

A Microservices Approach to Implementing RESO Web API

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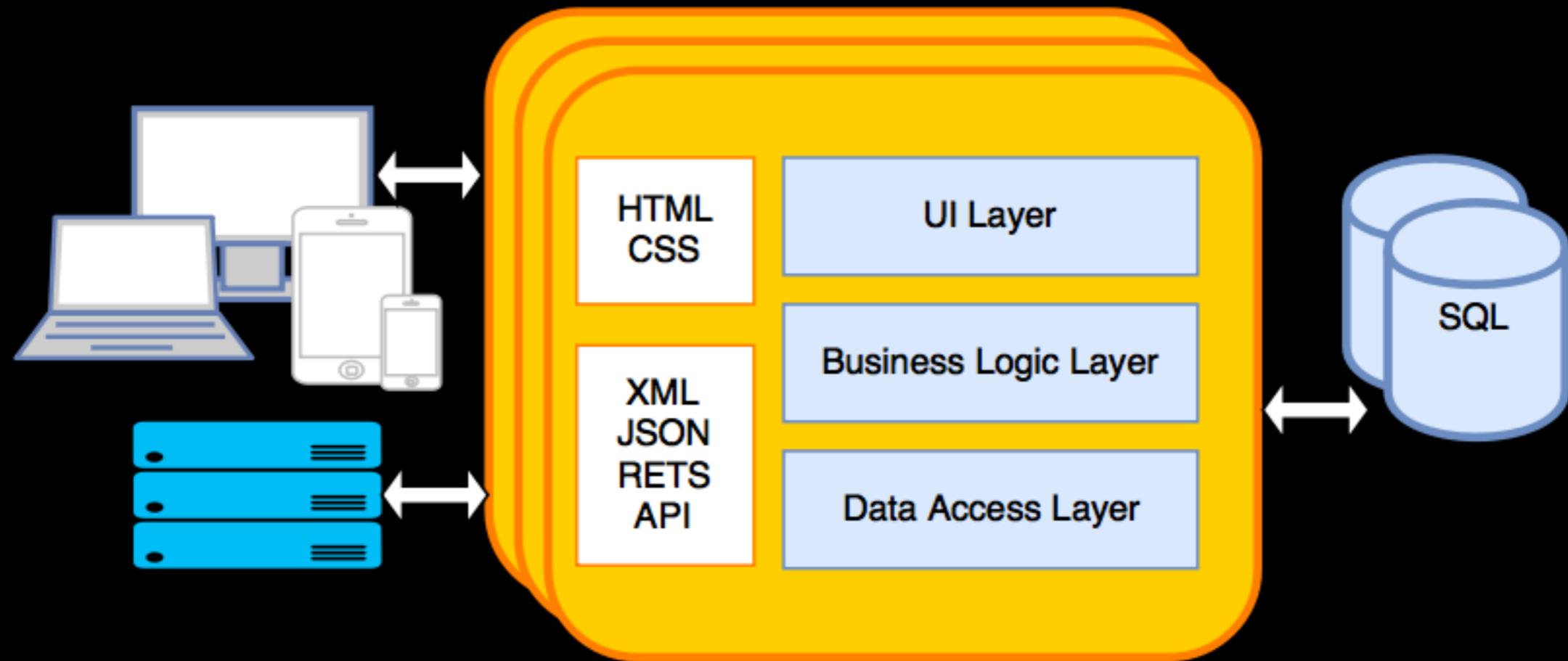
Agenda

- Modern-day Requirements for Enterprise Software
- Traditional Web Applications Architecture
- Problems
- The Microservices Solution
- Real-world Examples
- Demo

Modern-day Requirements

- Short Turnaround Time for Fixes, Updates, Enhancements
- More demands from existing endusers
- Future/Anticipated Consumers
 - Increasing needs from IoT
 - Startups waiting in the wings

Traditional Web Application Architecture



Simple to develop, test, deploy and scale

Problems

- Gets large quickly
- Layers start merging
- Customer demands > cut corners to meet
- Long QA cycles for simple fixes/updates
- Fear of change
- Long term commitment to a technology stack
- Large Technical Debt

TECHNICAL DEBT

IS COMING

HBO Game of Thrones™

podkat
memegenerator.net

What is technical debt?

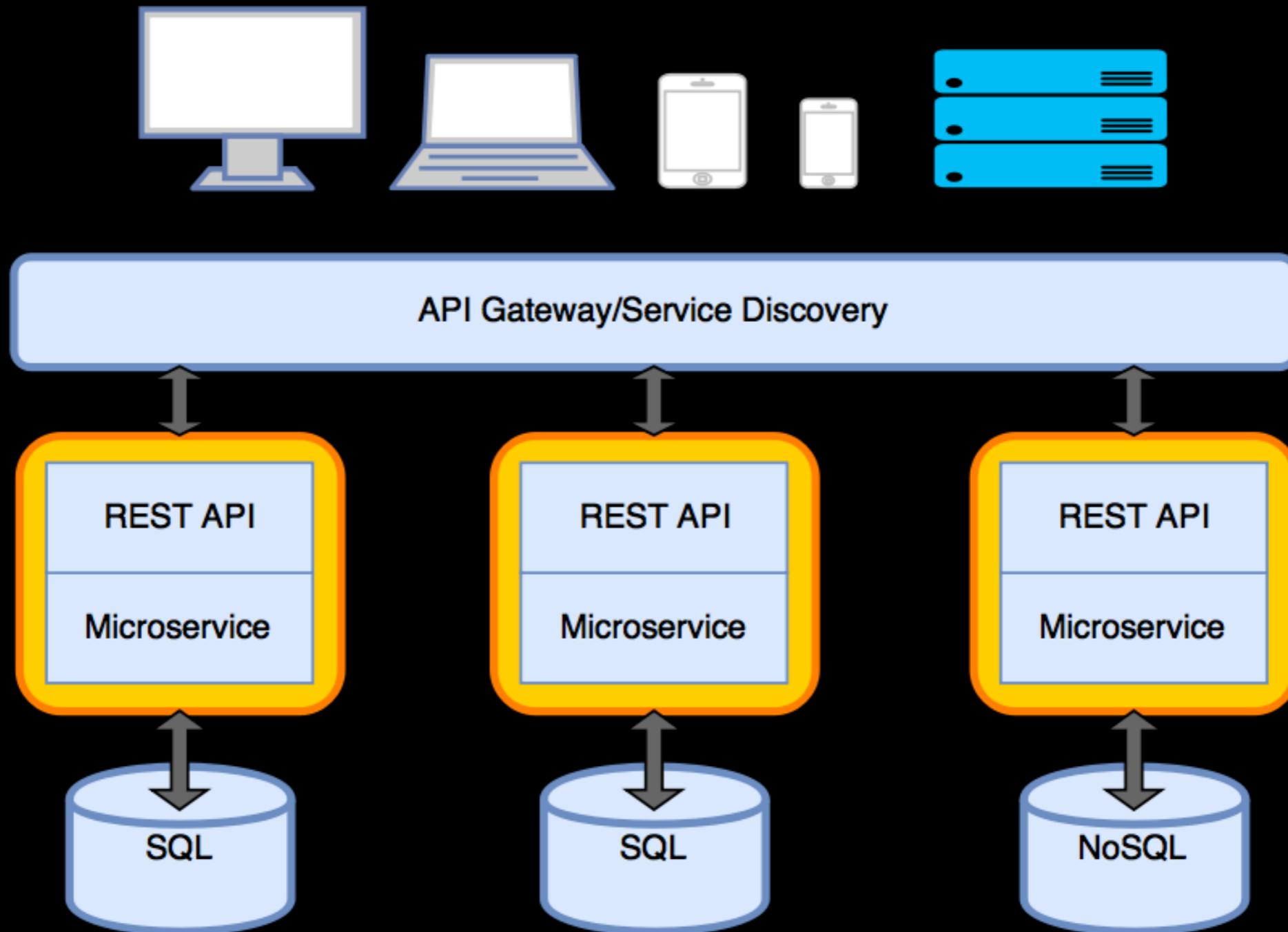
- From Wiki, Technical debt is a metaphor referring to the eventual consequences of any system design, software architecture or software development within a codebase
- Nights spent deploying massive updates
- Wasted time spent doing manual QA
- Hours spent merging code and debugging
- more...

Solution - Microservices

What is a Microservice?

- From Wiki, Microservices is a software architecture style in which complex applications are composed of small, independent processes communicating with each other using language-agnostic APIs.
- Martin Fowler's definition: a component that is
 - independently replaceable
 - independently upgradable

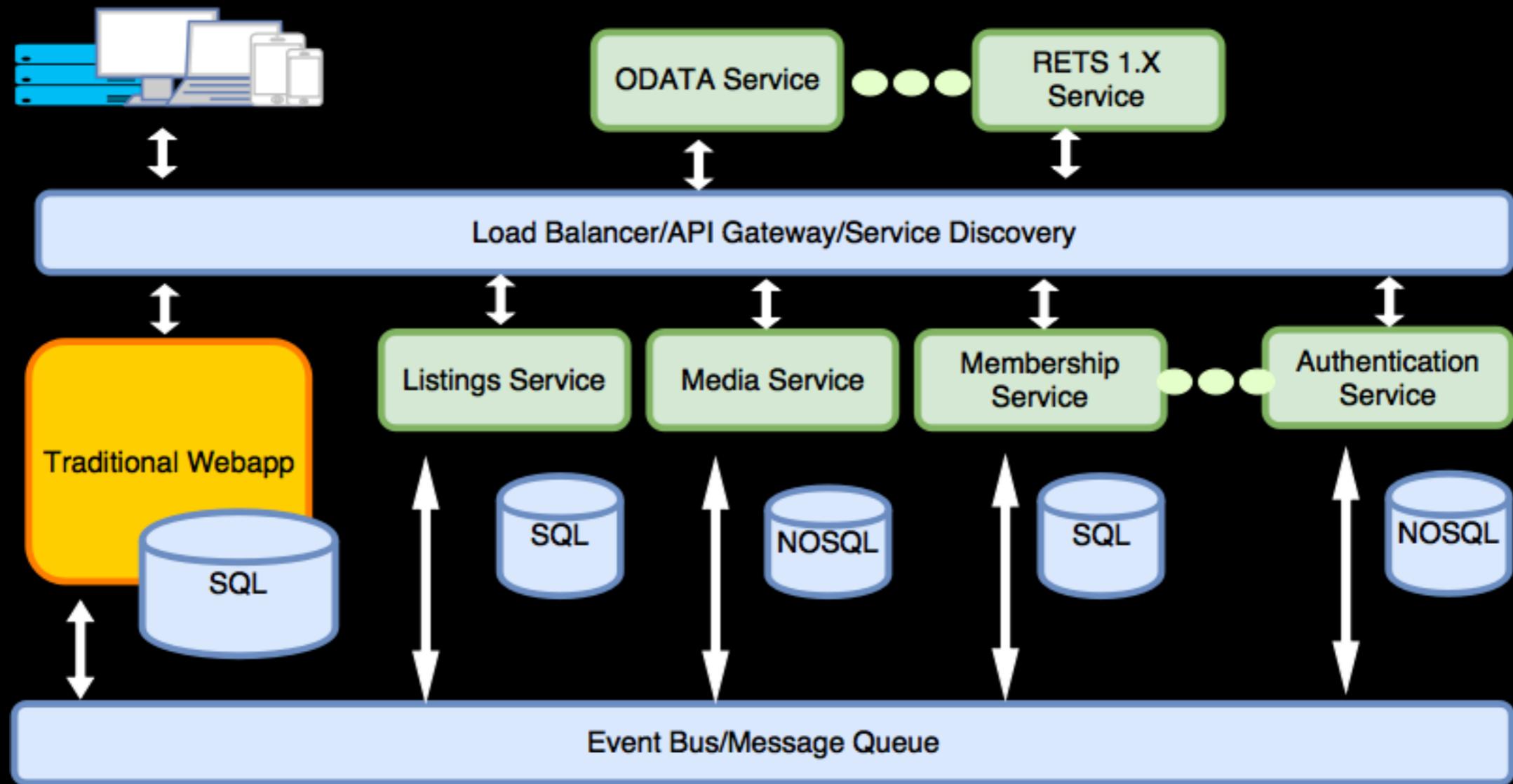
Solution - Microservices(contd.)



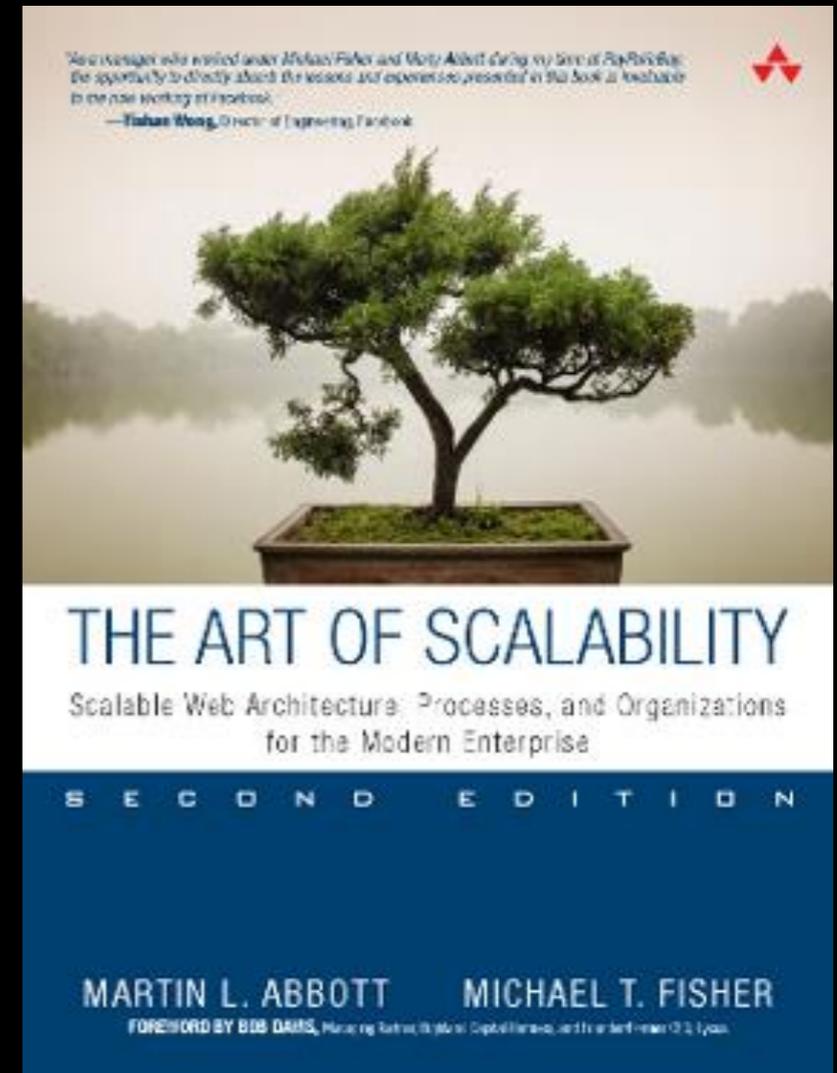
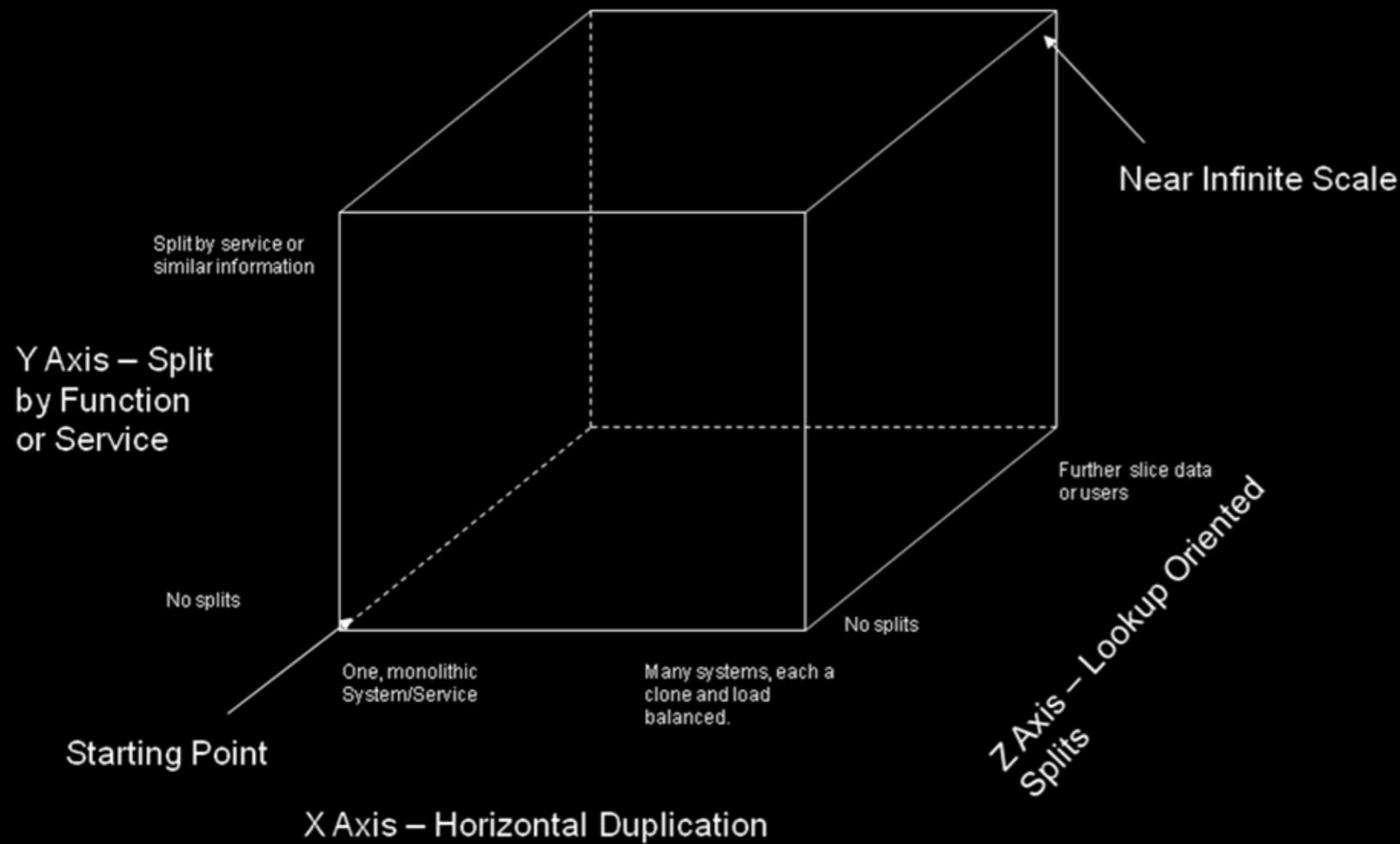
Benefits of Microservices

- Shorter dev/QA cycles
- Enables/empowers Agile development
- Less likely to create coupling/debt
- Flexible scaling options/Resiliency
- Ability to try and incorporate newer technology
- “Front-end of choice”, “datashare” environments

Microservices with Traditional Applications



The Scale Cube



What's the catch?

- Complexity
- Strong Devops Team
 - Debt moves from Developers to Operations
- Requires more automation and monitoring

- Netflix
- Amazon
- PayPal
- Uber
- Linked In
- more...

THE
REAL
WORLD

Demo

“Thank You”