There And Back Again: A Microservices Tale

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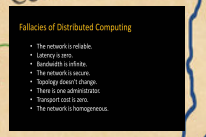
KEEP
CALM
AND
WELCOME TO MY WORLD

There and Back Again:

A map of Bilbo's journey through Eriador and Rhovanion

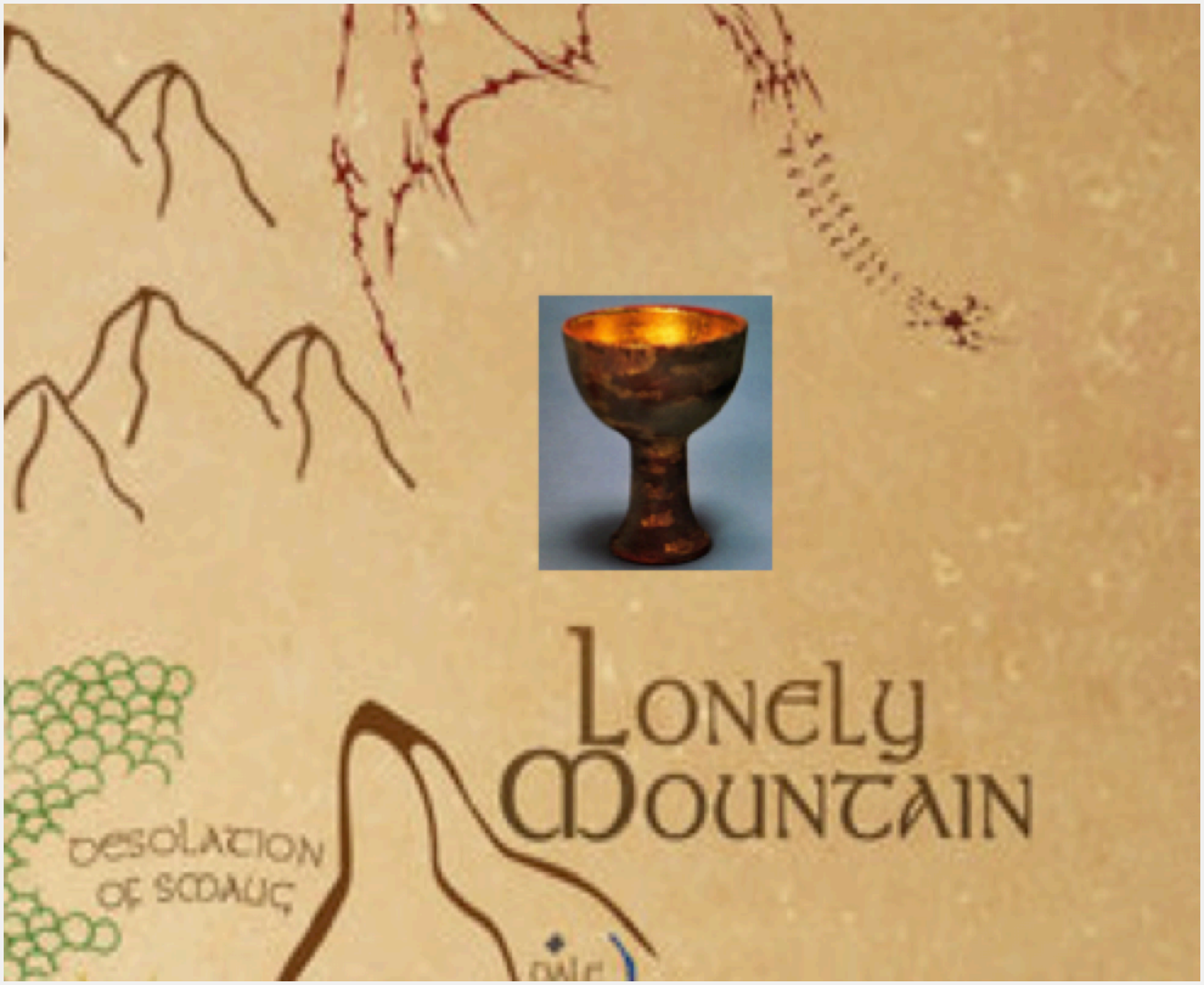


THE HOBBIT

AN UNEXPECTED JOURNEY

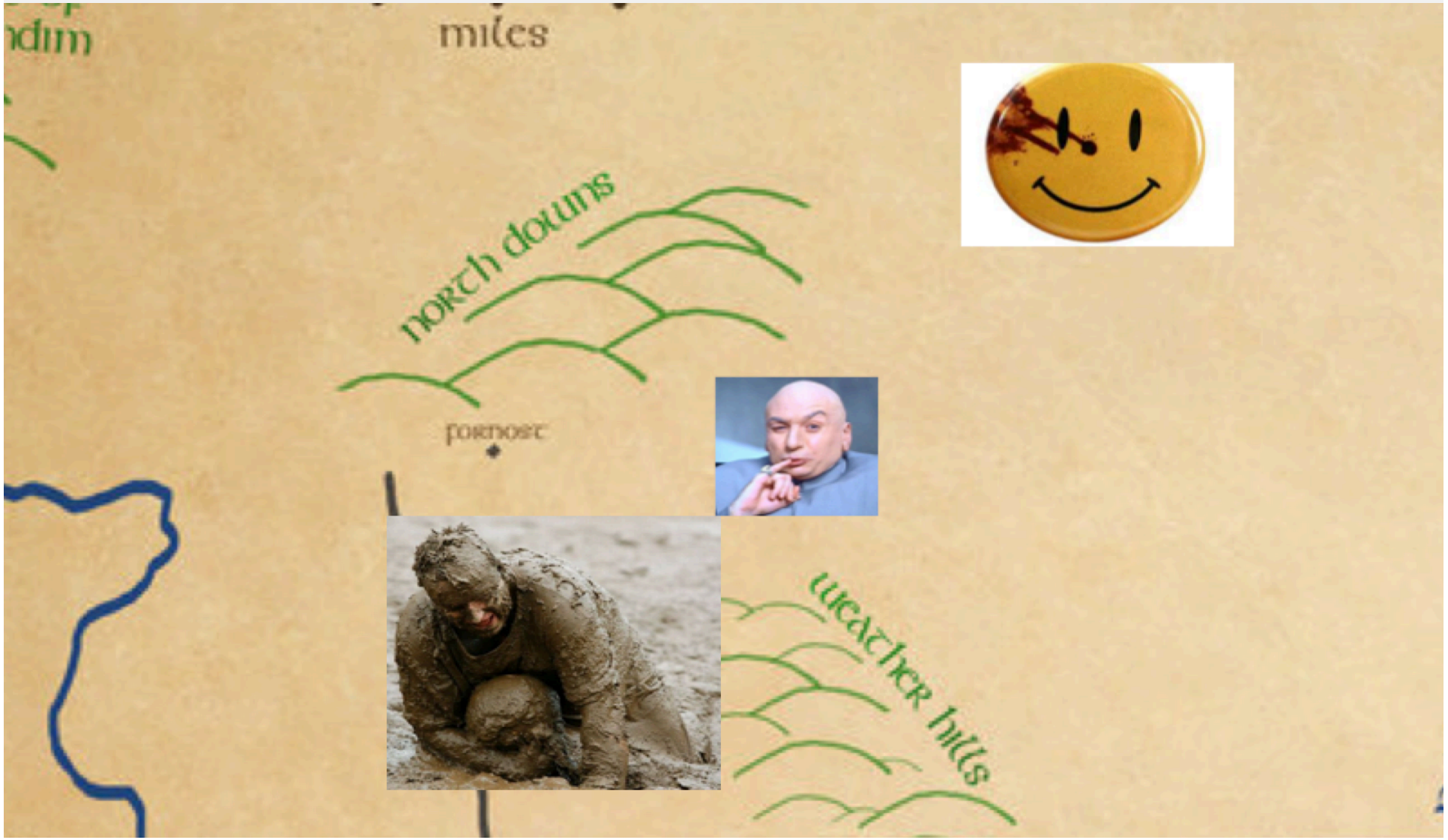
Xiphos71


forest gate
elf path
carrock
eyrie
Beorn's house
old ford
great river
old forest
CORBA
VISIBILITY
Peak of Inflated Expectations
Plateau of Productivity
Slope of Enlightenment
Swamp of Continued Use
Roundabout of Repackaging
Trough of Disillusionment
Technology Trigger
Trash Heap of Failures
TIME


Lonely Mountain
Desolation of Smaug

Monoliths are bad … right?

Big Ball of Mud?



OK but why re-architect around microservices?

Because you want to be more agile ...

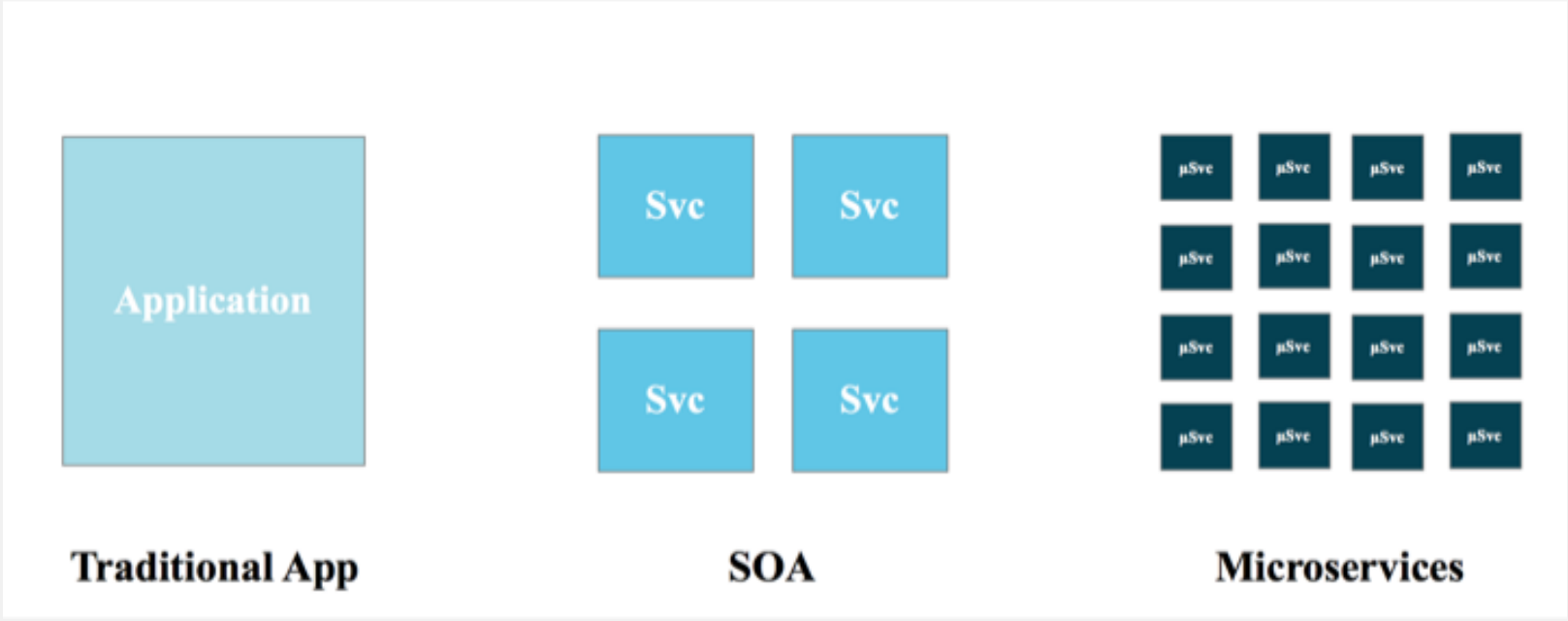
- Be able to release independent components more frequently
- Independently versioned
- Independently maintained
- Greenfield developers embracing from the start
- Brownfield developers moving towards the nirvana
  - Everyone is a brownfield developer!

Monolith by Rene Aigner

The Majestic Monolith

Microservices all the way down

What are they?



The “standard” definition?

“The term "Microservice Architecture" has sprung up over the last few years to describe a particular way of **designing software applications as suites of independently deployable services.** While there is **no precise definition of this architectural style,** there are certain common characteristics around organization around business capability, **automated deployment, intelligence in the endpoints,** and decentralized control of languages and data.” **Fowler et al, March 2014.**


great east road
south downs
Fallacies of Distributed Computing
• The network is reliable.
• Latency is zero.
• Bandwidth is infinite.
• The network is secure.
• Topology doesn't change.
• There is one administrator.
• Transport cost is zero.
• The network is homogeneous.
HAPPENS

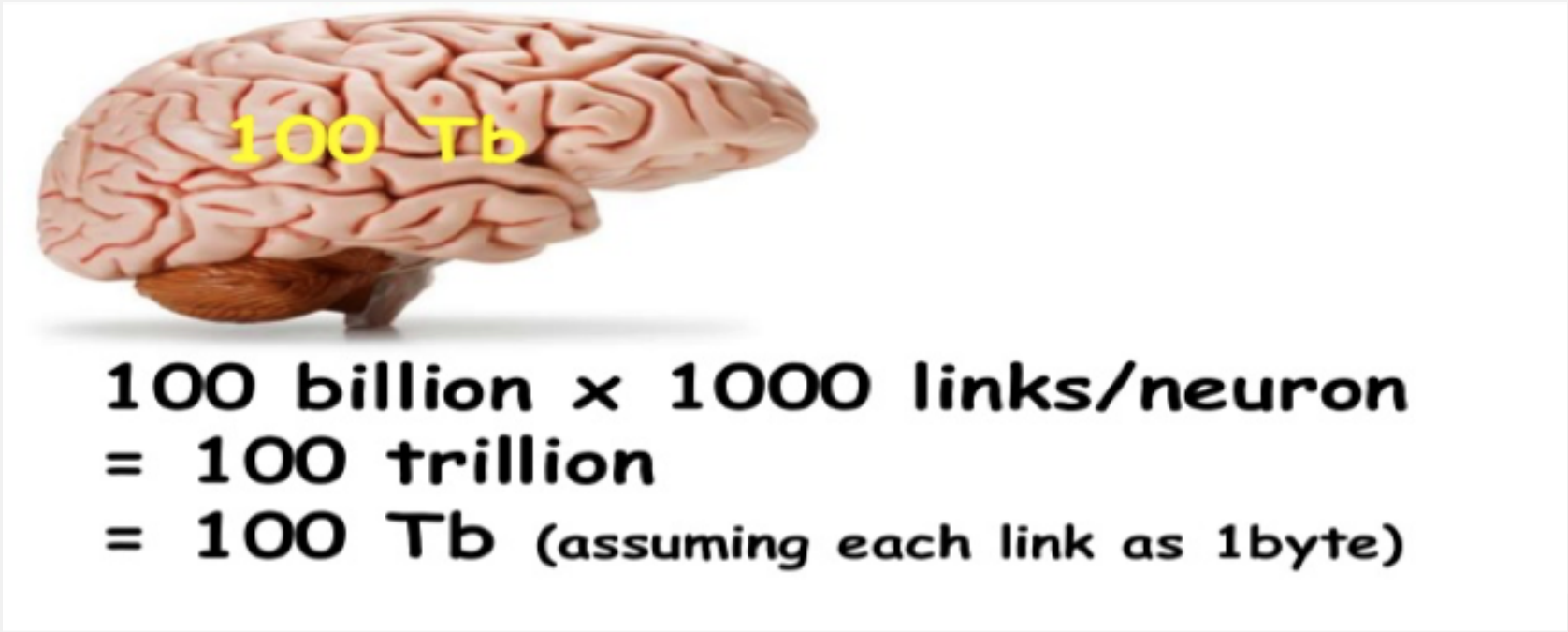
OK but what are they?

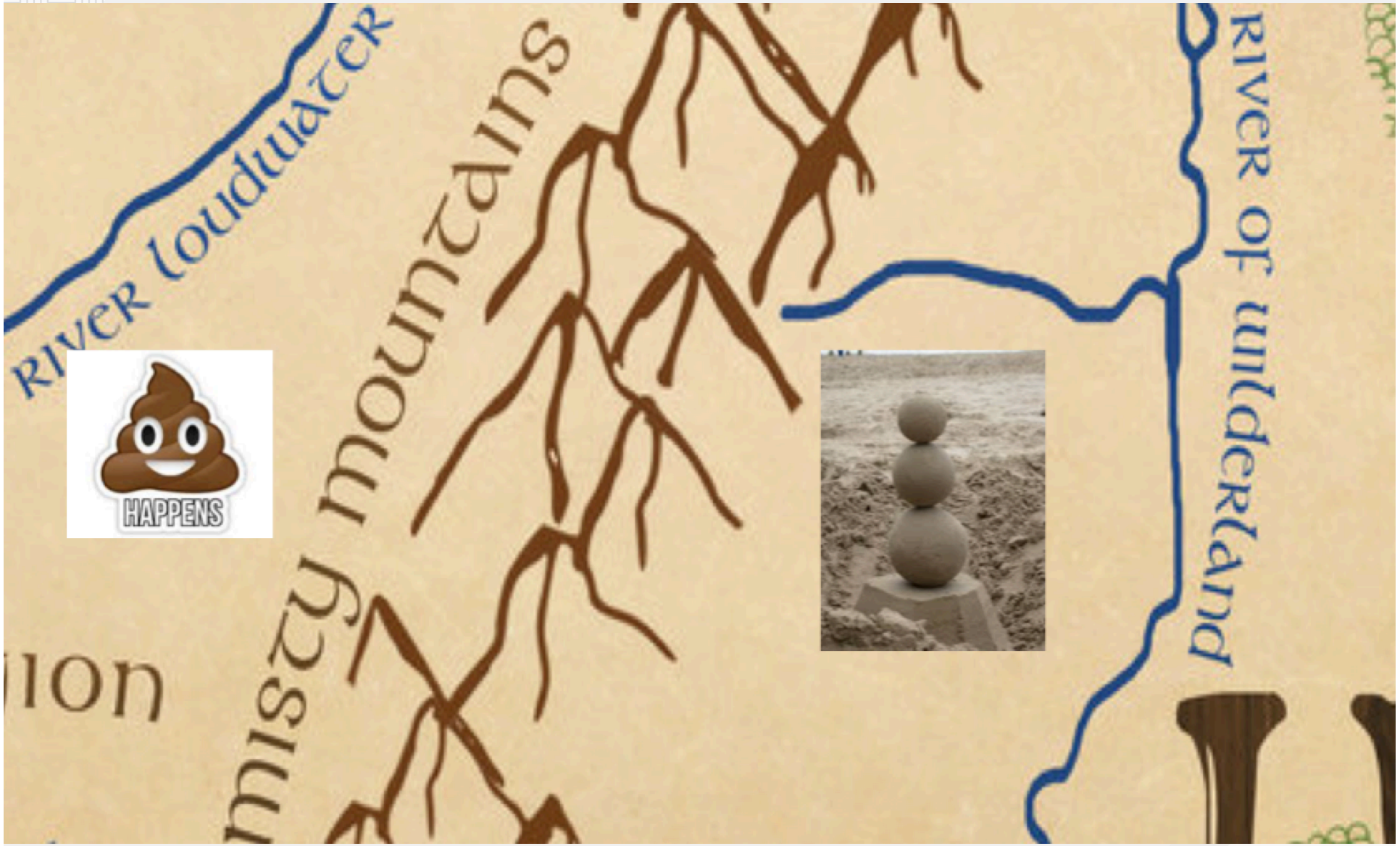
- Isn’t it Service-Oriented Architecture?
- Pizza teams?
- Big enough to fit in your head?
- Only for Unicorns?
  - What’s a Unicorn?


adrian cockcroft
@adrianco
Following
Replying to @kellabyte
@kellabyte @mamund I used to call what we did "fine grain SOA". So microservices is SOA with emphasis on small ephemeral components
RETWEETS
3
LIKES
5
1:16 AM - 11 Dec 2014
7
3
5

One Pizza Teams?

Large enough to fit in your head?




River Loudwater
misty mountains
River of Wilderland
HAPPENS

Microservices don’t exist in isolation

One microservice is unlikely to be useful in the wild

- It’d be a monolith!
- What about communication between them?
- Fail-over
- Orchestration
- Coordination
- State manipulation and consistency
- …
- Architecture, architecture, architecture!

Caveat emptor!

“If you're building a monolithic system and it's turning into a big ball of mud, perhaps you should consider whether you're taking enough care of your software architecture. Do you really understand what the core structural abstractions are in your software? Are their interfaces and responsibilities clear too? **If not, why do you think moving to a microservices architecture will help?** Sure, the physical separation of services will force you to not take some shortcuts, but you can achieve the same separation between components in a monolith.” **https://www.infoq.com/news/2014/08/microservices_ballmud**


River hoarwell
Trollshaus
CORBA
TM


SOA
Microservices
DISTRIBUTED SYSTEMS
HOW HARD CAN IT BE?
grey mountains

●○○○○ 3 4G 14:04 67%

Tweet

stacks machine @cemerick · 05/01/2015

Uh, microservices. So, people are hooking minute bits of computation together via unmanaged pipes carrying opaque chunks of encoded data?

9 36 44

Christian Posta Retweeted

stacks machine
@cemerick

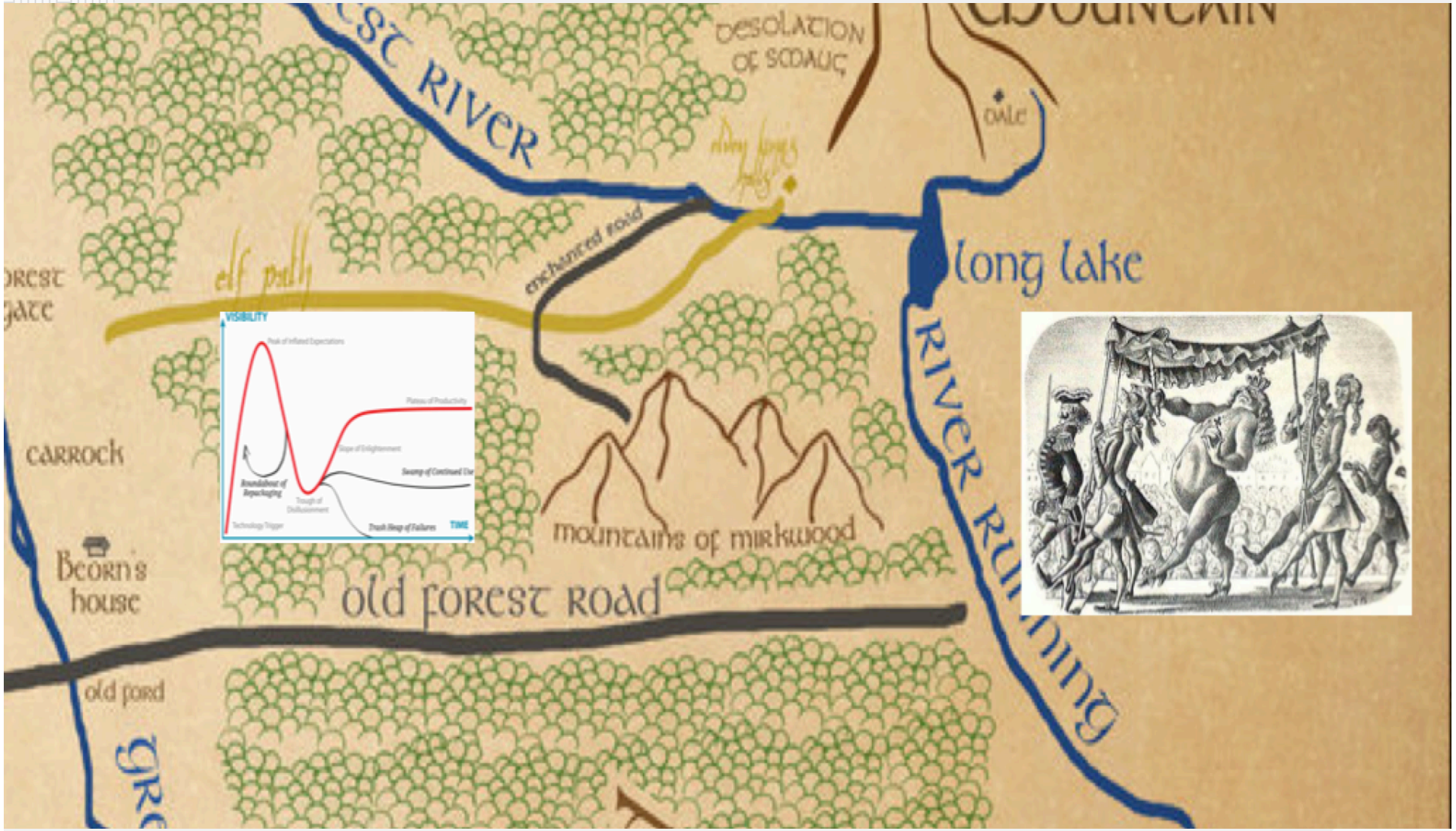
Replying to @cemerick

Microservices, because designing, implementing, deploying, monitoring, managing, and supporting network APIs is so fucking easy.

05/01/2015, 20:40

112 RETWEETS **109** LIKES

Tweet your reply


RIVER
DESOLATION
OF SMAUG
DALE
long lake
elf path
enchanted road
forest
gate
carrock
Beorn's
house
old ford
mountains of mirkwood
old forest road
RIVER RUNNING
VISIBILITY
TIME


THE LORD OF THE RINGS
THE MOTION PICTURE TRILOGY
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