

Mobile Backend-as-a-Service:

Weighing the pros and cons of Microsoft Azure versus Amazon AWS



The rapid growth in enterprise mobility has necessitated support for mobile clients with value added services that connect to the backend legacy systems and ensure that the enterprise mobile applications perform the required tasks.

Mobile Backend-as-a-Service, also known as 'backend as a service', is a model that provides mobile app developers a way to link their applications to backend cloud storage and APIs exposed by back end applications. There are several advantages to adopting MBaaS as part of the organization wide enterprise mobility strategy.

- Facilitates integration between ERP applications and mobile applications for effective operations
- Enables additional layers of security, e.g., through integration with two factor authentication servers
- Complements the mobile enterprise application platform for non-business critical applications while providing 'Write Once Run Anywhere' capability
- Protects intellectual property rights as no business logic is exposed to mobile clients, reducing vulnerability to hacking

Big Cloud Players in the MBaaS Arena

The fact that major cloud players such as Microsoft Azure and Amazon AWS provide service offerings to support MBaaS clearly indicates its increasing significance.

Microsoft Azure Mobile Services is a service offering designed to help easily create highly functional mobile apps using Azure. It brings together a set of Azure services that enable and support backend capabilities for enterprise apps.

Amazon AWS provides a range of services that are designed specifically to help mobile app developers quickly and easily build scalable apps to reach global users with minimal effort. There are several relevant sub-services for identity management and synchronization (Amazon Cognito), analytics (Amazon Mobile Analytics), and push notifications (Amazon SNS Mobile Push).

Figure 1 highlights some of the key similarities and value additions, as well as the major differences between the two services.

| Key Features | Microsoft Azure | Amazon AWS |
|-------------------------------|---|---|
| Integrating with backend data | <ul style="list-style-type: none"> Provides a rich set of options to integrate with backend data Supports calling custom APIs | <ul style="list-style-type: none"> Simplifies access to Dynamo DB and enables secure access to private or shared data directly from a mobile app S3 Transfer Manager simplifies uploading and downloading files from devices over mobile connections to enable easy access to cloud storage |
| Facilitating offline sync | <ul style="list-style-type: none"> Facilitates offline sync, allowing developers to write apps even when the end user has no network access. | <ul style="list-style-type: none"> Easy to save user data, such as app preferences or game state in the AWS Cloud, without writing any backend code or managing any infrastructure. Data can be saved locally on users' devices allowing applications to work offline |
| Supporting authentication | <ul style="list-style-type: none"> Supports authentication from different providers such as Facebook, Google, Microsoft Account and Twitter | <ul style="list-style-type: none"> Allows creating unique end user identifiers for accessing AWS cloud services by using public login providers such as Amazon, Facebook, Google, and any OpenID Connect compatible provider, or with your own user identity system. |
| Sending Push notifications | <ul style="list-style-type: none"> Supports sending Push Notifications back to the mobile devices. | <ul style="list-style-type: none"> Amazon Simple Notification Service (Amazon SNS) is a fast, flexible, fully managed push messaging service |
| Providing analytics support | <ul style="list-style-type: none"> Acquired a mobile analytics solution Captain, where app owners and marketers can engage with app users in real-time by analyzing their behavior, finely segmenting the audience based on their interaction with the app, and engage via personalized push notifications or rich in-app messaging. | <ul style="list-style-type: none"> Amazon Mobile Analytics is a service that lets you easily collect, visualize, and understand app usage data at scale. |

Figure 1: Similarities and differences between Azure and Amazon AWS



Services are evolving, but each has a distinct flavor

Considering the importance of MBaaS in the emerging mobility reference architecture, it is likely that both these services will soon feature in the enterprise landscape. Other factors such as performance and cost of ownership will also play role in their adoption.

While there are several similarities between the two services, there are some distinct features that differentiate the two. Microsoft Azure lends itself well to on premise integration. With several options available for on premise integration, these services enable creation of a cloud-hosted mobility layer on top of existing assets, while safely connecting them back on your premises using hybrid connections. Azure Services also provide support for relational databases that are critical for enterprise mobility applications. The Mobile Services .NET backend makes it easy to take advantage of existing assets in building a mobile service.

Amazon AWS Mobile Services perform well in realtime processing. Businesses can have their mobile applications push data to Amazon Kinesis from several devices, making the data available as soon as it is produced on the mobile devices. The Amazon Kinesis Recorder enables organizations to reliably record data to an Amazon Kinesis stream from their mobile application, even when the device is offline.

MBaaS is one of the fastest growing cloud services delivery models. Considering the diversity in technologies that most organizations use, it might be prudent to work with a cloud based Platform-as-a-Service provider, rather than a pure play vendor. In such a case, organizations can avail of the combined ecosystem that services such as Microsoft Azure and Amazon AWS are able to offer.

