



Application Architecture Patterns

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Patterns

don't reinvent
THE WHEEL

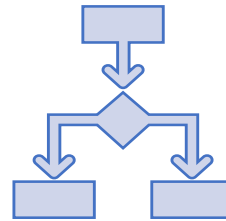
Layered

Multi-Tier or “Three Tiered”



Presentation Tier

- Mobile Application
- Web Application



Logic Tier

- Place Order
- Ship Order

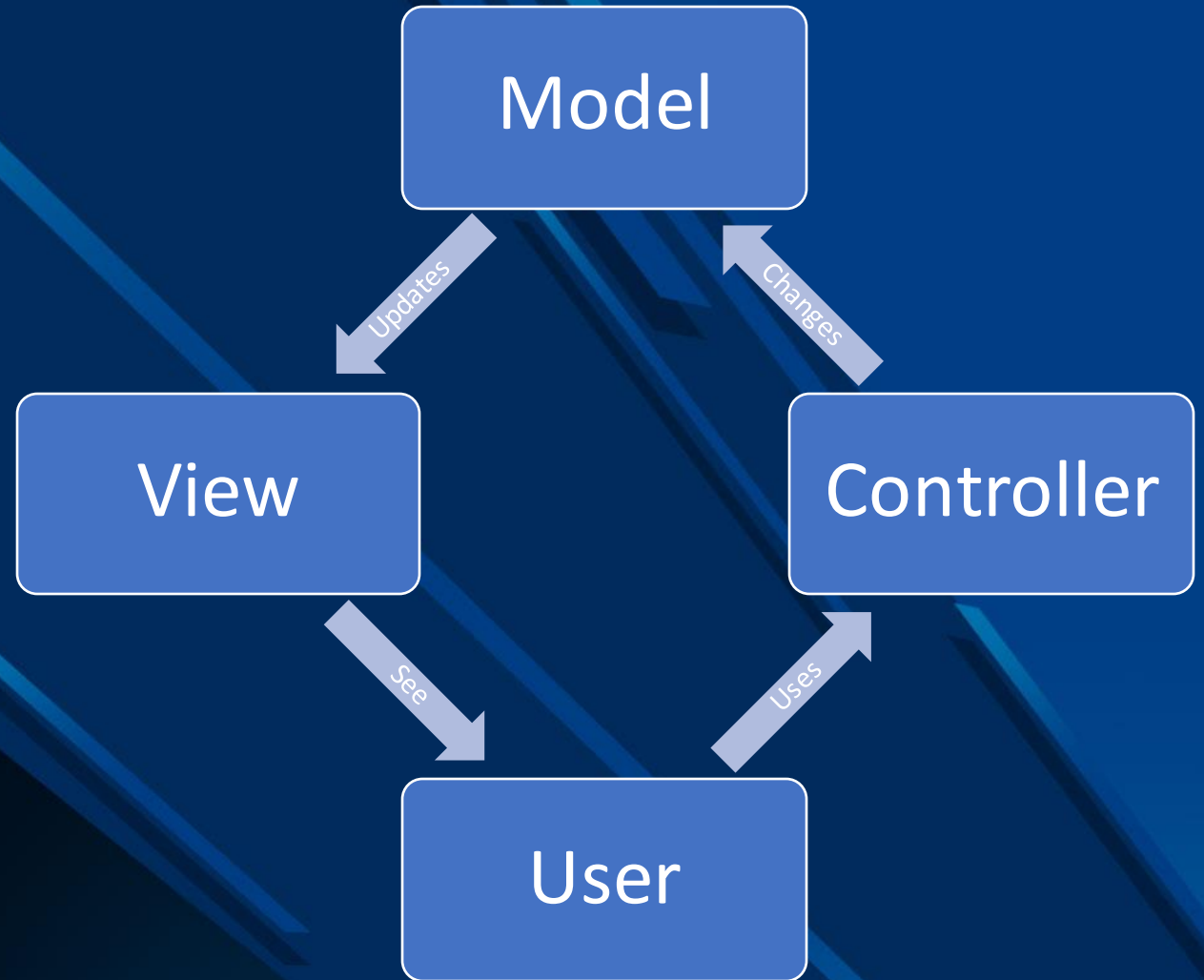


Data Tier

- Database
- Storage

Model, View, *

- MODEL – VIEW – CONTROLLER (MVC)
- MODEL-VIEW-PRESENTER (MVP)
- MODEL-VIEW-VIEW MODEL (MVVM)



Event Driven

Event Sourcing

Publish/Subscribe

Order Placed

Account Charge

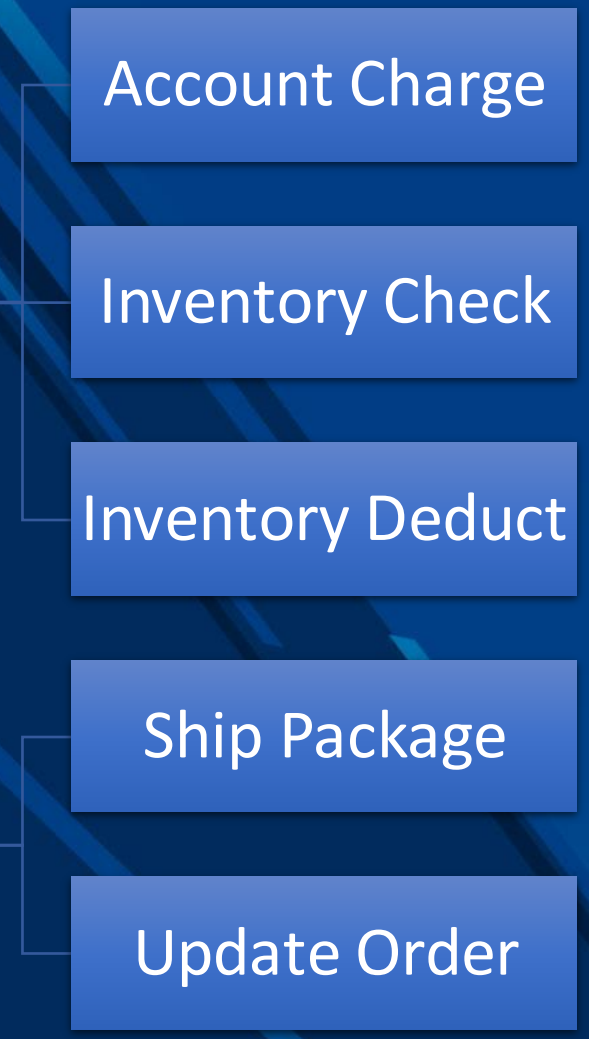
Inventory Check

Inventory Deduct

Order Ready

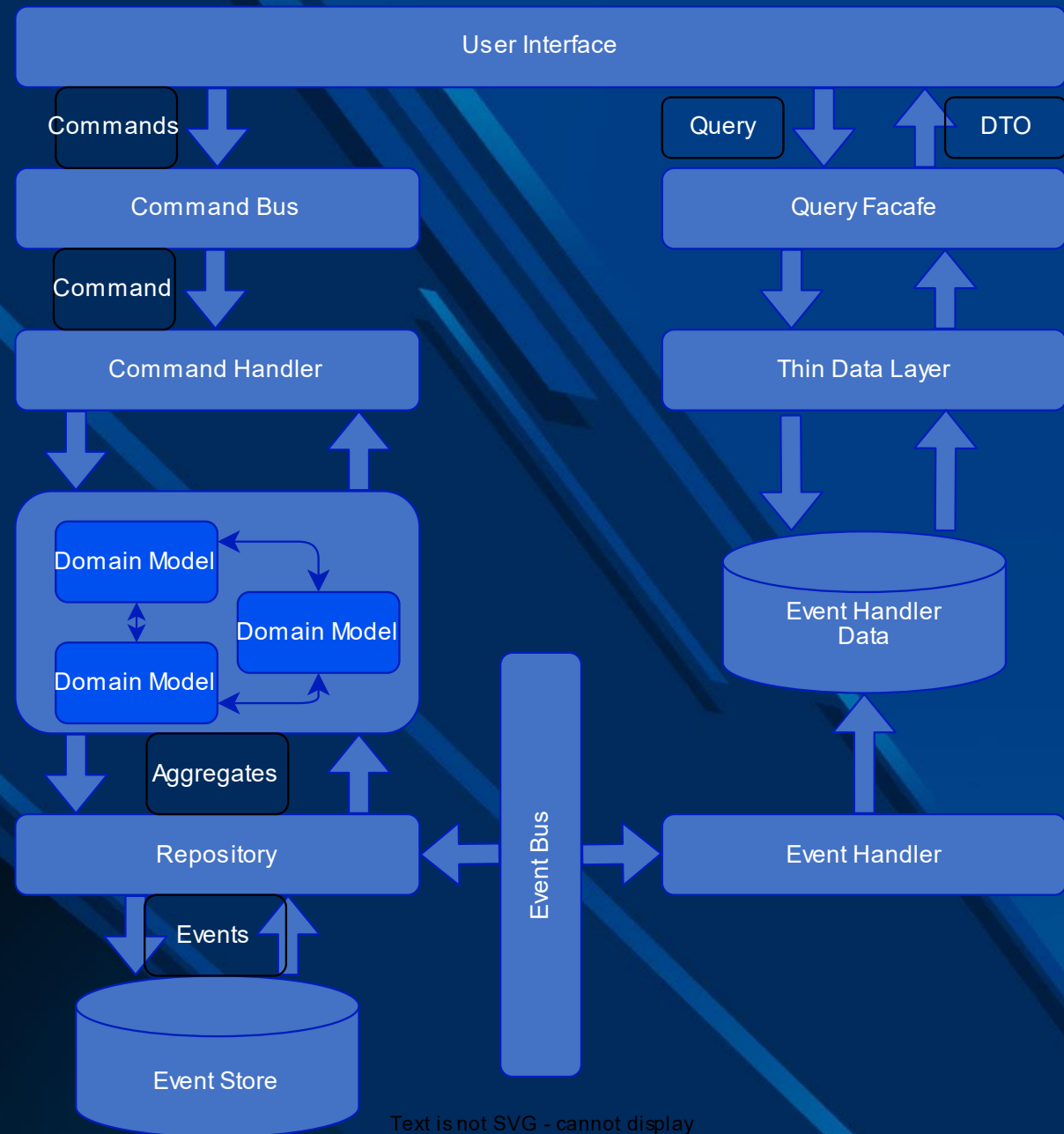
Ship Package

Update Order

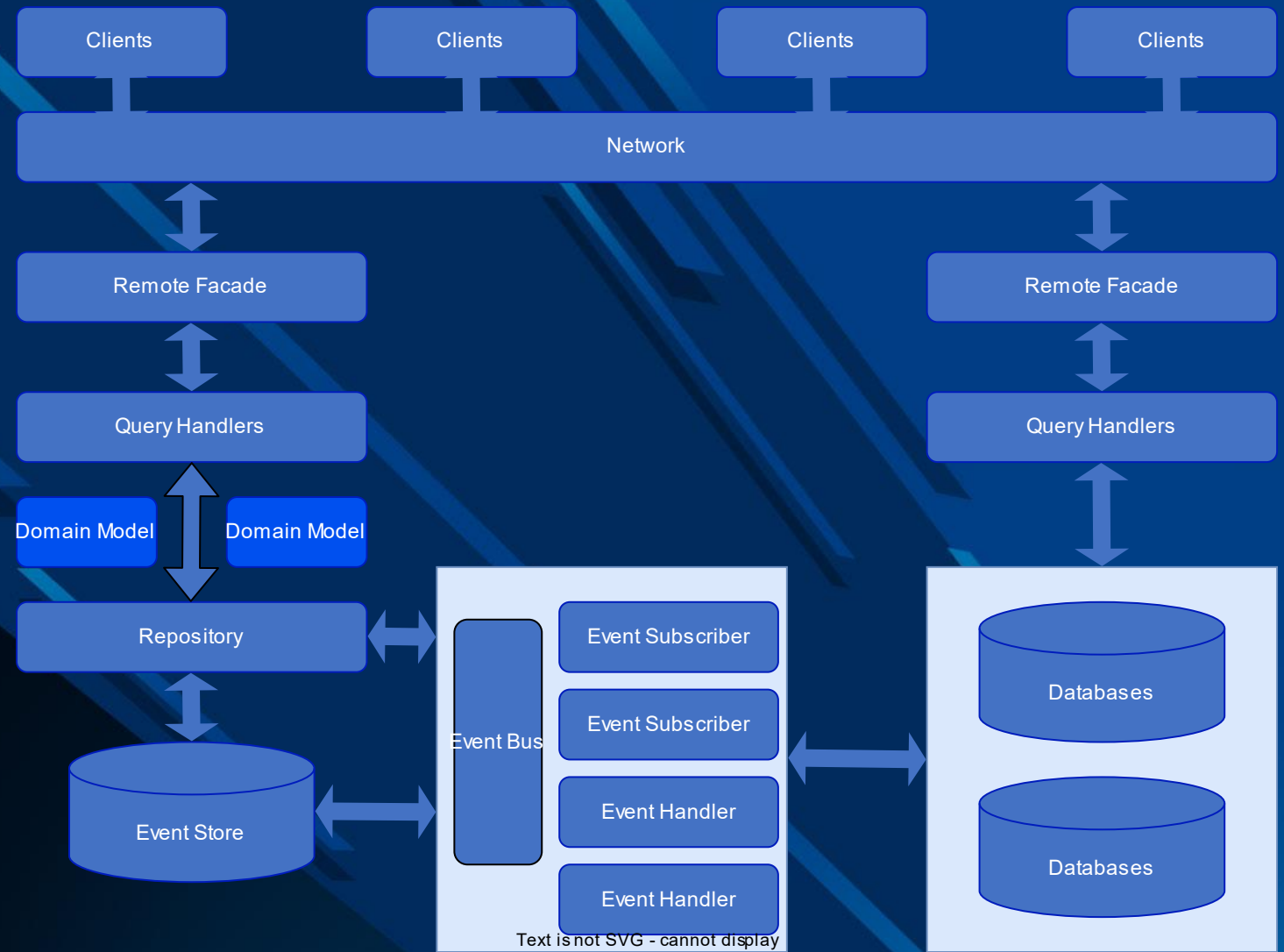


CQRS

COMMAND & QUERY RESPONSIBILITY
SEGREGATION



CQRS + Event Sourcing



Plug-In

Micro-Kernel



Service Oriented

SOA

Microservices

Acme Widgets

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graph LR; AW[Acme Widgets] --- AS[Account Service]; AW --- IS[Inventory Service]; AW --- SS[Shipping Service]; AW --- OS[Order Service];
```

Account Service

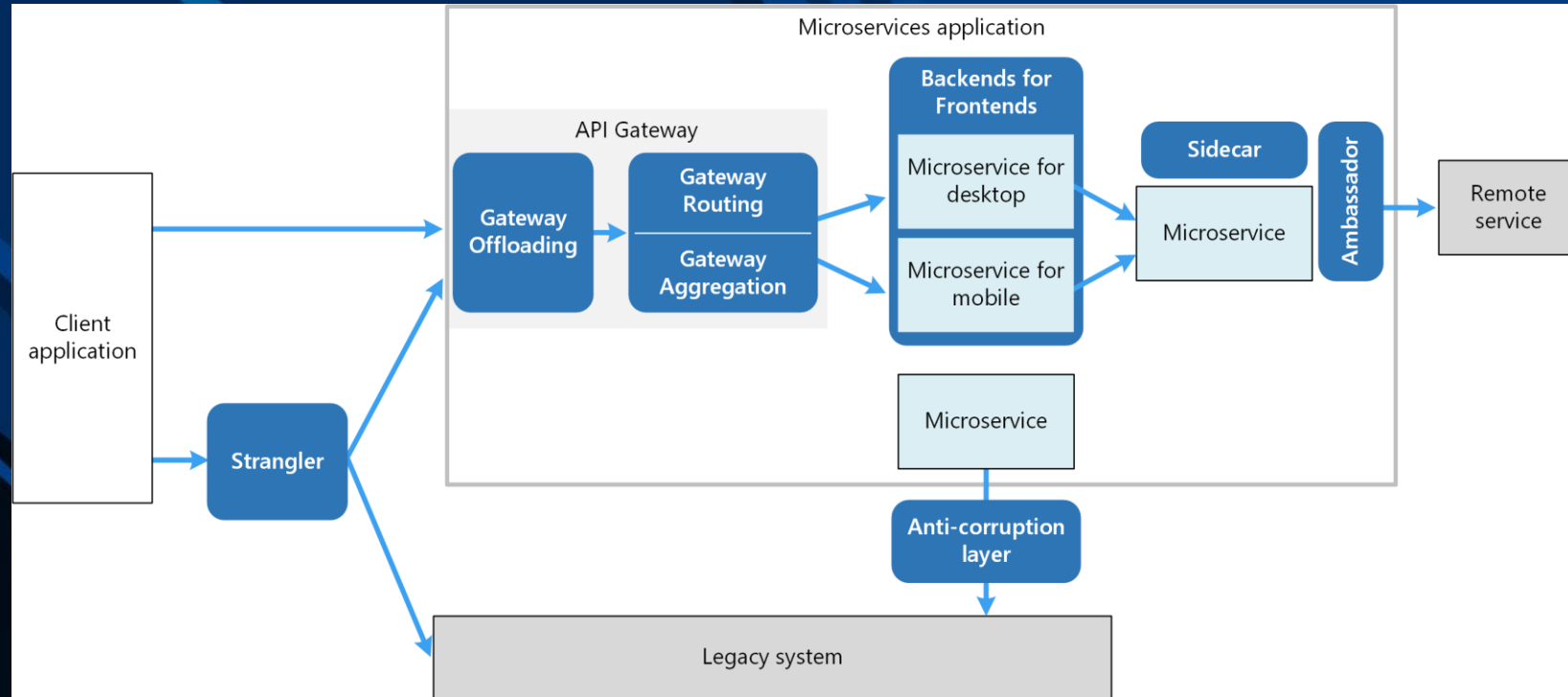
Inventory Service

Shipping Service

Order Service

Common Microservice Pattern

- Ambassador
- Anti-corruption layer
- Backends for Frontends (BFF)
- Bulkhead
- Gateway Aggregation
- Gateway Offloading
- Gateway Routing
- Sidecar
- Strangler Fig



Serverless

The “Cloud”

Not on my PC



Toolbox





Q & A