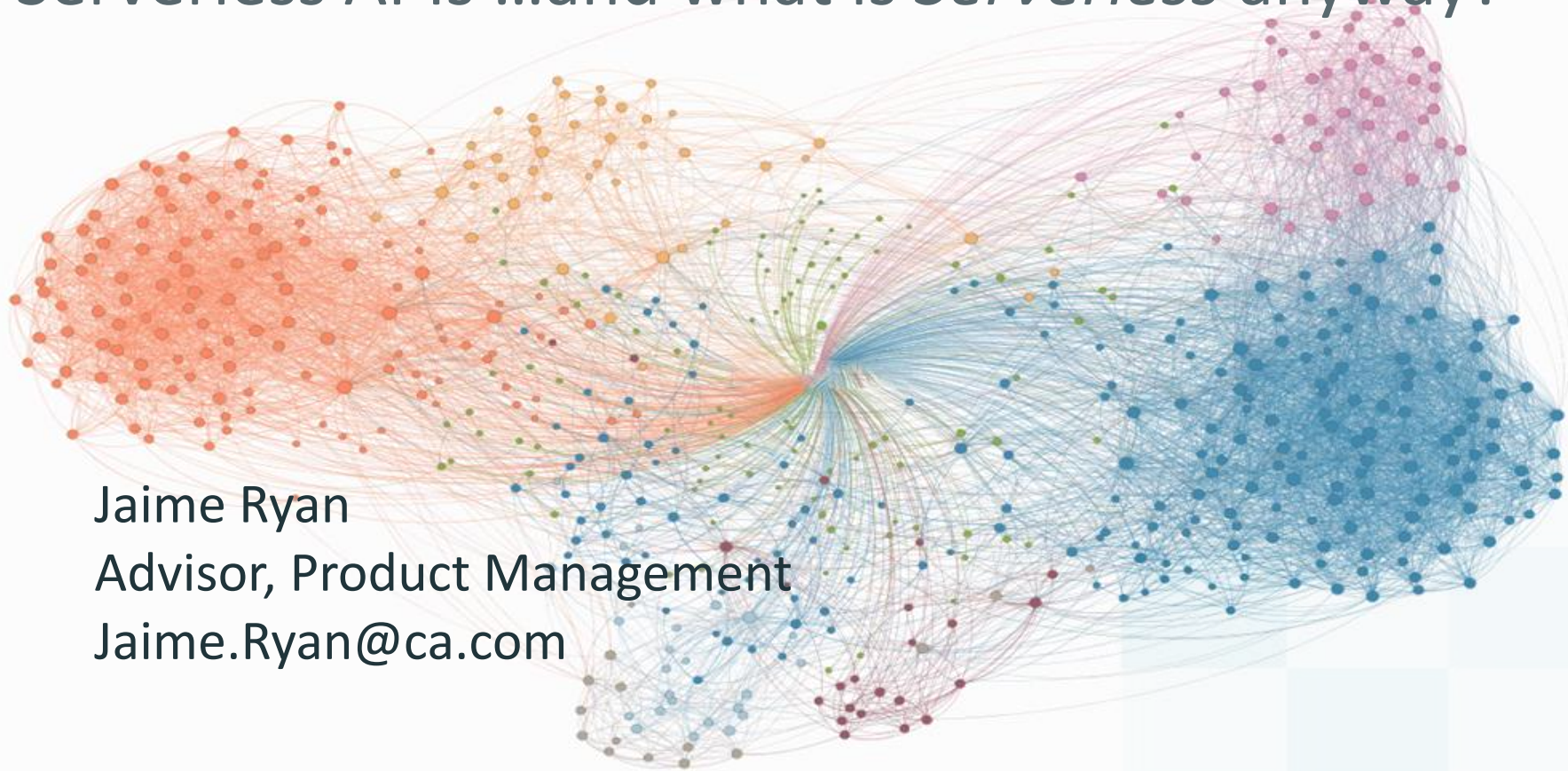# CA Live API Creator

Serverless APIs ...and what is *Serverless* anyway?

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What is Serverless

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Does serverless architecture = microservices ?

Does Serverless = FaaS = PaaS = BaaS ?

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Does serverless architecture = microservices ?

NO

Does Serverless = FaaS = PaaS = BaaS ?

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Does serverless ~~architecture~~ = microservices ?

NO

Does Server~~less~~ = ~~FaaS~~ = PaaS = BaaS ?

How does BaaS differ from PaaS differ from FaaS ?

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Microservice Definitions

A ***microservice*** is an independently deployable component of bounded scope that supports interoperability through message-based communication.

Microservice architecture is a style of engineering highly-automated, evolvable software systems made up of capability-aligned microservices.

eBook download: http://transform.ca.com/API-microservice-architecture-oreilly-book.html
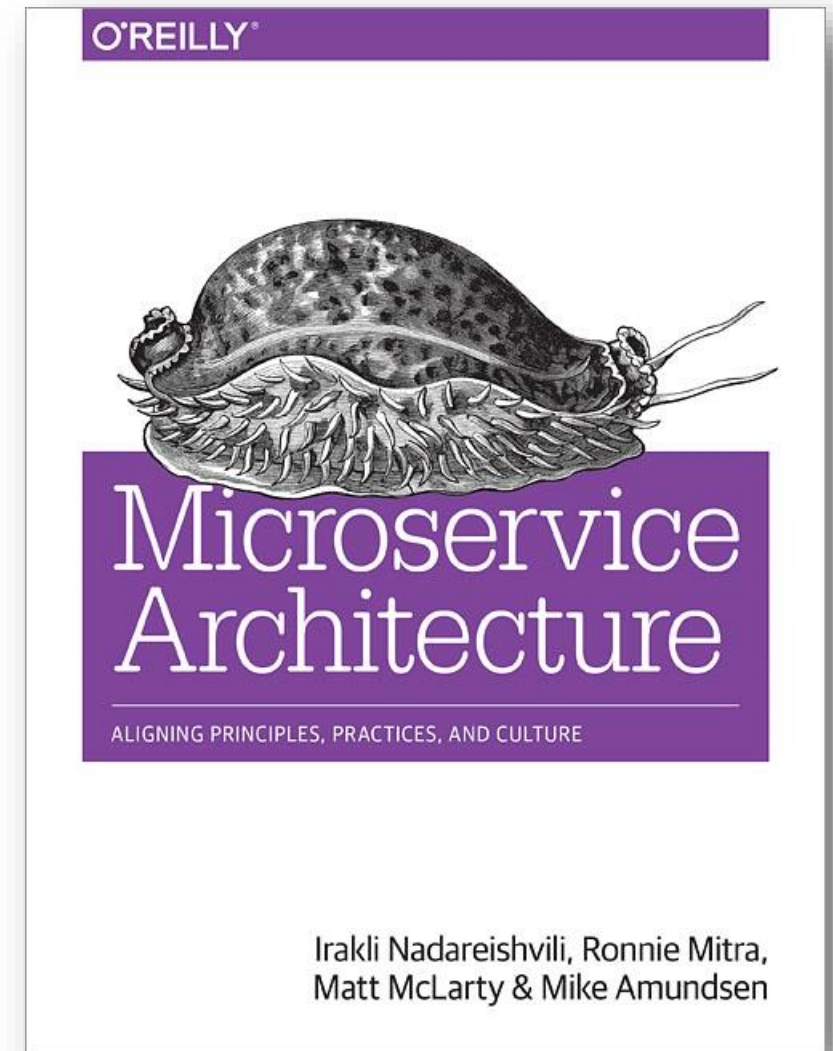
Serverless…

Frameworks

Architecture

Applications

APIs

What is Serverless?

"API Serverless Architecture refers to a set of products that enable users to design, build, publish and manage an API completely in the cloud."

- **Mark Boyd** 21 March, 2016 Platformable http://mgboyd.com/api-serverless-architecture-market-scan

"Serverless was first used to describe applications that significantly or fully depend on 3rd party applications / services ('in the cloud') to manage server-side logic and state (BaaS)."

- **Mike Roberts** 25 July 2016 http://martinfowler.com/articles/serverless.html

"Serverless architectures are internet based systems where the application development does not use the usual server process. Instead they rely solely on a combination of third-party services, client-side logic, and service hosted remote procedure calls (FaaS)."

- **Badri Janakiraman** 20 June 2016 *http://martinfowler.com/bliki/Serverless.html*

"Serverless is a framework for building web, mobile & IoT apps using AWS Lambda & API Gateway."

- **Kin Lane** | API Evangelist 22 March 2016 @kinlane

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"Serverless architectures enable developers to express their creativity and to focus on meeting user needs… freed from the burden of the usual heavy lifting required to build scalable secure applications." -**serverlessconf.io**

Backend-as-a-Service

- AnyPresence
- Kinvey

Function-as-a-Service

- Google Cloud Functions
- IBM OpenWhisk
- AWS Lambda

Platform-as-a-Service

- AWS Elastic Beanstalk

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adrian cockcroft
@adrianco
Following

If your PaaS can efficiently start instances in 20ms that run for half a second, then call it serverless.

Julz Friedman @doctor_julz

if you think serverless is different than PaaS then either you or I have misunderstood what "serverless" or "PaaS" means

RETWEETS   LIKES
118   153

6:43 AM - 28 May 2016

Adrian Cockcroft | Technology Fellow at Battery Ventures

Julz Friedman | Cloud Foundry Garden Engineering Anchor / Product Manager

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"Serverless computing and APIs are inseparable. Each component of the serverless framework is exposed as an API while the logic that's deployed consumes multiple external APIs. Since the code snippets uploaded to the serverless computing environment are headless, the API gateway becomes the façade for invoking the snippets. Since these two layers are loosely coupled, developers are modeling intuitive APIs that are mapped to one or more code snippets. The lethal combination of API gateway and serverless computing is becoming the most powerful paradigm in the world of mobile and IoT development."

Janakiram MSV (29 Feb, 2016) *Five Factors That Are Fueling Serverless Computing - Part 2* **Forbes**. Retrieved from
http://www.forbes.com/sites/janakirammsv/2016/02/29/five-factors-that-are-fueling-serverless-computing-part-2/#b69fdb1fa842

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API Serverless

CRUD data and services via an API and incorporate business logic

API Creation Tools and Frameworks

Boyd, Mark. "Market scan: API Serverless Architecture" Platformable. March 21st, 2016. http://mgboyd.com/api-serverless-architecture-market-scan

API-Serverless Use Cases

"API Serverless architecture can help business, government, cities and startups speed up innovation, digitize legacy systems, and create new products and services without needing to manage data-server infrastructure"[1]

- Mobilize Legacy Data Stores
- Execute Microservices Architecture
- Consumer Product Development
- Front-End App Development
- Agile / DevOps Toolchain
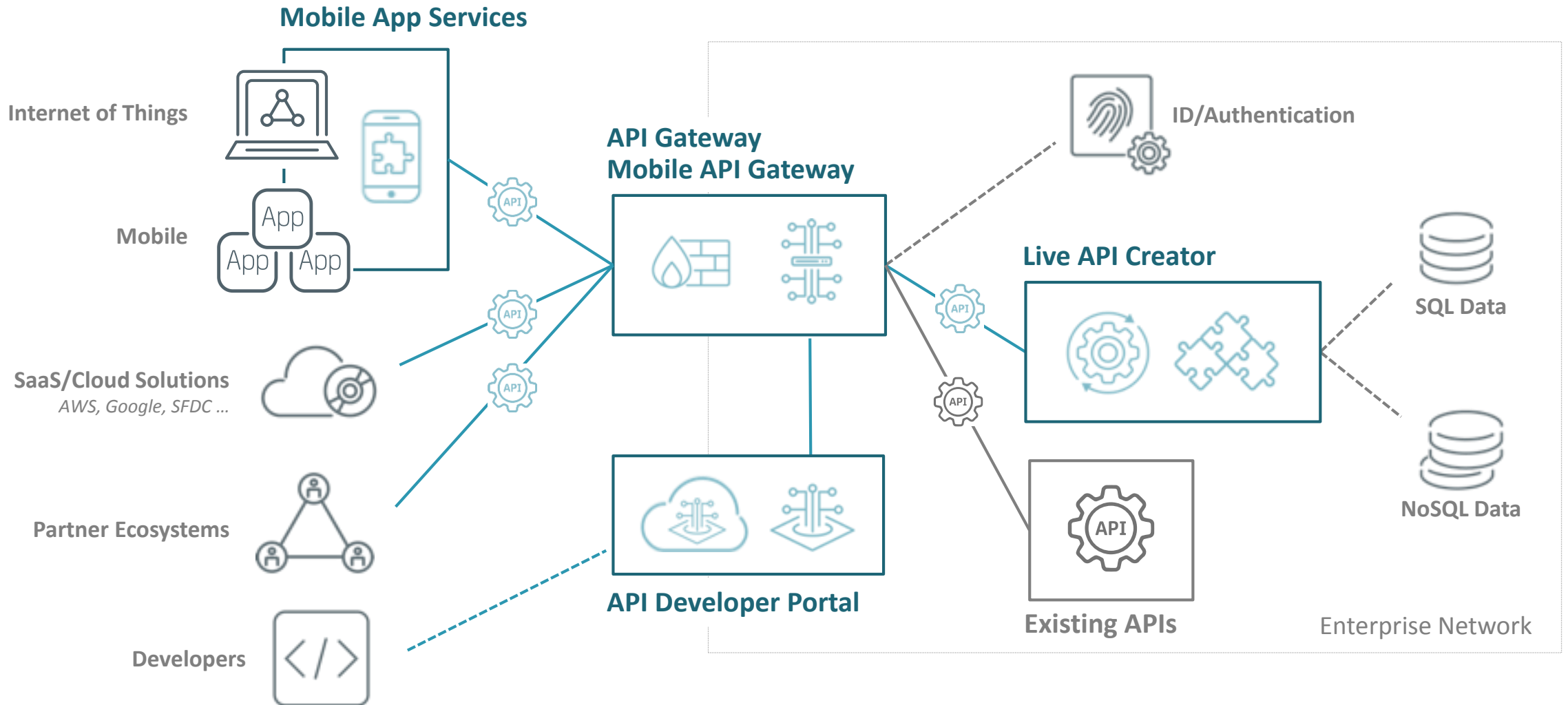- Hackathons / Conferences / Events

[1]Boyd, Mark. "Market scan: API Serverless Architecture" Platformable. March 21st, 2016. http://mgboyd.com/api-serverless-architecture-market-scan

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CA API Management
App-to-Data and End-to-End

Mobile App Services

Internet of Things

Mobile

App
App App

**API Gateway
Mobile API Gateway**

ID/Authentication

Live API Creator

SQL Data

SaaS/Cloud Solutions
AWS, Google, SFDC ...

Partner Ecosystems

API Developer Portal

NoSQL Data

Existing APIs

Enterprise Network

Developers

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Architecture Overview & User Personas

API Owners
API Developers

Business Managers

Consuming Applications

CA LIVE API CREATOR

API Creator

Data Explorer

API Server

REST API
Rules/Events
Reactive Logic
Database Access

REST

JDBC/API

ENTERPRISE DATA

Admin
Database

SQL DB

MongoDB

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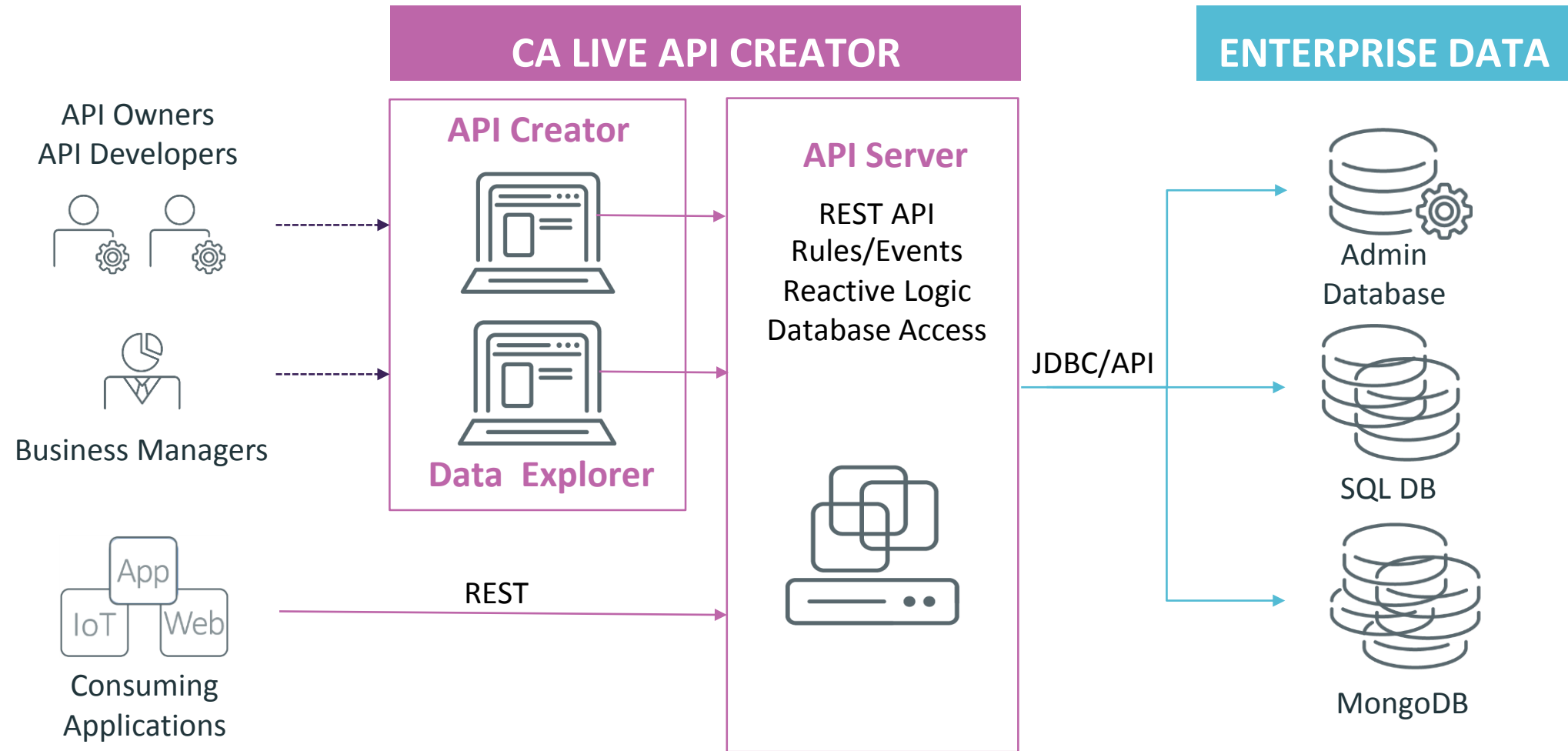
CA Live API Creator Product Components

Creator

Server

Explorer
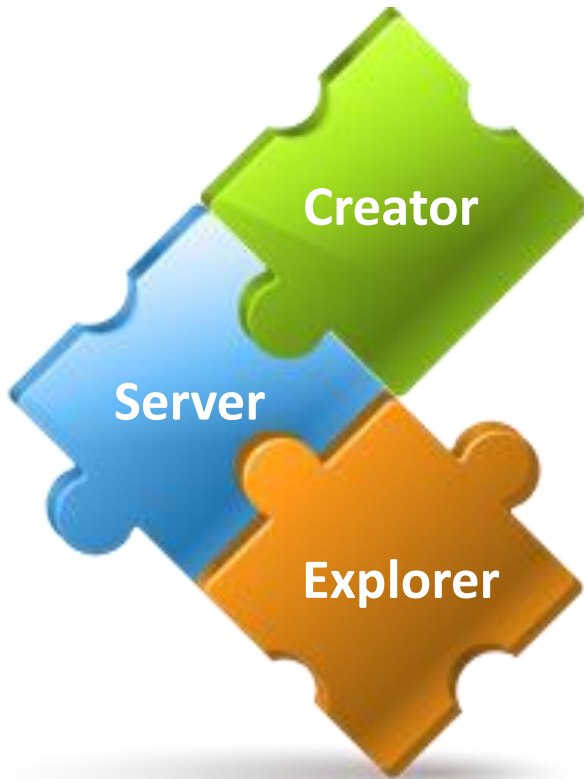
API Creator

- Point-and-click interface for API creation
- Graphical API customization and rule definition
- Extensible and reusable

API Server

- Runtime execution of APIs, logic, events, etc.
- Flexible deployment and scale
- Multiple interfaces for maximum control

Data Explorer

- Automatic user interface available in any browser
- Customizable and skinnable
- Completely interactive extension of application logic

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CA Live API Creator – Summary

API Creator UI

- Point and click joins across SQL, NoSQL, and REST services
- Instant APIs: no compile, no deploy

Data Explorer UI

- Instant Data Visualization and Editing

Business Policy Enforcement (Rules)

- Server-side object model with Reactive Logic and JavaScript execution

Granular DB Security RBAC

- Declarative role-based row- and column-level security

`lacadmin` CLI for headless / automated deployments

- Docker - WAR – AWS Elastic Beanstalk

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Demo

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Demo Architecture

Map Data to APIs
Create Rules & JS

API Creator

Browse Live Data

Data Explorer

Expose
APIs

Rules

Data API

API Server

MySQL

SQL RDBMS

NoSQL Data Store

MongoDB
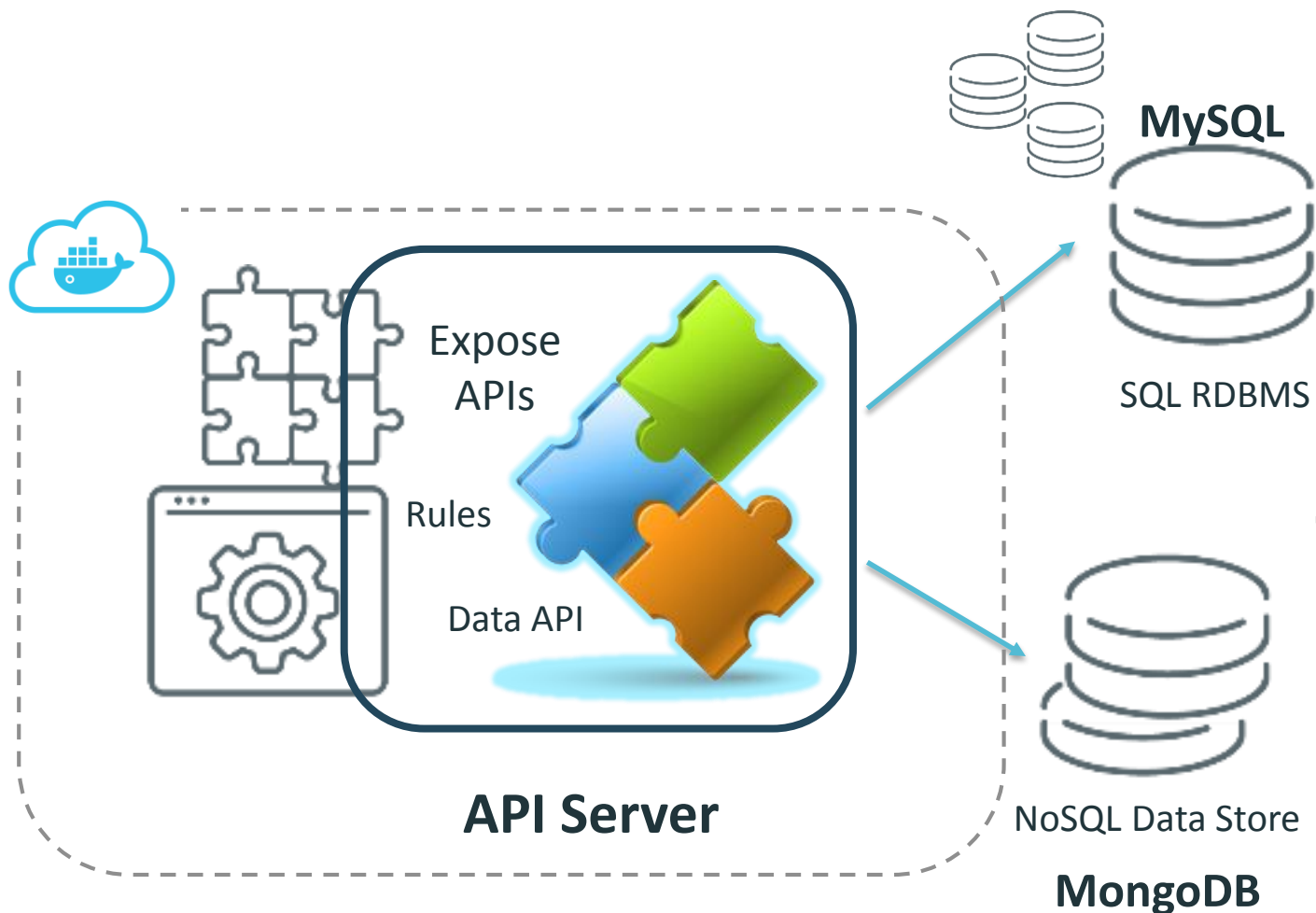
Tables   Views   Procedure

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main:employees
main:employee_privileges
main:inventory_transactions
main:inventory_transaction_
main:invoices
main:orders
main:orders_status
main:orders_tax_status
main:order_details

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CA Live API Creator – Review

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Thank You!

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