Cloud Services: How to Choose between Azure and AWS

Cloud services are now the default choice for all firms. The economies of scale available to the cloud service providers make this the most efficient way to provide storage and cloud computing capacity. Customers now pay for services based on capacity and usage and capacity can be scaled as required.

Management of cloud services costs can now be based on business value judgements. What is the business value of the data we are buying, storing and processing and is it greater than the costs? Cost control is a simple matter of rationalising, or archiving, unused data and checking that any processing adds value. This business transparency simplifies the management of IT costs, not least by making them variable, traceable and comparable across business units.

There are three big cloud services platforms provided respectively by Microsoft, Amazon and Google which have a complete set of service offerings, other platforms with partial service offerings such as Salesforce and Adobe and smaller players that offer only infrastructure as a service. In many service areas "platforms" are being built by acquisition to broaden a core service as the platform strategy is adopted more widely to lock in business customers. This means that any choice of an individual technology is also a platform choice that could have longer term implications.

Amazon Web Services and Microsoft Azure are at the heart of the Amazon and Microsoft platforms respectively, offering services in computing, delivery, storage, database, developer tools, and other functionality.

What is Azure?

Microsoft Azure was launched in 2010. Azure data analytics is a key offering along with solutions for web and mobile applications that can integrate seamlessly with the enterprise environment to achieve efficiency.

Pros

- High-end testing capabilities. There are testing tools for mobile apps, digital marketing, IoT devices and business apps.
- Azure has a private cloud computing environment and does not share access to third-party cloud platforms. This feature makes it an excellent choice as platform-as-a service.
- Azure has autoscaling options ensuring an Azure developer has the capacity required.
- As a Microsoft offering, it integrates optimally with other Microsoft products such as Windows Server, Active Directory and so on.

Cons

- Azure documentation isn't very easy to navigate and sometimes incomplete or not updated. This is often listed as a complaint in Azure forums.
- Azure's integration with platforms other than Microsoft is limited.

What is AWS?

AWS was also launched in 2010 and provides tiered cloud development platforms for usage for content delivery and computation. AWS offers several hundred platforms that cover a wide range of solutions in storage, networking, and delivery, with hundreds of templates in several programming languages.

Pros

- Enterprise friendly, scalable services that offer great flexibility for high-end computing. Subscribers with the pay as you go feature are able to purchase only the required functionality.
- Covers almost all the cloud services an organization may need. There are several application development platforms that offer dedicated solutions with a unique hardware setup for each.
- A high level of security is offered in the cloud applications with strict management policies, configuration settings and multiple encryption layers.
- Autoscaling ensure AWS developers have the resources they require.

Cons

- The hybrid structure of AWS can be a setback for certain cloud computing solutions as they integrate private and third-party public clouds frameworks.
- Complexity: An extensive list of services and high-quality resource offerings means AWS developers require a more elaborate knowledge of the environment.

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Comparative study of Azure and AWS

The table below compares the key features of Azure and AWS and highlights some key differences.

	Azure	AWS
Computation	Virtual Hard Disk that is equivalent to a Machine instance, is used for computation through virtual machines. The user, Microsoft or third-party can pre-configure the VHD.	EC2 users can configure their virtual machines or use pre-configured machine images for computation. The user can choose the size, power, memory, regions, and zones to launch.
Storage	Storage Block Blobs are used for storage that consists of blocks and large Blobs are uploaded efficiently. Cool and Archive access tiers of Azure blob storage allow for data archiving.	Has temporary storage that is created once an instance begins and destroyed when it ends. There is also block storage that can be attached or separated from an instance. Object Storage is offered with S3 and data archiving services with Glacier. Support for relational, NoSQL databases and Big Data is provided.
Networking	A virtual network is used for networking and content delivery. VPN gateway is used for cross-premises connectivity. Load balancer and application gateway are used for load balancing.	Networking is provided by various partners and networks that interconnect with data centres using different products. A virtual private cloud is used for networking and API is used for cross-premises connectivity. Elastic load balancing is used to balance network load.
Integration	Native integration is offered for VBS, SQL database, Active Directory. Works well with .Net as well. There aren't many open source integrations but supports Linux and Hadoop clusters	There are open source integrations available with AWS such as GitHub and Jenkins. It works well with Linux servers as well.
Ease of Use	Easier to adopt for Windows platform users. Simple to integrate cloud instances with Windows servers and create a hybrid environment.	User friendly interface, diverse array of features, well-documented, offers flexibility and customisation
Pricing	Pay as you go model but charge per minute. Short term plans are offered with options of pre-paid and monthly charges.	Pay as you go model charged per hour of usage. Instances can be purchased in some circumstances.

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Conclusions

Ultimately, the choice between them is a platform choice. Some firms see themselves as committed to the Windows and Microsoft platform, are comfortable with the easy interoperability of all the tools in the Microsoft platform and not dismayed by any lack of interoperability with other best of breed tools.

Amazon is chosen by firms which are primarily looking for a technical edge in infrastructure as a service and are prepared to look more widely for complementary best of breed tools and to invest more effort in extracting advantages from them.

Whichever provider you choose, you will be reaping the benefits of a highly scalable cloud solution that can cater to the ever-fluctuating business requirements.

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