G00274292

Market Guide for Cloud Mobile Back-End Services

Published: 5 March 2015

Analyst(s): Richard Marshall, Van L. Baker, Jason Wong

Mobile back end as a service has become a critical component of enterprise mobility. Mobile strategists and architects can choose from products that offer a variety of required mobile app services, including data hosting, integration and orchestration, location, and identity and access management.

Key Findings

- A clear separation is emerging between user-facing mobile apps and the services that deliver much of the access to the data and services required to give the apps the functionality they need.
- The separation between client-facing user interface elements and the hosted services that power the app has given rise to an entire class of vendors that focus on the delivery of standardized services with published APIs initially targeting mobile app developers.
- Mobile back end as a service products are offered by stand-alone mBaaS service vendors, mobile application development platform vendors looking to separate back-end services from front-end development tools and platform as a service vendors that are delivering services that target mobile apps.

Recommendations

- Evaluate services to determine which vendors provide the sets of features you'll need to build the mobile apps your enterprise plans to develop. mBaaS offerings vary enormously in terms of their capabilities.
- Consider enterprise mBaaS service needs separately from front-end development tools, but do not overlook the need to evaluate the level of integration between front-end development tools and the services your enterprise requires. Connectivity with enterprise back-end systems such as ERP is often a deciding factor.

- Consider focusing enterprise IT on the mBaaS layer and sharing front-end mobile app development with other business units and third parties that may have greater expertise in user experience and user interface development efforts.
- Consider any investments as tactical and review regularly, because, as with all areas of mobile, cloud mobile back-end services are evolving rapidly. Focus your architectural design on the APIs the business requires, allowing for exchanging front- and back-end components and tools with minimal code impact.

Strategic Planning Assumption

By 2020, lightweight Web- and mobile-style app integration will have completely displaced traditional approaches.

Market Definition

This document was revised on 18 March 2015. For more information, see the Corrections page.

Mobile back end as a service (mBaaS) vendors deliver capabilities to mobile apps via published APIs that can be incorporated into mobile apps. mBaaS services are typically hosted services delivered as middleware between the client-based mobile apps and the back-end databases and applications that enterprises use to run the business. Typical services offered via these REST APIs include data hosting; identity and access management (IAM); push notifications; business system integrations, such as CRM or ERP; and location. They are typically multitenant services that are hosted in the cloud, and many can be delivered as on-premises or virtual, private, cloud-hosted services. Many services offered in the mBaaS category can be used by other app projects, including Web apps, and investment in mobile support can and will benefit other areas.

Market Direction

The mBaaS market has emerged rapidly in response to a strong demand for mobile apps. Mobile app functionality is most often enhanced by the delivery of information from systems that offer specialized capabilities, such as IAM, which can facilitate authentication via a hosted instance of an active directory.

The mBaaS providers offer a wide variety of services. Some target consumer-facing mobile apps, as well as business to employee (B2E) apps; others focus on specific market verticals. Typical services that may be offered by an mBaaS provider include:

- Database hosting
- Database/application integration
- Data synchronization (offline mode)

- Storage
- IAM
- Data encryption
- Push notifications
- Location/mapping
- Social network integration
- Collaboration
- API management

Market Analysis

The first mBaaS offerings emerged in 2010 to serve the growing market for consumer mobile apps. These services combined mobile-specific features, such as push notifications, as well as more-general, easy-to-use storage services for data and images. Most consumer-facing app providers had neither the capital nor the experience to set up these kinds of server-side capabilities, so simple, pay-per-use cloud services offering RESTful APIs were ideal for delivering these basic mobile app components.

Enterprise mobile apps often benefit from consumer app features, especially location, analytics and push notifications, and mBaaS provides a convenient mechanism to consolidate server-side support and drive reuse. However, there are significant differences in approach between enterprise and consumer apps, as reflected in the available products, which are beginning to bifurcate to reflect differences in customer needs. Few enterprise apps use mBaaS storage, preferring to use connectors to existing back-end systems. These connector systems vary in sophistication, but usually include support for SQL databases and typical on-premises business systems, such as SAP and, increasingly, SaaS offerings, such as salesforce.

The other difference between consumer and enterprise is that, in the former case, a small team will typically deploy one app, whereas, in the latter, larger teams deploy a portfolio of apps. This portfolio is likely to share many of the services, especially the adaptors and connectors, creating a different multitenant model, and management and control requirements. A few vendors (e.g., AnyPresence, FeedHenry, KidoZen and Kinvey) specifically address this market.

Although cloud and mobile are natural partners, linked by Internet-based communications, separating data management and integration from existing back-end systems may cause problems. Performance may be an issue for large-scale systems or those with real-time requirements. Mobile-specific information (e.g., images) is often stored in the cloud, which may have data protection issues. Hosting on third-party cloud infrastructures, such as Amazon Web Services (AWS), creates complex dependencies for service-level management. For all of these reasons, some vendors offer their software on-premises, as well as in hybrid cloud configurations.

The mBaaS market is evolving rapidly, with new players of all sizes emerging, as cloud services become standard for most mobile application development platforms (MADPs). The arrival of the traditional IT major players — IBM, Microsoft and Oracle — in the market points to the technology arriving at the peak of the cycle. Although organizations will continue to build on-premises systems, especially for systems of record, the connectivity model of mobile apps makes mBaaS a fundamentally sound technology that will mature rapidly.

Representative Vendors

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.

Listed below are some of the more prominent providers in the mBaaS market. They range from large platform as a service (PaaS) vendors, such as Amazon and Microsoft, to smaller independent providers focused on particular market needs, such as Catalyze, Parse and ShepHertz. Some vendors have been in existence for several years; others are recent market entrants. Of course, new products are constantly being brought to market.

Amazon

Launched in mid-2014, Amazon's AWS Mobile Services include identity management, analytics, push notifications and data storage.

AnyPresence

AnyPresence provides an enterprise-focused MBaaS offering that includes integration, dynamically generated software development kits (SDKs), API definition, templates and a test user interface builder. The Node.js-based server code is portable, and can be deployed in the cloud, on-premises or in hybrid combinations.

apiOmat

Based in Germany, this hosted solution offers enterprise mBaaS capabilities and integration with major business back-end systems, as well as social and SaaS packages. This vendor supports on-premises, public and private cloud deployments.

Appcelerator

The Appcelerator Platform offers more than 20 ready-to-use mobile services, such as advanced analytics, geolocation, storage and authentication, along with an API builder and extensions through Node.js.

Axway

Axway API Gateway dynamically transforms SOAP/XML to REST/JavaScript Object Notation (JSON) to link back-end applications with mobile apps and support security, control and monitoring of mobile APIs.

BaasBox

BaasBox is an open-source Apache project installable as a Java Virtual Machine (JVM). It offers SDKs for iOS, Android, JavaScript and REST APIs.

Backendless

Backendless provides API analytics, client-side code generation and mobile services, such as geolocation; video/audio broadcast and steaming; and data, file and user services.

built.io (raw engineering)

Raw engineering now calls itself built.io. This mBaaS vendor provides enterprise capabilities, such as analytics, social integration, push notifications and geolocation, as well as comprehensive development services.

Catalyze

Catalyze offers an mBaaS targeted at the health vertical and focuses on providing an environment that meets Health Insurance Portability and Accountability Act (HIPAA) compliance requirements.

CloudMine

CloudMine provides an enterprise mBaaS that includes services to comply with HIPAA, PCI and SAS 70 requirements.

Firebase

Firebase is an application platform that provides a curated set of high-level services enabling developers to rapidly build applications. These services emphasize ease of development and address patterns commonly encountered by mobile developers, including real-time data sync across heterogeneous client platforms, easy user authentication and security rules, and seamless support for offline/no-network use cases.

Good Technology

Good Dynamics, through security and added mobile services APIs, has morphed into an mBaaS with a focus on app and data security, along with providing high-availability service.

IBM

Based on the open-source architecture of Cloud Foundry, Bluemix provides access to its MobileFirst Platform, special mobile services for iOS, and other IBM and third-party mobile services.

Kii

Kii offers core mBaaS services, as well as capabilities such as A/B testing, social referral/sharing and specific services for apps in China, such as in-country infrastructure, app store distribution and Chinese social media integration.

KidoZen

KidoZen simplifies mBaaS by providing SDKs that can invoke common mobile services and access to enterprise data sources with single lines of code via their APIs.

Kinvey

Launched in 2011, Kinvey provides core mBaaS features with additional SDKs for a broad range of clients, advanced identity management, enterprise integration, analytics, security and content delivery network capabilities.

Kony

Kony MobileFabric (including Cloud Foundation Services) provides a range of enterprise integration and mobile services to develop apps using either the Kony Studio integrated development environment (IDE) or third-party SDKs and frameworks.

Kumulos

Kumulos targets business-to-consumer (B2C) apps with its mBaaS, which has a free development model, but monthly payments once the app is live in a public app store.

Microsoft

Microsoft Windows Azure Mobile Services offers core mBaaS capabilities, as well as the ability to customize back-end logic via C# or Node.js.

Oracle

Part of Oracle Cloud, the Oracle Mobile Cloud Service leverages Oracle's Mobile Platform to enable developers and IT to create and manage mobile APIs and services.

Pegasystems

Pega 7 provides prebuilt and reusable Pega 7 Services that deliver common mobile services without coding. These include authentication, push notifications, geolocation and enterprise data integration.

Parse

Acquired by Facebook, Parse offers B2C-oriented, back-end services for desktop Web and mobile apps, including data/file storage, push notifications and analytics.

Pivotal

Pivotal Cloud Foundry (CF) Mobile Services offer an API gateway for transforming legacy APIs to mobile-optimized ones, plus push notification and data sync support.

Progress Software (Telerik)

Telerik Backend Services has recently been acquired by Progress Software and is available separately or as part of the Telerik Platform for mobile app development. It offers many core mBaaS capabilities.

Red Hat

Acquired by Red Hat in 2014, FeedHenry provides a Node.js-based mBaaS that includes a forms builder and prebuilt app templates.

Salesforce

Salesforce is used to build B2E apps, whereas Heroku is used to build B2C apps; however, Heroku Connect offers a sync facility between the two back ends.

SAP

The cloud version of SAP Mobile Platform (SMP) is built on SAP Hana Cloud Platform. It uses Open Data Protocol (OData) APIs in the same manner as on-premises symmetric multiprocessing (SMP). This provides authentication, push notifications, app updates, and configuration and logging services.

ShepHertz

ShepHertz's App42 Backend runs on its App42 PaaS Platform and is geared toward B2C apps, with capabilities such as social leaderboard, avatar management and buddy management.

StrongLoop

The StrongLoop API Platform delivers core mobile services, such as offline sync, push, geolocation, social login and replication, via native SDKs, including iOS, Android and Angular.

Market Recommendations

- As with all aspects of mobile, cloud services are rapidly evolving. Enterprise mobility is on a cusp, with enormous growth expected during the next few years. Ensure that the vendor you choose can support your needs during this period. Where this isn't possible, design the architecture of your solution to make it possible to switch mBaaS provider, should it become necessary.
- If an existing deployed MADP or PaaS offering includes mBaaS capabilities, then use those services until you reach the limits of their capabilities.
- For broader functionality or where you have specific requirements, such as security compliance or consumer-app-oriented services, consider an independent mBaaS vendor.
- For some applications, an enterprise file synchronization and sharing (EFSS) provider would be appropriate for document-oriented tasks that do not require more-granular data access.
- To satisfy your corporate policies and app requirements, explore public, private and hybrid hosting models.
- The mBaaS vendor's security and identity models need to match your planned requirements, so take into account such factors as ownership and enterprise mobility management (EMM).
- Enterprise mobile apps deliver maximum value when composing information from multiple back-end solutions. Consider this when selecting a vendor that provides the ability to compose information from multiple sources.
- Different mBaaS vendors offer widely varying capabilities, so consider vendors that are appropriate matches to both current and likely future app development requirements.
- Some mBaaS offerings include API management capabilities. This is useful when a single back-end solution is used to power mobile apps; however, a separate API management package may be advantageous when several different systems — whether mBaaS or other middleware — must be aggregated, orchestrated and managed.

Additional research contribution and review was provided by Adrian Leow, Ray Valdes and Nick Jones.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Taxonomy, Definitions and Vendor Landscape for Mobile AD Technologies"

"Magic Quadrant for Mobile Application Development Platforms"

"What IT Leaders Need to Know About the Mobile App Integration Puzzle"

"Market Guide for Rapid Mobile App Development Tools"

"The Transformation of Mobile Middleware"

GARTNER HEADQUARTERS

Corporate Headquarters
56 Top Gallant Road
Stamford, CT 06902-7700
USA
+1 203 964 0096

Regional Headquarters
AUSTRALIA
BRAZIL
JAPAN
UNITED KINGDOM

For a complete list of worldwide locations,
visit http://www.gartner.com/technology/about.jsp