# MongoDB Stitch

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Principal Solutions Architect

# Platforma inteligente de datos operacionales

**La mejor** forma de trabajar **con los datos**

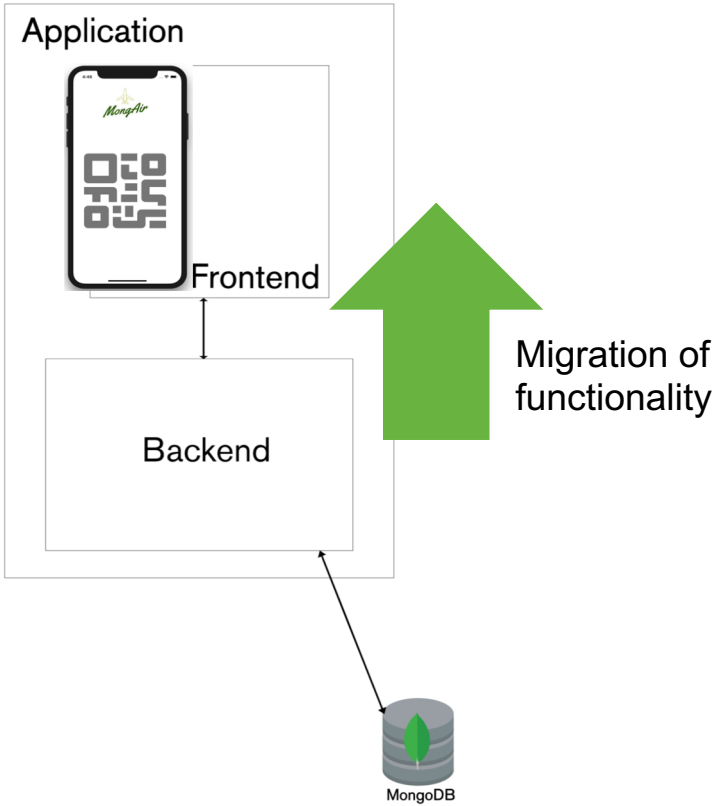
**Inteligentemente,** coloca los datos **dónde se requieran**

**Libertad** de correr **donde sea**

# ¿Por qué se necesita MongoDB Stitch?

## Contexto de Industria

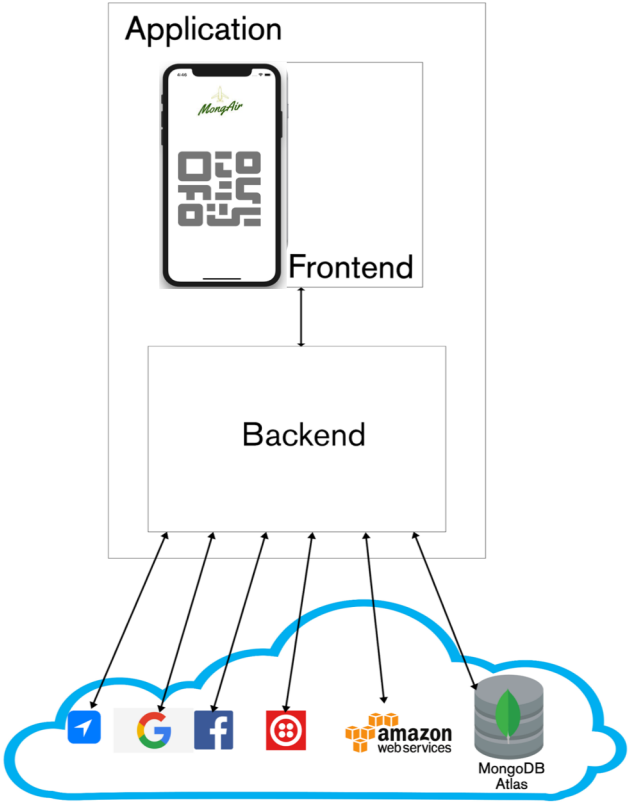
# Frontend vs. Backend (Historical)




- Frontend
  - What the user interacts with
- Backend (App Server)
  - Does the heavy lifting
  - More secure than frontend
  - Authentication
  - Stores data in MongoDB

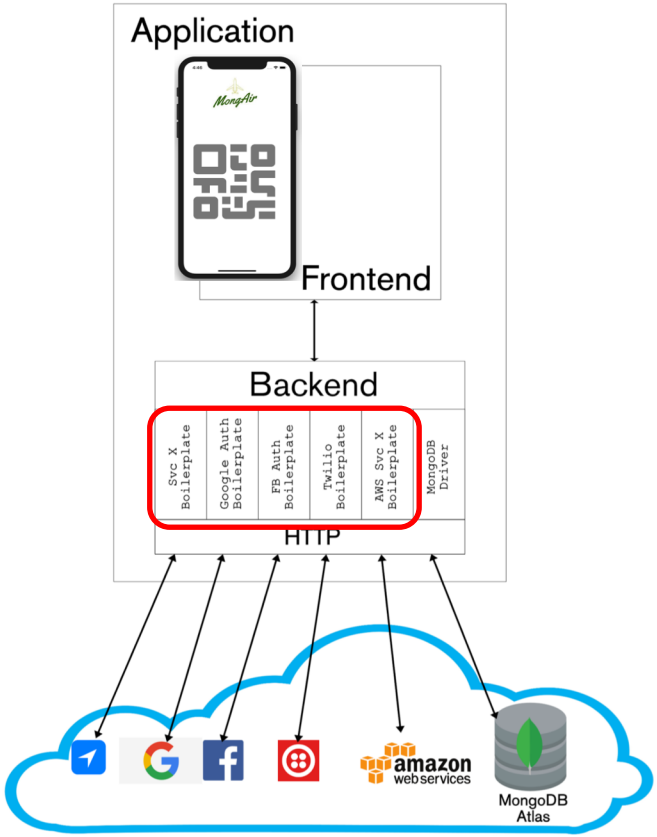
**But this has changed over last 10 years with Mobile First + powerful browsers!**

# Migration to Cloud Services & Microservices




- Backend increasingly delegates essential but generic tasks
  - Processing payments
  - Authenticating users
  - Posting to social media
  - Nothing that makes your app unique
- Developers spend less time on plumbing – better apps, delivered quicker

# Cloud Service & Microservice Integration

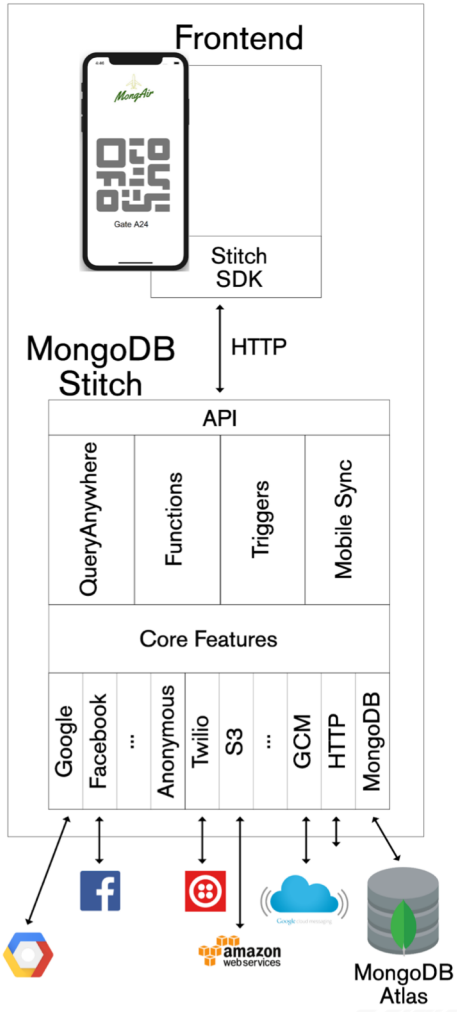



- Mundane, repetitive code to integrate with cloud services & microservices
  - **41% of development time wasted here**
- Data access control code

# MongoDB Stitch

Developers spend even less time on plumbing code.

Developers focus more on high-value code that differentiates the experience delivered by their app.



# Evolution of Computing Models

**Cheaper to build**
**Cheaper to run**
**Faster time to market**

Large Data Center

Manage H/W

Wasted resources

$$$$$

Virtual Machines

Manage less H/W

Better utilization

$$$$

VMs in the Cloud (EC2)

Size & provision VMs

Rent, not buy

$$$

Containers

Size & provision containers

Rent with less waste

$$

Serverless

Just send in requests

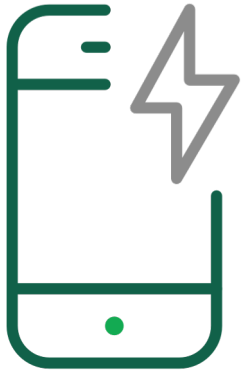
Pay as you go

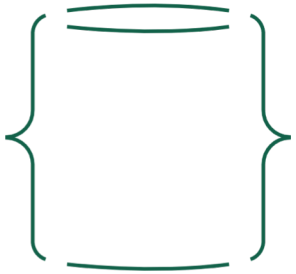
$

## Evolution to more streamlined, managed infrastructure

mongoDB

# Serverless/Functions as a Service/AWS Lambda





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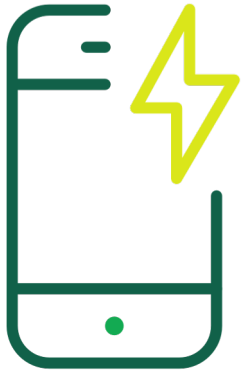

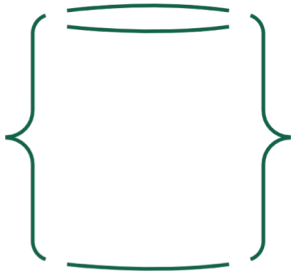

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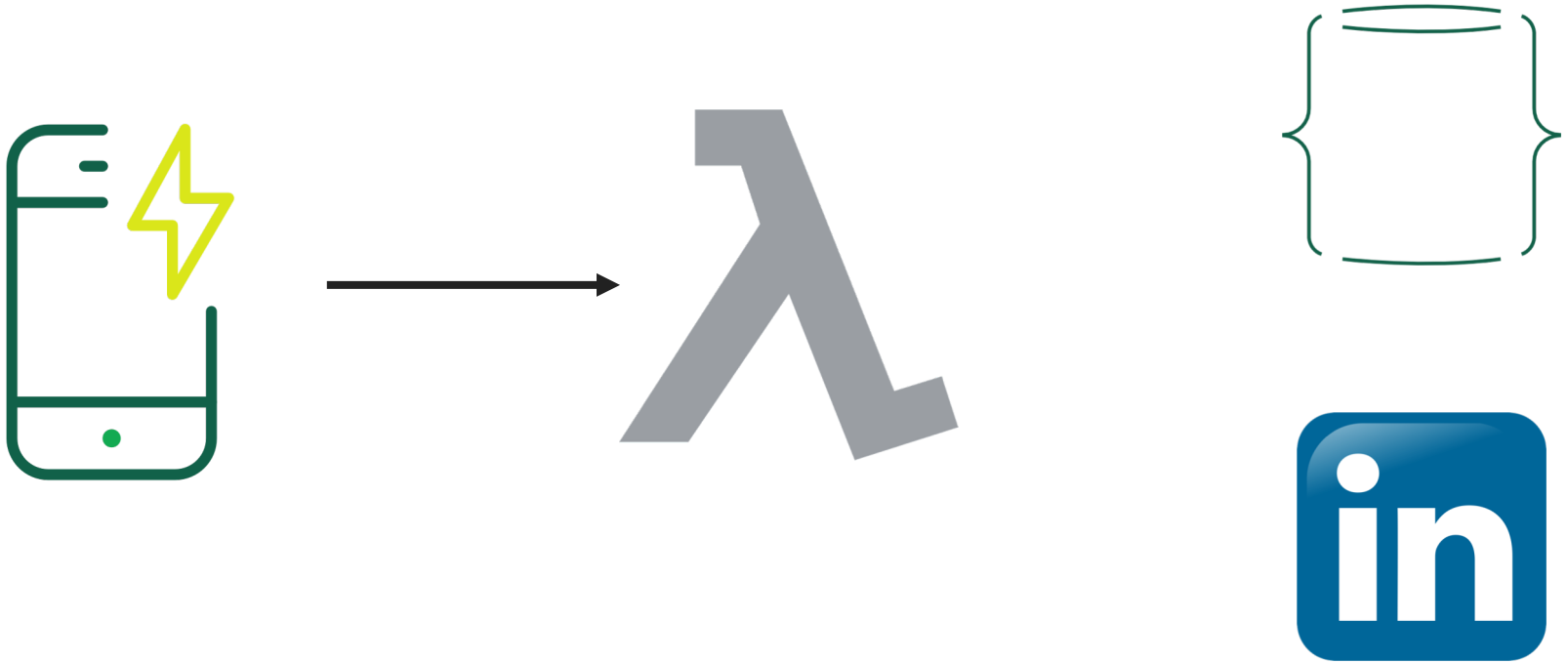
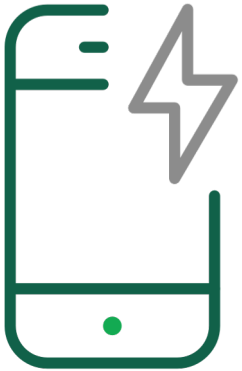
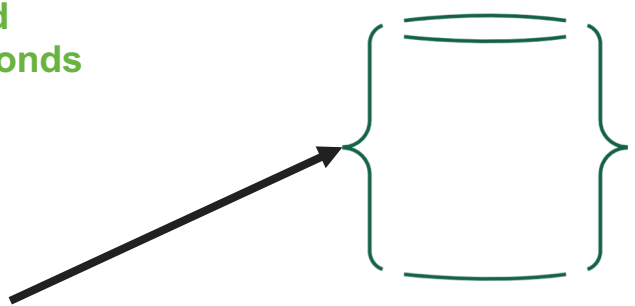


# Serverless/Functions as a Service/AWS Lambda

Often involves spinning up a container and making a new connection to Atlas -> 5 seconds extra latency.





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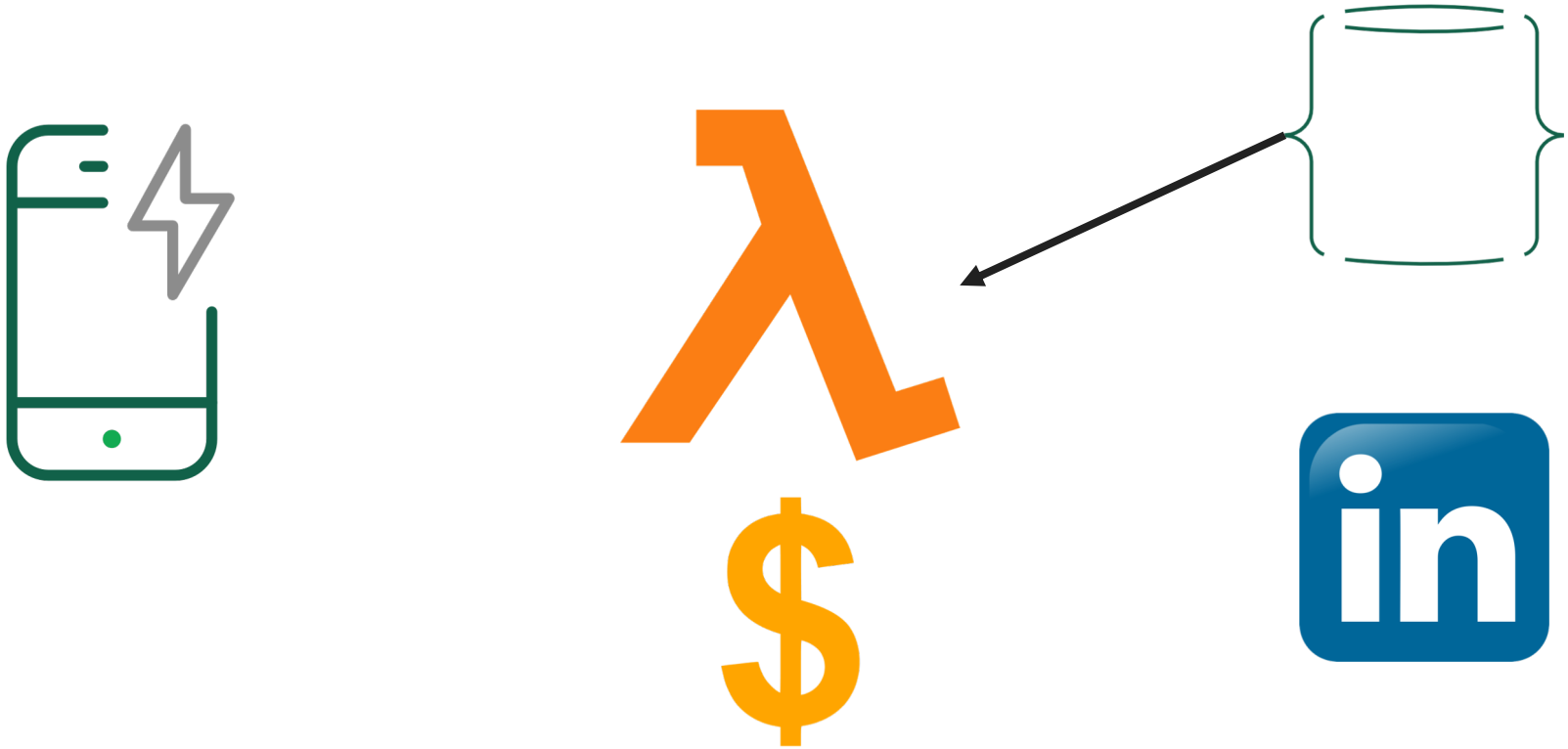

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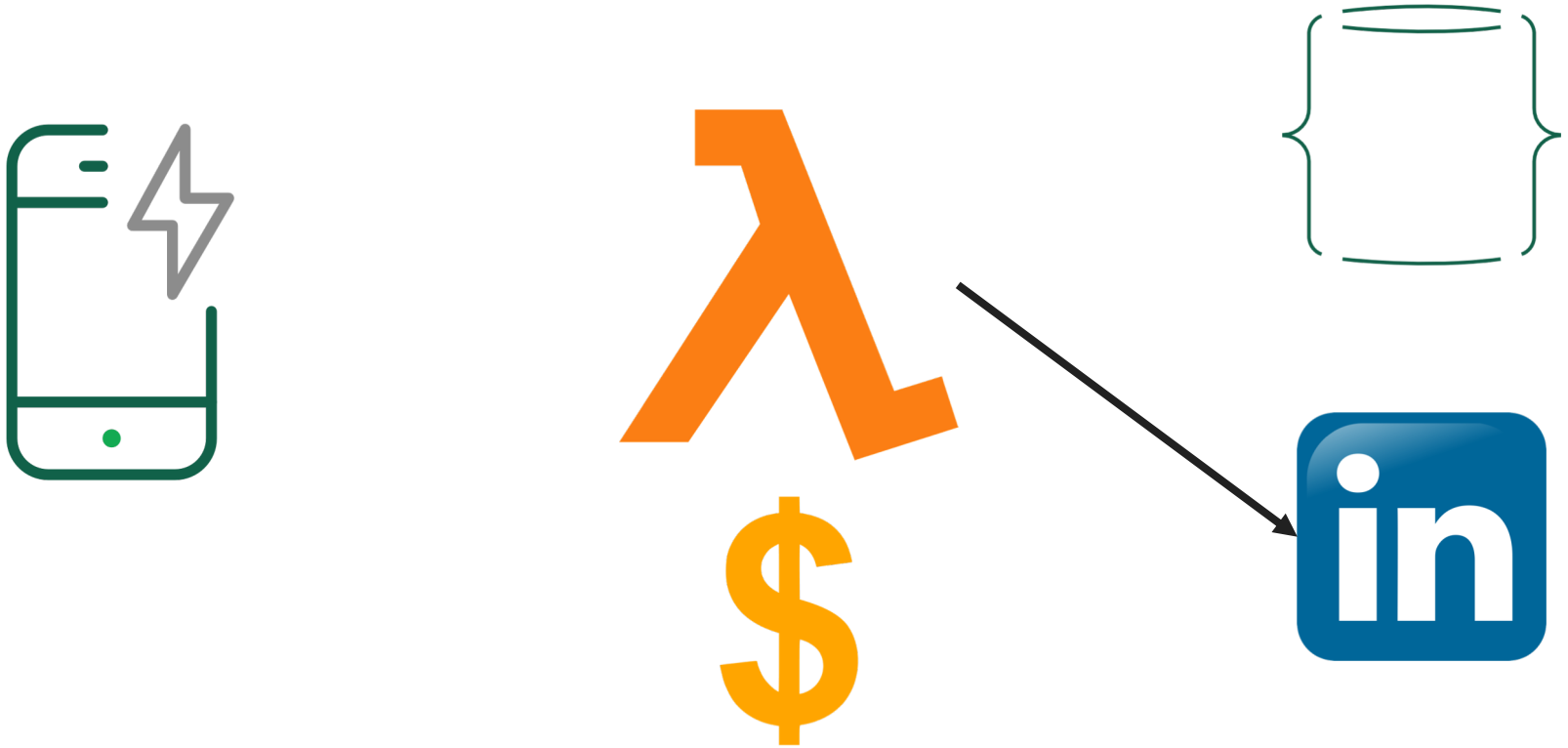

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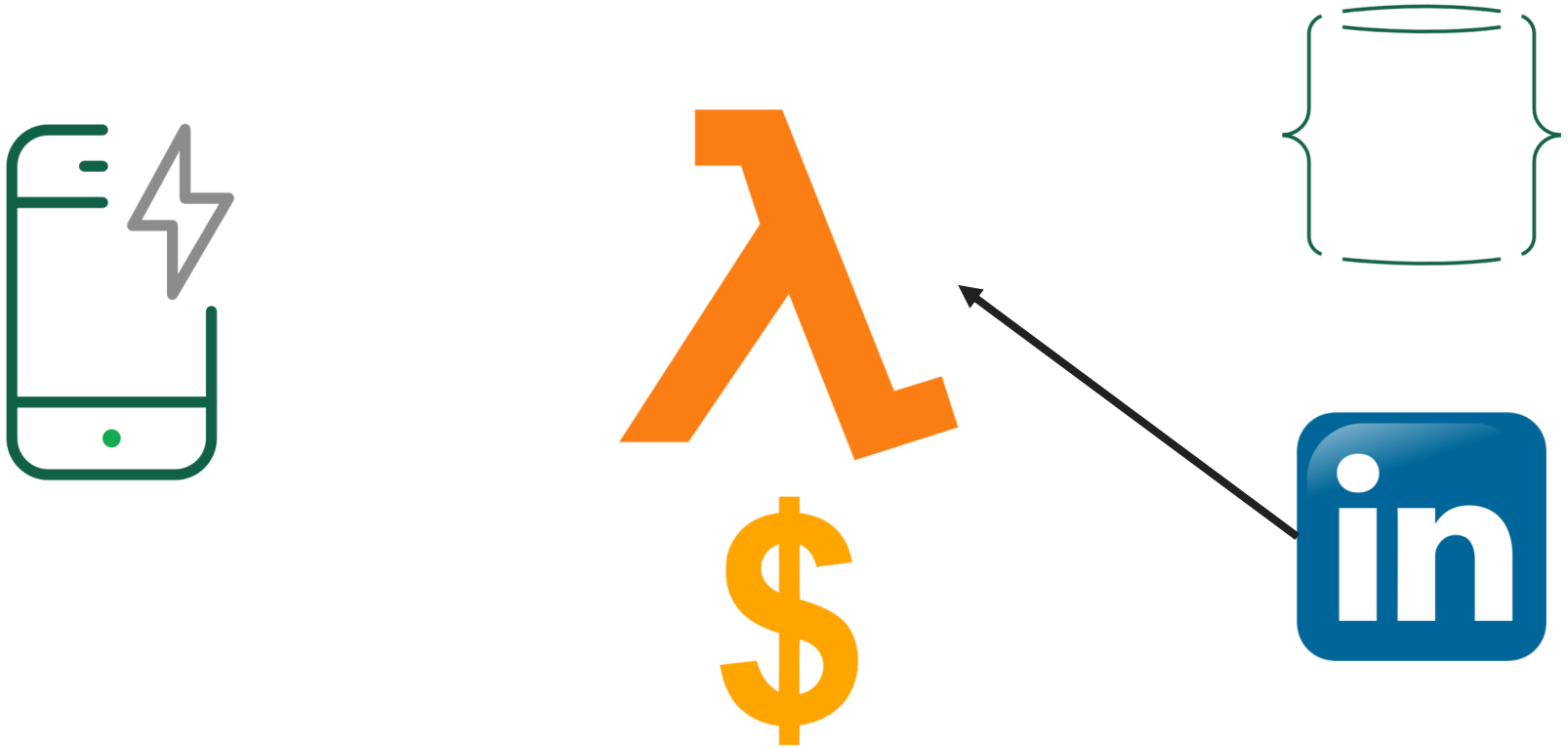

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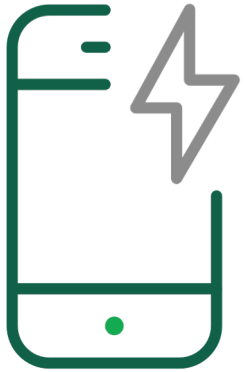
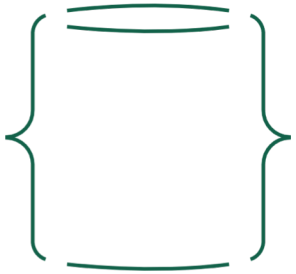
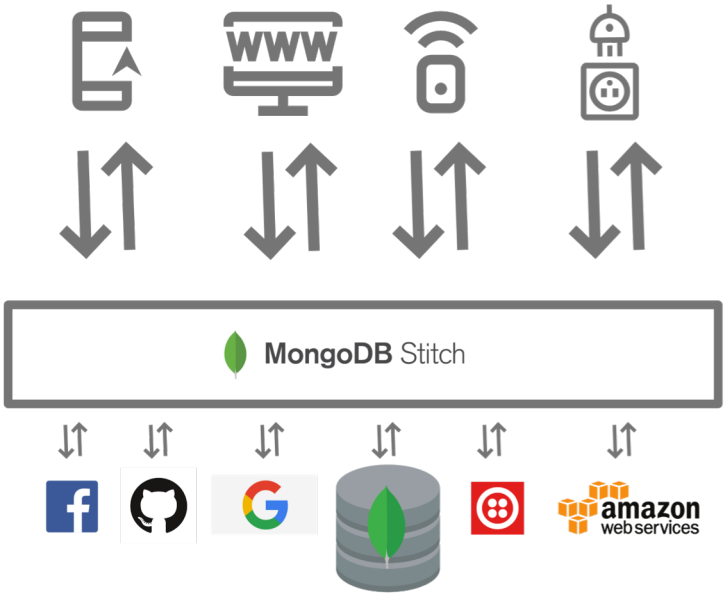




# MongoDB Stitch

## The Best Way to Work With Data

# MongoDB Stitch Serverless Platform

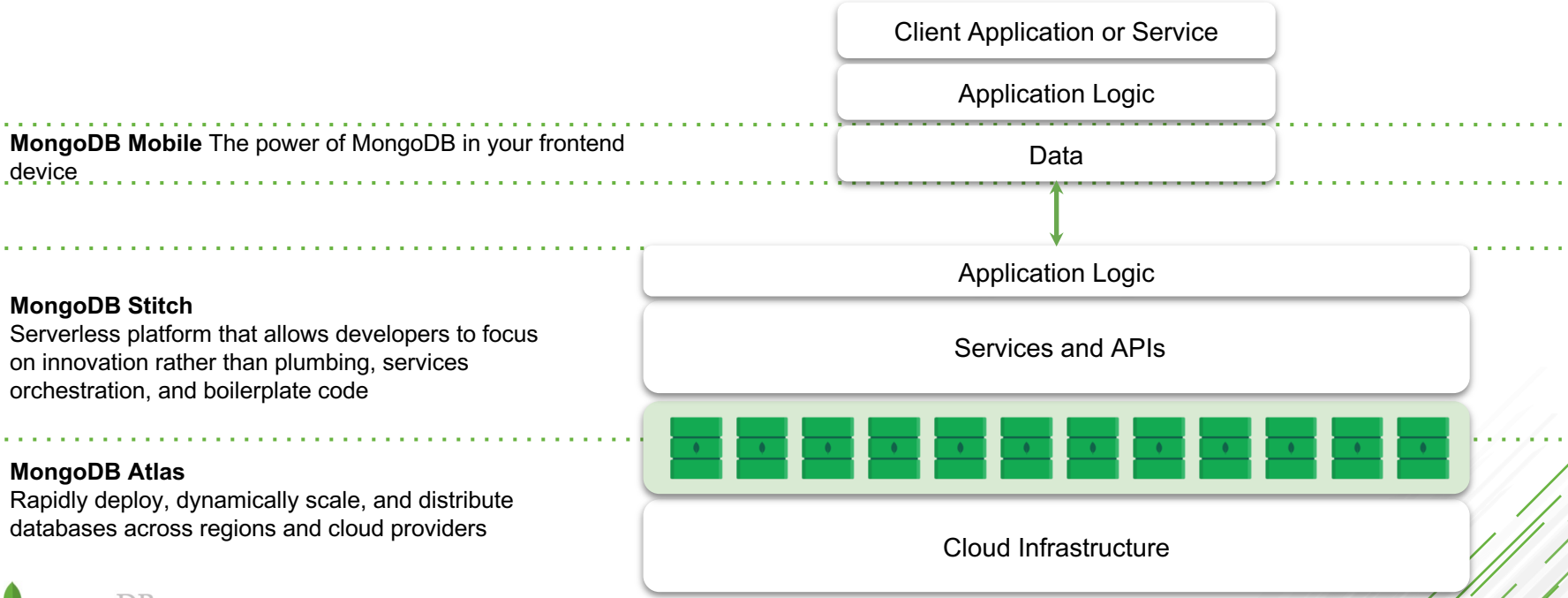



The serverless platform from MongoDB

Build better apps faster with MongoDB Stitch Services

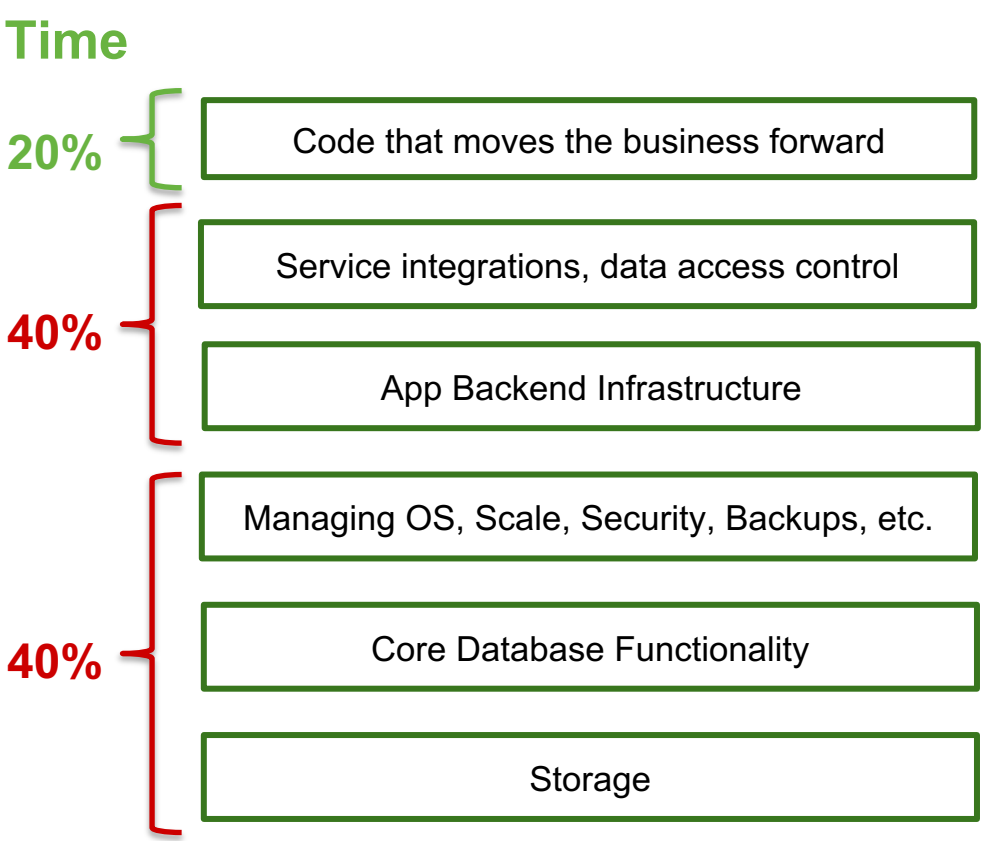
# The Broader IODP Accelerates Everything

**2-5x increase in productivity** by leveraging the Intelligent Operational Data Platform




mongoDB

# Focus Your Energy Where You Can Make a Difference



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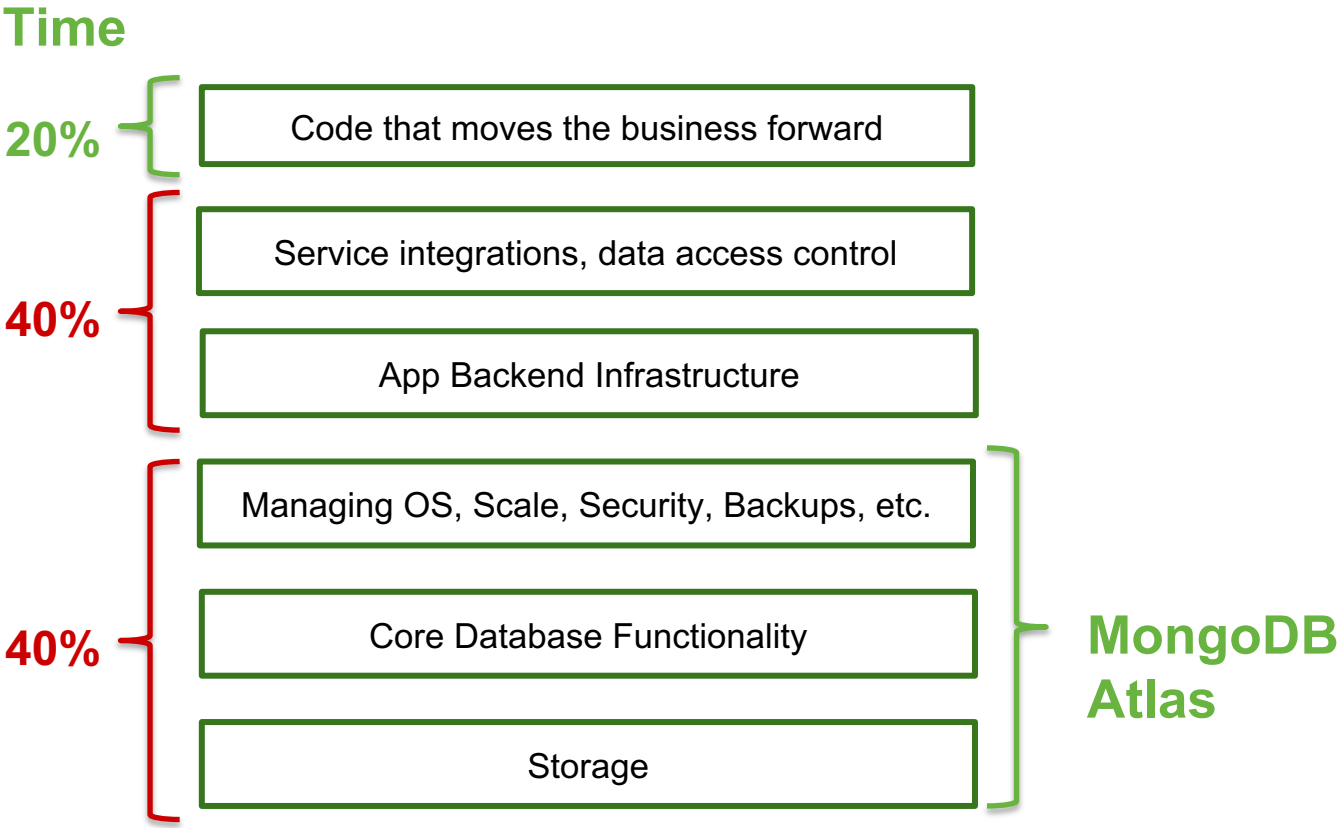

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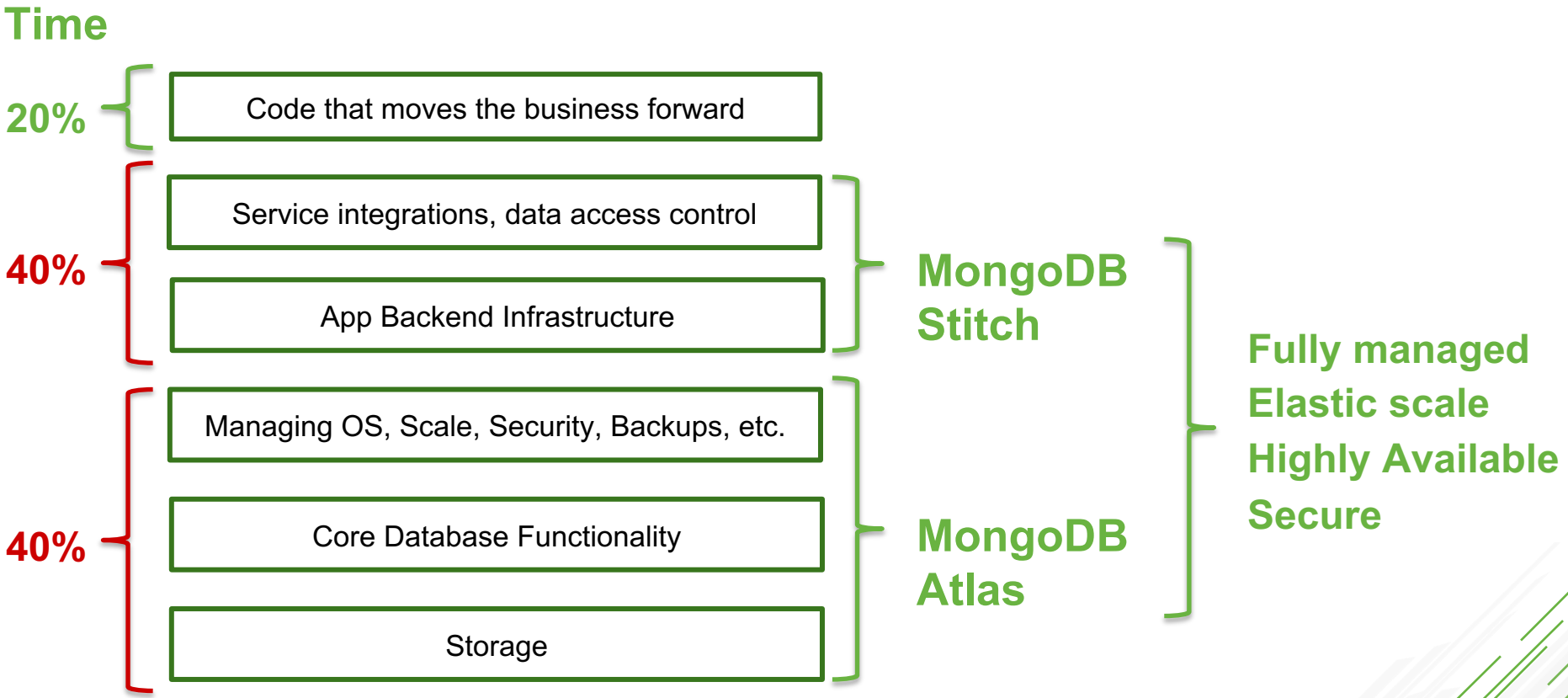


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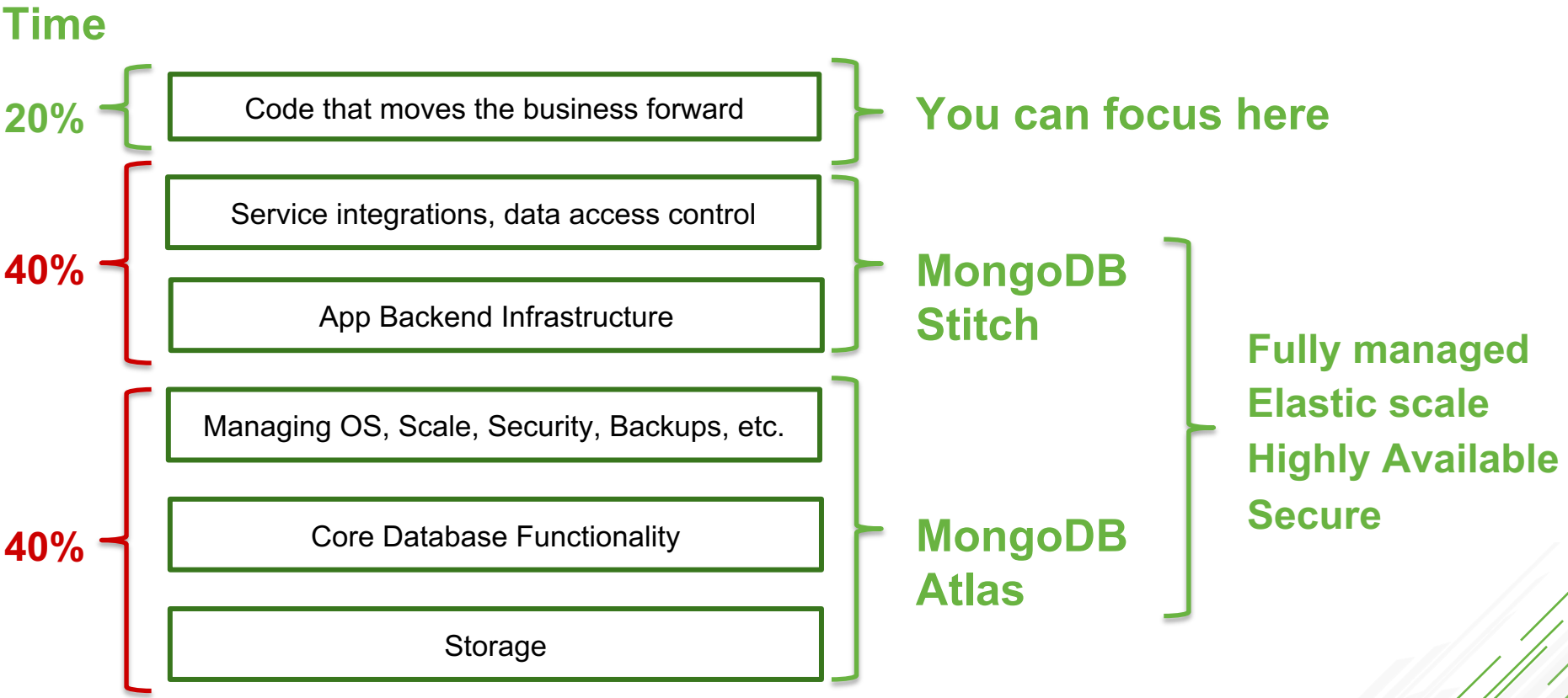


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# MongoDB Stitch Serverless Platform Services

**Stitch QueryAnywhere**

Full power of MongoDB document model & query language in frontend code

Fine-grained security policies through declarative rules

Streamlines app development with simple, secure access to data and services from the client with thousands of lines less code to write and no infrastructure to manage – getting your apps to market faster while reducing operational costs.

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**Stitch Mobile Sync**

Automatically synchronizes data between documents held locally in MongoDB Mobile and the backend database

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| | Without Stitch | With Stitch |
| --- | --- | --- |
| **Backend** | Provision backend server<br>Install runtime environment<br>Add code to make backend HA<br>Add code to scale backend<br>Monitor & manage backend infrastructure<br>Code REST API for frontend to use backend<br>Code backend application logic | **Handled automatically by Stitch and Atlas**<br>**Provide JS code for Stitch Functions** |
| **Data Access** | Code user authentication<br>Code data access controls | **Simple JSON Config** |
| **Frontend** | Code application frontend<br>Code against each external service API<br>Continuously poll database for changes | **Code frontend using single SDK/API to access backend services** |

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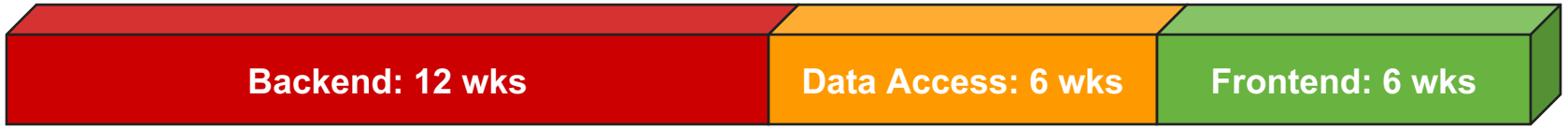
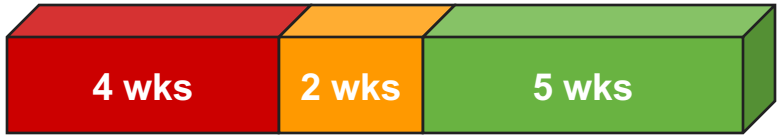
# Development Time With/Without Stitch



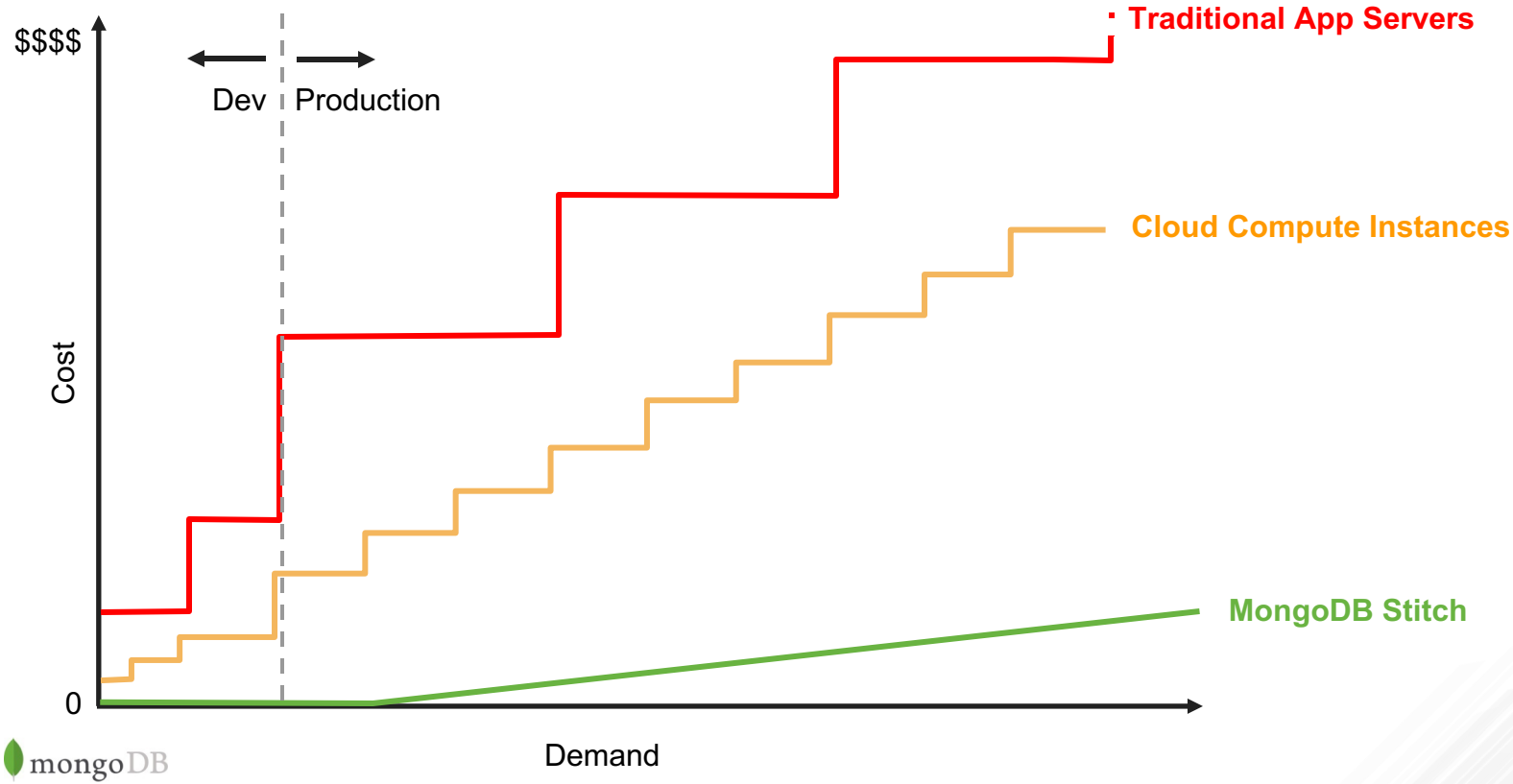

Without Stitch




With Stitch

**Cut development time in half**

# MongoDB Stitch Reduces Infrastructure Costs




mongoDB

# MongoDB Stitch Features

### All of MongoDB

Get the full power and scalability of MongoDB – whether using your existing database or starting from scratch. Retain direct access to the database; safely expose existing data to new applications.

### Triggers

React to database changes and authentication events as they happen. Make further data changes, invoke services, and run custom logic.

### Rules

Declaratively control which fields a user can access by defining simple JSON rules or JavaScript functions. Grant others access to approved views of the data while maintaining data privacy.

### SDKs

The easiest way to work with MongoDB and other backend services. Client SDKs for JavaScript, React Native, Android, and iOS enable cross-platform client support.

### Logging & debugging

Test and debug your Stitch functions and view logs for all requests through the Stitch UI.

### Functions

Run your JavaScript code server-side, within the Stitch serverless backend. Stitch transparently scales to meet your usage.

### Mobile sync (Beta)

Automatically synchronize changes between MongoDB Mobile and your backend database. Resolve conflicts, even after a device has been offline.

### MongoDB wire protocol

Access Stitch and its connected Atlas clusters using existing MongoDB drivers and tools.

### Export/import CLI

Build your app through the Stitch API, then export to your local machine to customize, add to source control, and deploy using import command.

mongoDB

# MongoDB Stitch Benefits

**Reduce Time to Market**

**Functions as a Service**: No waiting on infrastructure

**Service Integrations**: Save coding

**Cross-Platform**: Develop once

**Existing Apps Untouched**: No reverse-engineering

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### Reduce Operational costs

**Serverless:** We manage the platform for you

**PaYG:** No up-front cost

**Capacity on Demand:** Zero wasted resources

**Secure by Default:** Less ops effort

mongoDB

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### Reduce Development Effort

**Backend Integrations Built in:** Don't write generic backend code

**HA & Scalability Built in:** Hard and time consuming to build

**Orchestrate Data Between Services:** Reuse what's out there

**Stitch Runs Your Code:** The only backend you need

mongoDB

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**Stitch Runs Your Code:** The only backend you need

### Secure Data Access: Simple, Declarative Rules

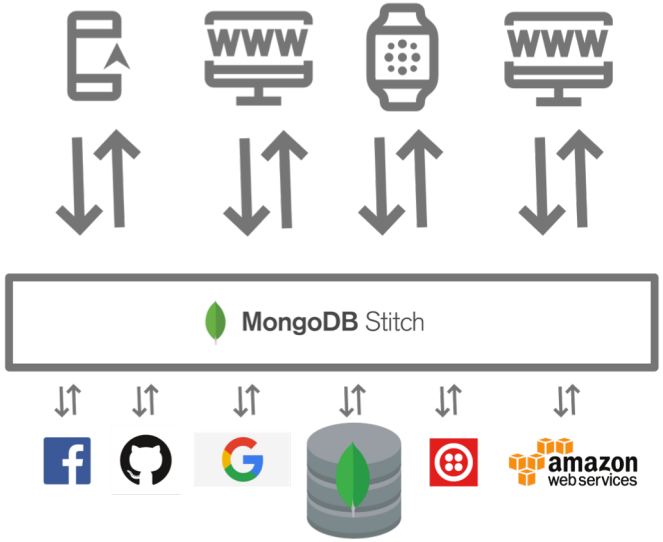
**Complete Authentication & Authorization out of the box:** Authenticate anything and anyone; protect anything

**Precise, Flexible, Extensible Rules:** Lock access down tighter

**Flexible Auth Options:** Choose which auth service(s) to use

# Ways to Use Stitch

# Full Mobile/Web Backend

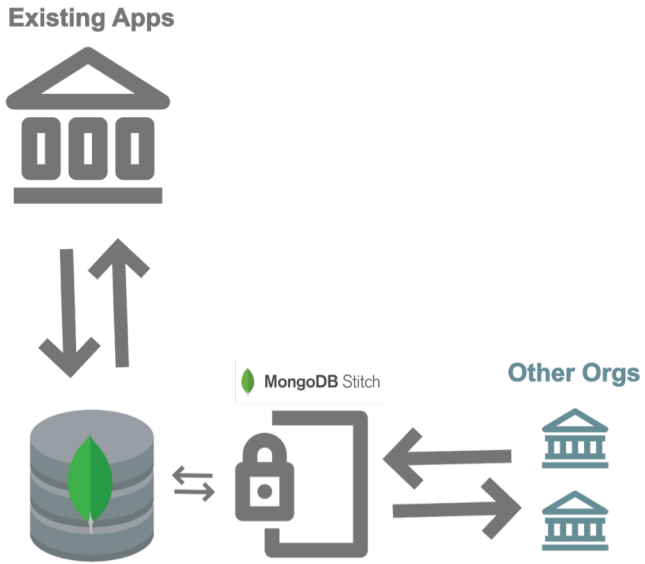



- The fastest way to develop your app (**50% faster**)
  - Code using iOS/JS/Android SDKs; data passed as JSON – this is how developers work most efficiently
  - No backend infrastructure required; Stitch scales automatically as application usage grows
  - Atlas completes a managed, scalable backend

# Internet of Things

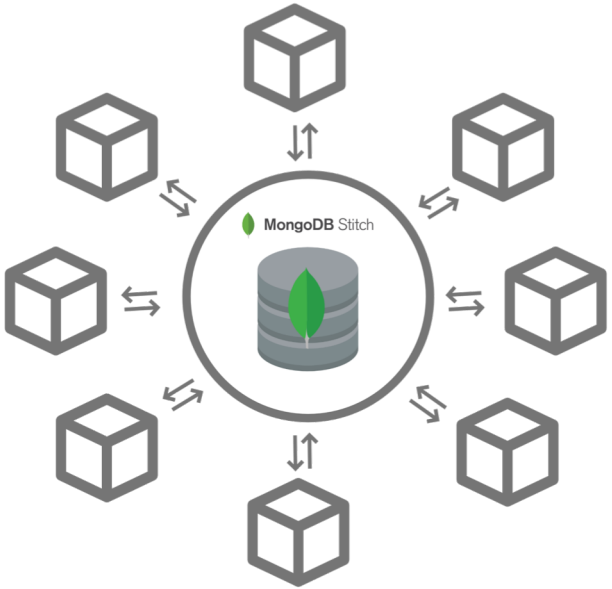
- The most efficient way to work with IoT data (**50% faster development**)
  - Built-in authentication of devices
  - JSON used throughout the stack, no time wasted on data conversion
  - No backend infrastructure required; Stitch scales automatically as new devices are added
  - Atlas completes a managed, scalable backend

# Data as a Service



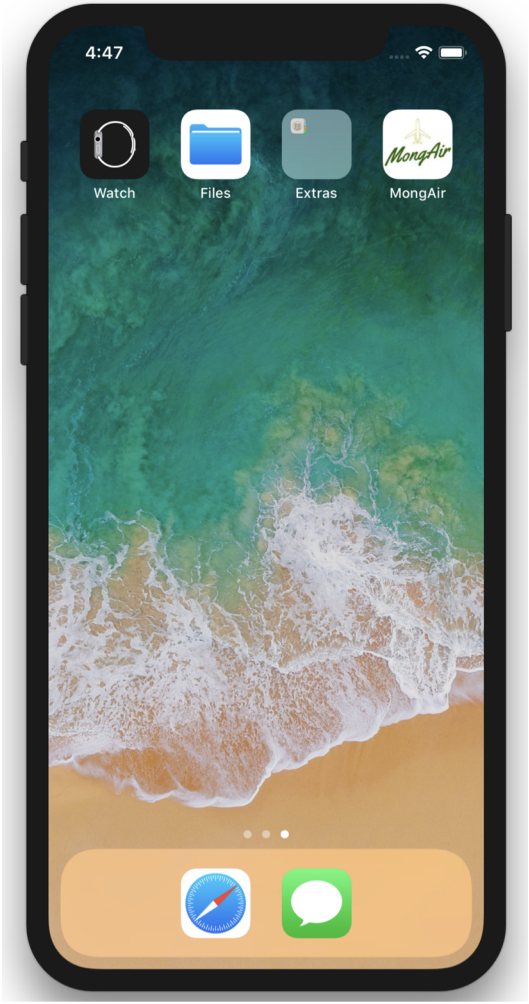

- Your data is your most valuable asset, leverage it to the full
  - Expose it to internal groups
  - Share with partners
  - Provide extra value to customers
- Use Stitch to safely expose operational data
  - Flexible, fine-grained read and write rules
  - Rules easily interact with existing Authentication/Services
  - Functions can easily enrich data or record audit trail
- **Acxiom are saving 50%+ of their development time doing exactly this!**

# Enabling Microservices



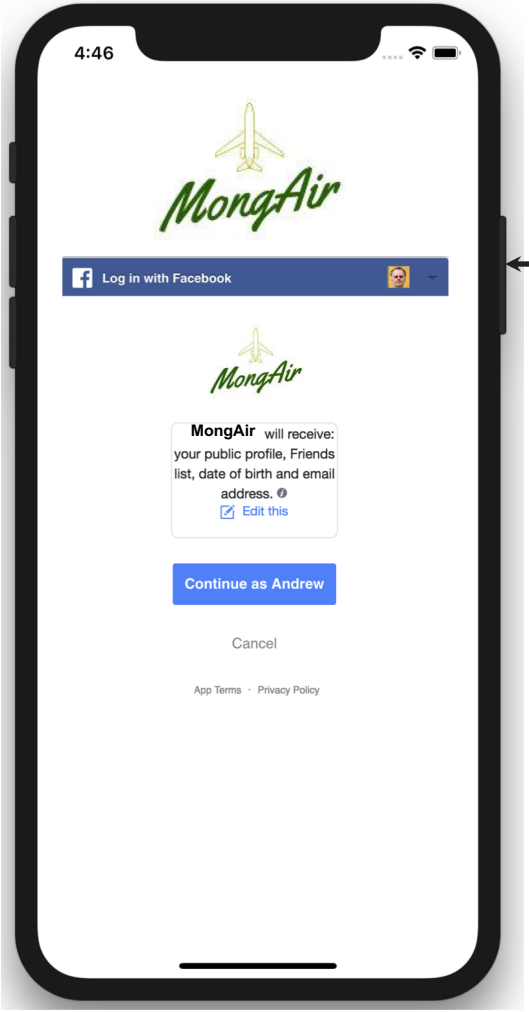

- Use Stitch Functions to orchestrate data passing between your microservices
  - Functions can enrich the data, create audit trails, or chain services
  - No additional infrastructure required – Stitch scales automatically as new microservices are added
  - JSON used throughout the stack, no time wasted on data conversion
- Option for multiple microservices to share the same database
  - **Save on ops**
  - **Consolidate on single database technology**
  - **Less wasted capacity**

# Stitch in Action




MongoDB
Stitch

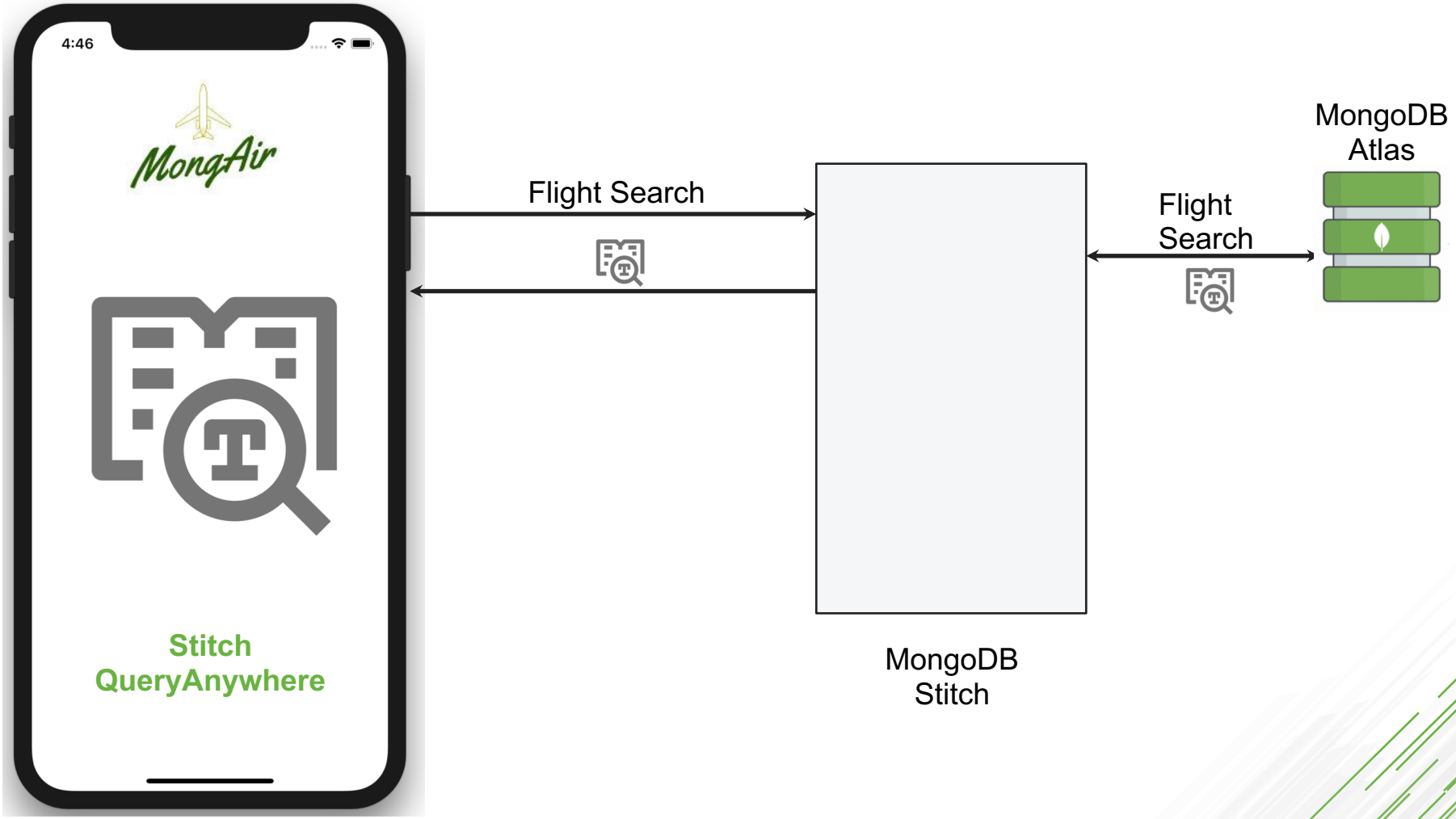
MongoDB
Atlas




Authenticate

MongoDB Stitch

MongoDB Atlas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MongAir
Stitch
QueryAnywhere
Flight Search
Flight
Search
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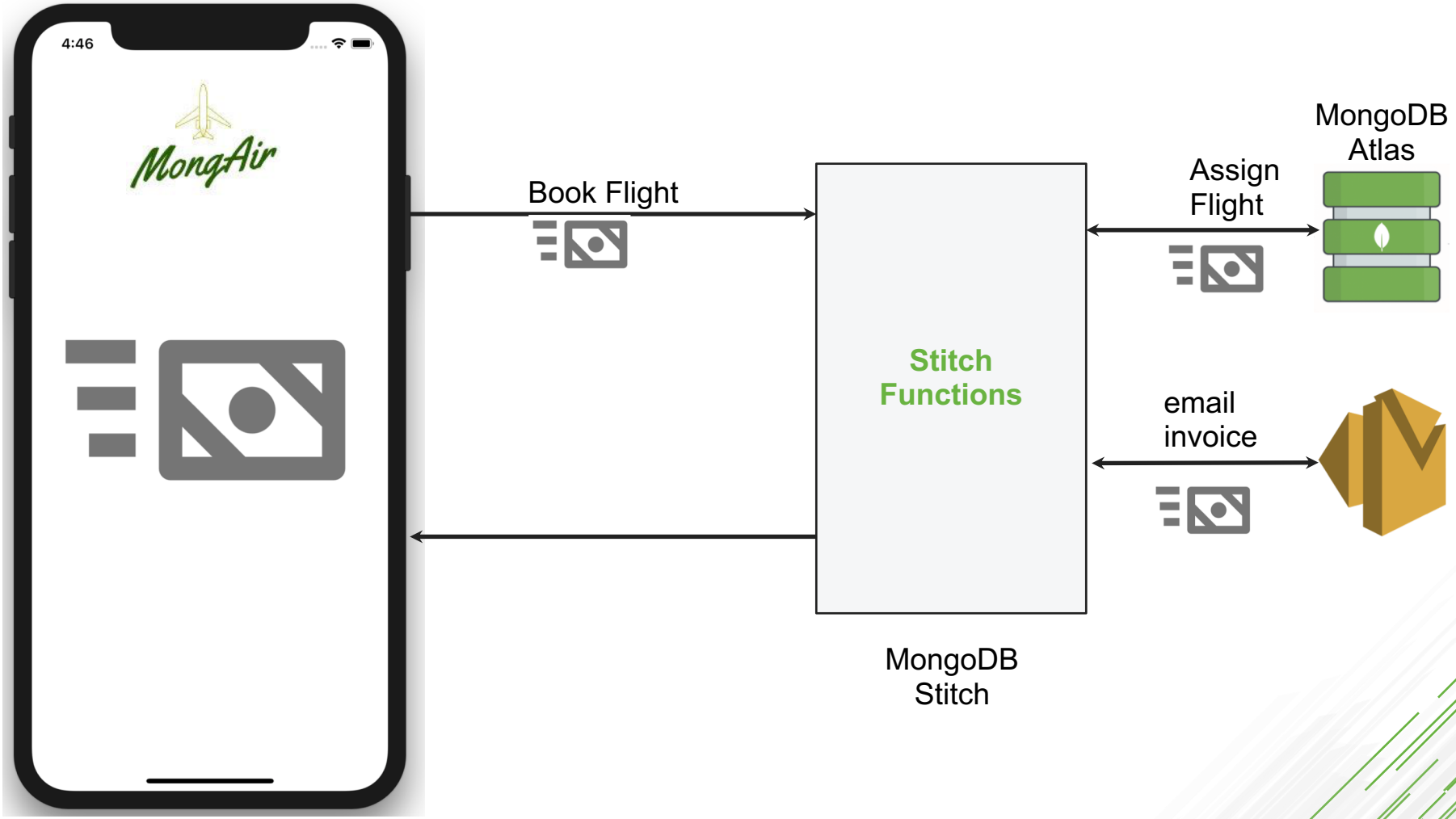
MongoDB
Stitch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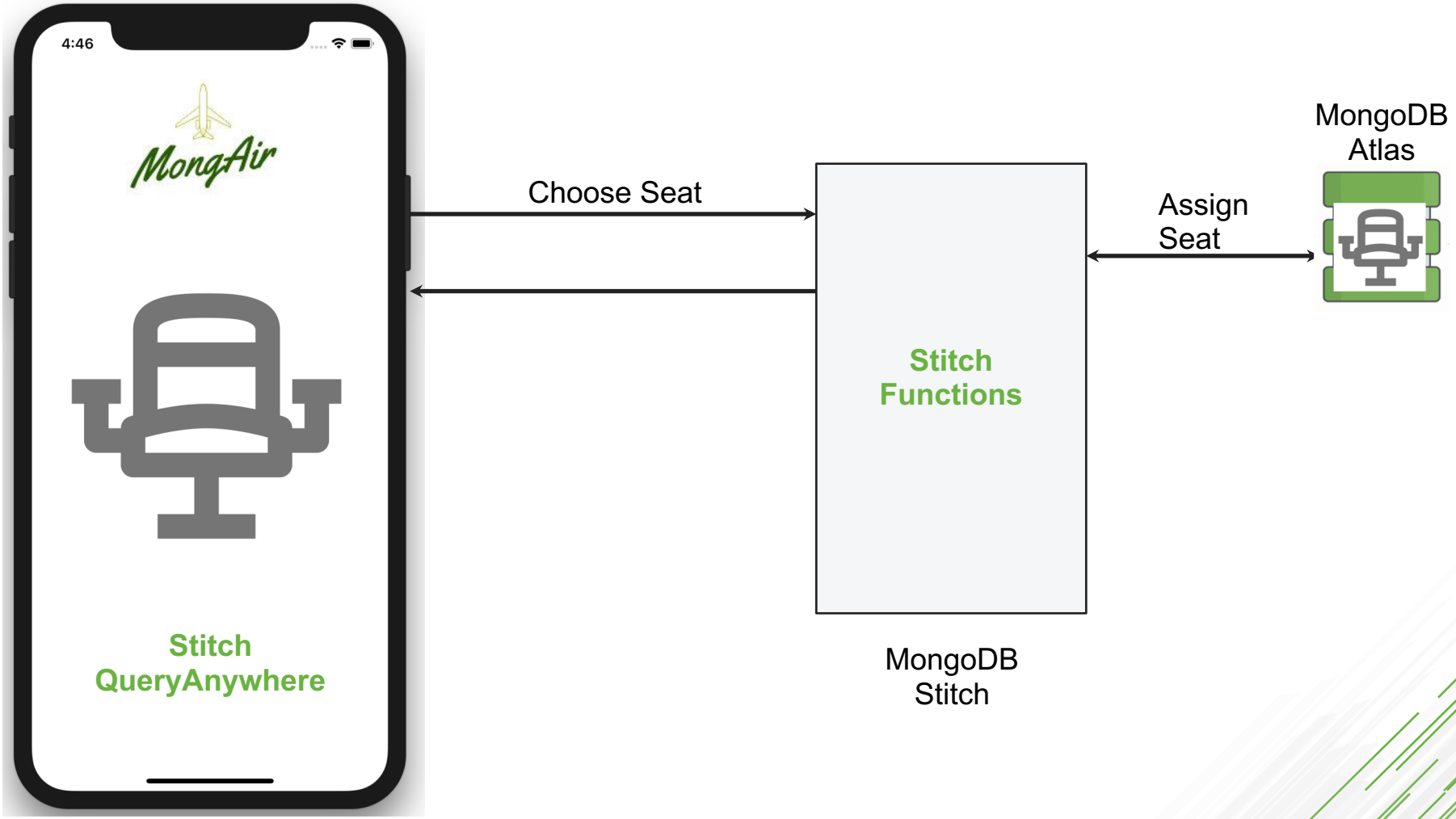
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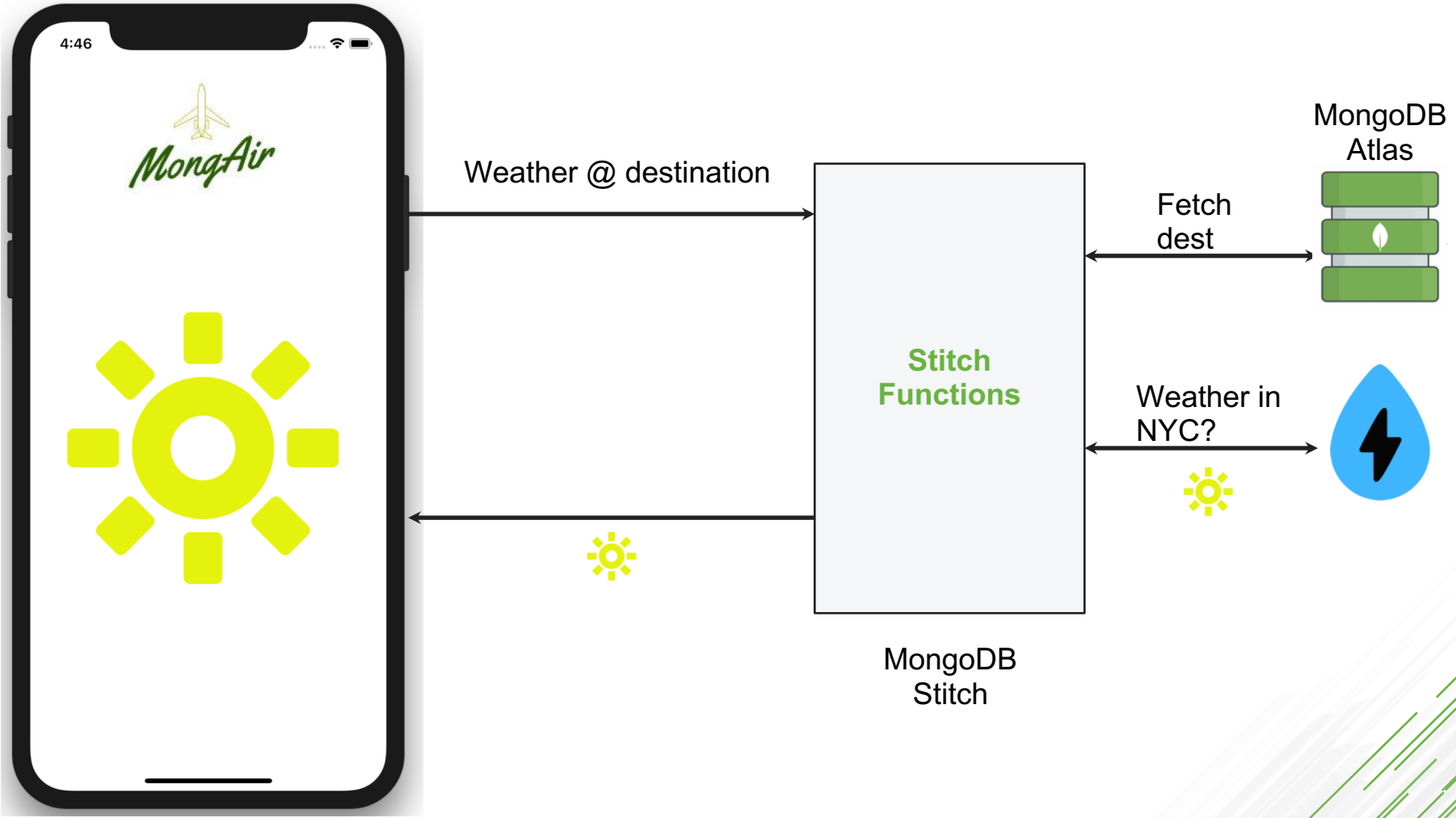
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MongAir
Weather @ destination
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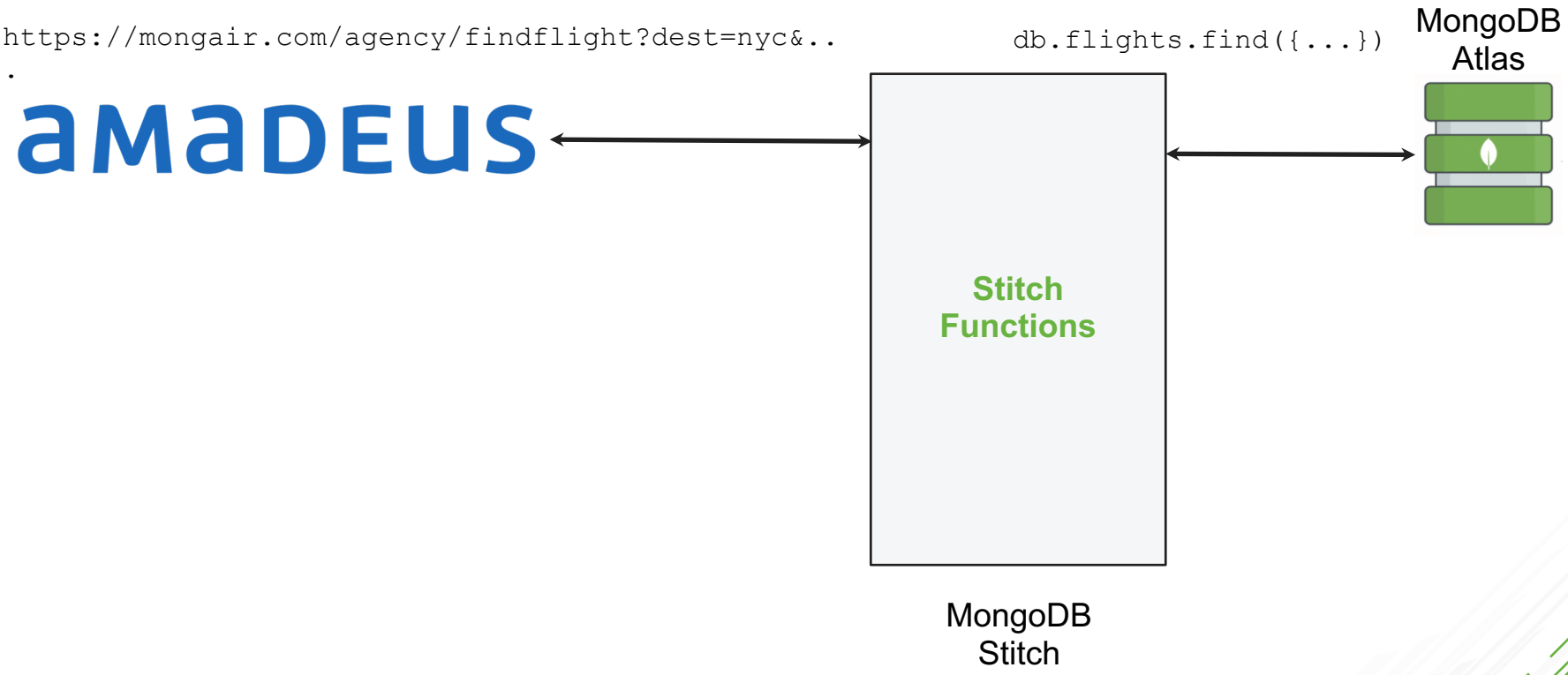
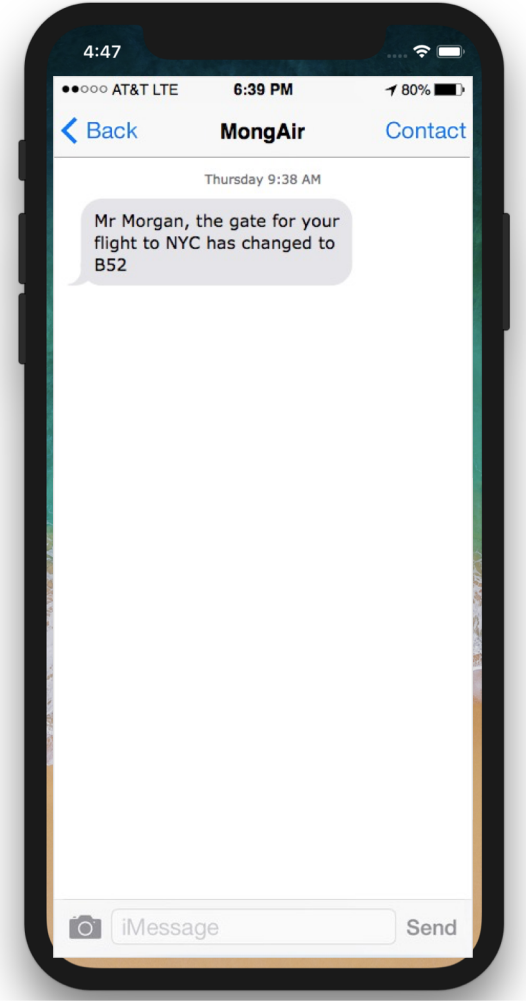
Stitch
Fetch
dest
MongoDB
Atlas
Weather in
NYC?

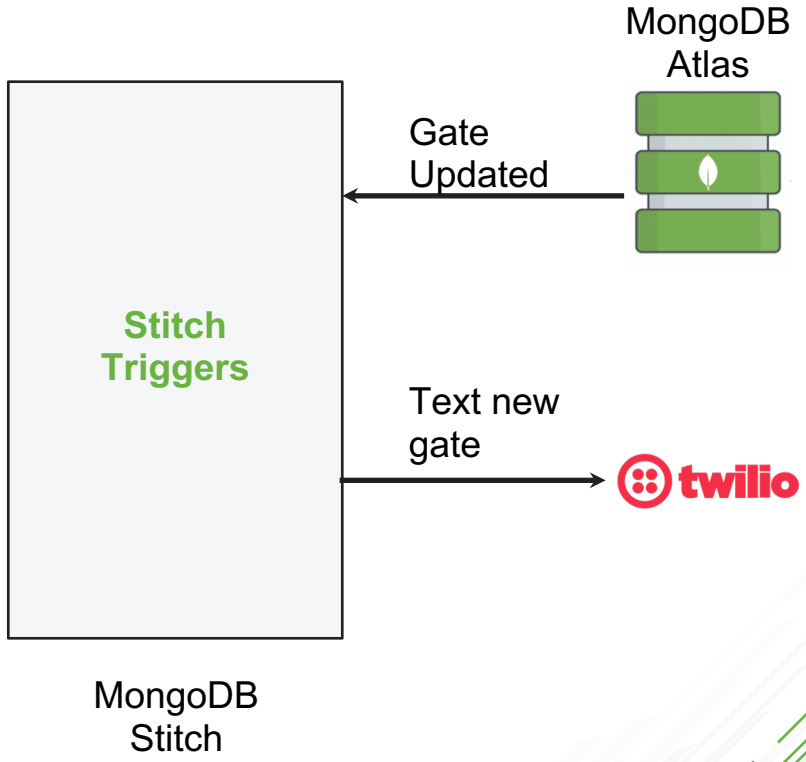
https://mongair.com/agency/findflight?dest=nyc&..

.

db.flights.find({...})




4:47
AT&T LTE
6:39 PM
80%
Back
MongAir
Contact
Thursday 9:38 AM
Mr Morgan, the gate for your flight to NYC has changed to B52
iMessage
Send

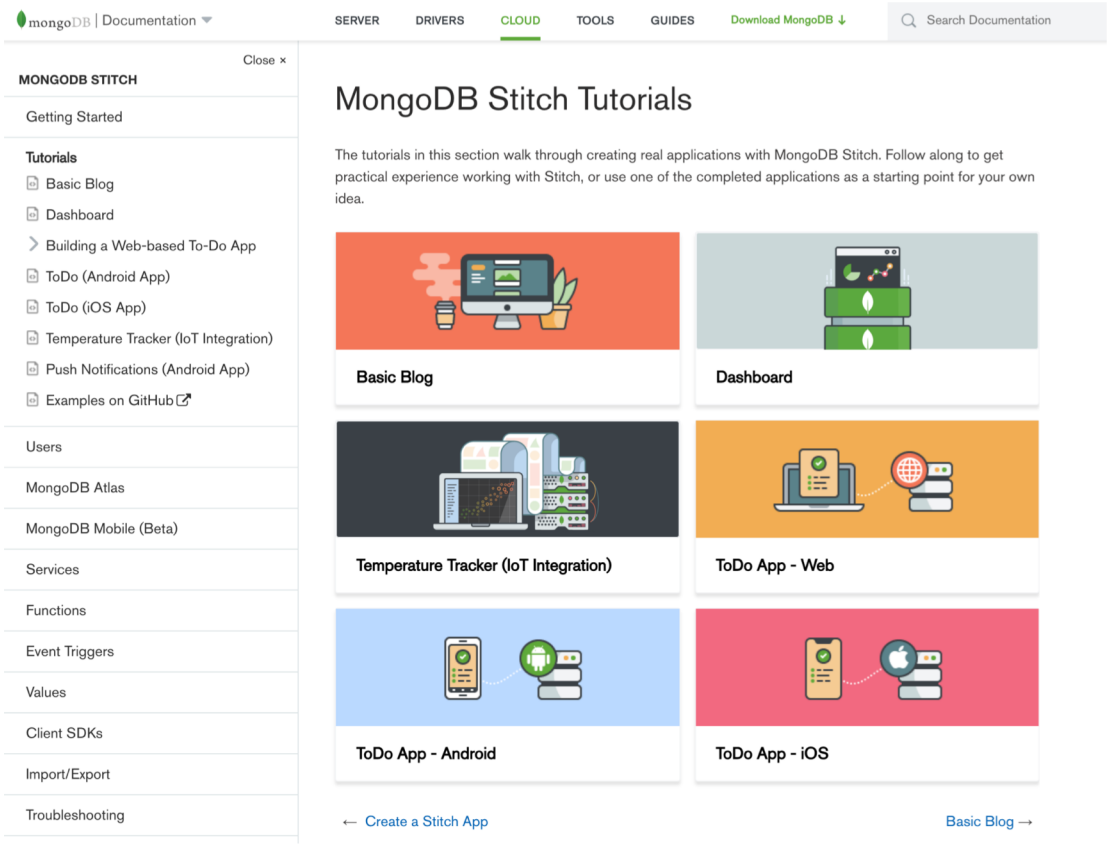

MongoDB Atlas
Gate Updated
Stitch Triggers
Text new gate
twilio
MongoDB Stitch

# Stitch – Siguientes Pasos

# Siguientes pasos

- Lee el white paper
- Lee la documentación
- Inténtalo por ti mismo

# Try Stitch For Yourself



# Next Steps

- Read the MongoDB Stitch white paper
- Read the documentation

# Q&A