What is Microsoft Azure, and Why Use It?

An In-Depth Look at the Cloud Services Platform from Microsoft
Today plenty of businesses still have real concerns about migrating applications to the cloud. Fears about network security, availability, and potential downtime swirl through the heads of chief decision makers, sometimes paralyzing organizations into standing pat on existing tech—even though it’s aging by the minute.

Enter Microsoft Azure, the industry leader’s solution for going to a partially or totally cloud-based architecture. Below is a detailed look at what Azure is, the power of partnering with Microsoft for a cloud or hybrid cloud solution, and the best way to get full and actionable visibility into your aggregated logs and infrastructure metrics so your organization can react quickly to opportunities.

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**What is Microsoft Azure?**

Microsoft has leveraged its constantly-expanding worldwide network of data centers to create Azure, a cloud platform for building, deploying, and managing services and applications, anywhere. Azure lets you add cloud capabilities to your existing network through its platform as a service (PaaS) model, or entrust Microsoft with all of your computing and network needs with Infrastructure as a Service (IaaS). Either option provides secure, reliable access to your cloud hosted data—one built on Microsoft’s proven architecture.

Azure provides an ever expanding array of products and services designed to meet all your needs through one convenient, easy to manage platform. Below are just some of the capabilities Microsoft offers through Azure and tips for determining if the Microsoft cloud is the right choice for your organization.
Microsoft continues to expand its offerings in the Azure environment, making it easy to make a la carte choices for the best applications and services for your needs.

What can Microsoft Azure Do?
Microsoft maintains a growing directory of Azure services, with more being added all the time. All the elements necessary to build a virtual network and deliver services or applications to a global audience are available, including:

- **Virtual machines.** Create Microsoft or Linux virtual machines (VMs) in just minutes from a wide selection of marketplace templates or from your own custom machine images. These cloud-based VMs will host your apps and services as if they resided in your own data center.

- **SQL databases.** Azure offers managed SQL relational databases, from one to an unlimited number, as a service. This saves you overhead and expenses on hardware, software, and the need for in-house expertise.

- **Azure Active Directory Domain services.** Built on the same proven technology as Windows Active Directory, this service for Azure lets you remotely manage group policy, authentication, and everything else. This makes moving and existing security structure partially or totally to the cloud as easy as a few clicks.

- **Application services.** With Azure it’s easier than ever to create and globally deploy applications that are compatible on all popular web and portable platforms. Reliable, scalable cloud access lets you respond quickly to your business’s ebb and flow, saving time and money. With the introduction of Azure WebApps to the Azure Marketplace, it’s easier than ever to manage production, testing and deployment of web applications that scale as quickly as your business. Prebuilt APIs for popular cloud services like Office 365, Salesforce and more greatly accelerate development.

- **Visual Studio team services.** An add-on service available under Azure, Visual Studio team services offer a complete application lifecycle management (ALM) solution in the Microsoft cloud. Developers can share and track code changes, perform load testing, and deliver applications to production while collaborating in Azure from all over the world. Visual Studio team services simplify development and delivery for large companies or new ones building a service portfolio.

- **Storage.** Count on Microsoft’s global infrastructure to provide safe, highly accessible data storage. With massive scalability and an intelligent pricing structure that lets you store infrequently accessed data at a huge savings, building a safe and cost-effective storage plan is simple in Microsoft Azure.
Why are people trusting their workloads to Microsoft Azure?

It’s been said that the on-premise data center has no future. Like mainframes and dial-up modems before them, self-hosted data centers are becoming obsolete, being replaced by increasingly available and affordable cloud solutions.

Several important players have emerged in the cloud service sphere, including Amazon Web Services (AWS), perennial computing giant IBM, and Apple’s ubiquitous iCloud, which holds the picture memories and song preferences of hundreds of millions of smartphone users, among other data. With so many options, why are companies like 3M, BMW, and GE moving workloads to Microsoft Azure? Just some of the reasons:

- **Flexibility.** With Microsoft Azure you can spin up new services and geometrically scale your data storage capabilities on the fly. Compare this to a static data center, which would require new hardware and OS purchasing, provisioning, and deployment before additional power could be brought to bear against your IT challenges. This modern flexibility makes Azure a tempting solution for organizations of any size.

- **Cost.** Azure solutions don’t just make it faster and easier to add and scale infrastructure, they make it cheaper. Physical services and infrastructure devices like routers, load balancers and more quickly add up to thousands or even hundreds of thousands of dollars. Then there’s the IT expertise required to run this equipment, which amounts to major payroll overhead. By leveraging Microsoft’s massive infrastructure and expertise, Azure can trim our annual IT budget by head-turning percentages.

- **Applications.** With a la carte service offerings like Visual Studio Team Services, Visual Studio Application Insights, and Azure’s scalable, on-demand storage for both frequently accessed and ‘cold’ data, Microsoft makes developing and testing mission-critical apps a snap. Move an application from test to production mode on the fly across a globally distributed network. Microsoft also offers substantial licensing discounts for migrating their existing apps to Azure, which represents even more opportunity for savings.

- **Disaster recovery.** Sometimes the unthinkable becomes the very immediate reality. Another advantage of Microsoft Azure lay in its high-speed and geographically decentralized infrastructure, which creates limitless options for disaster recovery plans. Ensure that your critical application and data can run from redundant sites during recovery periods that last minutes or hours instead of days. Lost time is lost business, and with Azure you can guarantee continuous service delivery even when disaster strikes.

The combination of Microsoft’s vast infrastructure, constant application and services development, and powerful presence in the global IT marketplace has made Microsoft Azure solutions the choice of two-thirds of the world’s Fortune 500 companies. But the infinite scalability of Azure can make it just as right for your small personal business.
Logging capabilities within Microsoft Azure

The secret gold mine of any infrastructure and service solution is ongoing operational and security visibility, and ultimately these come down to extracting critical log and infrastructure metrics from the application and underlying stack. The lack of this visibility is like flying a plane blind—no one does it. Azure comes with integrated health monitoring and alert capabilities so you can know in an instant if performance issues or outages are impacting your business. Set smart alert levels for events from:

- **Azure diagnostic infrastructure logs.** Get current insights into how your cloud network is performing and take action to resolve slow downs, bottlenecks, or service failures.

- **Windows IIS logs.** View activity on your virtual web servers and respond to traffic patterns or log-in anomalies with the data Azure gathers on IIS 7.

- **Crash dumps.** Even virtual machines can 'blue screen' and other virtual equipment crashes can majorly disrupt your operations. With Microsoft Azure you can record crash dump data and troubleshoot to avoid repeat problems.

- **Custom error logs.** Set Azure alerts to inform you about defined error events. This is especially helpful when hosting private applications that generate internal intelligence about operations, so you can add these errors to the health checklist Azure maintains about your network.

Microsoft Azure gives you the basic tools you need for error logging and monitoring, diagnostics, and troubleshooting to ensure continuous service delivery in your Azure cloud environment.

There's gold in those logs. Microsoft Azure offers logging and metrics that can help you improve performance.
Gain Full Visibility into Azure with the Unified Logs and Metrics

Even with Azure’s native logging and analytics tools, the vast amount of data flowing to make your network and applications operate can be overwhelming. The volume, variety and velocity of cloud data should not be underestimated. With the help of Sumo Logic, a trusted Microsoft partner, management of that data is simple.

The Sumo Logic platform unifies logs and metrics from the structured, semi-structured, and unstructured data across your entire Microsoft environment. Machine learning algorithms process vast amounts of log and metrics data, looking for anomalies and deviations from normal patterns of activity, alerting you when appropriate.

With Log Reduce, Log Compare and Outlier Detection, extract continuous intelligence from your application stack and proactively respond to operational and security issues.

The Sumo Logic apps for Microsoft Azure Audit, Microsoft Azure Web Apps, Microsoft Windows Server Active Directory, Microsoft Internet Information Services (IIS), and the popular Windows Performance app, make ingesting machine data in real-time and rendering it into clear, interactive visualizations for a complete picture of your applications and data.
Before long the on-premise data center—along with its expensive hardware and hordes of local technicians on the payroll—may be lost to technology’s graveyard. But smart, researched investment into cloud capabilities like those provided in Microsoft Azure will make facing tomorrow’s bold technology challenges and possibilities relatively painless.

About Sumo Logic

Sumo Logic is a secure, cloud-native, data analytics service, delivering real-time, continuous intelligence across an organization’s entire infrastructure and application stack. Visit Sumo Logic to learn more about scalable security analytics solutions that can help quickly detect and investigate cyberattacks, as well as monitor and analyze user behavior, to ensure business growth without increasing risk to the organization.