# Event Sourcing

Greg Young

QCon San Francisco 2007

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**Presentation: "Scaling Domain Driven Design"**
**Track:** Architecture Quality (day 2)

**Time:** Thursday 16:00 - 17:00

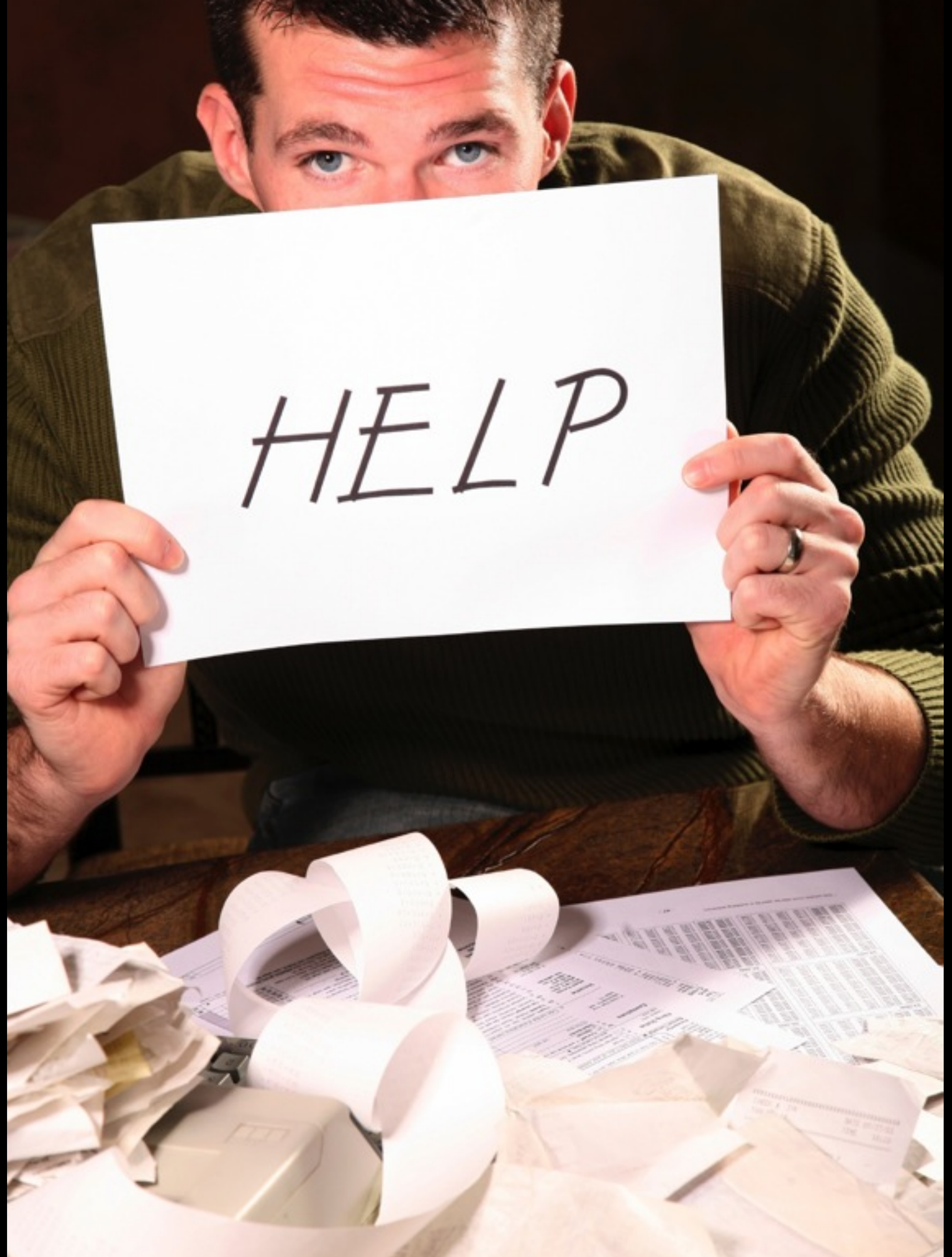
**Location:** Metropolitan I

**Abstract:** We've all heard about Domain Driven Design (DDD), but have you seen it applied in a large system? In the session you'll see how DDD was put to work to help design a high performance application processing 2000 sustained transactions per second with over 30GB of data added daily! It was DDD and the new 'Asynchronous Context Mapping' pattern that made this system possible with near linear scaling. Learn how to apply these techniques in your applications and how to overcome the challenges of DDD, such as reporting. This session makes large scale DDD make sense.

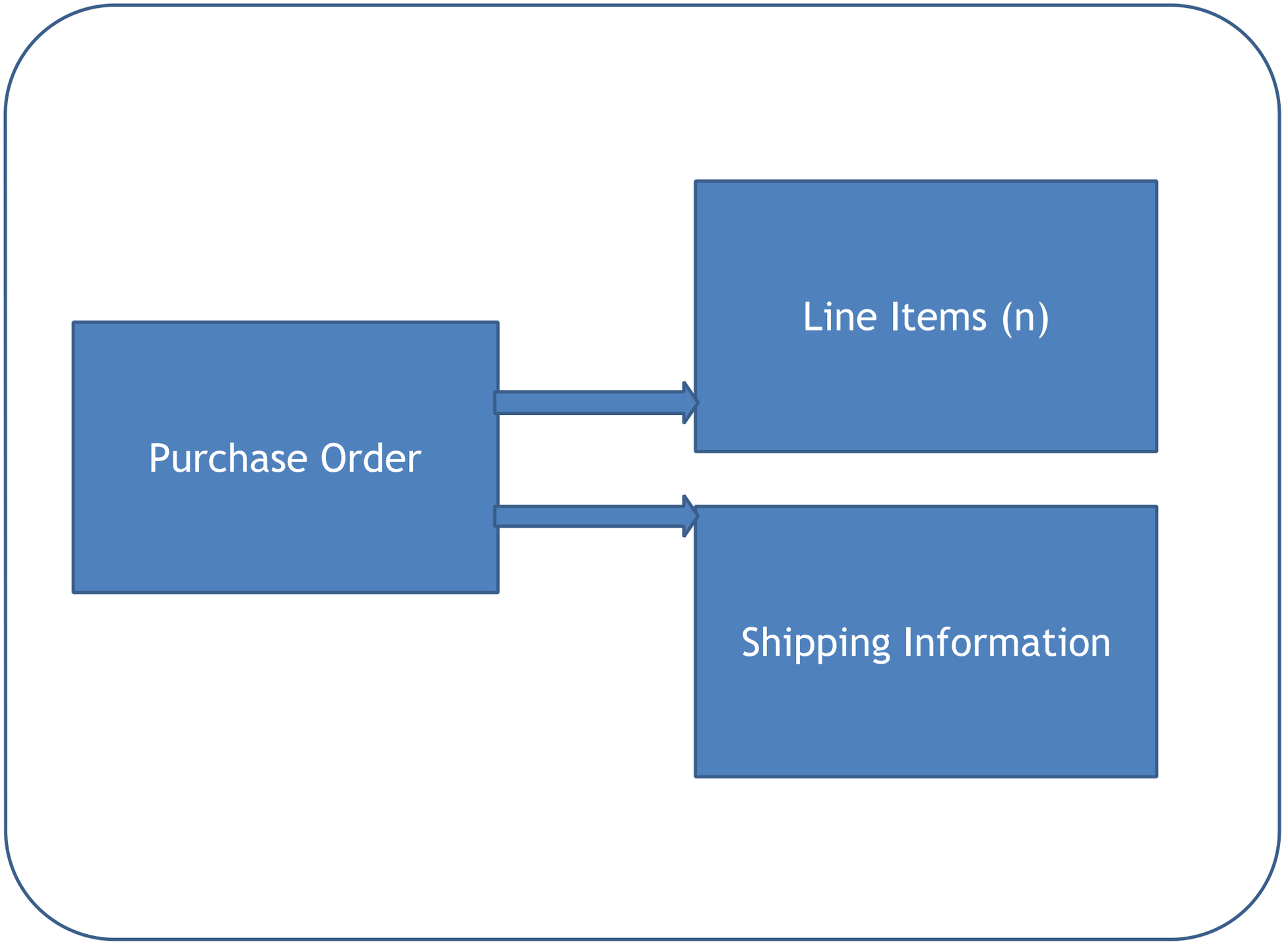
Download slides

## Greg Young, IMIS

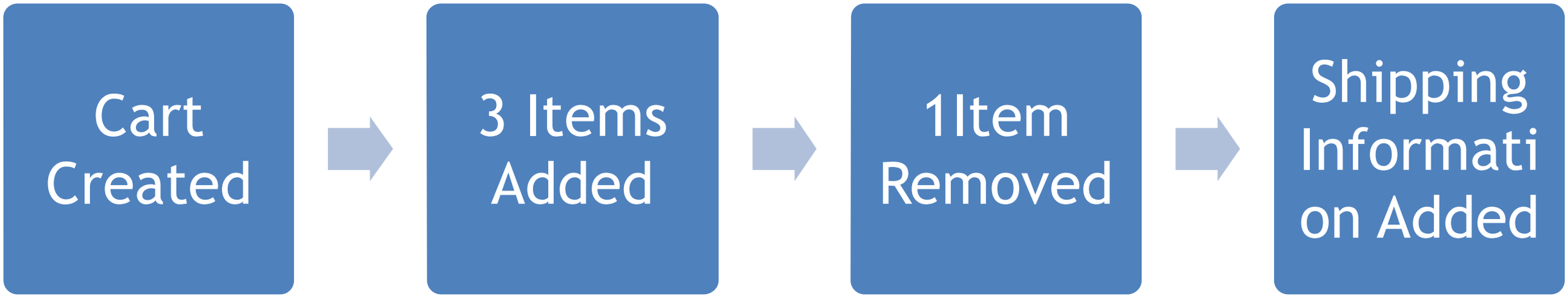
writing articles for InfoQ throughout the south ea northwest, or floating u kayak.


HELP

Event Sourcing says all state is transient and you only store facts.

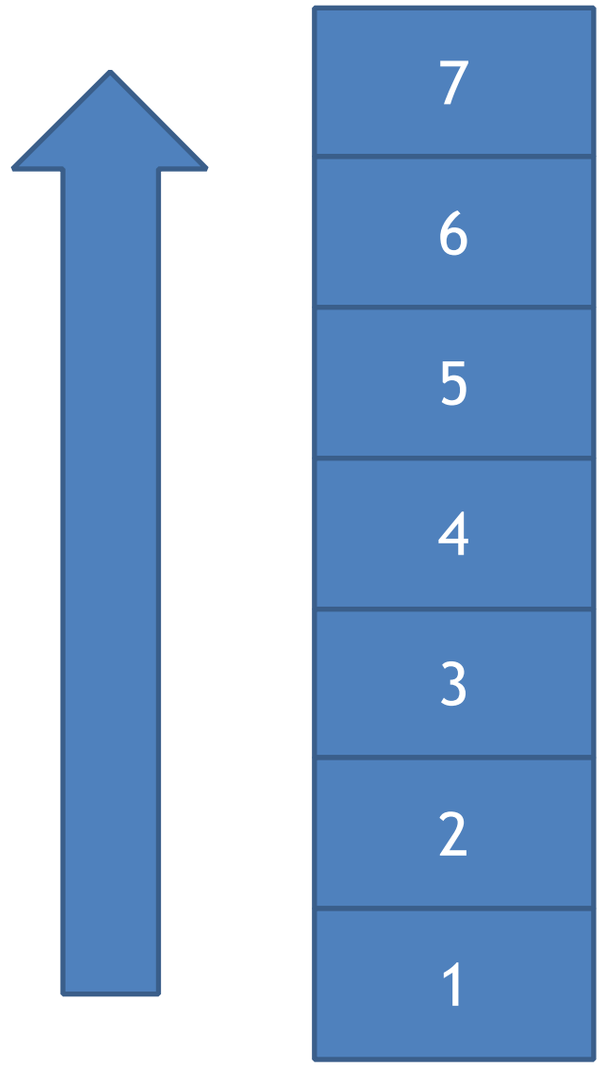

Line Items (n)
Purchase Order
Shipping Information

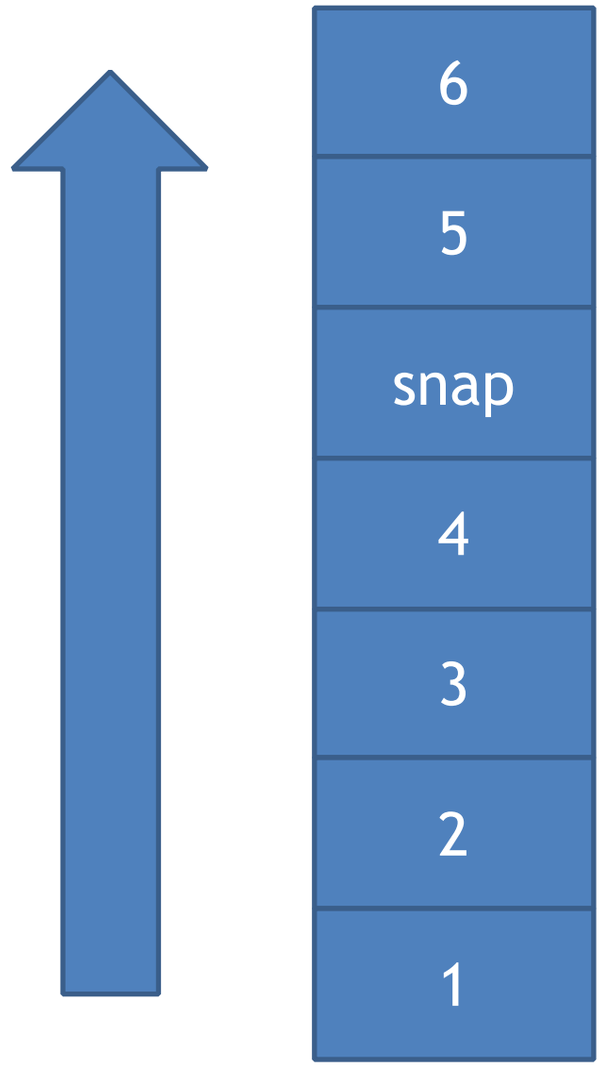
Cart Created
3 Items Added
Shipping Information Added


Cart Created
3 Items Added
1Item Removed
Shipping Information Added

Replay

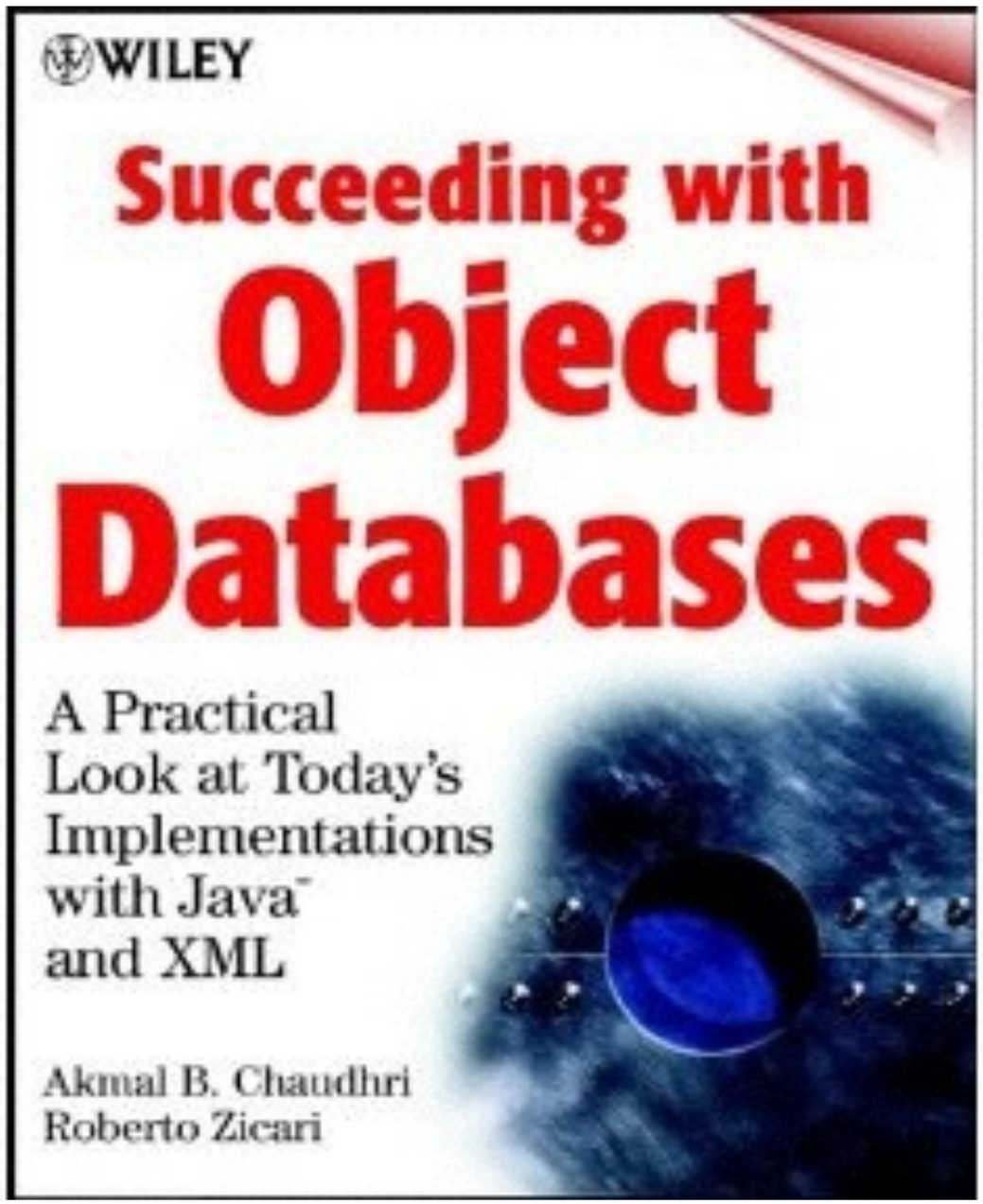
Skip


7
6
5
4
3
2
1


6
5
snap
4
3
2
1

I can’t query a series of events

mongoDB
Cassandra
Redis
riak
CouchDB
relax


WILEY
Succeeding with
Object
Databases
A Practical
Look at Today's
Implementations
with Java
and XML
Akmal B. Chaudhri
Roberto Zicari

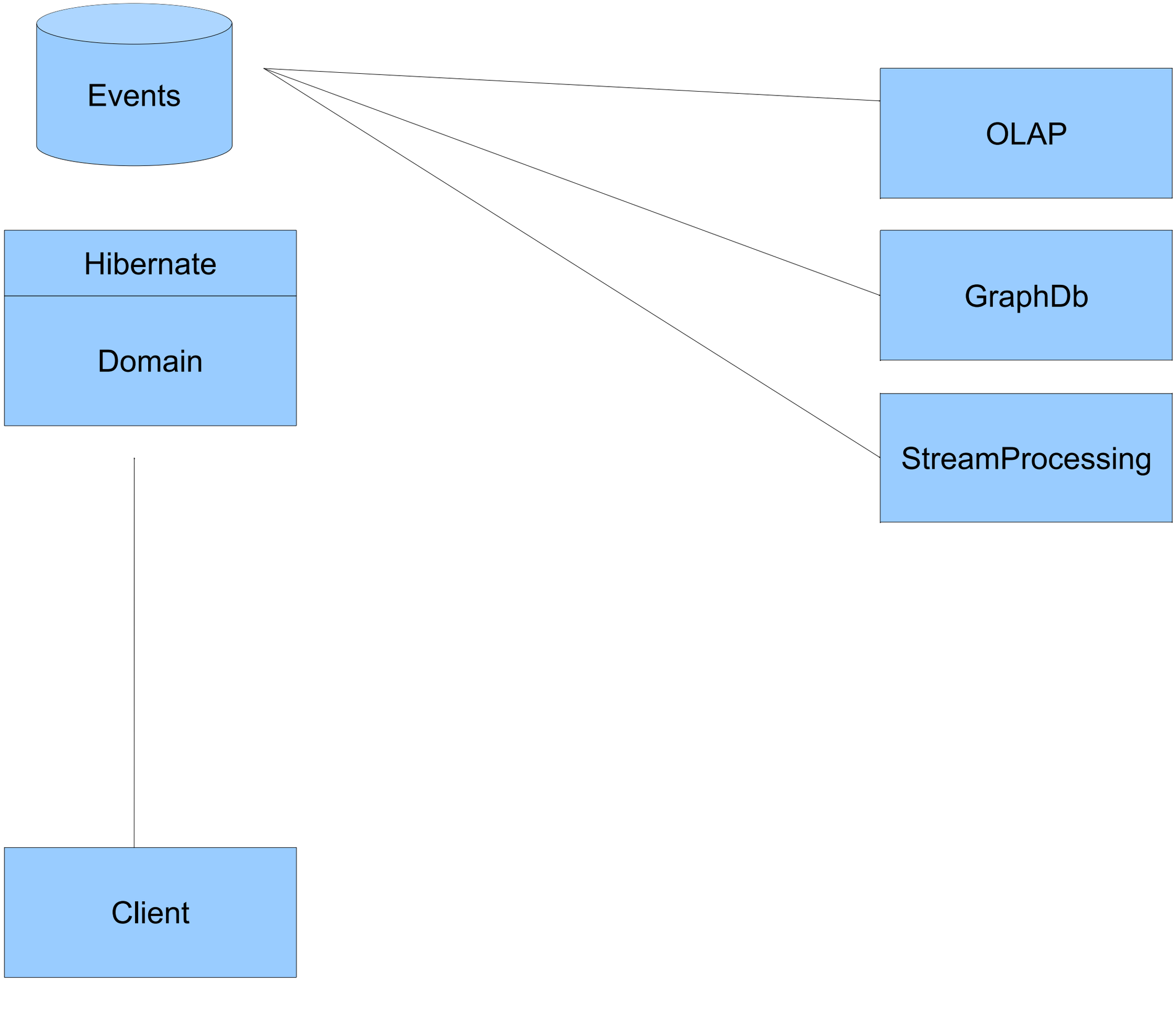
There is no “Best” storage

twitter

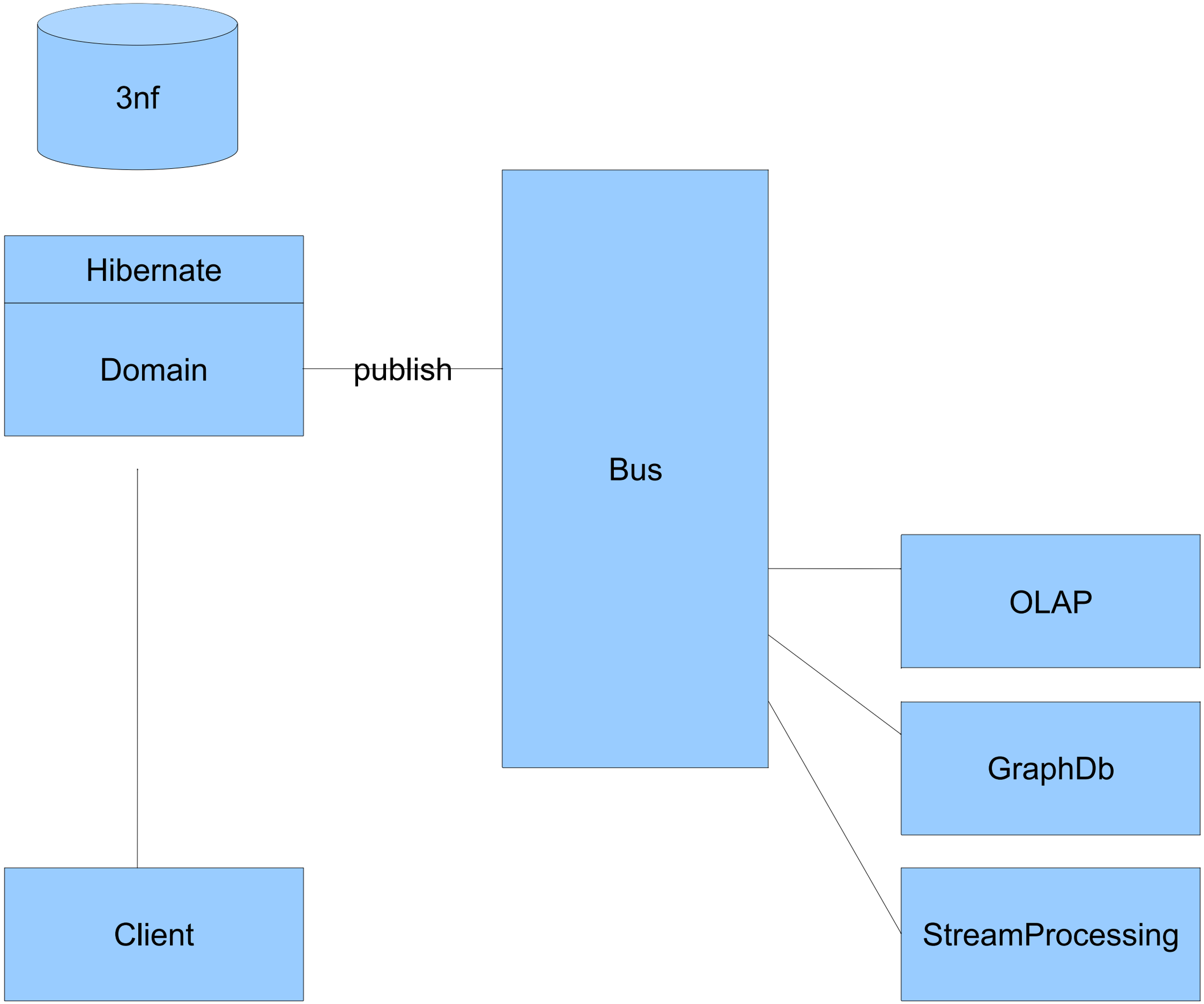
| Id | ParentId | Data |
|---|---|---|
| 1 | 0 | Parent |
| 2 | 1 | Child1 |
| 3 | 1 | Child2 |

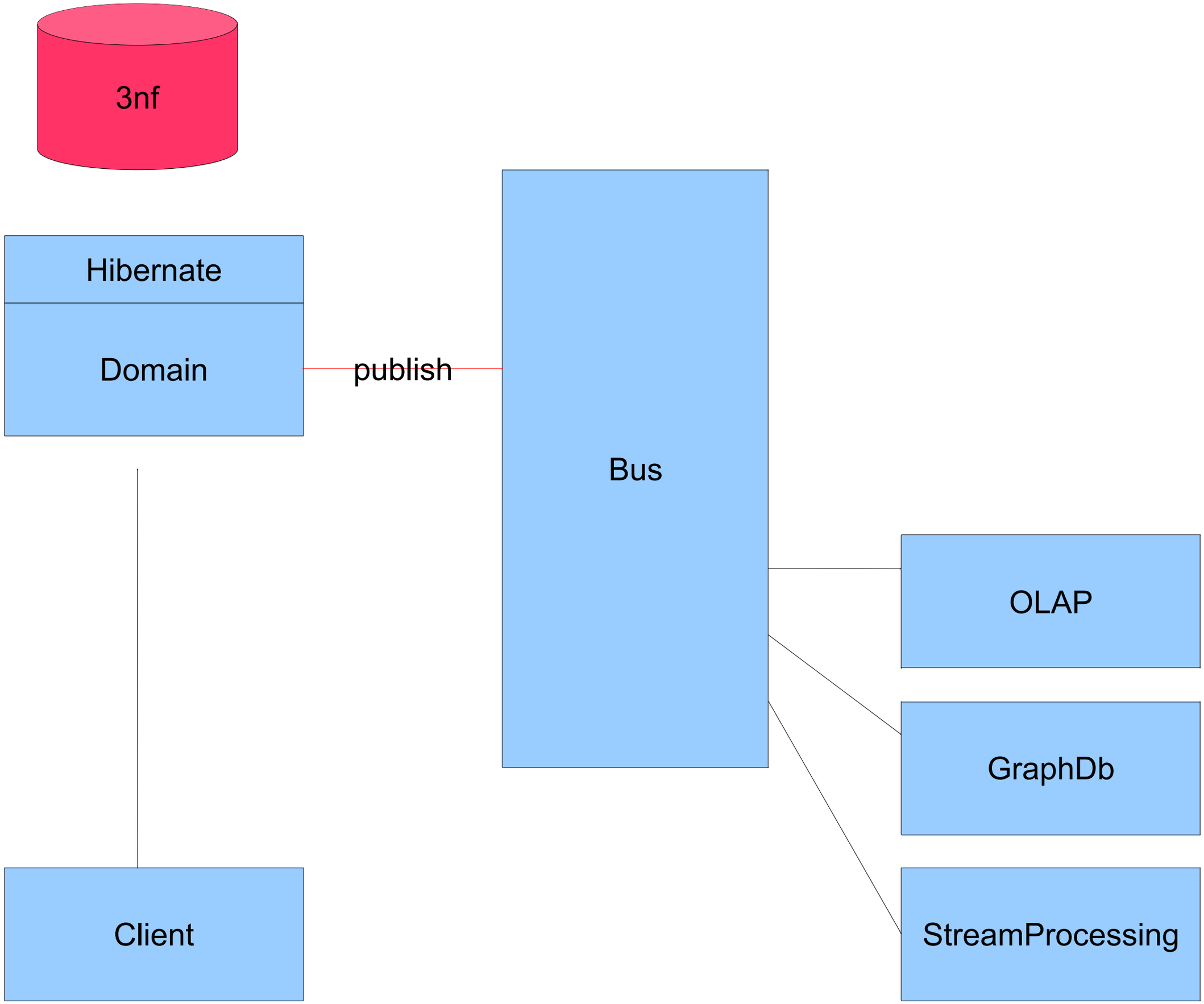
| Id | ParentId0 | ParentId1 | ParentId2 | ParentId3 | ParentId4 | Data |
|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | Parent |
| 2 | 1 | 0 | 0 | 0 | 0 | Child1 |
| 3 | 1 | 2 | 0 | 0 | 0 | Child2 |

Wrong models cause accidental complexity


Events
OLAP
Hibernate
Domain
GraphDb
StreamProcessing
Client

# Event Sourced Systems need a service bus


3nf
Hibernate
Domain
publish
Bus
OLAP
GraphDb
StreamProcessing
Client


3nf
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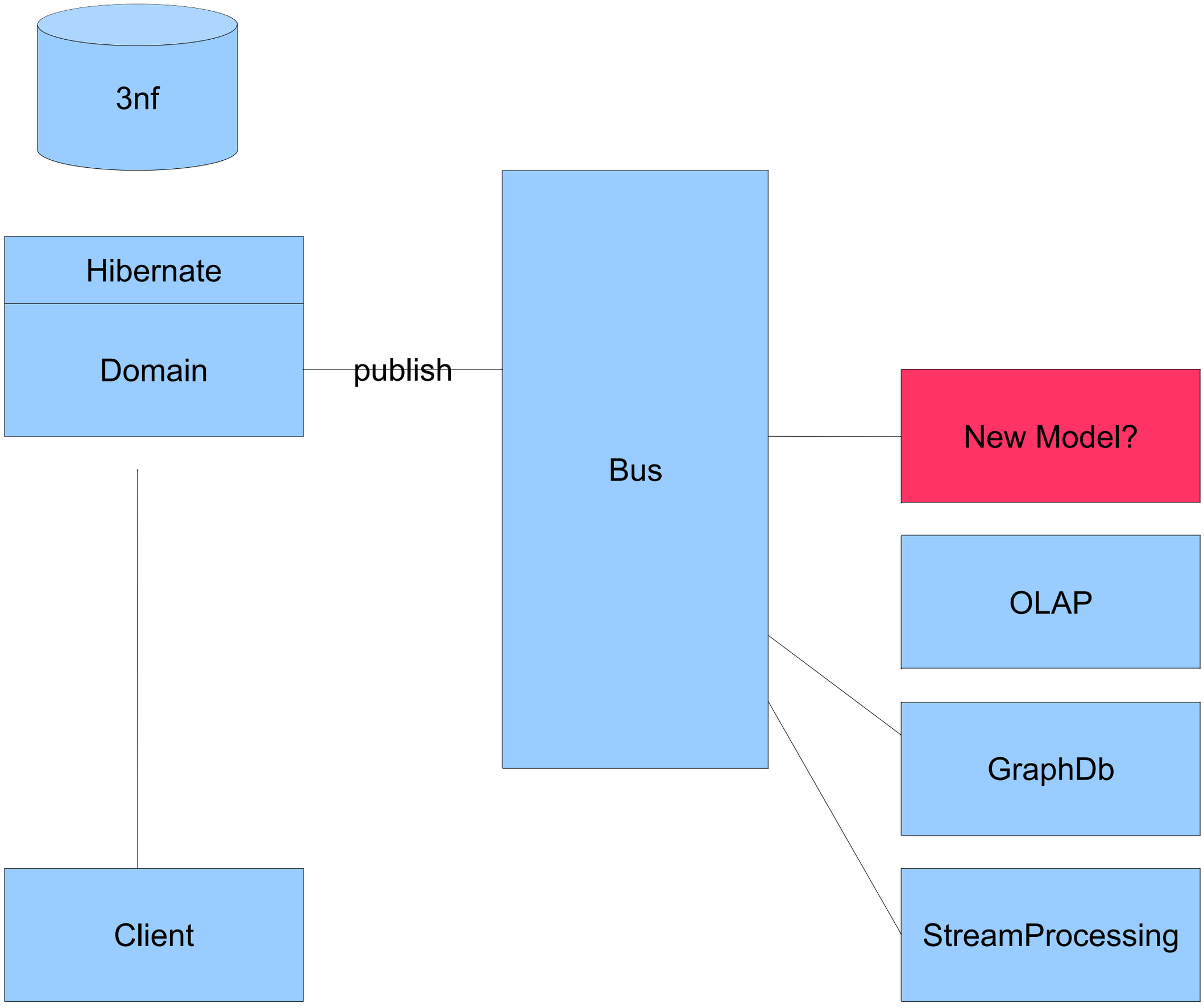
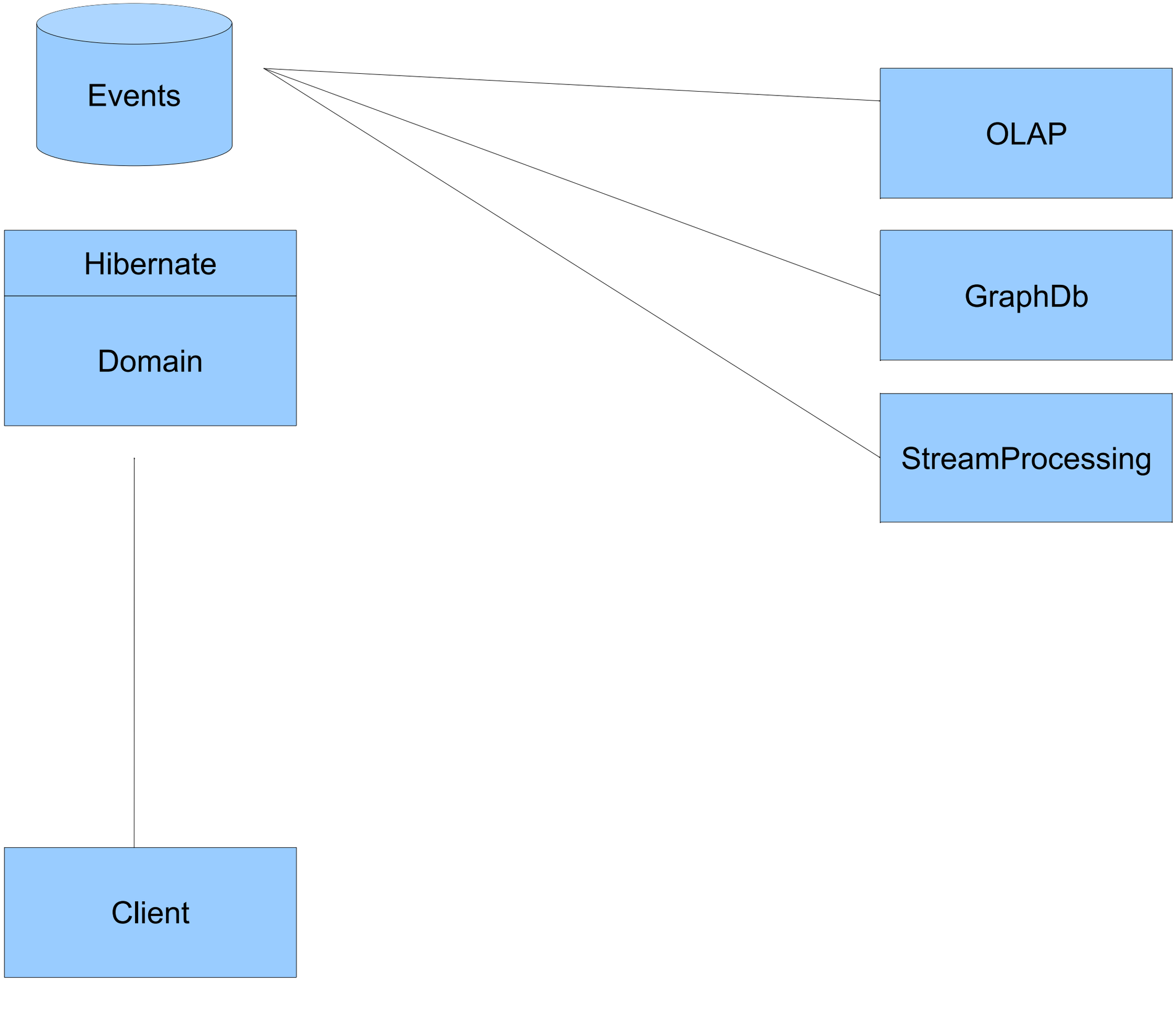

3nf
Hibernate
Domain
publish
Bus
New Model?
OLAP
GraphDb
StreamProcessing
Client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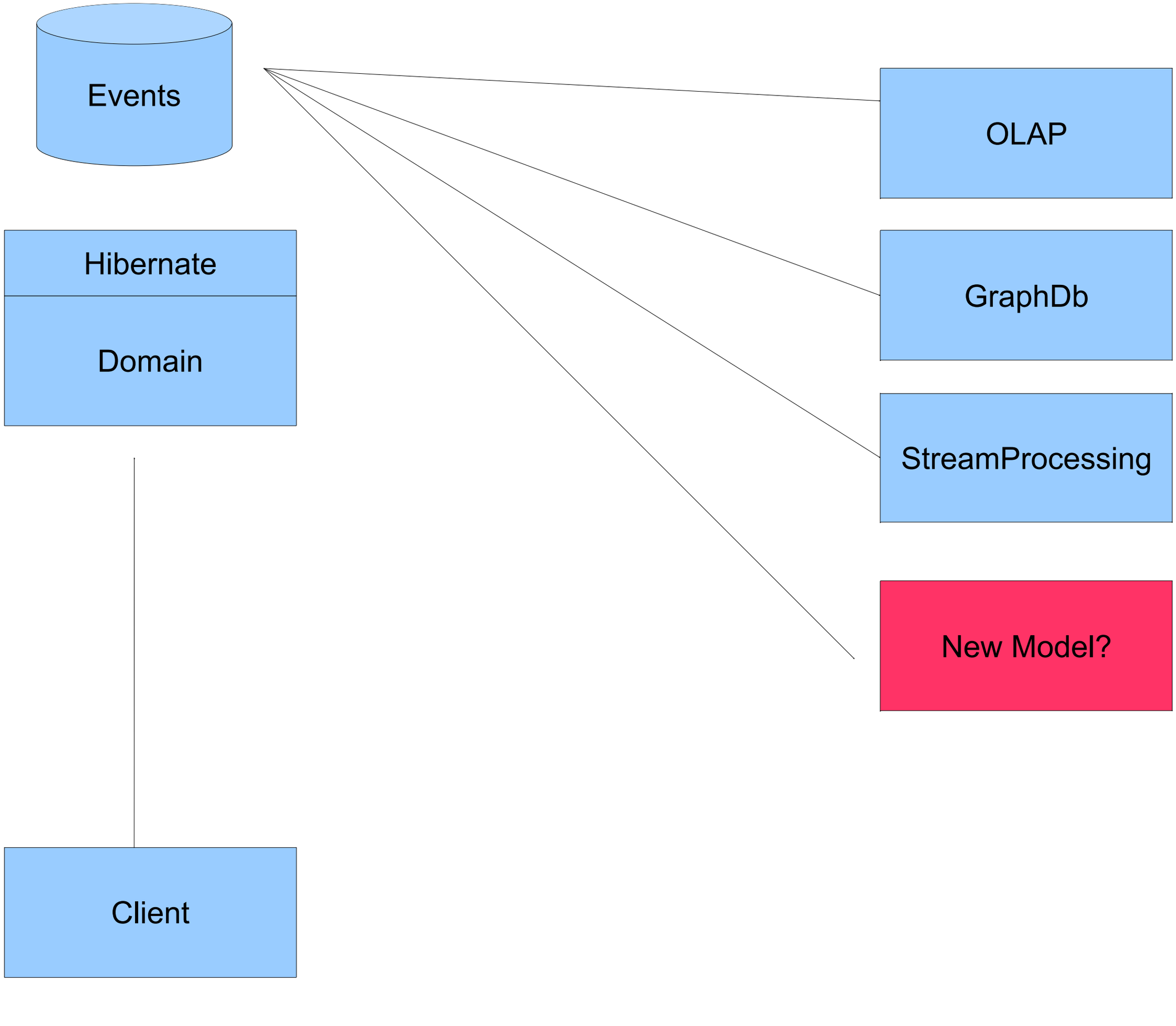
Events
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New Model?
Client

Event Sourcing is more complex!

# What big companies are using Event Sourcing?

Because obviously we make our decisions this way!

Event Sourced
systems must be slow

Event Sourced systems must be object oriented

What is the “bestest” Event Sourcing framework ever?

Cirqus of course, at least the guys are local when it sucks

But what about all my data with Event Sourcing it must be huge!

If it fits on a micro-SD its not big data.

CQRS is just a teaching pattern!

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systems must be slow

Event Sourced systems must be object oriented

But what about all my data with Event Sourcing it must be huge!

# Event Sourcing isn't "enterprisey"

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THANKS!

No really Thanks!