

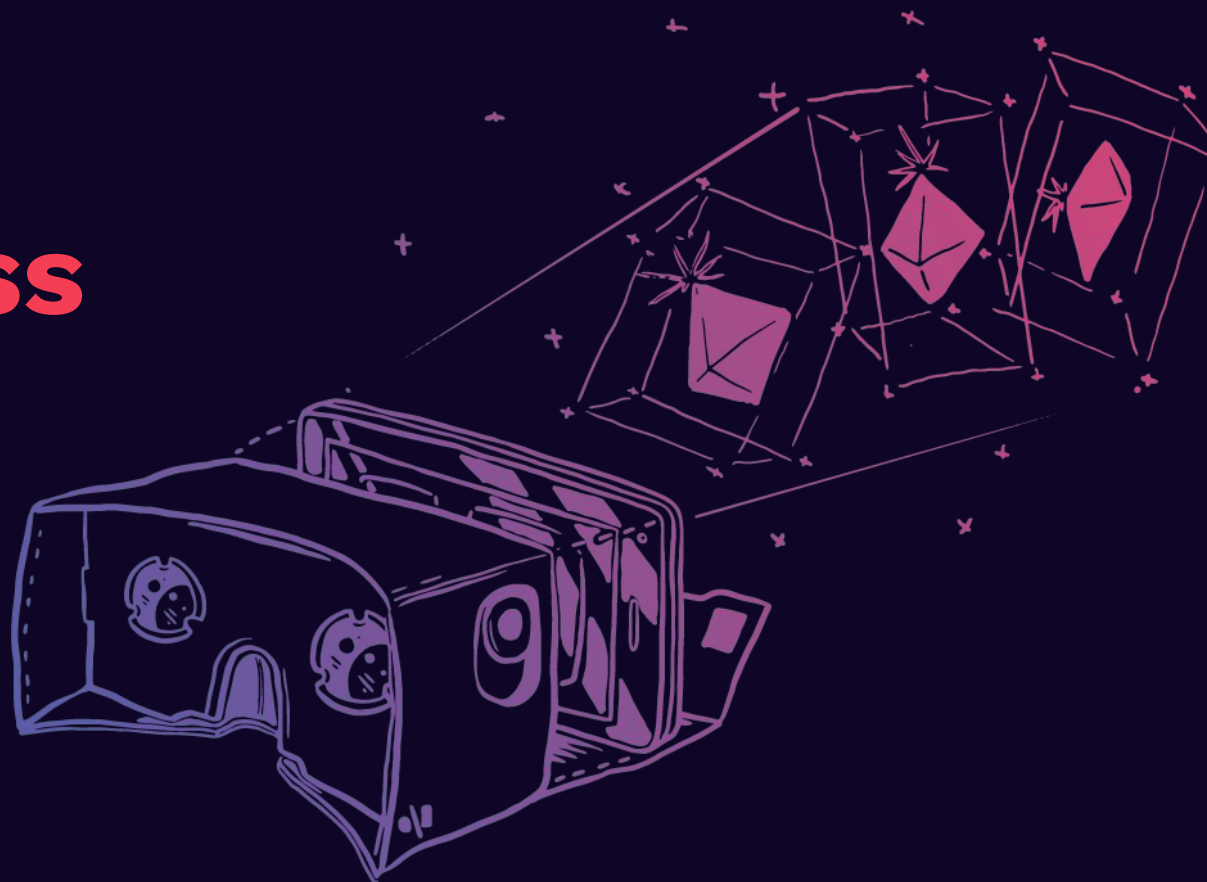
We are

QEST

Designing serverless applications on AWS Cloud

Vít Habada

06/03/2019

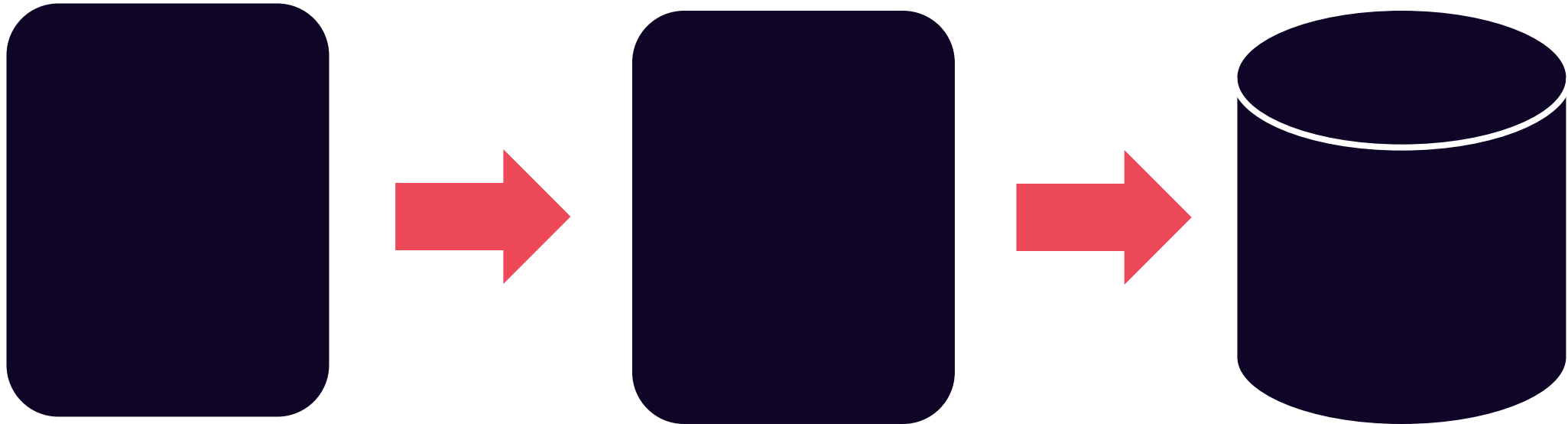


This guy

- self-taught freelancer
 - first taste of sweet programmer money in 9th grade
 - paying taxes since 2012
- previously at **COEX**, **ClaimAir**, **Socifi** and now **Qest**
- talk to me about
 - the usual geeky stuff
 - tv shows and movies
 - world domination



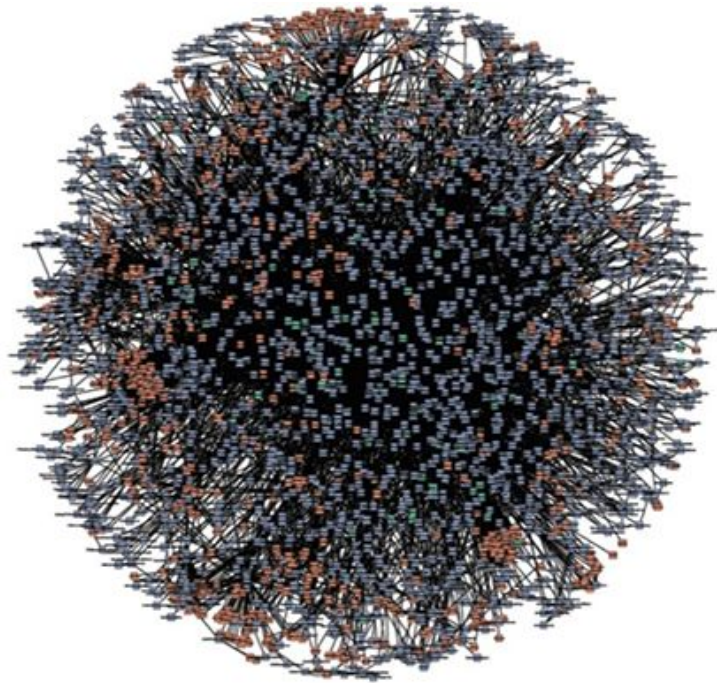
Software Architecture..



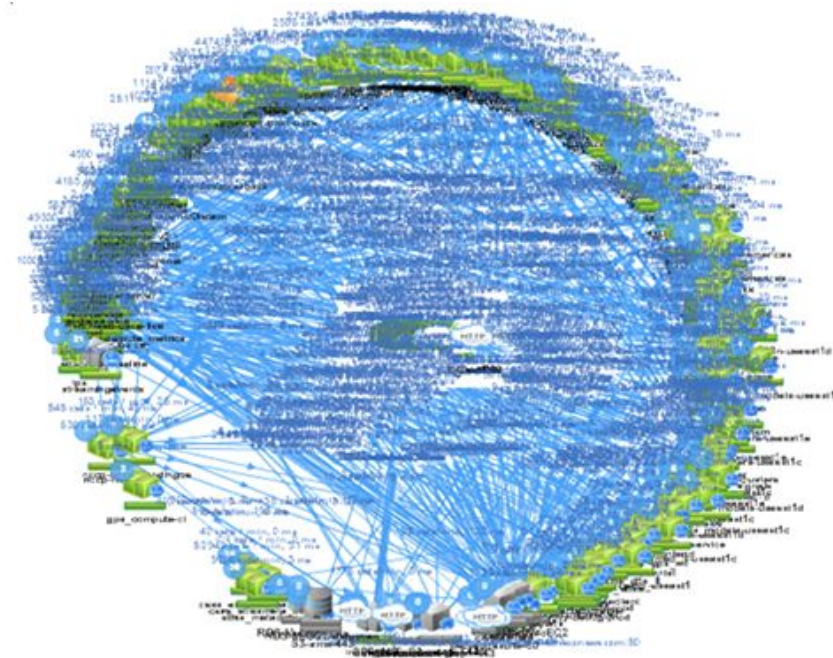
Application = Orchestration of capabilities

```
function submitOrder(customer: Customer, order: Order) {  
  if (accounts.balance(customer) < order.total()) {  
    throw new Error('Not enough credits.')  
  }  
  
  if (inventory.satisfies(order)) {  
    orders.submit(order)  
  
    notifications.confirmOrder(customer, order)  
  } else {  
    notifications.delayedOrderPrompt(customer, order)  
  }  
}
```

Application = Orchestration of capabilities



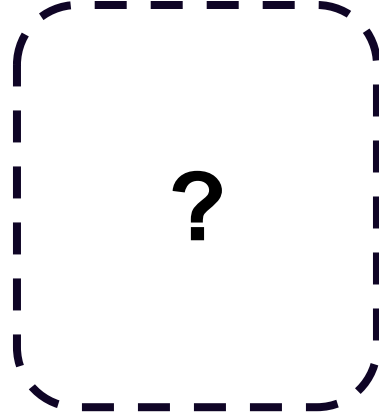
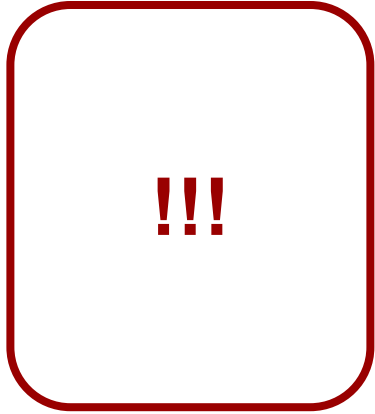
amazon.com®



NETFLIX

Famous microservice "Death Star" diagrams

Distributed systems are hard



Anticipate failures!

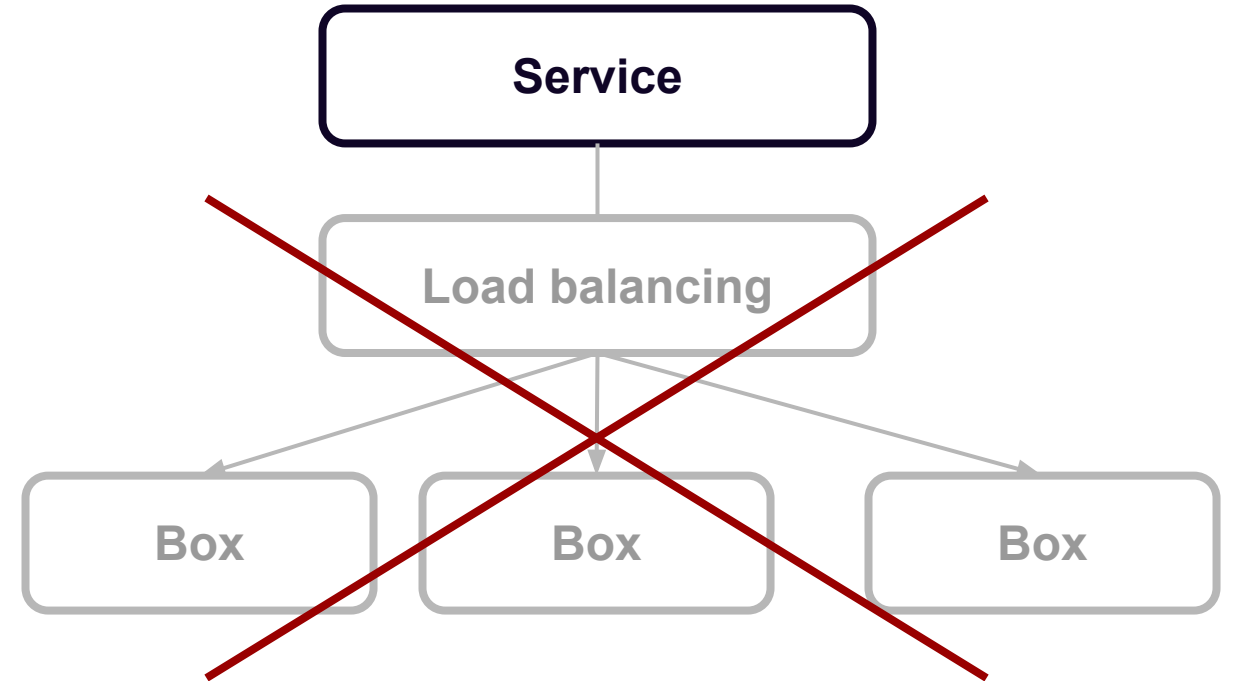
- retries with backoff strategy - linear, exponential
- service health evaluation - circuit breaking
- fallbacks

Serverless microservice

Benefits without the operational burden

AWS Lambda:

- implicitly highly available
- seamless scaling
- **pay-per-use pricing model**
- easier monitoring
- versioning & aliasing
- instant zero-downtime deployments

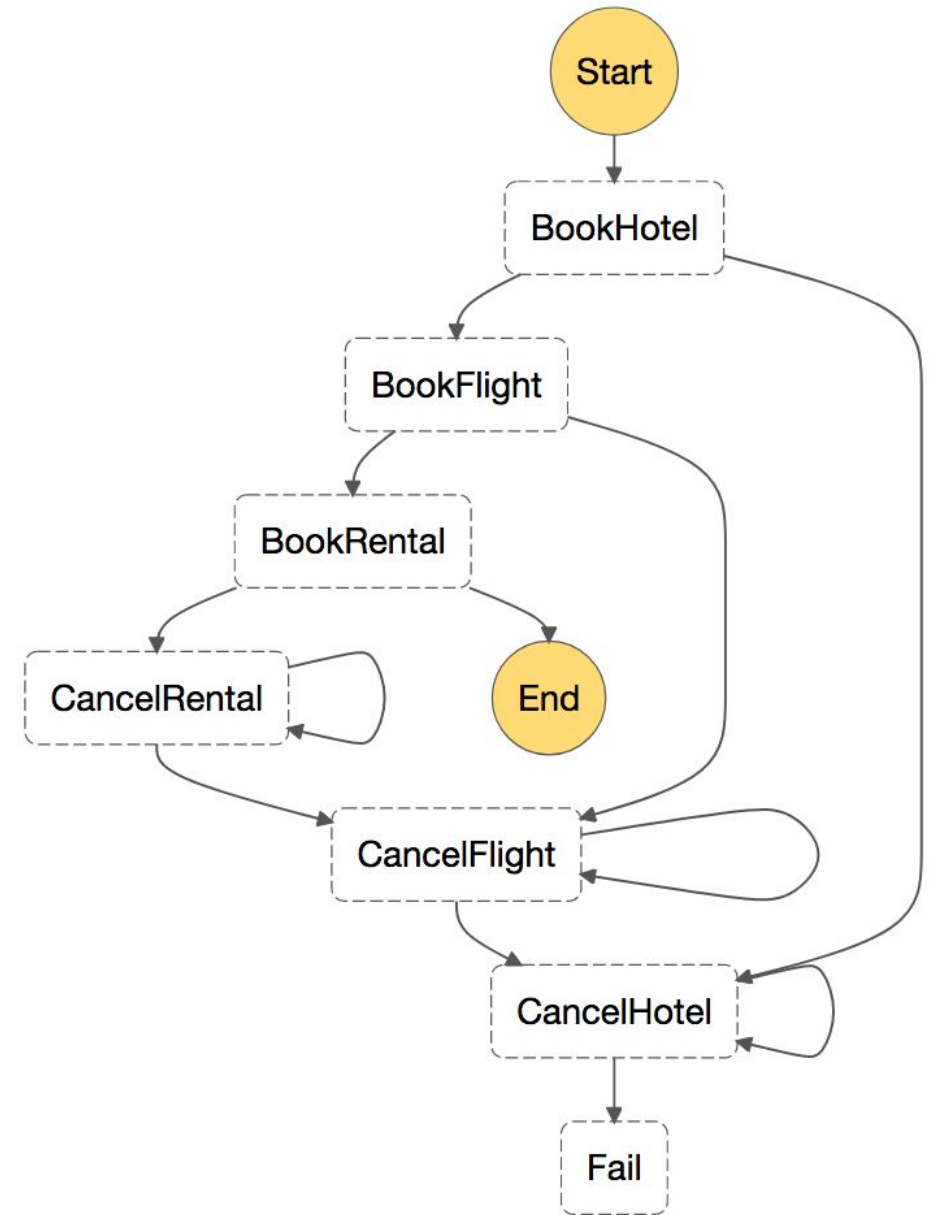


**But what about the
'orchestration' part?**



AWS Step Functions

- describe workflows as a **state machine**
- Amazon State Language
 - open standard for describing state machines
 - emergence of generator libraries:
 - `coinbase/step`
 - [aws-cdk](#)

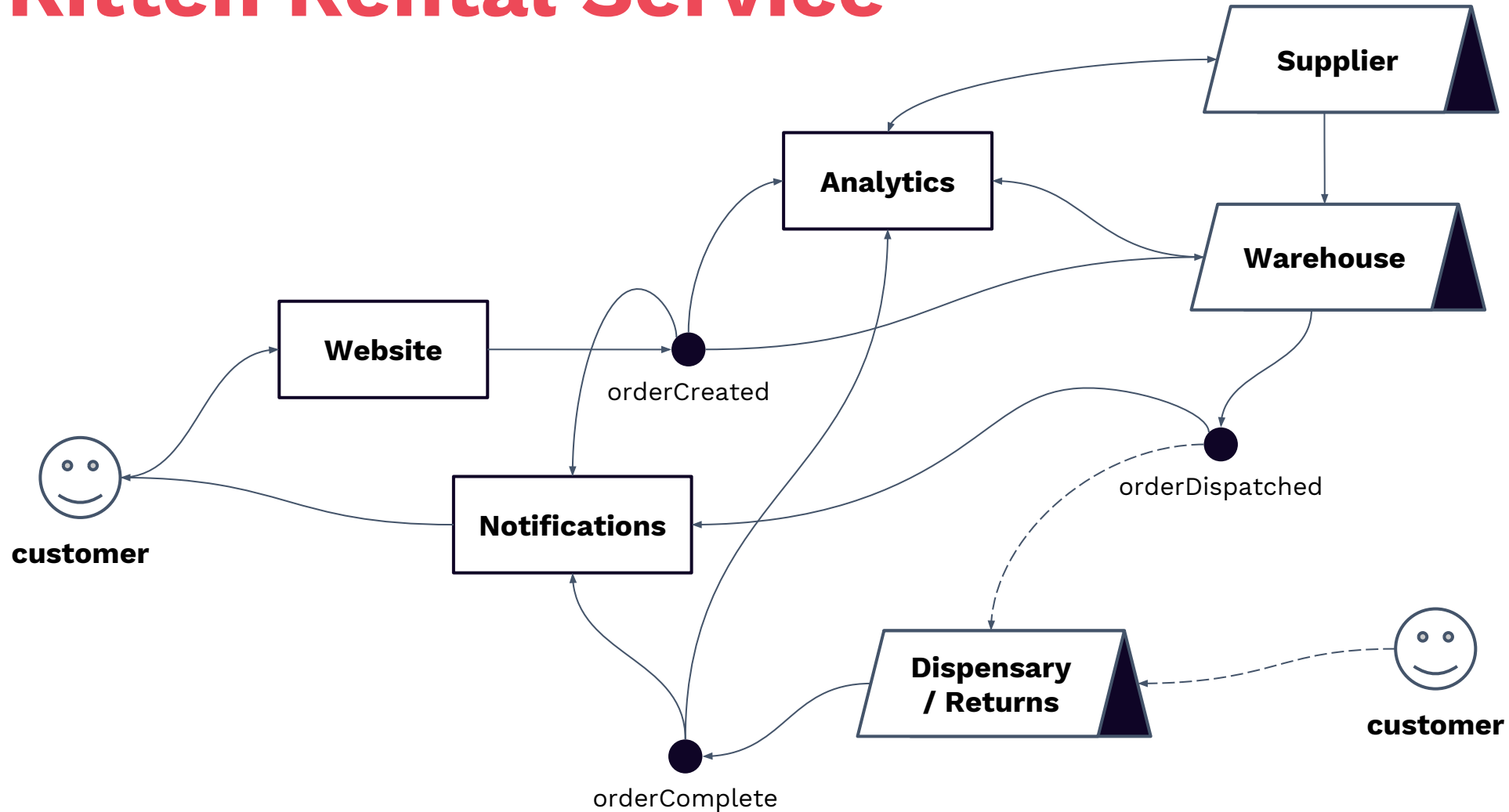


Example

/□.□\



Kitten Rental Service



Demo



FinDev (not FinTech! (despicable BC people))

- Cloud is moving IT away from being a fixed expenditure
- Value-based development
 - feature **X** provides value **Y** at cost **Z**
 - enables prioritization based on numbers, not hopes and dreams
- operating open services at scale above Amazon's markup

Thank you!

