Backend as a Service (BaaS / mBaaS)

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Link to Final Spark Page: https://spark.adobe.com/video/k628P8QdnqXAt
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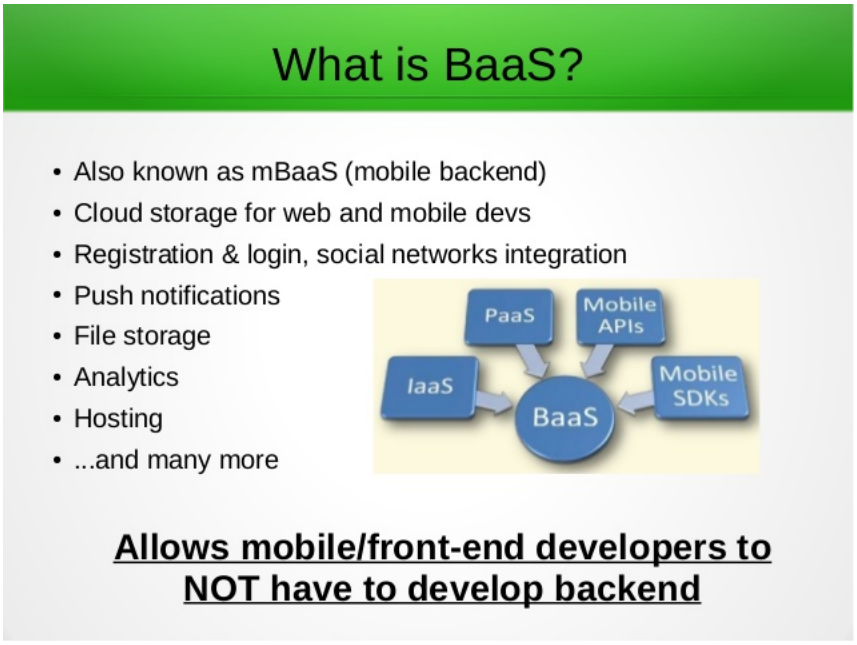
What is BaaS

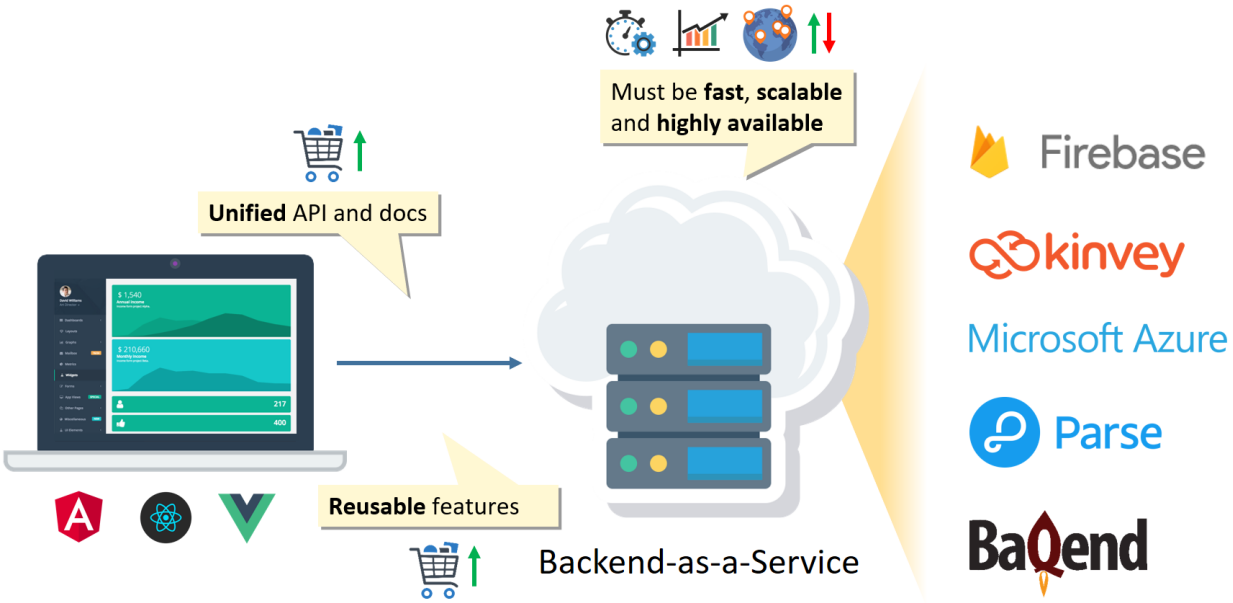


Serhiy Snizhny (Apr 27, 2015), retrieved from https://www.slideshare.net/serhiysnizhny/backend-as-a-service-comparison

According to ConceptaNext(2019), BaaS, also known as mBaaS (mobile Backend as a service) is a middleware approach in which APIs (unified application interface) and SDKs (software developer kits) are used to connect applications to cloud-based backend services rather than building a backend on a client's own on-site servers.

To put is simply, SDKs and APIs connect the frontend to the backend via the cloud. BaaS takes an "API First" approach. APIs are built first, then serve as the base for building different platforms (like Android or iOS).

Five BaaS Solutions



Felix Gessert (May 17, 2017) retrieved from https://medium.baqend.com/how-to-develop-a-backend-as-a-service-from-scratch-lessons-learned-a9fac618c2ce

Gravum.com(n.d.) lists the five top BaaS solutions in their opinion:
Kinvey was one of the first players to solely focus on offering mobile BaaS solutions. Their services support mobile aggregation and facilitate compliance with IT requirements, enabling encryption of data both at rest and in transit and delivering security through encryption.

Kii supports deployment, testing and user acquisition within a single environment. The company is very keen on marketing and offers push notifications, analytics, geolocation and monetization services. Headquartered in Japan, Kii also touts itself as a channel into China, offering app localization and other marketing services for what's one of the fastest growing app markets out there.

Appcelerator is a mobile development platform which speeds up the time to market with cross-platform development, testing and simplified access to date via optimized APIs. Real-time mobile analytics are available on the platform, powering user engagement and measuring results.

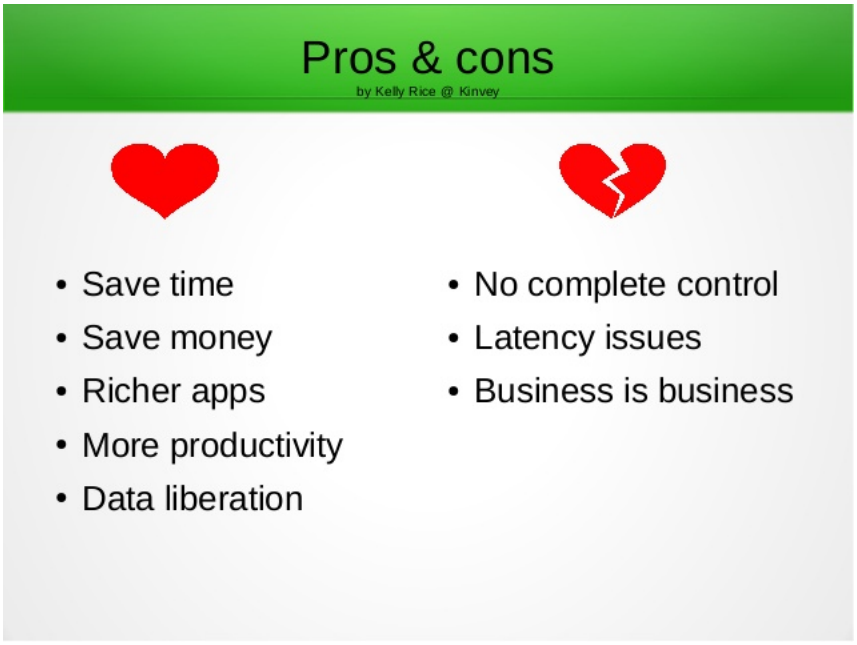
Built.io allows companies to create applications without the trouble of designing, building, and maintaining a custom backend technology stack. It's a platform that powers engaging applications for websites and smart devices. Built.io provides you with a choice of cloud provider and architecture: it's available as an on-premises, cloud-hosted and hybrid cloud service.

Sencha is a high-performance HTML5 mobile application framework, which provides a development environment for the Sencha HTML5 platform. Sencha Touch features over 50 built-in components, themes for every current mobile platform and a built-in MVC system to create powerful and universal mobile and mobile web apps. It is the only framework that enables developers to build highly powerful apps compatible with iOS, Android, BlackBerry, and Windows Phone.

Three Reasons to Use BaaS

Speed of development, Cost to maintain, and application scalability are the major reasons to use BaaS.

Three BaaS Solutions with Pros and Cons



Serhiy Snizhny (Apr 27, 2015), retrieved from https://www.slideshare.net/serhiysnizhny/backend-as-a-service-comparison

Reading the article "Go serverless, Pros and Cons", Asaf Yigal (2017), there are several pros and cons to going serverless (BaaS or MBaaS) all of these are vendor nonspecific:
The first pro is very straight forward, there is a reduced time for development, which means a quicker software release, and quicker to the market to start bringing in that much needed revenue. The second pro is the company has a lower operational, maintenance, and development cost. Another pro for BaaS is a smaller cost to scale, which means, there is no need for developers to implement code to scale and administrators do not need to upgrade existing servers or add additional ones.

The cons are also non vendor specific, but lets the reader know in general what the cons are in BaaS or MBaaS:

The company is locked into the vendor they choose for the service, which also means you do not have full control over the application your company develops. In order to change vendors, normally a significant rewrite will be needed if this ever happens. BaaS is not efficient for long-running applications. In certain cases, using long tasks can be much more expensive than, for example, running a workload on a dedicated server or virtual machine. Another important drawback to BaaS is some companies may run more than one application on a server to manage resources more effectively. This can cause multilatency, as well as can cause a potential for security breaches if you are running secure data.

Three popular BaaS solutions on the market according to Shahid Mansuri(N.D.) from peerbits.com, are Anypresence, Kinvey, and Appcelerator. The key aspect that differentiates Kinvey is digital lifecycle management tool which enables the app's backend versioning through a single command and improves the collaboration when different internal and external development teams working on the same project. With a portable run-time source code, non-proprietary technology stack, and zero platform lock-in capability, the Anypresence is helping in the business mobilization with more control over source code, greater customization, and high portability. The famous cross-platform app development tool and BaaS platform, Appcelerator, working with the Titanium SDK to speed up the app development, enable the app deployment and hosting on the servers, and simplify the access to data through optimized APIs.

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

SENNHEISER

N.A.(N.D.) retrieved from https://en-us.sennheiser.com/

In a report written by Kinvey on their site www.progress.com, The challenge was, Sennheiser wanted to create native apps to deliver better digital experiences but creating and maintaining separate native apps was costly. The solution was that NativeScript from Kinvey, enabled Sennheiser to develop across iOS and Android with ease while still delivering native app performance. The platform's architecture also improved app testing, thanks to the shared code. The final result was With NativeScript, 85% of the app's total code is shared and 100% of the UI shared. This helps Sennheiser develop apps 40% faster, including significant time savings during the testing process

One Company Using BaaS and Why

N.A.(N.D.) retrieved from https://play.google.com/store/apps/details?id=jp.funx.digitalcopel

A company that is using BaaS, according to backendless.com(N.D.) is Digital Copel which is packed full of fun and educational lessons for young children ages 0-6 – although the app developer guarantees older children

and adults alike will also find them challenging! All the lessons are based on Copel's original curriculum. Using their specialized knowledge and experience in early childhood learning, they have been constantly developing all their own educational material for the Japanese market over the past 20 years. Now as they are starting to expand globally, app developers are proud to bring you both the English and Japanese versions. The reason Digital Copel uses BaaS is the service cost effective, as well as easier to maintain, and develop.

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