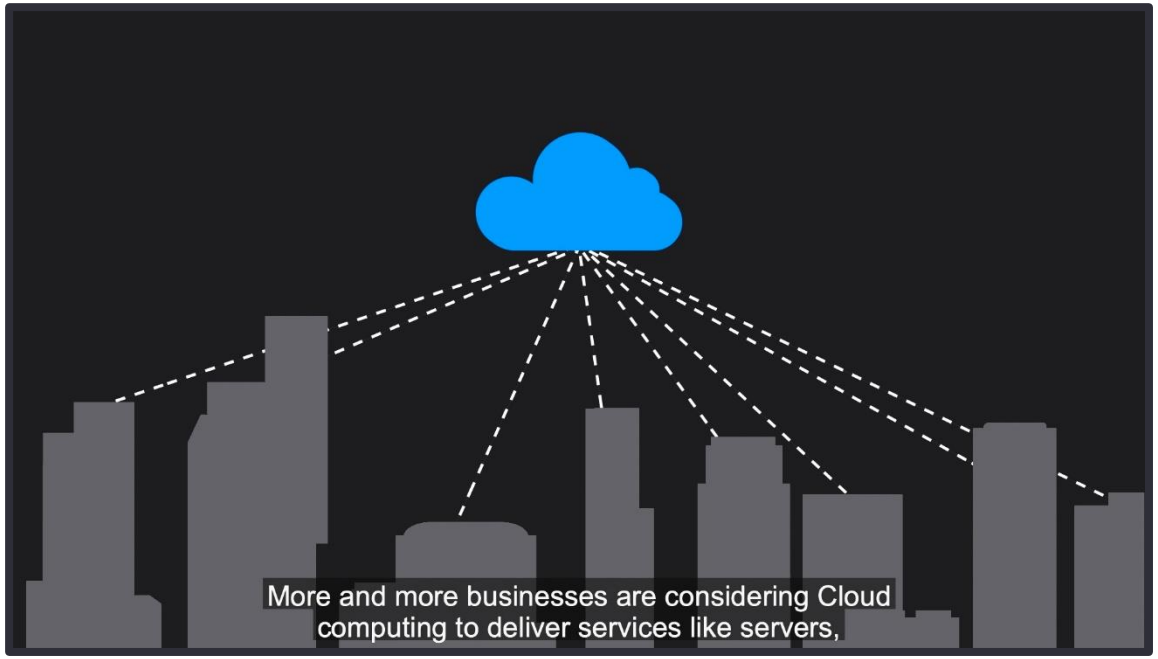
An Overview of Microsoft Azure

By Alok Agrawal

An overview of Microsoft Azure

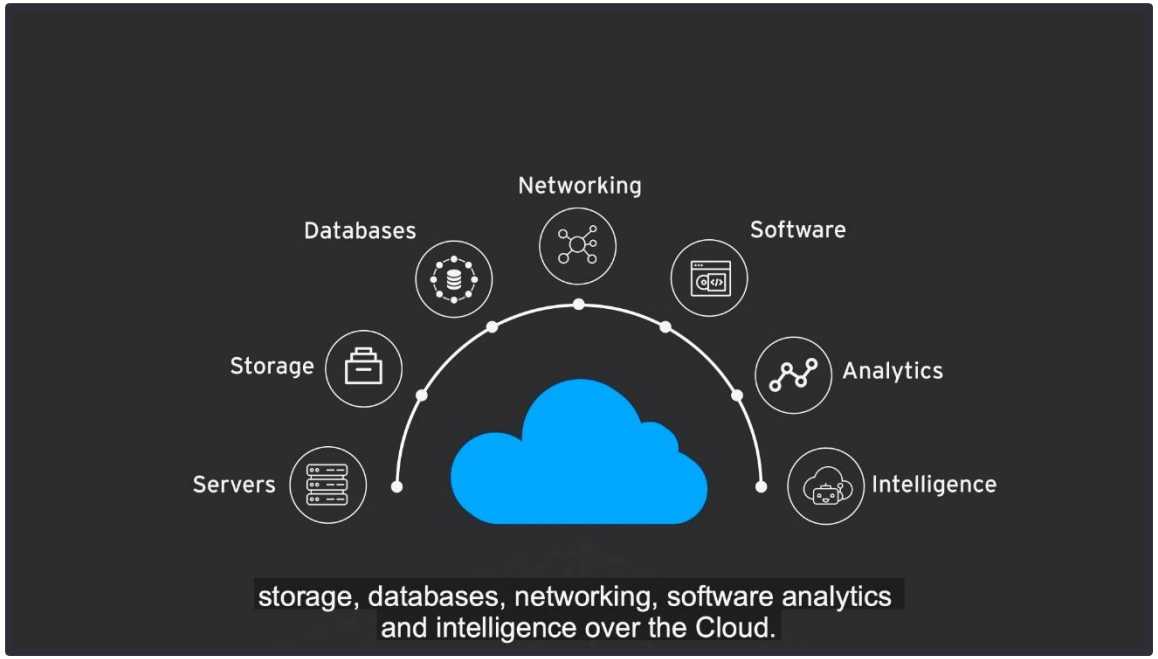
In the highly competitive environment today, Organizations are looking to bring business efficiencies by focusing on their core competencies. IT is a business enabler for those organizations and they prefer to move the responsibility of running IT infrastructure to the experts.

More and more businesses are considering Cloud computing to deliver services like servers, storage, databases, networking, software analytics and intelligence over the Cloud.



An overview of Microsoft Azure

Cloud computing offering IT as a commodity service like electricity, water, telephone, etc. Think of a Cloud, just like moving your datacenter outside your organization, which is built & operated by someone else and you only pay for what you consume.

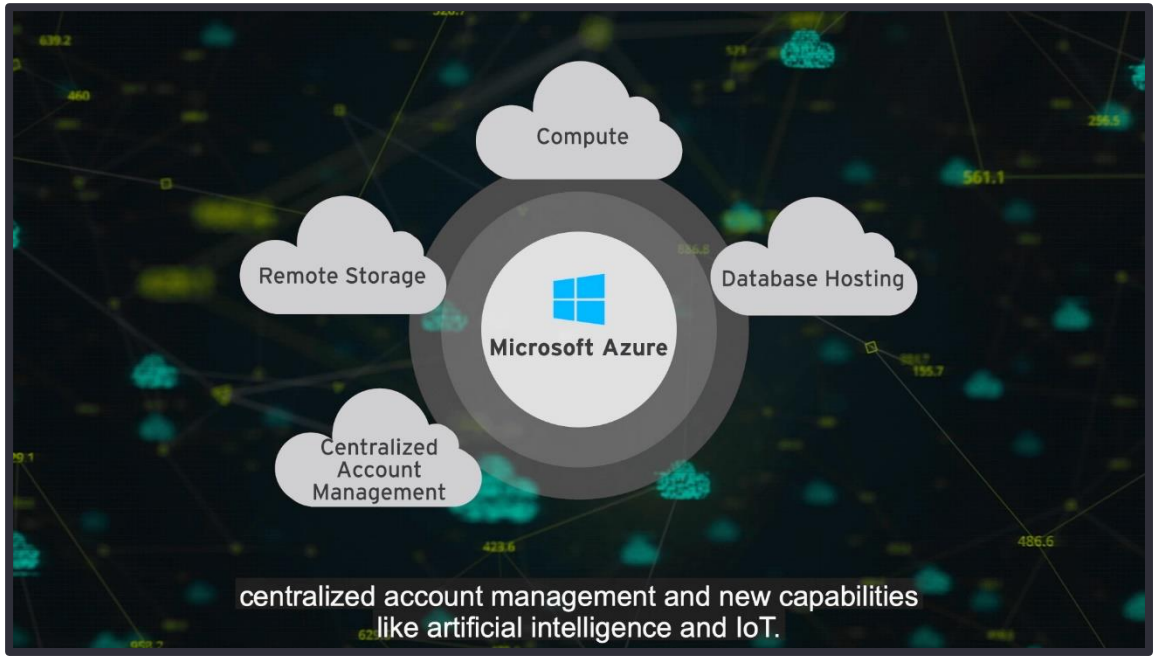


An overview of Microsoft Azure

Hey Friends, My name is Alok Agrawal, I have spent over 2 decades in the IT industry helping customers design and deploy enterprise solutions. I'll introduce you to few of the most popular services in Azure Microsoft's Cloud computing platform.

An overview of Microsoft Azure

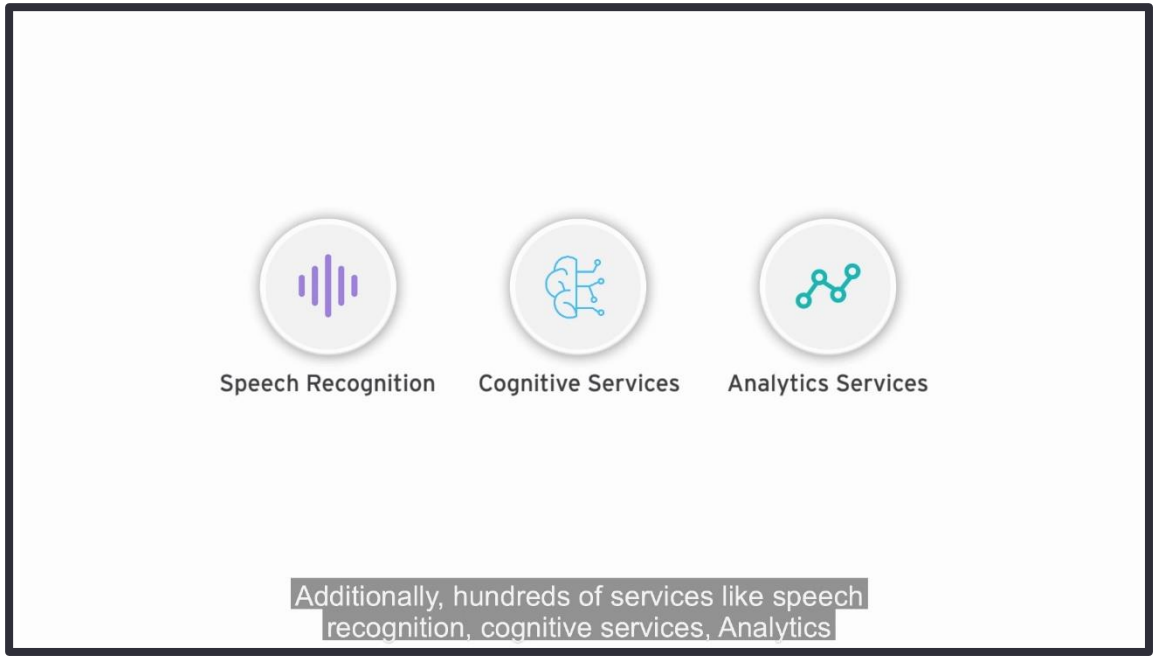
With ever-expanding services, Azure helps you to build solutions to meet your business goals. Azure provides a wealth of Cloud-based services like compute, remote storage, database hosting, centralized account management and new capabilities like artificial intelligence and IoT. Azure's real value is that it enables you to quickly solve the toughest business challenges and bring cutting-edge solutions to the users. Azure helps you move faster and innovate in ways that were once nearly impossible.



An overview of Microsoft Azure

Microsoft Azure powers your services to deliver innovative and unique user experiences more quickly, nearly limitless pool of raw resources, storage and networking components.

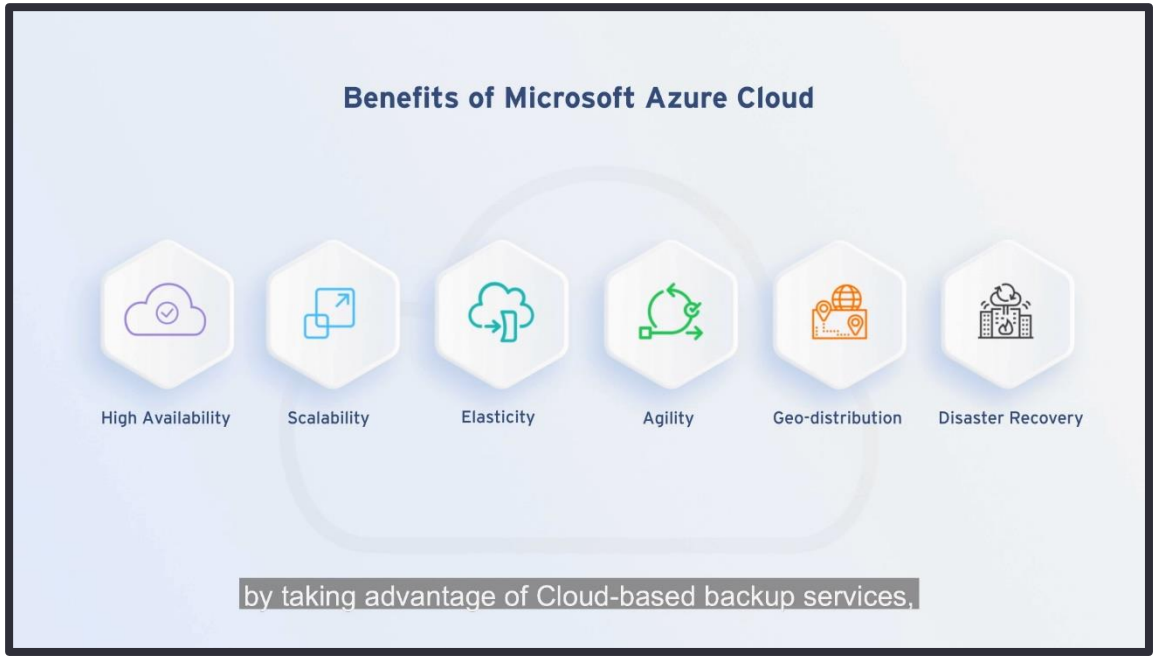
Additionally, hundreds of services like speech recognition, cognitive services, Analytics services that enable you to make sense of telemetry data coming back from your software and devices. Now I'll talk about a few of the many benefits of the Azure Cloud environment over a physical environment.



An overview of Microsoft Azure

High availability for Cloud-based applications provides a continuous user experience with no apparent downtime even when things go wrong. Scalability gives you the ability to adjust your resources with varying demands.

Elasticity enables your applications to take advantage of autoscaling so that your applications can always have the resources they need. Agility is the ability to quickly deploy and configure your applications when your requirements change.



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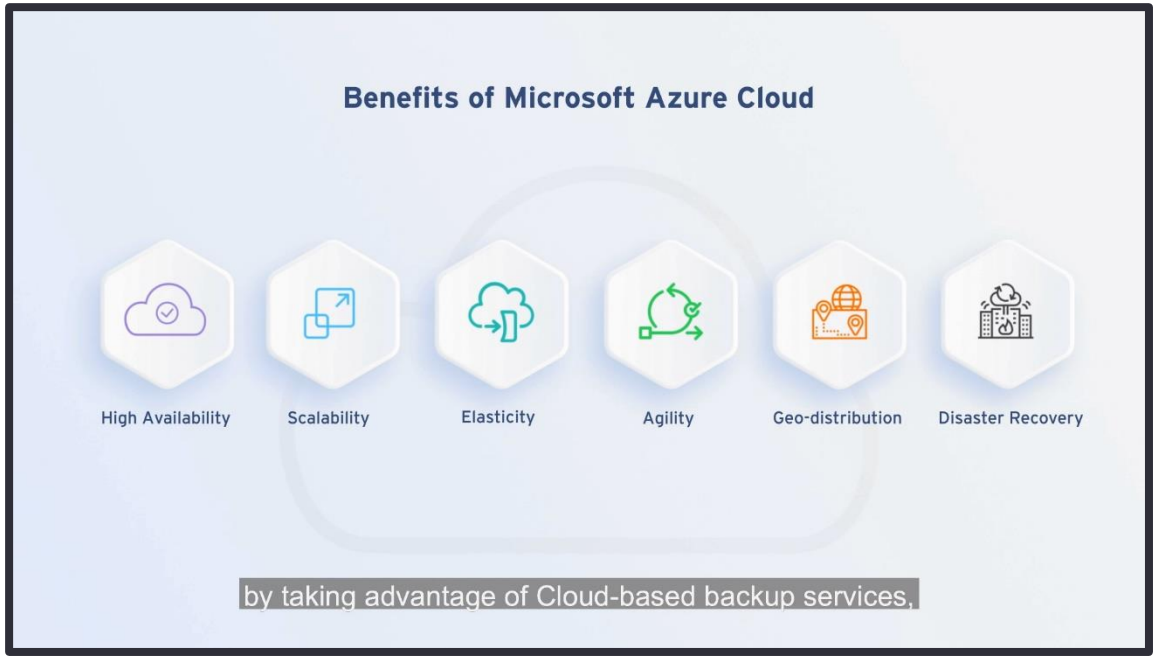
Geo-distribution lets your applications and data be deployed to regional datacenters around the globe, ensuring that your customers always have the best of the performance in their region. Disaster recovery by taking advantage of Cloud-based backup services, data replication,

and geo-distribution, deploy your applications with confidence by knowing that your data is safe even in the event that disaster occurs.



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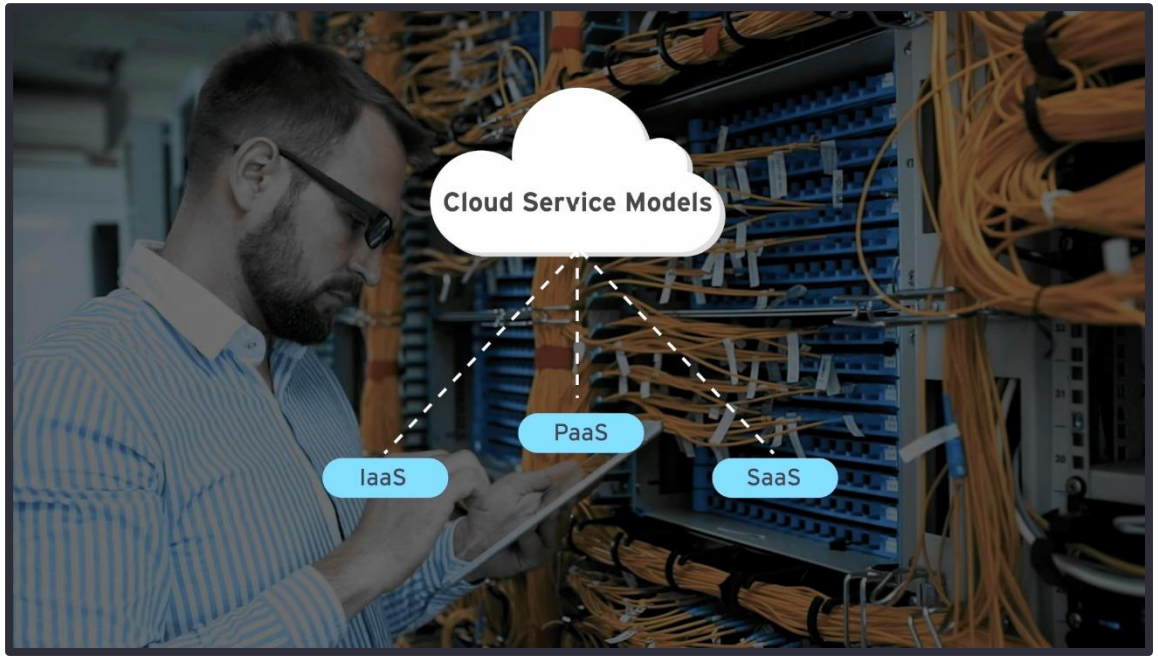
The three Cloud computing service models are IaaS, PaaS and SaaS. These define the different level of shared responsibility between a Cloud provider and Cloud tenant or the customer.

Iaas, Infrastructure-as-a-Service, Is closest to managing your on-premises physical servers. A Cloud provider takes the responsibility to build and keep the hardware up-to-date,

but operating system maintenance and network configuration will be customers' responsibility.



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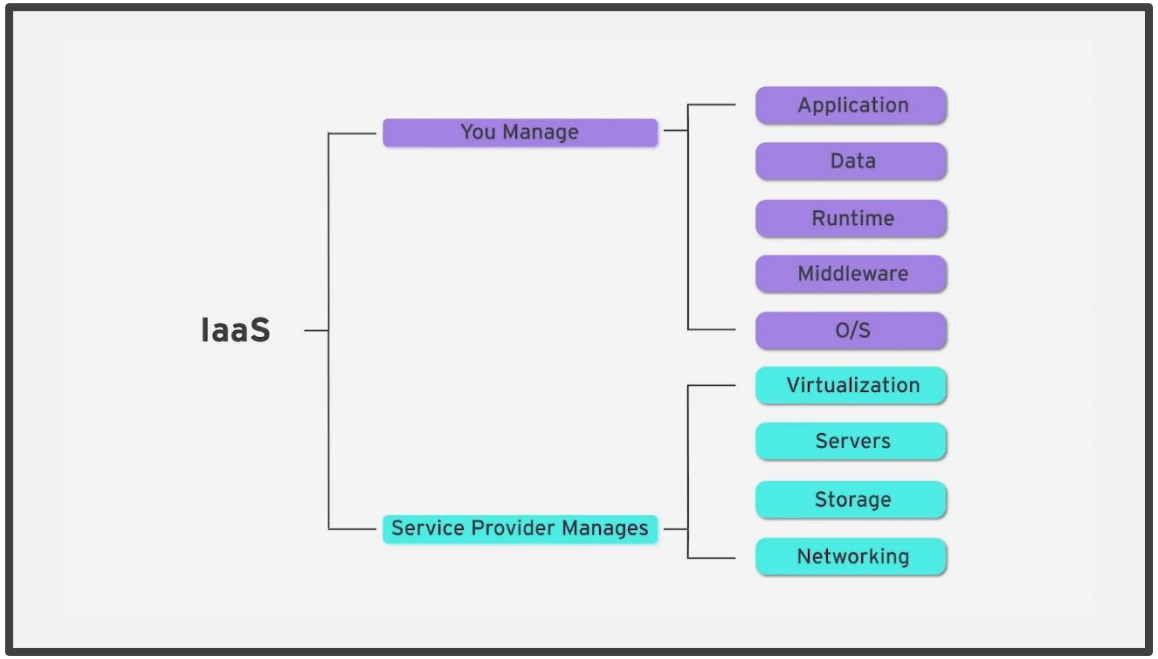
For example, Azure Virtual Machines are fully operational virtual compute devices running in Microsoft's datacenters. This model enables rapid deployment of new compute devices; setting up a new virtual machine is considerably faster than procuring, installing, and configuring a physical server.



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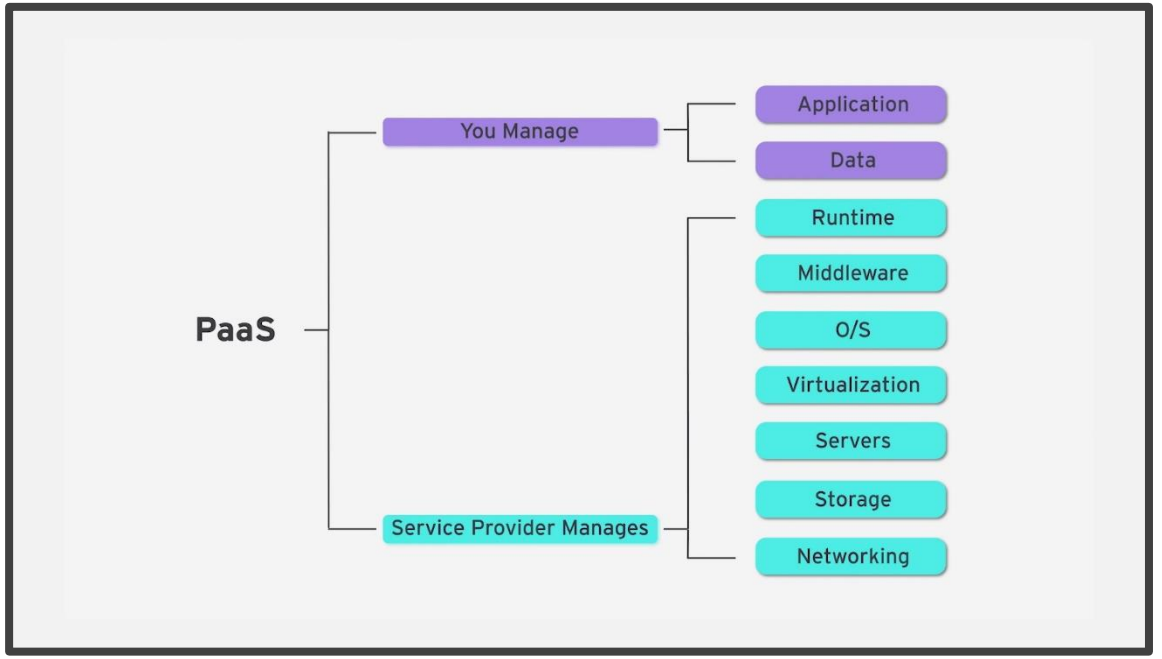
PaaS, Platform-as-a-Service is a managed hosting environment, where the Cloud service provider offers the platform like the virtual machines and networking resources, while the customer deploys their applications into the managed hosting environment. For example, Azure App Services provide a managed hosting environment where developers load their web applications, without worrying about managing the physical hardware and software requirements. In serverless computing, the developers only write the code to build the applications faster. Azure serverless architectures are highly scalable and event-driven, only using resources when the code runs. The serverless means that the tasks associated with infrastructure provisioning and management are invisible to the developer.



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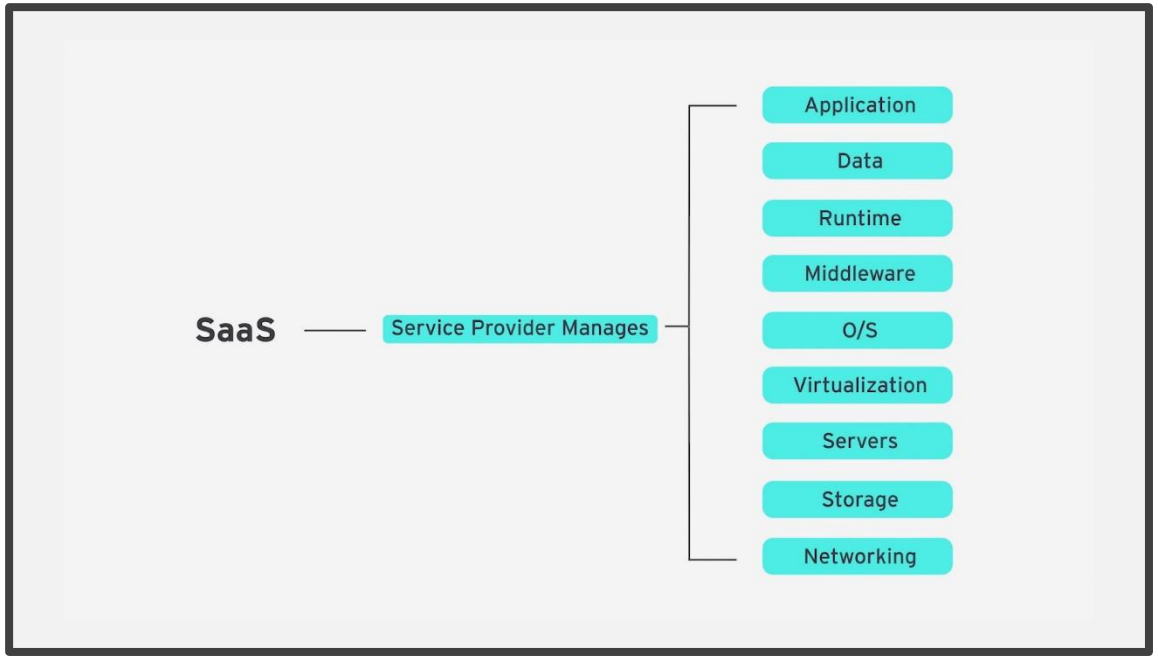
SaaS, Software-as-a-Service, the Cloud provider manages all the aspects of the application environment - virtual machines, networking resources, data storage, applications, and so on. And the customer only needs to provide their data.

For example: Microsoft Office 365 provides a fully working version of Microsoft Office that runs on the Cloud, customer only create the content and Office 365 takes care of everything else.



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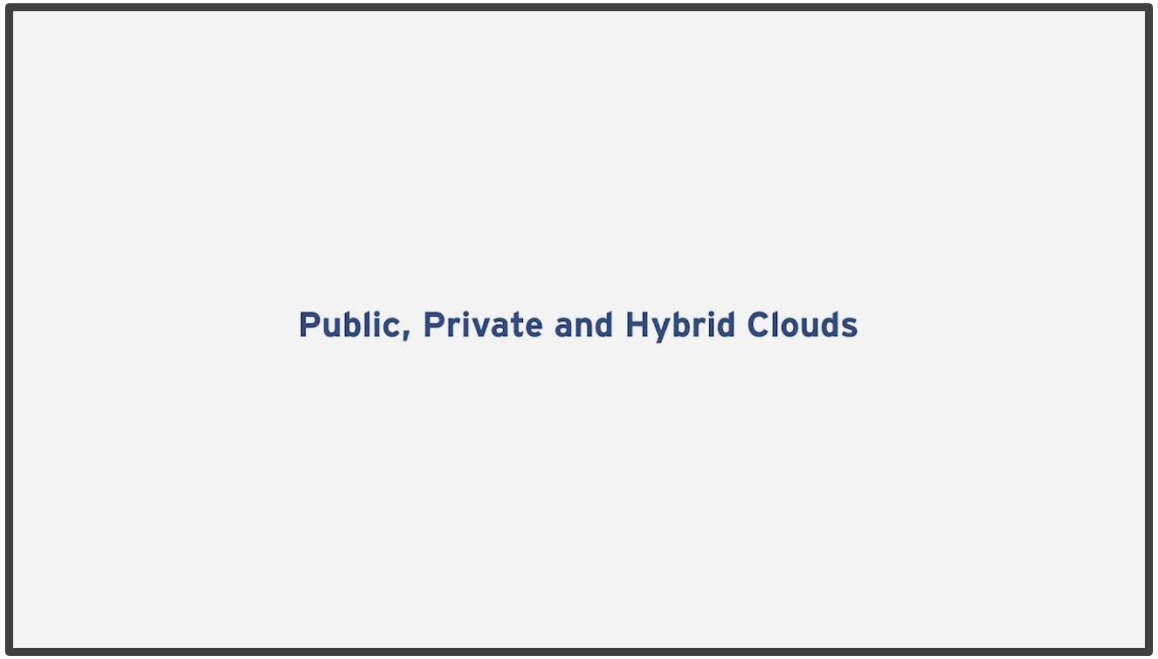
Cloud Computing deployment models



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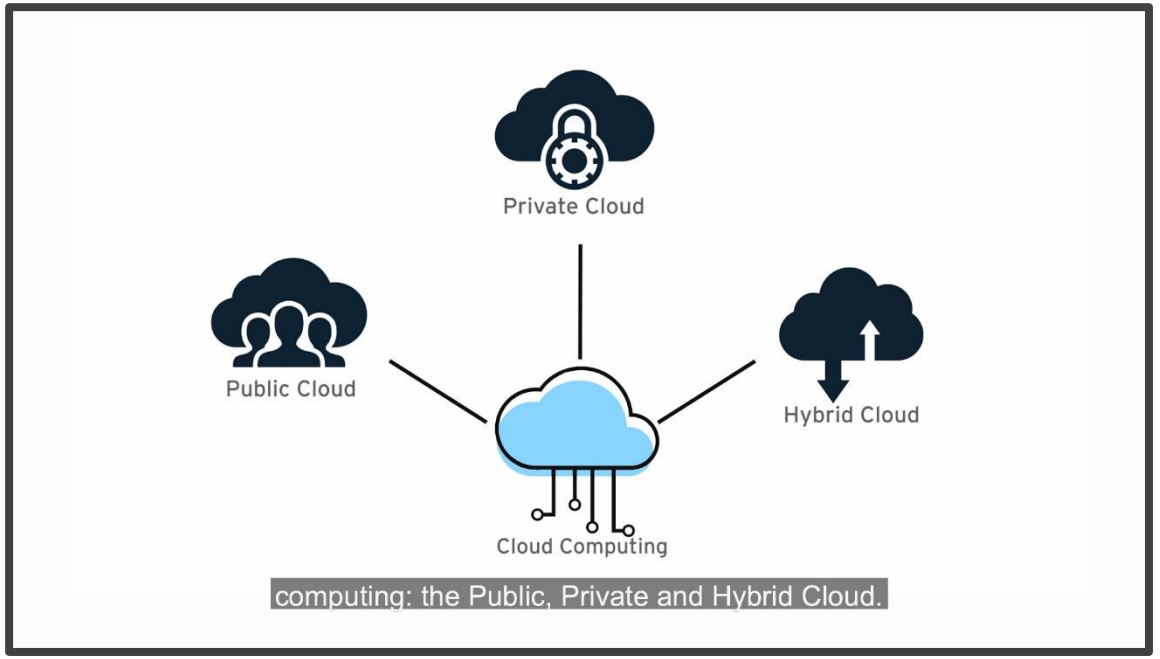
There are three deployment models for Cloud computing: the Public, Private and Hybrid Cloud.



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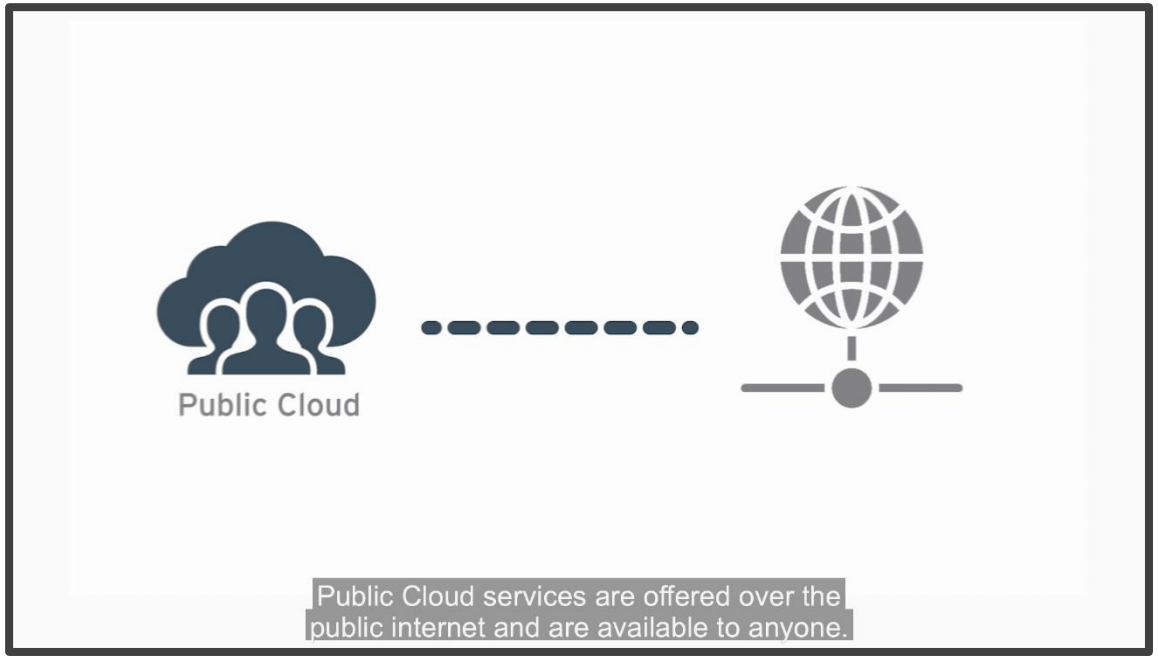
Public Cloud services are offered over the public internet and are available to anyone.

The Cloud resources such as servers and storage are owned and operated by a third-party service provider and delivered to the customers over internet.



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Private Cloud has computing resources used exclusively built for one business or organization, generally located at customer's on-site datacenter or hosted by a third-party service provider.

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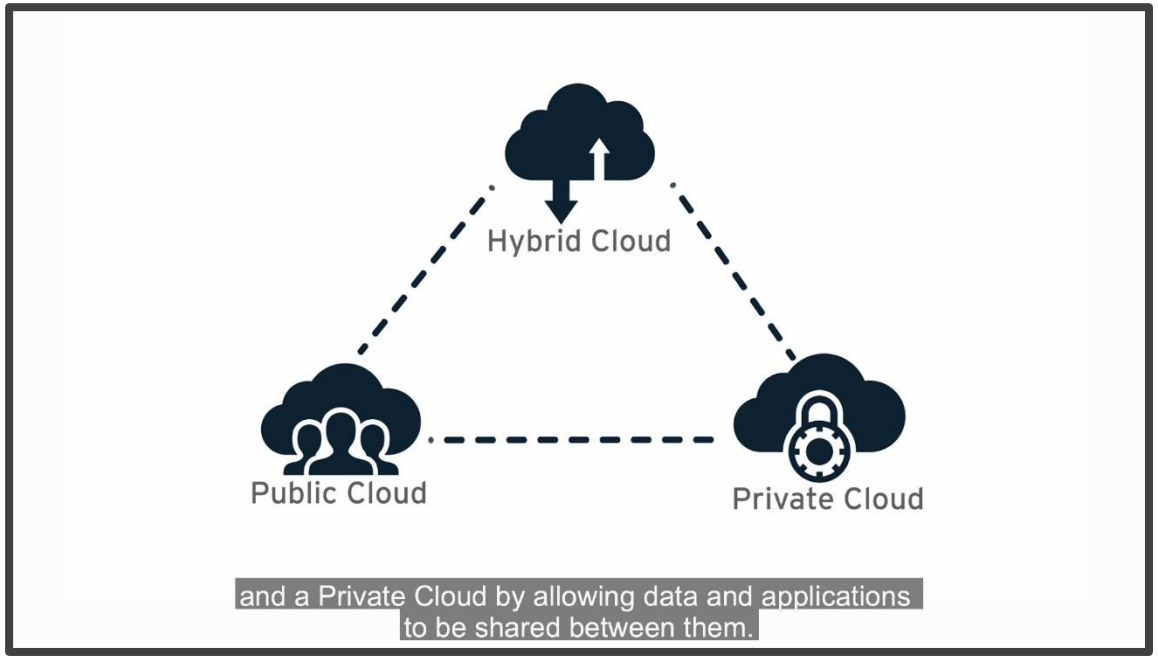
While Hybrid Cloud combines a Public Cloud and a Private Cloud by allowing data and applications to be shared between them.

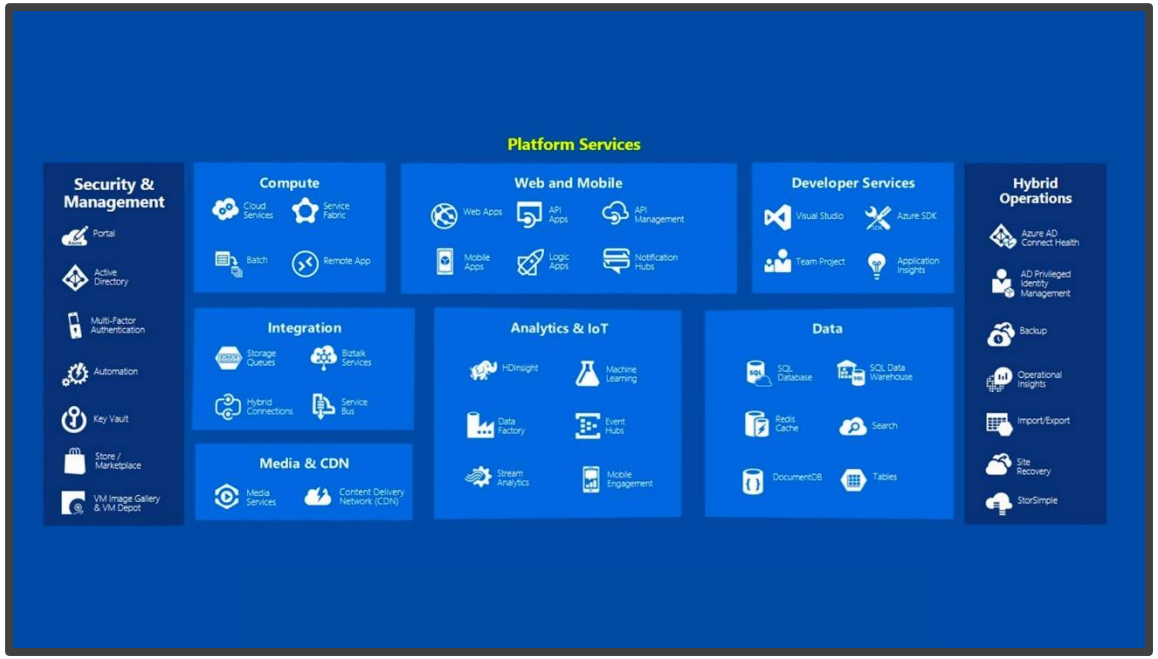
These resources can be deployed across the Clouds in any combination like an application running on the Public Cloud with on-premises database or the other way.



An overview of Microsoft Azure

Azure provides over 100 services that enable you to do everything from running your existing applications on virtual machines to exploring new software paradigms such as intelligent bots and mixed reality. For example, Azure provides AI and Machine-learning services that can naturally communicate with your users through vision, hearing and speech. It also provides storage solutions that dynamically grow to accommodate massive amounts of data. Azure services enable solutions that are not feasible without the power of Cloud.

Microsoft Azure runs data centers located around the globe providing redundancy and access to users globally.

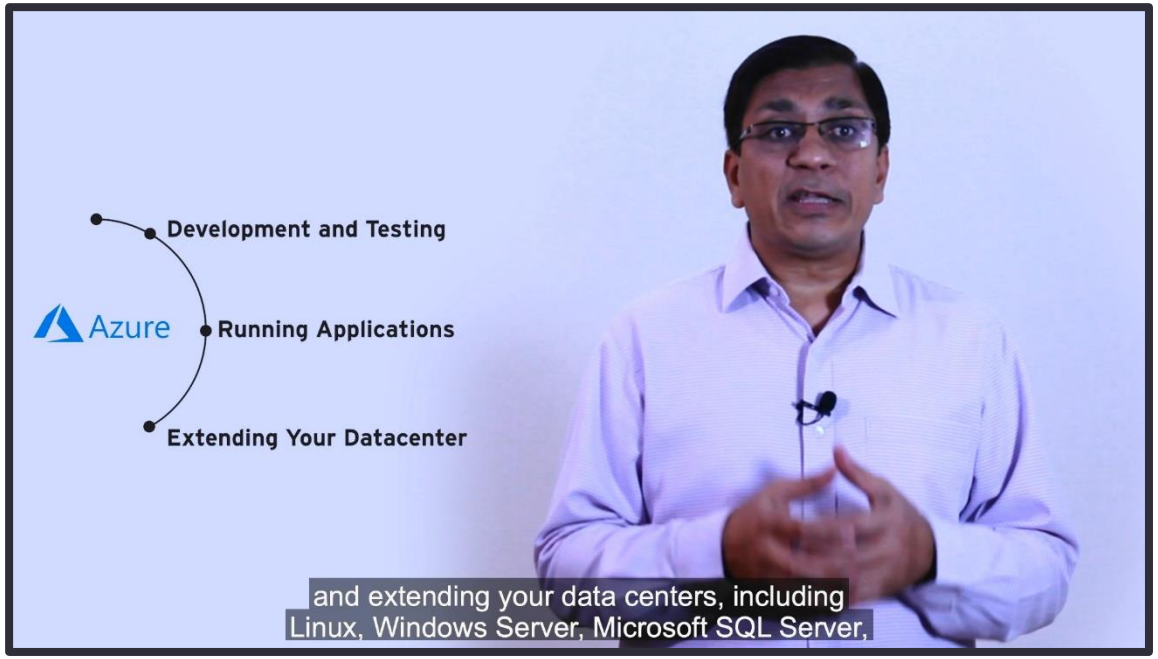


An overview of Microsoft Azure

Azure supports a wide range of computing solutions for development and testing, running applications, and extending your data centers, including Linux, Windows Server, Microsoft SQL Server, Oracle, IBM, and SAP.

Some of the most prominent services are Virtual Machines, Container Instances, App Services and Functions.

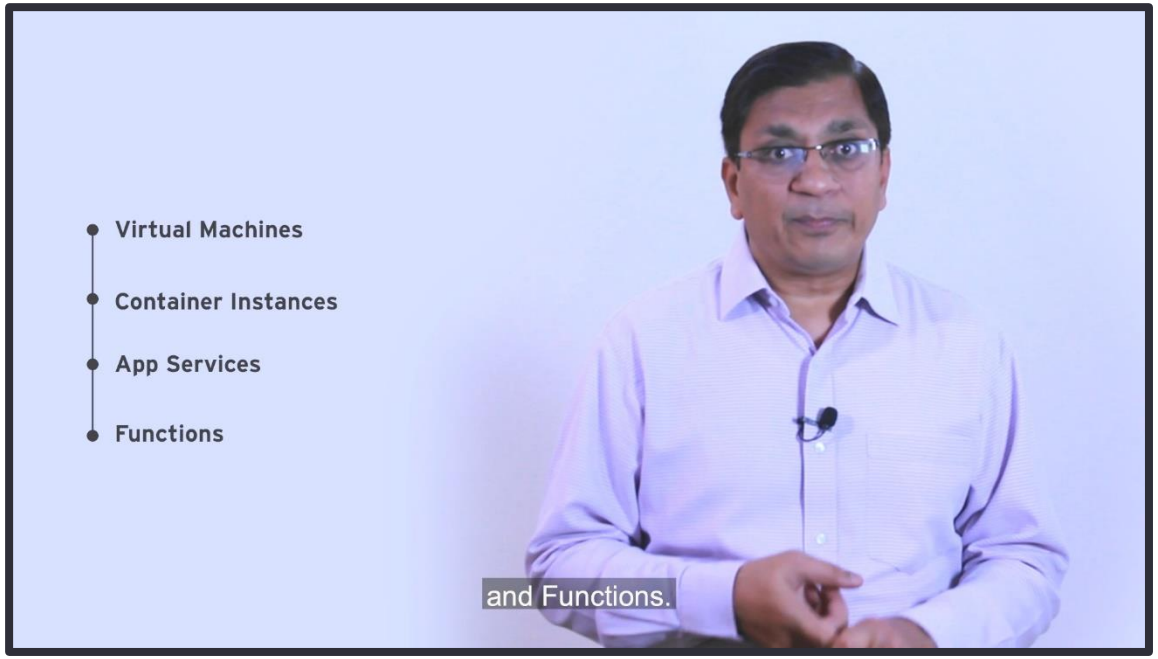
The Azure App Service enables you to build and host web apps, mobile backends, and RESTful APIs in the programming language of your choice, both on Windows and Linux.



An overview of Microsoft Azure

Some of the most prominent services are Virtual Machines, Container Instances, App Services, and Functions.

Also enables continuous deployment model with automated deployments from GitHub, Azure DevOps, or any other Git repository.



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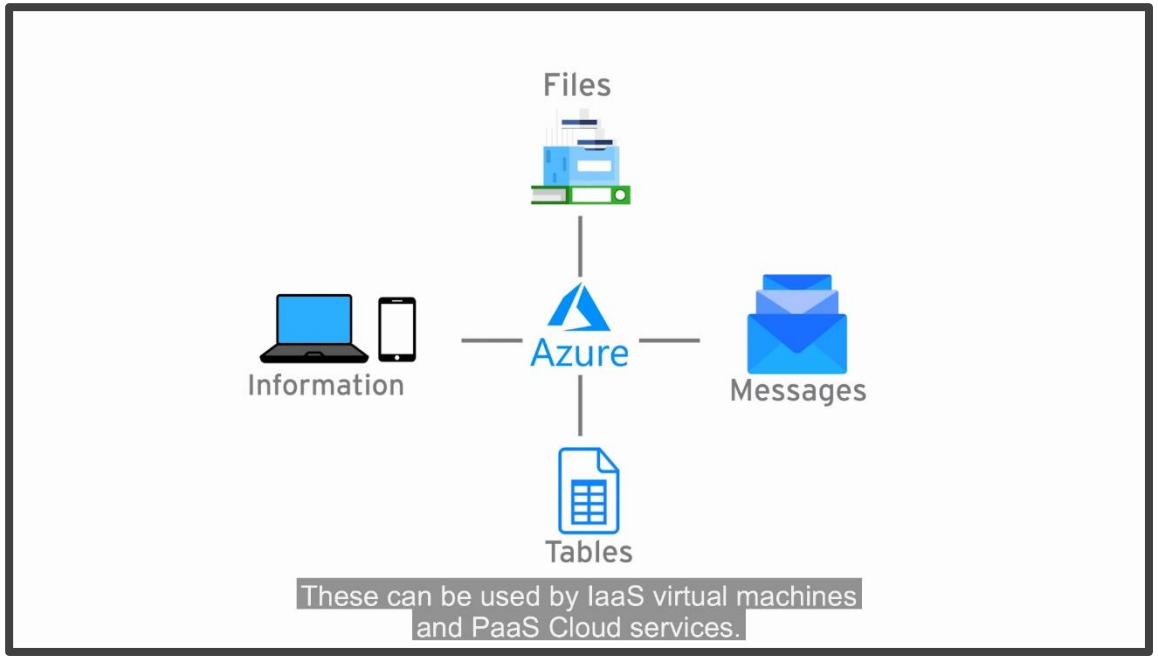
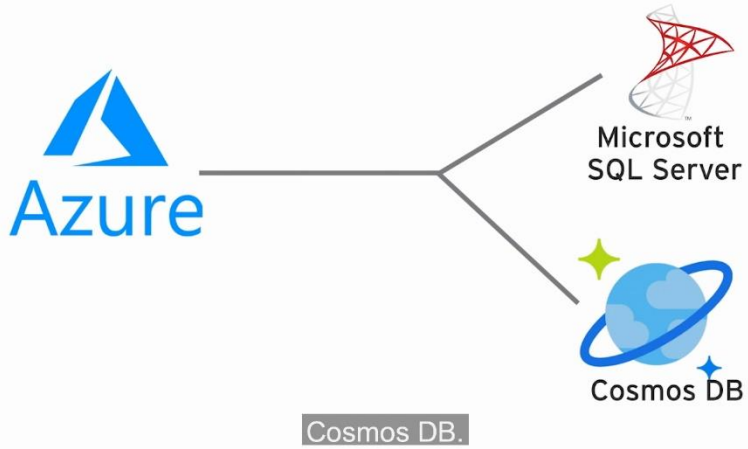
Data is one of the most critical assets for your organization, Azure has different services optimized to handle varied data storage requirements. Azure Storage helps you to store files, messages, tables, and other types of information. These can be used by IaaS virtual machines and PaaS Cloud services.



An overview of Microsoft Azure

Azure also offers relational databases like Microsoft SQL Server or NoSQL databases like Cosmos DB.



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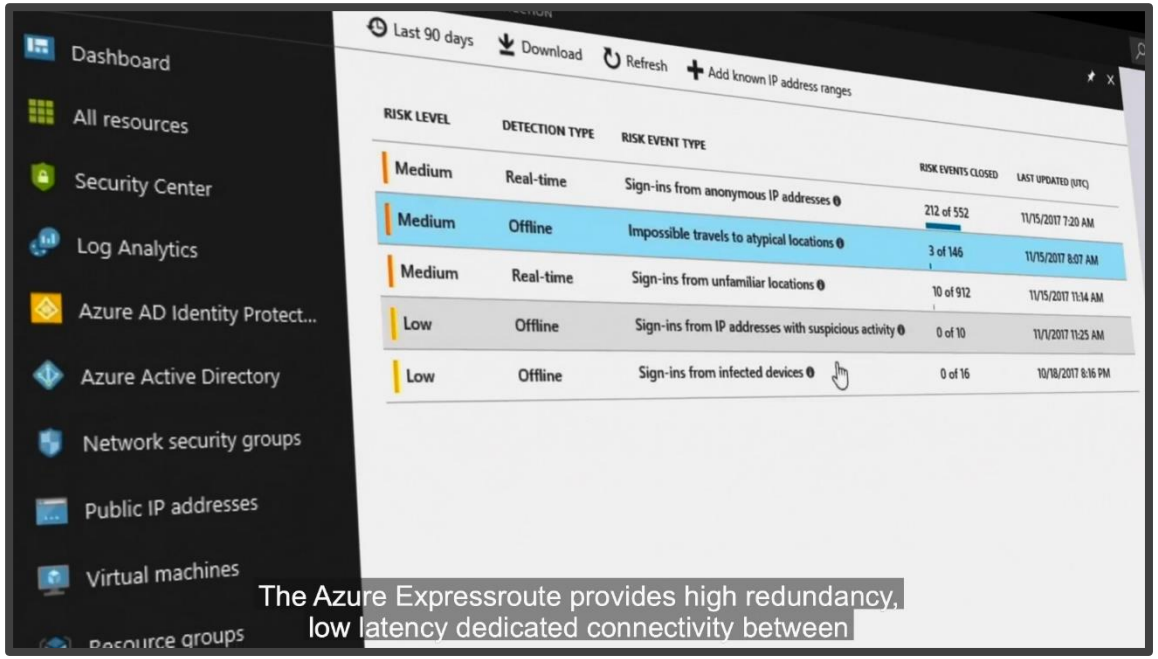
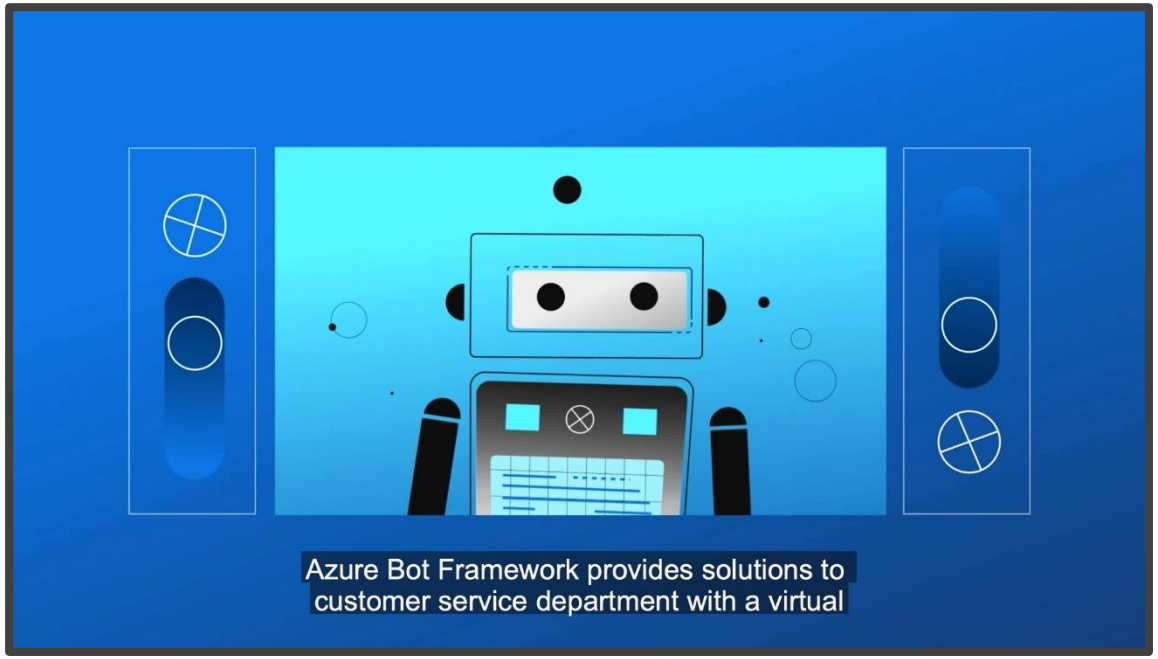
Azure virtual networks enable Azure resources to communicate with each other, with users on the Internet and client computers.

The Azure Expressroute provides high redundancy, low latency dedicated connectivity between the on-premises and your Public Cloud instance.



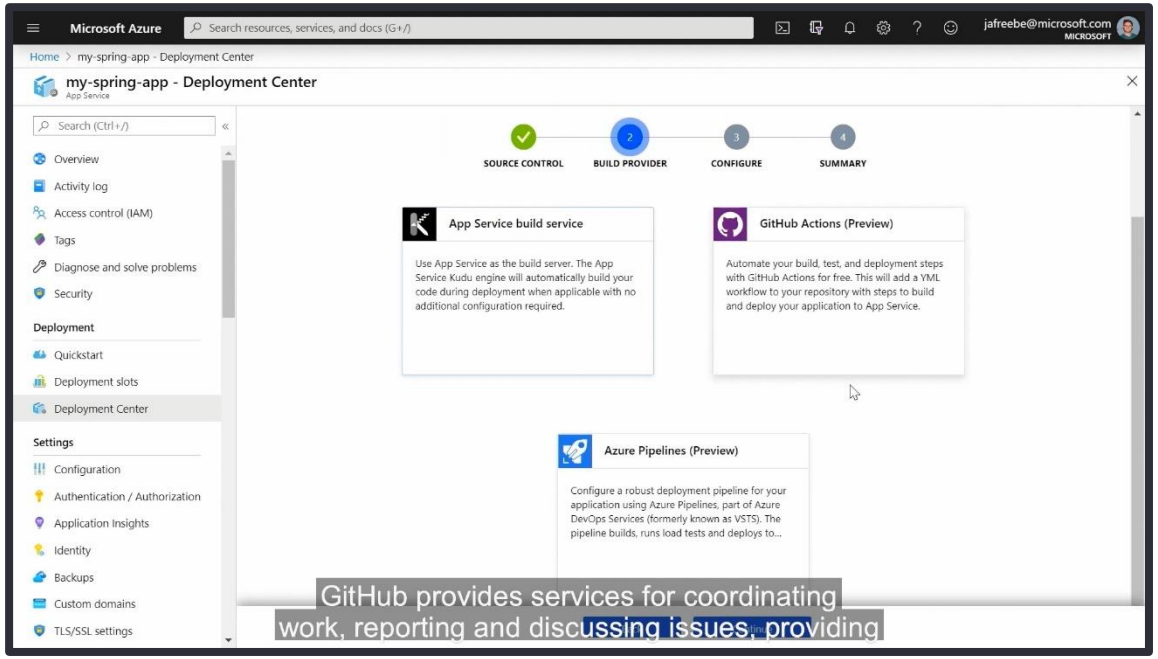
An overview of Microsoft Azure

Azure Bot Framework provides solutions to customer service department with a virtual agent to handle the vast majority of questions they get asked.



An overview of Microsoft Azure

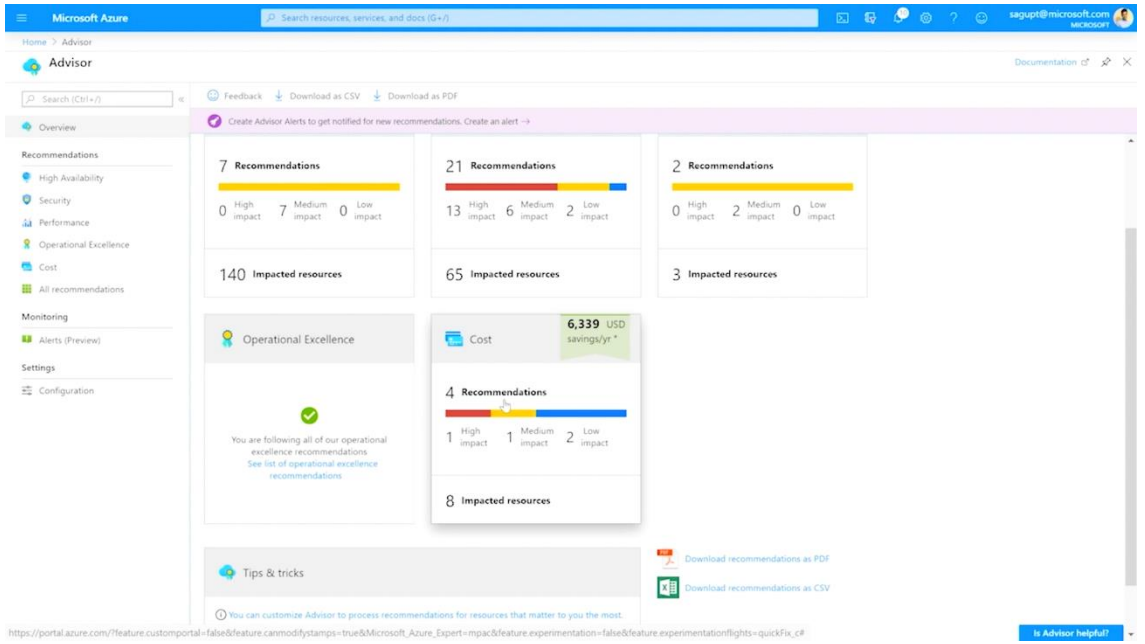
GitHub is arguably the world's most popular code repository for open-source software. GitHub provides services for coordinating work, reporting and discussing issues, providing documentation, and more.



An overview of Microsoft Azure

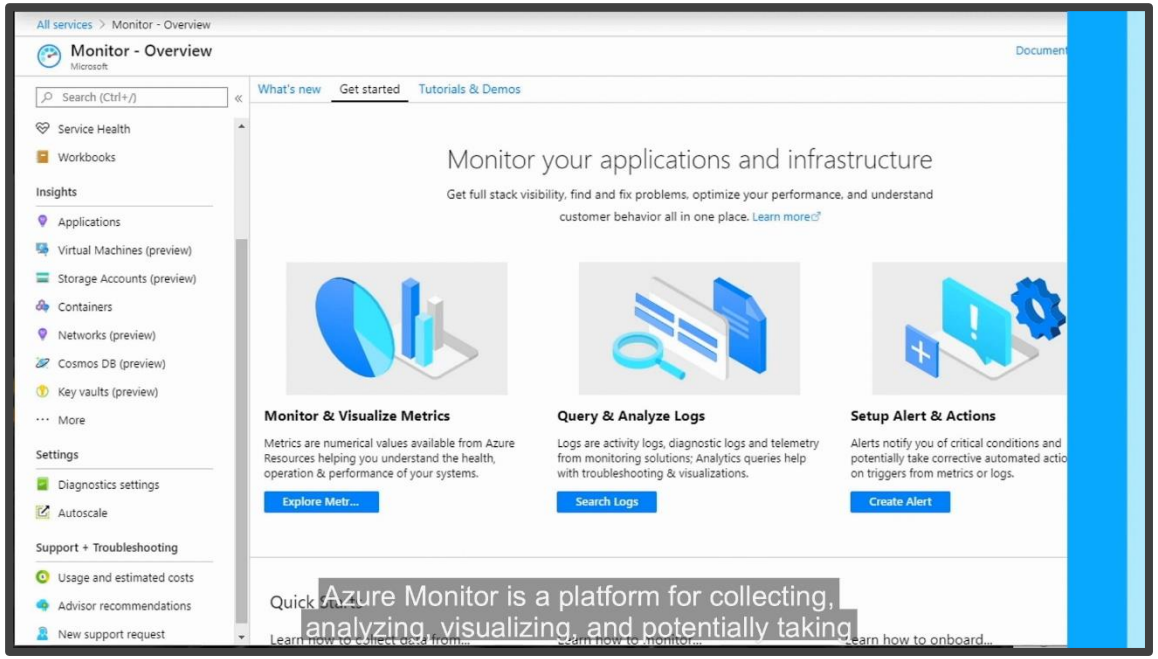
Azure Advisor is your personal consultant

which evaluates your Azure resources and makes recommendations on 5 different aspects, help you improve reliability, security, performance, achieve operational excellence, and reduce costs. Advisor is designed to help you save your time on Cloud optimization.



An overview of Microsoft Azure

Azure Monitor is a platform for collecting, analyzing, visualizing, and potentially taking action based on the metrics and logging data from Azure and on-premises environments.

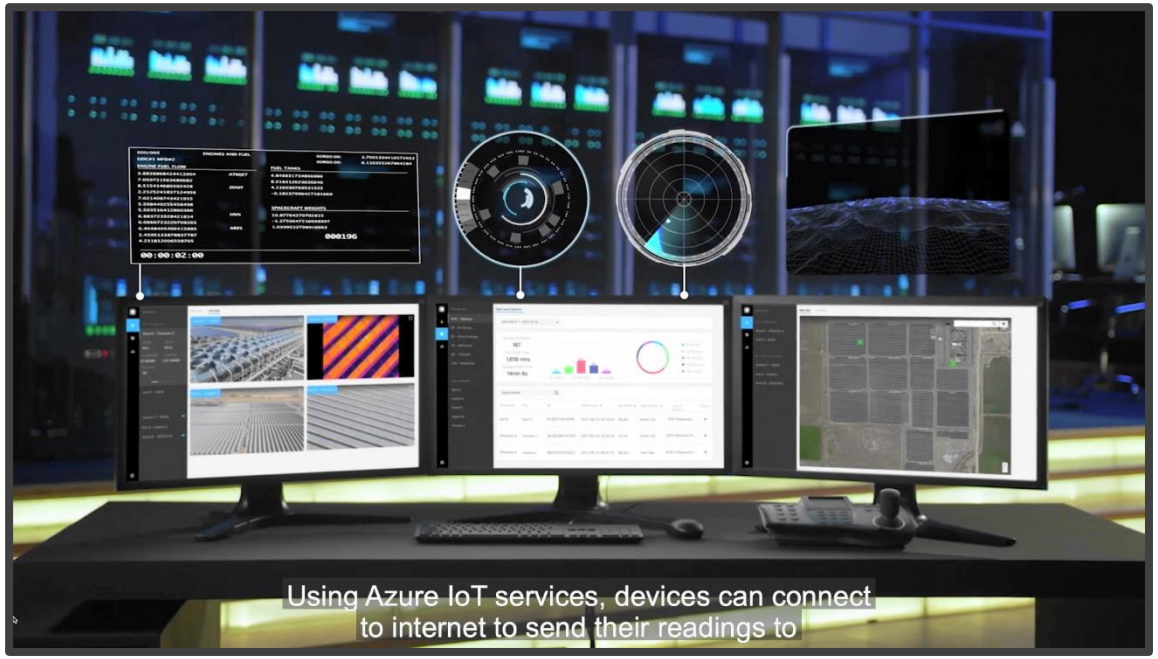


An overview of Microsoft Azure

The IoT bridges the physical world and digital world by enabling devices to communicate with Cloud-based systems via the internet.

Using Azure IoT services, devices can connect to internet to send their readings to a specific endpoint on Azure.

The message is collected, aggregated and can be converted into reports and alerts or the devices be updated with new firmware from Azure's IoT services.

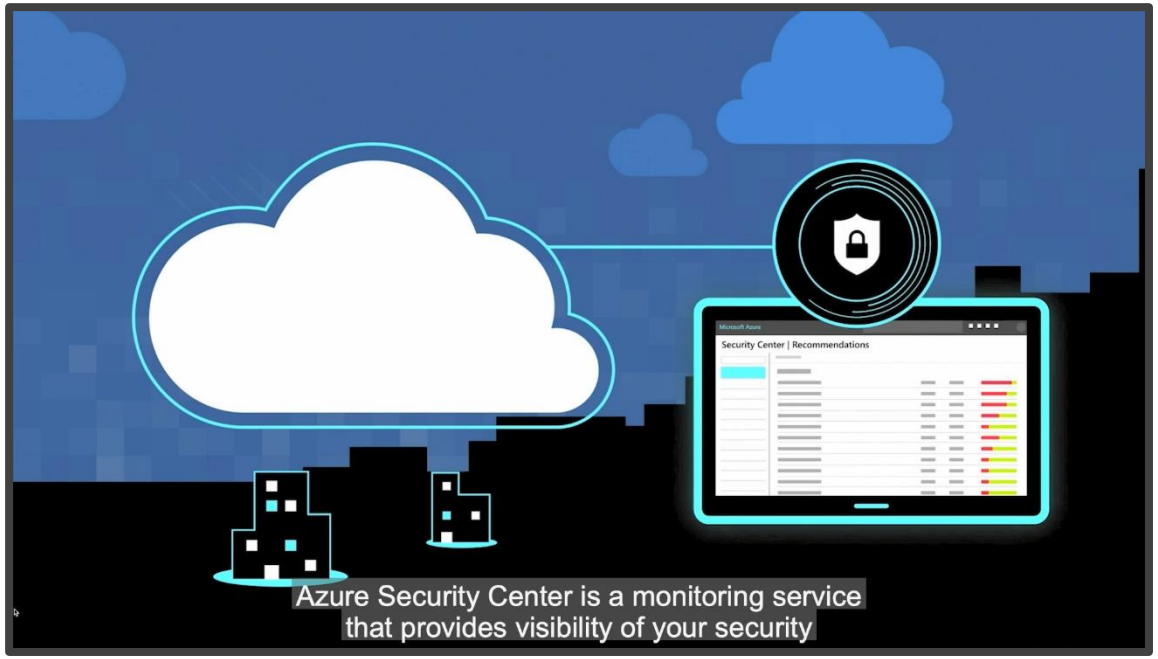


An overview of Microsoft Azure

Azure Security Center is a monitoring service that provides visibility of your security posture across all of your services, both on Azure and on-premises.

The term security posture refers to cyber-security policies and controls, as well as how well you can predict, prevent, and respond to security threats.

Azure security center dashboard shows policy compliance, resource security hygiene and threat protection.

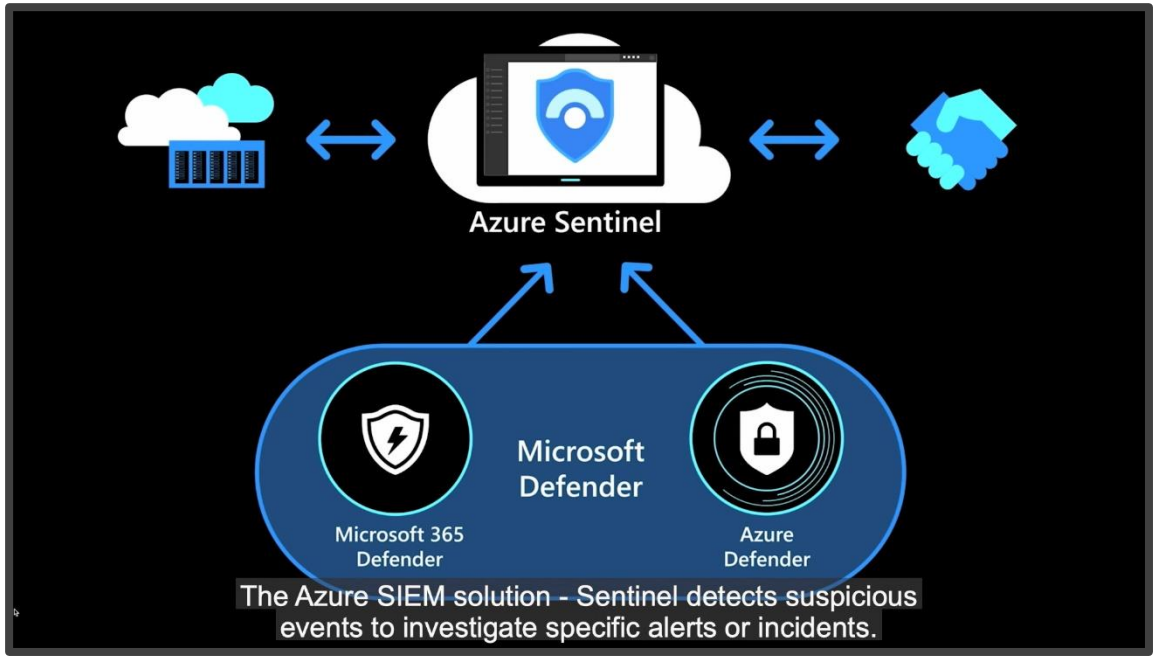


An overview of Microsoft Azure

Managing security on a large scale can benefit from a dedicated SIEM which aggregates security data from many different sources and provides additional capabilities for threat detection and response.

The Azure SIEM solution - Sentinel detects suspicious events to investigate specific alerts or incidents.

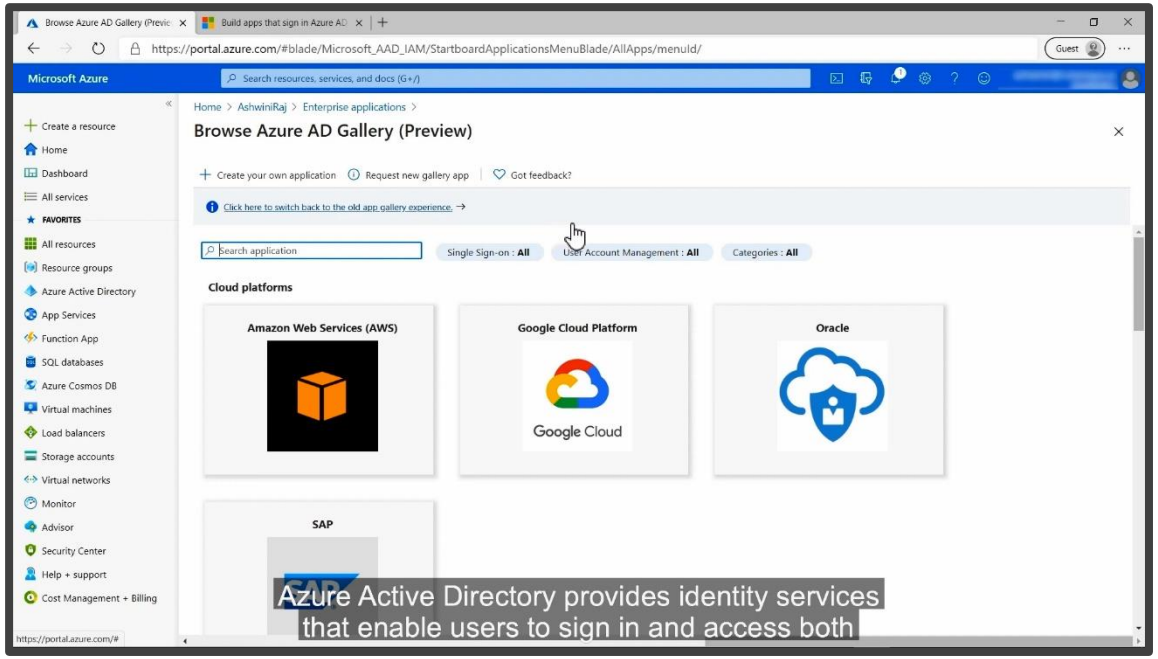
We can review information from the alert and exploration queries help with the investigations. With the invent of mobility solutions enabling work from anywhere, the rise of bring yourown device (BYOD) strategies, mobile applications and Cloud applications, many of those access points are now outside the company's physical network.



An overview of Microsoft Azure

User Identities have become the new primary security boundary, defining a valid user for your system, with an appropriate level of access.

This is critical for maintaining the right controls on your data. Azure Active Directory provides identity services that enable users to sign in and access both Microsoft Cloud applications and Cloud applications with features like single sign-on and multi-factor authentication.



An overview of Microsoft Azure

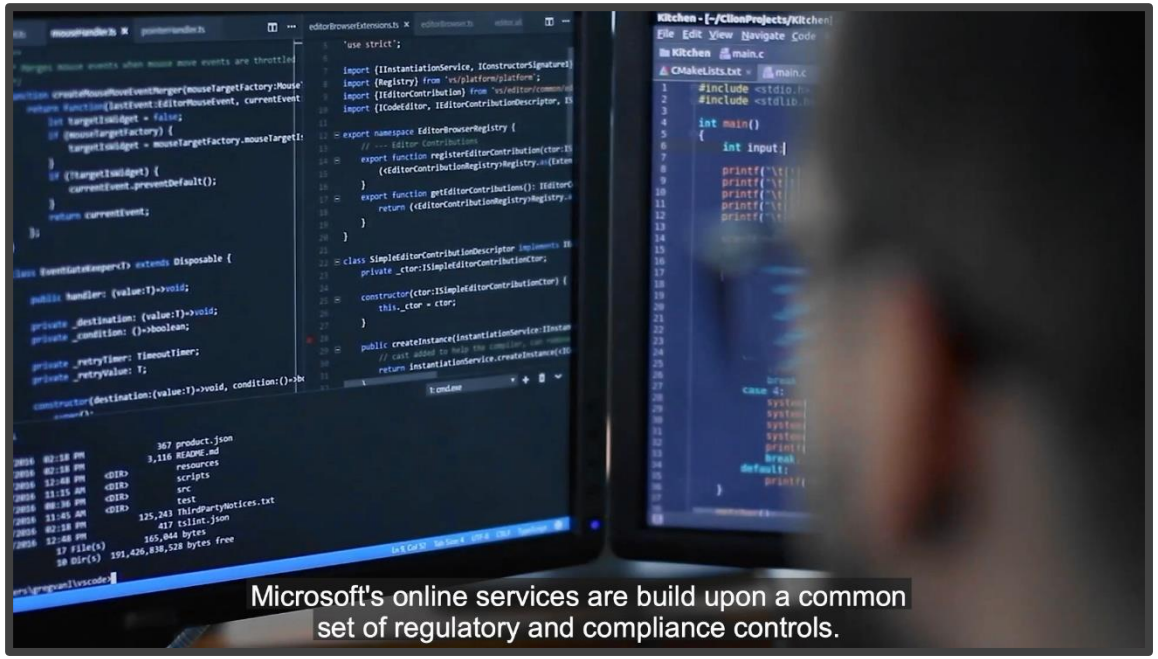
Organizations must adhere to multiple regulatory and compliance requirements.

For example, to ensure proper handling of

the data for the credit cards.

Microsoft's online services are built upon a common set of regulatory and compliance controls.

These controls not only address today's regulations but also adapt as the new regulations evolve.



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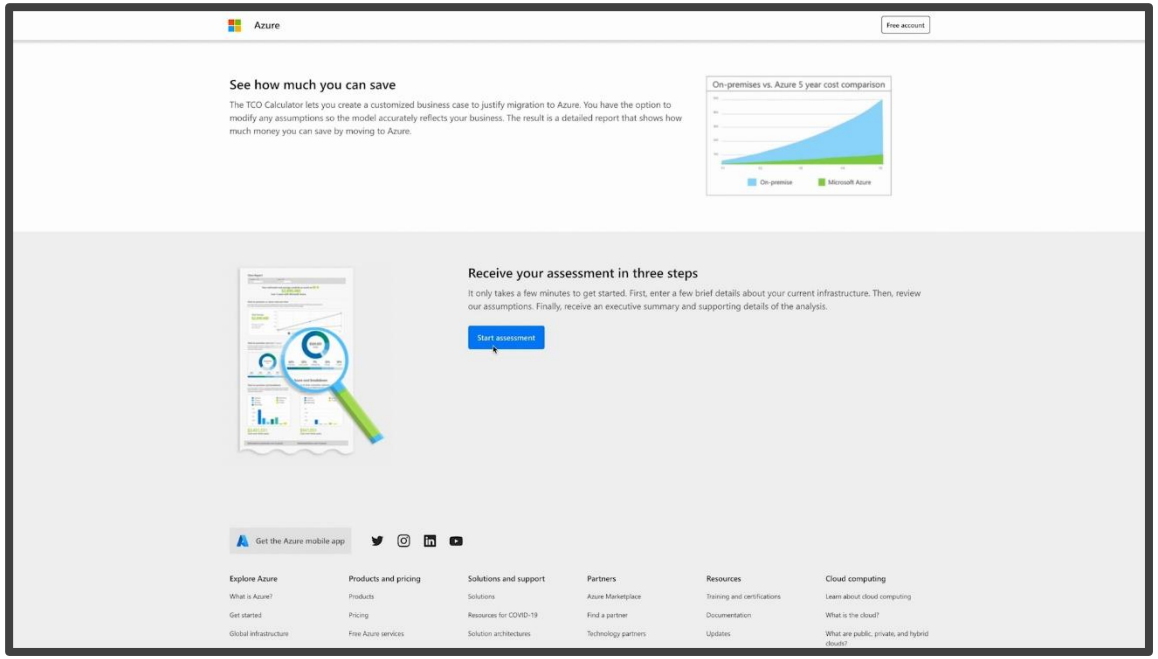
Azure TCO Calculator helps business to estimate the total cost savings of operating the solution on Azure over a time. Instead of the on-premises datacenter, while the pricing calculator can estimate the cost of the individual workloads.

Microsoft Azure has a continually expanding a set of Cloud services to help organizations meet current and future business challenges. Azure gives you the freedom to build, manage and deploy applications on a massive global network using your favorite tools and frameworks.



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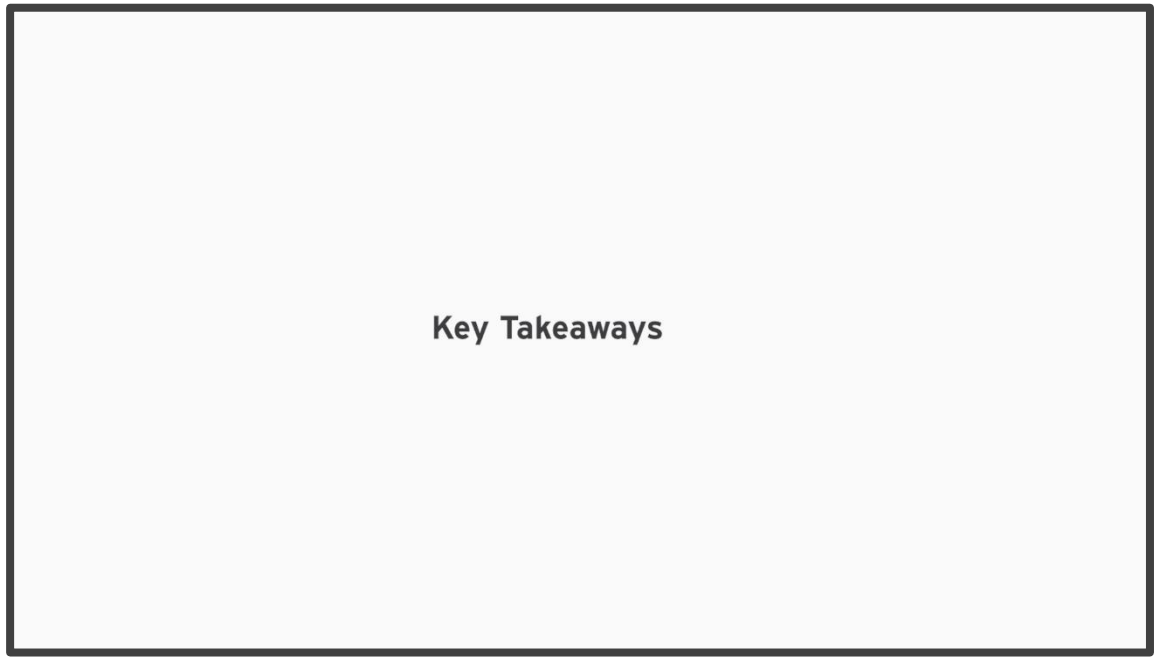
Key Takeaways



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With Microsoft Azure, you have everything you need to build your next great solution.

Azure provides you several benefits, so that you can easily Invent with purpose.

You can be future-ready as continuous innovation from Microsoft supports your development today and your product vision for tomorrow.

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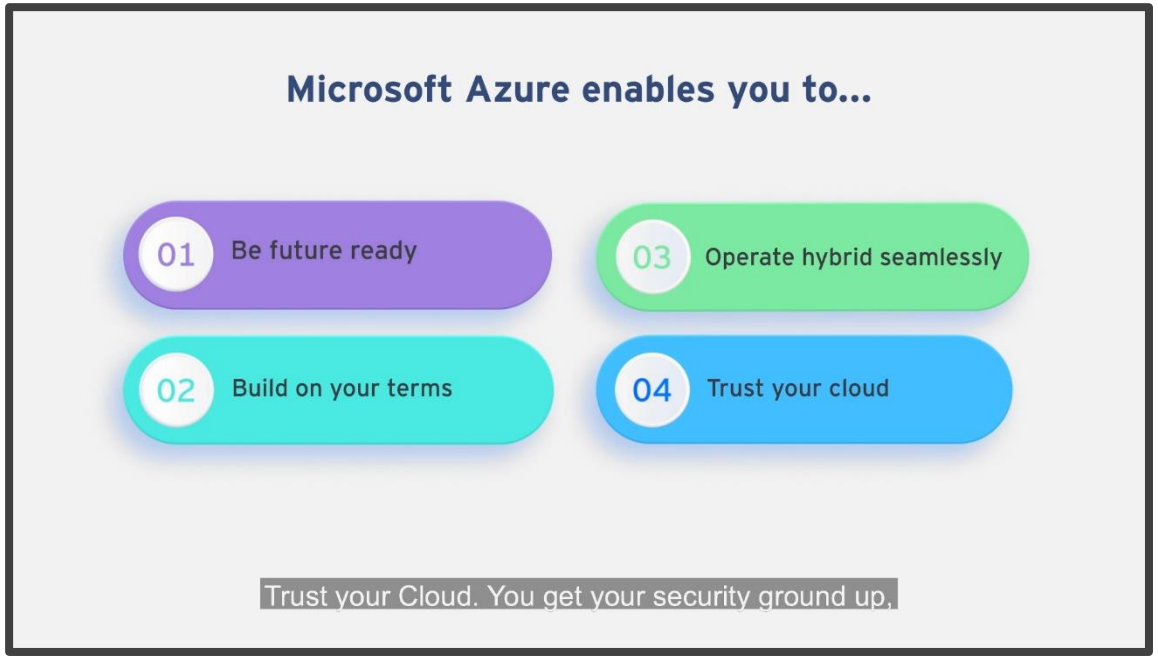
Build your own terms - You have choices.

With a commitment to open-source and support for all languages and frameworks, build how you want and deploy where you want.

Operate your Hybrid seamlessly, On-premises, in the Cloud and at the edge. Azure will meet you where you are. Integrate and manage your environments with tools and services designed for Hybrid Cloud. Trust your Cloud. You get your security ground up, backed by a team of experts and proactive compliance trusted by enterprises, governments and start-ups.



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https://azure.microsoft.com/en-in/overview/why-azure/

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