

# I HAVE MICROSERVICES

(and I didn't know)

DINO  
ESPOSITO




**Ever tried. Ever failed. No matter. Try again.  
Fail again. Fail better.**

**Samuel Beckett, 1983**

**SAMUEL  
BECKETT**

**WORSTWARD  
HO**

# MICROSERVICES

A close-up photograph of a woman with blonde hair, looking upwards with a wide-eyed, open-mouthed expression of shock or confusion. She is wearing a dark jacket and a red and blue patterned scarf. The background is slightly out of focus, showing what appears to be a staircase railing and a wall.

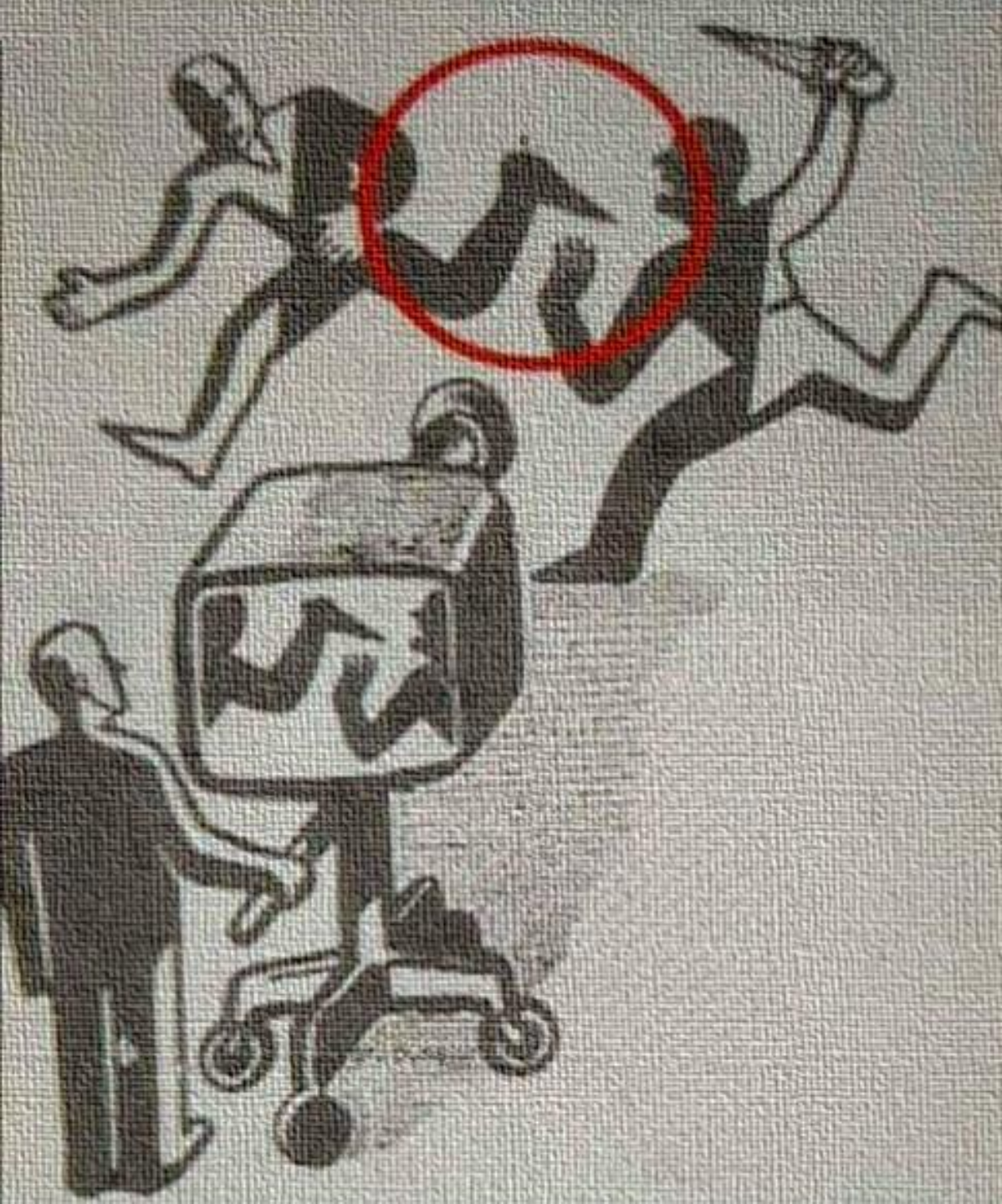
**What is this?**






MANY TIMES,  
THINGS  
LOOK  
DIFFERENT  
FROM **WHAT**  
**THEY ARE...**





**Microservices are not exactly  
what we often hear and read  
Architecture >> Technology**

# MICROSERVICES

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**What is this?**

# MICROSERVICE

A particular way of designing software applications as suites of independently deployable services.

- Run in dedicated process
- Communicate through lightweight mechanisms
- Simplified and automated deployment
- Decentralized control of languages and data



IN OTHER WORDS ...

**SOA**  
JUST MADE  
SIMPLER

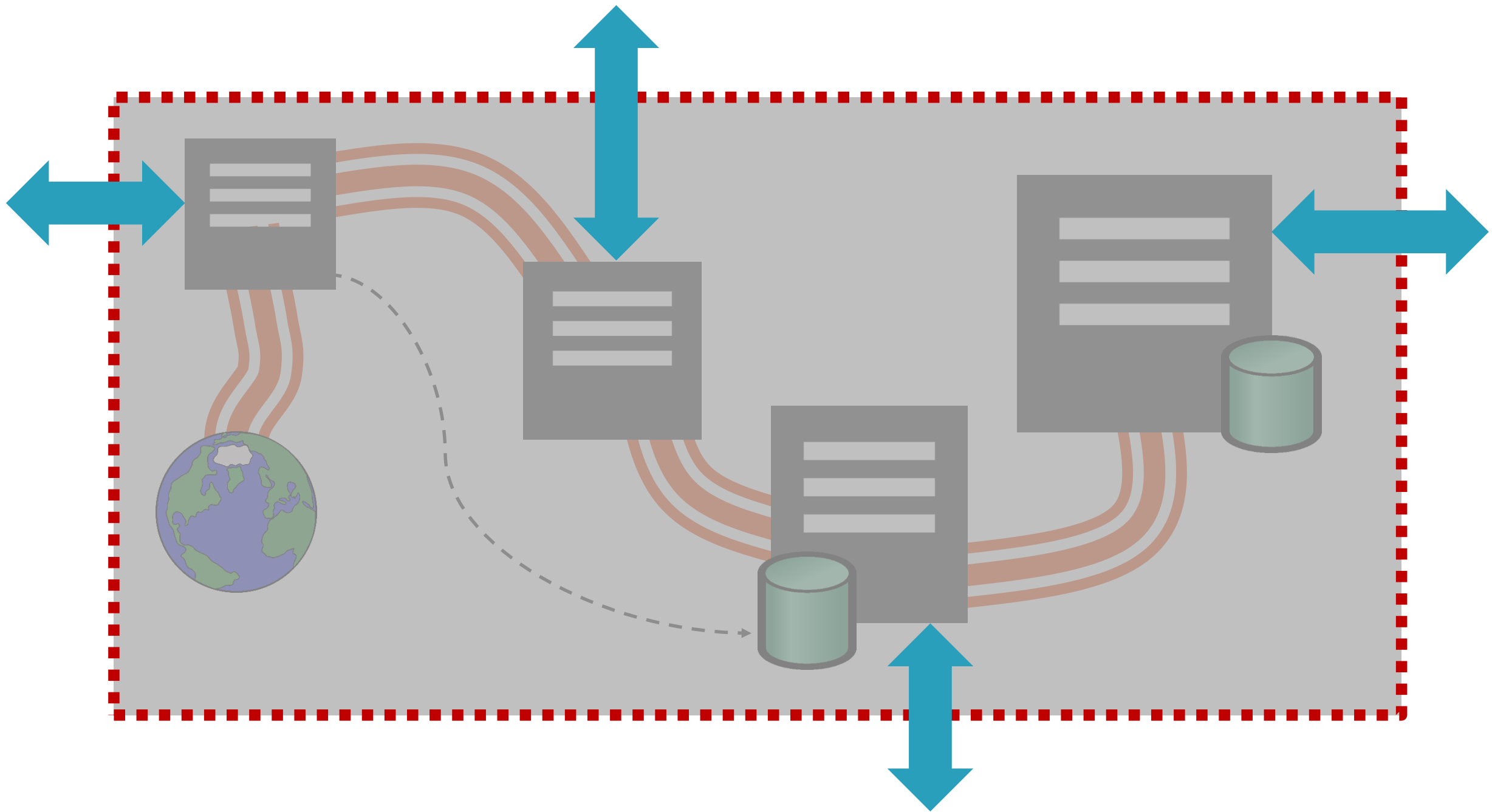




**SOA tenets**

- ☐ **Tenet 1: Boundaries are explicit.**
- ☐ **Tenet 2: Services are autonomous.**
- ☐ **Tenet 3: Services share schema & contract, not class.**
- ☐ **Tenet 4: Service compatibility is based upon policy.**





# MICROSERVICE

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Vertical stacks of  
logic and data

Can contain replicated data

Can access data via services

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Easy to package and  
deploy

Easy to assign to  
development teams

Work well with  
containers

Not that well with  
Visual Studio

Nuget packages better way to share code than references

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# MONOLITHIC APPLICATION



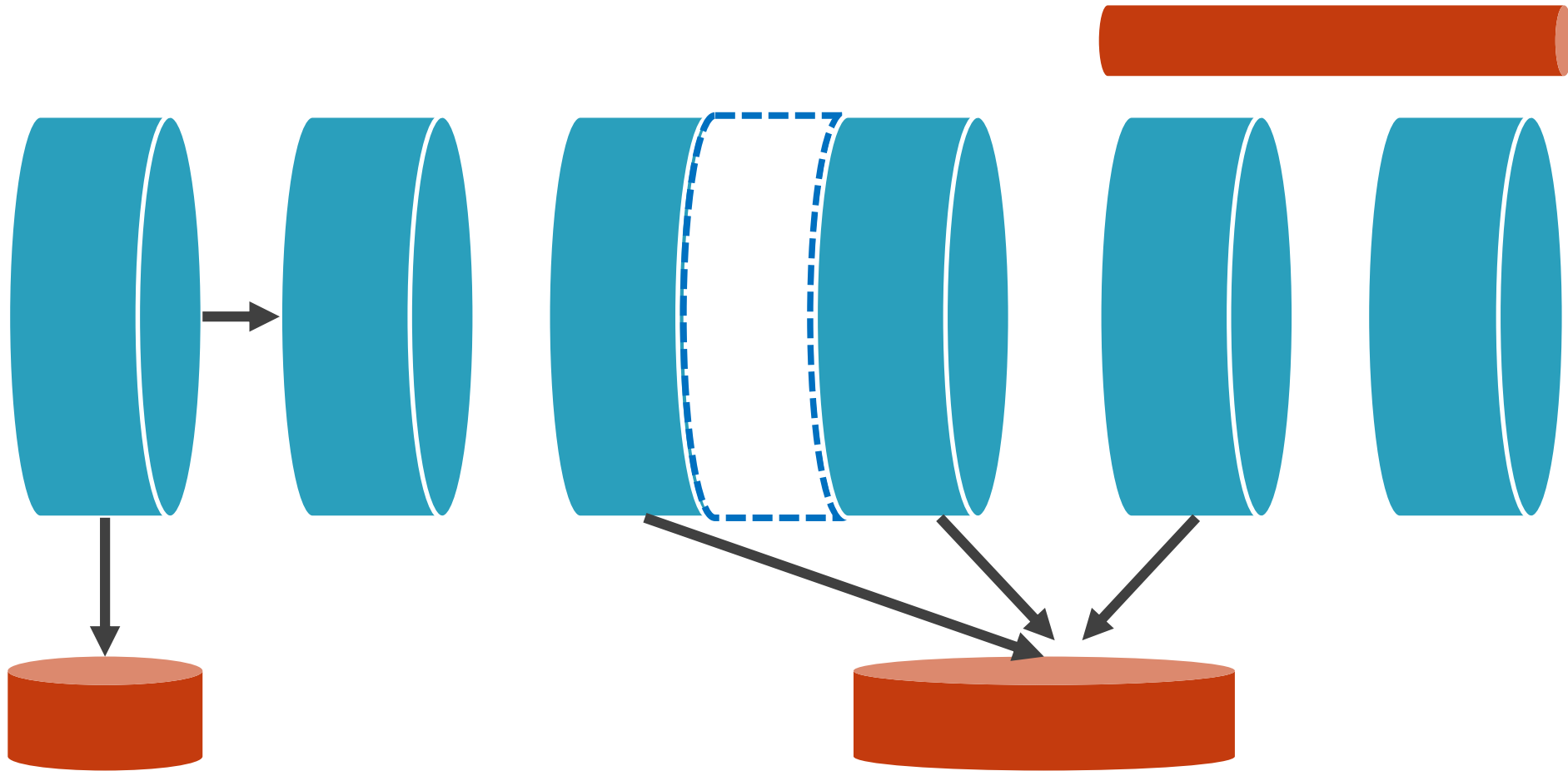


# **SEGMENTED** APPLICATION

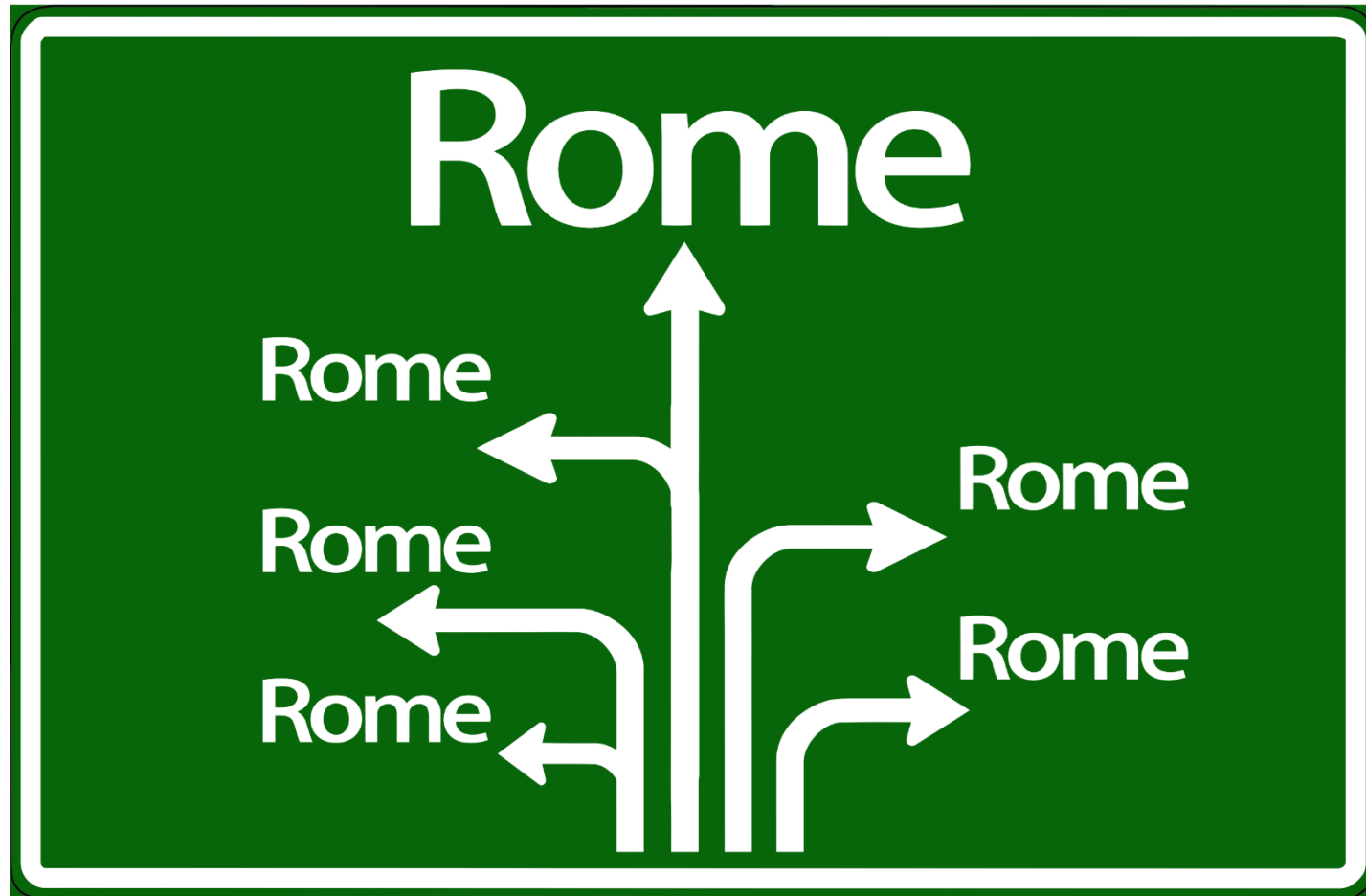


**COLLECTION** OF MONOLITHIC APPLICATIONS

# from **BOUNDED CONTEXT** to **MICROSERVICE**



# HOW DO WE GET THERE?





# DOMAIN-DRIVEN DESIGN

## Strategic Design

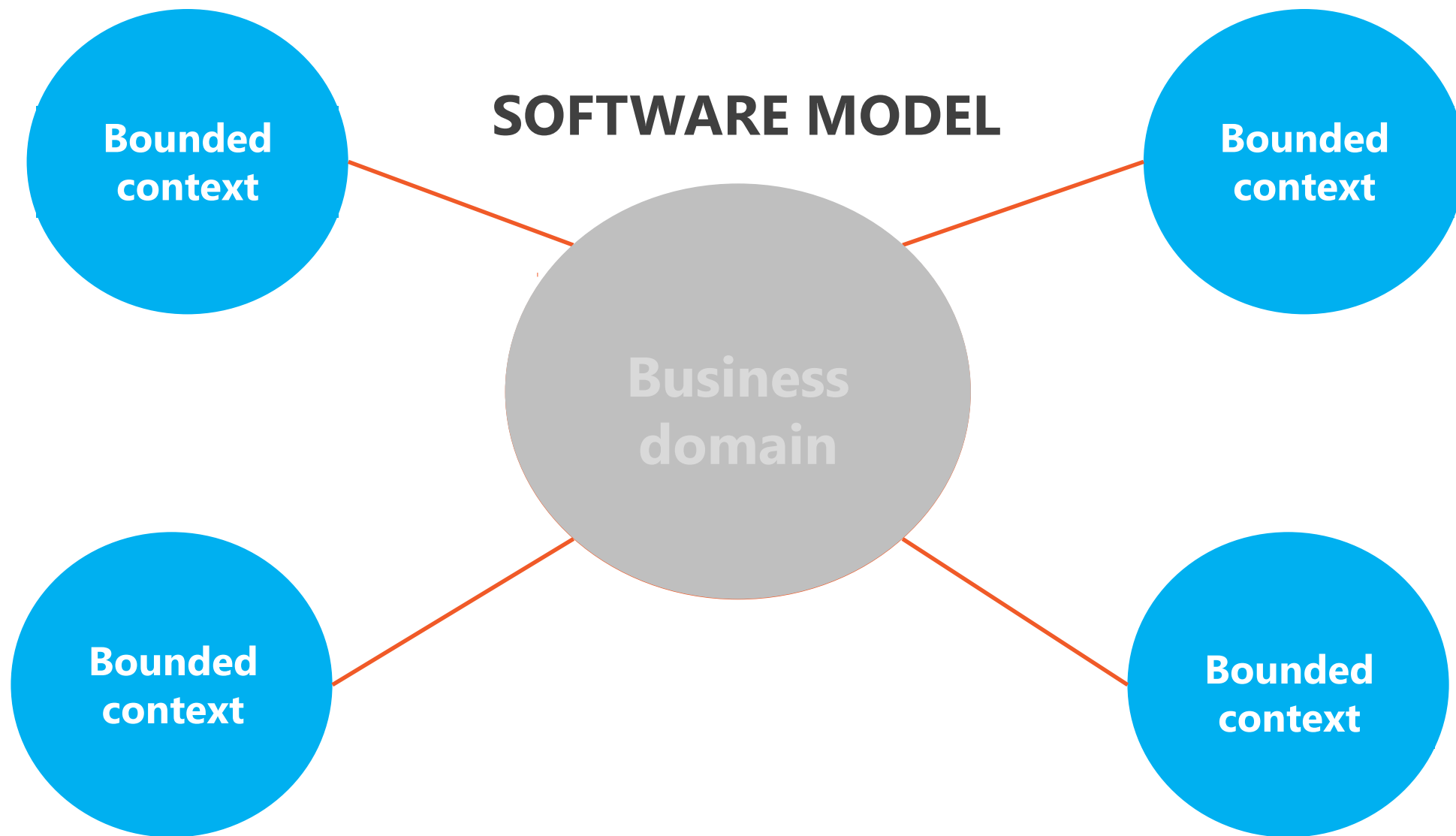
Ubiquitous  
language

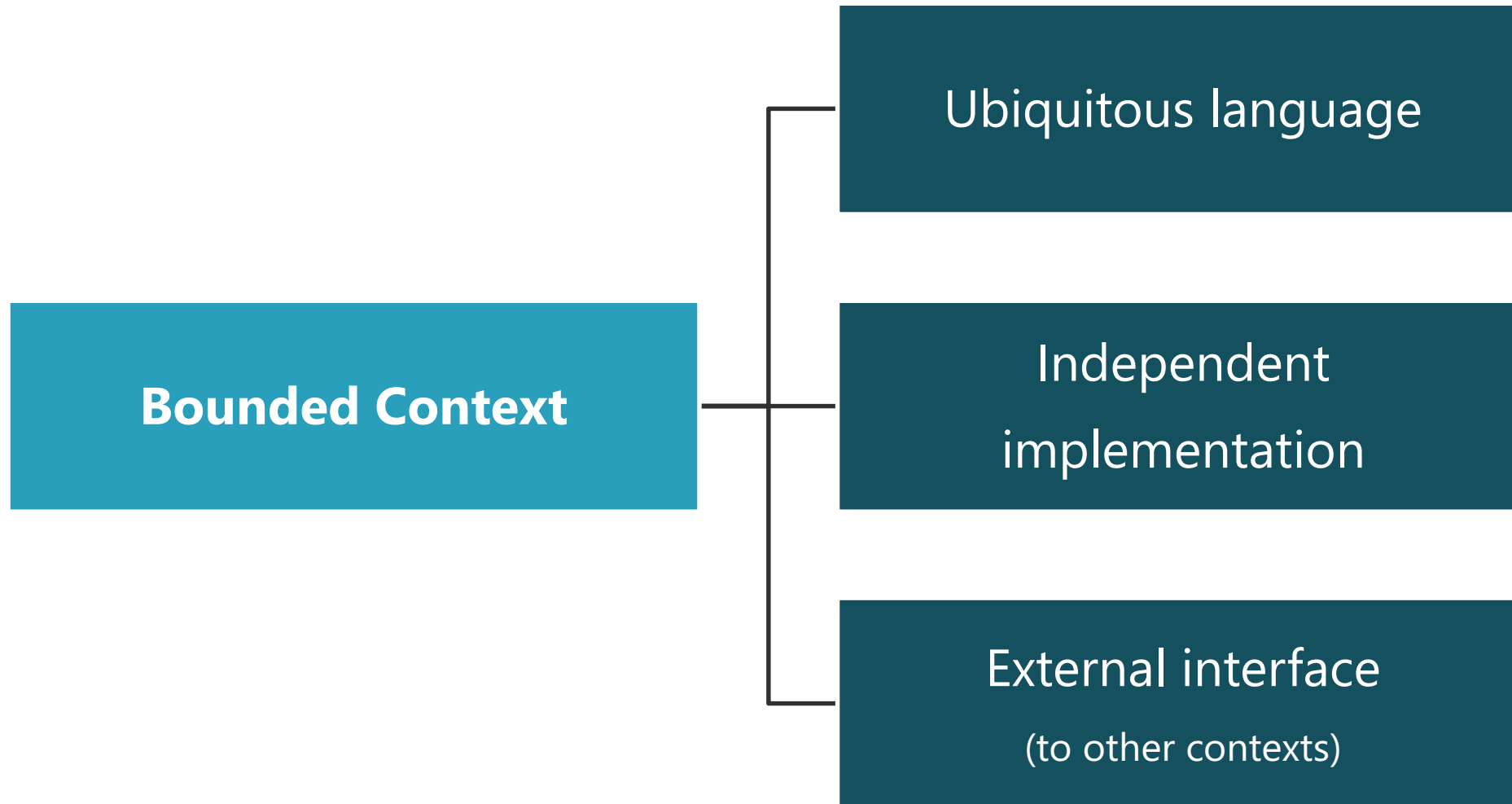
Bounded  
contexts

## Implementation

Domain  
model

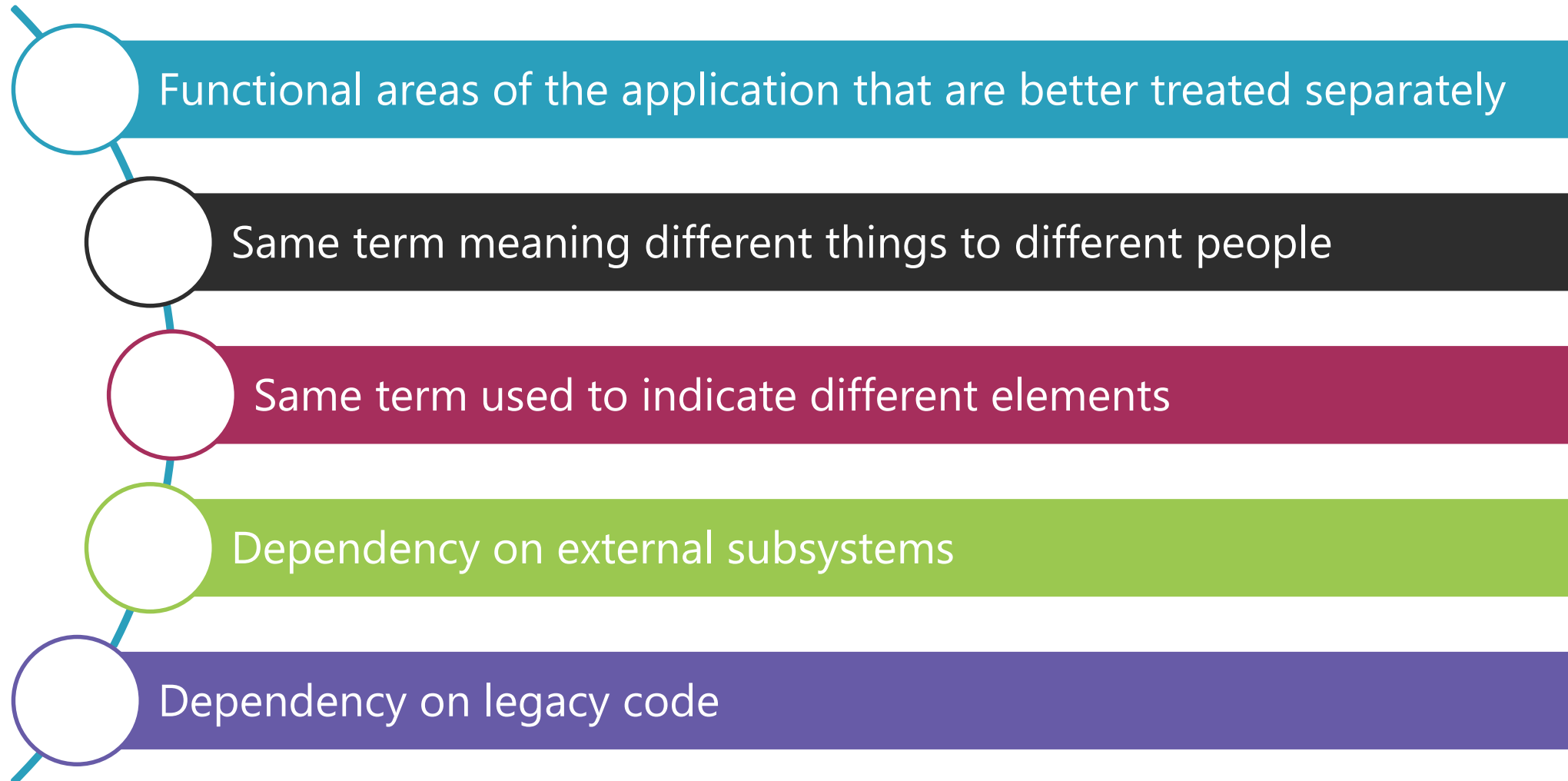
Layered  
architecture



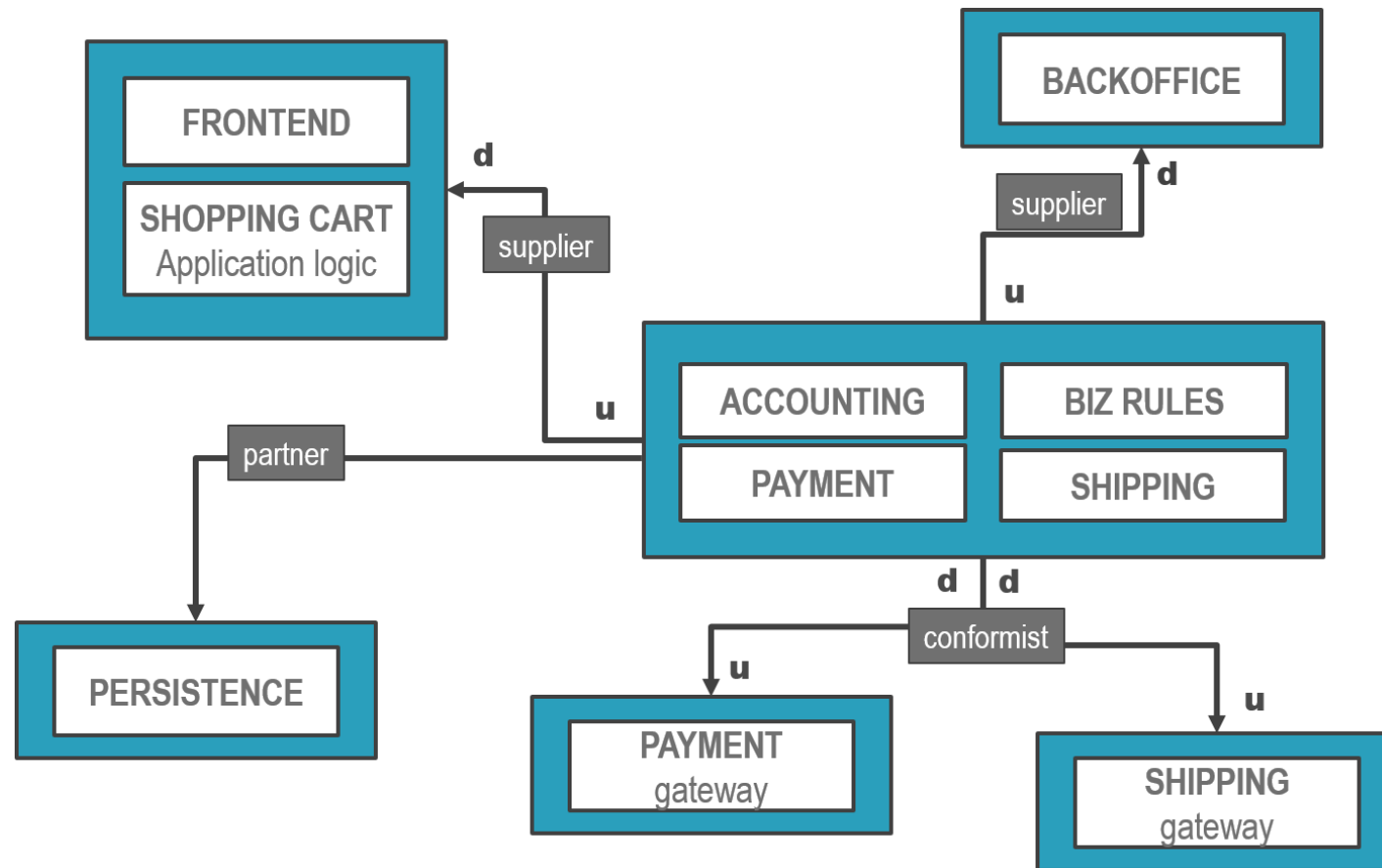


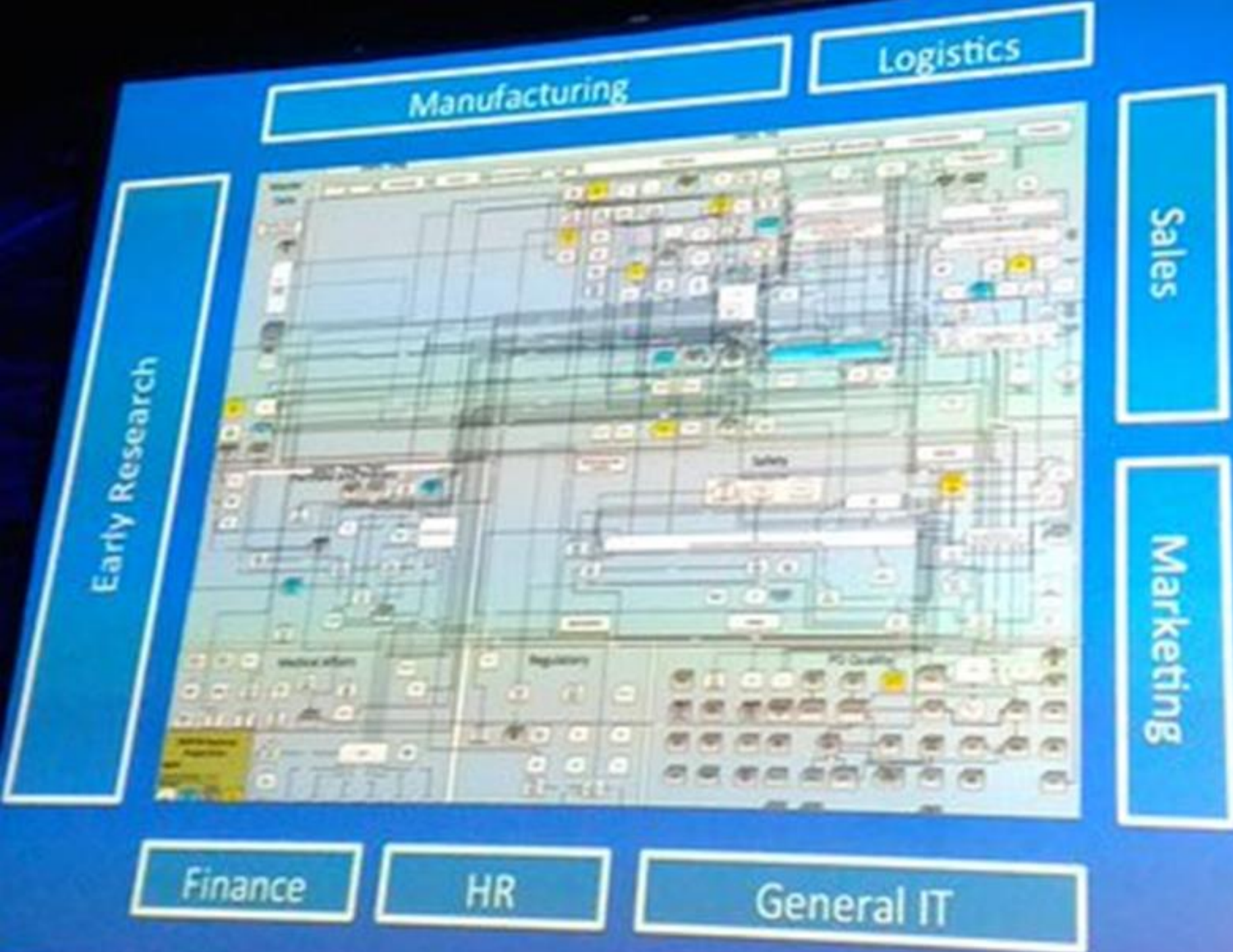


# Why Having Bounded Contexts



# CONTEXT MAP

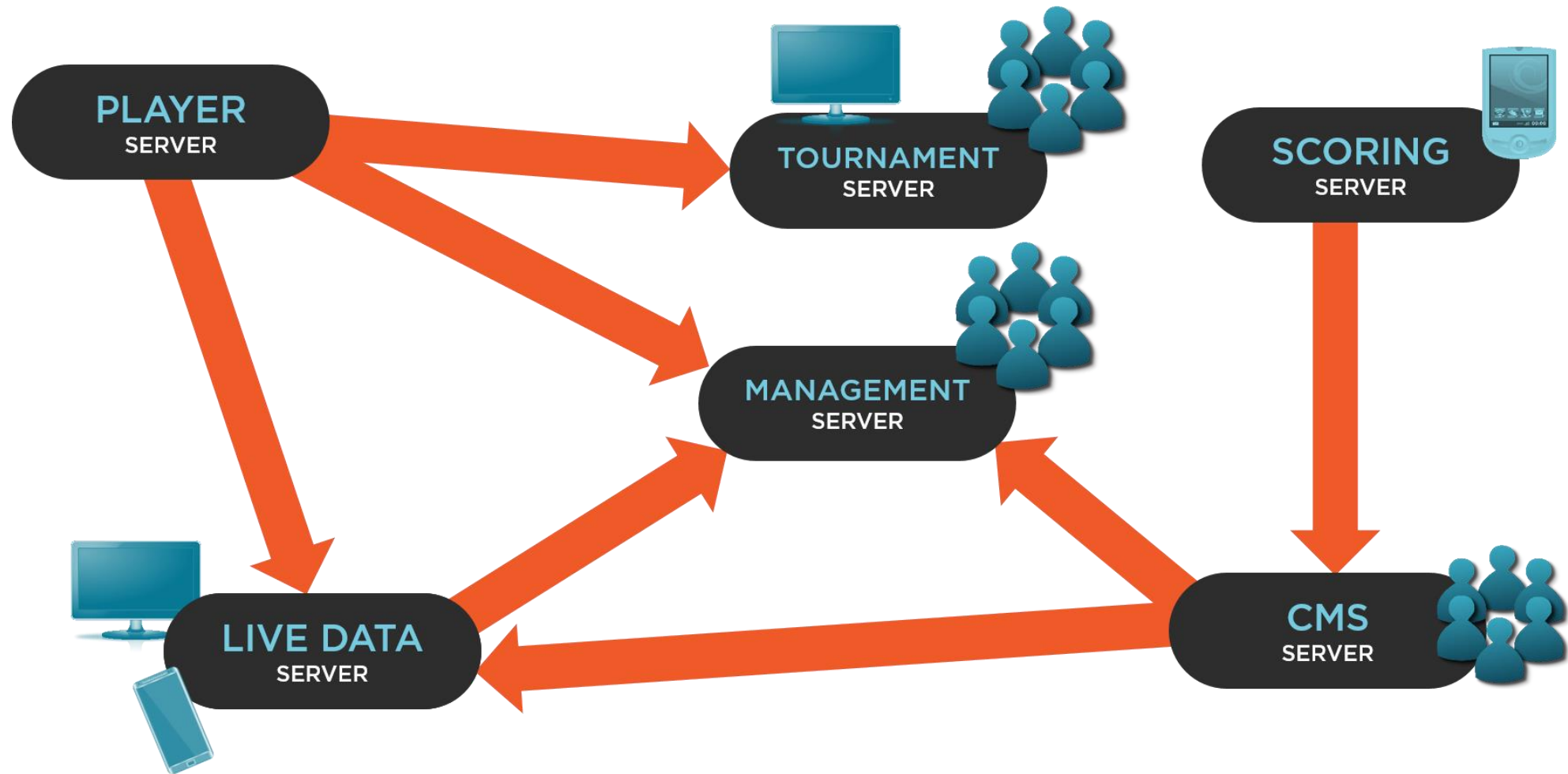




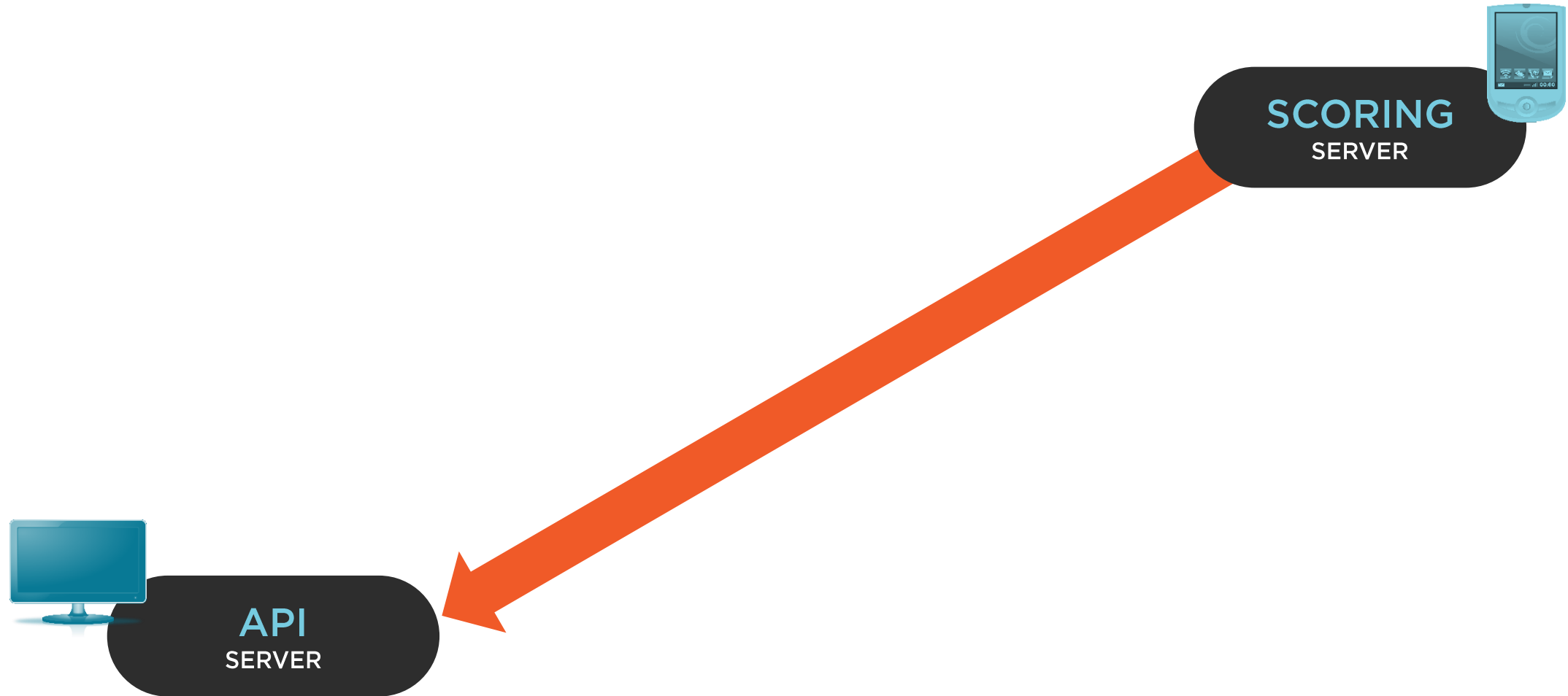
## REALISTIC CONTEXT MAP

**1 bounded context === 1 microservice**

# SAY YOU'RE A STARTUP

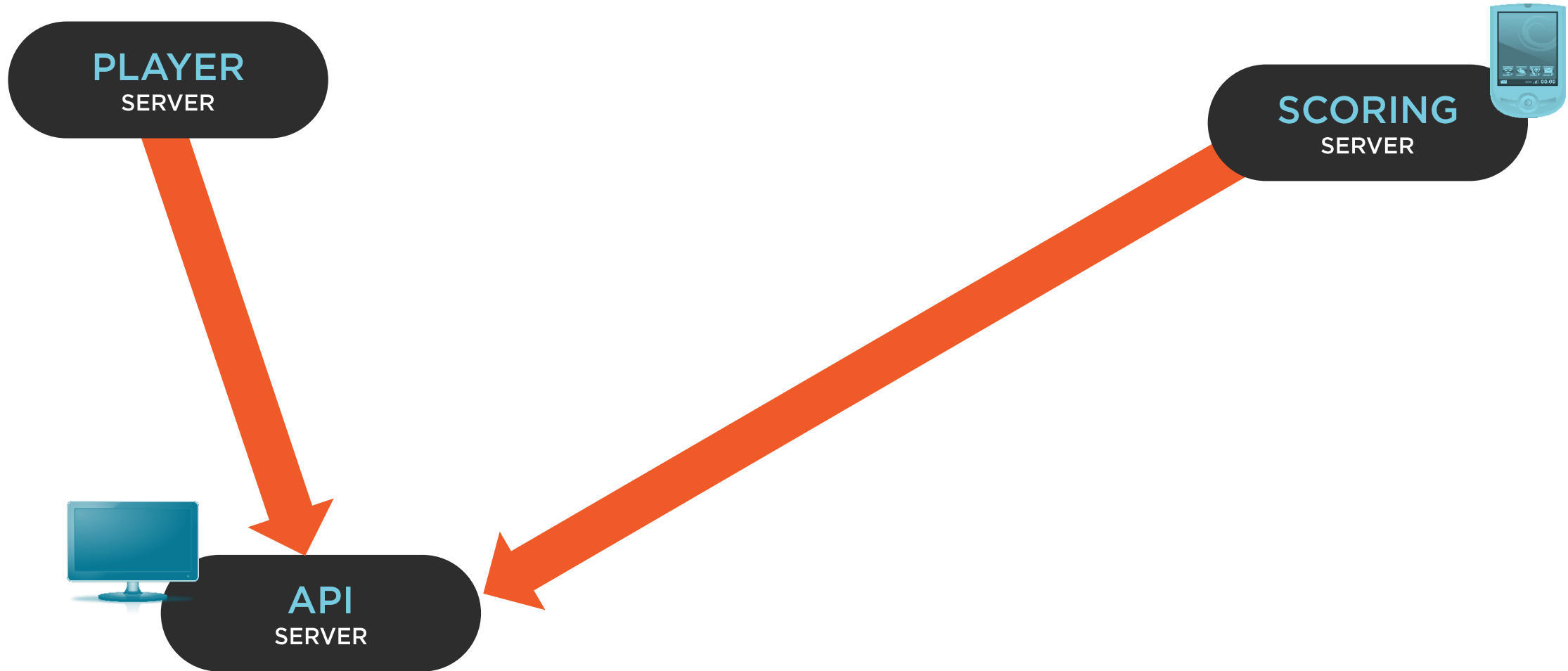


# SAY YOU'RE A STARTUP

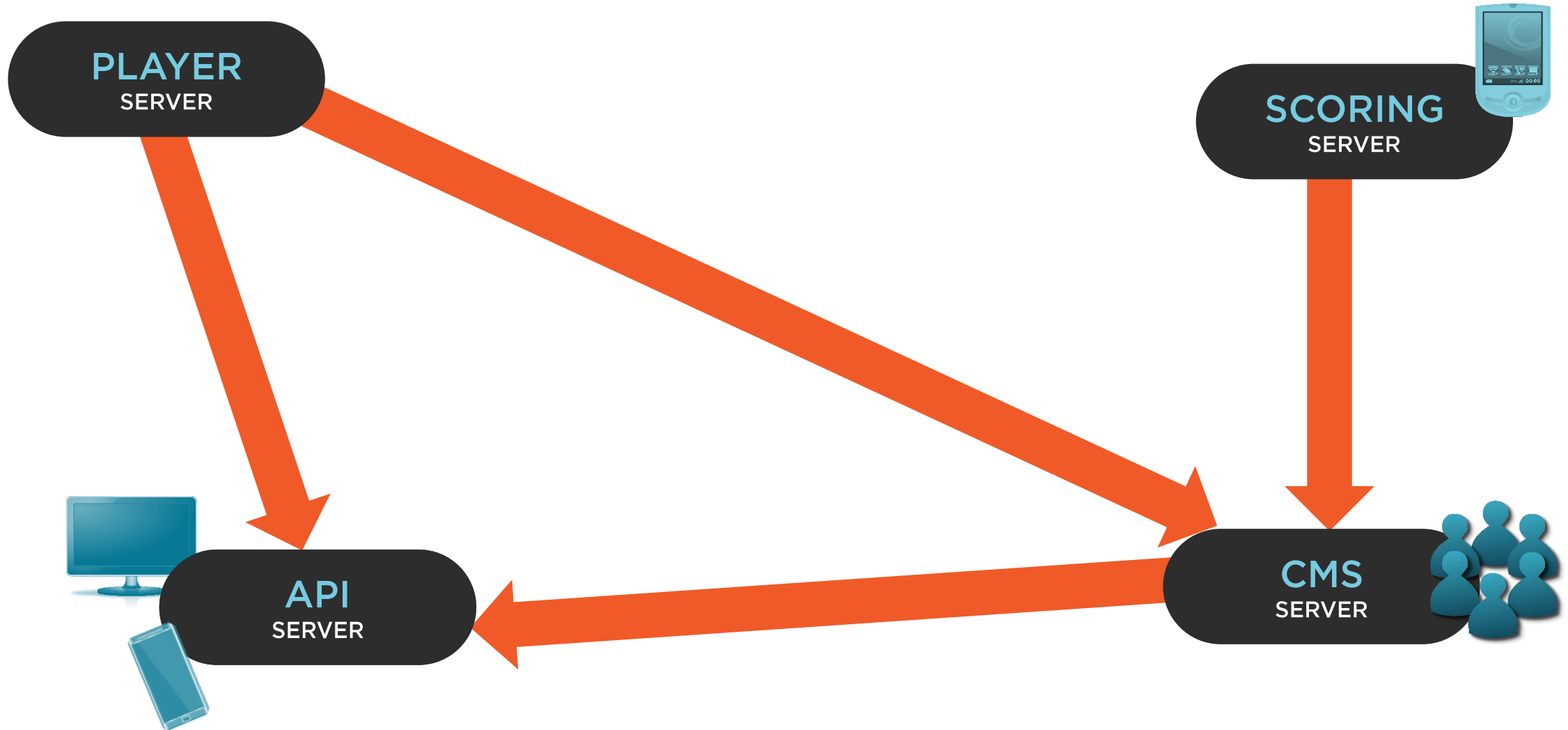




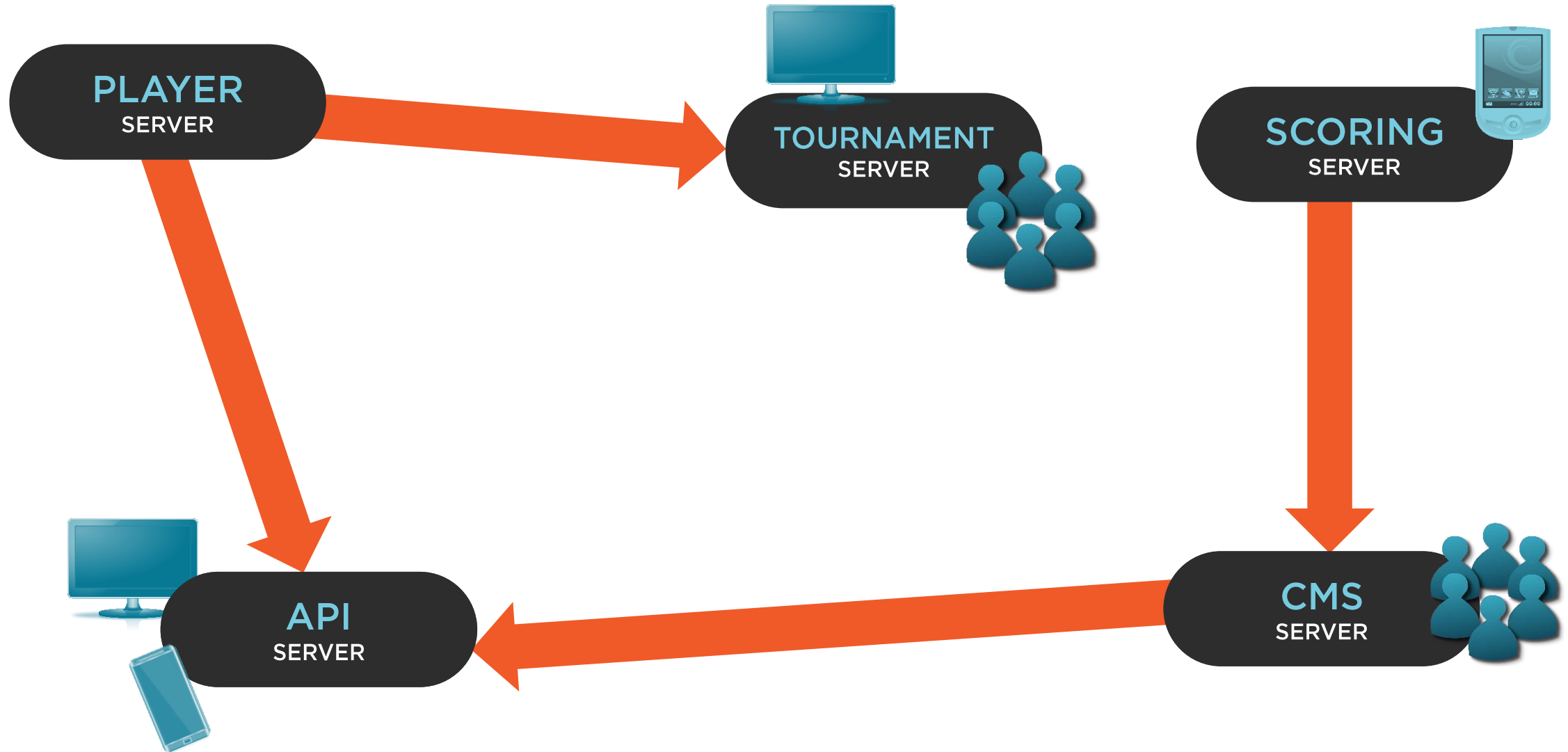
# SAY YOU'RE A STARTUP



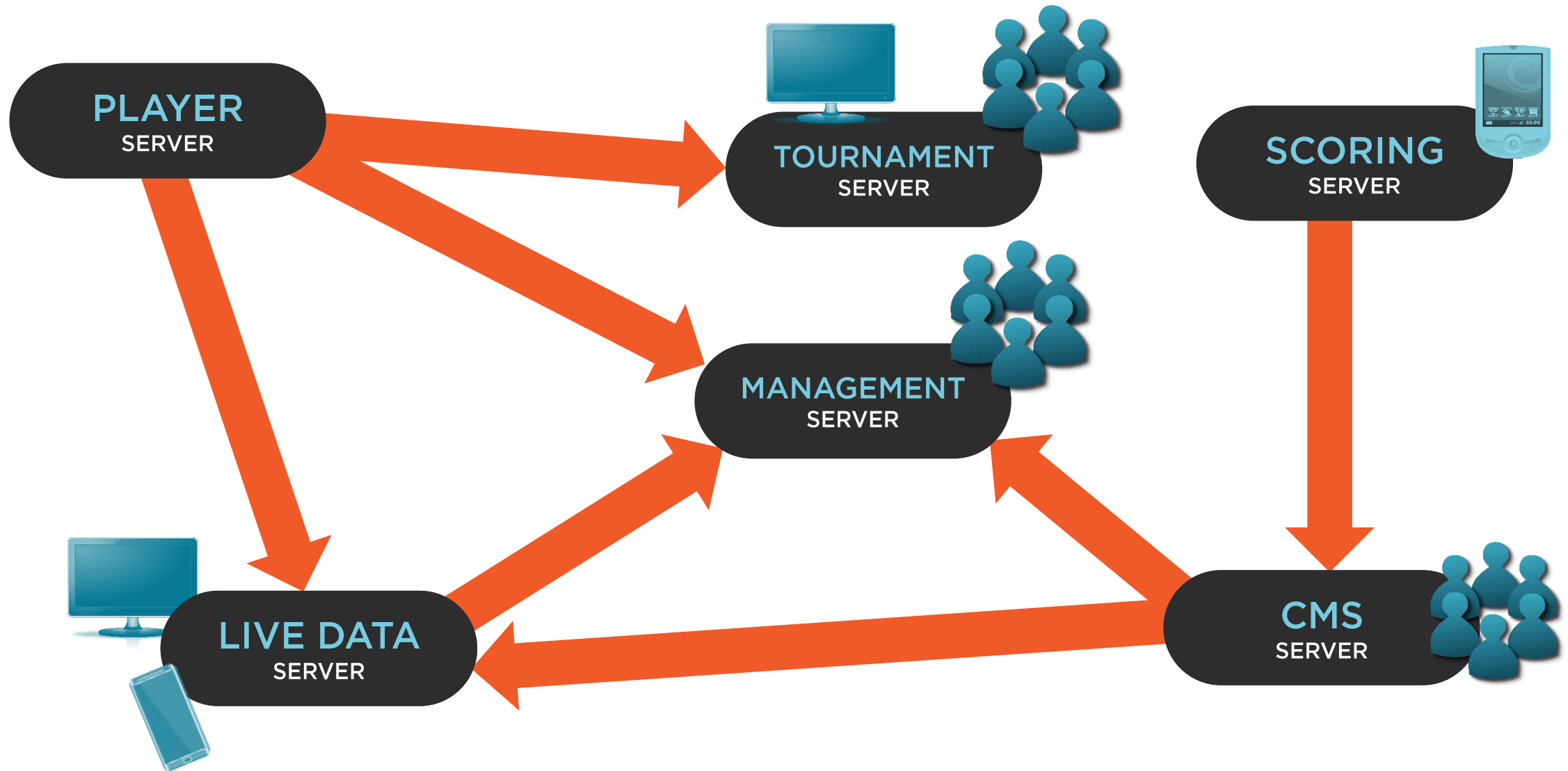
# SAY YOU'RE A STARTUP



# SAY YOU'RE A STARTUP



# SAY YOU'RE A STARTUP



**I Built a (Perfect)  
Microservice Architecture  
and I Didn't Know**

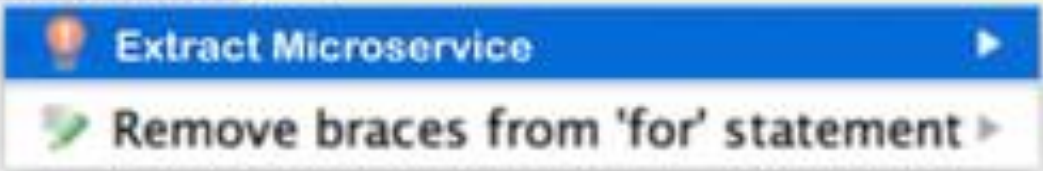
The reason we **ended up** to microservices has to do much more with **productivity** than pure technical matters or **technologies**.

It had to do much more with **common sense** and attitude to solve **concrete** (and small) business problems than religion or **design** for big-scale.



# Every method is a Microservice

```
for (Double amount : amounts) {  
    result.add(amount dest));  
}  
return result;
```

A screenshot of the IntelliJ IDEA code completion menu. The menu is open over the code snippet, showing two options: "Extract Microservice" with a lightbulb icon and "Remove braces from 'for' statement" with a green checkmark icon. Both options have a right-pointing arrow.

Extract Microservice

Remove braces from 'for' statement

## **Humphrey's Law**

**The user of the software won't know what she wants until she sees the software.**

## **Wegner's Lemma**

**An interactive system can never be fully specified nor can it ever be fully tested.**



Pluralsight courses  
UXDD/DDD



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