

JUDCon

JBoss Users & Developers Conference

London:2011

Introducing



HIBERNATE OGM

JBoss Community

hardy@hibernate.org



ogm-kitchensink

JBoss Community

About Hardy

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



JBoss Community

About Sanne

- Part of Hibernate and Infinispan team
- in.relation.to/Bloggers/sanne
- sanne@hibernate.org



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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- How to convert an existing JPA app to OGM?
- What is OpenShift?
- How can we use OpenShift and OGM?

What is Hibernate OGM!?

JPA for NoSQL

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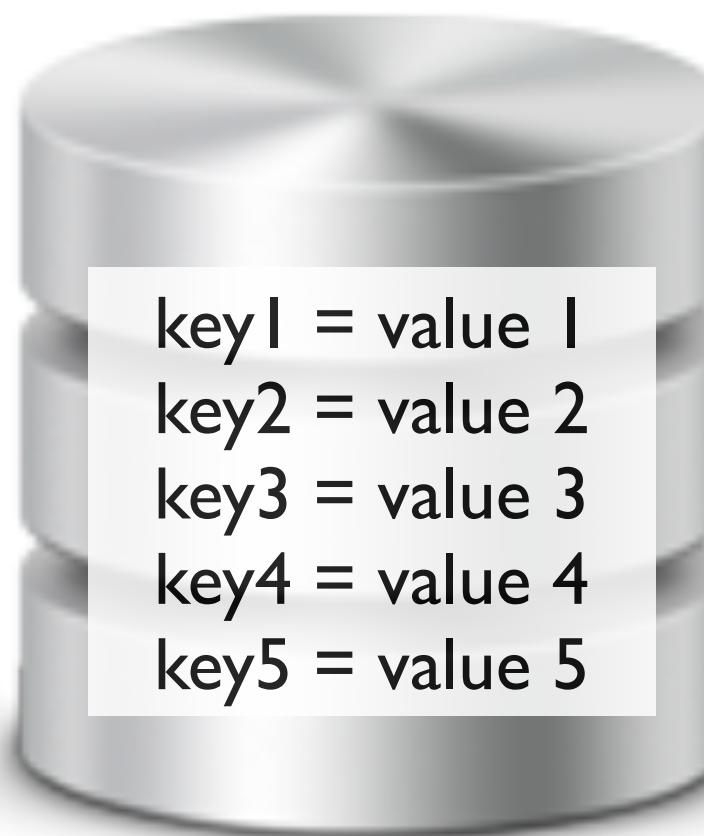
JPA for NoSQL



key1 = value 1
key2 = value 2
key3 = value 3
key4 = value 4
key5 = value 5

What is Hibernate OGM!?

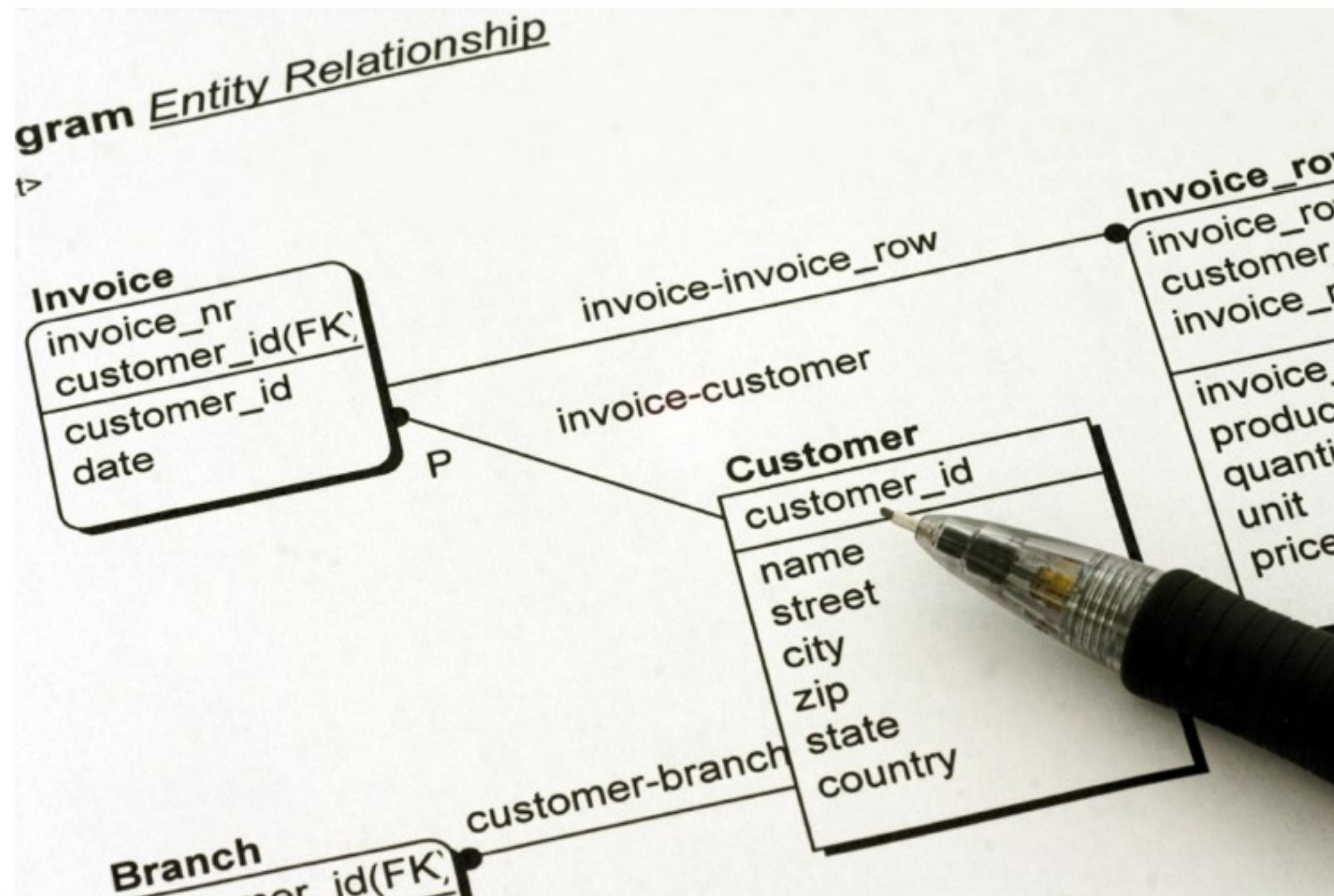
JPA for NoSQL





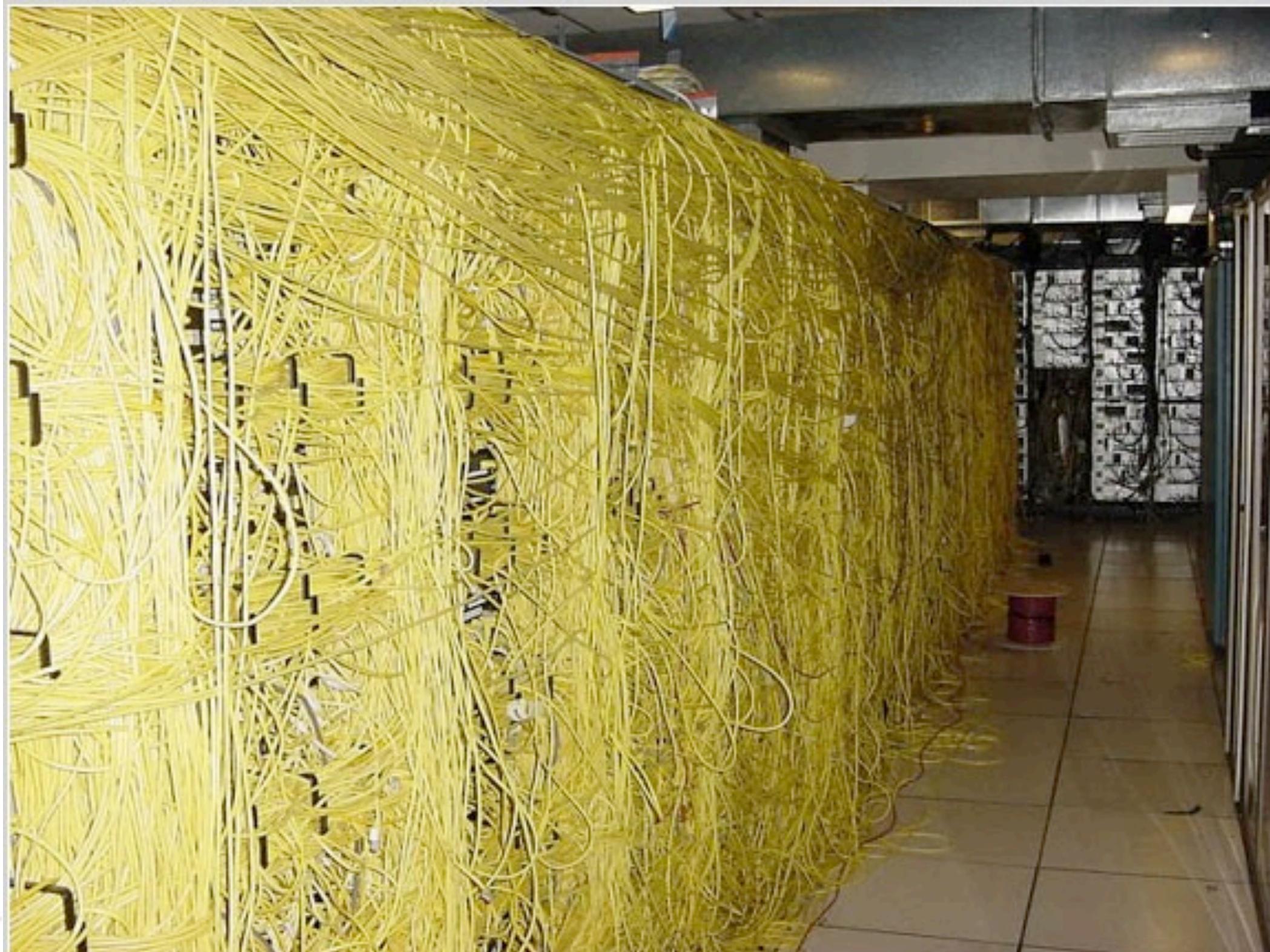
- Encourage new data usage patterns
 - provide familiar environment
 - ease of use
 - easy to jump in (and out!)
- Allow NoSQL exploration

Relational Databases



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

Relational Databases



But scaling is hard!

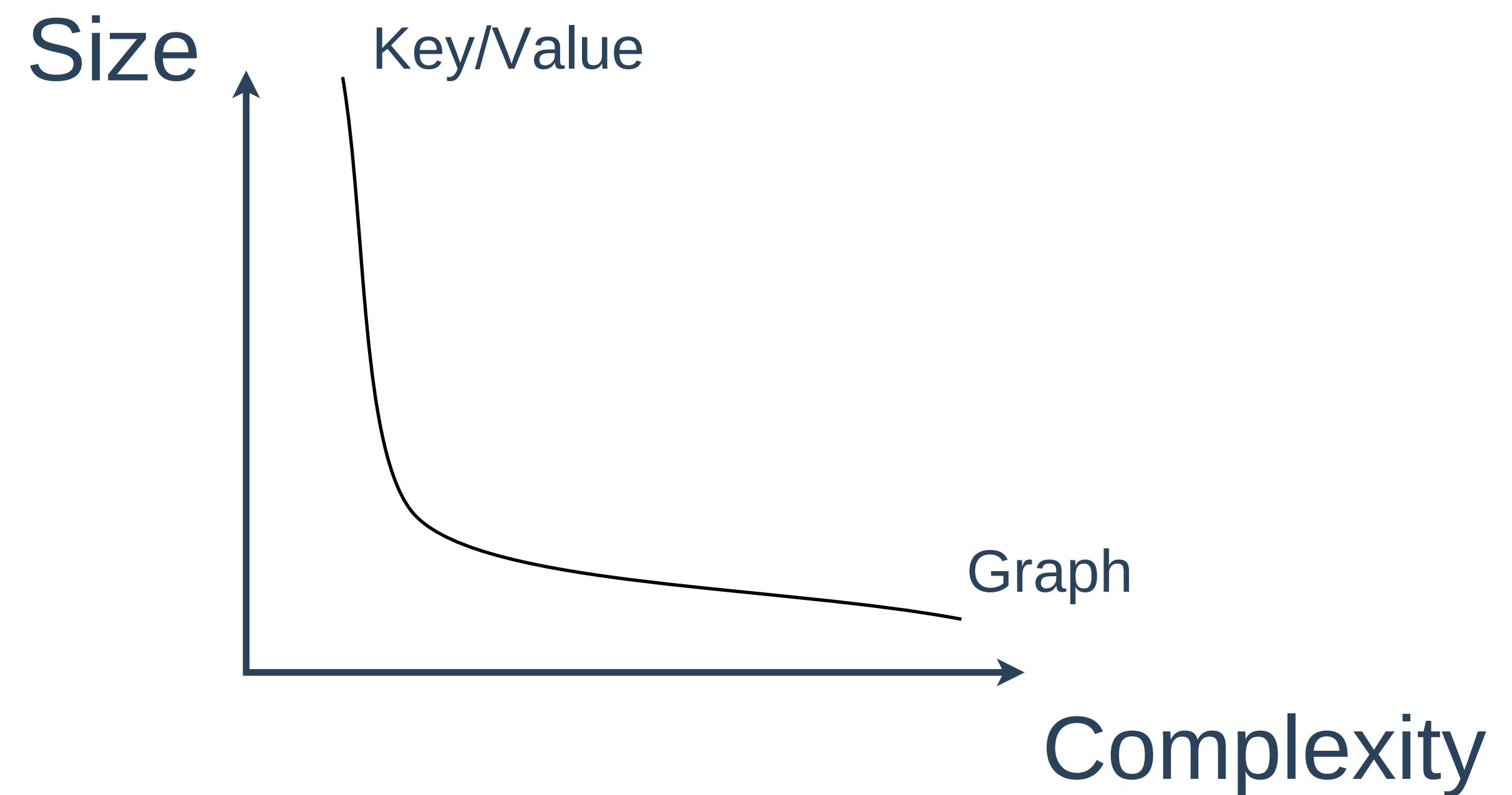
- Replication
- Multiple instances w/ shared disk
- Sharding

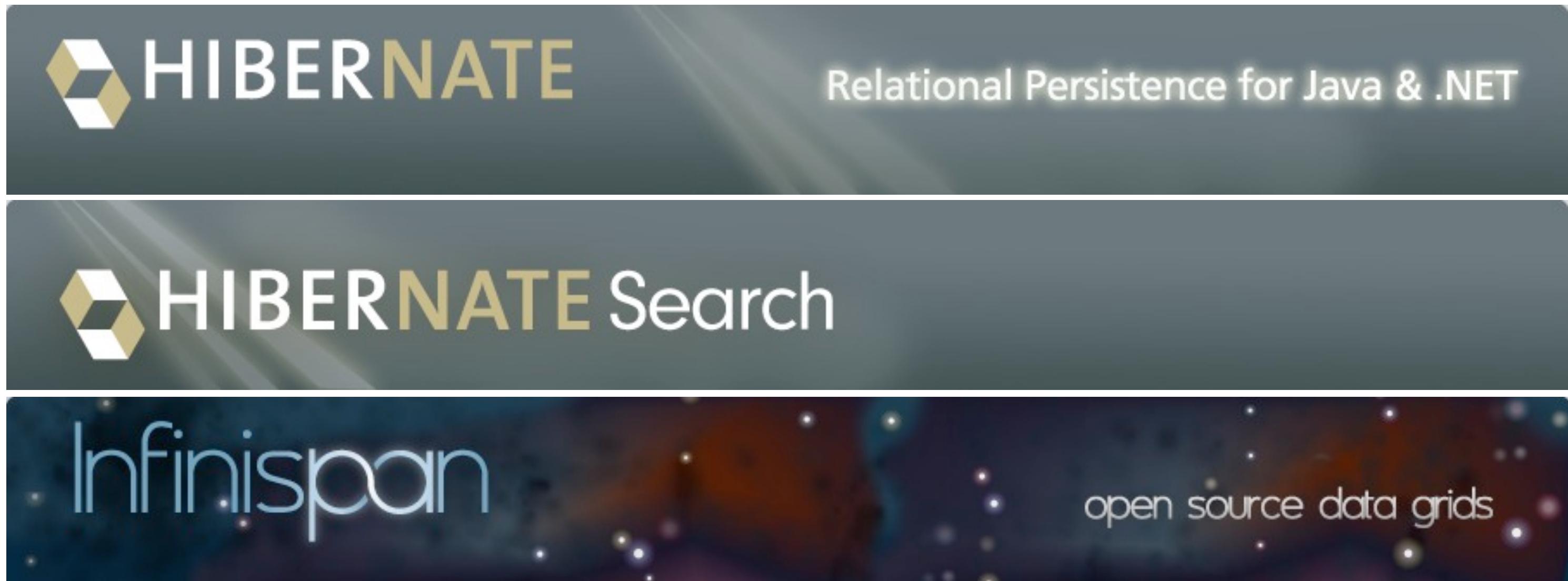
NotOnlySQL

- Data size
- Connectedness
- Architecture

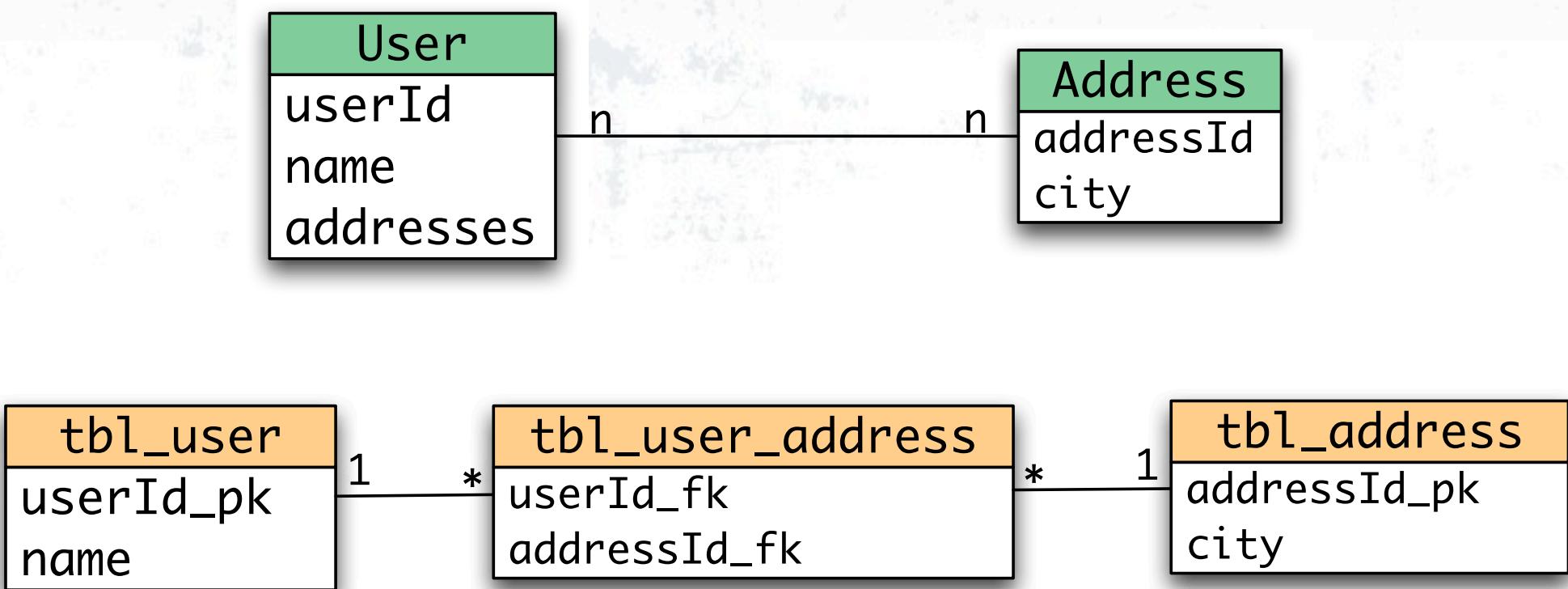
NotOnlySQL

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





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

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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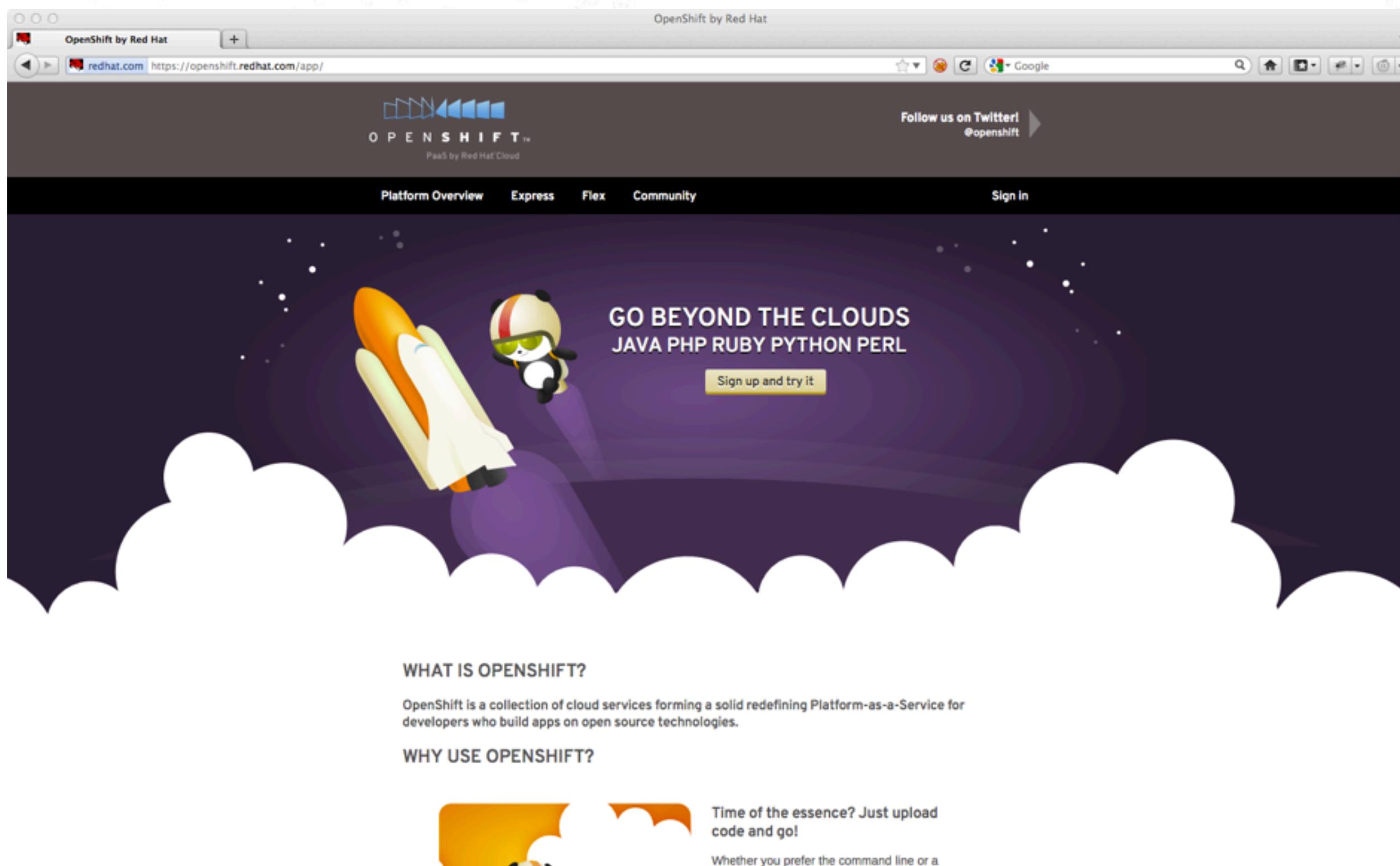
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- Used a JBoss AS 7 module for Hibernate 3 and OGM
 - <http://in.relation.to/21601.lace>
- Changed persistence provider: *OGMPersistenceProvider*
- Switched to UUID for entity ids
- Replaced JPACriteria w/ Hibernate Search

Let's launch!



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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`

```
$ gem install rhc
$ rhc- <TAB>
rhc-chk rhc-create-app rhc-create-domain
rhc-ctl-app rhc-snapshot rhc-tail-files rhc-user-info
```

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$ gem install rhc  
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rhc-chk rhc-create-app rhc-create-domain  
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Demo

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- Created OpenShift domain and app
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- Added AS module
- Pushed to build and deploy
- Watched and marveled

What's hot?



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

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 navigation links for Overview, Downloads, Documentation, Community, Issue Tracker, Source Code, and Build. A search bar for "Search project pages" is also present. The central 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. A sidebar on the right lists "HIBERNATE Core" components: Core, Shards, Search, Tools, Validator, Metamodel Generator, and OGM. Below this is a "Quick Links" section with links to Download, Documentation, Wiki, and Ohloh Profile. At the bottom, there 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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