Microservices from zero to hero

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AGENDA

- About Centric
- “Italian” Architecture and Microservices ☺
- Onion and Spring
- What Is a Microservice?
- Building Monolithic Applications
- Marching Toward Monolithic Hell
- Microservices – Tackling the Complexity
- The Benefits of Microservices
- The Drawbacks of Microservices
- Why Microservices?
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ABOUT CENTRIC

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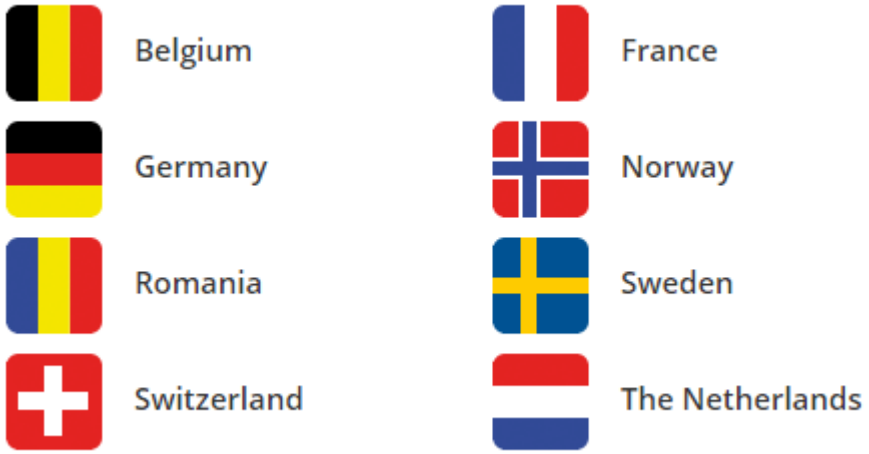

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“ITALIAN” ARCHITECTURE AND MICROSERVICES ☺

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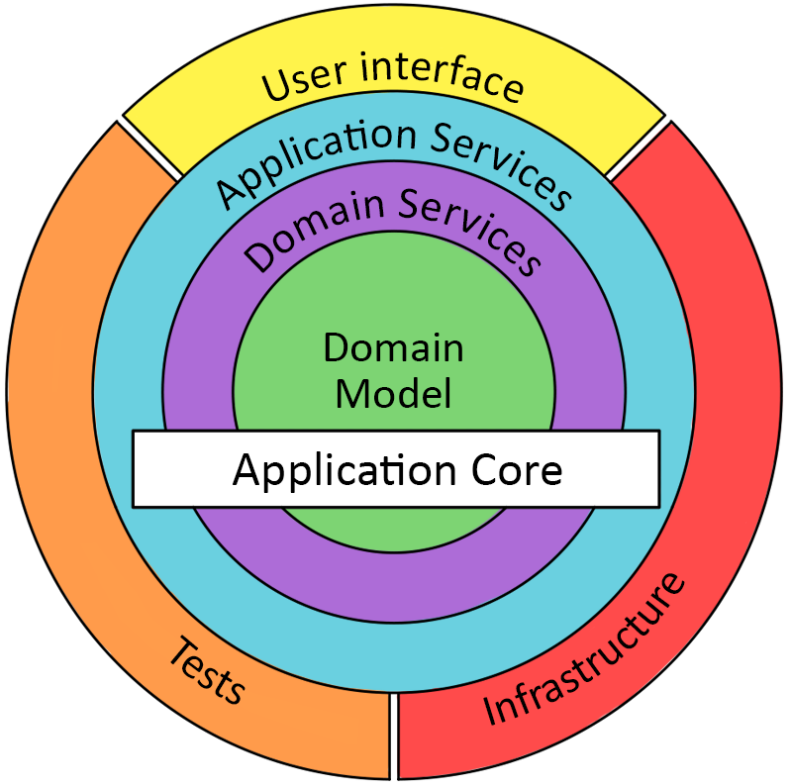
- **Outer layer**, which keeps peripheral concerns like UI, databases or tests

ONION AND SPRING



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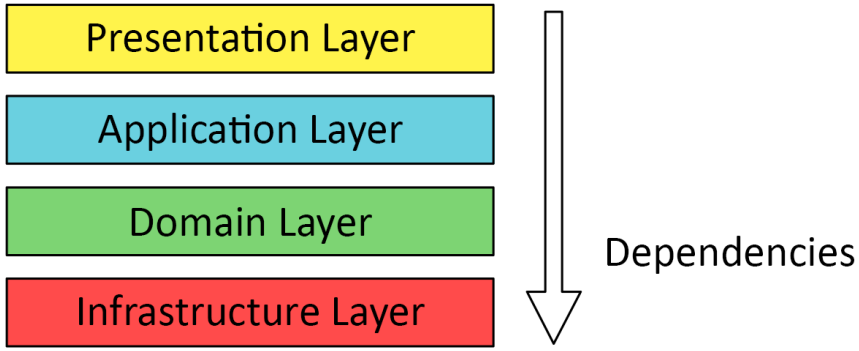

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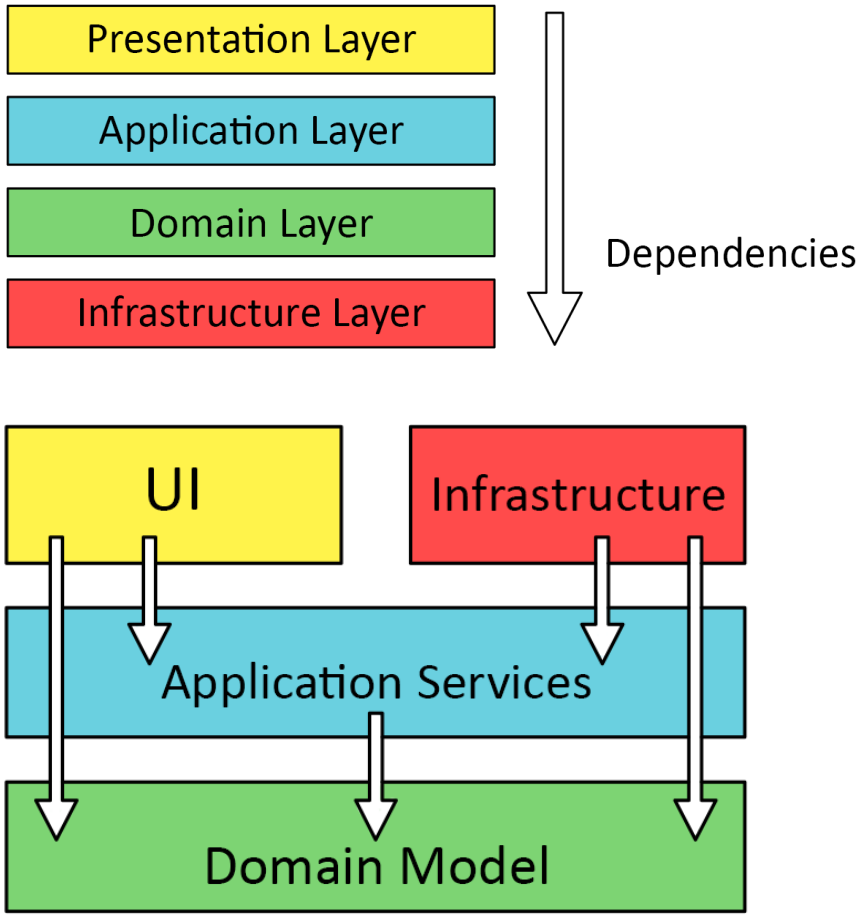

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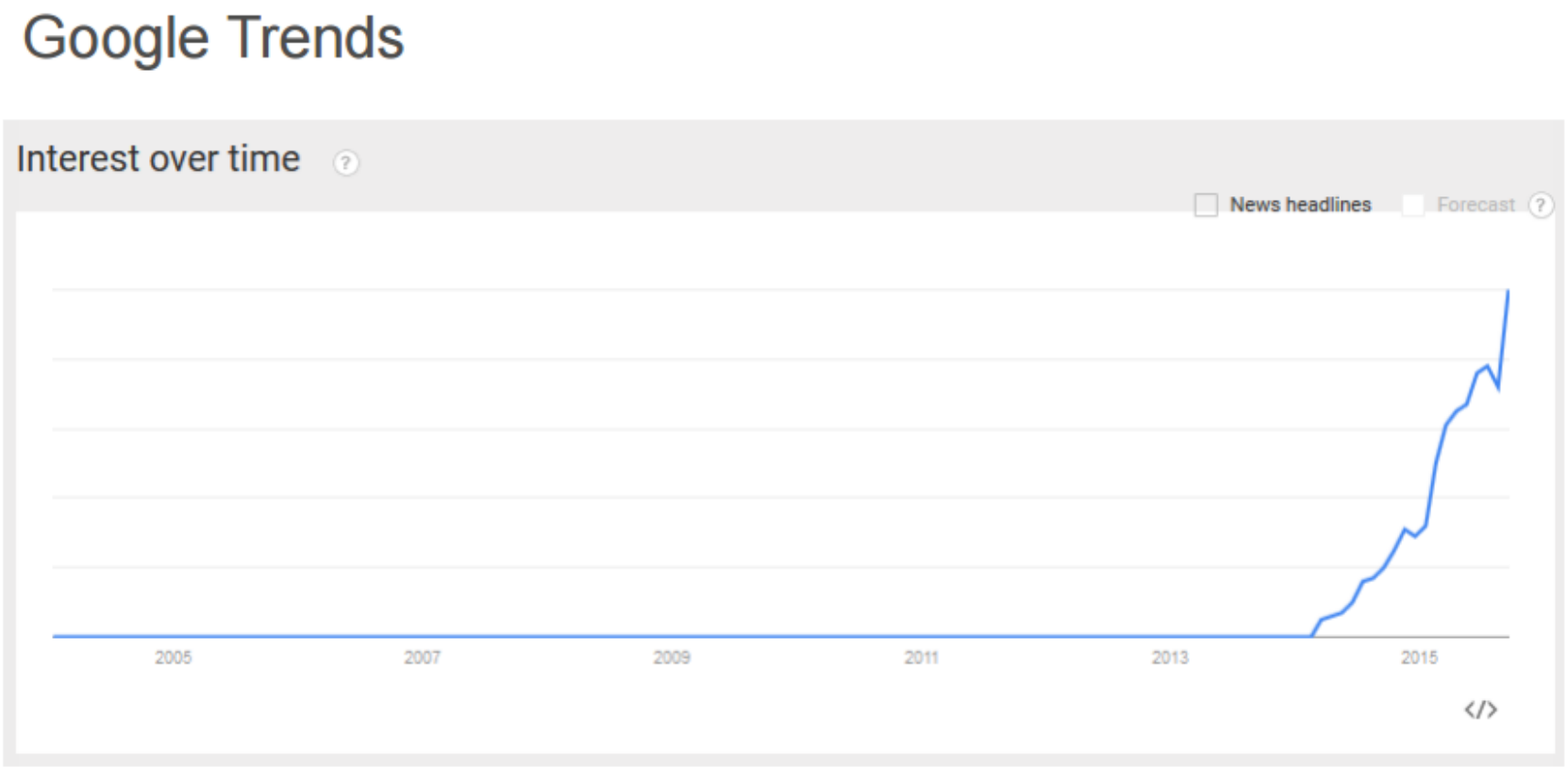

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WHAT IS A MICROSERVICE?

- “Microservices are a thing these days.”

  Phil Calçado, former Director of Engineering, SoundCloud

WHAT IS A MICROSERVICE?

- “Microservices are small, autonomous services that work together.”

  Sam Newman, Thoughtworks

WHAT IS A MICROSERVICE?

- “Loosely coupled service-oriented architecture with bounded contexts.”

  Adrian Cockcroft, Battery Ventures

WHAT IS A MICROSERVICE?

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

  “Microservice Architecture-Aligning Principles, Practices, and Culture”

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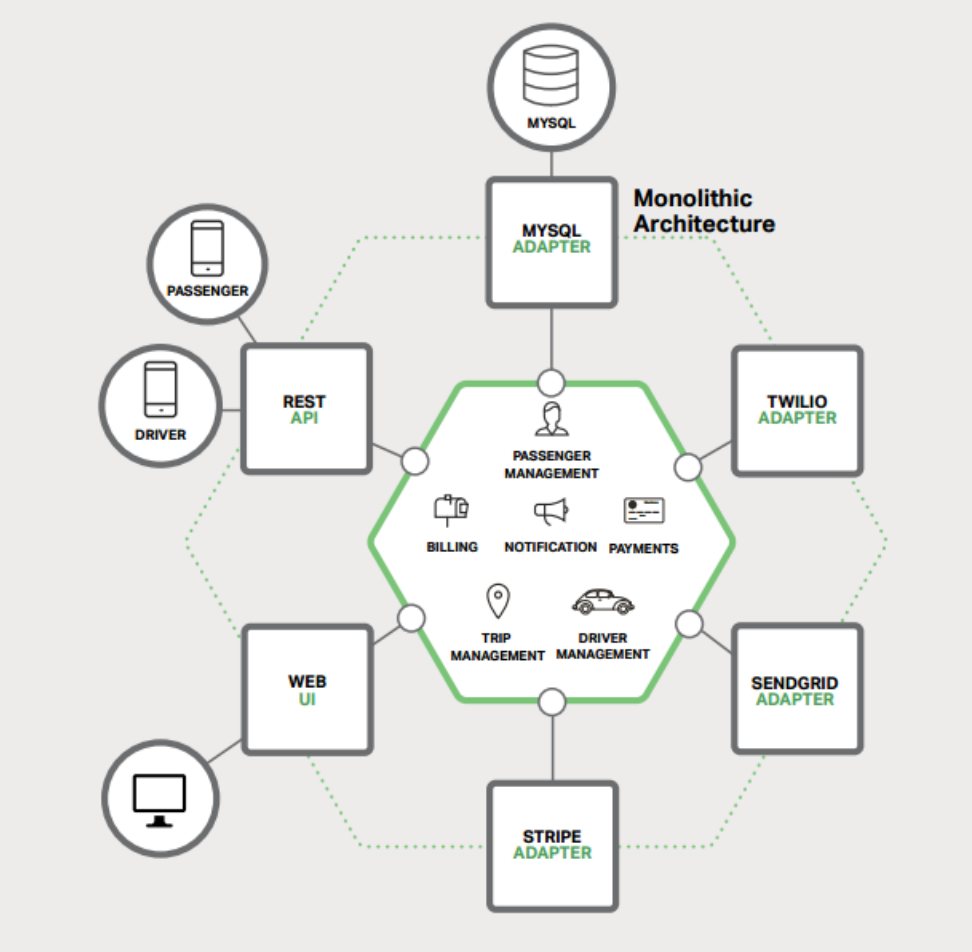

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- These applications are scalable.

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- A large application is an obstacle to continuous deployment.
- Another problem with monolithic applications is reliability.

MICROSERVICES – TACKLING THE COMPLEXITY

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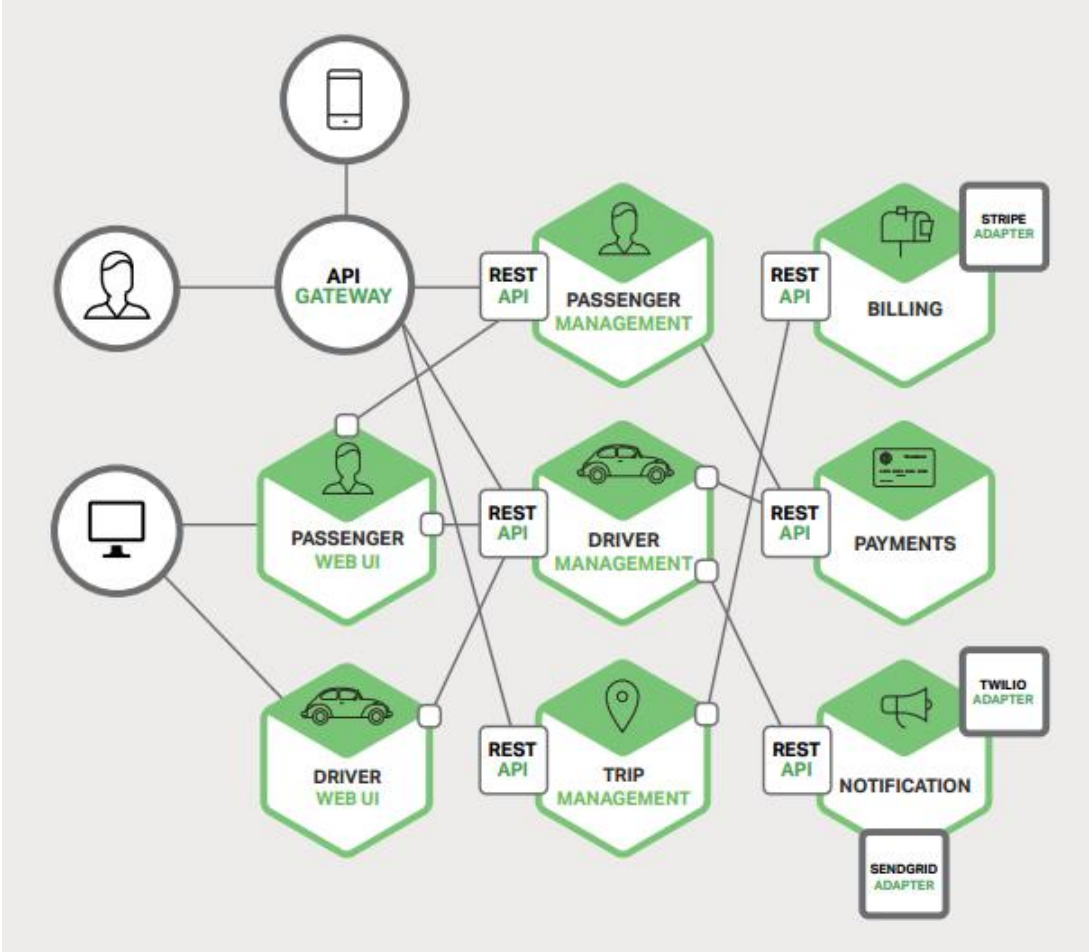

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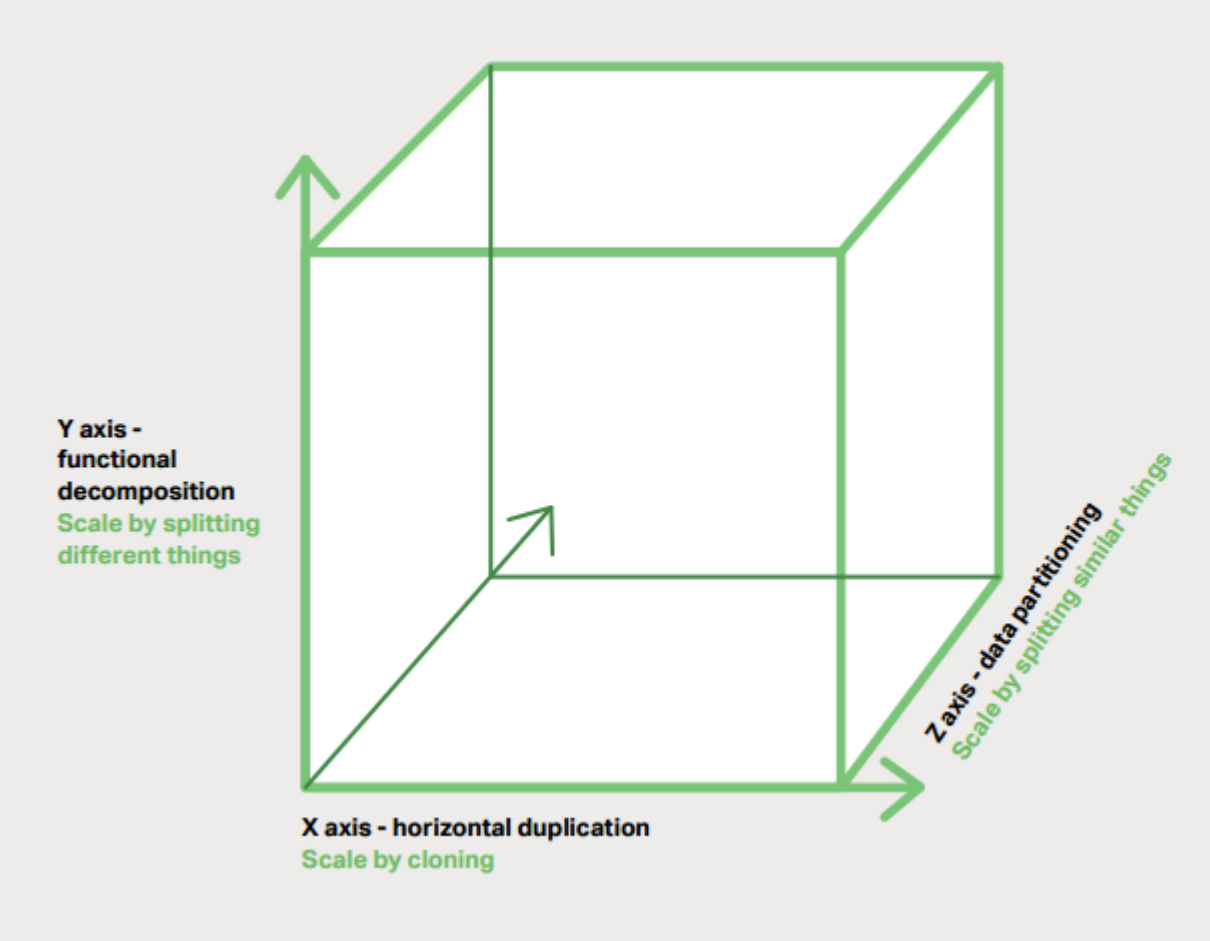

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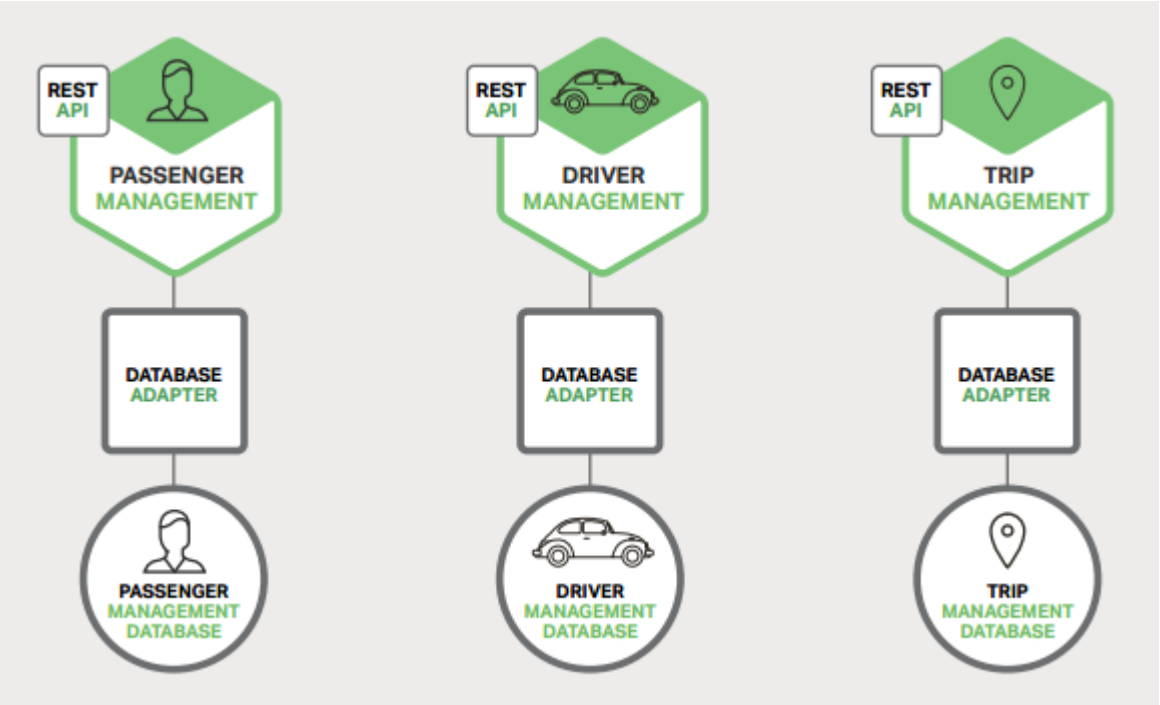

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- Enables each service to be scaled independently.

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- Testing is also much more complex.
- Deploying a microservices-based application is also much more complex.

WHY MICROSERVICES?

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- **Gilt**: “From Monolith Ruby App to Distributed Scala Micro-Services” (NYC Tech Talks) [Link]
- **Nike**: “Nike’s Journey to Microservices” (AWS Re:Invent 2014) [Link]
- **SoundCloud**: ”Building Products at SoundCloud - Part III: Microservices in Scala and Finagle” [Link]
- **Capital One**: “Lack Of Legacy Lets Capital One Build Nimble Infrastructure” [Link]
- **Hailo**: “A Journey into Microservices” [Link]
- **Autoscout24**: “Why Autoscout24 changes its technology” [Link]
- **Zalando**: “From Monolith to Microservices” [Link]

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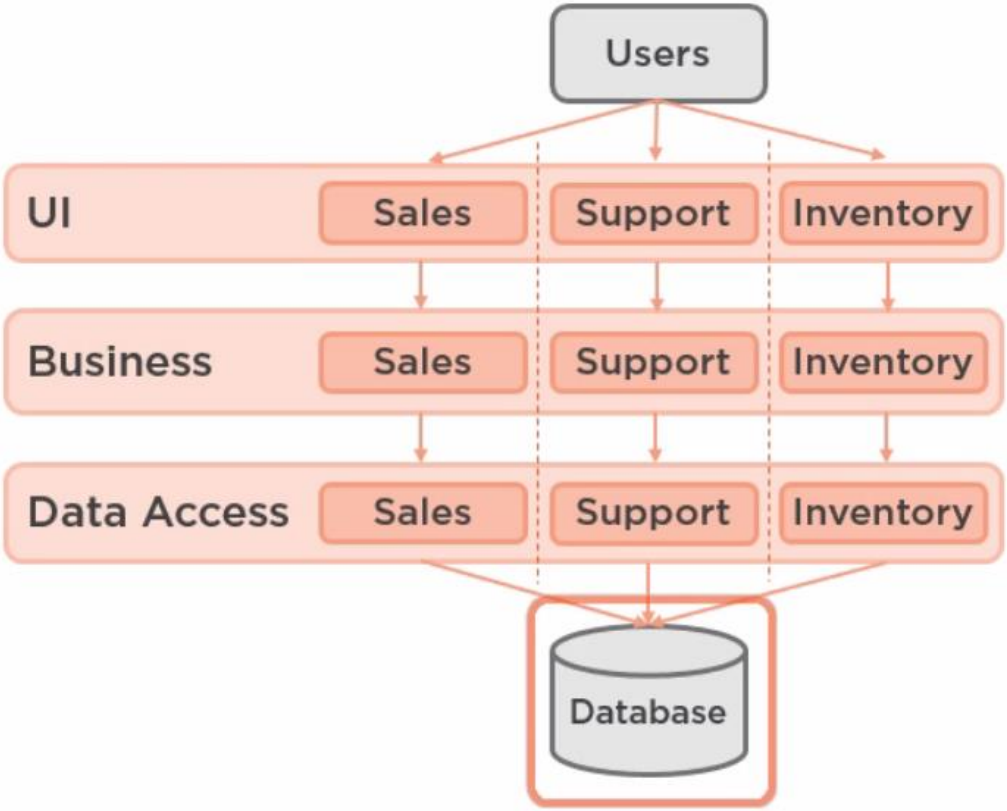

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WHY MICROSERVICES?

Sales

Sales opportunity

Contact

Sales person

Product

Sales territory

Support

Support ticket

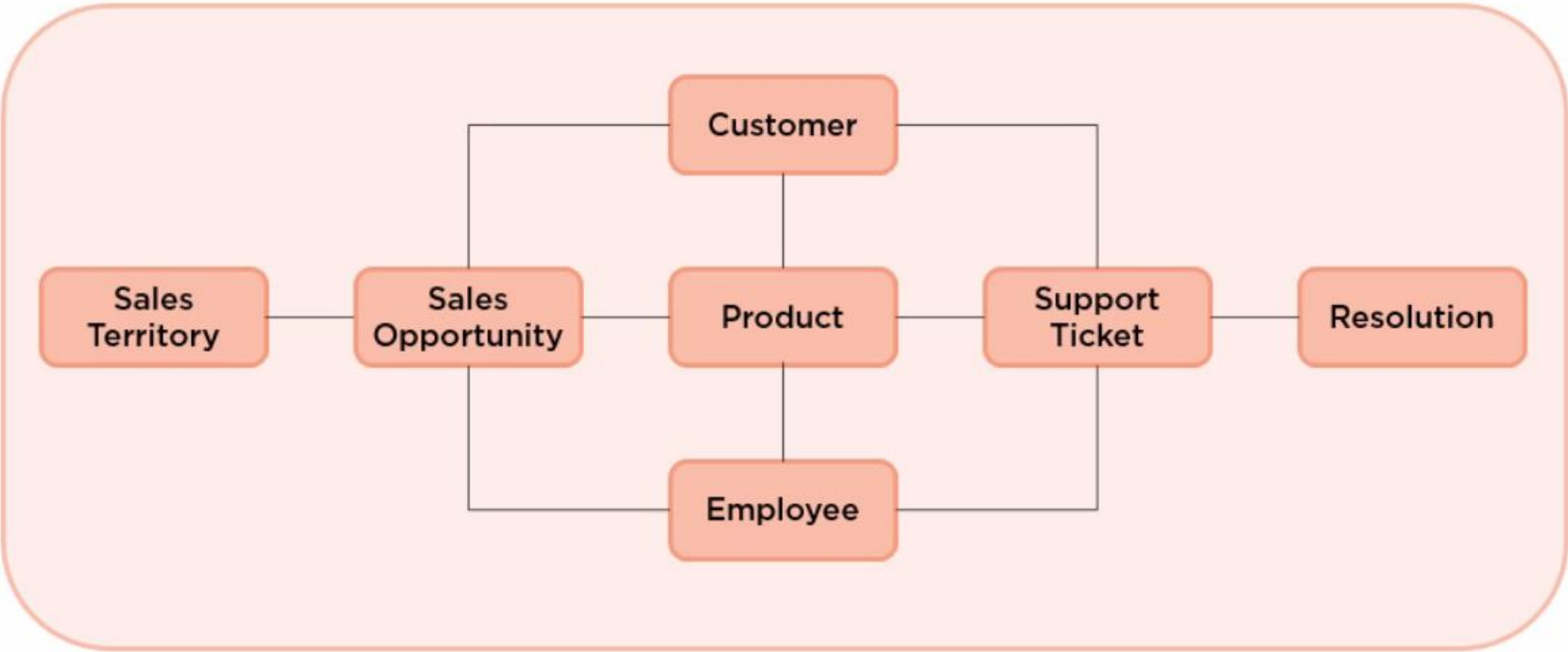
Customer

Support person

Product

Resolution

WHY MICROSERVICES?



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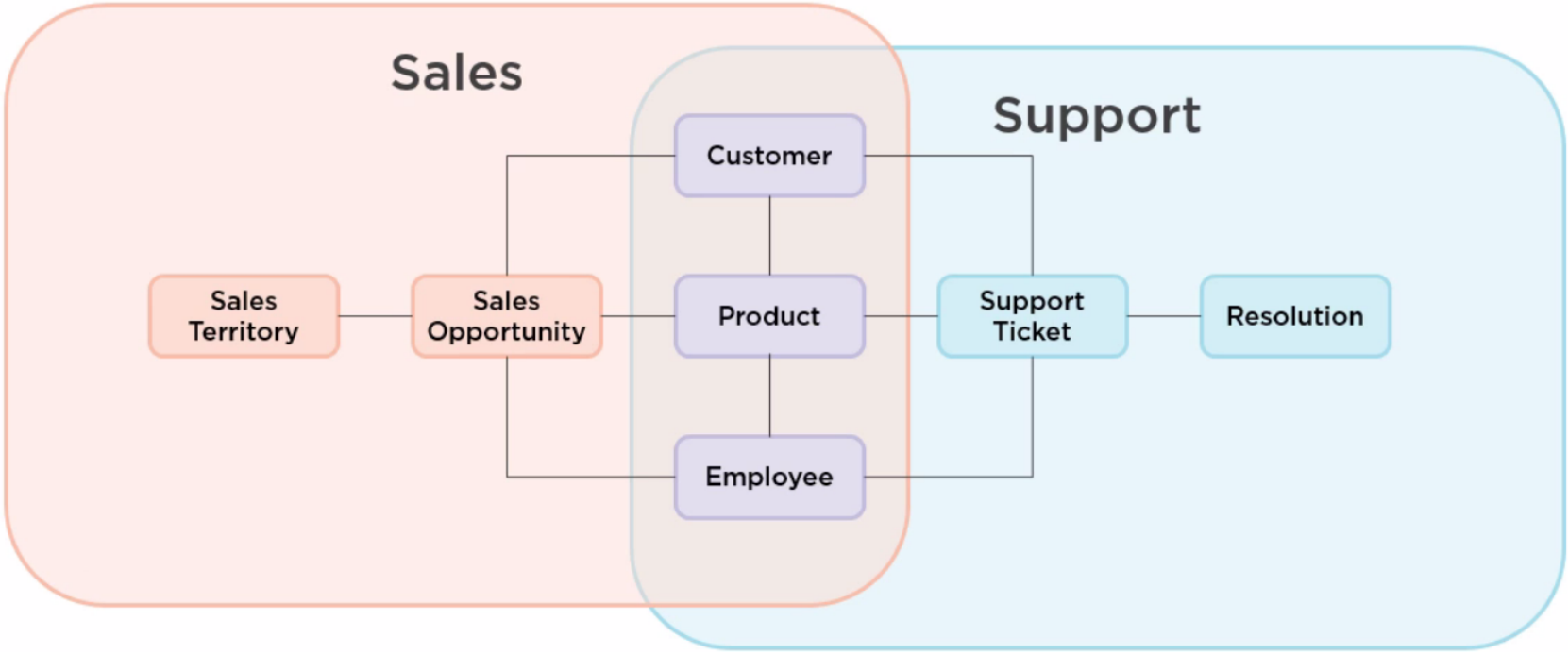

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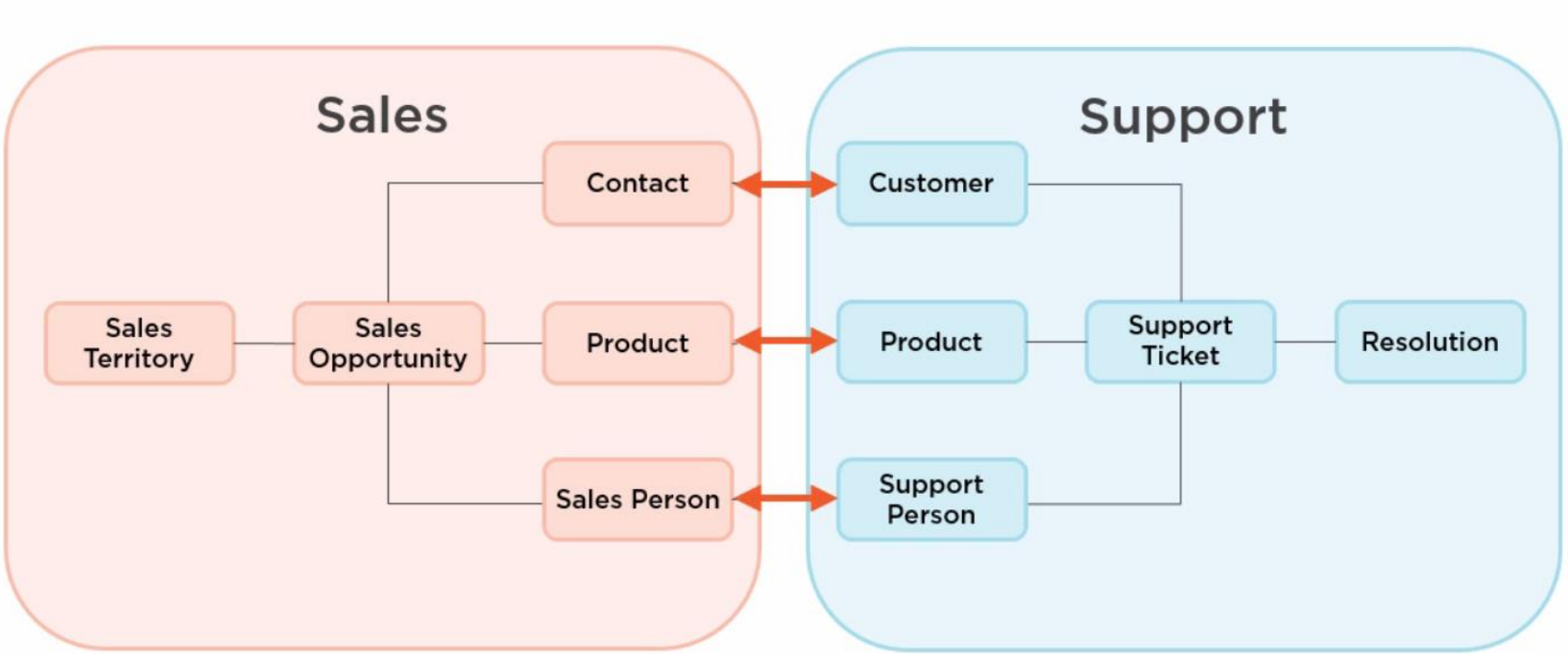

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WHY MICROSERVICES?

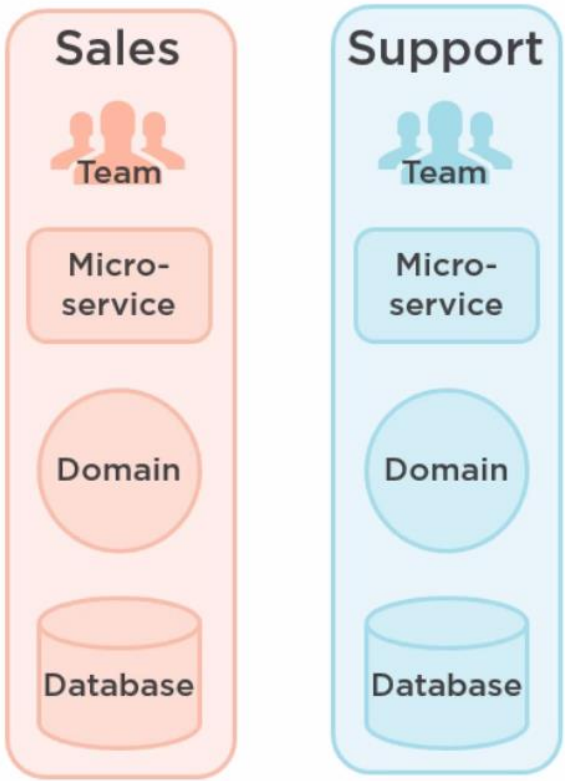
Bounded context

Cohesion/coupling

Single domain of knowledge

Consistent data model

Independence



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DEMO

ABOUT CENTRIC INTERNSHIP

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ONE MORE THING …

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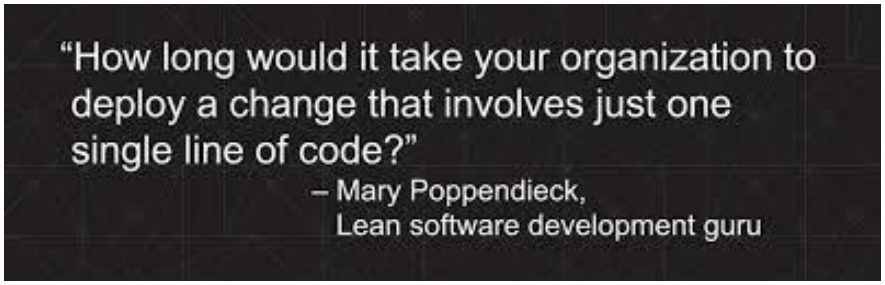

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- The Monolithic Architecture pattern only makes sense for simple, lightweight applications.
- The Microservices Architecture pattern is the better choice for complex, evolving applications, despite the drawbacks and implementation challenges.
- Probably the best way to define boundaries for microservices is by using Bounded Context from DDD (Domain Driven Design)

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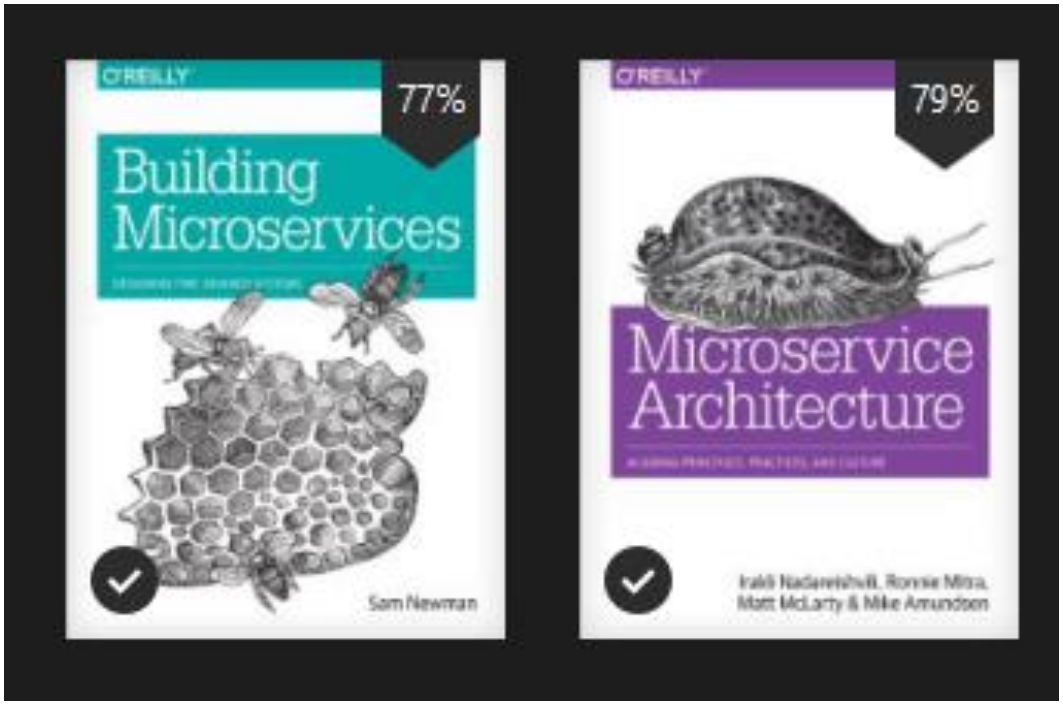

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THANK YOU!

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