京基100
(KingKey 100)
}

Decomposing Applications for Scalability
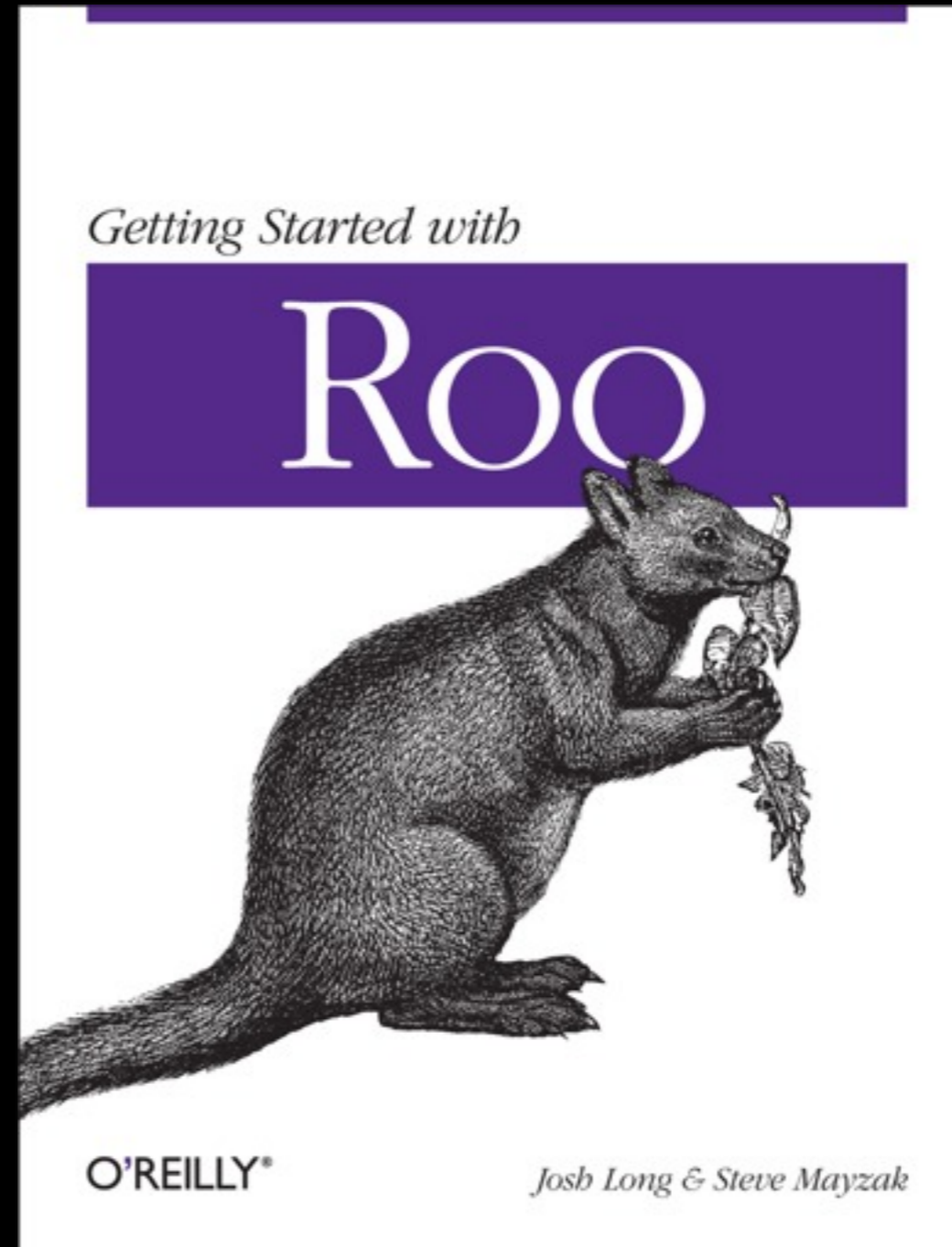
About **Josh Long**

Spring Developer Advocate
@starbuxman
josh.long@springsource.com

About **Josh Long**

Contributor To:

- Spring Integration
- Spring Batch
- Spring Hadoop
- Activiti Workflow Engine

Visit our blog

NEWS & EVENTS

THIS WEEK IN SPRING, APRIL

Submitted by Josh Long on Tue, 2012-04-10
in   News and Announcements

What a great week! The Cloud Foundry
Asian and US legs of the tour. Now, onw
secure your spot!)

Before we continue on to the bevy of the

Imagine that you are building an e-commerce application...

E-COMMERCE APPLICATION DESIGN, v1.0

1. accounting service
2. inventory service
3. shipping service

the simplest thing that could possibly work..

browsers

icons: get a chrome/ie/firefox icon
get apache httpd server icon
get a database icon (you know, the oracle stack with levels)
get a tomcat icon (for the tomcat bit)
get a bean icon (should be a Spring bean, next to each service)
get html5 icon for the UI layer piece

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Tomcat

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Store Front User Interface

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What About... Other Types of Clients?

What About... Other Types of Clients?
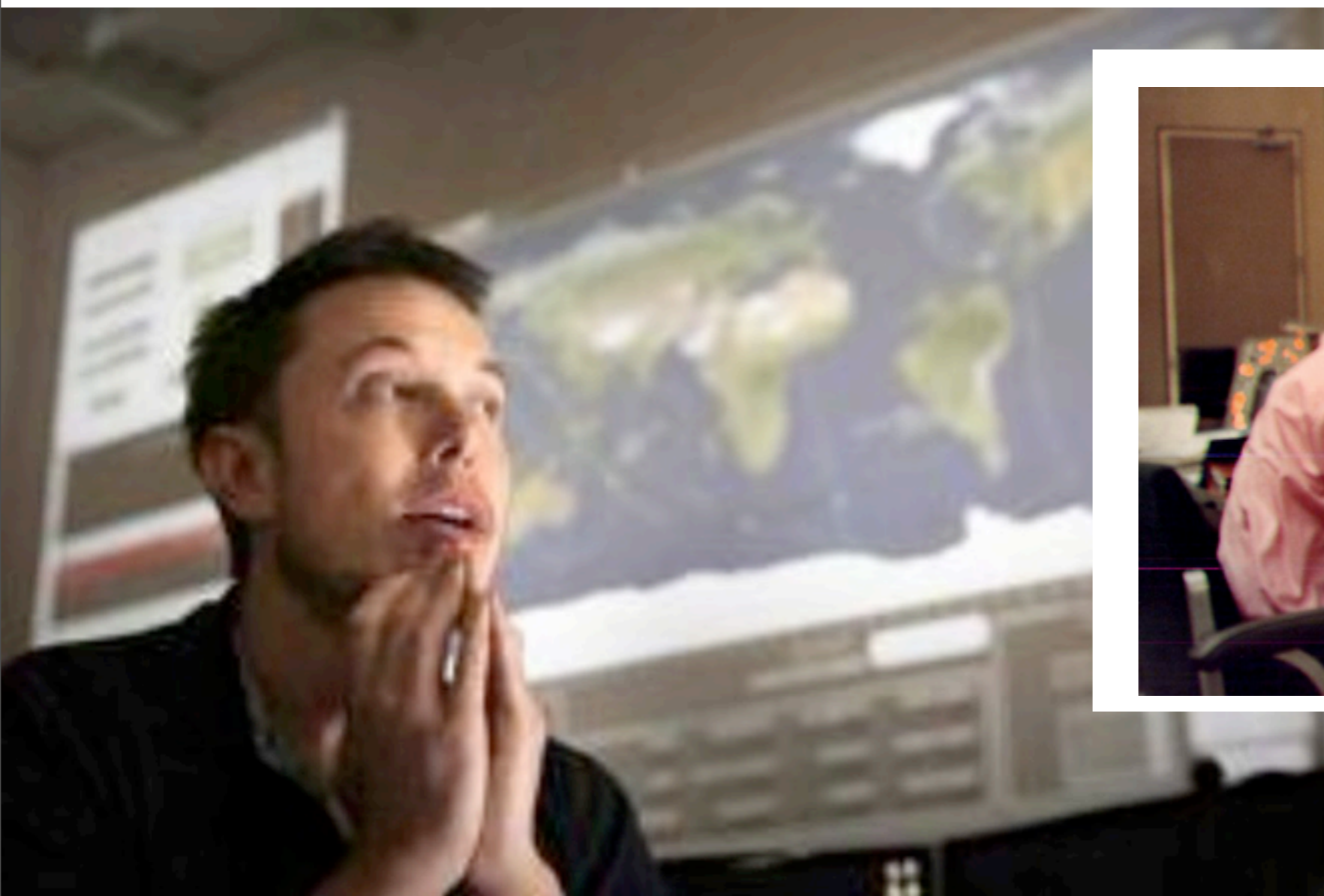
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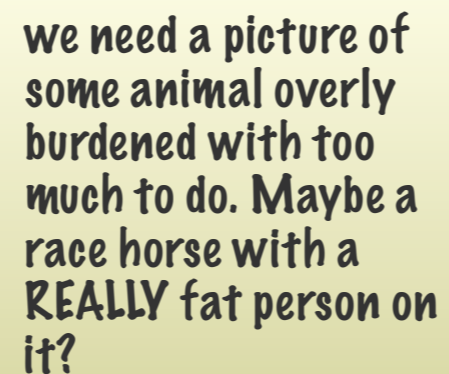# What About... Other Types of Clients?

What About... Deployments?

What About... your over-burdened web container and IDE?

What About... scaling to improve performance of individual services?

we need a picture of some animal overly burdened with too much to do. Maybe a race horse with a REALLY fat person on it?
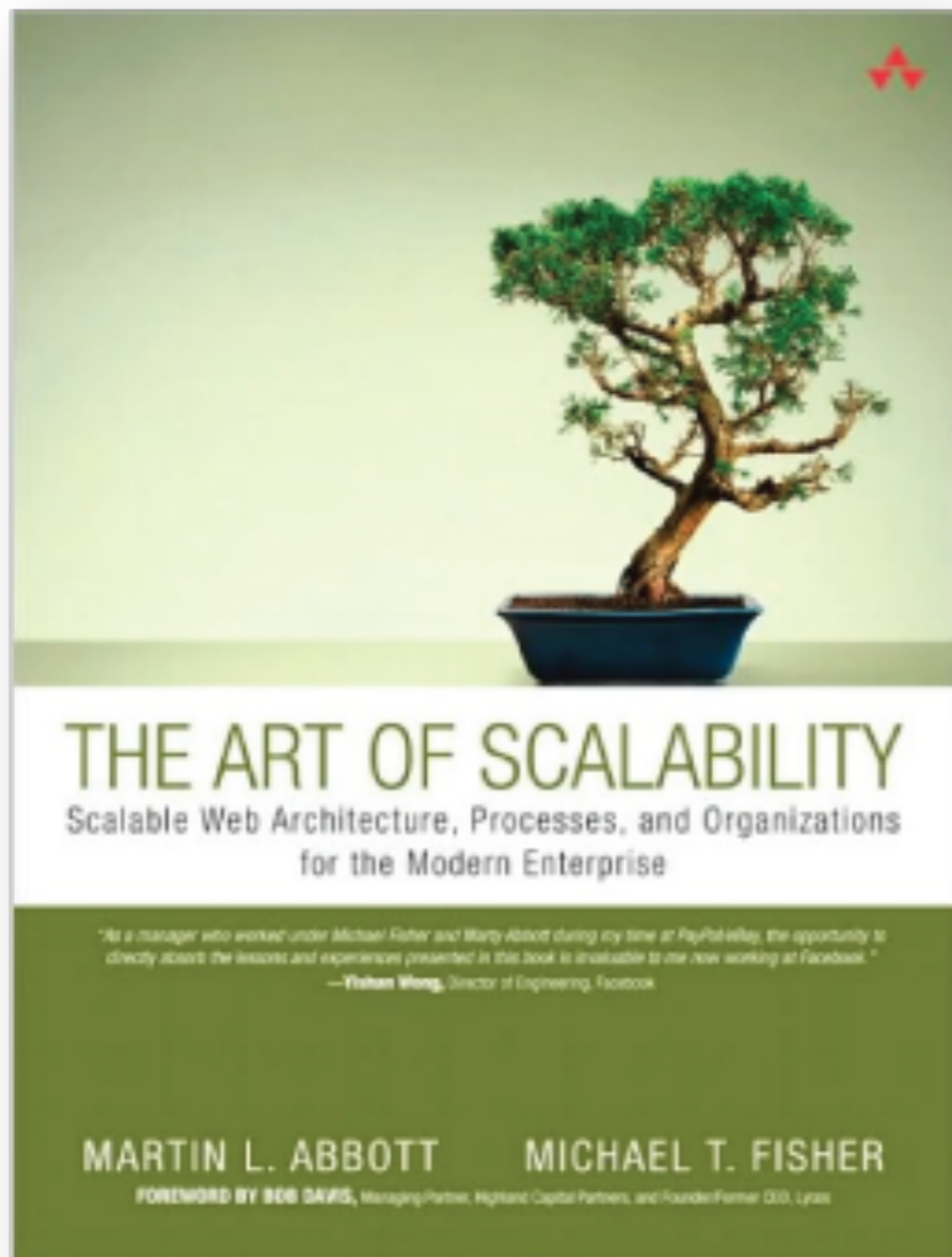
What About... adopting other technologies?
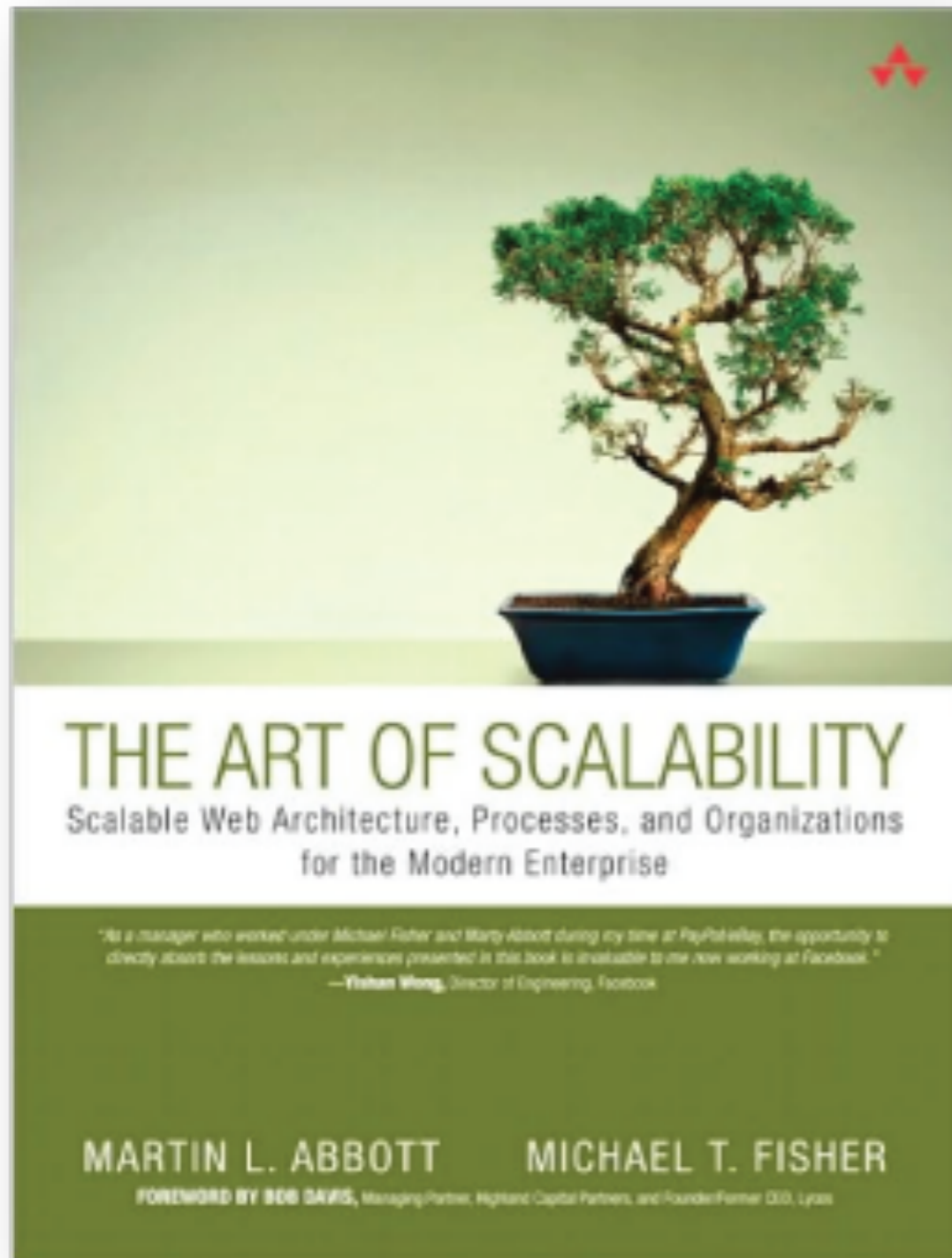
Not So Simple, After All...

Tomcat

.war

AccountingService

InventoryService

Shipping Service

Store Front User Interface

!= Scalable Development

3 Dimensions to Scaling

THE ART OF SCALABILITY
Scalable Web Architecture, Processes, and Organizations
for the Modern Enterprise

MARTIN L. ABBOTT   MICHAEL T. FISHER

3 Dimensions to Scaling

- **horizontal duplication**
  scale by cloning

THE ART OF SCALABILITY

Scalable Web Architecture, Processes, and Organizations
for the Modern Enterprise

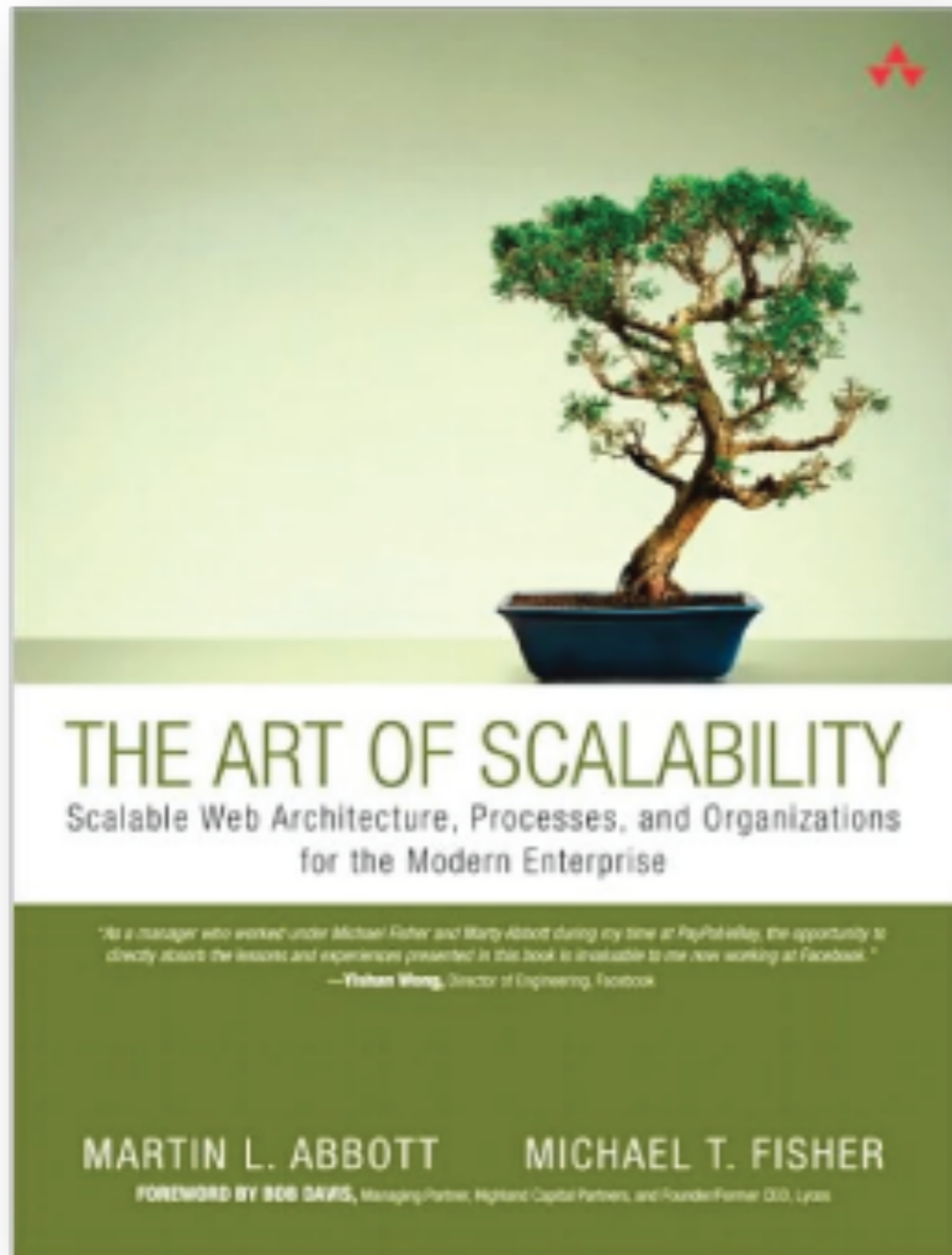MARTIN L. ABBOTT   MICHAEL T. FISHER

3 Dimensions to Scaling
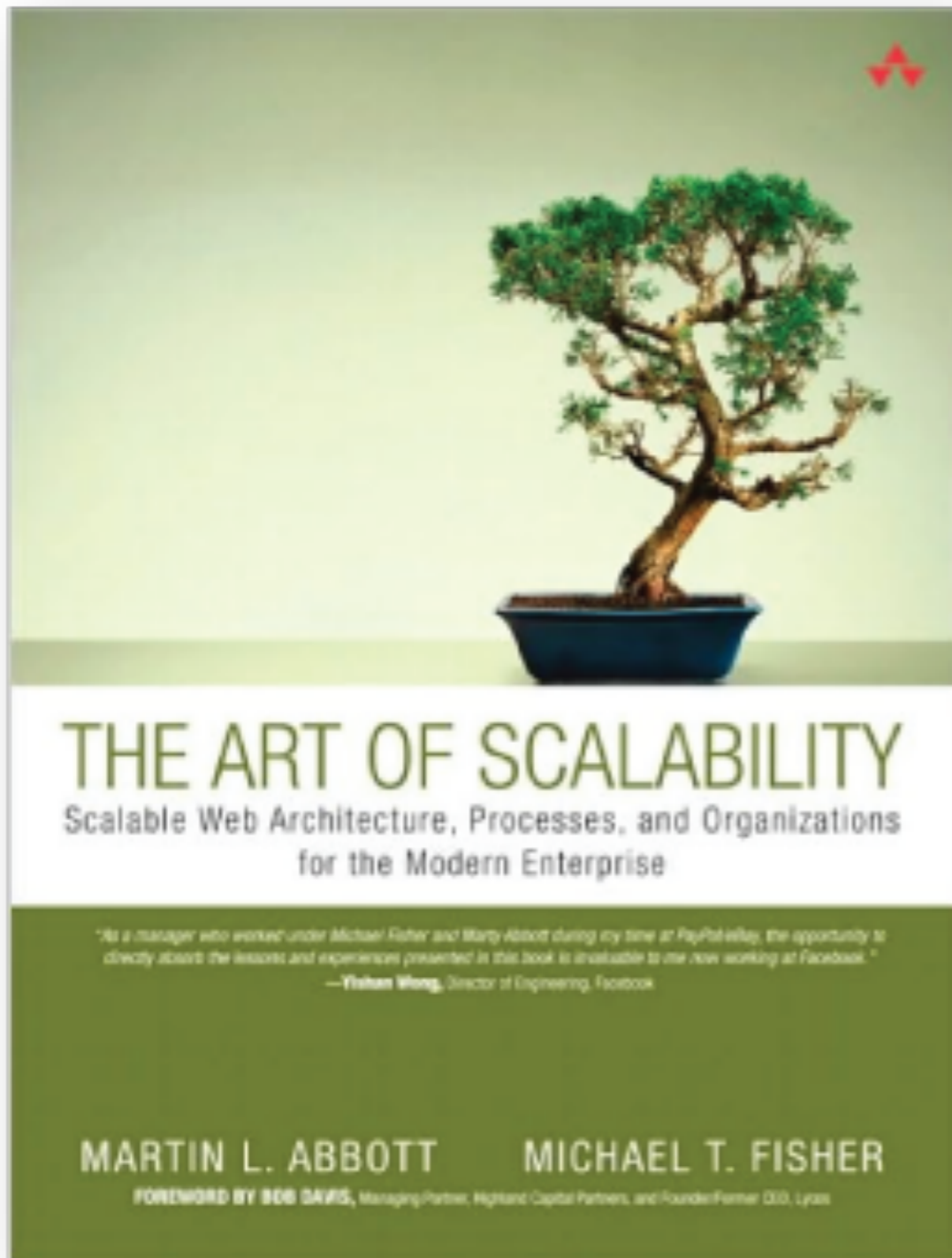
- **horizontal duplication**
  scale by cloning

- **functional decomposition**
  scale by splitting different things

3 Dimensions to Scaling

- **horizontal duplication**
  scale by cloning

- **functional decomposition**
  scale by splitting different things

- **data partitioning**
  scale by splitting similar things

THE ART OF SCALABILITY

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MARTIN L. ABBOTT   MICHAEL T. FISHER

Horizontal Duplication

Tomcat

.war

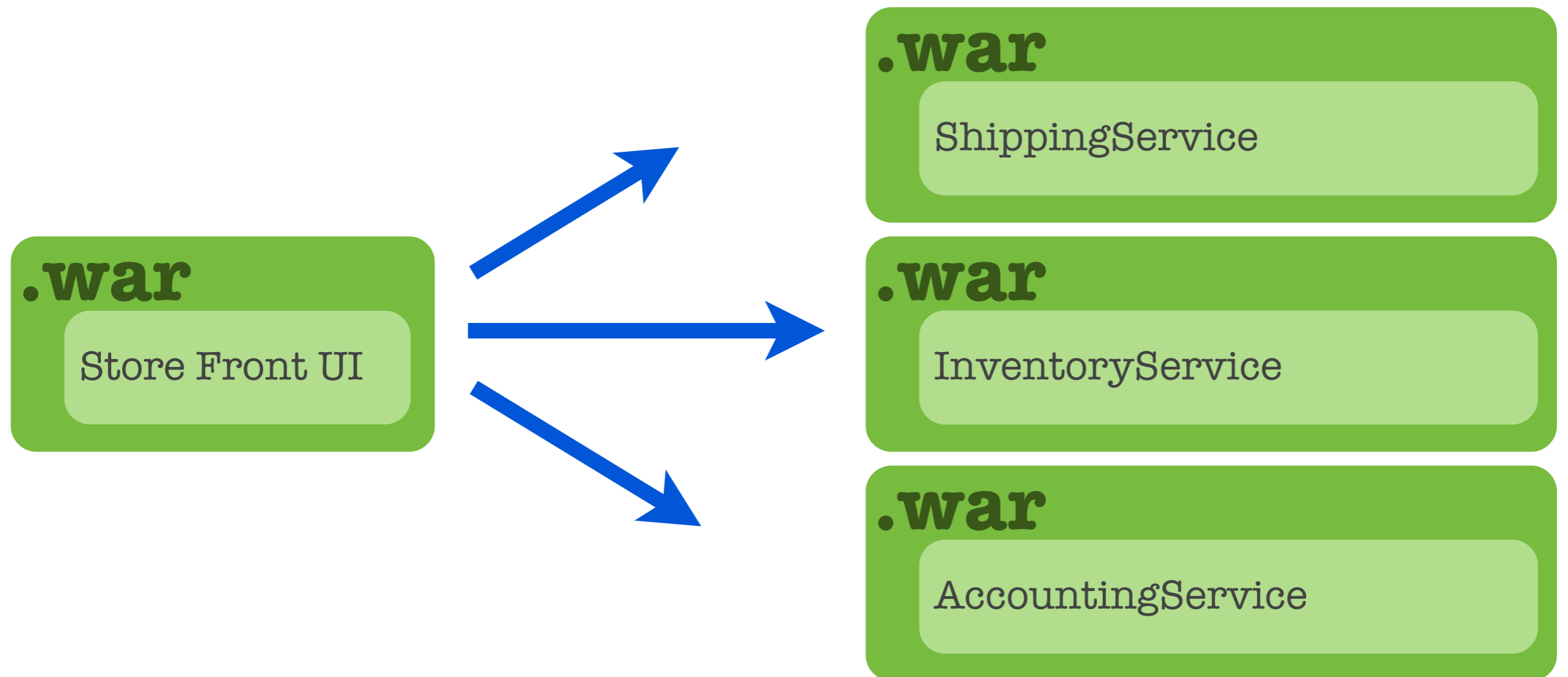AccountingService

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Store Front User Interface

Horizontal Duplication

Horizontal Duplication

Functional Decomposition

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http://techblog.netflix.com

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Between 100-150 services are accessed to build a page.
http://highscalability.com/amazo-architecture

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 Tech Blog

http://www.addsimplicity.com/downloads/eBaySDForum2006-11-29.pdf
http://queue.acm.org/detail.cfm?id=1394128

Functional Decomposition: the BAD

See Steve Yegge's
Google Platforms Rant
regarding Amazon.com

Functional Decomposition: the GOOD

- scales development
- QoS scales independently
- enforces well defined interfaces between services
- makes polyglot architectures possible

need a p
pizza bo

need pic
modular

Two Types of Architecture

Smaller Services are Better

figure outwho fred george is and see if i can incorporate his meaning into this slides narrative

Fred

"Developer Anarchy"

You are not the same you...

50 to 70 billion of your cells die **each day**

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Cell lifetimes:

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50 to 70 billion of your cells die **each day**

Cell lifetimes:
hours some white blood cells

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days stomach lining cells

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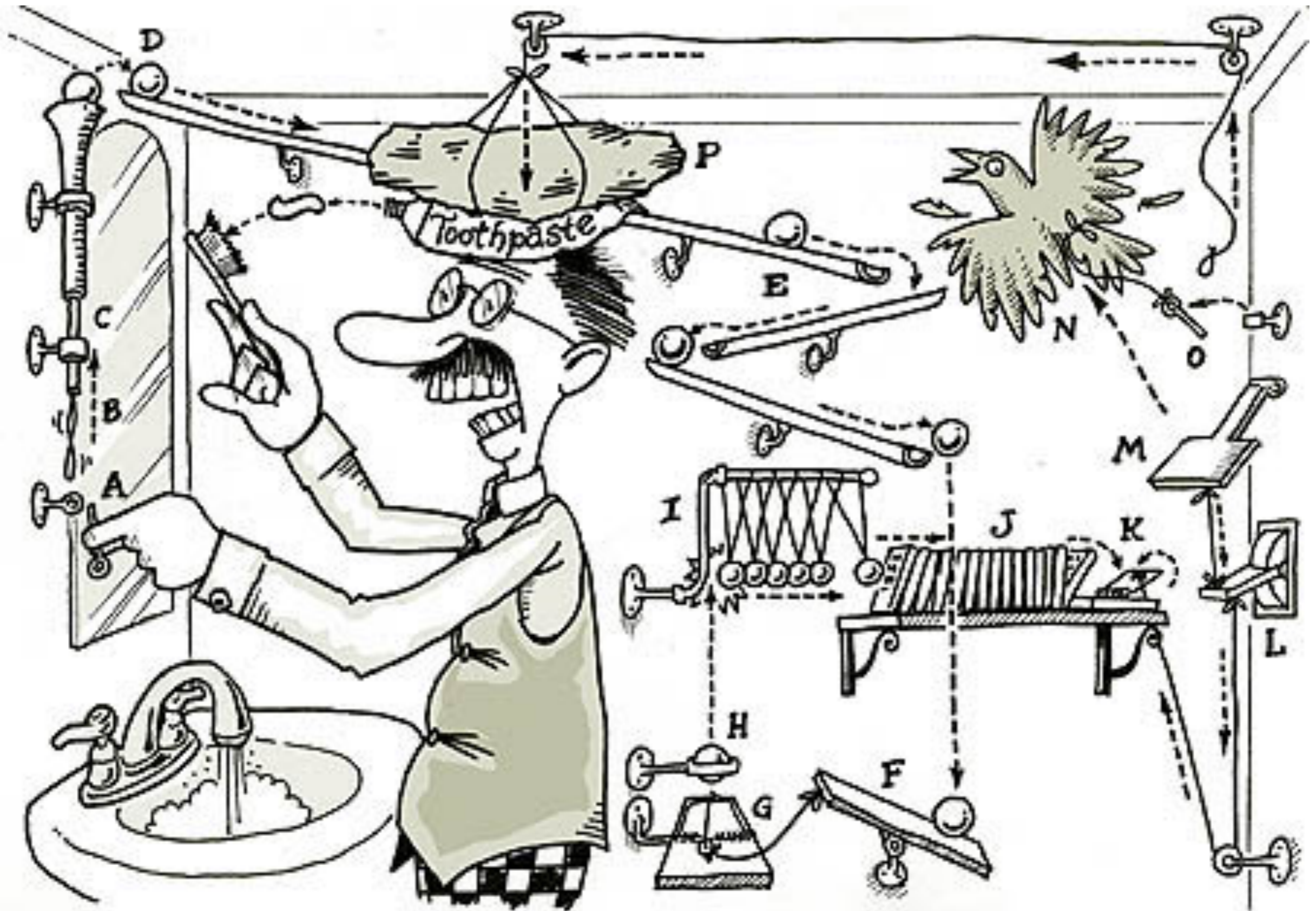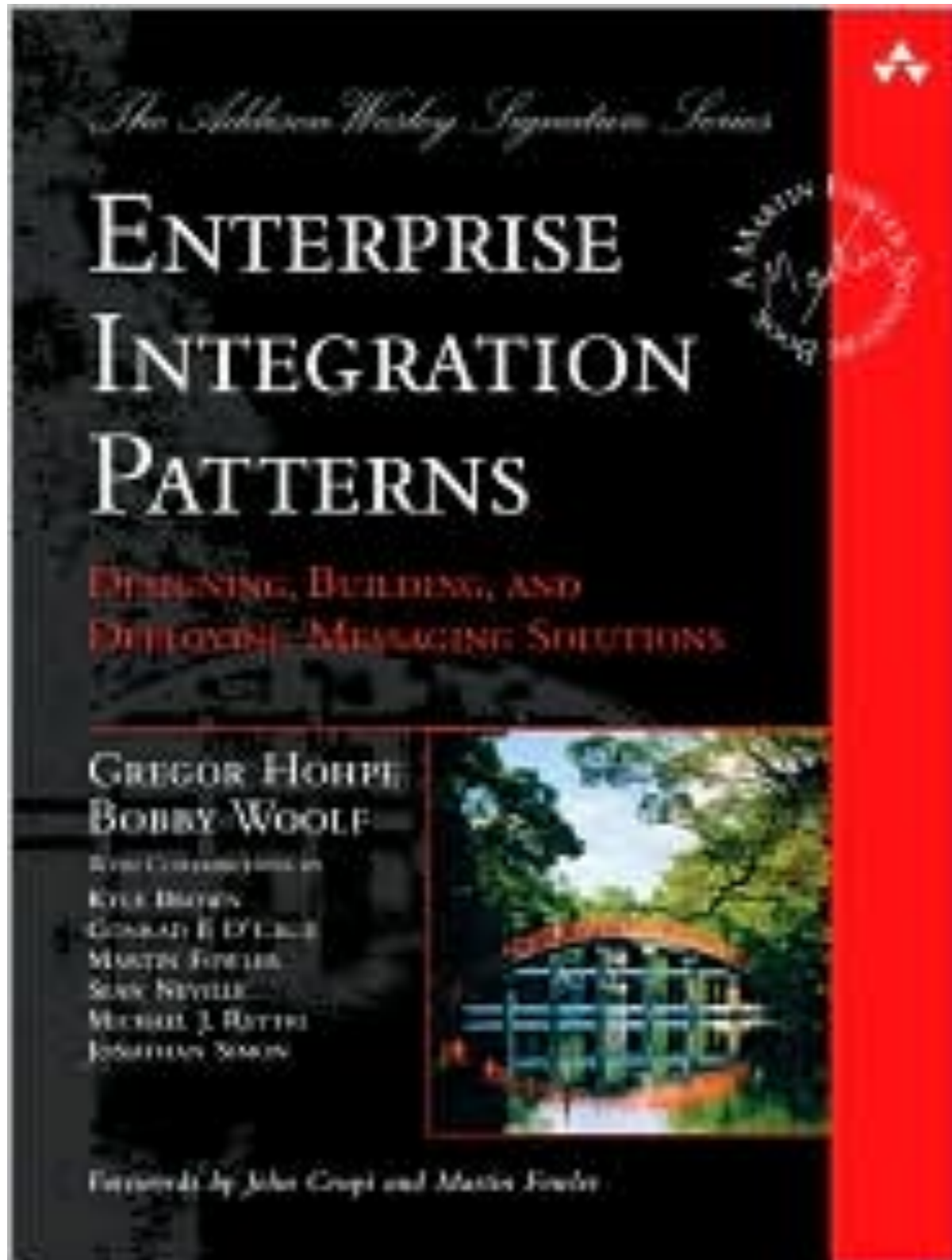**years** bone cells
lifetime brain cells

Yet you (the system) remain the same

How do Services Communicate?

How do Services Communicate?

- **file transfer**

- **remote procedure call**

- **asynchronous messaging**

- **shared database**

a closing thought.

use that quotation that Lucy gave me about inspired design
hindu / buddhist / 'sex'

About **Josh Long**

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Questions?