

Architecture War Stories

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Ground Rules

No offense – just lessons learned

Most systems are in production

Still, many {managers | users | admins} are happy

Less can be more

Context

Customer care, accounting & billing

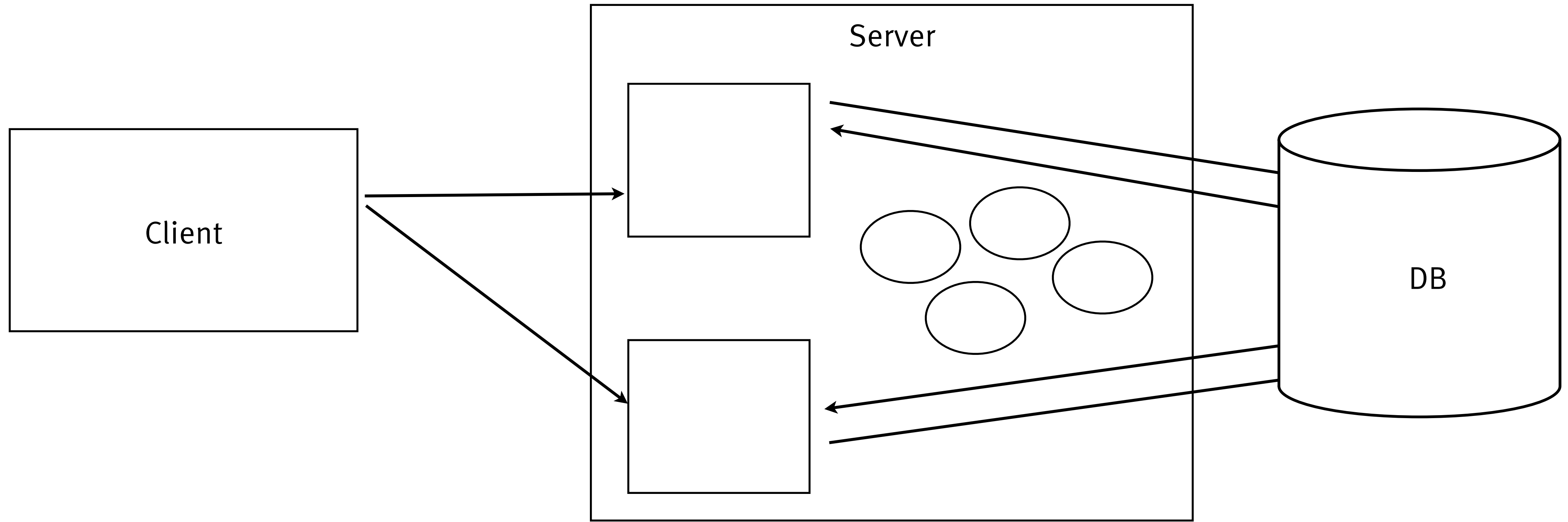
Large-scale big-bang replacement effort

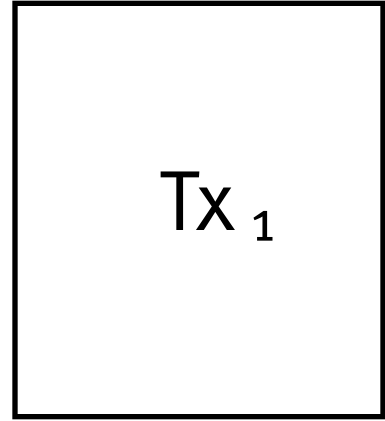
› **150 developers**

› **20 architects/framework devs**

Java, Swing, CORBA, Oracle

Custom persistence framework

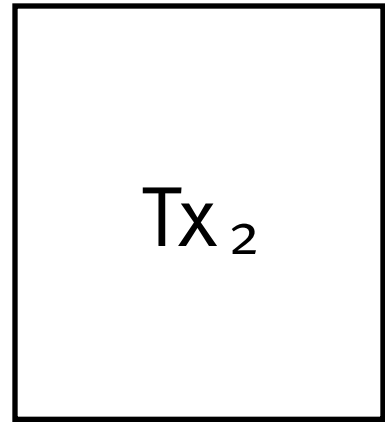
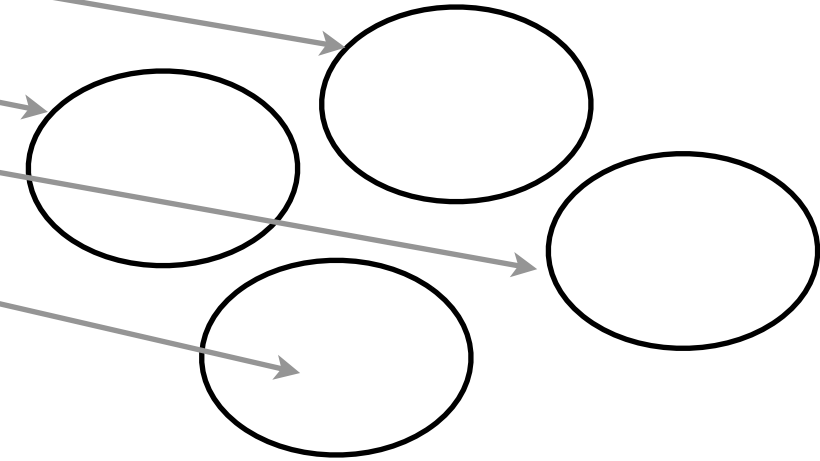




Identity Map

1	
9	
7	
3	

Server

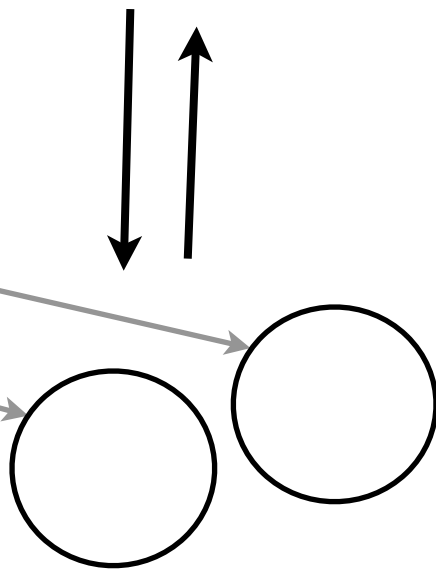


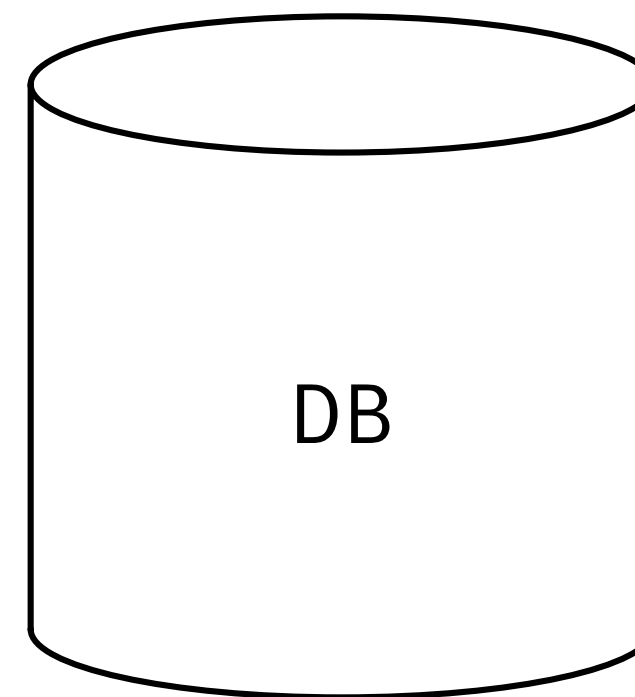
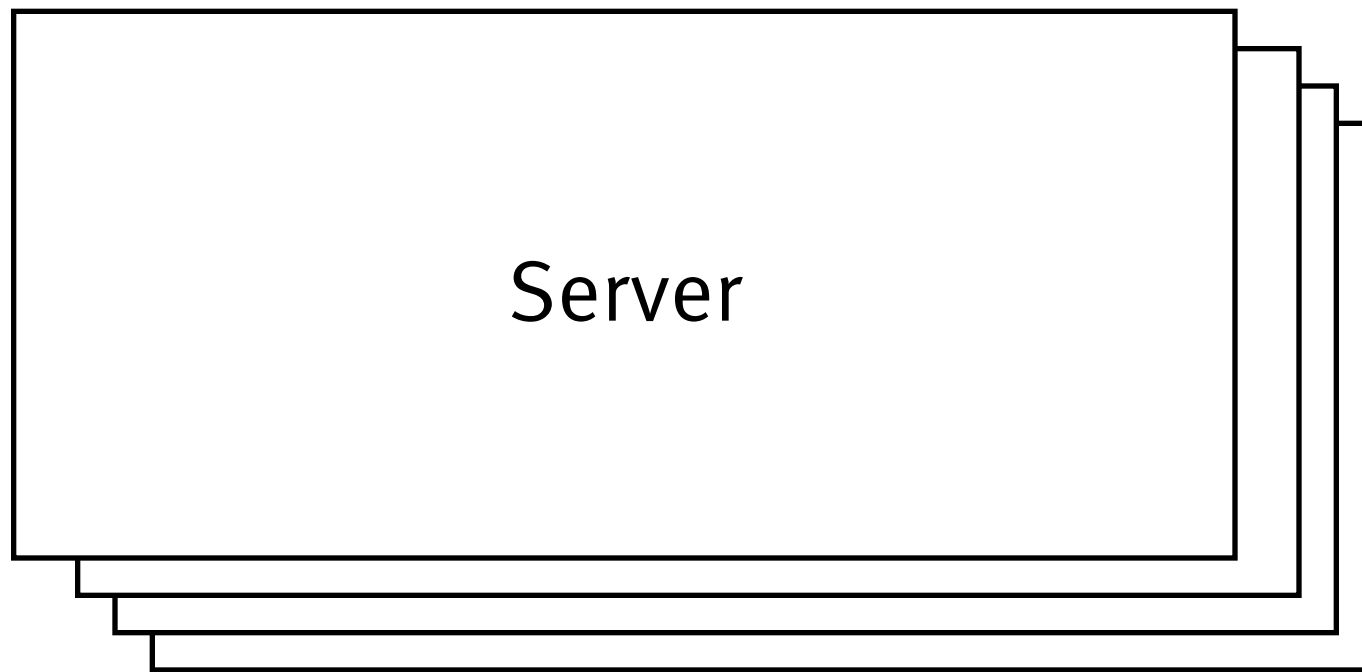
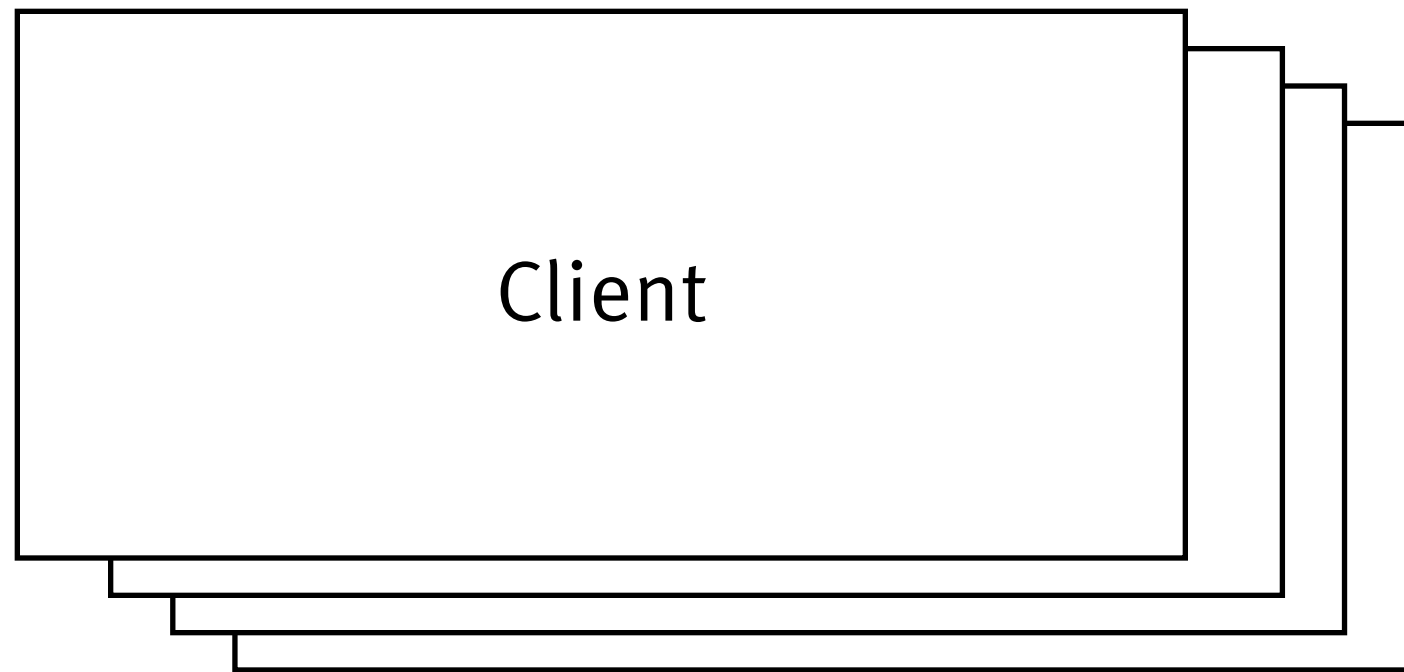
Transaction Map

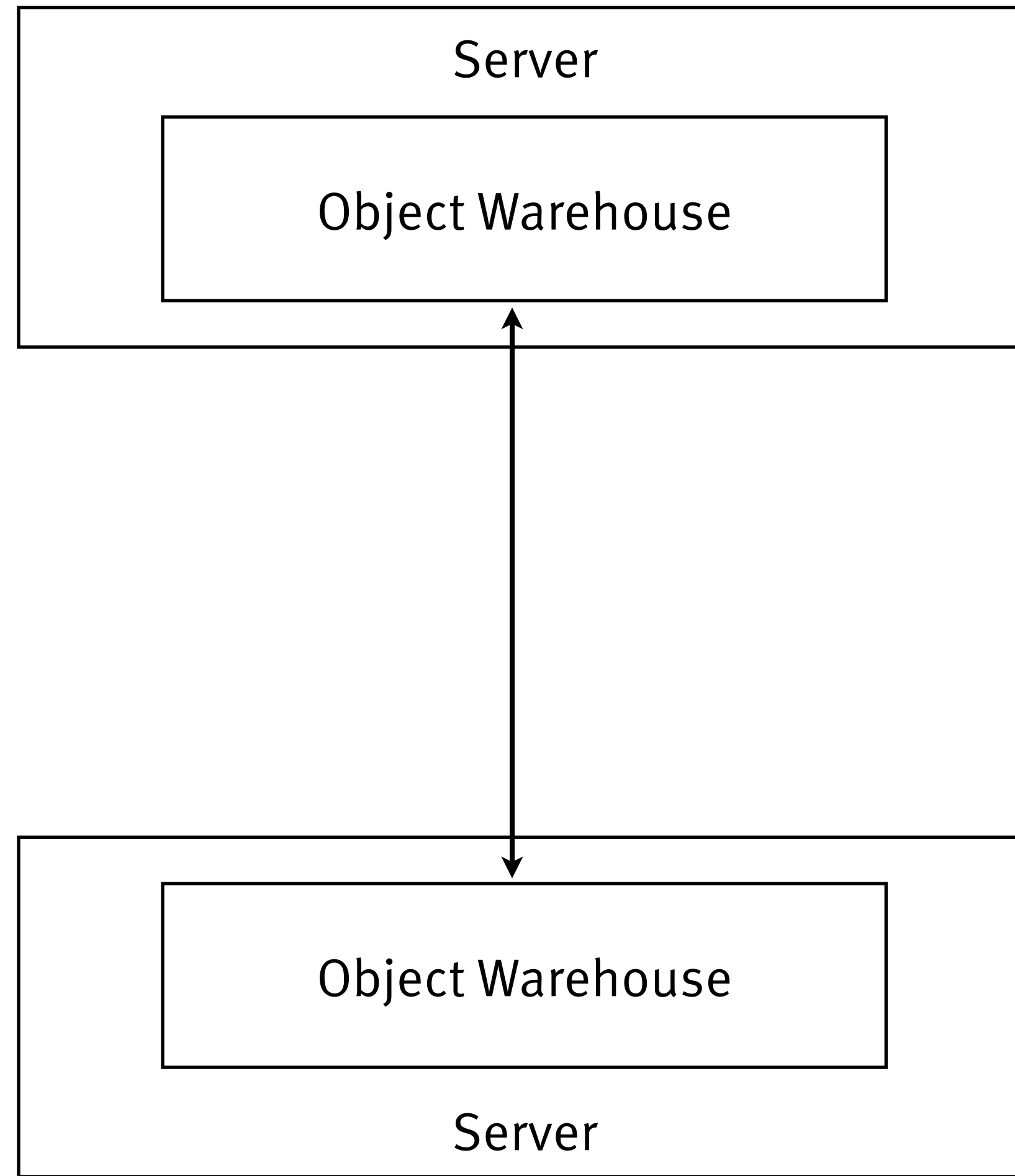
1	-
2	

→

1	
9	



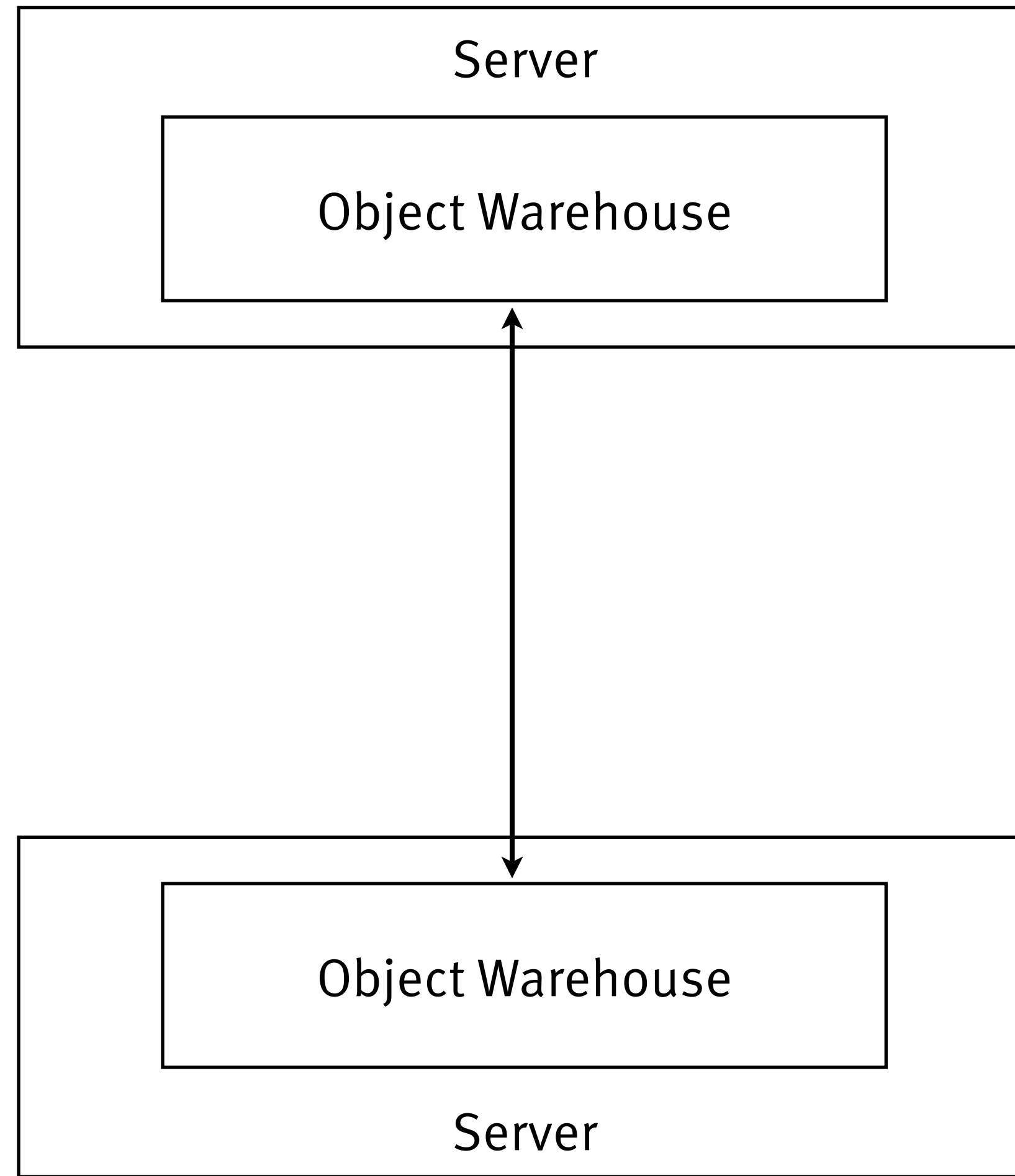


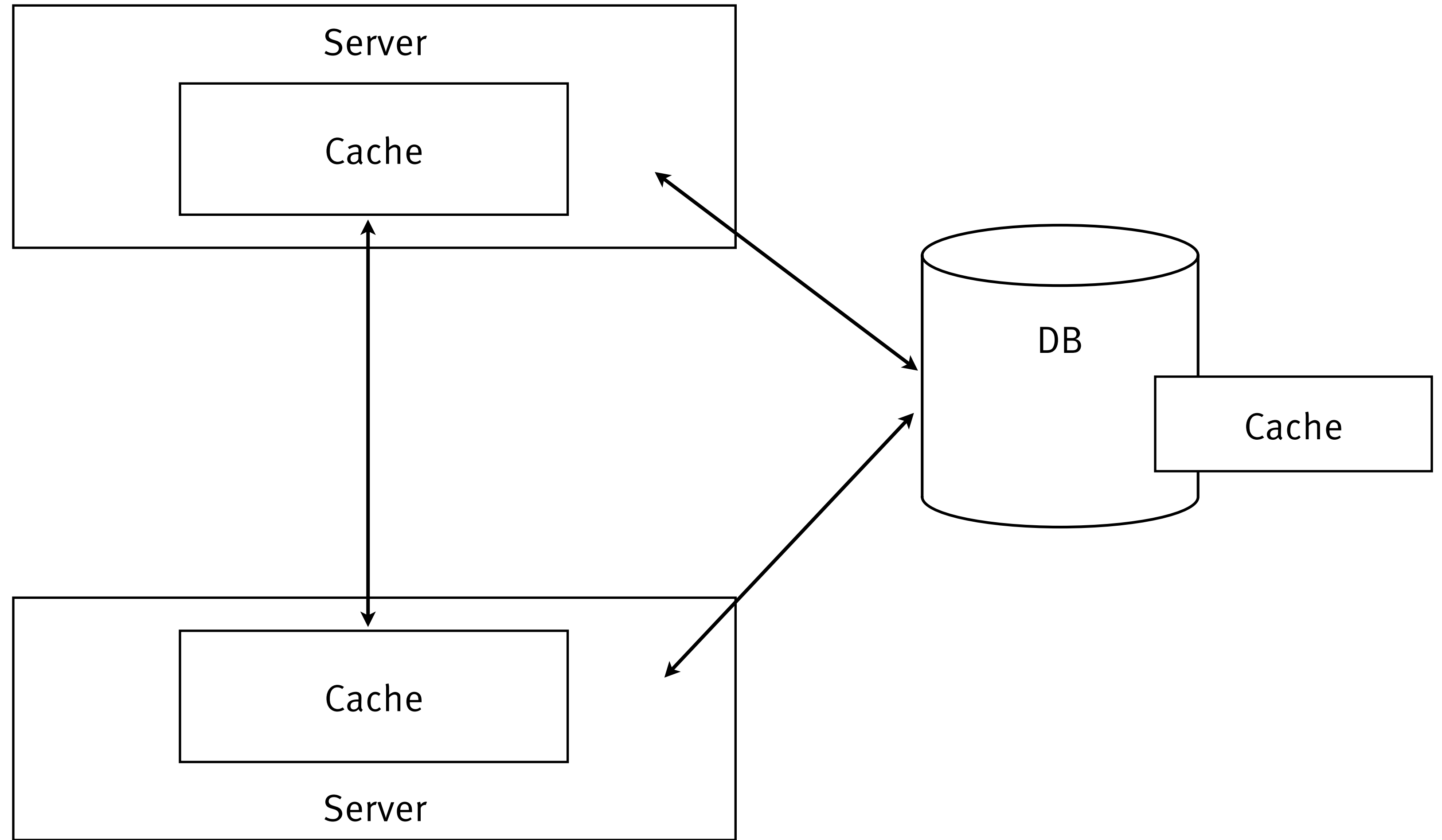


Global synchronization? 2 PC?

Cache notifications? Events?

Transaction locality? Client Affinity?





Lessons learned

Don't cache the cache

In distributed systems, application state is your enemy

If it's "sophisticated", you probably shouldn't be doing it

Development \neq production

Data Complications

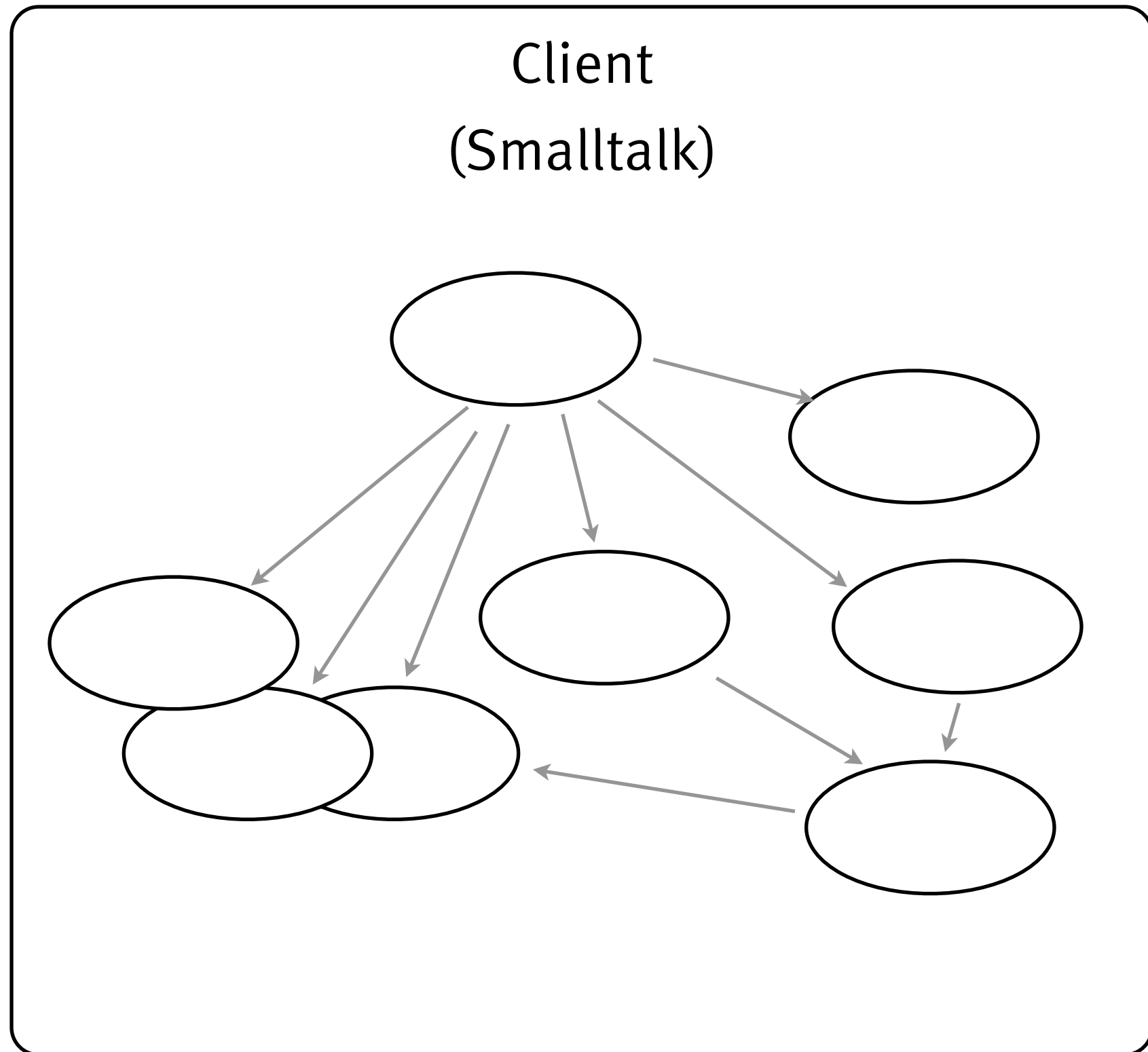
Context

Insurance system

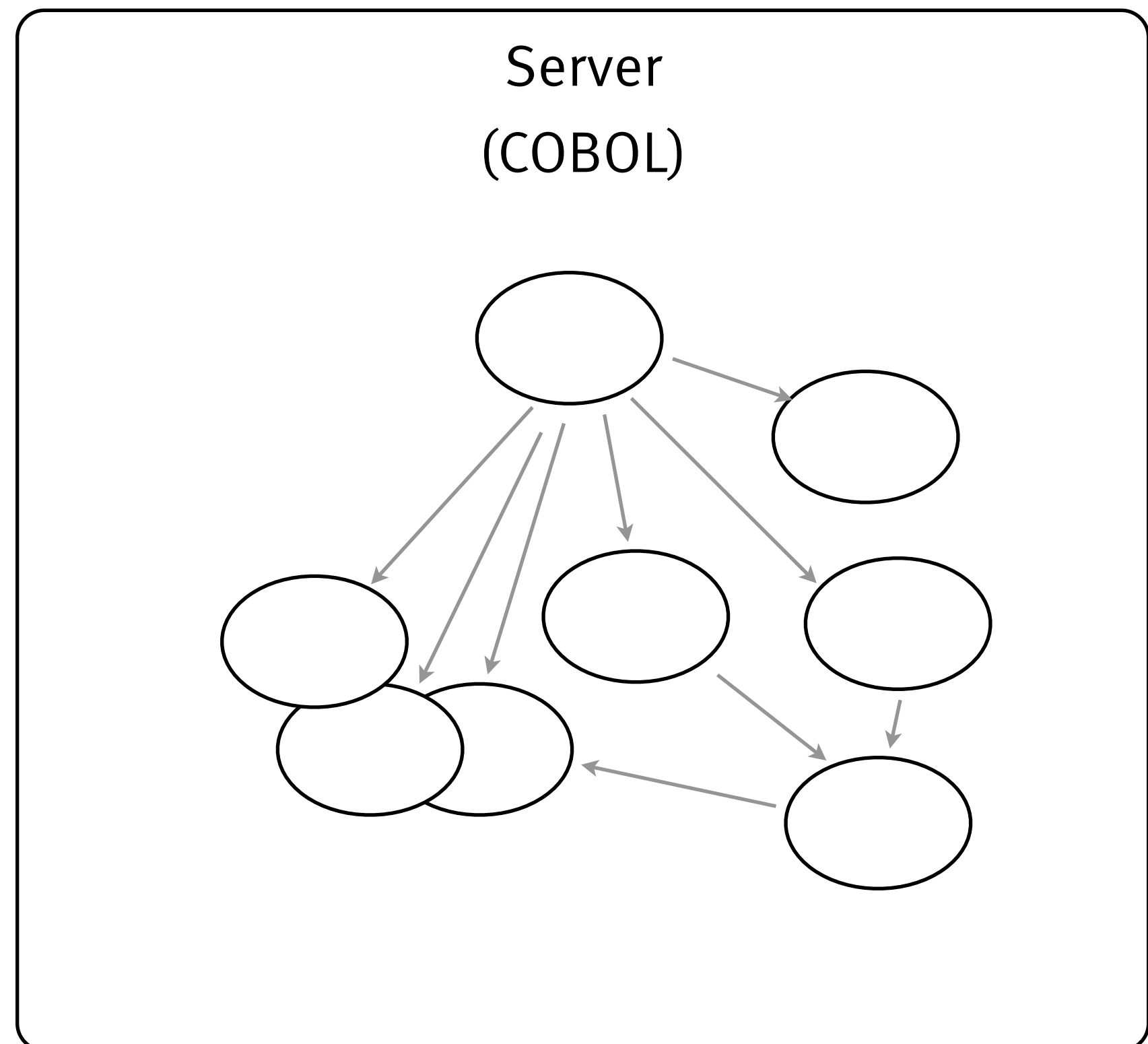
Maintenance 1000 person months/year

Smalltalk, COBOL, C, IMS, DB2

Homegrown COBOL OO system

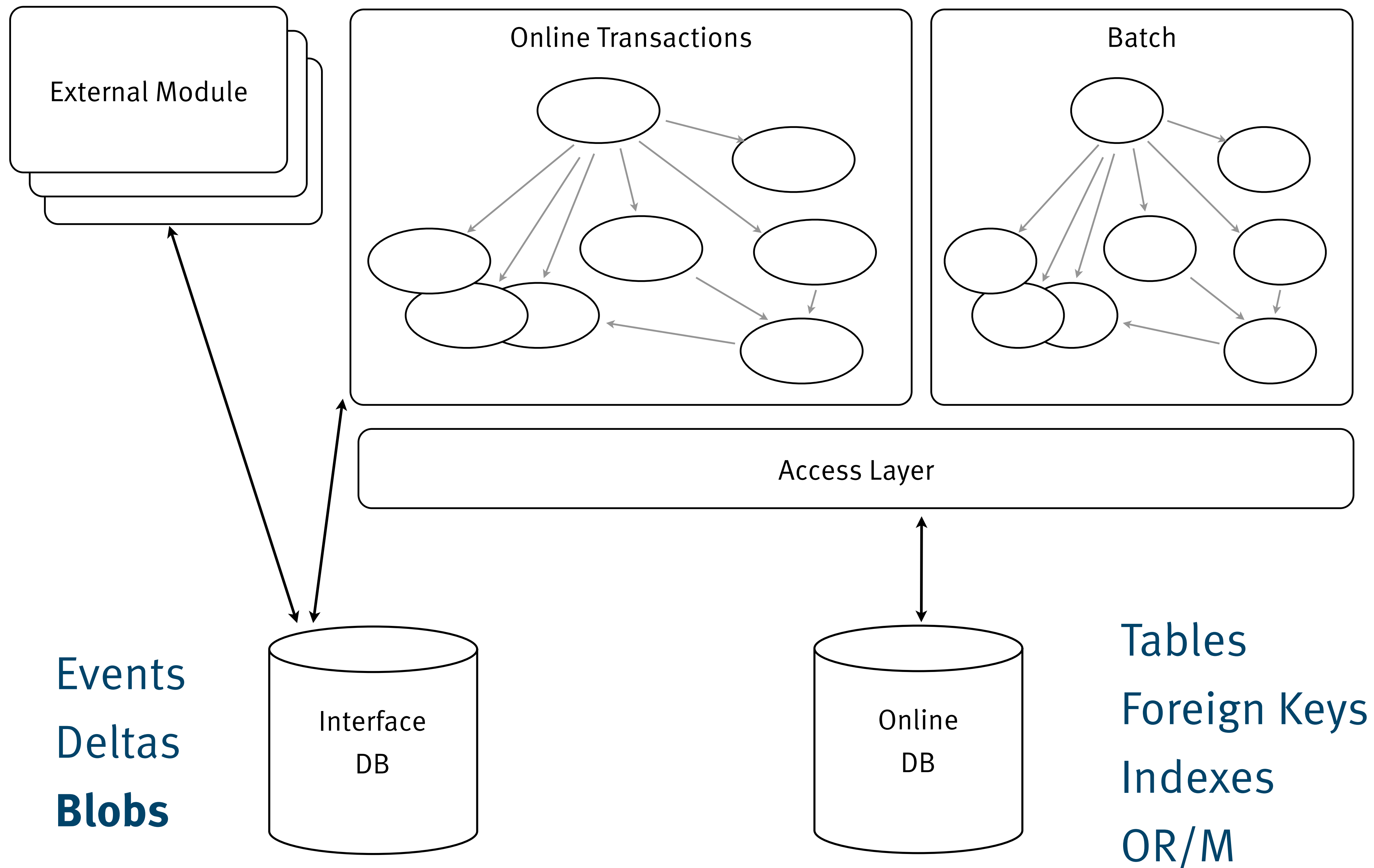


Broker



Transaction Manager

Gateway



Events
Deltas
Blobs

Tables
Foreign Keys
Indexes
OR/M

Migration



Lessons learned

Data should be free of code dependencies

The longer you store it, the simpler it needs to be

Beware of smelly blobs

Evaluating Yourself to Death

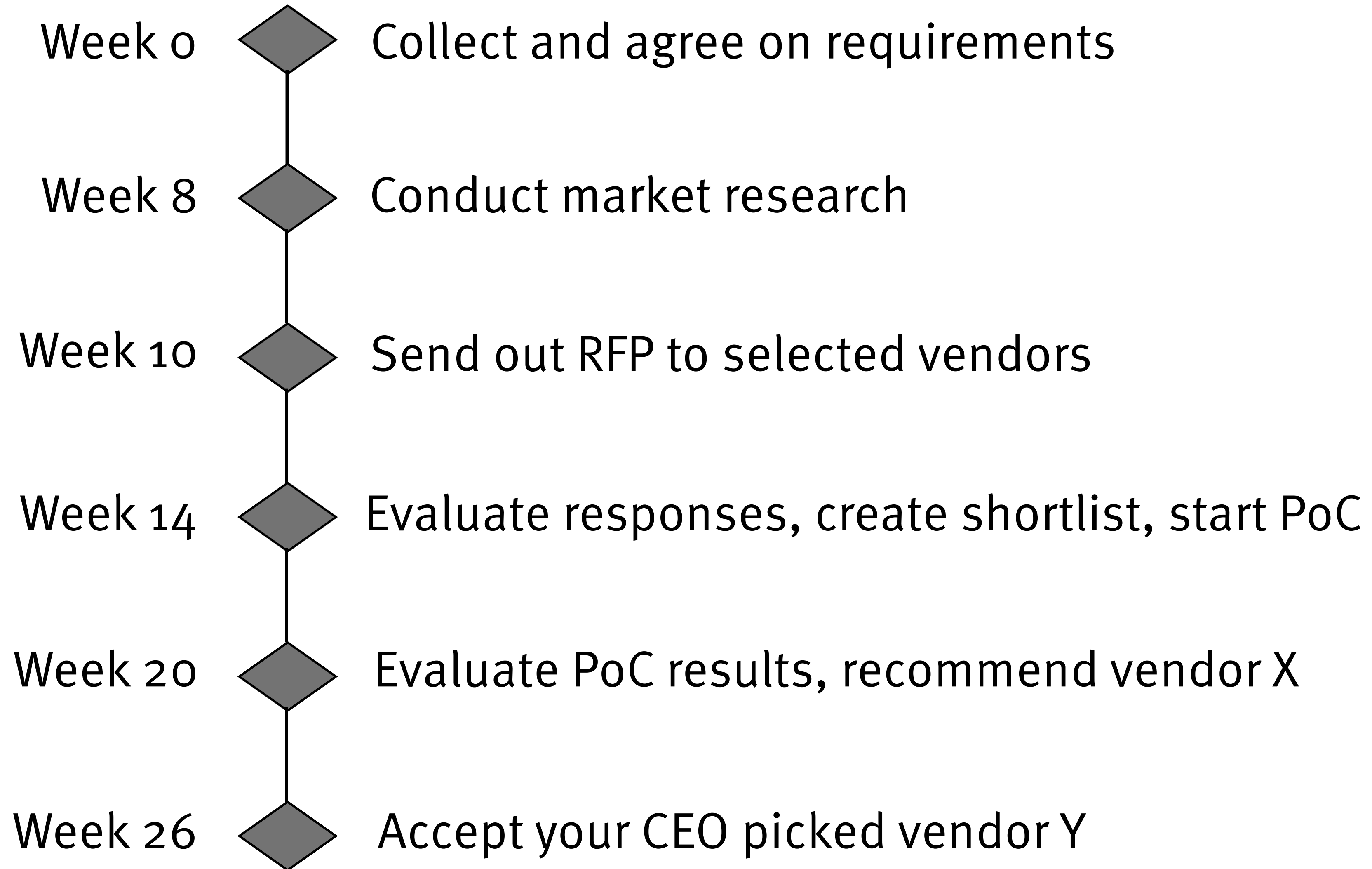
Context

Strategic health care platform

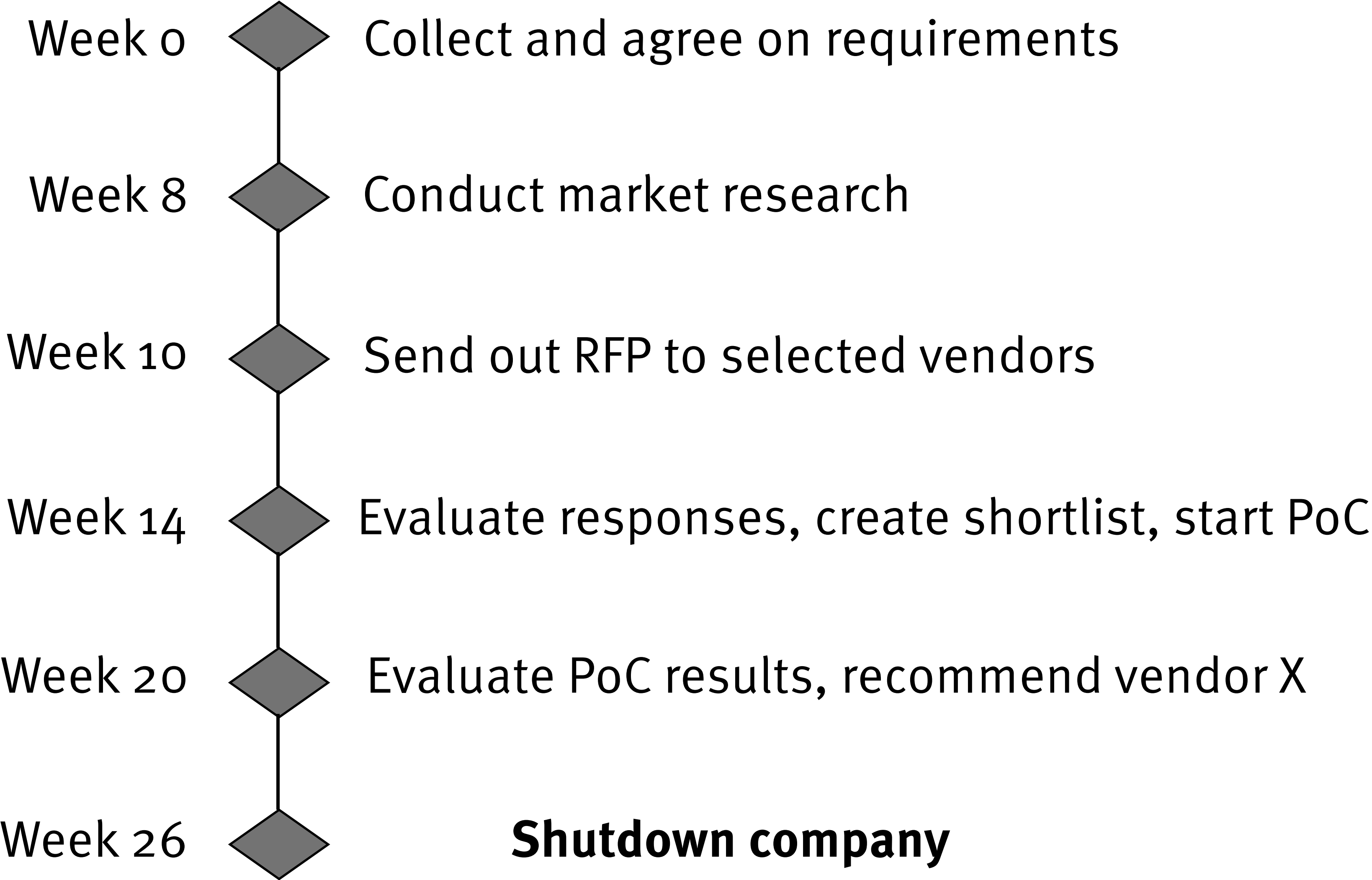
Architecture team 20+10 people

Build foundation for 800+ person year effort

Vendor Selection



Vendor Selection



Lessons learned

Just do it

Better ask for forgiveness than permission

Your system WILL be dynamic

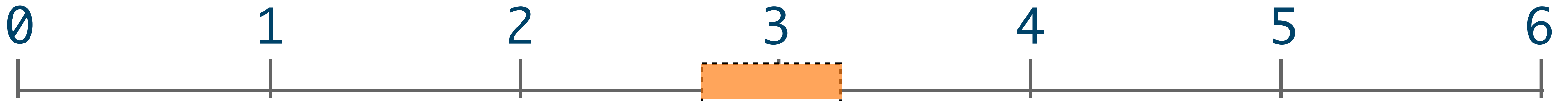
Context

Large-scale insurance system

Model-driven development

› 100 developers

2 Releases/year



Vision

Business Concept

Technical Concept

Modeling

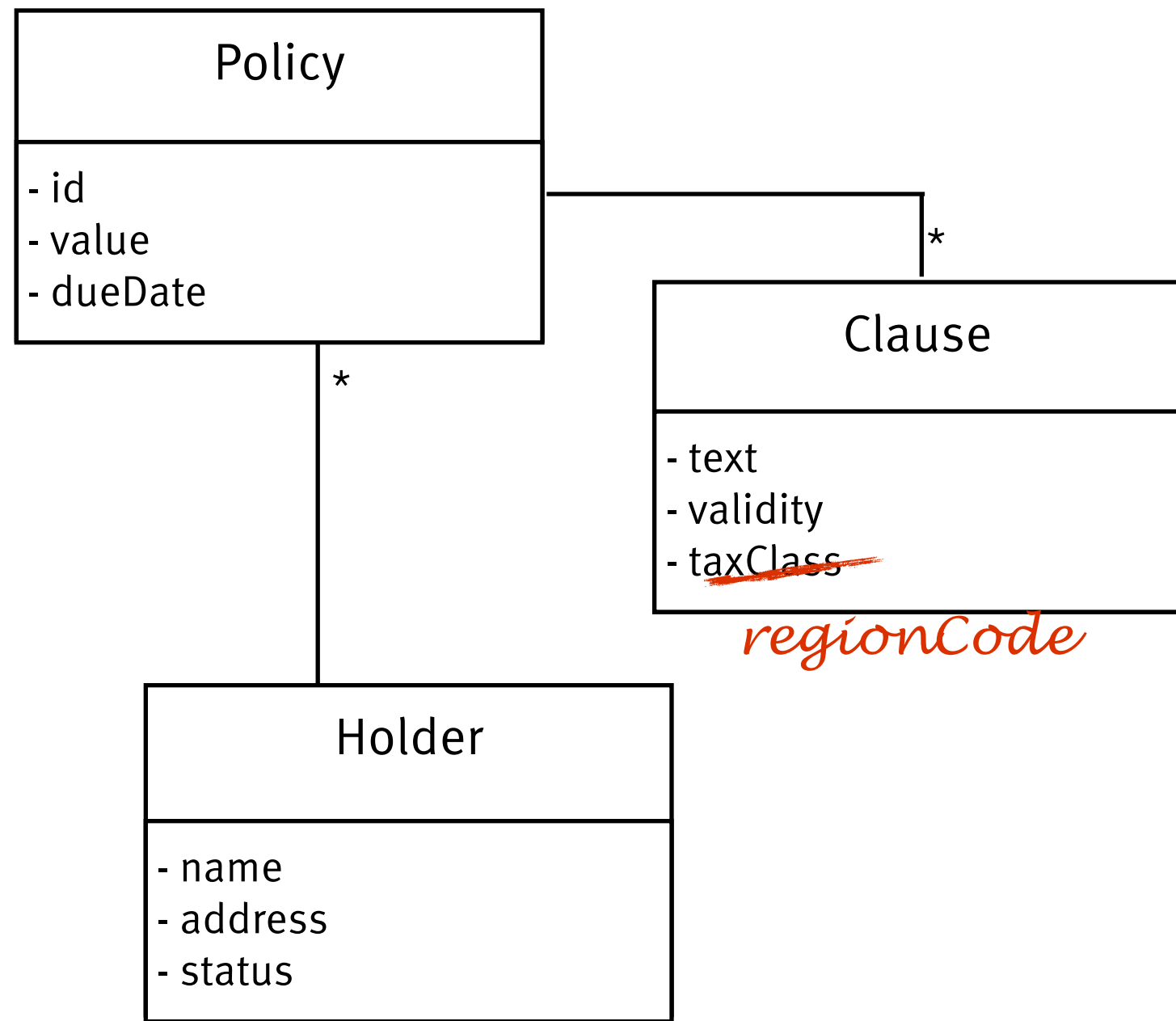
Implementation

Module Test

Integration Test

Rollout

**What if you miss
your slot?**



regionCode

Model Name	New Name (Meaning)	Description	Release Introduced
taxClass	regionCode	...	10.3
...			

Lessons learned

Centralized responsibility hurts

Faced with too much rigidity, a way around the rules will be found

Just because you're used to it doesn't mean it's acceptable

**Formalism
and Common Sense
as Orthogonal Concepts**

Context

Telecommunications OSS platform

Support new devices without code changes

› **100 developers**

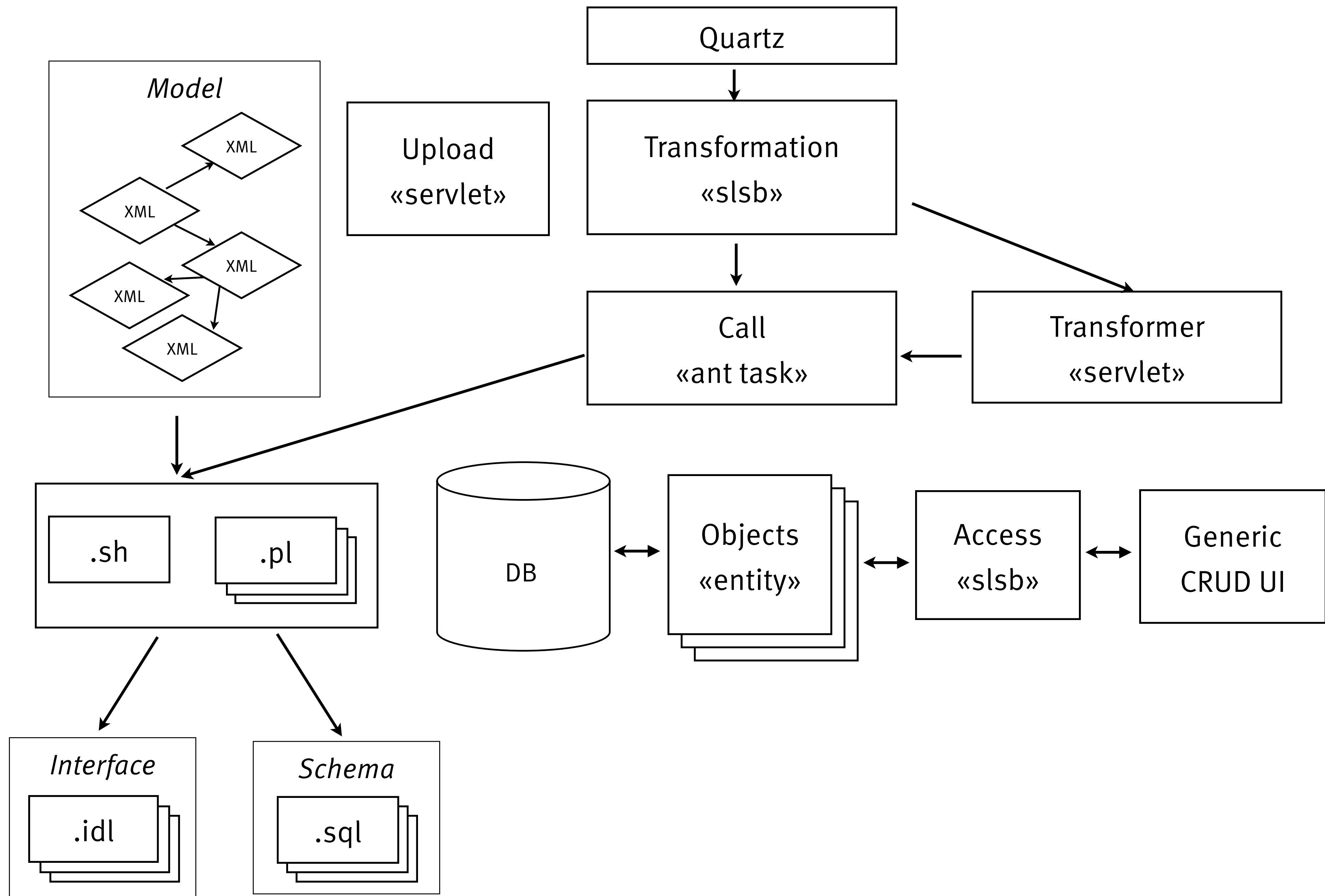
› **3 countries**

Warning

((Meta) meta) models) are a perfect means to waste time, on a highly inspiring intellectual level, without any results for years

Highly complex methodology, tool support, agreement processes

Consultants with *exclusive* pricing strategies



Lessons learned

If it makes you want to scratch your eyes out, you might not want to do it

Sometimes constraints need to be fought

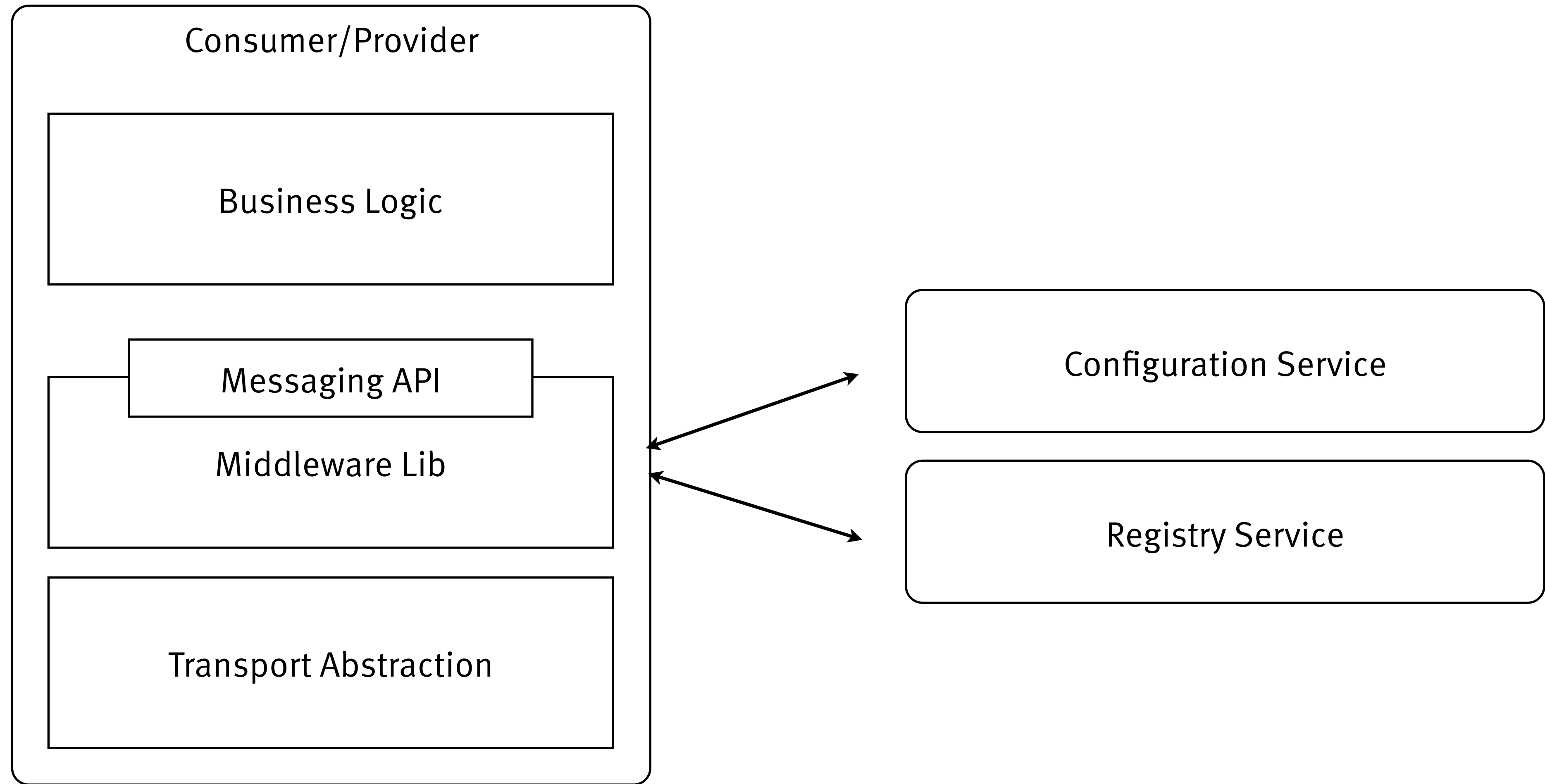
Beware all things “meta”

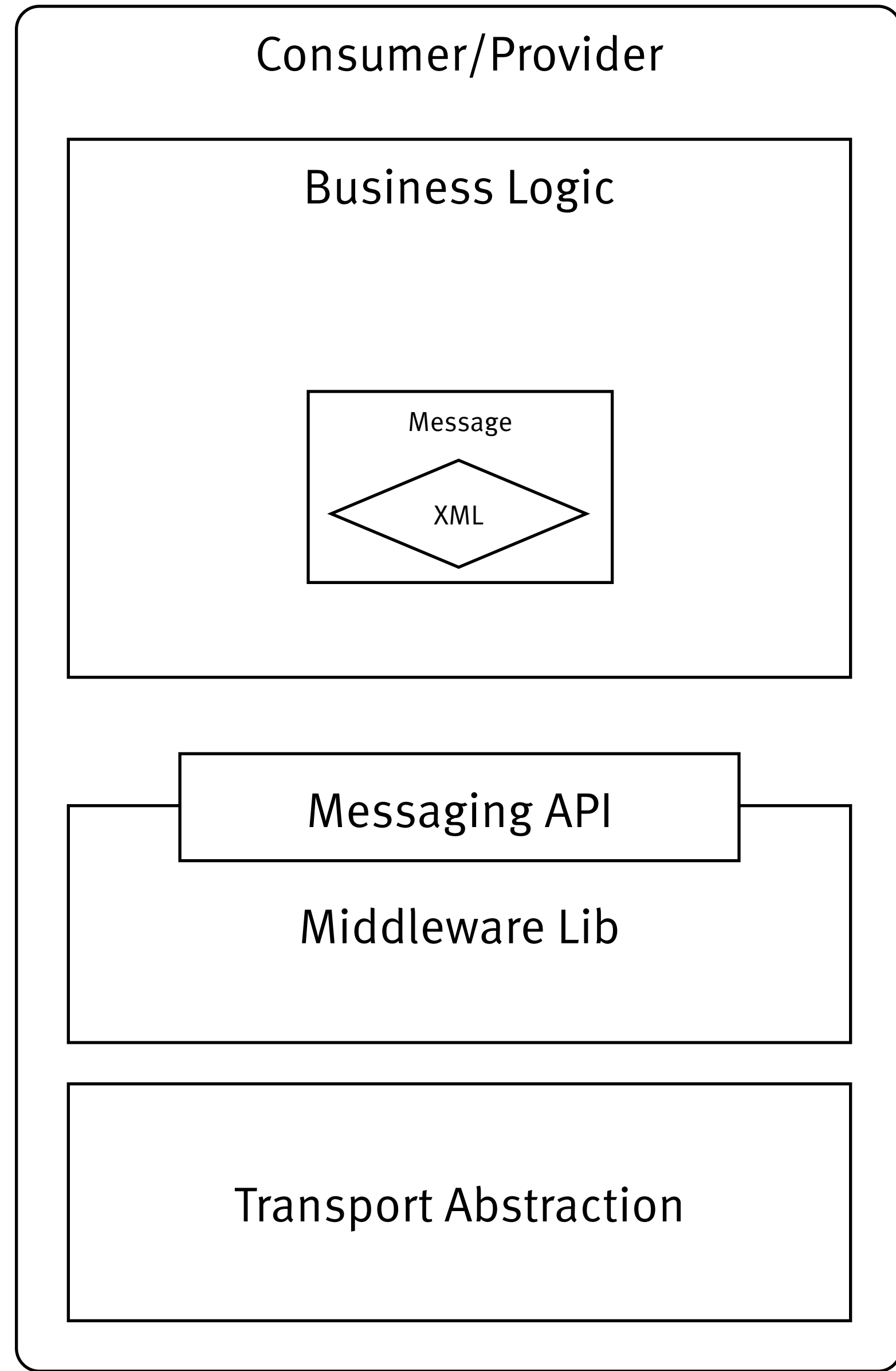
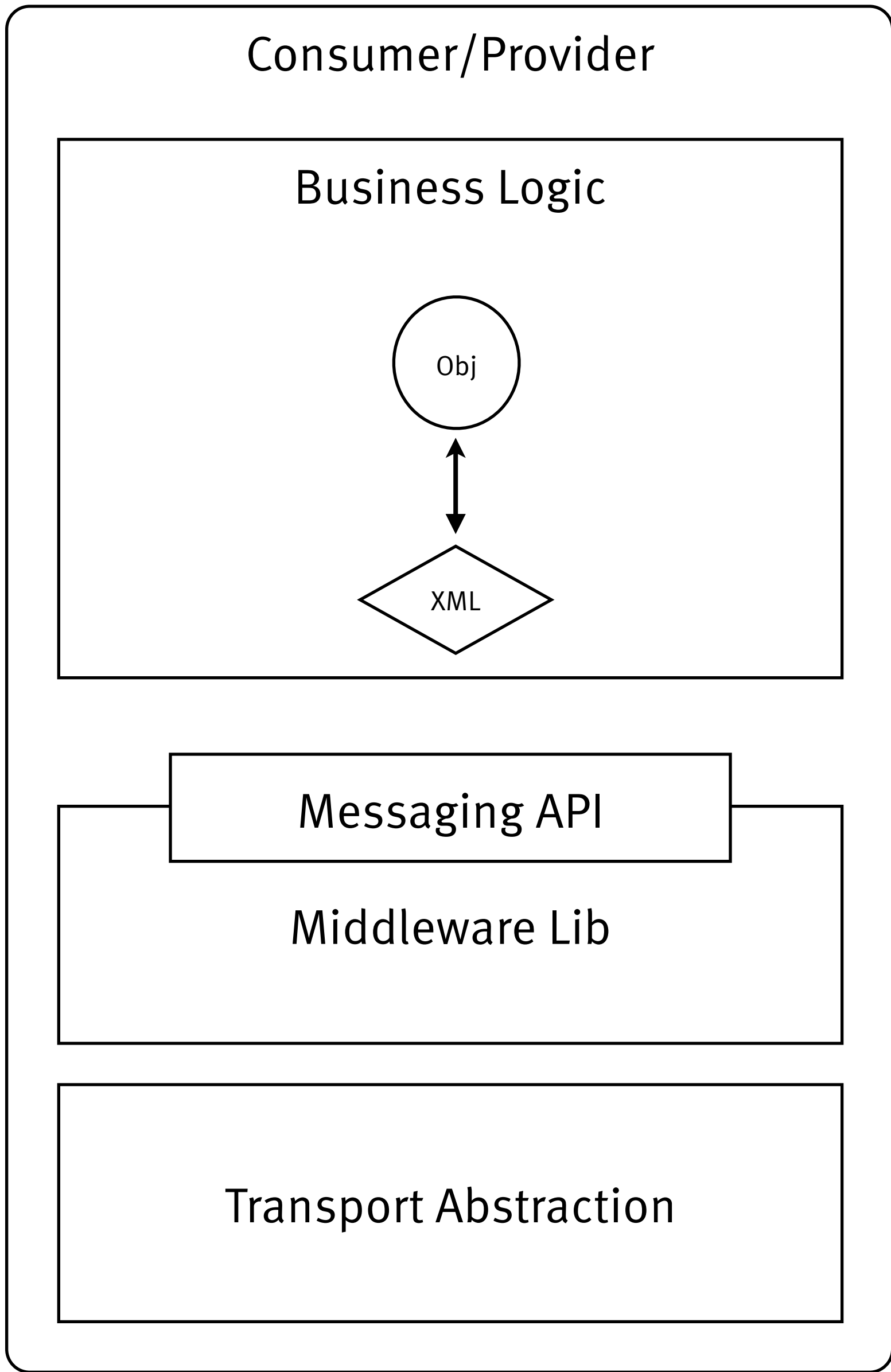
The Perils of Being Smart

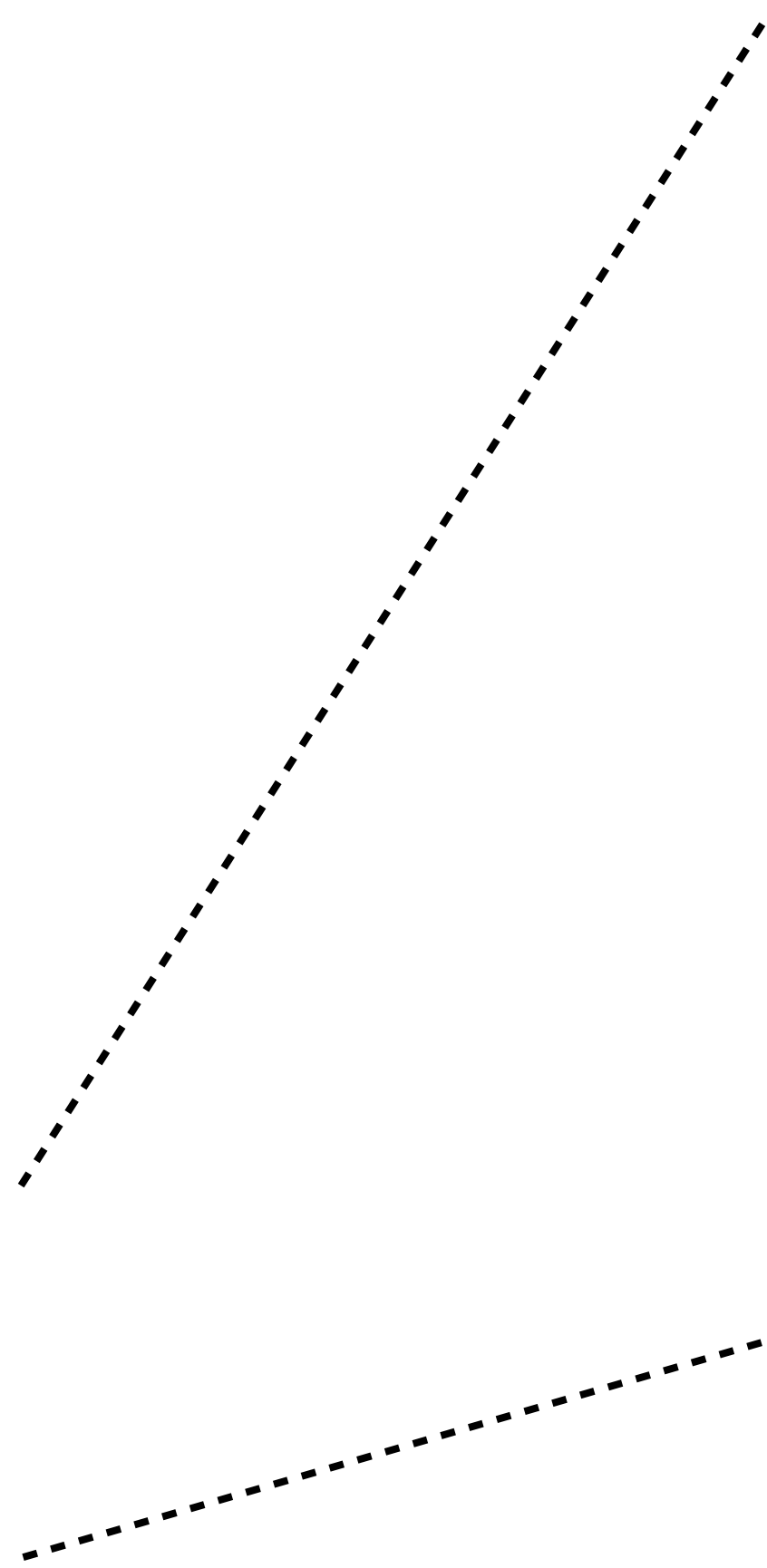
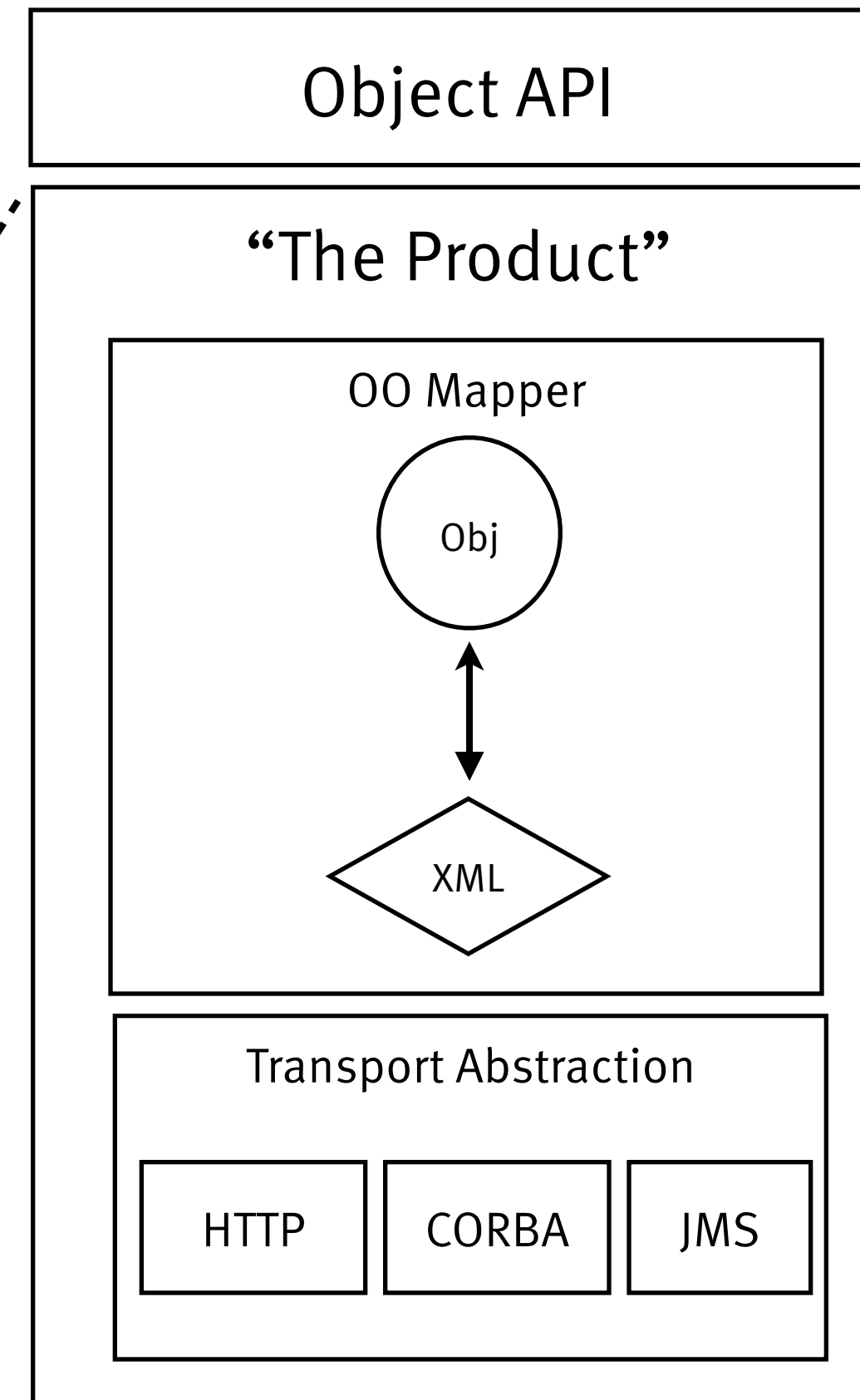
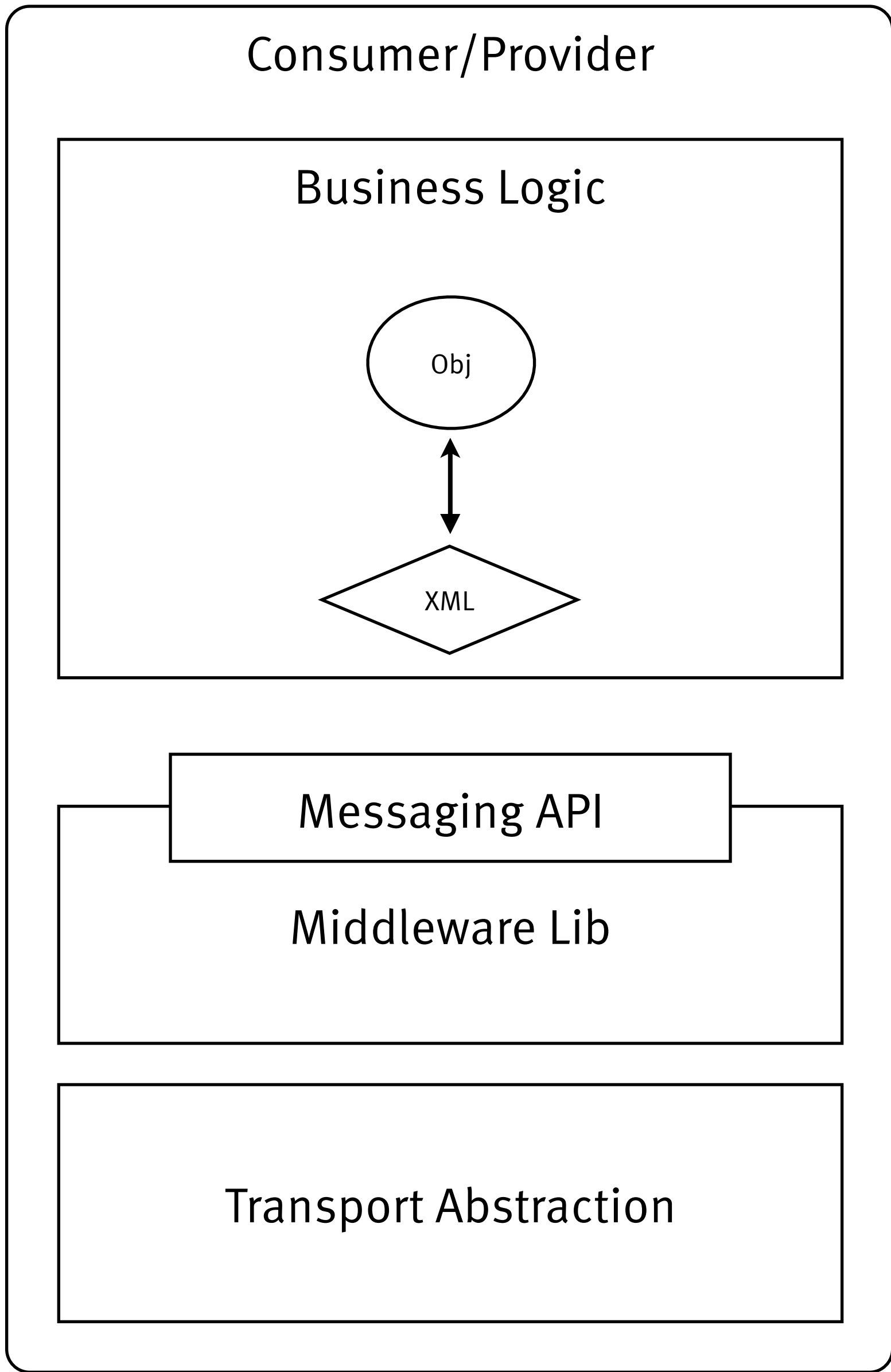
Context

Complex enterprise-wide SOA effort

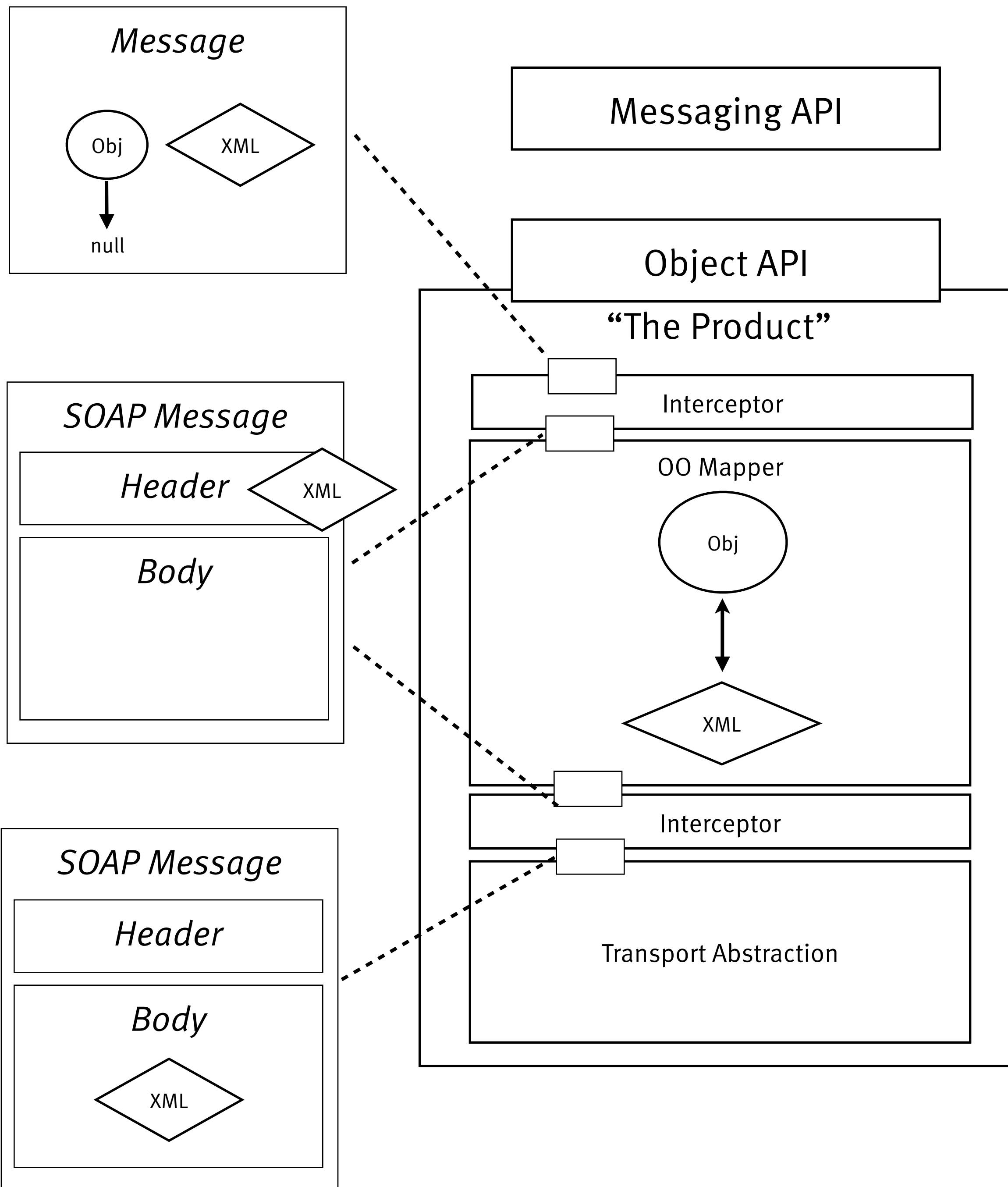
Custom-built “lightweight” middleware











Lessons learned

Fight the madness

Tunneling is the root of all evil

Don't be too smart

Non-extensible Extensibility

Context

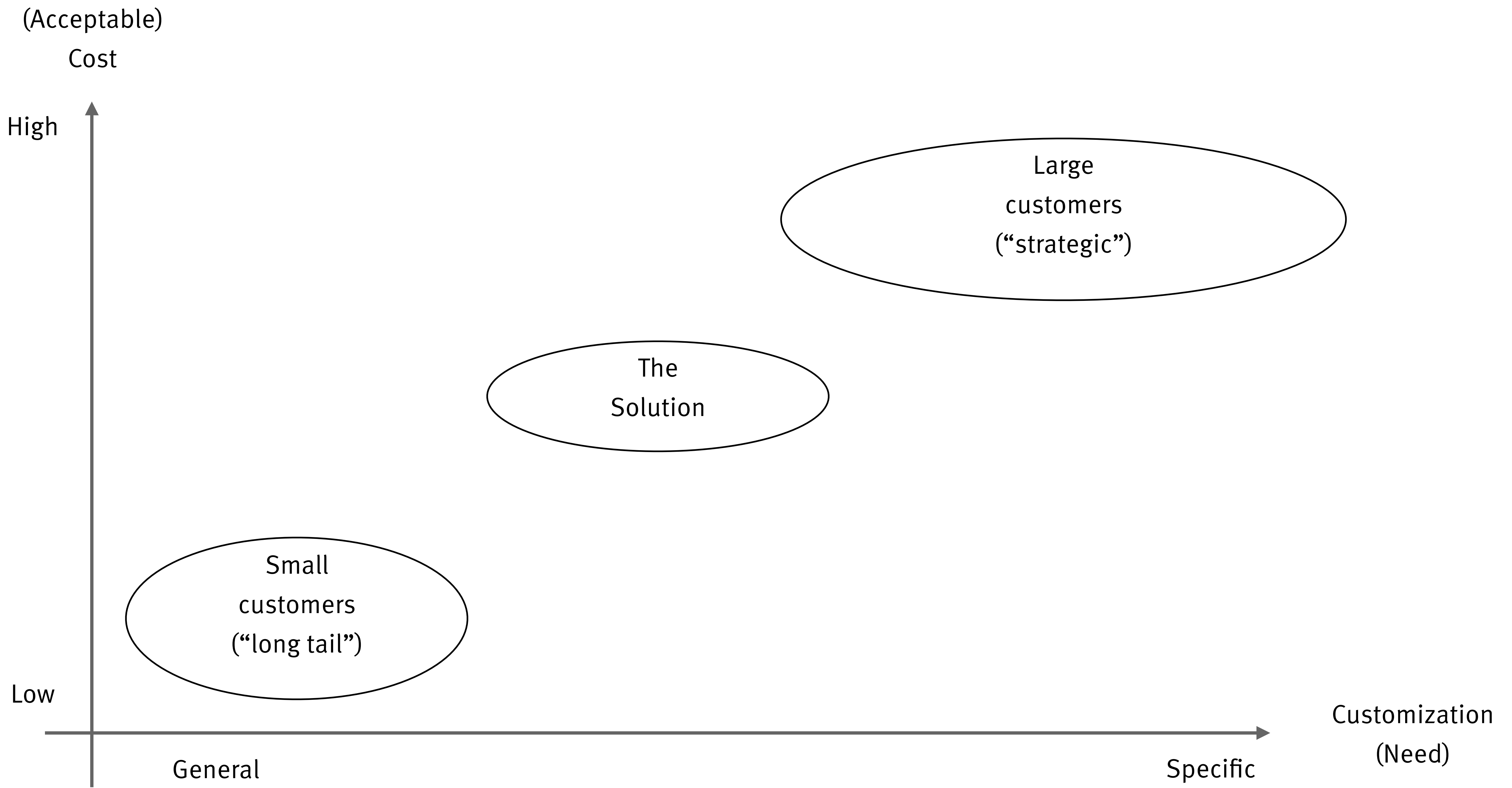
E-Commerce (retail) provider

Global customer base

Catalog/CMS/Shop/Fulfillment

Multi-tenant

Highly customizable



Lessons learned

Don't be all things to all people

Sometimes specific code is preferable

Saying “no” might help

Summary

**Never-ending supply of
{war stories | catastrophes | disasters}
seems guaranteed**

Advice:

1. Give Feedback

2. Reflect

3. Iterate

Q&A

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