

Serverless

A brief introduction into what, why and how

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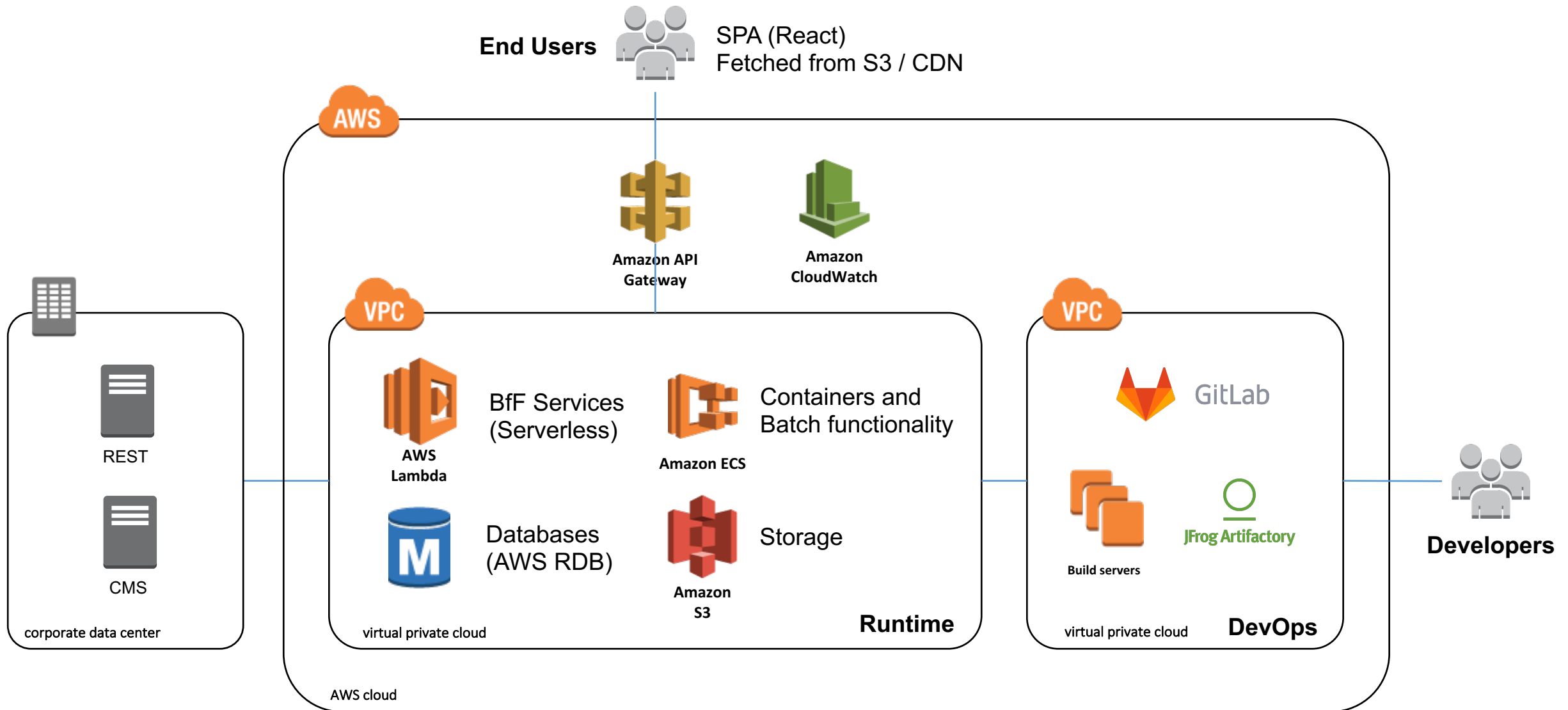
The What (of Serverless)

- Name is confusing, it's both a philosophy and a framework
- Virtual Machines → Containers → Functions (or Nanoservices)
- Everyone is jumping aboard
 - AWS has Lambdas
 - Google has Cloud Functions
 - Azure has Functions
- Different events can trigger (http, batch, S3, messages, ..)
- Currently there are limitations like maximum running time
- DevOps is finally catching up (especially Serverless-framework)

The Why (of Serverless)

- Who (really) wants to care about servers and instances?
- SLAs are handled by “someone else”
- “Unlimited” scaling
- You only pay for function/service invocations, not even for server time let alone server instances

Example Serverless Architecture on AWS



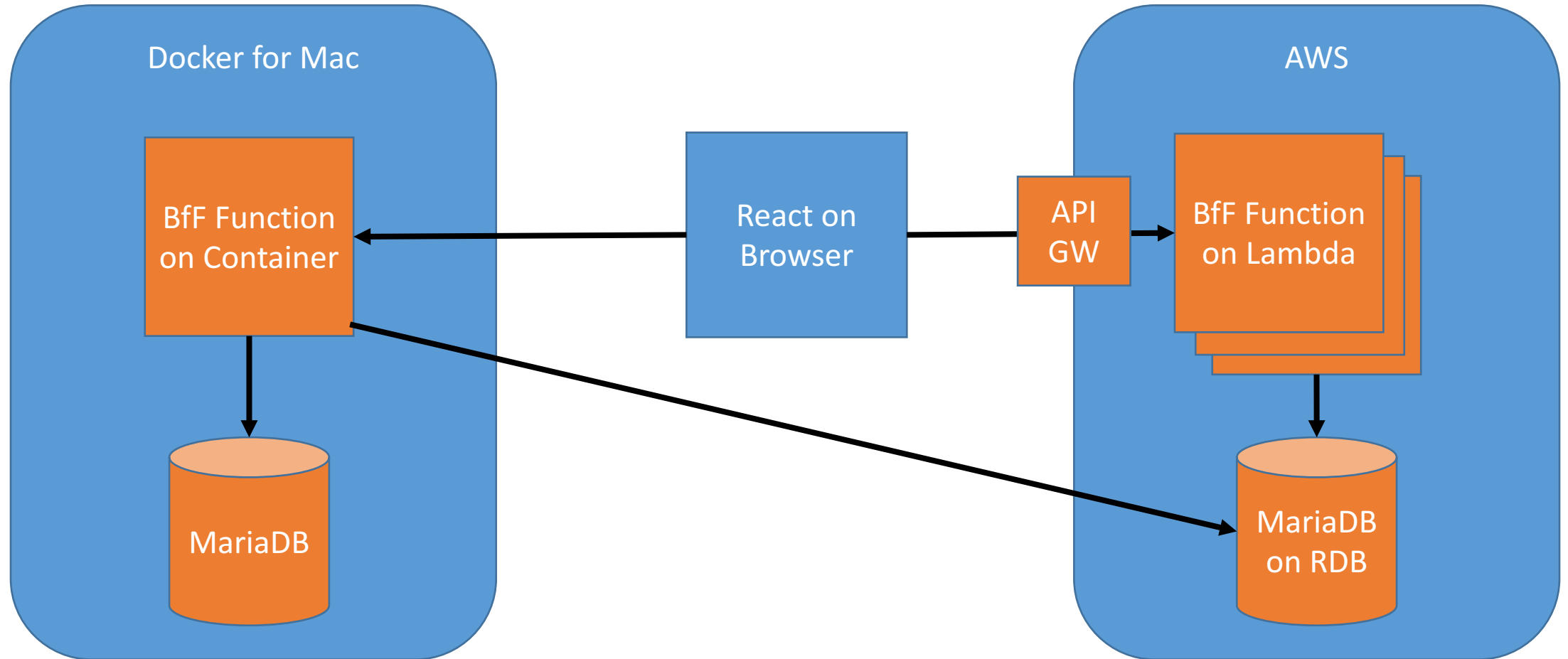
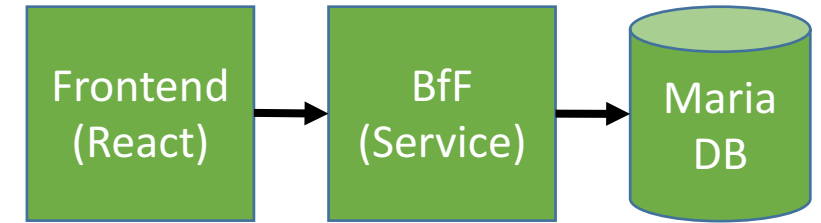
Application Architecture

- Polyglot is possible
 - Best tool for the best job instead of one-size-fits-all
- For Serverless / Server Side
 - ES2017 on Node (precompiled/transpiled)
 - TypeScript possible, but not necessary, ES2017 is good
 - Java/Spring Boot and Scala/Akka are viable options
 - For performance critical parts go may be useful (on minimal containers, not on top of Serverless for now)
- For Single Page App (SPA) Frontend
 - React with ES2017 (Angular 2, Aurelia and Polymer are options)
 - Some polyfills may be needed to achieve desired browser support

Libraries, Tools and Frameworks

Tool/framework	Description
ES2017	Newest version of Javascript specification
Sequelize	Lightweight Javascript based ORM
npm	Build and running
Babel	Transpiling
Chai	Tests
Serverless	Running and deploying the Lambda functions
Lambci/lambda	Running the functions locally on Docker
React	Frontend

Example Application



Demo Time

- Fingers crossed

Notes

- Startup-times for different runtimes on Lambda differ
 - Python from cold to hot takes a few milliseconds
 - Node takes about 10 seconds
 - Java can take a couple of minutes
- Serverless is production ready
 - A lot has happened and versions after 1.0 are good (current is 1.0.3)
 - Configuration has been simplified

Thanks

- Thanks for listening!
- Q & A