Backend as a Service (BaaS/mBaaS)

BACKEND AS A SERVICE

mobile BaaS

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*also known as mobile backend as a se
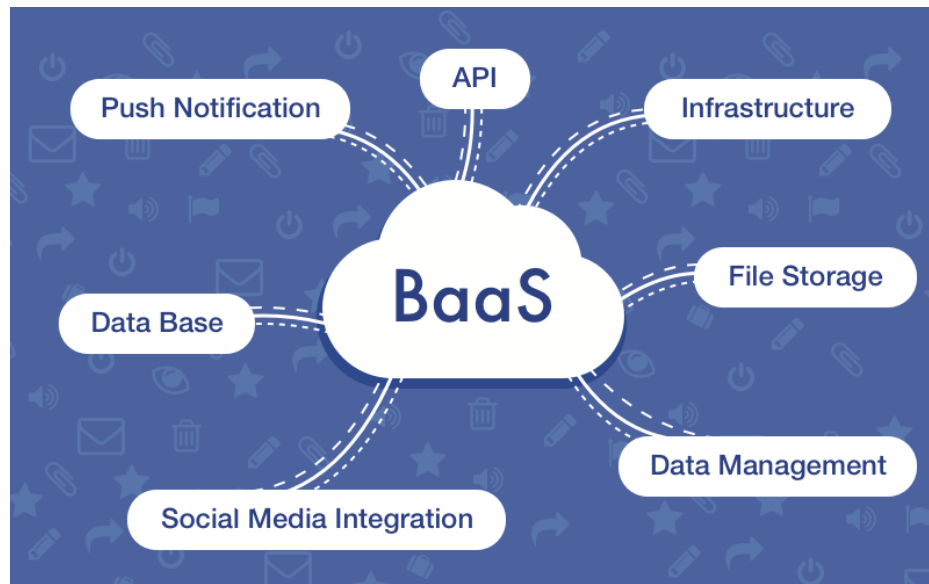
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Final Spark Page:

https://spark.adobe.com/page/bkf5rgKFbdieF/

What is Baas/mBaas?

Baas, Backend as a Service, is a development approach that connects the Frontend to a cloud based Backend using APIs and SDKs. This approach negates the need for users to host their own servers while providing common useful features like push notifications and location services. (Conceptanext, 2018; Lane, n.d.)

(Cleveroad, 2017)

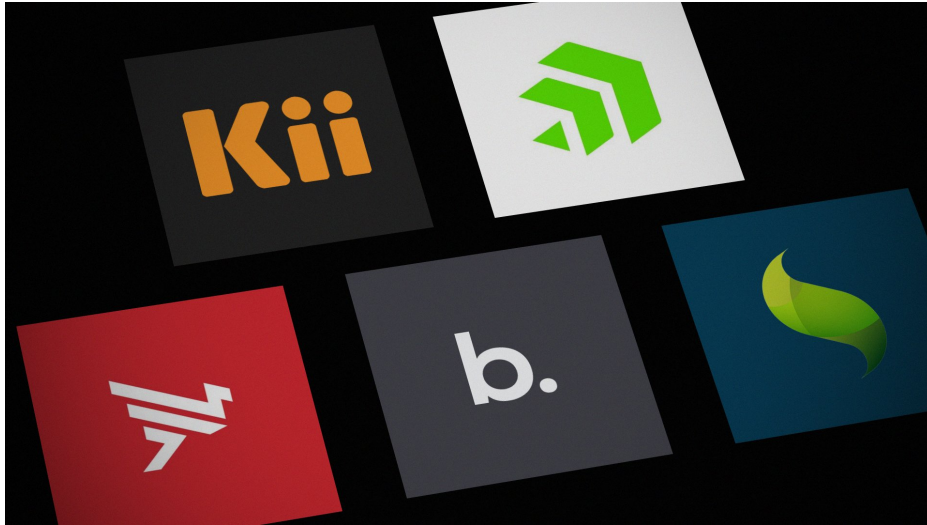# Five (Actually Six) BaaS Solutions

- Firebase: Firebase is a BaaS platform currently owned by Google. It is a real time database with file storage and its own hosting service. It serves as database, server, and API allowing users to focus on frontend functionality and user experience.

- Kinvey: Kinvey is one of the first BaaS platforms developed. It provides security through all around encryption and supports hybrid, native, and HTML5 based apps.

- Kii: Kii is a BaaS platforms that supports user acquisition, deployment, and testing on within a single environment. It has a strong focus on marketing and offers complimentary services such as monetization and analytics. Kii also prides itself on its simplicity and scalability.

- Appcelerator: Appcelerator is a BaaS platform that focuses on speeding up the production of cross-platform apps. It offers real time analytics and simplified access to optimized APIs. Appcelerator uses a JavaScript code base and includes a large opensource SDK.

- Built.io: Built.io is a BaaS platform that allows users to create apps while eliminating the need to create and maintain a custom backend stack. It also allows users to choose a cloud platform and architecture rather than starting from scratch. Built.io focuses on working efficiently on devices with hardware or networking constraints.

- Sencha: Sencha is an HTML5 mobile app framework with a focus on user experience. An example of the highly optimized user experience of Sencha is that it automatically chooses the best scrolling method for each device. Sencha is high-performance framework that allows users to develop powerful apps compatible with a range of platforms from iOS to Windows Phone.

- Section References: (Gravum, 2019; Esplin, 2016)

Three Reasons to Use BaaS

- Speed: BaaS automates most small, tedious backend tasks and provides features for other common tasks such as user-management and queries which can save the user hours to weeks of time. BaaS uses a cloud server which saves the user from spending time creating, designing, and managing a self-hosted backend. Similarly, the ease with which the user can interact with the backend can cut production time by a lot.

- Cost: BaaS hosts the backend of apps on the cloud which cuts the cost of hardware to maintain physical servers. It also cuts the cost of upgrading servers because users wouldn't need to purchase additional hardware, although they might need to upgrade their cloud plan. Additionally, BaaS has a gradual learning curve which makes it easier for smaller teams to work with BaaS and produce quality apps quicker, cutting labor costs.

- Functionality: The automation of many backend interactions allows users to focus on creating a more efficient, user friendly, and high quality frontend. BaaS also provides many common functions such as user authentication and search capabilities which makes it faster and easier to build a functional app and increase app functionality.

- Section References: (Conceptanext, 2018; Dhandala, 2016)

(Gravum, 2019)

Three BaaS Solutions with Pros & Cons

- Firebase: The pros of Firebase are its authentication system, real time data, security system (secured at the nodes), file storage and hosting, and ability to build scalable apps. The cons are its limited query abilities, use of NoSQL (SQL skills on the users part would be unnecessary, this could be considered a pro as well), and the lack of a local installation due to the

fact that it's hosted on the cloud rather than a local server.

- Appcelerator: The pros of Appcelerator are that is uses native UI components, normalizes cross-platform UI, utilizes JavaScript to normalize code across platforms, provides app analytics, and is free and open source. The cons are that users need to direct platform SDKs locally, and SDK builds could take up time that could otherwise be spent optimizing frontend features such as user experience.

- Sencha: The pros of Sencha are that it's object-oriented, contains MVC (model-view-controller), UI, database, HTML5 API, and device API, has good documentation and support, easy to build hybrid apps, supports plugins, and comes with its own animator. The cons are that it's web-kit only, has a proprietary license (paid software with strict terms of usage), and DOM (document object model) heavy.

- Section References: (Auxanoglobal, 2017; Esplin, 2016; Gomozov, 2014)

App Example, With One BaaS Solution, And Three Reasons Why

One possible app that could use Firebase would be a more shareable version of the Penny for Your

Thoughts custom app being created by Mulan Lau. The app originally allows users to login and create "thoughts". Upgrading the functionality to include allowing users to share thoughts with each other could make using a BaaS solution like Firebase useful.

Why Firebase specifically? Firebase offers features such as real time data, file storage, and file hosting which would be important in maintaining high performance in the app. The real time data feature would allow users to share and receive thoughts almost instantly and the file storage and hosting features provides a secure location to store the majority of the app data. Firebase also includes an authentication and security system. The authentication system could be used to easily verify users and the security system would make it easy to ensure that thoughts remain secure. Finally, Firebase has the ability to build scalable apps which would be very useful should the amount of users of the app increase steadily, probably resulting in an exponential growth in thoughts.

One Company Using Baas And Why

Many companies use BaaS providers such as Firebase. One such company is Twitch. While Twitch does not say why exactly they use Firebase, many

companies have voted on the general reasons for using Firebase. These reasons are that Firebase is real time, easy to use and setup, stores data as JSON, fast and responsive, backed by a solid company (Google), free, and reliable. (Stackshare, n.d.)

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