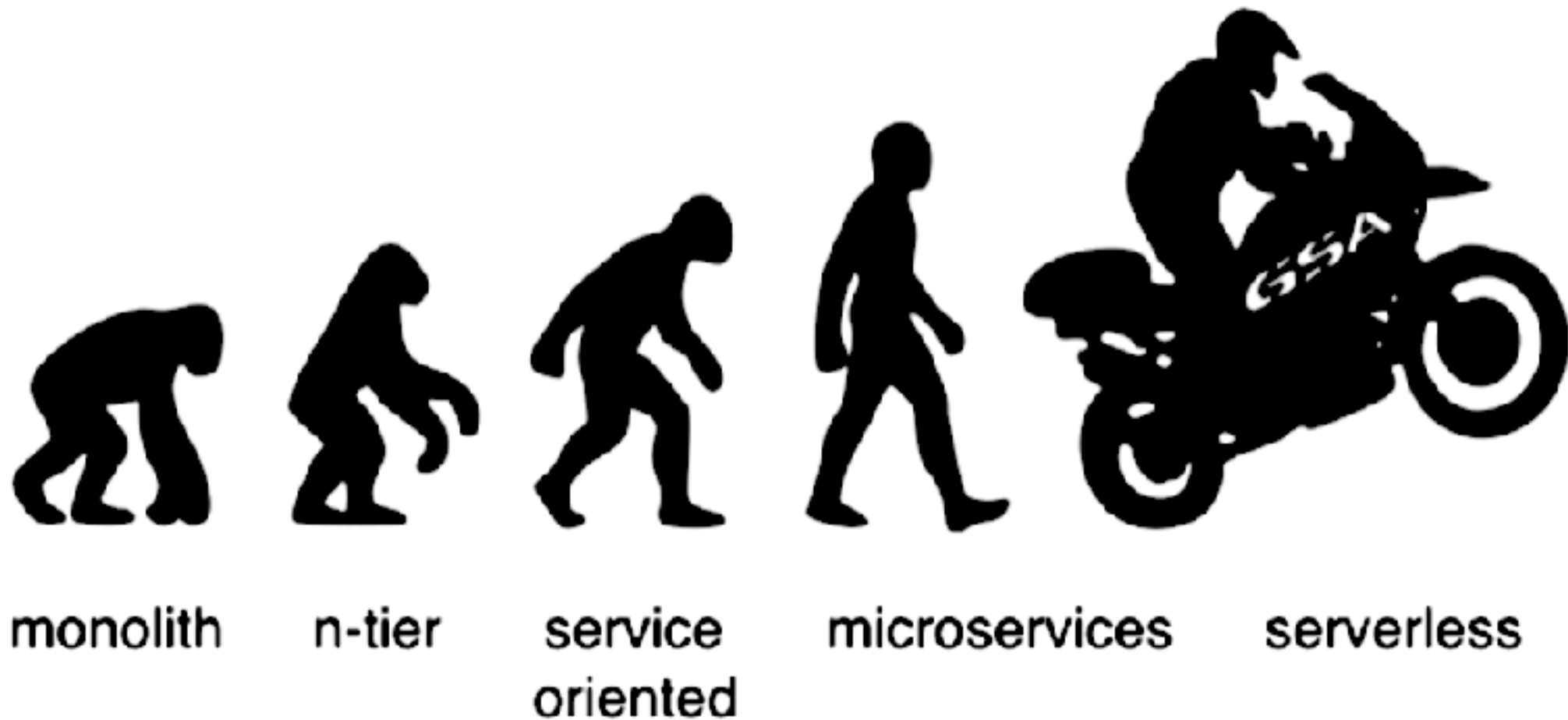


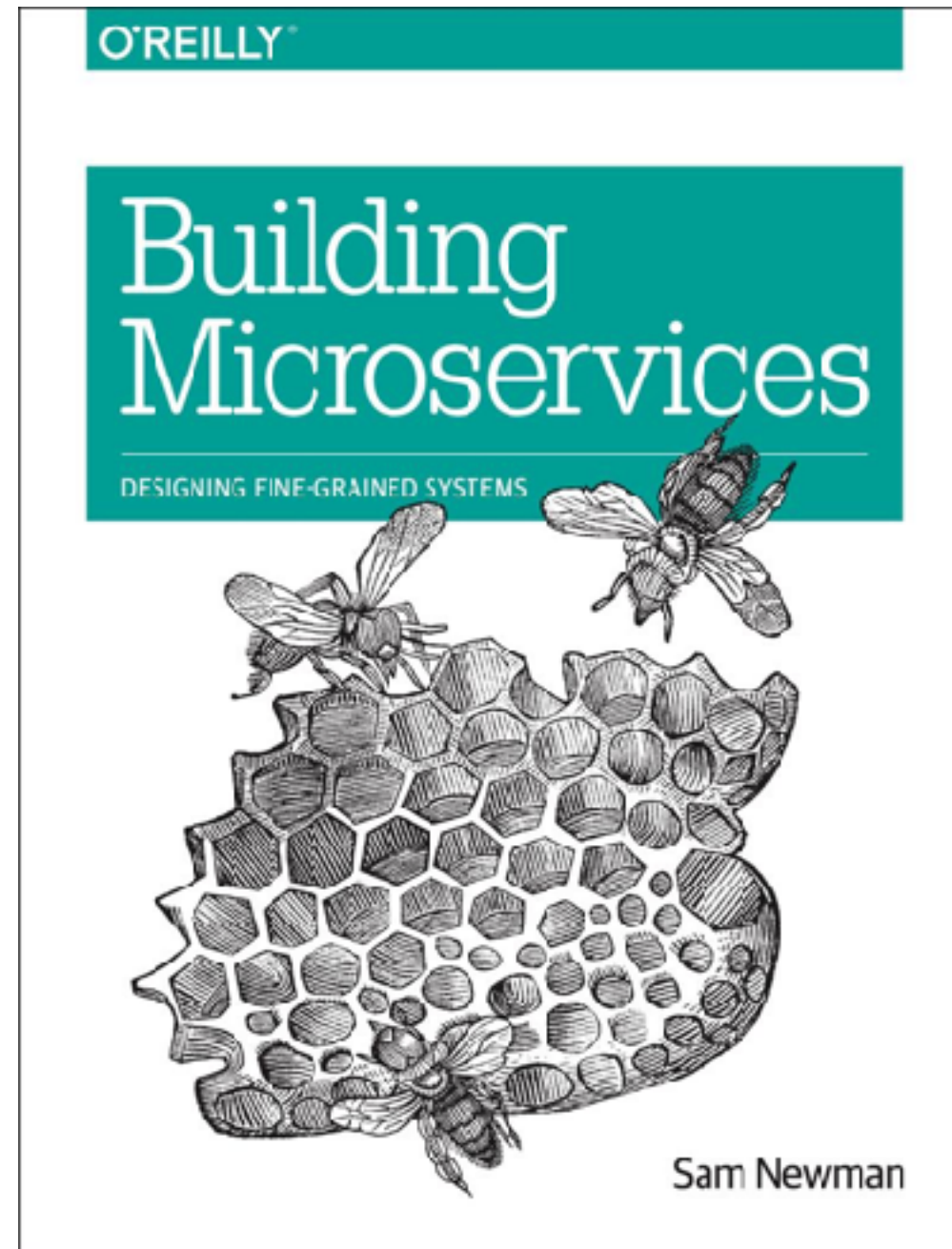
# Microservice



@somkiat



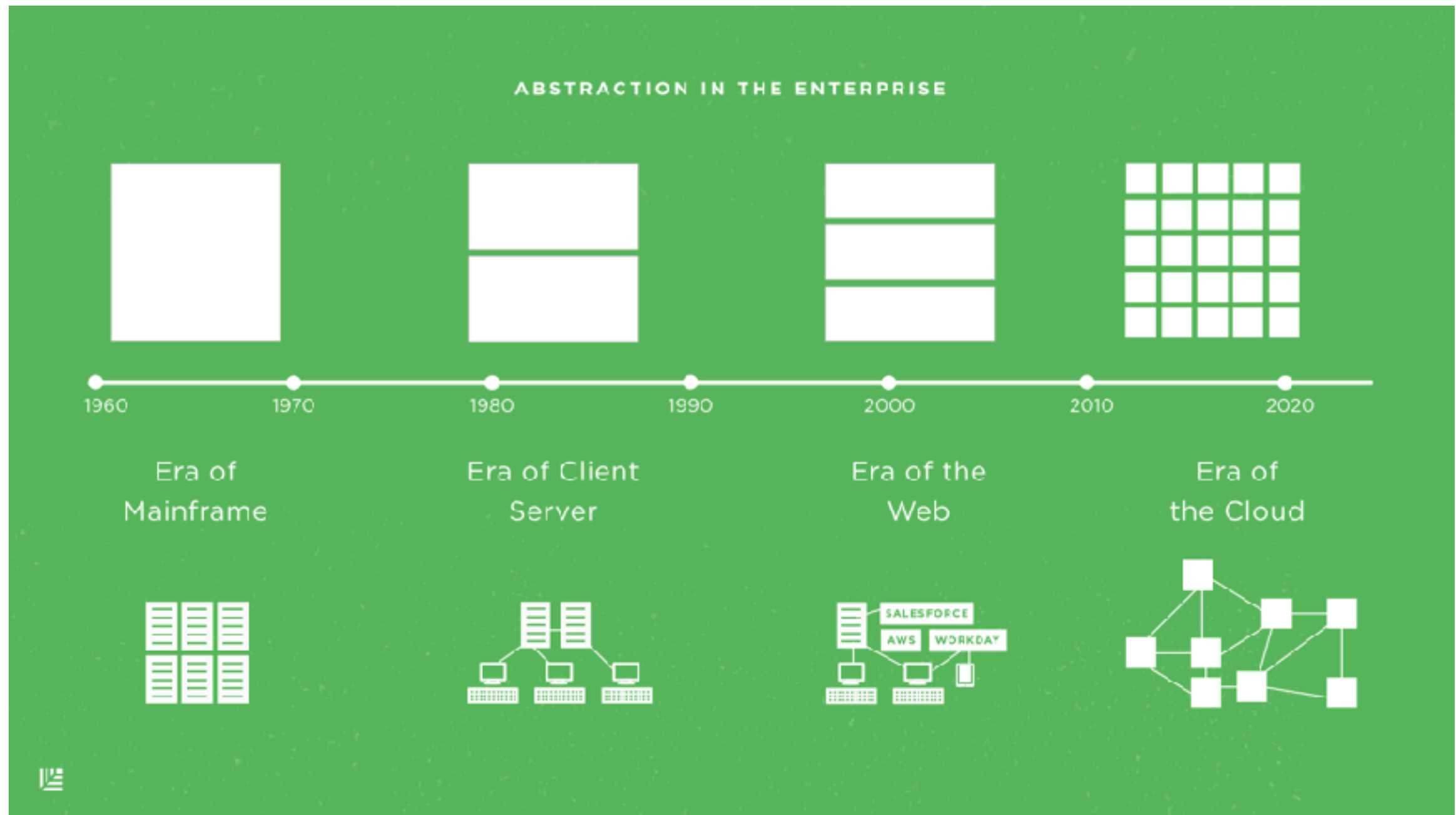
# Reference



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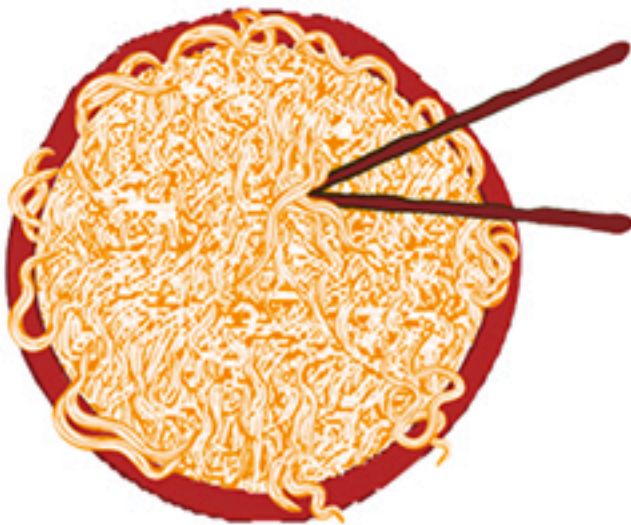
# Evolution of Architecture



# Developer's perspective

1990s and earlier

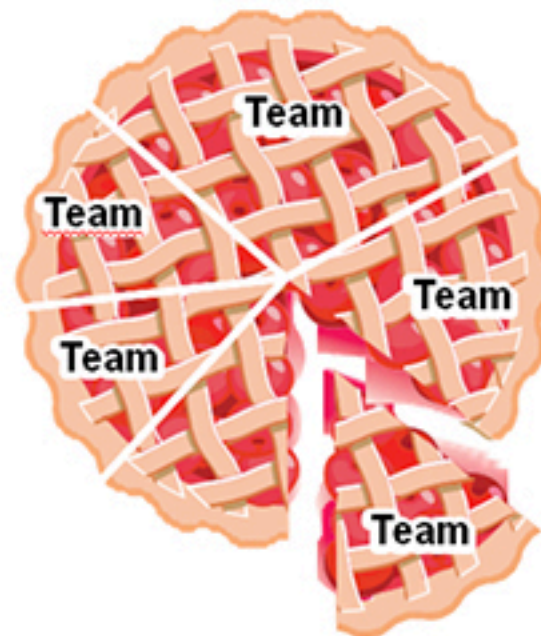
Pre-SOA (monolithic)  
Tight coupling



For a monolith to change, all must agree on each change. Each change has unanticipated effects requiring careful testing beforehand.

2000s

Traditional SOA  
Looser coupling



Elements in SOA are developed more autonomously but must be coordinated with others to fit into the overall design.

2010s

Microservices  
Decoupled



Developers can create and activate new microservices without prior coordination with others. Their adherence to MSA principles makes continuous delivery of new or modified services possible.

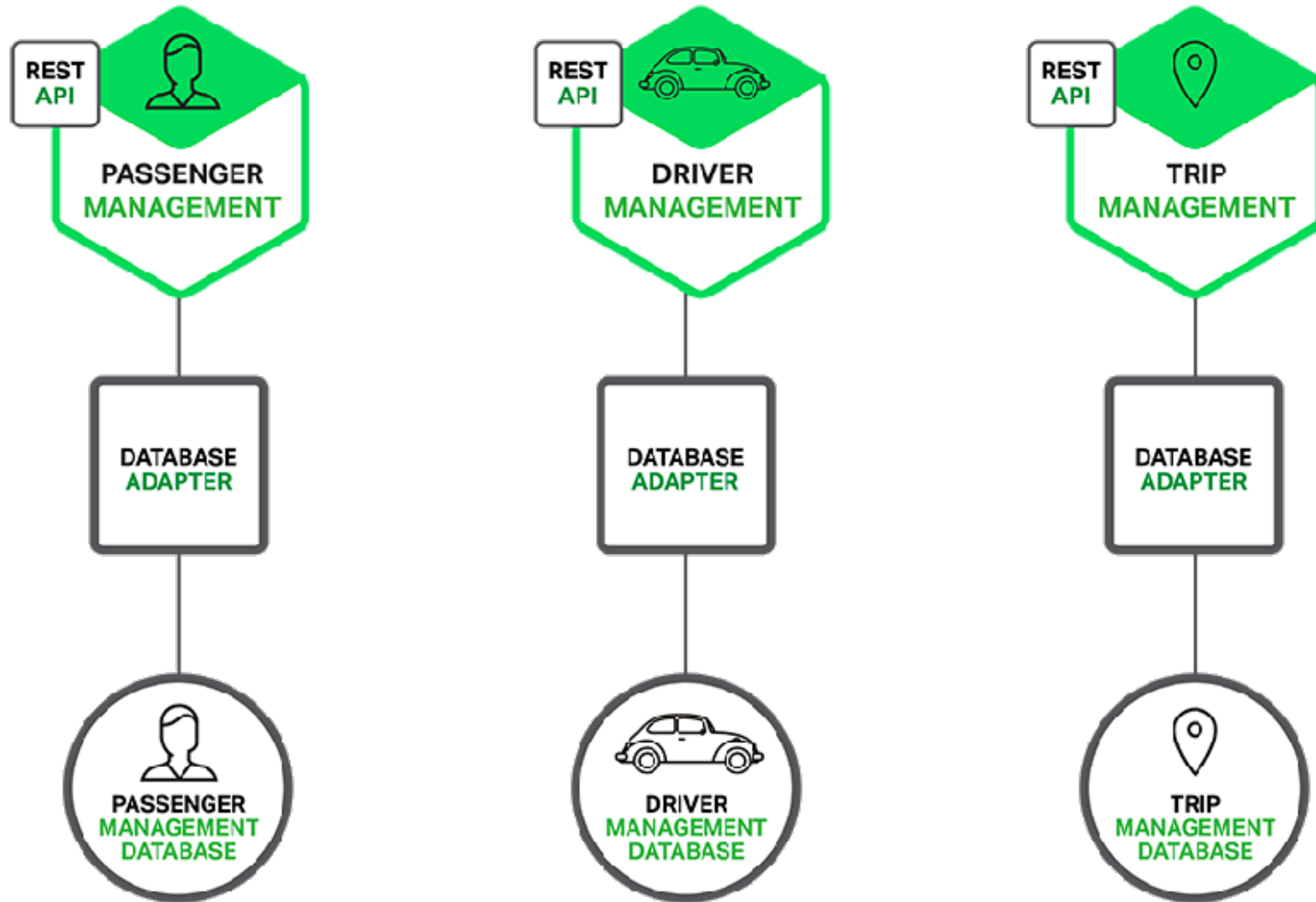


# Microservice

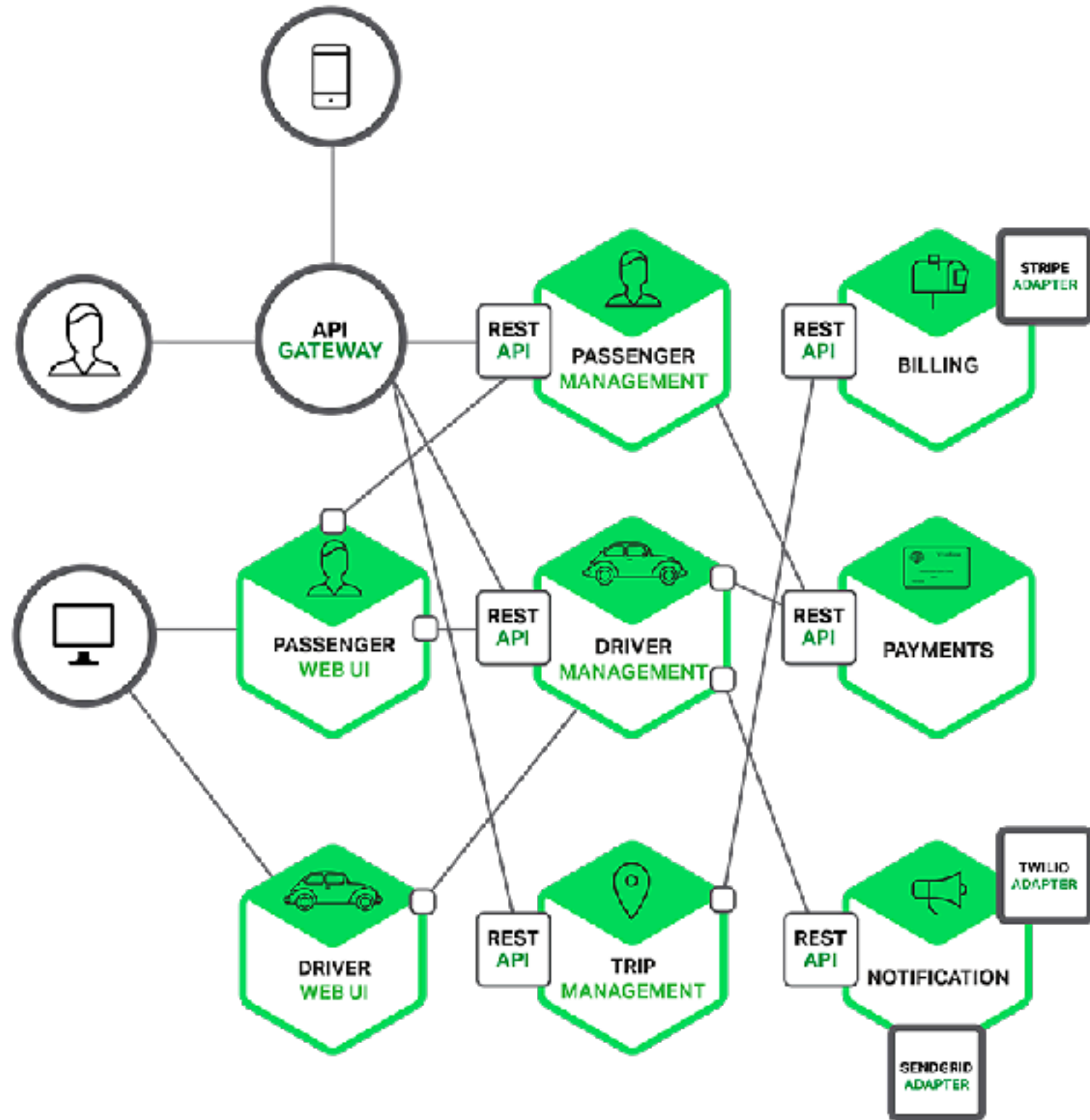




# Microservice



# Microservice



# What is microservice ?





# What is microservice ?

Small services



# What is microservice ?

**Small services**

**Running in its own process**



# What is microservice ?

**Small services**

**Running in its own process**

**Communicating with lightweight mechanism**



# What is microservice ?

**Small services**

**Running in its own process**

**Communicating with lightweight mechanism**

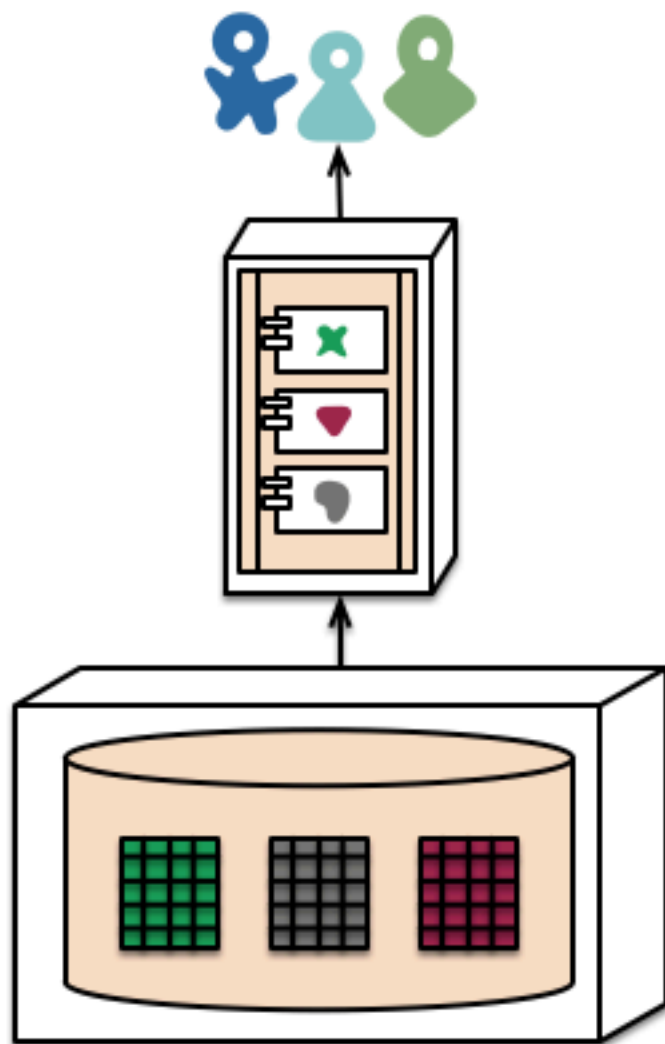
**Independently deployable**



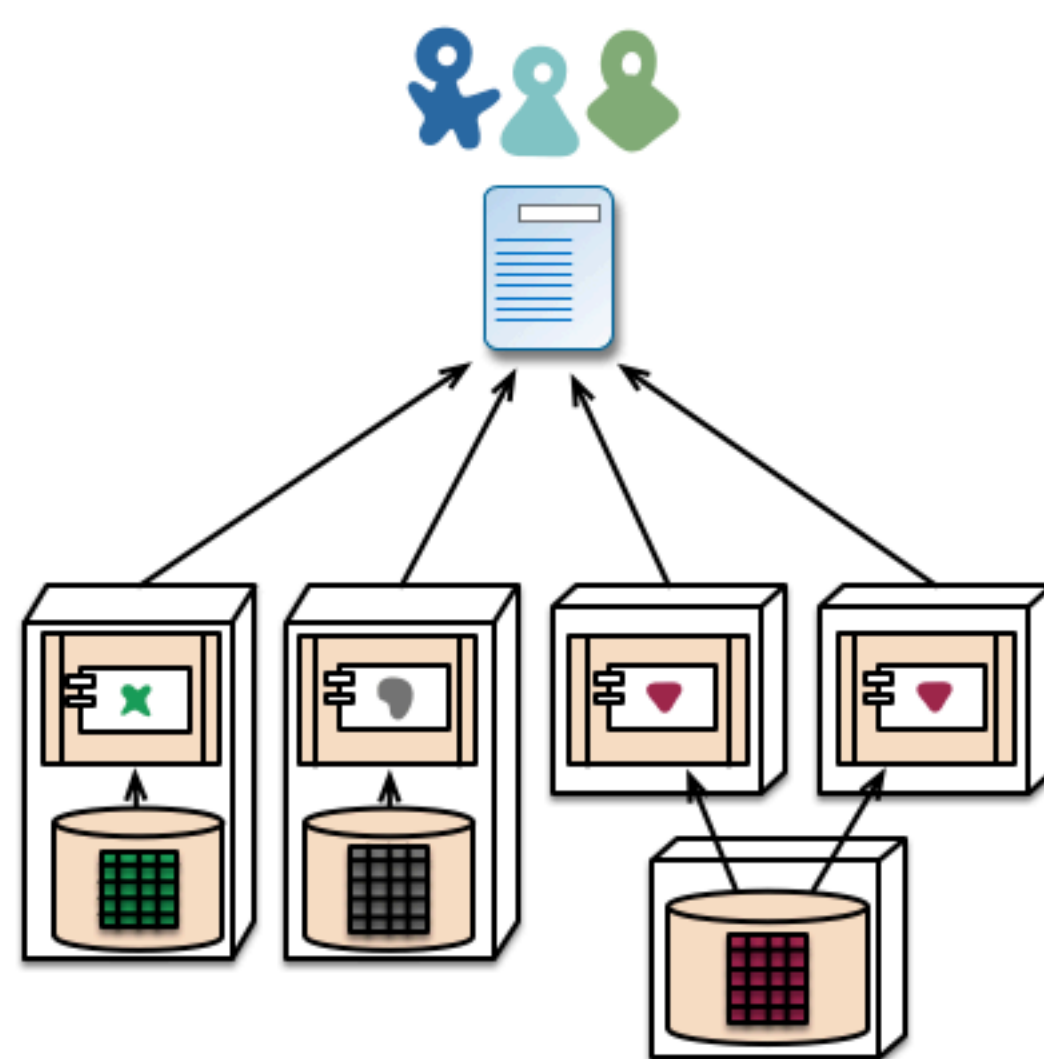
# Benefits



# Technology Heterogeneity



monolith - single database

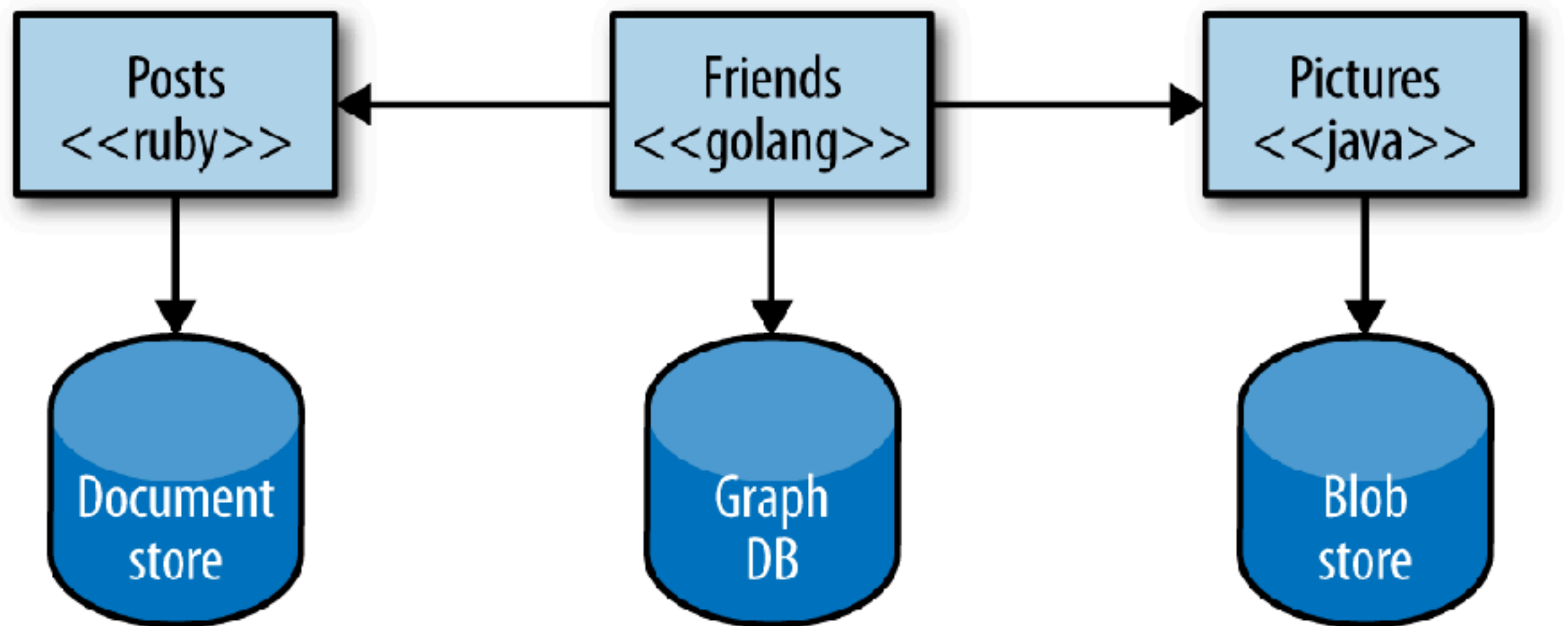


microservices - application databases

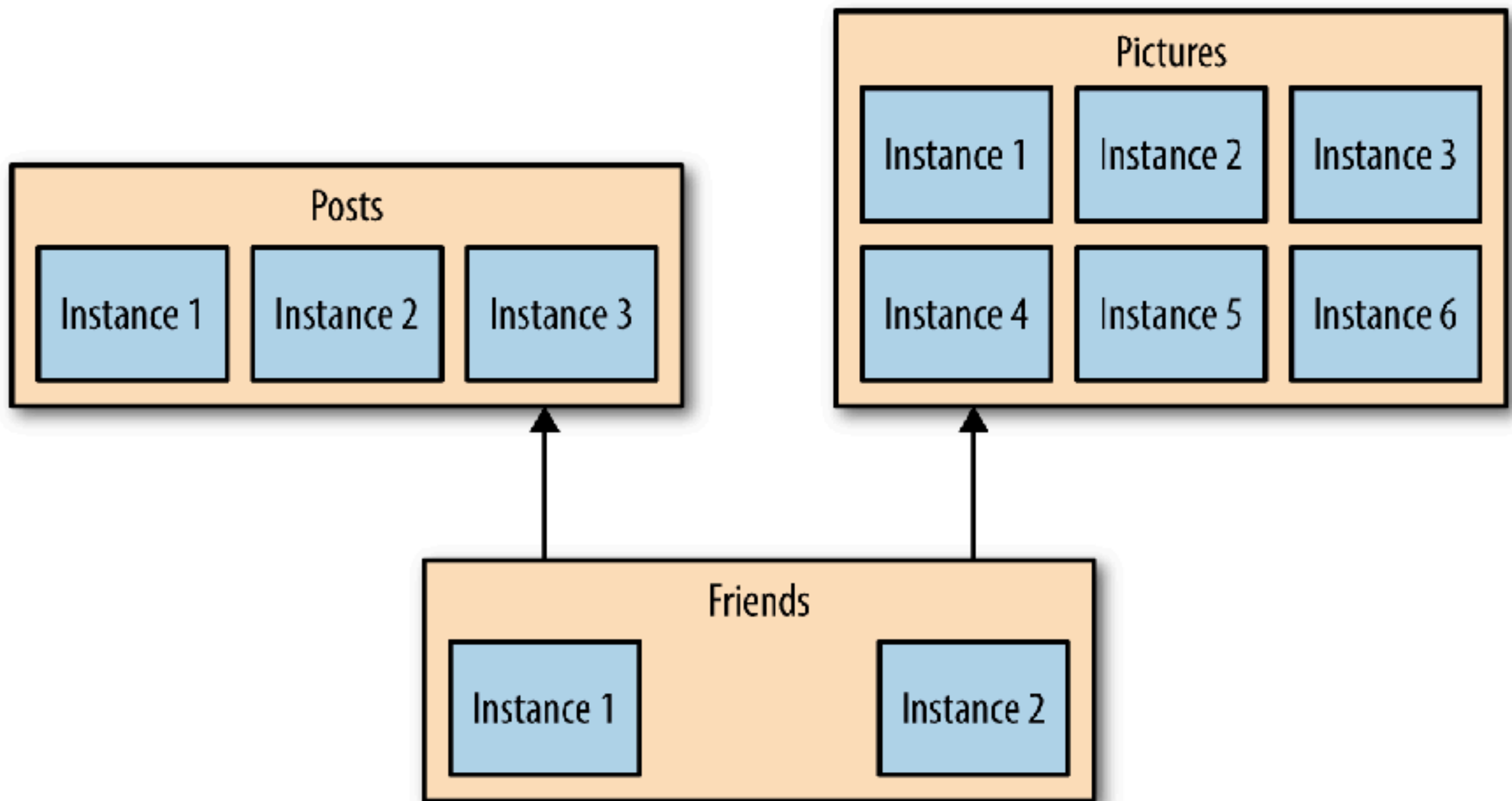




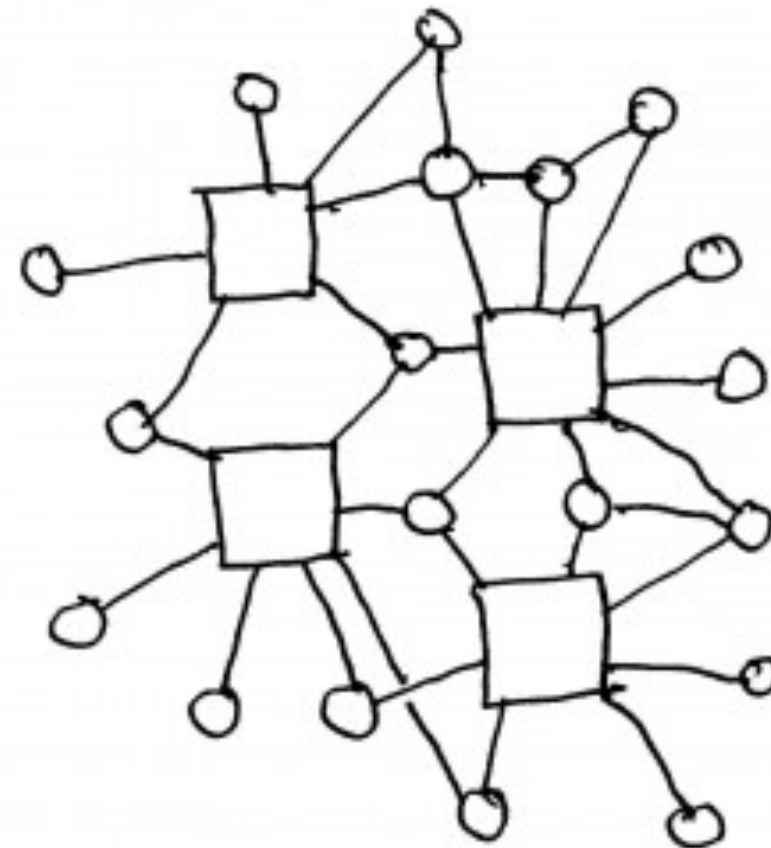
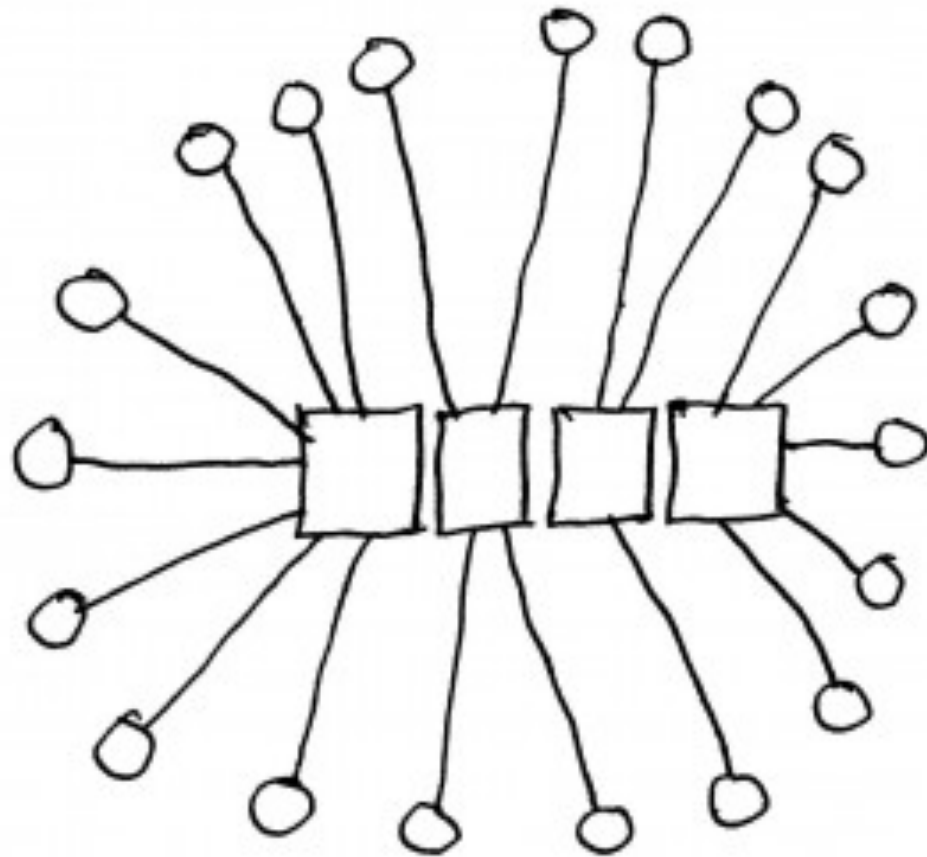
# Technology Heterogeneity



# Scaling

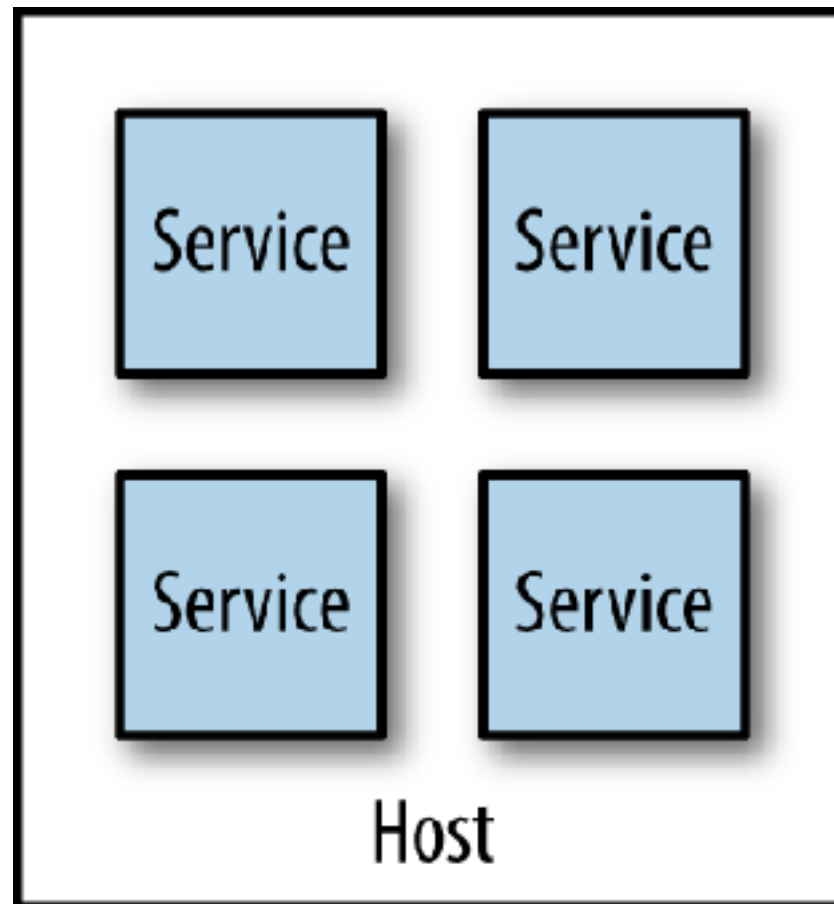


# Resilience



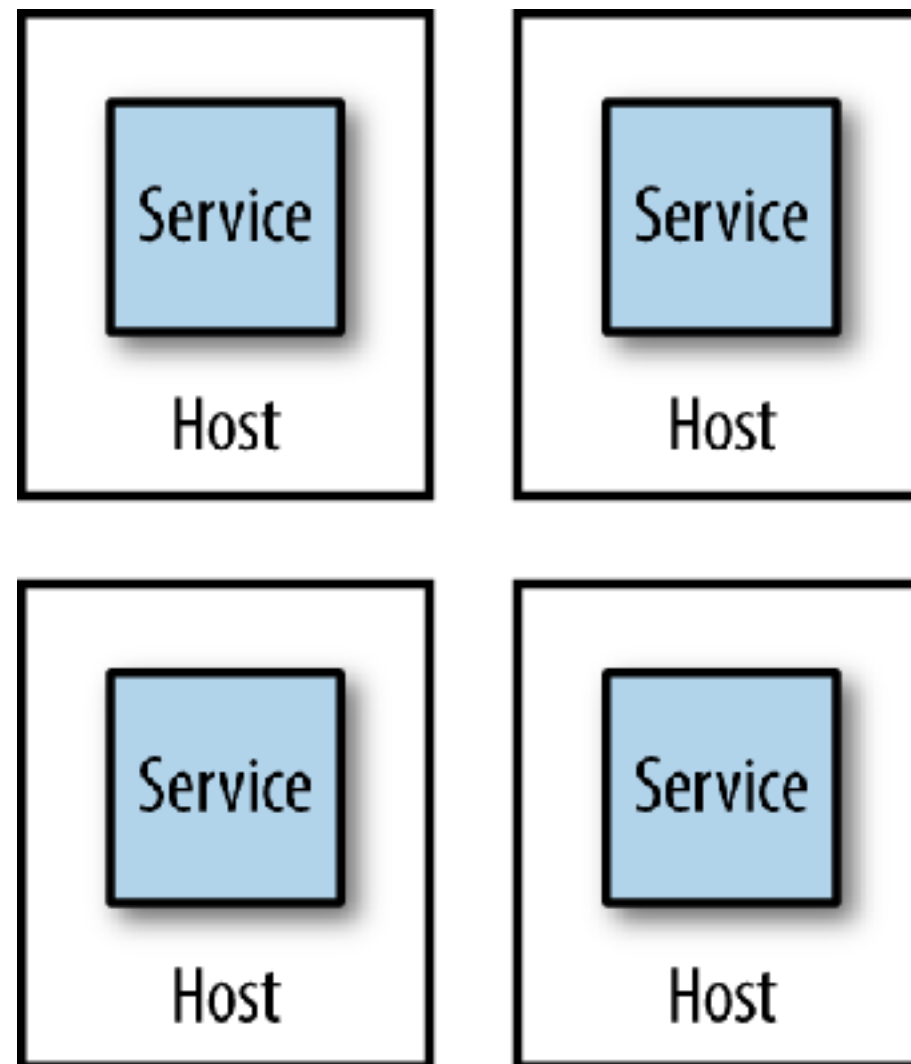
# Ease of Deployment

Multiple services per host



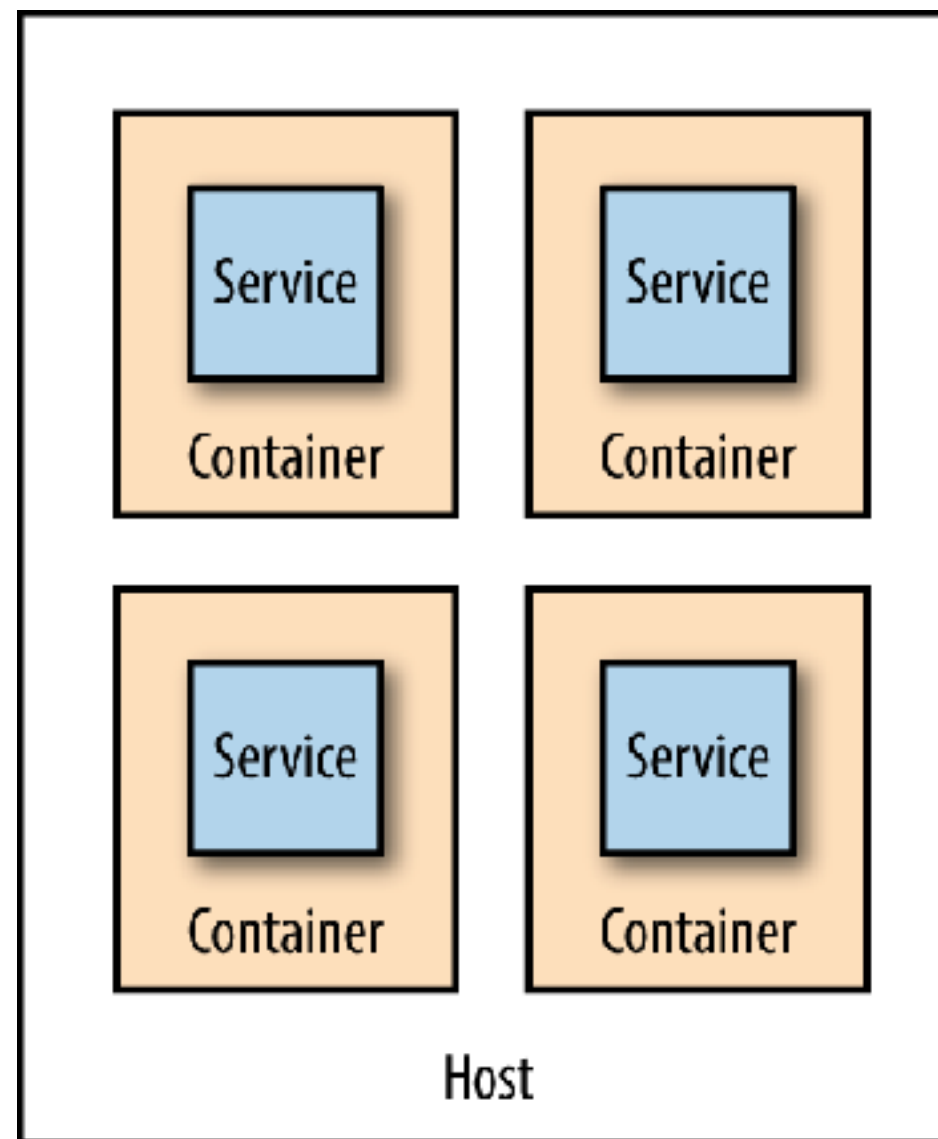
# Ease of Deployment

Single services per host



# Ease of Deployment

Running services in separate containers





# How to model services ?



# Good service ?

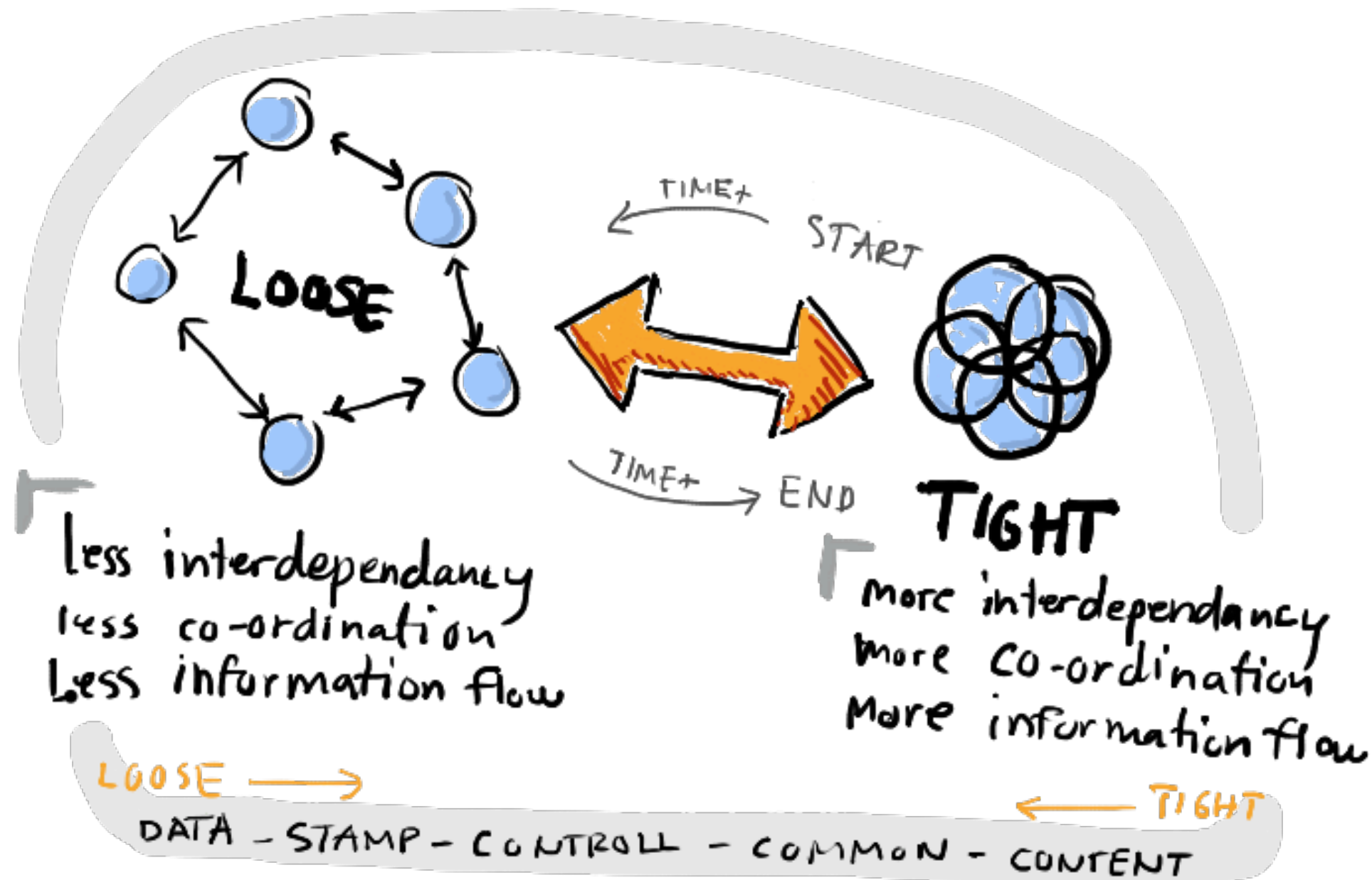
Loose coupling  
High cohesion



# Loose coupling



# Loose coupling



<https://infomgmt.wordpress.com/2010/02/18/a-visual-respresentation-of-coupling/>



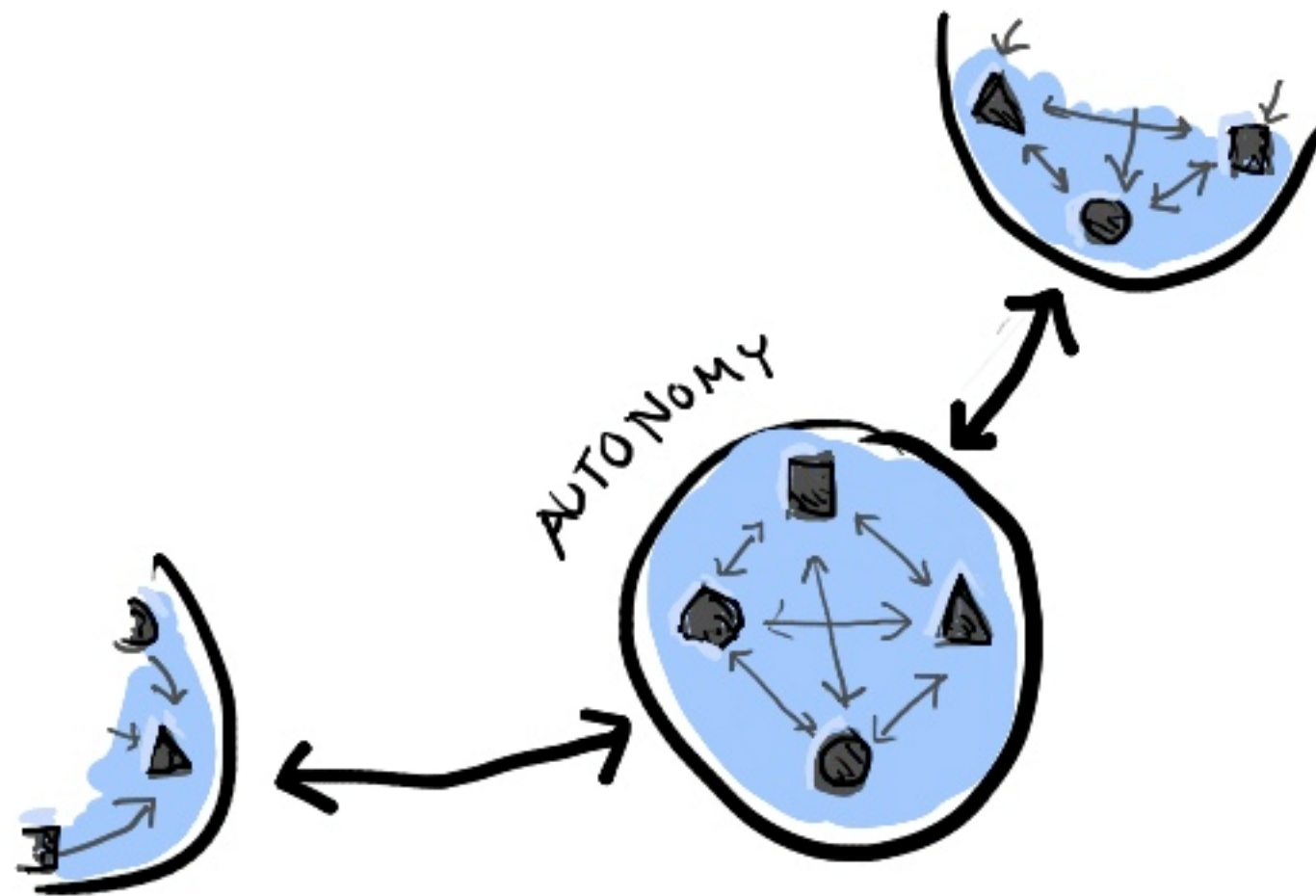
# Loose coupling



<https://infomgmt.wordpress.com/2010/02/18/a-visual-respresentation-of-coupling/>



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<https://infomgmt.wordpress.com/2010/02/18/a-visual-respresentation-of-coupling/>

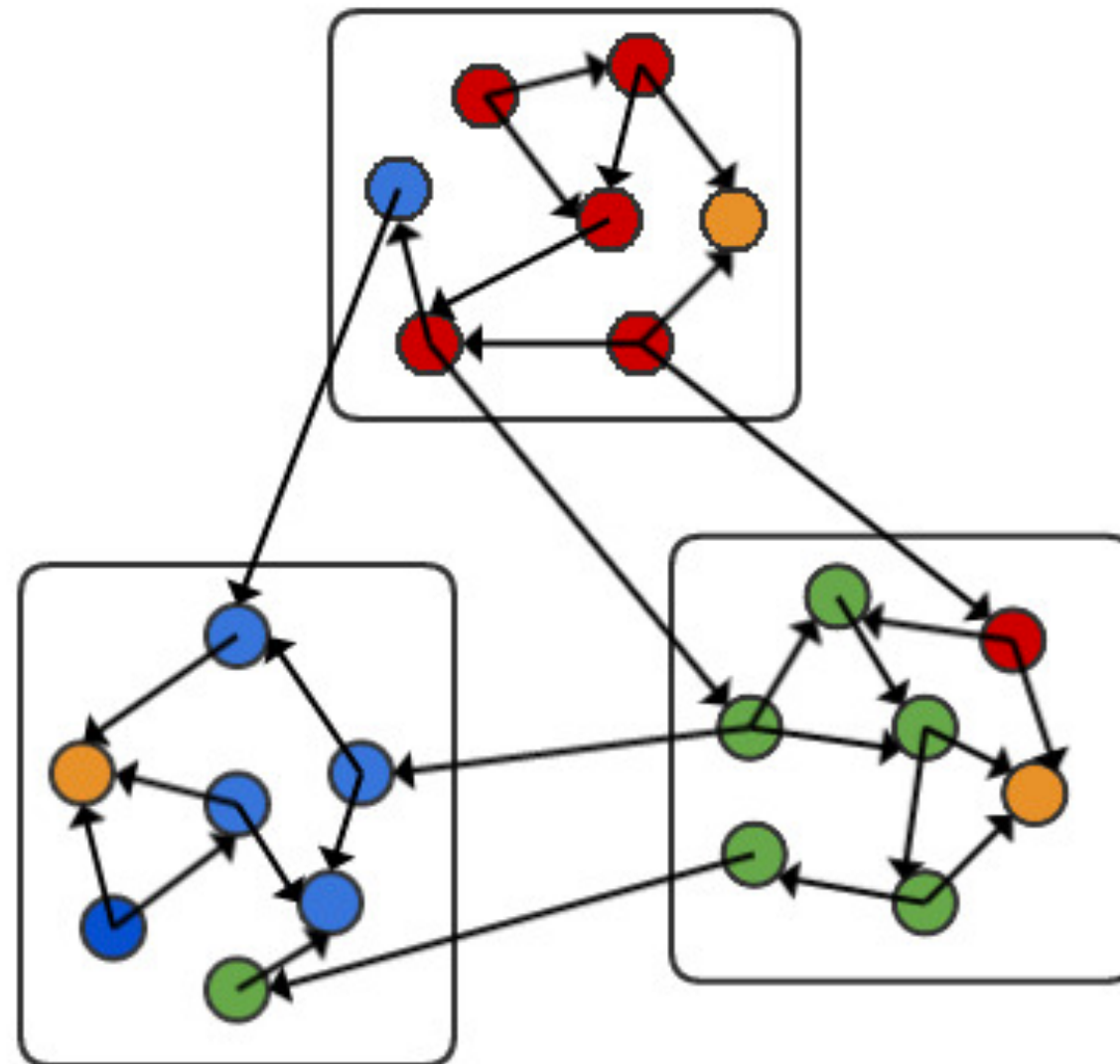




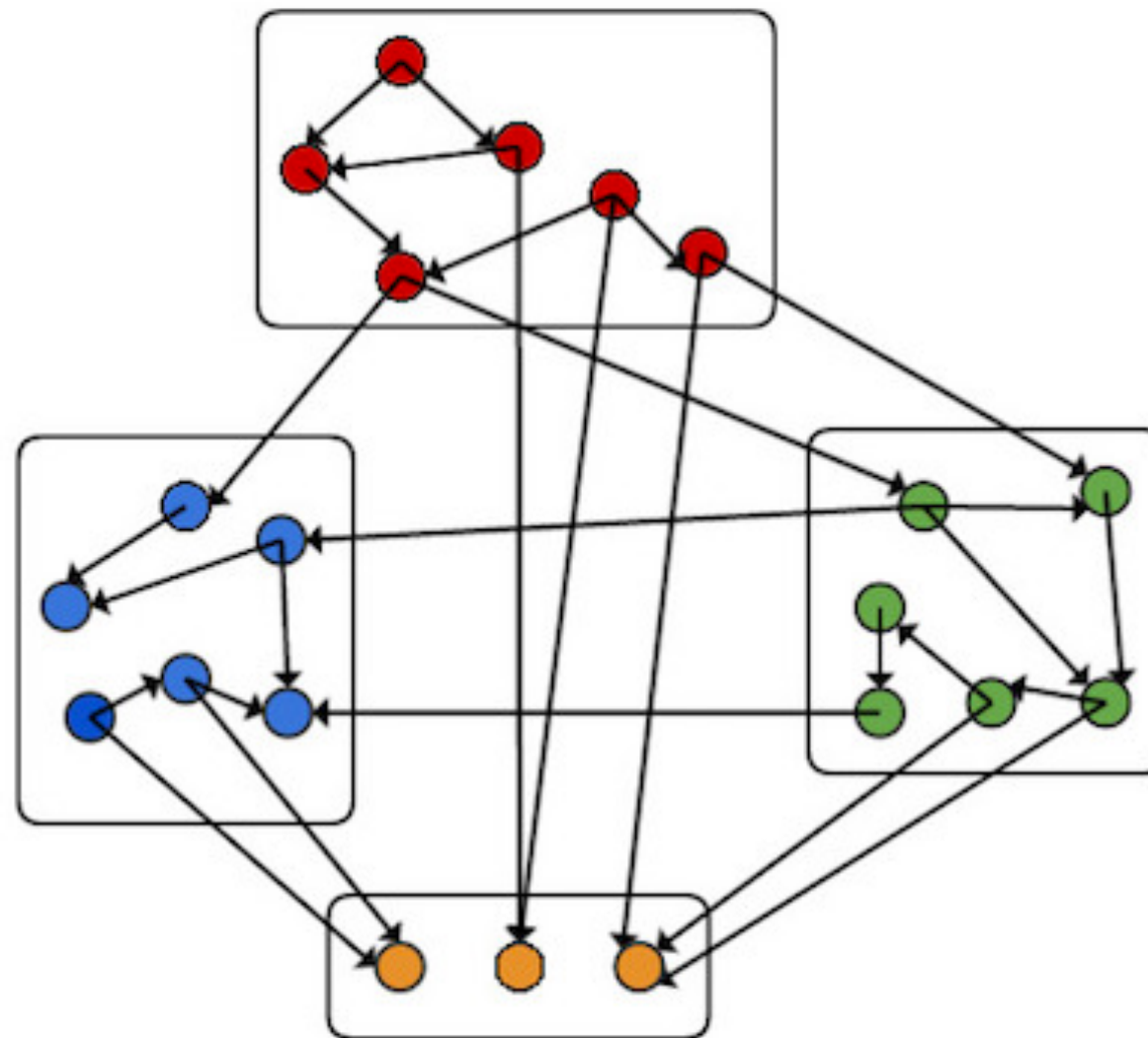
# High cohesion



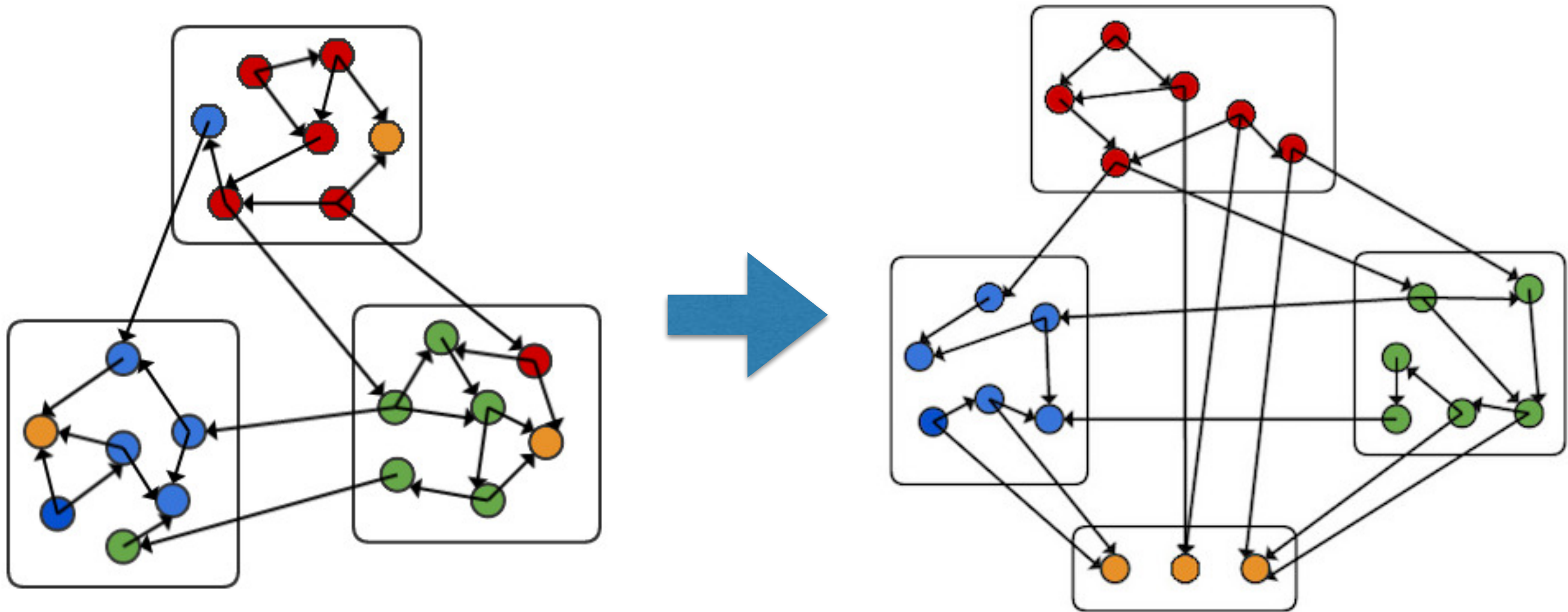
# High cohesion



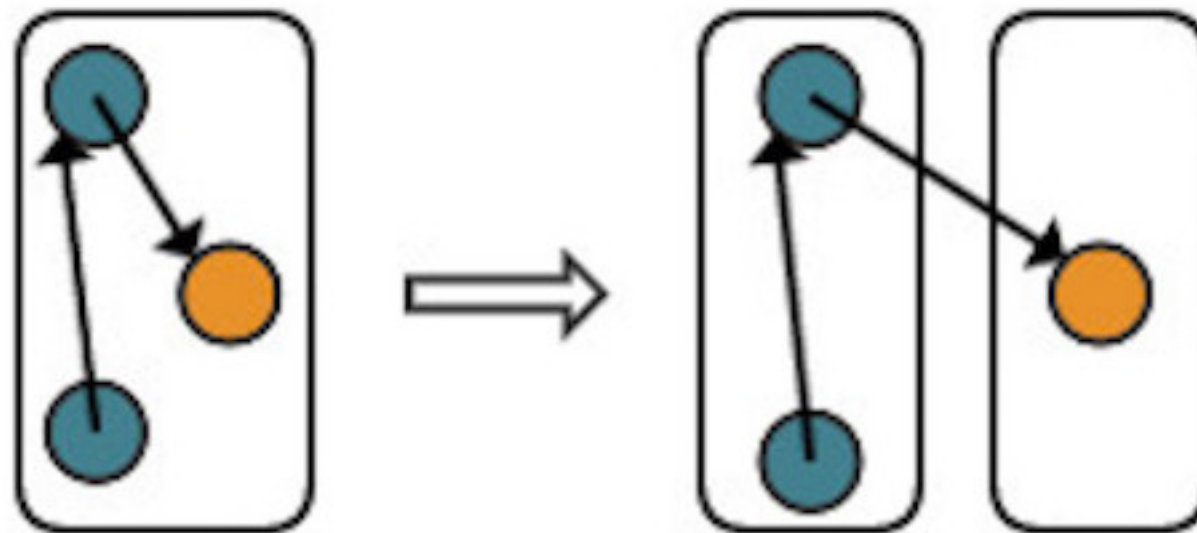
# High cohesion



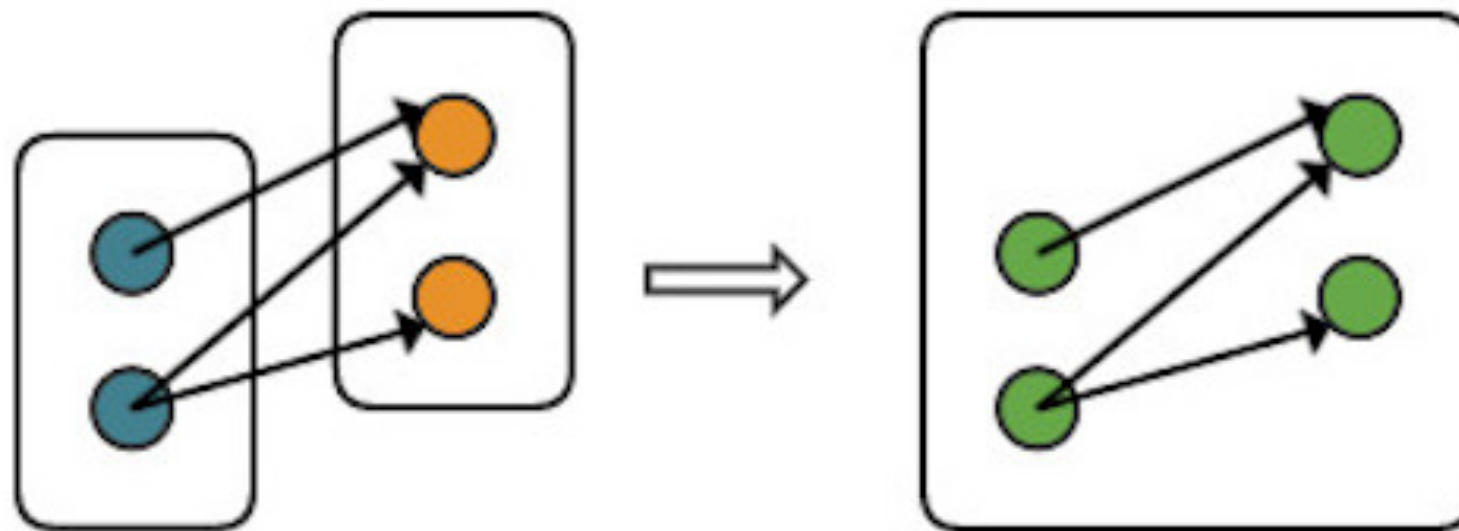
# High cohesion



# Same responsibility together



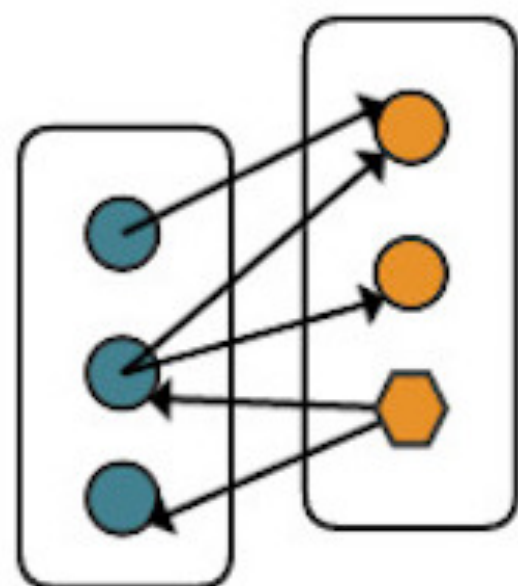
# Grouping

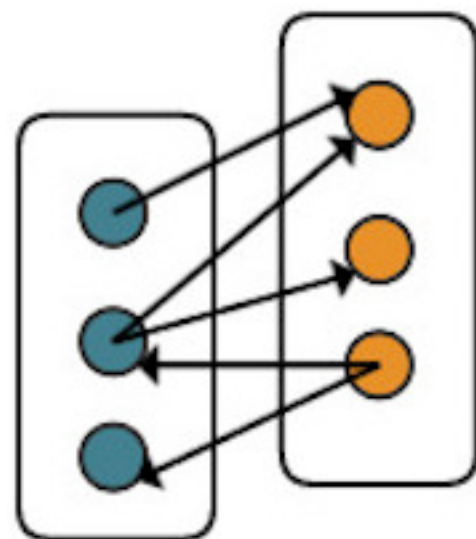




# Quiz



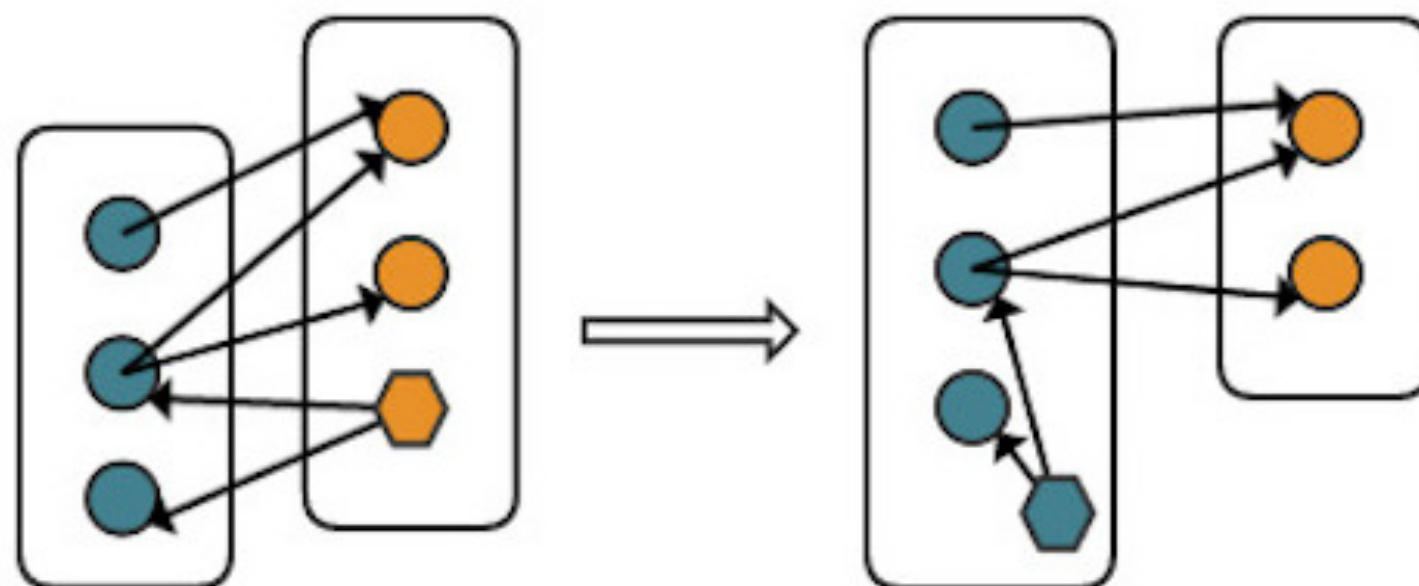


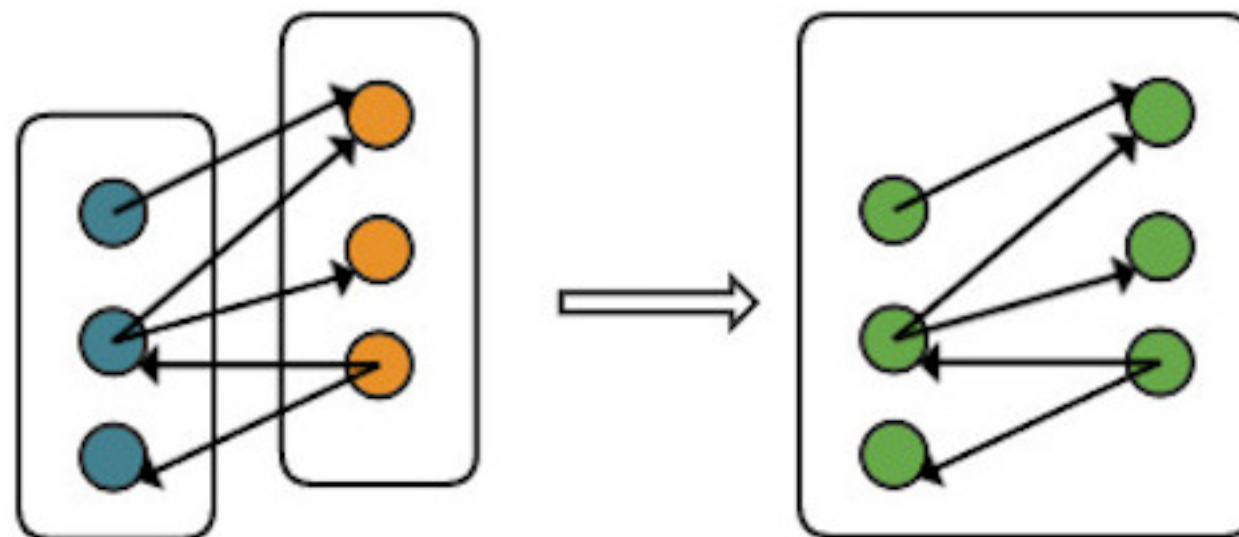


# Coupling ?

# Cohesion ?







# Let's workshop

