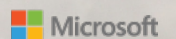# softlanding

WHITEPAPER
Azure Fundamentals

Features, Benefits and Tips to Plan
a Successful Cloud Migration

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What is Azure?

Microsoft Azure is a cloud service platform that provides services in domains such as compute, storage database, networking, developer tools and other functionality which empower organizations to scale and grow their business.

Azure services are categorized as follow:
- Infrastructure as a service (IaaS) is instant, scalable cloud computing which resides in an Azure datacenter. IaaS can quickly scale up or down depending on demands, while only paying for what you use.

- Platform as a Service (PaaS) is similar to IaaS, except you avoid the expense and complexity of buying and managing software licenses, the underlying application infrastructure and middleware. PaaS is designed to support the complete application lifecycle; build, running, and management of applications.

- Software as a Service (SaaS) are cloud software applications that live on the internet and that you access from your web browser. A good example would be Office 365 or Dynamics 365.
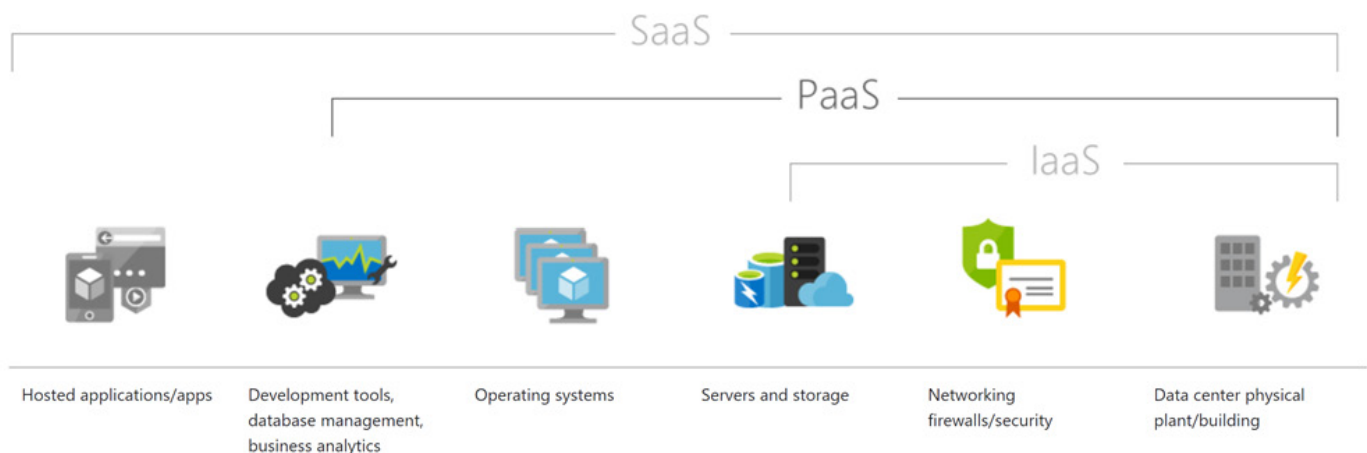
Source: "What is IaaS Infrastructure as a Service" https://azure.microsoft.com/en-ca/overview/what-is-iaas/

Azure Features

With over 600 services available in the platform, Microsoft Azure gives you infinite possibilities to build and deploy your IT projects. From the Azure portal or command line interface (CLI), you can provision virtual machines, database servers, web services, artificial intelligence services, etc.

Why Azure?

Microsoft Azure has been named for the sixth consecutive year in Gartner Magic Quadrant for Cloud Infrastructure as a Service (IaaS).
This is a big accomplishment for Microsoft as Azure entered the Cloud Computing scene only in 2010. It proves that Azure creates value for its customers by providing highly available, secure, and scalable cloud infrastructure far surpassing its competitors.

What are the Business Benefits of Azure?

The benefits of Azure go beyond budget control and cost management. The repetitive tasks to maintain and support certain technologies such as Windows Server, Active Directory, and Share-Point can be greatly facilitated with the combination of Azure and Office 365. This frees up IT staff to work on strategic projects and initiatives, rather than spending time on general IT maintenance.

Cost-Effectiveness and Flexible Expenditure

Azure offers a pay as you go payment plan that allows businesses to better manage their IT budget since they only pay for what they use. Furthermore, there is no physical server maintenance costs or hardware upgrades/replacements which leads to a better utilization of your resources.

Businesses can also choose the hybrid model and maintain their on-premise data centers while benefiting from the flexibility of Disaster recovery and backup in the Azure cloud.

Ultimate Data Security

Microsoft invests over a billion dollars every year into security, including the security of the Azure platform in order to protect your organization's data and business assets. Azure holds hundreds of certifications from PCI to ISO27001 and has a global dedicated Cyber Security Operations Centre (CSOC).
Additionally, Azure allows for numerous security options, including encryption of links and encrypted data at rest. Throw in threat detection, DDoS protection, and integration with existing Active Directory sign-on, and security gets a whole lot easier for everyone.

Disaster Recovery

Since cybersecurity and risk management are crucial to IT and business, disaster recovery is a key component of cloud services. Azure offers built-in disaster recovery options, hot and cold standby models, rolling reboot capabilities and back-ups are made easy with real-time monitoring.

This level of disaster recovery is difficult to achieve with on premise environments but comes as standard with Azure.

Availability and Scalability

Azure provides high availability and redundancy because of Microsoft's global presence. With data centers located in 54 regions and 140 countries, Azure offers service levels agreements that guarantee 99.95 percent up time which corresponds to less than five hours of downtime per year.

Like most cloud services, Azure allows to easily scale up or down resources within minutes.

Consequently, you don't have to worry about infrastructure all the time.

Compliance

The data stored in Azure complies with country regulations and privacy requirements such as GDPR. Moreover, Azure has been built with security and data privacy in mind to mitigate risk exposure and costly mistakes.

Automation

Azure also delivers a cloud-based automation and configuration service that provides consistent management across your Azure and non-Azure environments.

It allows you to automate frequent, time-consuming, and error-prone cloud management tasks that leads to reducing errors and boosting efficiency as well as decreasing your operational costs.

3 Steps for Planning a Successful Azure Migration

Migrating your datacenter to an IaaS platform like Azure is a big step and, even though there are many benefits to moving to the cloud such as enhanced productivity, greater agility and lowered costs, this can be a daunting process if you don't plan appropriately.

Taking a step by step approach will help you succeed in your cloud journey, minimize the risks and control your costs.

Before beginning your cloud journey, the first thing you should do is to understand why you want to migrate to the cloud. Ask yourself how you want to use the cloud and what role is it going to play in your IT strategy. Cutting costs, even though it is important for any IT leader, should not be your main motivation, but flexibility, scalability and agility are.

Once your expectations and goals are set, you can start planning. Below are three steps that will help you prepare for your Azure migration.

Step 1: Assess Your Environment and Cloud Readiness

You should start by discussing the migration project with the relevant stakeholders, calculating the Total Cost of Ownership (TCO) of your current infrastructure and identifying the workloads and applications that may benefit from the cloud.

Azure will help you boost productivity and better manage your costs but not every workload and application in your current infrastructure is a good candidate for the cloud. Indeed, some legacy applications may not be able to run on Azure as an IaaS model and in some cases, you may need to refactor, rearchitect or even rebuild some applications from scratch using cloud-native technologies. This can lead to significant development costs that need to be taken into consideration.

Building a comprehensive inventory by identifying all your existing workloads and applications, classifying them and determining the costs related to the migration and operation of the latter is therefore critical to the success of your cloud migration strategy.

Other key areas to consider during your assessment phase include:

Virtual Networks: Investigate creating a Virtual Network to keep the same performance, security and stability you had with your on-premise data center. Review how many subnets you will need to provision and how you will manage your DNS – via Active Directory or the Azure DNS service

Storage: Review Azure storage services and select the solution depending on the allowed number of operations per second as well as the nature of your data – standard vs. premium and hot vs. cold.

Scalability: Look into Azure Autoscale that you can use to dynamically scale applications in order to meet evolving performance needs. This is where you can adjust your costs.

Step 2: Define a Migration Strategy

The more detailed and accurate your environment and application readiness assessment, the more reliable your overall migration strategy.

There are different ways your company can move data and application to the Cloud.

Below is a snapshot of the most common migration strategies:

Rehost- This strategy is also called "Lift and Shift" and is the most common approach when migrating to the cloud. It involves replicating on-premise environments as closely as possible in the cloud. Physical and Virtual Machines can be migrated to Azure in real time using Azure Site recovery. This same technology can be used for disaster recovery purposes.

Revise- You application might not need to be completely re-designed to align with Azure. Usually, some elements might just need some linear upgrades such as Microsoft SQL to Azure SQL or Office 365 identity management to Azure Active Directory. You will need to identify the areas needing partial configuration changes in order to save time and money. Migrate your application database to Azure SQL, MySQL, mongoDB, etc. by checking out the Azure Database Migration Guide.

Refactor- This strategy is also known as "Rearchitecting" and it means that you will restructure your applications as "cloud native" to enable them to align with Azure and become highly available and scalable. The Azure App Services helps you quickly build, deploy and scale web apps and APIs on a fully managed platform. Re-use existing code where applicable and take advantage of PaaS services when possible.

Rebuild- This approach entails that you build your application from scratch and that you have an exhaustive knowledge of the existing application processes and functionality as well as the cloud services. By rebuilding your application in the cloud you can take advantage of the native PaaS services such as App Services, Azure SQL, Load Balancers, Applications Gateways, etc. This gives you complete control and flexibility of your application and allowing it to scale instantly at all layers.

Step 3: Establish Your Cloud KPIs

When planning a migration, it is important to ensure that the cloud will be a valuable asset to your business. To do so, you need to establish performance metrics to measure how it is performing against your expectations. You may already have defined performance metrics for your current applications and services, but will they be as relevant once they're in the cloud?

The best KPIs to track for a cloud migration are the ones that will show the progress of your migration, highlighting the visible and invisible issues.

Since each business is unique, you need to determine which metrics are the most important to your business, and which metrics will be most impacted by the migration to the cloud.

Category	Sample KPIs
Service	• Availability • Reliability • New or resolved incidents • Averge time to resolve incidents
User Experience	• Error rates & error types • Time to provision • Workloads deployed • Customer satisfaction scores (CSAT) and Net Promoter Scores (NPS)
Infrastructure	• CPU utilization % • Memory Usage • Load Average • Disk performance • Network latency • Load balancing
Costs	• Infrastructure costs • Monthly billing, broken down by charge • Ongoing staffing costs • Costs of third-party management tools and consulting
Innovation	• Time for innovation

When You Are Ready

Now that you have established your goals, assessed your environment and determine your migration strategy and KPIs, you're ready to migrate to Azure.

You have many resources, best practices and tools available to assess and prepare your cloud migration. However, it might be risky to attempt a cloud migration without the right expertise and skills related to Azure cloud technology.

This is when a trusted partner like Softlanding can bring value to the table.

As a Managed Services Provider serving small and mid-sized businesses as well as larger organizations, Softlanding can help you identify if Microsoft Azure may be a good fit and help you with your cloud strategy and migration. We can help every step of the way to ensure your cloud journey goes smoothly and that you make the most out of your technology investment.

Request a free consultation today and one of our Azure experts will get back to you to better understand your environment, challenges and goals.

ABOUT SOFTLANDING

Founded in 2000, Softlanding helps organizations be their best by providing technology solutions and services that make them more productive. Areas of specialty include end-to-end SharePoint and Azure services, Microsoft Enterprise Infrastructure and Managed IT Services. Softlanding is a recognized leader in empowering enterprises with solutions and services built on the Microsoft Cloud and on-premises platforms. Softlanding is proud to be named Canadian SMB Partner of the Year for the Microsoft 2018 IMPACT Awards and runner-up at the Microsoft 2019 IMPACT Awards for Sales Excellence.

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