Agenda

🕐 **45 minutes**

Introductions - Who am I?

MongoDB Overview

Mainframe Modernization

Customer Successes

Q&A

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Who Am I?

Who am I?

Currently: Director of Information Strategy at MongoDB

Helping companies derive business value through Digital Transformation, using the capabilities offered by MongoDB's technology offerings and the surrounding ecosystem

- **Cloud Native applications and architectures**
- **Application Modernization**
- **Mainframe Modernization**
- **Internet of Things**

Bootcamp headshots 6-7-2016-097.CR2

Previously: IMS Systems Programmer and OfficeVision/MVS Consultant at IMI

WOLVERHAMPTON WANDERERS FOOTBALL CLUB

MEMBERSHIP CARD SEASON 1990/9

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MongoDB Overview

To free the genius within everyone by making data ridiculously easy to work with.

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Intelligent Operational Data Platform

Best way to work with data

Intelligently put data where you want it

Freedom to run anywhere
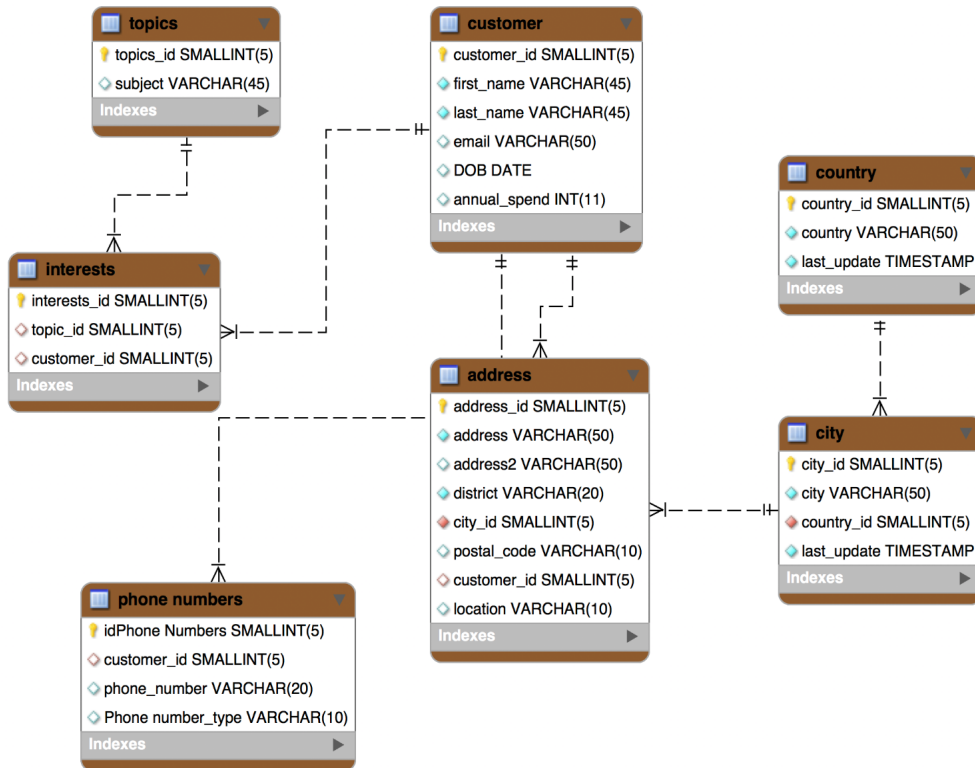
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Best
way to work
with
data

Easy	Fast	Flexible	Versatile

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Need to Think About the Data Differently


```
{
  "_id" : ObjectId("5ad88534e3632e1a35a58d00"),
  "name" : {
    "first" : "John",
    "last" : "Doe" },
  "address" : [
    { "location" : "work",
      "address" : {
        "street" : "16 Hatfields",
        "city" : "London",
        "postal_code" : "SE1 8DJ"},
      "geo" : { "type" : "Point", "coord" : [
        51.5065752,-0.109081]}},
+     {...}
  ],
  "phone" : [
    { "location" : "work",
      "number" : "+44-1234567890"},
+     {...}
  ],
  "dob" : ISODate("1977-04-01T05:00:00Z"),
  "retirement_fund" : NumberDecimal("1292815.75")
}
```

Tabular (Relational) Data Model
Related data split across multiple records and tables

Document Data Model
Related data contained in a single, rich document

This becomes complex and rigid to change even for a single application
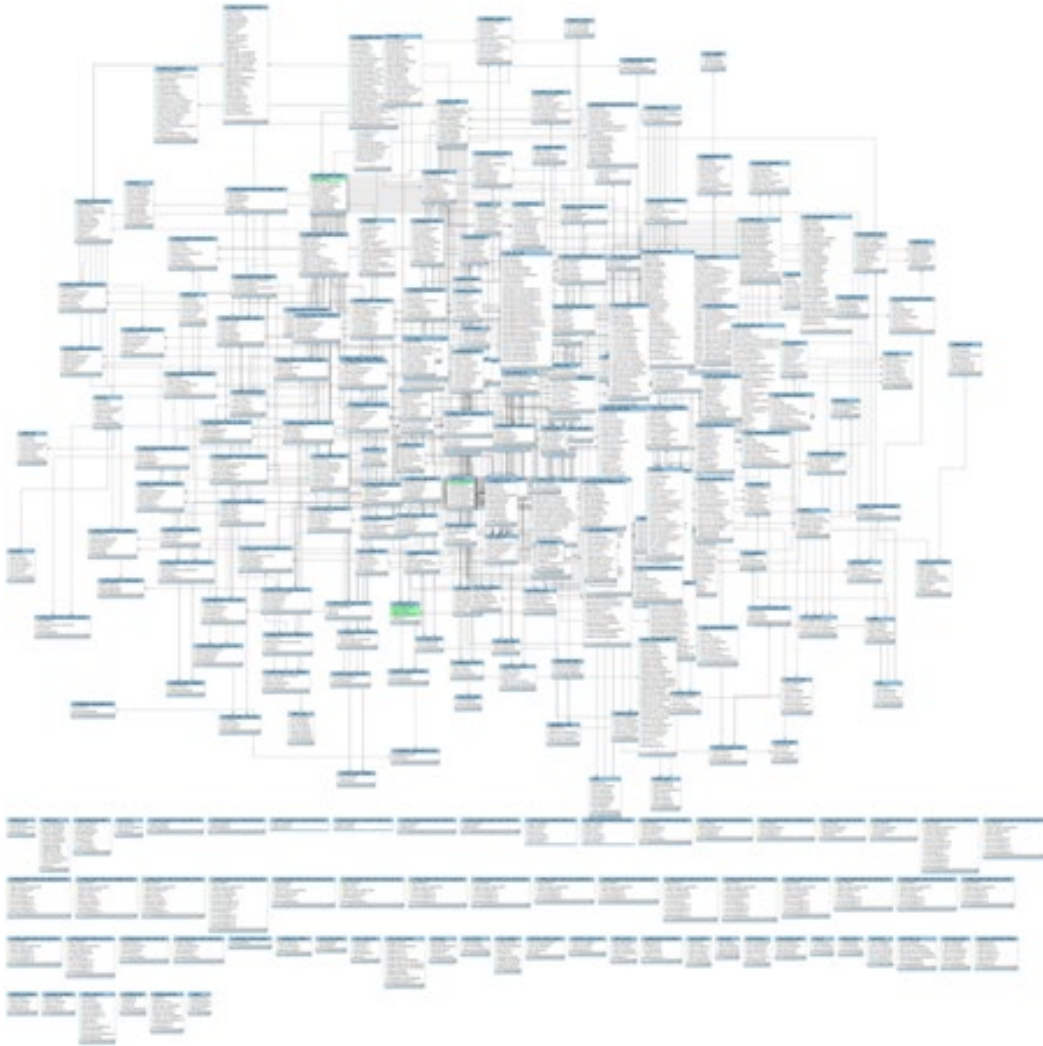

```json
{
  "_id" : ObjectId("5ad88534e3632e1a35a58d00"),
  "name" : {
    "first" : "John",
    "last" : "Doe" },
  "address" : [
    { "location" : "work",
      "address" : {
        "street" : "16 Hatfields",
        "city" : "London",
        "postal_code" : "SE1 8DJ"},
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  "retirement_fund" : NumberDecimal("1292815.75")
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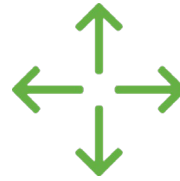
Document Data Model
Related data contained in a single, rich document

Intelligently
put data **where
you want it**

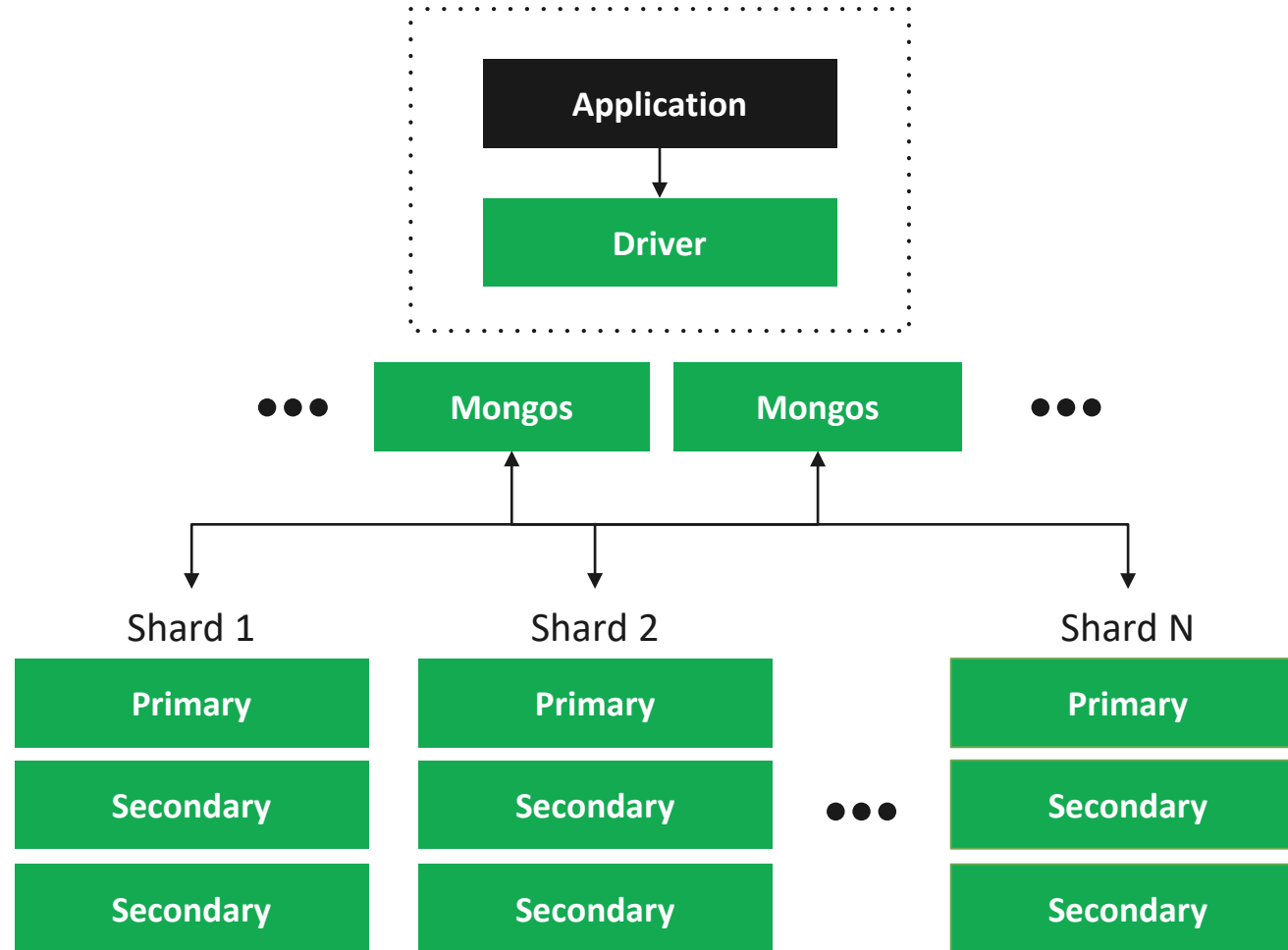| Availability	Scalability	Workload Isolation	Locality
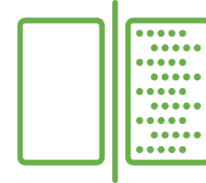
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Native Distributed Architecture

High availability
- Replica sets

Horizontal scalability
- Sharding

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Freedom to run anywhere

Local	**On-premises** Server & Mainframe	**Private cloud**	**Hybrid cloud**	**Public cloud**	**Fully managed cloud service**

- Database that runs the same everywhere

- Leverage the benefits of a multi-cloud strategy

- Global coverage

- Avoid lock-in
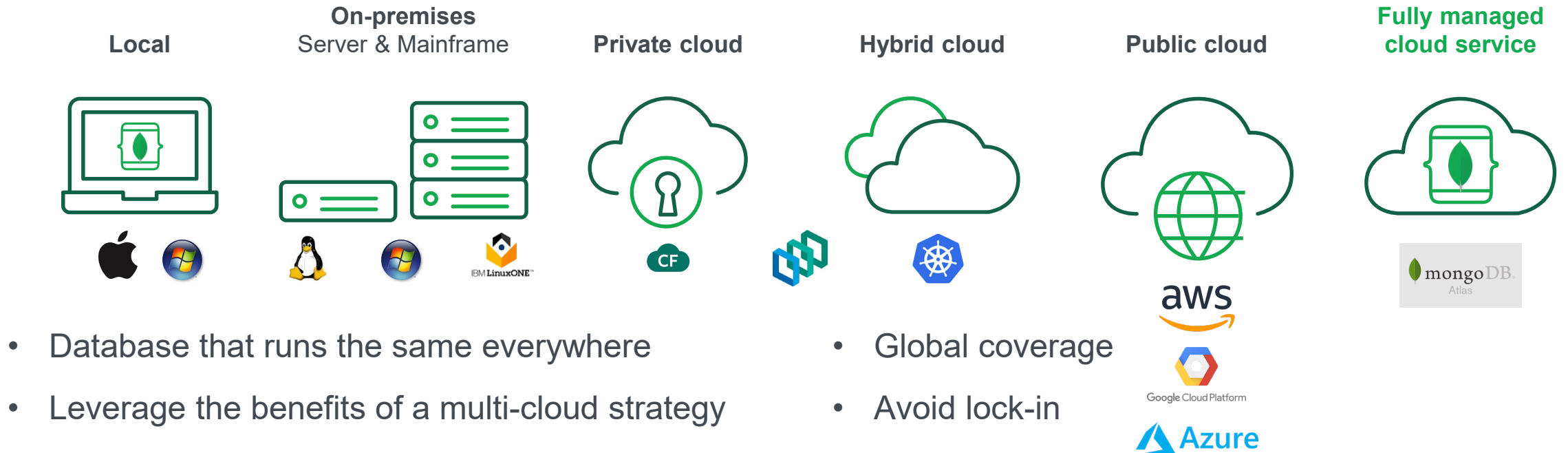
Convenience: same codebase, same APIs, same tools, wherever you run

Mainframe Modernization

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5 phases of Mainframe Modernization

MongoDB can help you monetize mainframe data, and increase agility and capabilities for new use cases at the same time.
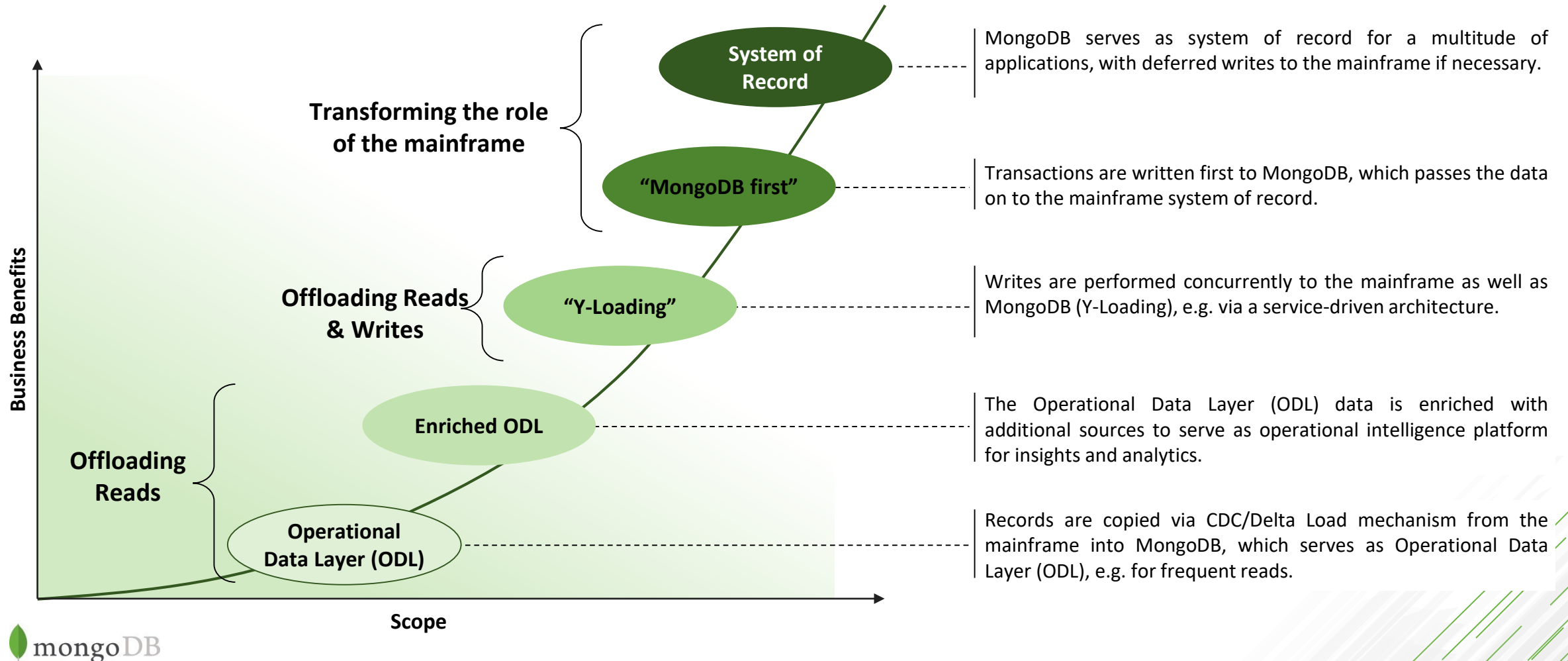
Business Benefits (vertical axis)

Scope (horizontal axis)

Transforming the role of the mainframe

- **System of Record** — MongoDB serves as system of record for a multitude of applications, with deferred writes to the mainframe if necessary.
- **"MongoDB first"** — Transactions are written first to MongoDB, which passes the data on to the mainframe system of record.

Offloading Reads & Writes

- **"Y-Loading"** — Writes are performed concurrently to the mainframe as well as MongoDB (Y-Loading), e.g. via a service-driven architecture.

Offloading Reads

- **Enriched ODL** — The Operational Data Layer (ODL) data is enriched with additional sources to serve as operational intelligence platform for insights and analytics.
- **Operational Data Layer (ODL)** — Records are copied via CDC/Delta Load mechanism from the mainframe into MongoDB, which serves as Operational Data Layer (ODL), e.g. for frequent reads.

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Customer Successes

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Leading International Hospitality Provider

Partnered with IBM

Mainframe Modernization

Core reservations application modernized with MongoDB layer building flexibility beyond their current application architecture

Problem	Solution	Results
Increased load from a large merger added to organic growth in traffic from existing and new travel sites were causing both spiraling costs and customer dissatisfaction. Core reservations application on z/OS was overloaded by growing look:book ratio	Operational Data Layer on MongoDB on Linux on Z provides a cost effective platform for easy access by third parties. Ability to run on Linux on Z avoided pain of application rewrite, since customer has no desire to move off z/OS.	Eight figure cost avoidance due to decreased mainframe engine needs and MIPS reductions. Improved customer satisfaction due to reduced occurrence of hotel room not being available at booking time.

Large International Bank

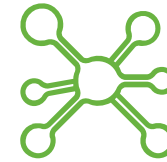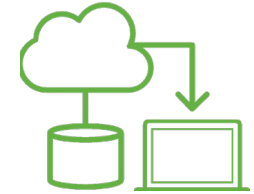| Flexibility	Availability	Speed	Versatility	Run Anywhere
MongoDB solved a scalability and agility issue for their customer Secure Document store.	Always-on Operational Data Store eliminates customer impact from System of Record maintenance events or outages	Rapid improvement of customer experience through expanded transactional history	Multiple account types aggregated into single ODS for population into Web and Mobile channels	Application innovations are protected from the operational platform, accelerating the adoption of cloud
TCO 70%⇩	Uptime⇧	10x Transactions⇧	$10M+⇩	-29 DCs⇩

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