Microservices

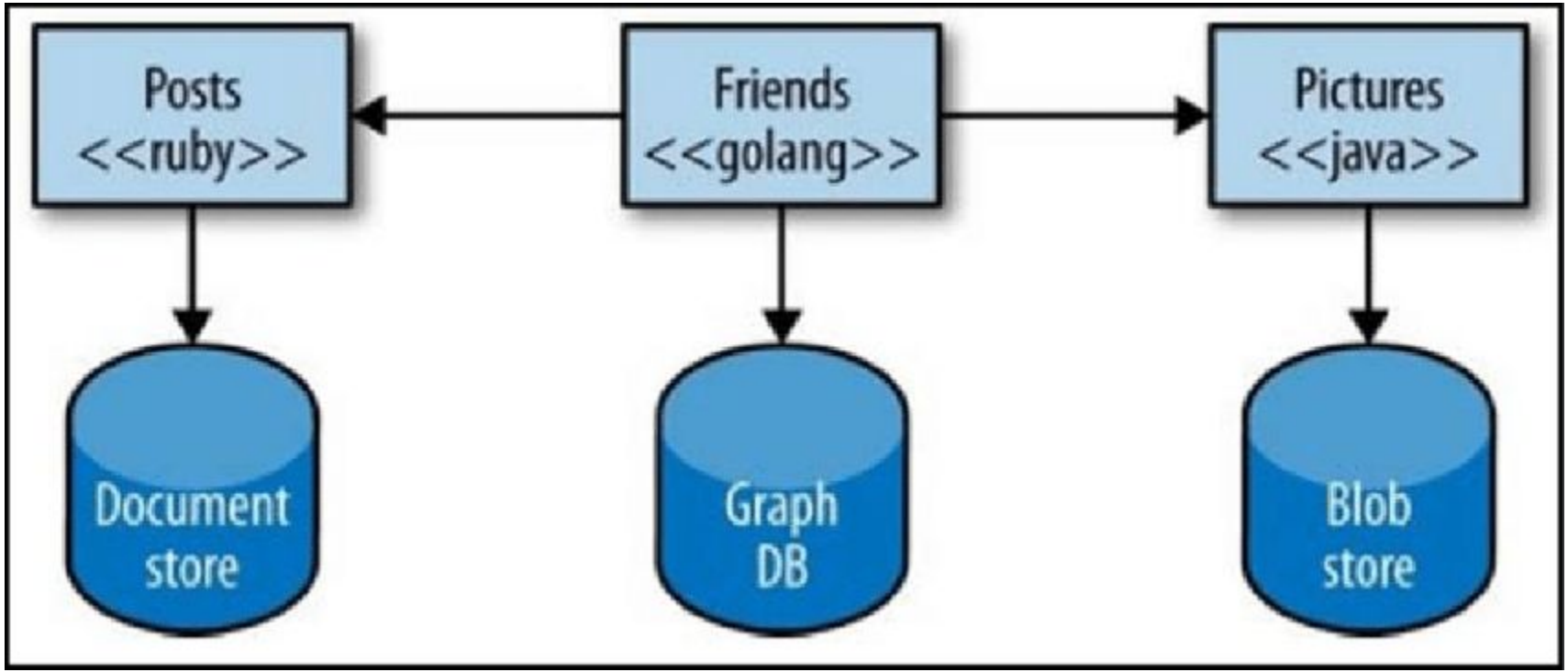
DoU-University, Galileo Martinez

What are Microservices?

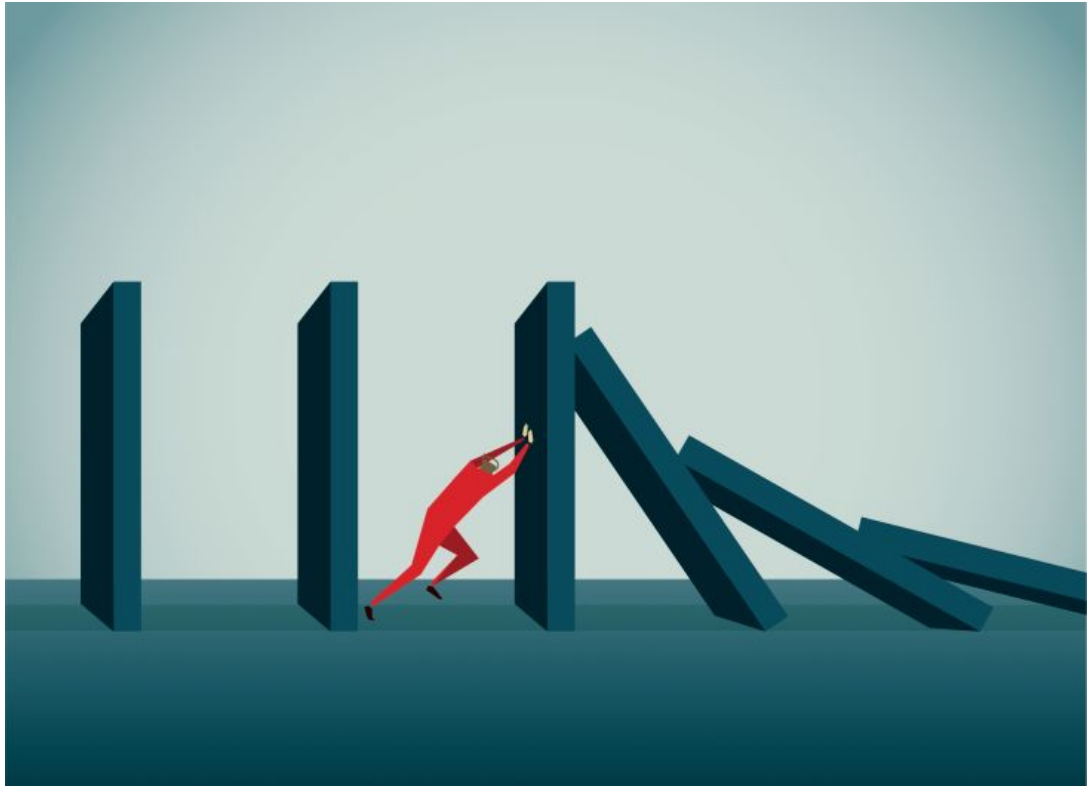
Microservices are small, autonomous services that work together

Key Benefits

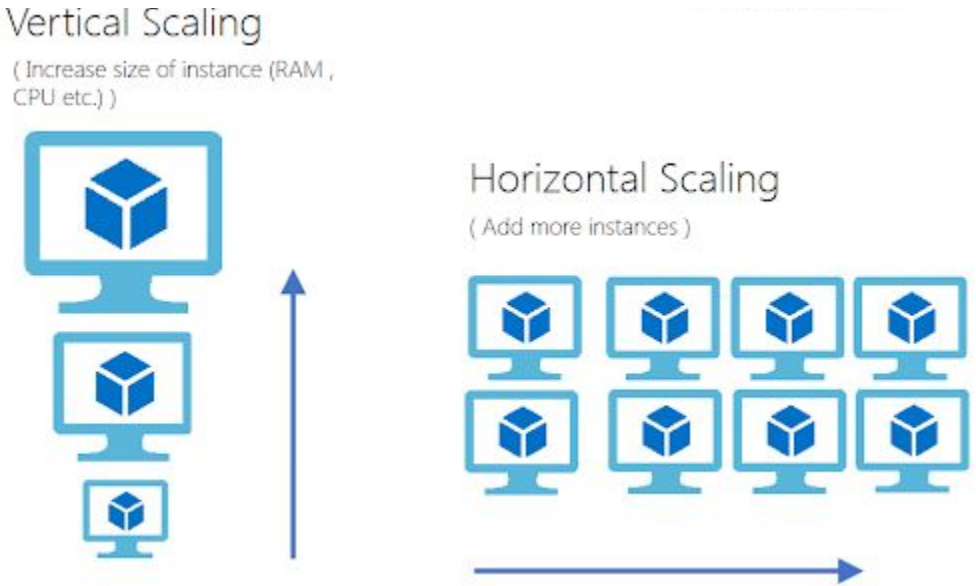
Technology Heterogeneity



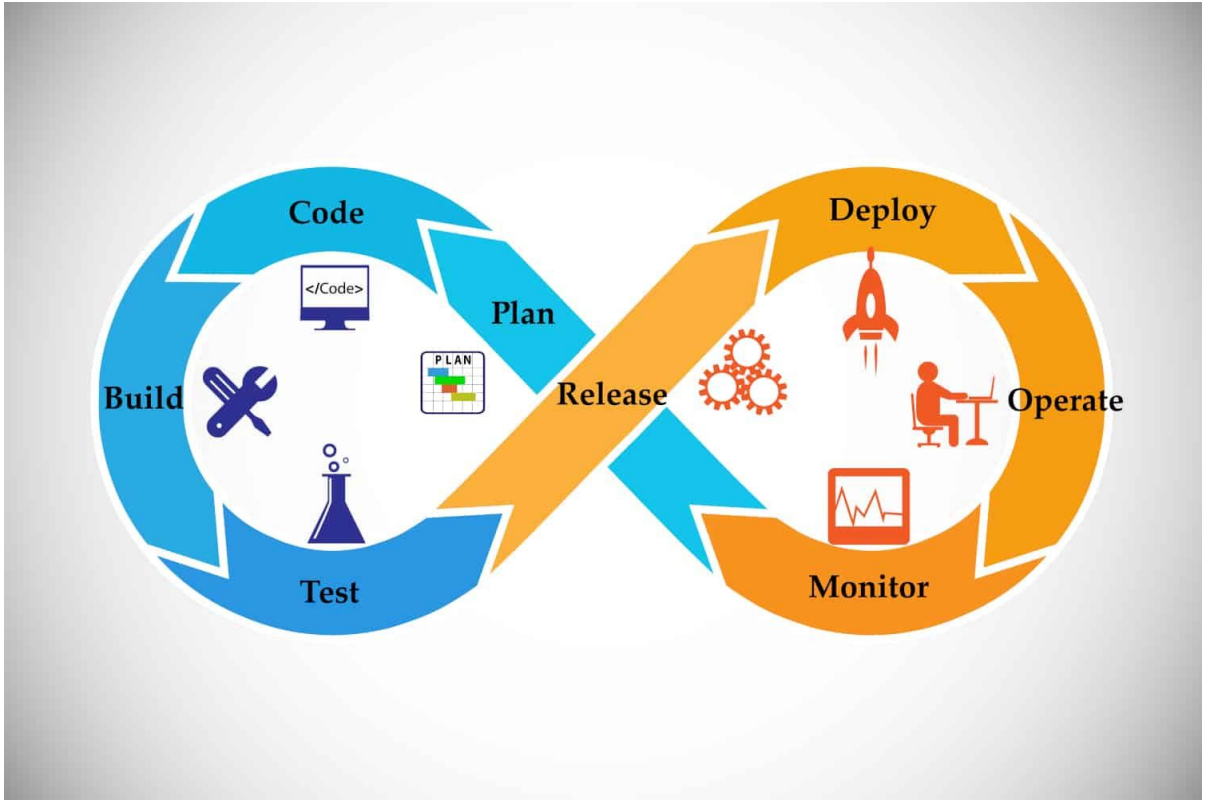
Resilience



Scaling

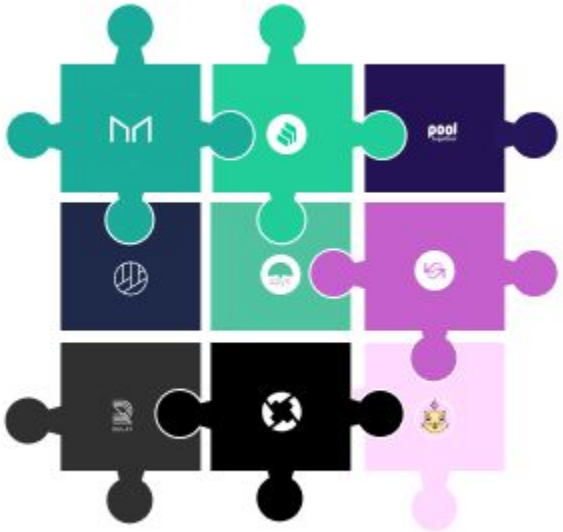

Vertical Scaling
(Increase size of instance (RAM , CPU etc.))
Horizontal Scaling
(Add more instances)

Ease of Deployment



Organizational Alignment

Composability

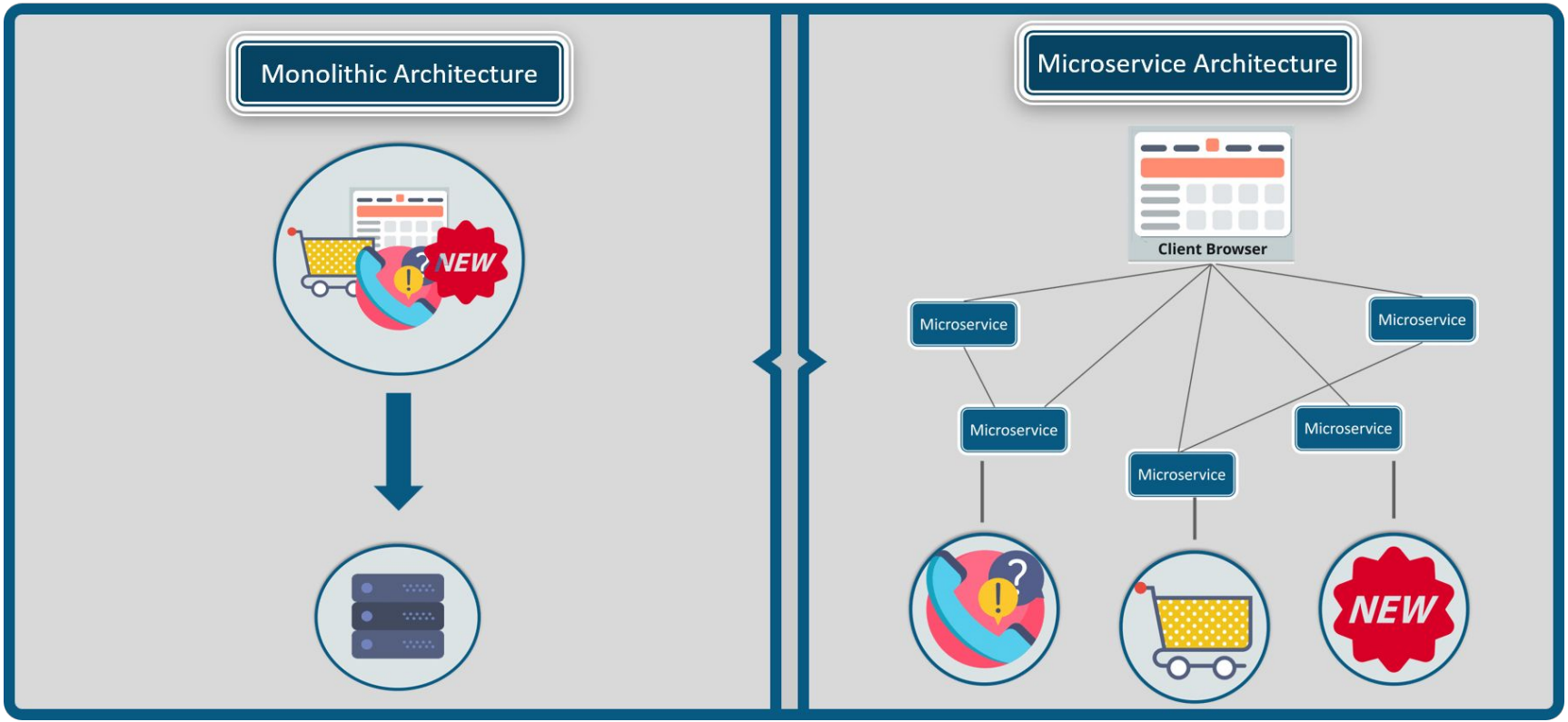


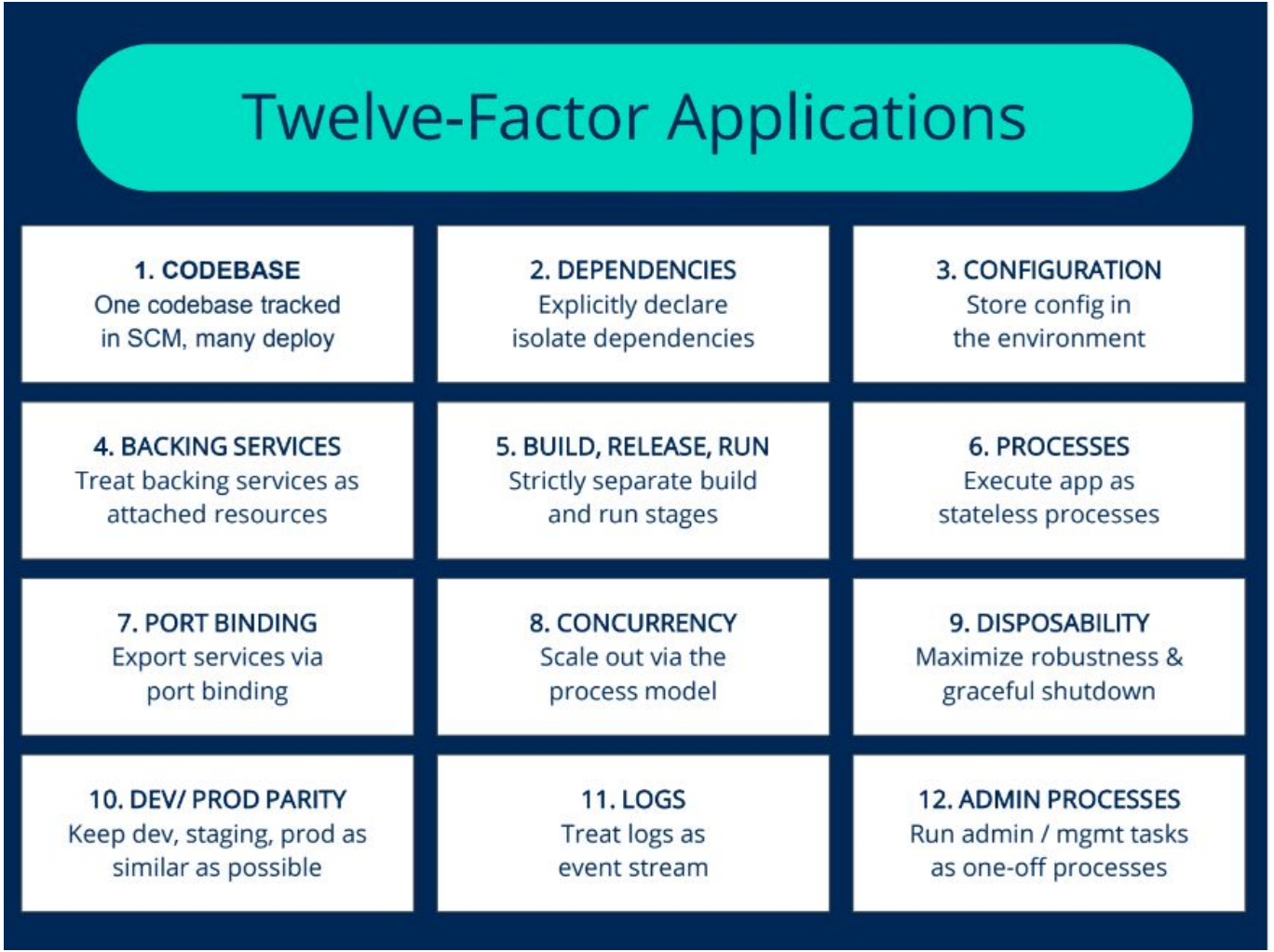
Optimizing for Replaceability

What do we need to achieve this?

CODE
PLAN
DEPLOY
BUILD
DEV
RELEASE
OPS
OPERATE
TEST
MONITOR

A great design




Twelve-Factor Applications
1. CODEBASE
One codebase tracked in SCM, many deploy
2. DEPENDENCIES
Explicitly declare isolate dependencies
3. CONFIGURATION
Store config in the environment
4. BACKING SERVICES
Treat backing services as attached resources
5. BUILD, RELEASE, RUN
Strictly separate build and run stages
6. PROCESSES
Execute app as stateless processes
7. PORT BINDING
Export services via port binding
8. CONCURRENCY
Scale out via the process model
9. DISPOSABILITY
Maximize robustness & graceful shutdown
10. DEV/ PROD PARITY
Keep dev, staging, prod as similar as possible
11. LOGS
Treat logs as event stream
12. ADMIN PROCESSES
Run admin / mgmt tasks as one-off processes

Questions?

Enough slides, let's play a game!!