

LAYERED DDD RINGS SERVED WITH CLEAN ADAPTER ONIONS

JUG Saxony Day

27 September 2024

Dirk Mahler

▲ About Us

- ▲ Professional IT Consulting
- ▲ since 2008, located in Dresden/Germany

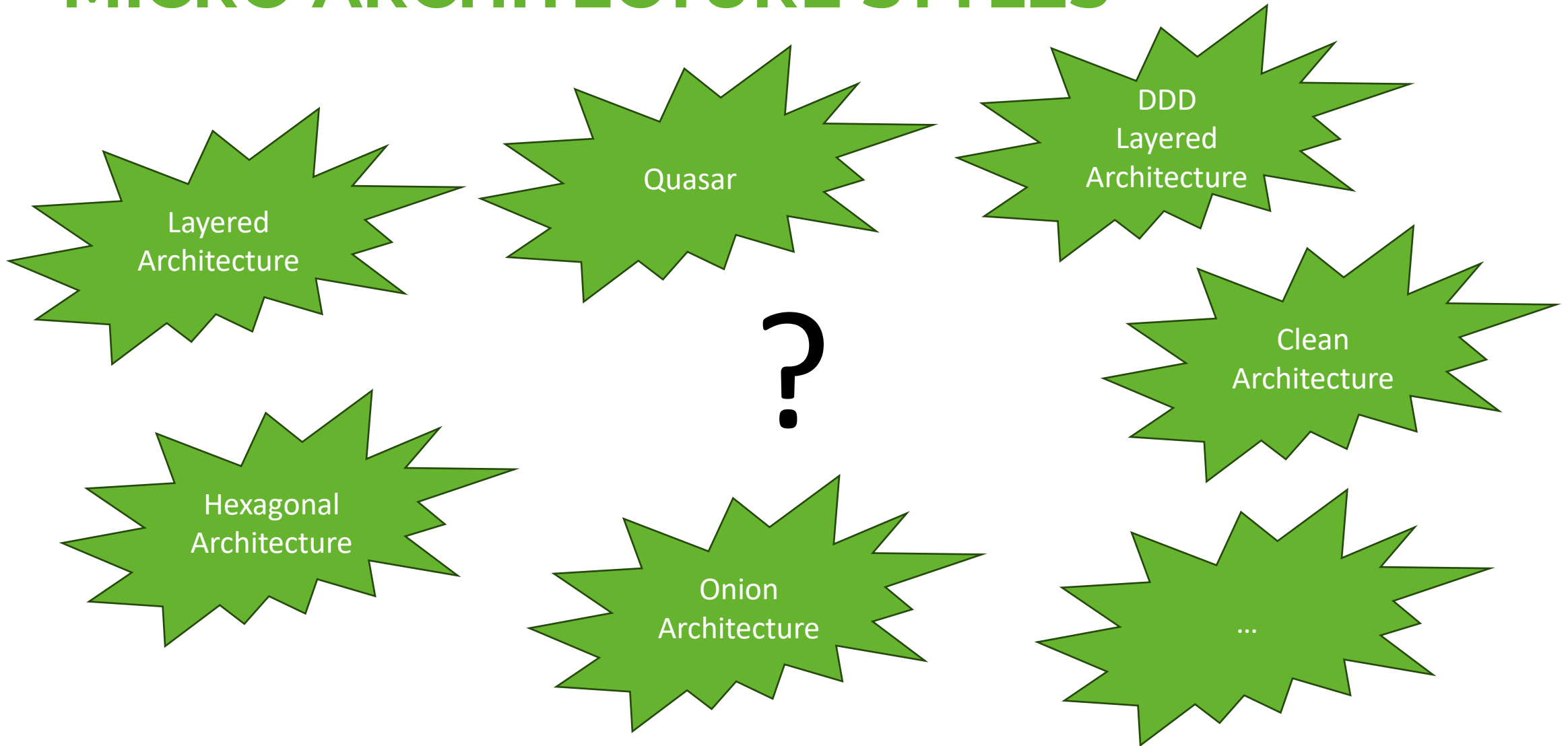
▲ Our Focus

- ▲ Development of modern business applications
- ▲ Architecture and Quality Assurance
- ▲ Optimization of software development processes

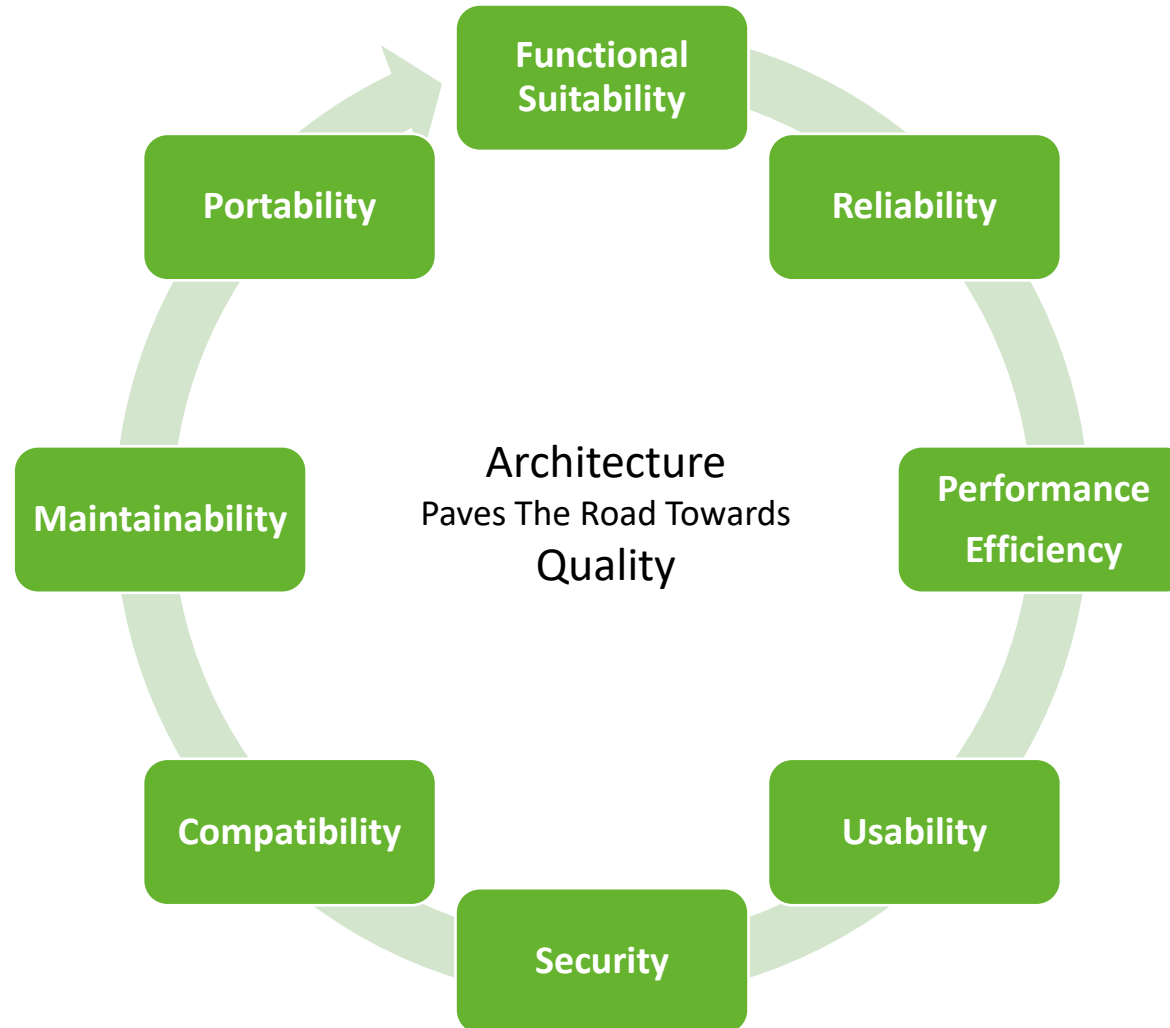
▲ Our Customers (selection)

- ▲ Public Sector: ITZBund, Sächsische Aufbaubank-Förderbank
- ▲ Industry: ASML, xfab, GlobalFoundries, Thyssenkrupp Steel
- ▲ Telecom & Retail: Deutsche Telekom, COOP Switzerland

MICRO ARCHITECTURE STYLES



DO WE NEED ARCHITECTURE?



DO WE NEED ARCHITECTURE?

▲ The Architect's Tool Kit

- ▲ Decomposition & Integration
 - ▲ Macro vs. Micro architecture
- ▲ Cross Cutting Concerns
- ▲ Technology Selection

▲ Interacts with...

- ▲ Process
 - ▲ Development & Quality Assurance
- ▲ Organization
 - ▲ Teams & Communication Channels

DECOMPOSITION

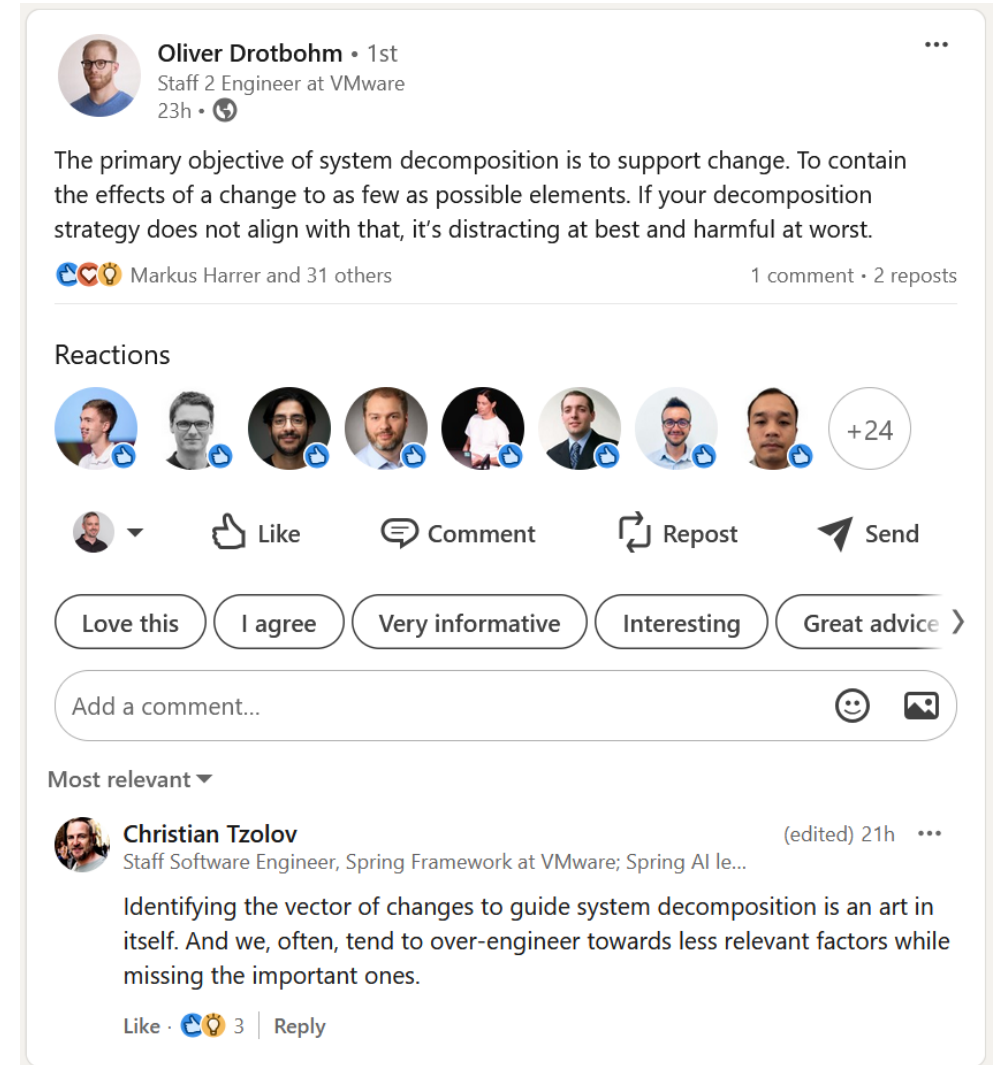
^ Keep Control Over Changes

^ Enable internal changes

→ Domain

^ Reduce impact of external changes

→ Integrated services & systems

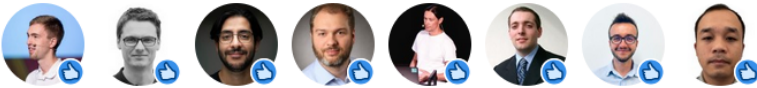



Oliver Drotbohm • 1st
Staff 2 Engineer at VMware
23h • 🌐

The primary objective of system decomposition is to support change. To contain the effects of a change to as few as possible elements. If your decomposition strategy does not align with that, it's distracting at best and harmful at worst.

👍❤️👍 Markus Harrer and 31 others
1 comment • 2 reposts

Reactions

 +24

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Love this I agree Very informative Interesting Great advice >

Add a comment... 😊 📷

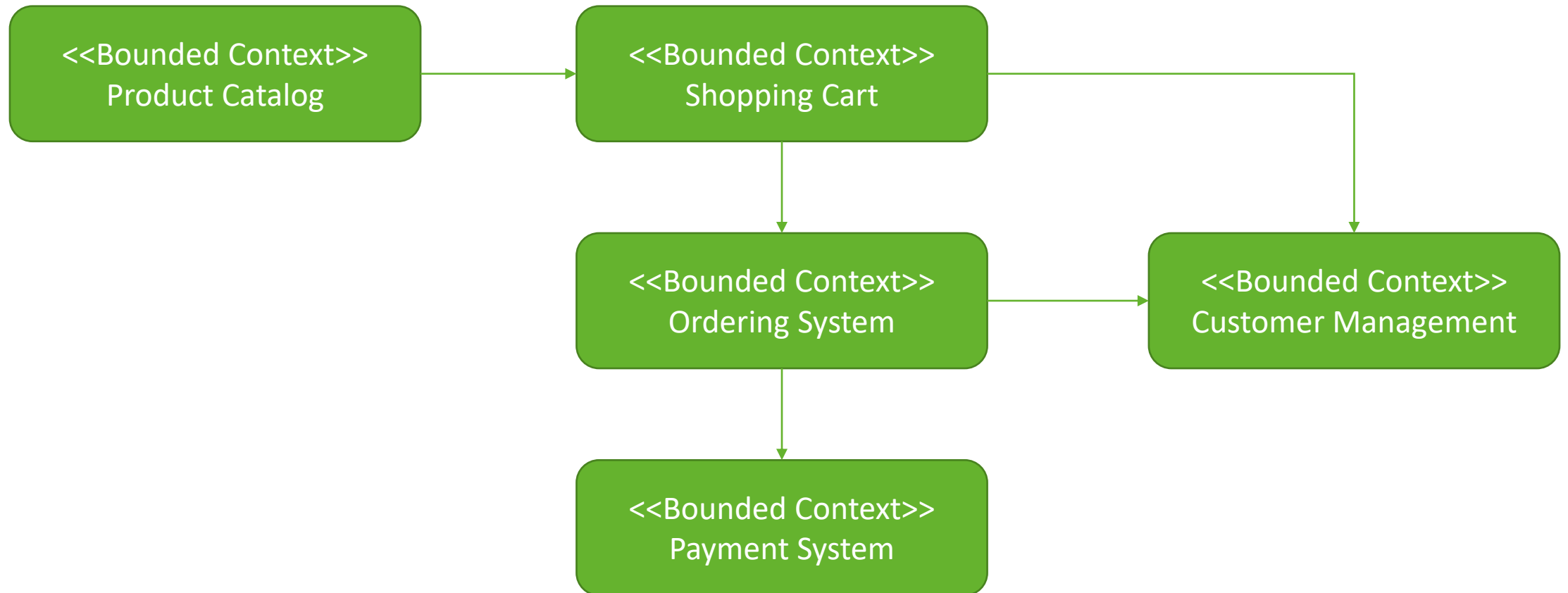
Most relevant ▾

Christian Tzolov (edited) 21h ...
Staff Software Engineer, Spring Framework at VMware; Spring AI le...

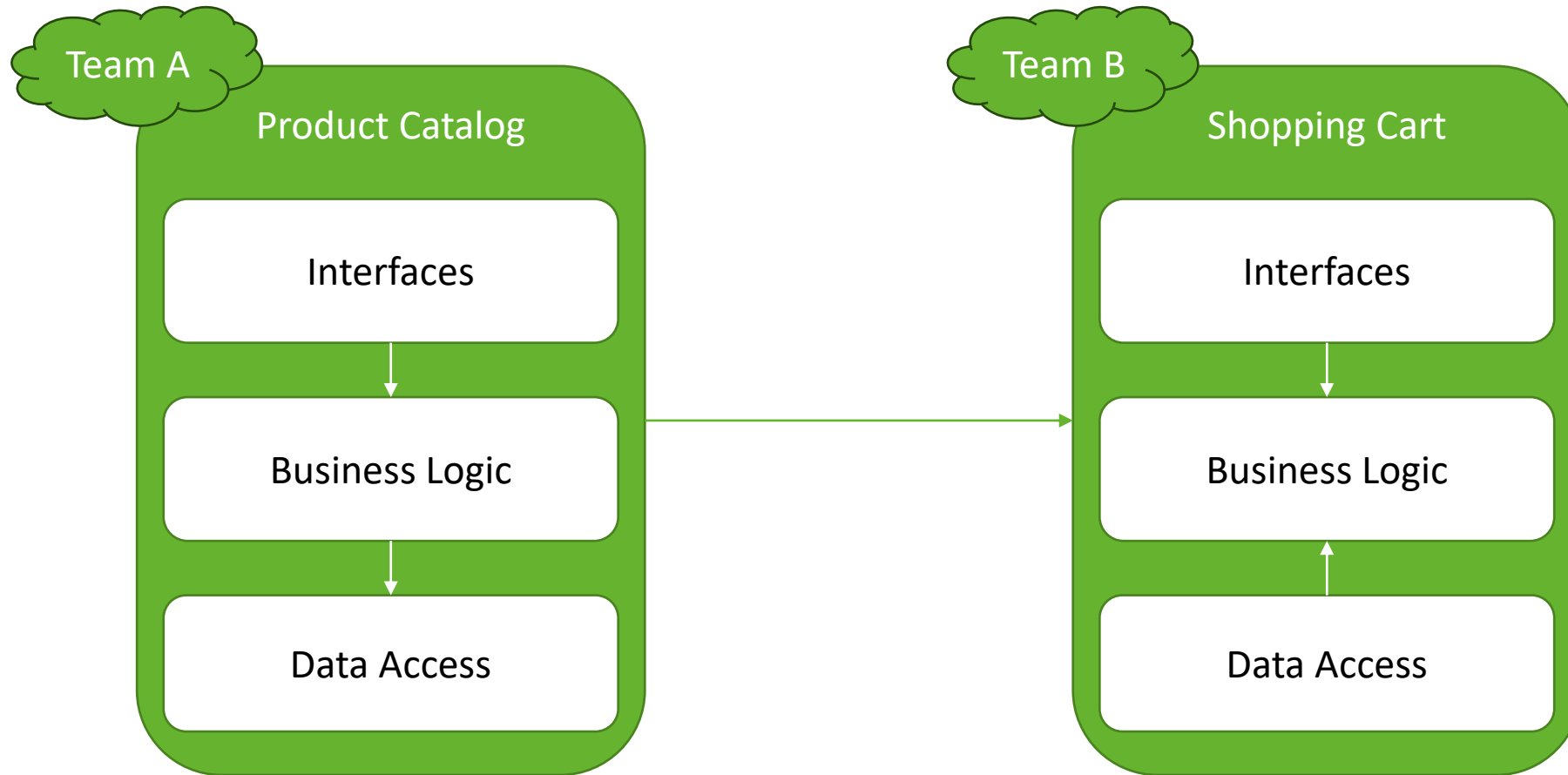
Identifying the vector of changes to guide system decomposition is an art in itself. And we, often, tend to over-engineer towards less relevant factors while missing the important ones.

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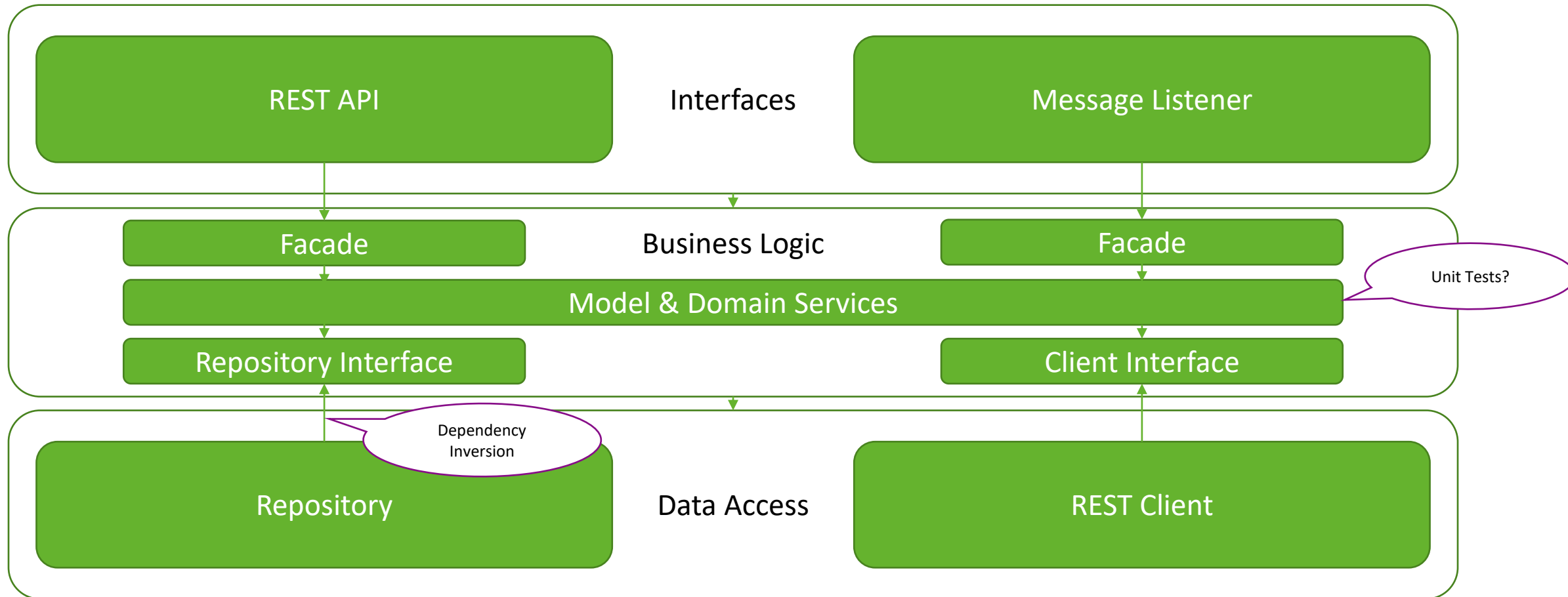
MACRO ARCHITECTURE



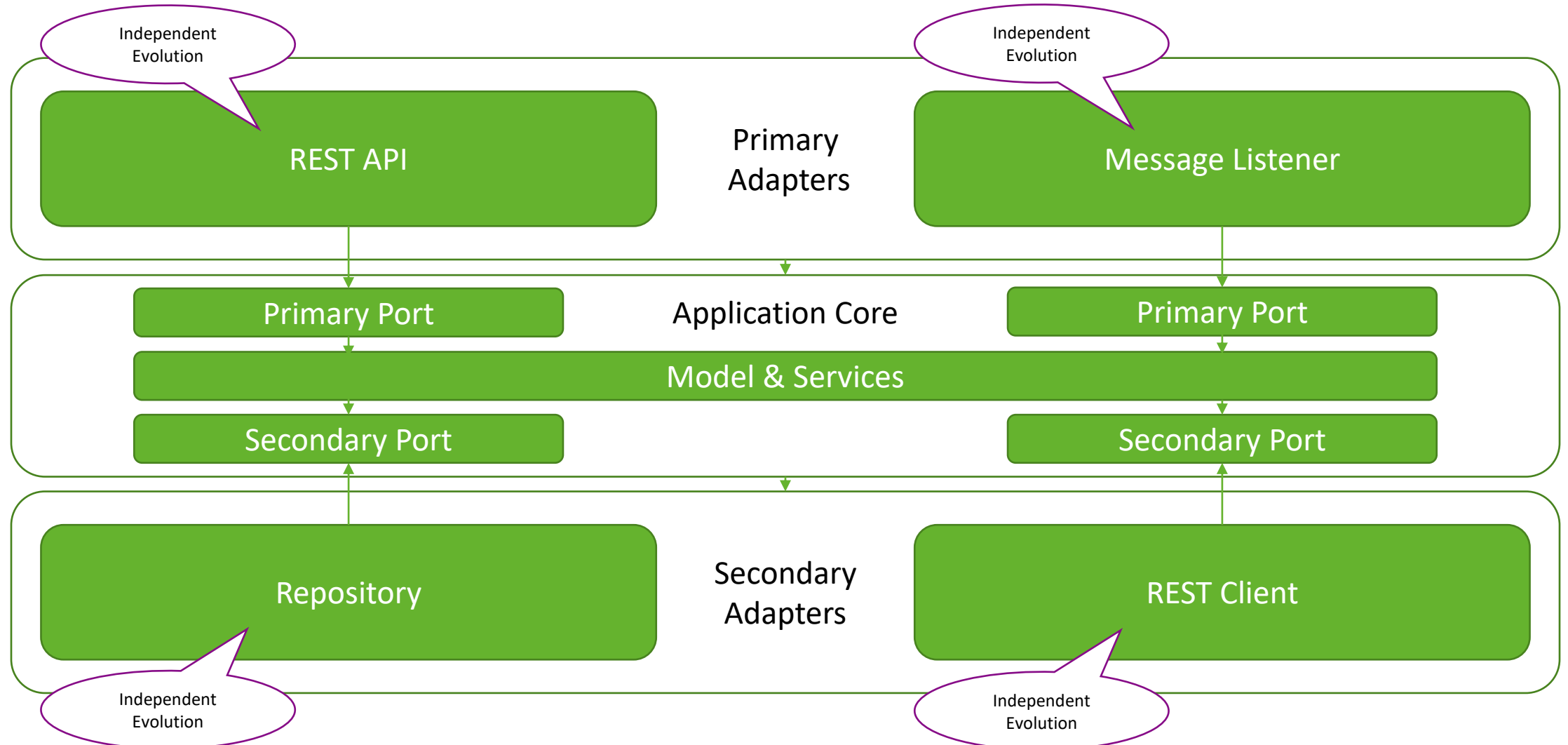
MACRO VS MICRO ARCHITECTURE



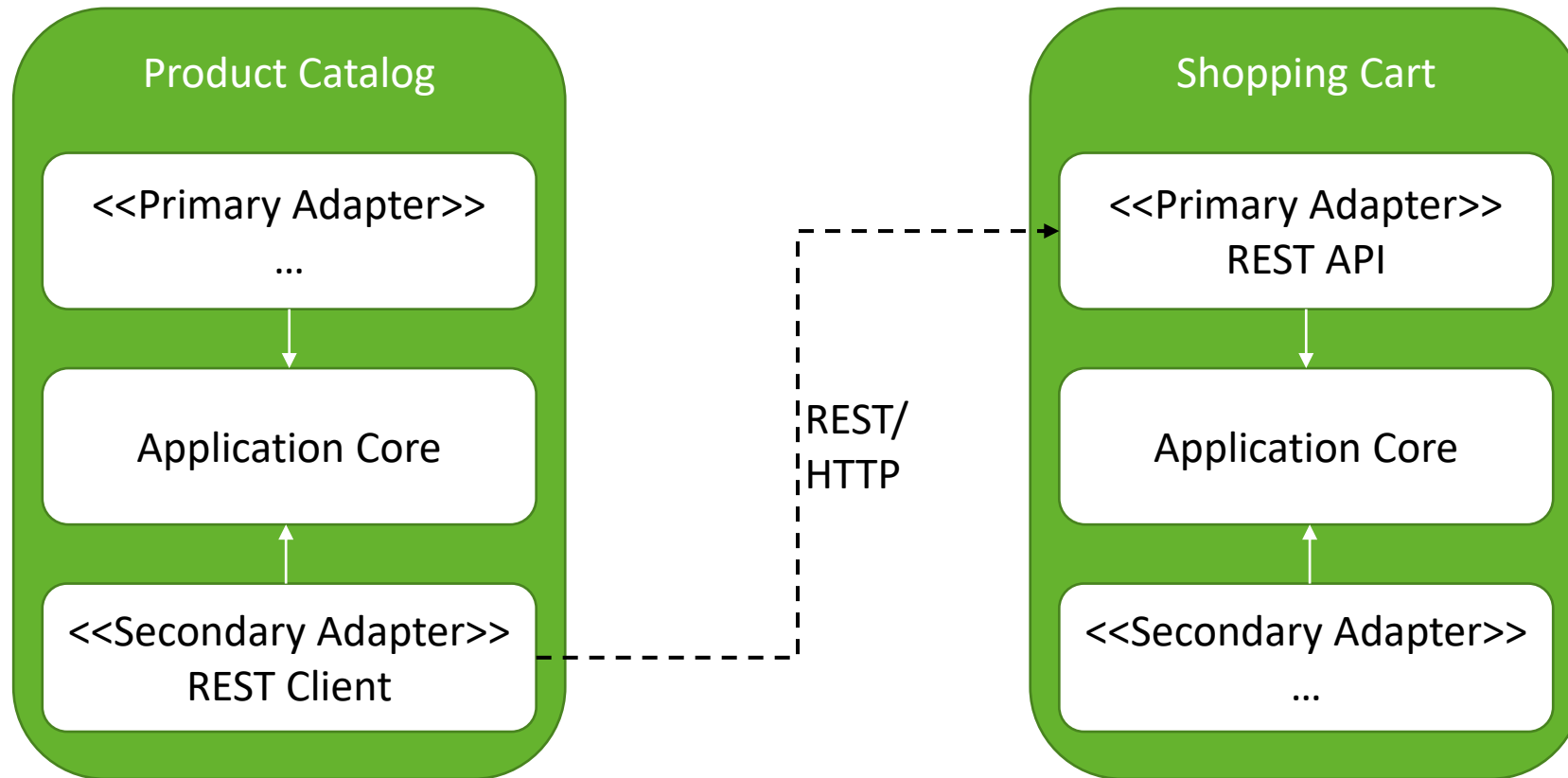
REFINING LAYERS



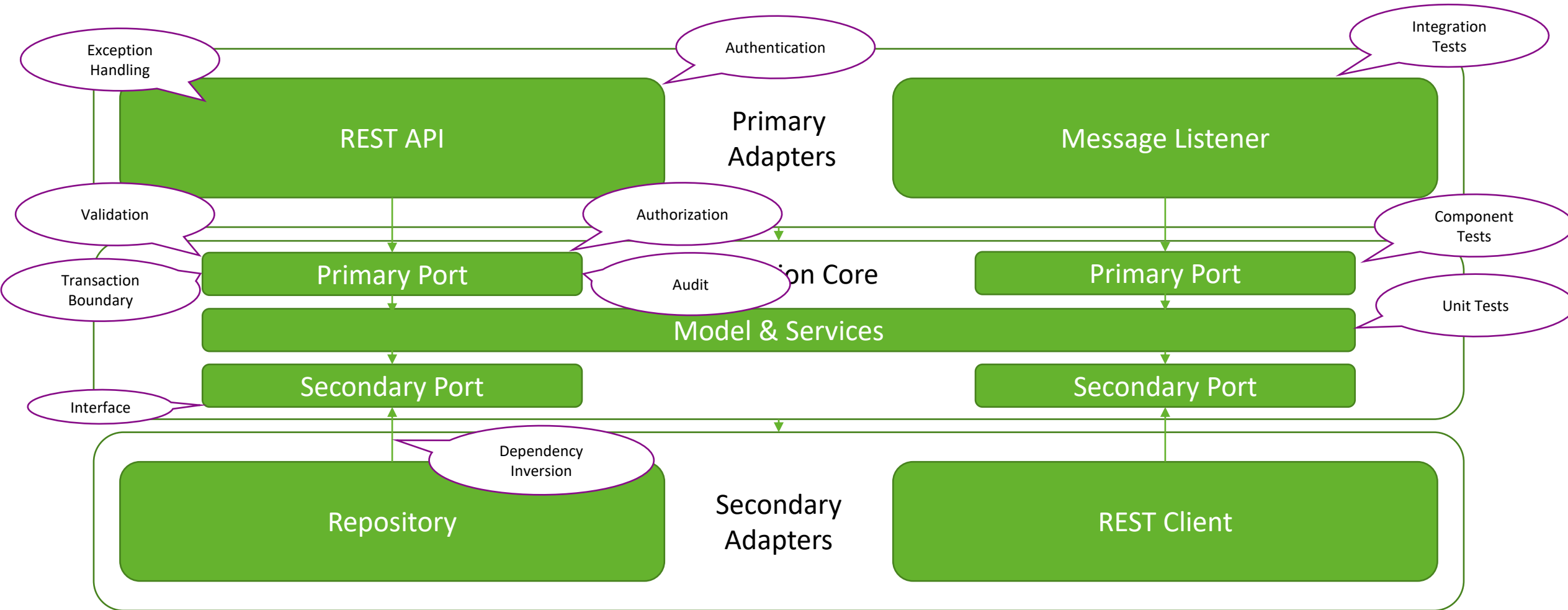
PORTS & ADAPTERS



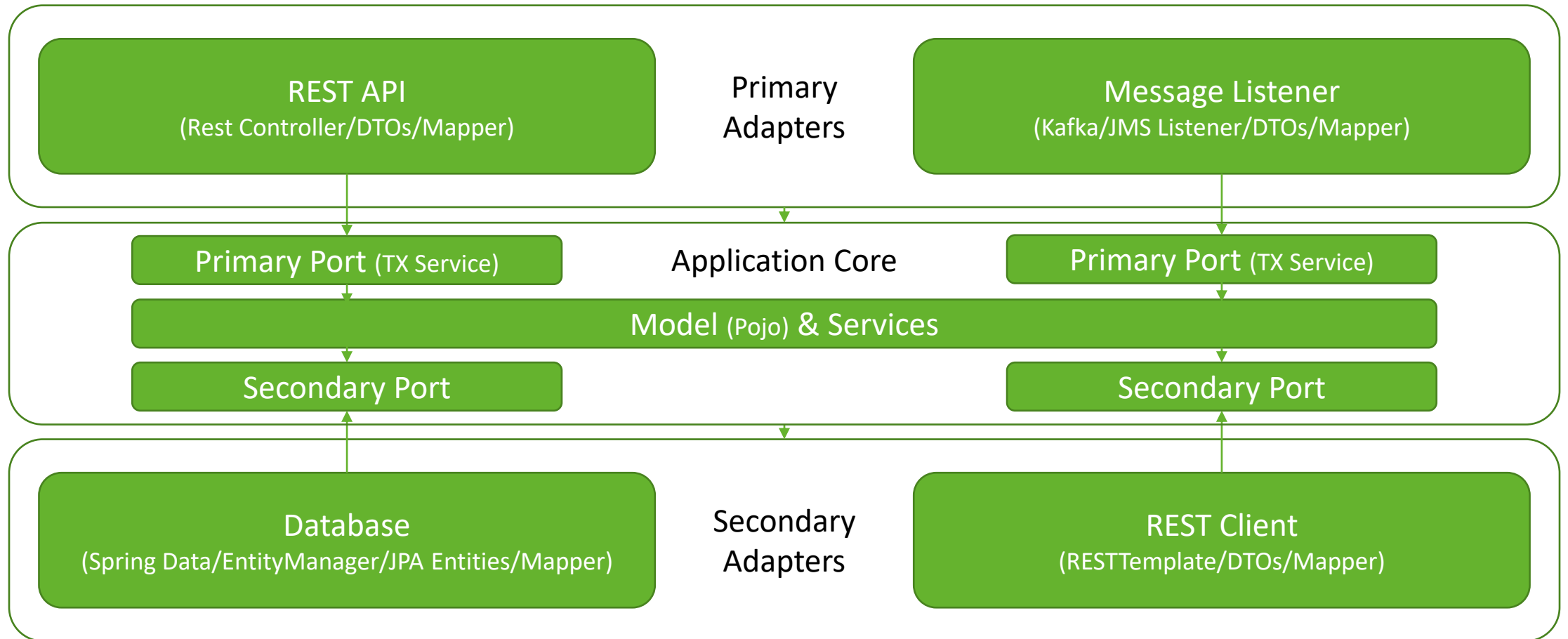
MACRO VS MICRO ARCHITECTURE



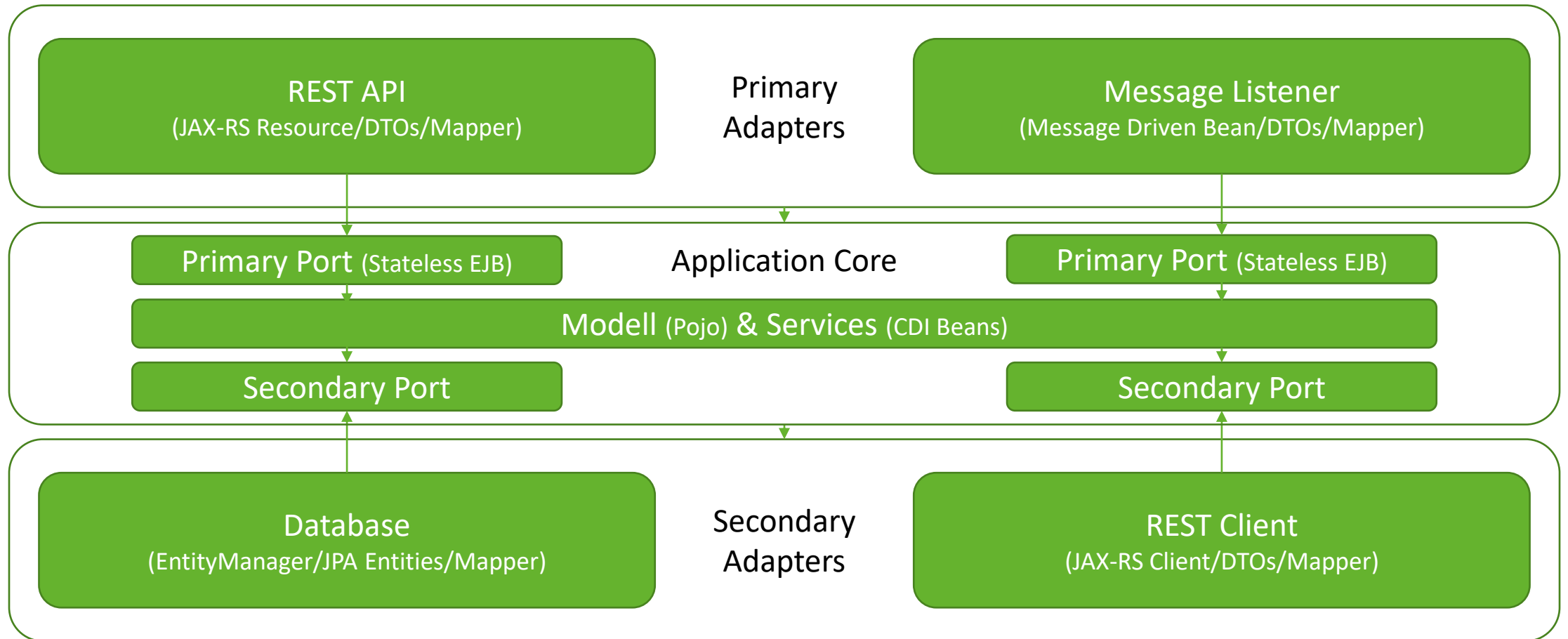
PORTS & ADAPTERS



PORTS & ADAPTERS - SPRING

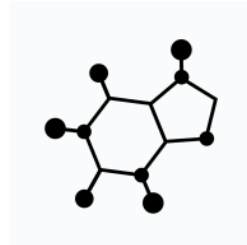


PORTS & ADAPTERS - JAVA EE



MICRO ARCHITECTURE VS. CODE

```
@PrimaryAdapter(name="REST-API")
@RestController
@RequiredArgsConstructor
class CartItemController {
    private final CartItemApplicationService cias;
}
```



<https://github.com/xmolecules/jmolecules>

```
@PrimaryPort
@RequiredArgsConstructor
class CartItemApplicationService {
    private final CartItemRepository cir;
}
```

```
@SecondaryPort
interface CartItemRepository {
}
```

```
@SecondaryAdapter(name="Repository")
@RequiredArgsConstructor
class JpaCartItemRepository implements CartItemRepository {
    private final EntityManager em;
}
```

MICRO ARCHITECTURE VS. CODE

```
com.buschmais.demo.cart...
```

```
...adapters.primary.rest.CartItemController  
...adapters.primary.rest.dto.CartItemDTO
```

```
...application.model.CartItem  
...application.CartItemApplicationService  
...application.CartItemService  
...application.CartItemRepository
```

```
...adapters.secondary.db.JpaCartItemRepository
```

jQAAssistant

Your Software. Your Structures. Your Rules.



scan

+



document

=



validate

ArchUnit

DISCUSSION

Can we use JPA Entities
as Domain Model
in the Application Core?

WRAP UP - WHAT REALLY MATTERS

- ▲ Keep control over changes
 - ▲ Domain vs. integrated systems & services
- ▲ Separation of domain and technical concerns
 - ▲ technology agnostic domain logic
 - ▲ enable effective testing on different levels (unit/integration/system)
- ▲ Defined location of cross cutting concerns
 - ▲ transaction boundaries, error handling & logging
 - ▲ authentication, authorization
- ▲ Recognizable patterns → Reduction of Cognitive Load

BUSCHMAIS

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