

JUDCon

JBoss Users & Developers Conference

London:2011

Introducing



HIBERNATE OGM

JBoss Community

hardy@hibernate.org



ogm-kitchensink

JBoss Community

About me

- Hibernate Team member w/ focus on Validator and Search
- in.relation.to/Bloggers/hardy
- hardy@hibernate.org



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About Sanne

- Also part of the Hibernate Team
- ...



OMG
Oh
My
God

JBoss Community



OGM

Object

Grid

Mapper

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What are we going to talk about?

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- What is OGM?

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- What is OGM?
- How to compare RDBMS vs NoSQL?
- How to convert an existing JPA app to OGM?
- How to push OGM app to OpenShift?

What is Hibernate OGM!?

JPA for NoSQL

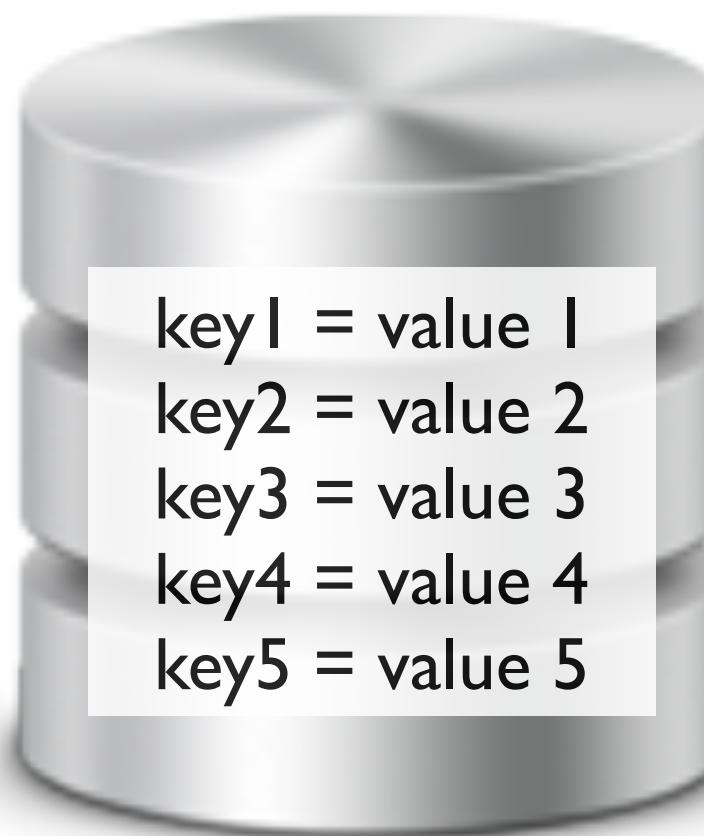
What is Hibernate OGM!?

JPA for NoSQL



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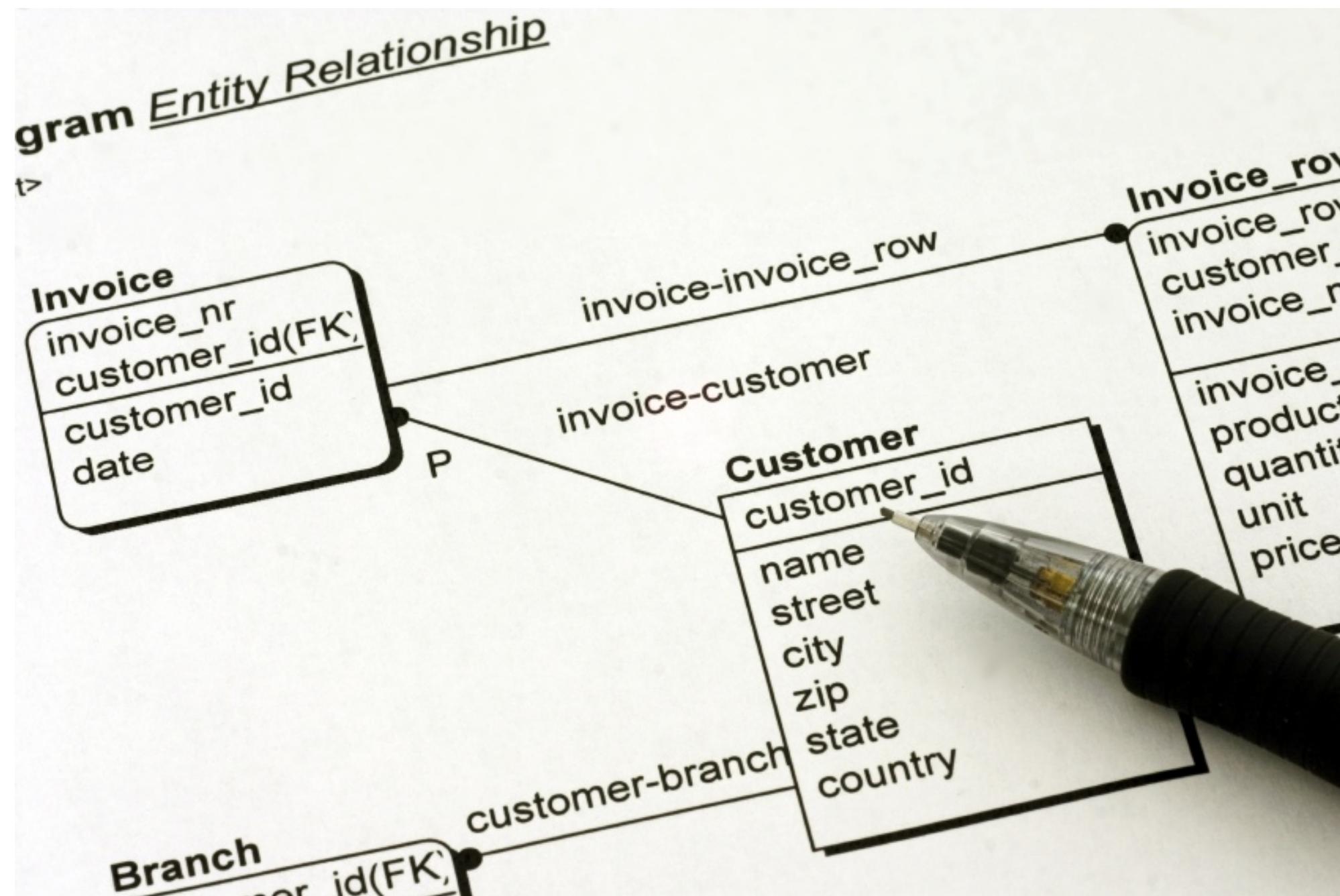
JPA for NoSQL





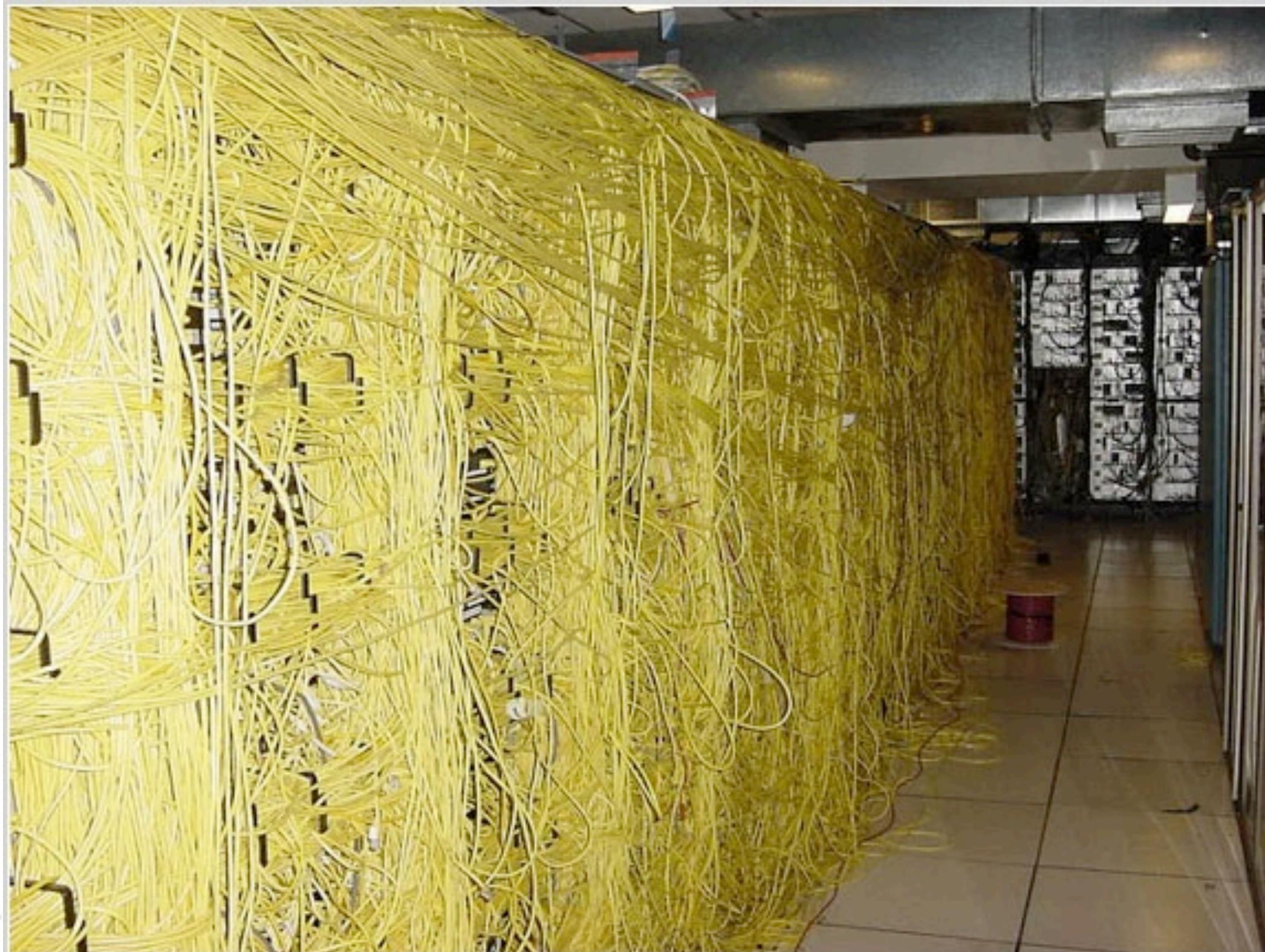
- Encourage new data usage patterns
 - provide familiar environment
 - ease of use
 - easy to jump in (and out!)
- Push NoSQL exploration

Relational Databases



- Transaction
- Referential integrity
- Types
- Well understood
 - tuning, backup, resilience

Relational Databases



But scaling is hard!

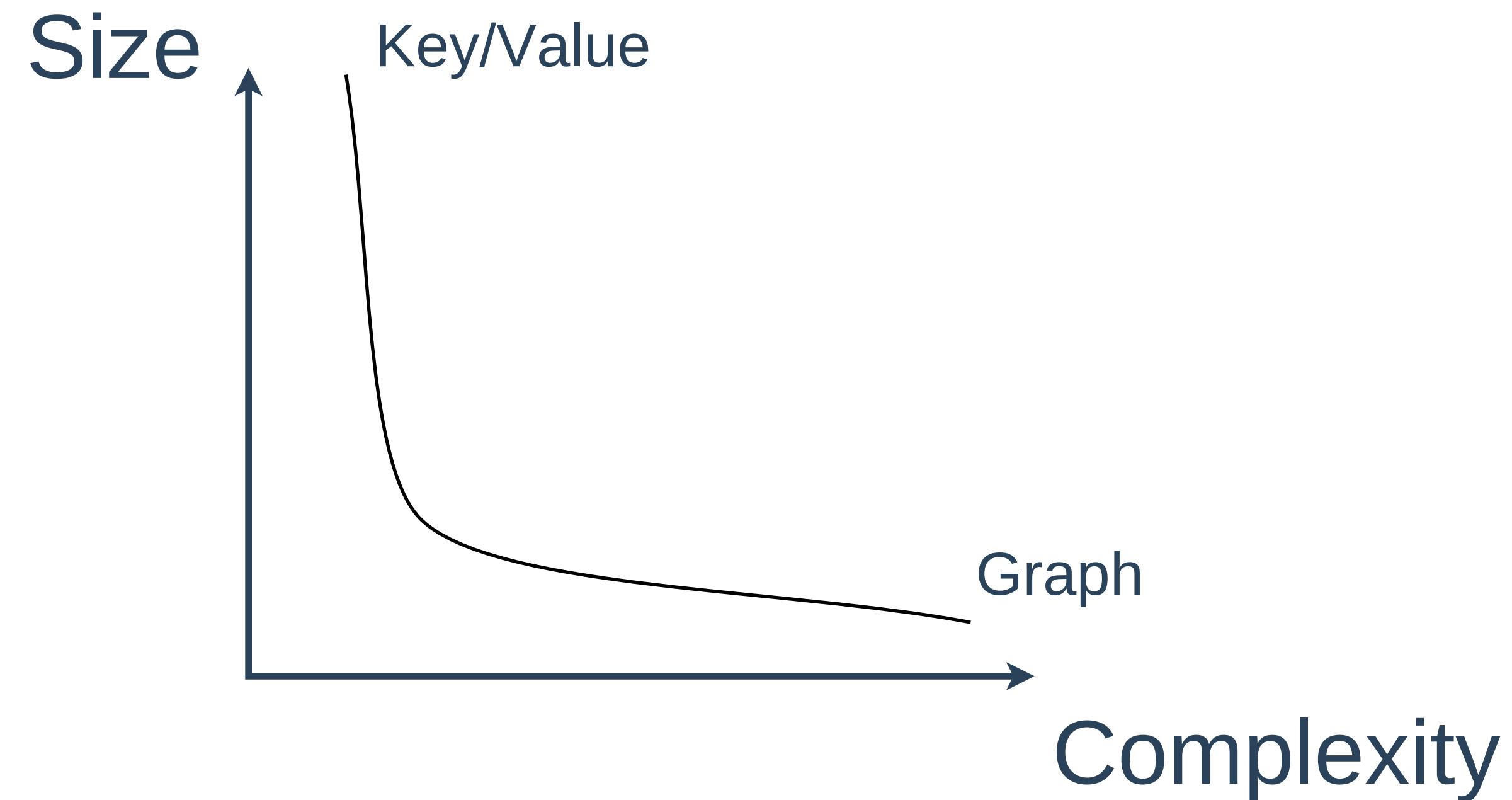
- Replication
- Multiple instances w/ shared disk
- Sharding

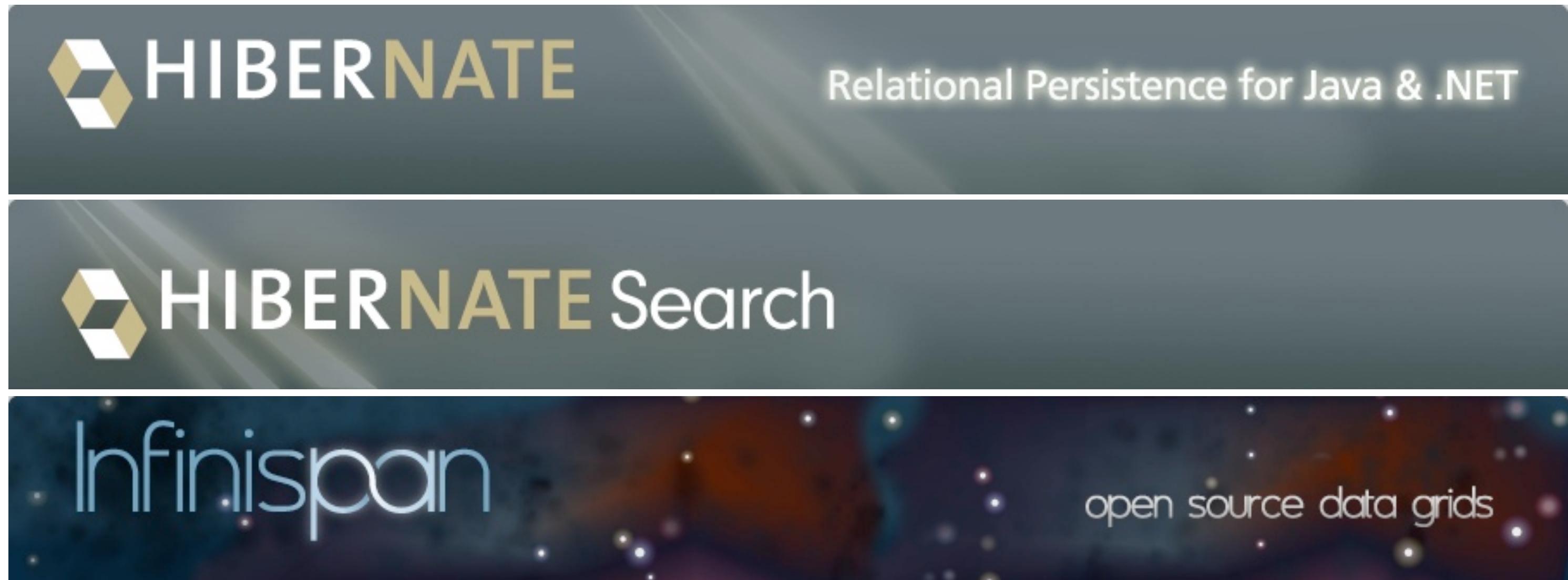
NotOnlySQL

- Data size
- Connectedness
- Architecture

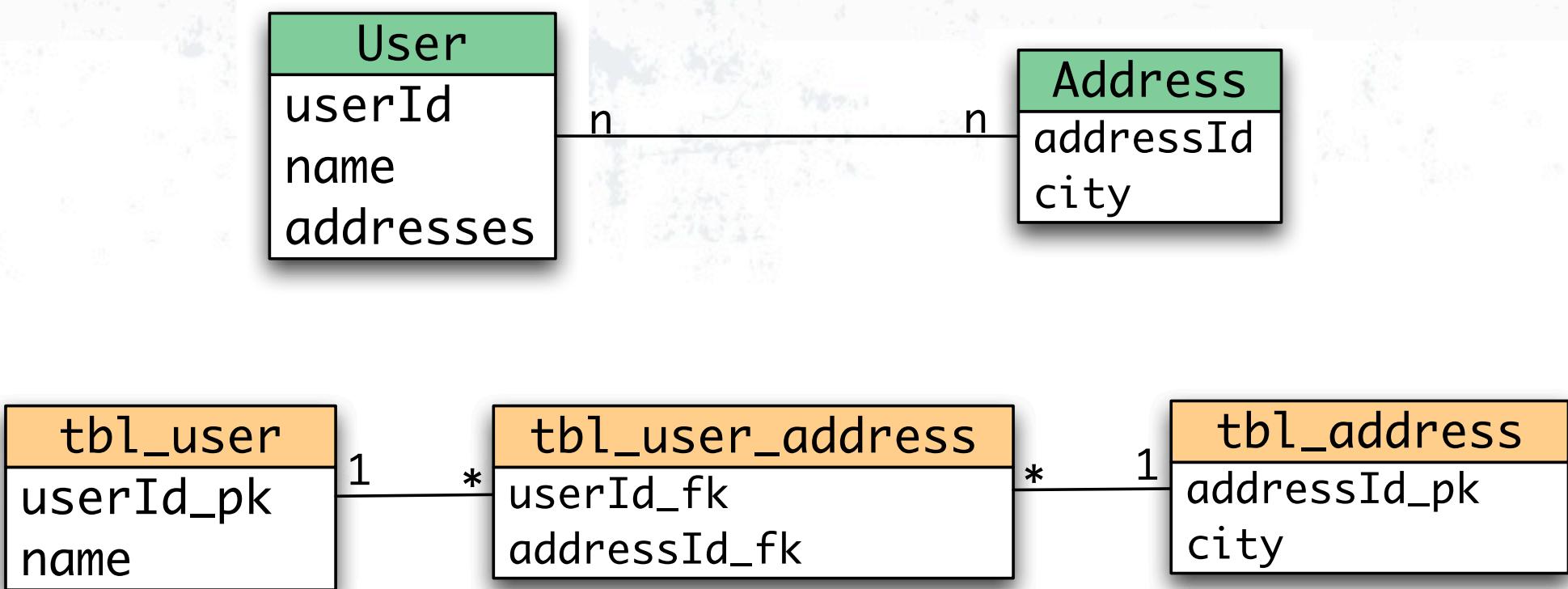
NotOnlySQL

- Document based stores
- Column based
- Graph oriented databases
- Key / value stores





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key	value
tbl_user,userId_pk,1	{userId_pk=1,name="Emmanuel"}
tbl_user,userId_pk,2	{userId_pk=2,name="Caroline"}
tbl_address,addressId_pk,3	{addressId_pk=3,city="Paris"}
tbl_address,addressId_pk,5	{addressId_pk=5,city="Atlanta"}
tbl_user_address,userId_fk,1	{ {userId_fk=1, addressId_fk=3}, {userId_fk=1, addressId_fk=5} }
tbl_user_address,userId_fk,2	{ {userId_fk=2, addressId_fk=3} }
tbl_user_address,addressId_fk,5	{ {userId_fk=1, addressId_fk=5} }
tbl_user_address,addressId_fk,3	{ {userId_fk=1, addressId_fk=3}, {userId_fk=2, addressId_fk=3} }

How does it work?

- Entities are stored as tuple (Map<String, Object>)
- The key is composed of
 - table name
 - entity id
- Collections are represented as a list of tuple
- The key is composed of:
 - table name hosting the collection information
 - column names representing the FK
 - column values representing the FK

Demo

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What have we just done?

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What have we just done?

- Used a JBoss AS 7 module

What have we just done?

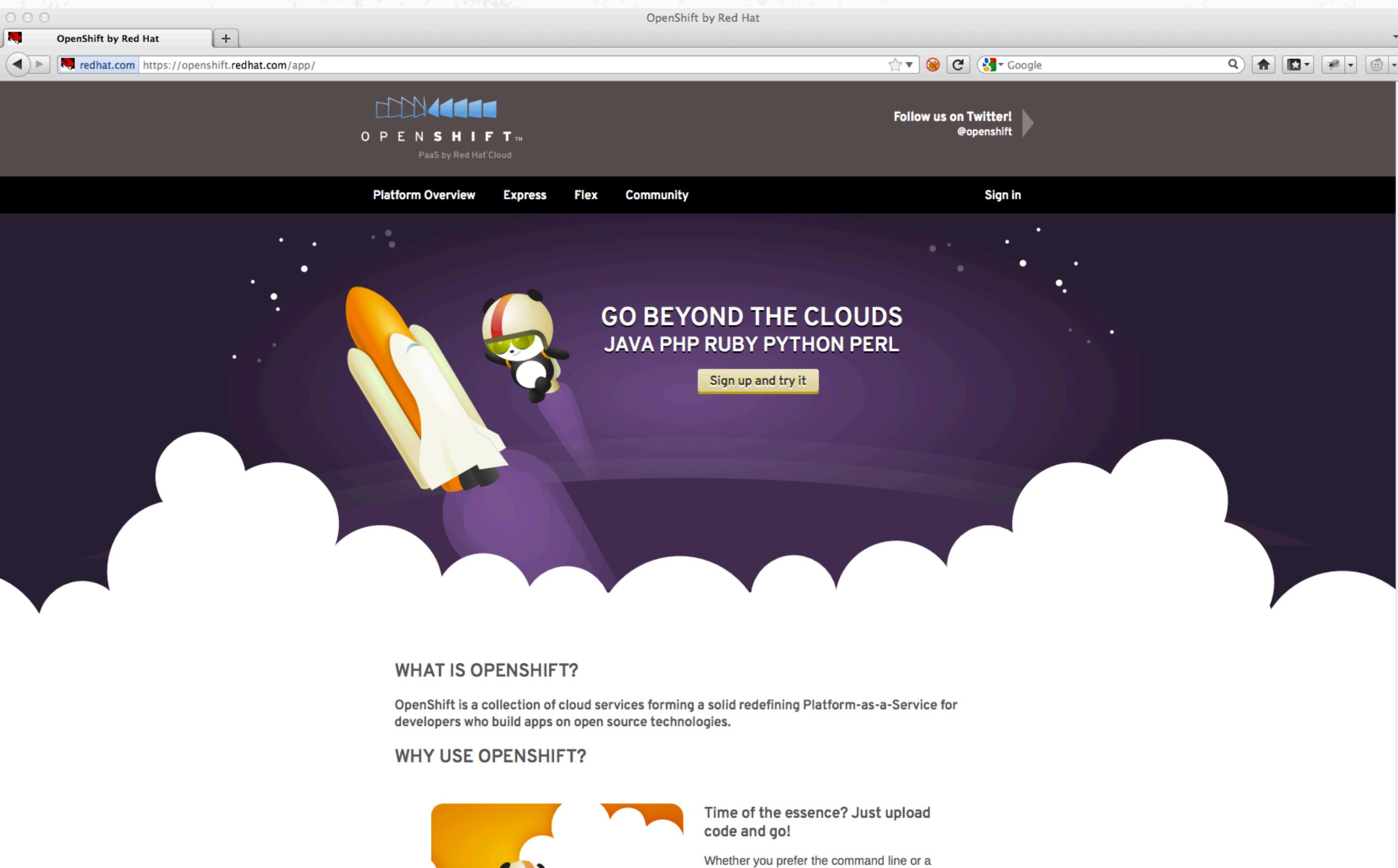
- Used a JBoss AS 7 module
- Changed persistence provider

What have we just done?

- Used a JBoss AS 7 module
- Changed persistence provider
- Switched to UUID

What have we just done?

- Used a JBoss AS 7 module
- Changed persistence provider
- Switched to UUID
- Replaced Criteria w/ Hibernate Search



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What is OpenShift!?

- Free, cloud-based application platform
- Supports Java, Perl, PHP, Python, and Ruby
- Comes in the flavors Express and Flex
- Controlled via ruby scripts
- Deployment is as easy as: `git push`



RVM



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Demo

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What have we just done!?

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What have we just done!?

- Created OpenShift domain and app

What have we just done!?

- Created OpenShift domain and app
- Enabled OpenShift maven profile

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What have we just done!?

- Created OpenShift domain and app
- Enabled OpenShift maven profile
- Added AS module
- Pushed repo
- Watched and marveled

What's hot?



- Works now with Hibernate Core 4
- Improved performance - x %
- Transactional behavior!?
-

Summary

- JPA for NoSQL
 - Reusing mature projects
 - Keep the good of the relational model
 - Query via Hibernate Search
-
- JP-QL support on its way
 - Still early in the project

<http://www.hibernate.org/subprojects/ogm.html>

The screenshot shows a web browser window displaying the Hibernate OGM project page on the JBoss Community website. The page title is "Hibernate OGM - JBoss Community". The main content area features the "HIBERNATE OGM" logo and a navigation bar with links for Overview, Downloads, Documentation, Community, Issue Tracker, Source Code, and Build. A search bar for project pages is also present. The main text discusses the aims and target features of Hibernate OGM, mentioning support for Infinispan, Hibernate Search full-text queries, and simple JP-QL queries. It also notes the medium target for other key/value stores, NoSQL families, and complex joins/aggregations. The page is Open Source and released under the LGPL license. A sidebar on the right lists "HIBERNATE Core", "HIBERNATE Shards", "HIBERNATE Search", "HIBERNATE Tools", "HIBERNATE Validator", "HIBERNATE Metamodel Generator", and "HIBERNATE OGM". Below this is a "Quick Links" section with links to Download, Documentation, Wiki, and Ohloh Profile. At the bottom is a logo for "Cloud.TM" with the tagline "A novel programming paradigm for the Cloud".

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Q + A

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