Azure vs. AWS

How to Decide Between Microsoft Azure and Amazon Web Services
Azure vs. AWS - Does Size Matter?

The debate about whether Microsoft or Amazon provides the best public cloud services for business has been ongoing since February 2010 when Microsoft launched its Windows Azure service (as it was called at the time). By then, Amazon Web Services (AWS) had a four-year head start in the market and was estimated to be generating revenues in excess of $1 billion annually.

The market for public cloud services has since grown substantially and is estimated to be worth approximately $200 billion annually (Gartner). Due to its head start - and based on estimated like-for-like revenues - AWS has a commanding market advantage over the re-named Microsoft Azure and other service providers that have since entered the market (Synergy).

As Microsoft does not separate its Azure revenues from other “Intelligent Cloud” revenues (including Office365), it is hard to quantify exactly how big a cloud service provider Azure is, or justify speculation it will overtake AWS as the leading cloud service provider in the future. However, whether it overtakes AWS or not, does size matter? Does the biggest necessarily have to be the best?

The Virtuous Circle vs. the Late Developer

Amazon seems to think being biggest is best, and getting bigger is better. The company’s “virtuous circle” philosophy states the more business it attracts, the more servers it can add and the greater economies of scale it can achieve. The more economies of scale Amazon achieves, the more it can reduce its AWS prices and attract more business to its cloud services. The philosophy has worked well to date.

Microsoft has not been quite so price-competitive, although it did introduce per-minute billing in 2013. AWS remained on per-hour billing until October 2017, when it adopted per-second billing for selected services. Microsoft - the “Late Developer” - earned its title by being late to provide support for Linux, late to introduce a data cleaning tool and late to offer a Reserved Instances pricing plan.

Nonetheless - and despite still lacking a full feature-set and the performance of AWS - Azure is still a popular choice with big business. Enterprise IT teams familiar with Windows find Azure easier to use “out of the box”, and - because tools such as SQL database and
Active Directory work well with Azure - they tend to prefer Azure for migrating to the cloud or for creating hybrid environments.

The Differences Between Azure and AWS

For many businesses, the decision to choose Azure or AWS will likely be made according to how well the services each offers matches the business’s requirements. Some businesses use more than one cloud service provider in order to meet specific requirements, balance their risk management, or avoid vendor lock-in. In certain circumstances, using more than one cloud service provider can save money.

So let’s look at the most frequently-used cloud services provided by Microsoft and Amazon and illustrate some of the differences between Azure and AWS. Readers should note that, due to the evolving nature of cloud services, the services described below will almost certainly change over time. Readers are advised to check the current services on offer before deciding between Azure and AWS.

Cloud Compute Services

Azure and AWS share many common elements of their cloud compute services, such as instant provisioning, self-service and auto-scaling. Both companies have invested heavily in machine learning tools and features targeted at new technologies such as the Internet of Things (IoT) and server-less computing (Functions for Azure and Lambda for AWS).

Although Azure’s Virtual Machines and AWS’ EC2 instances are fairly closely matched in like-for-like pricing, power and capacity. Azure’s strengths can be found in its hybrid cloud services, an area in which Amazon has been the “late developer”.

AWS offers the largest range of services and is generally considered to be better for analytics, management tools and enterprise applications.

Both Azure and AWS have an open approach to partnerships, allowing customers to run various apps and services in their cloud environments. However, when it comes to open source, Microsoft hasn’t particularly embraced the concept - preferring to cater for .net developers using VBS, SQL database and Active Directory. By comparison, Amazon shines when it comes to open source developers.
Cloud Storage Services

AWS and Azure both cater for the huge - and growing - demand for cloud storage services. Both companies offer Block Storage, Object Storage and Network Attached Storage (NAS) services at fairly comparable prices. AWS is slightly cheaper for Block Storage and offers Block Storage sizes up to 16TB. Azure narrowly wins the price war for Object Storage and NAS, but maxes out at 500TB Object Storage.

When it comes accessing “hot” Blocked Storage, AWS is the clear winner. Amazon´s general purpose SSD option guarantees a minimum of 10,000 IOPS per volume, and businesses have the option of paying a premium for provisioned IOPS offering up to 20,000 IOPS per volume with a maximum 65,000 IOPS per instance. Microsoft only offers the comparatively tardy 5,000 IOPS per volume.

All the cloud storage services provided by AWS and Azure have security, compliance and identity management features as standard, and both companies offer SLAs guaranteeing 99.99% uptime. However, Azure stands out once again for hybrid cloud services - providing a far better service for business wishing to retain legacy data on-premises in order to avoid the cost of moving it to the cloud.

Cloud Backup and Disaster Recovery Services

Closely linked to cloud storage services are cloud backup and disaster recovery services. The ability to backup in the cloud gives these services a massive cost advantage over traditional hardware solutions, which may not only be time-consuming, but can also be subject to loss or damage. However, Azure and AWS handle their cloud backup and disaster recovery services in different ways.

Azure provides a good range of native services for backing up everything from files and folders to complete virtual infrastructures. Cloud backups can be saved to disk or tape if required, or saved in Azure´s Recovery Services Vault (usually across multiple regions) from where they can be recovered quickly and easily as required or in the event of a disaster. Backups are limited to three per day.
AWS does not provide a native cloud backup and disaster recovery service, but instead allows businesses to choose from a selection of “Solution Providers” whose tools integrate seamlessly with the AWS platform. With these tools, businesses can schedule snapshots of their cloud environments (up to every five minutes), which are saved in Amazon’s Elastic Block Storage (EBS).

**Compliance and Customers**

Two factors that can influence a business’s decision to choose between two cloud service providers are compliance and customers. Compliance can be an issue for many businesses in regulated industries required to implement controls over the integrity of their data. The customers a service provider has - or, more specifically, the customers’ business models - can sway the decision between one and other.

Both Microsoft and Amazon cater for businesses’ compliance requirements - possibly Microsoft having an edge due to its advanced hybrid capabilities. Both have many certifications of compliance form government and commercial agencies, both listen to customers’ requirements about the data storage location points, and both have government-level data centers than can only be accessed by screened personnel.

With regard to customers, AWS has the advantage due to being in business the longest. The cloud provider has multiple high-profile customers including Netflix, Dow Jones, Nasdaq, Nike and Pfizer. Azure’s public cloud customer database includes EasyJet, Ford, NBC News and Pearson - possibly not as high-profile customers as AWS, but many other non-listed businesses will be using hybrid solutions.

**The Pros and Cons of MS Azure**

<table>
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<th>Azure Pros</th>
<th>Azure Cons</th>
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| • Broad & deep service offerings  
• Robust partner ecosystem  
• Trusted by high-profile customers | • History of outages  
• Limited OS options |

As mentioned above, the decision to choose Azure or AWS will likely be made according to how well the services each offers matches the business’s requirements. However, each provider also has it pros and cons to consider. For example, Microsoft has experienced a number of outages in recent years resulting in some customers changing providers for cloud back up and disaster recovery services.

The big pro of choosing Azure really applies to businesses already heavily committed to Microsoft products. These businesses can benefit from a comparatively painless transition to the cloud or a hybrid environment, as Azure links seamlessly with key on-premises systems such as System Center, Windows Server and Active Directory. They will like also benefit financially from Enterprise Agreements.

However, Microsoft’s strength is also its downfall. Although the “late developer” is getting around to extending its support for Linux operating systems, Azure is quite restrictive in supporting other platforms. Businesses looking to run anything other than Windows Server in the cloud may be disappointed with the options available to them.
The depth and flexibility of the services provided by AWS is both a pro and a con. Whereas the volume of options is an attraction to many, it can also be off-putting to others. On one hand, the scale of possibilities will meet the requirements of most businesses. On the other, the volume of options can appear daunting, difficult to navigate and complex to manage.

Having to have been enterprise-friendly when first launching in 2006, AWS has built out its suite of cloud services to appeal to CIOs and developers alike. Having developed a reputation for trustworthiness and reliability, AWS ranks highly for its partner ecosystem and the AWS Marketplace which contains a large number of third-party software services provided by its “Solution Providers”.

On the downside, AWS has given the impression it is the public cloud that matters to the company and that’s all. It has been less than enthusiastic about the benefits of on-premises private clouds and hybrid solutions, and this approach has probably driven away businesses in the healthcare, legal and financial industries who would rather maintain sensitive data within their own data centers.

**Does the Azure vs. AWS Debate Matter?**

Does the Azure vs. AWS 2017 debate matter when choosing a new or secondary cloud services provider? In terms of market share and performance, it probably doesn’t. The biggest is not necessarily the best for many businesses - who will make their decisions based on their specific requirements regardless of who has a virtuous circle or who is a late developer.

One thing is for certain: the public cloud is growing and it’s here to stay. Let’s not forget that both Google and IBM also have growing public cloud offerings too (and Google is currently looking to expand its enterprise market). All of this competition drives innovation, and therefore the diversity of IaaS and PaaS offerings. Hopefully better pricing as well.

**For businesses, the basic questions remain the same when evaluating public cloud providers:**

- How understandable are the public cloud offerings to new customers?
- How much do the products cost?
- Are there adequate customer support and growth options?
- Are there useful surrounding management tools?
- Will our DevOps processes translate to these offerings?
- Can the PaaS offerings speed time-to-value and simplify things sufficiently, to drive stickiness?
- What security measures does the cloud provider have in place?
Azure vs AWS - Conclusion

Based upon the evidence, we think it’s pretty clear AWS is still the market leader among public cloud service providers. AWS continues to lead the way in terms of offering the widest range of functionality and maturity, an expansive selection of tools and services, and an aggressive pricing strategy that is forcing others to follow suit. However, many people believe the gap between AWS and Azure is closing.

All the time Microsoft continues to build out its core products and remain ahead of the game with its hybrid cloud solutions, it will persist in being the closest market rival Amazon has in the cloud services industry - particularly among businesses that have already invested heavily in Microsoft in terms of technology and developer skills. So who knows what the future holds for this still-evolving industry?

One thing we do know for certain is that, whatever cloud service provider you decide upon, you can save up to 65% on the cost of deploying compute and database instances with ParkMyCloud. Our lightweight app works with both Microsoft Azure and Amazon AWS, and we are offering all businesses the opportunity to try ParkMyCloud for free and keep what you save during your free trial. Contact us to learn more, or try for free at www.parkmycloud.com.
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