

JUDCon

JBoss Users & Developers Conference

London:2011

Introducing



HIBERNATE OGM

JBoss Community

hardy@hibernate.org



ogm-kitchensink
<http://goo.gl/V6iSo>

About Hardy

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



JBoss Community



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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- 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

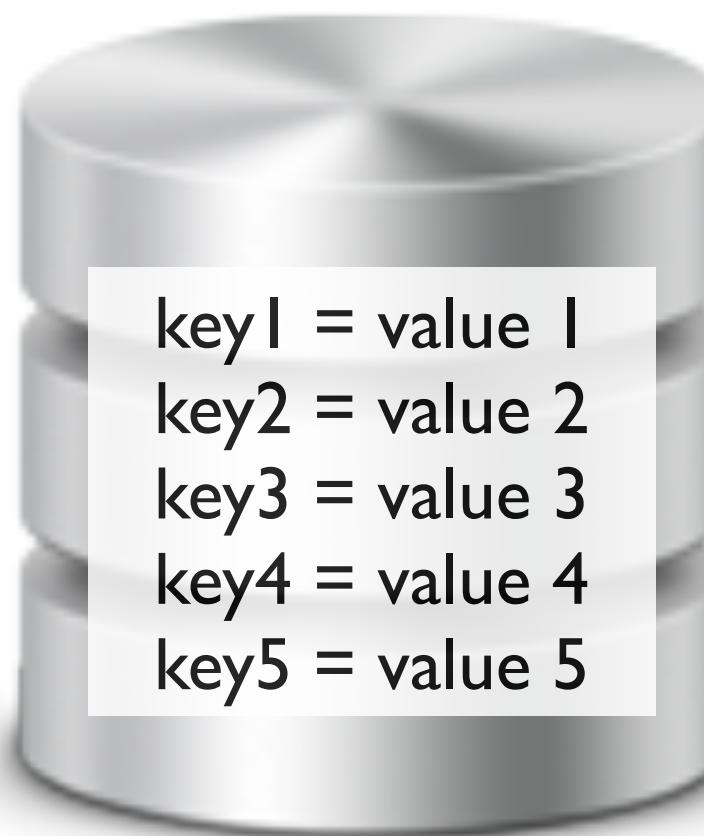
What is Hibernate OGM!?

JPA for NoSQL



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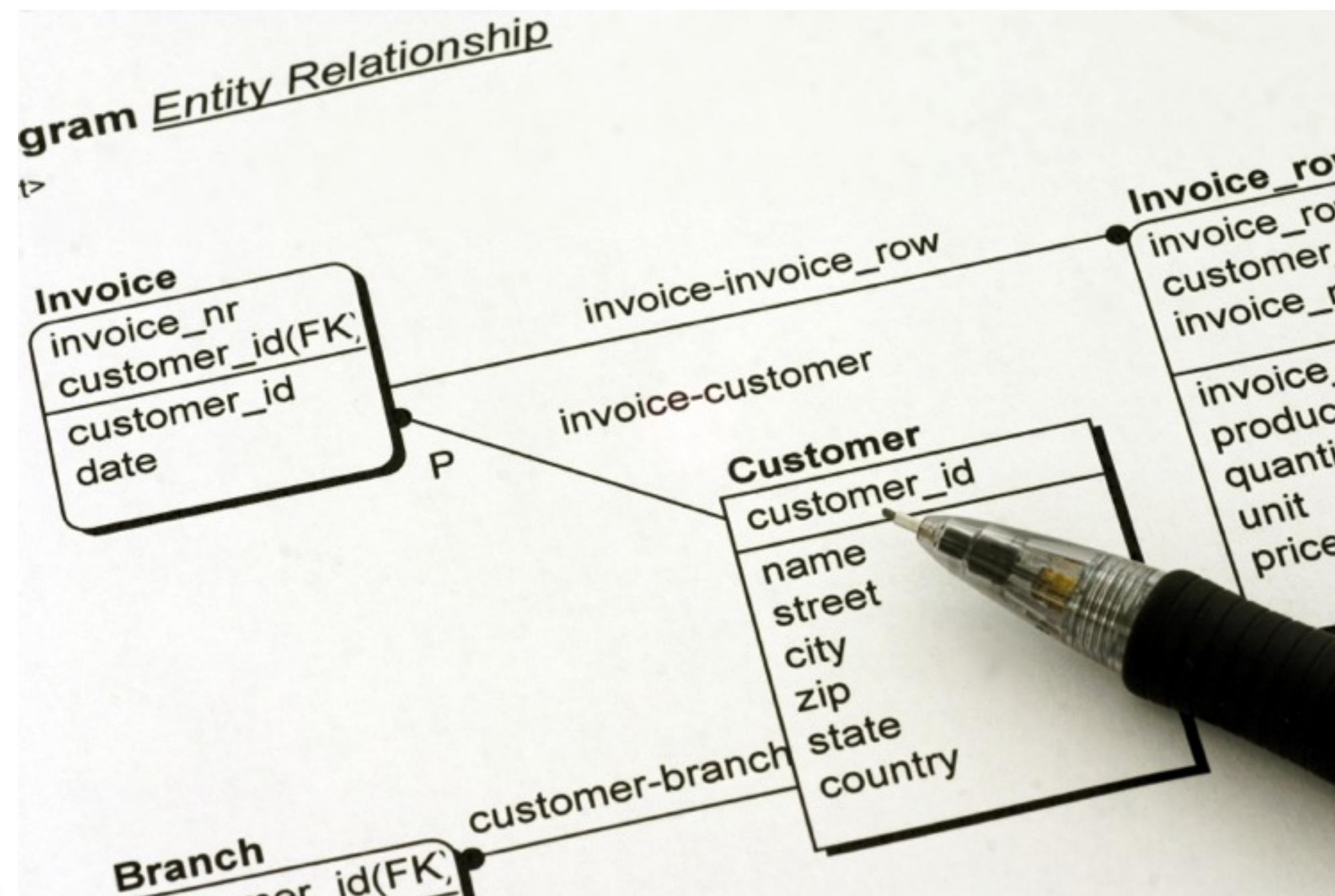
JPA for NoSQL





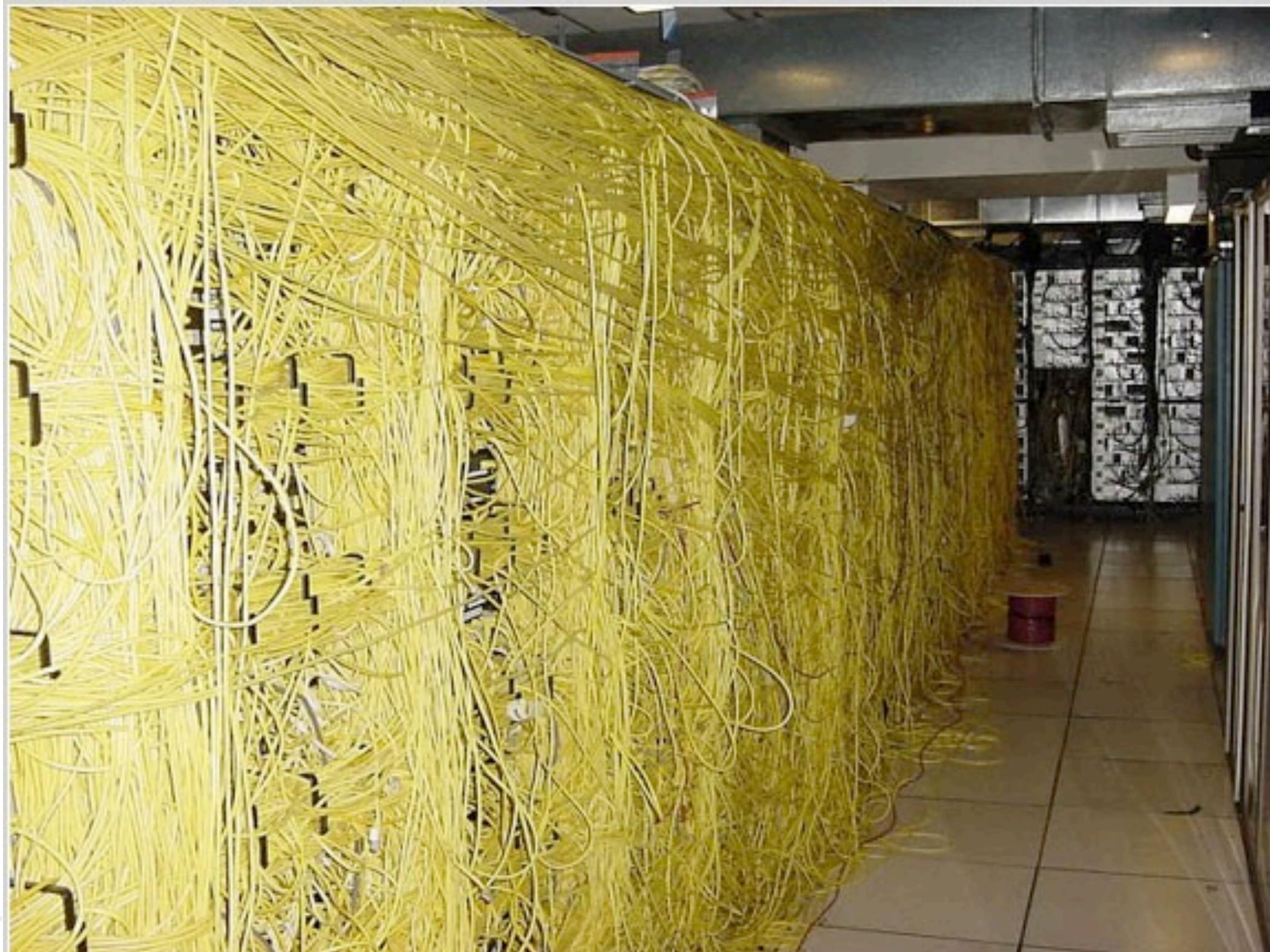
- Encourage new data usage patterns
 - provide familiar environment
 - ease of use
 - easy to jump in (and out!)
- Allow NoSQL exploration

Relational Databases



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

Relational Databases



But scaling is hard!

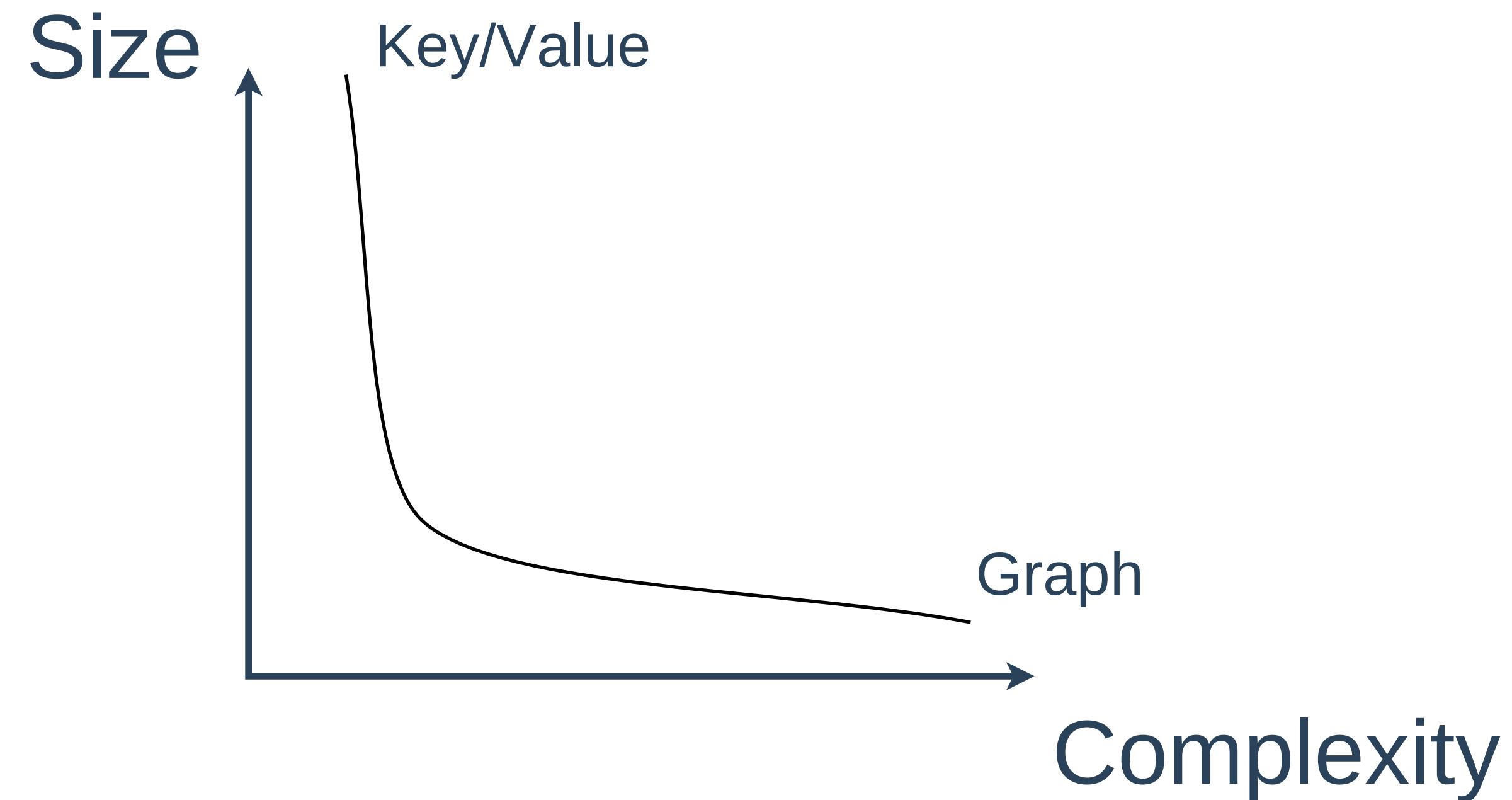
- Replication
- Multiple instances w/ shared disk
- Sharding

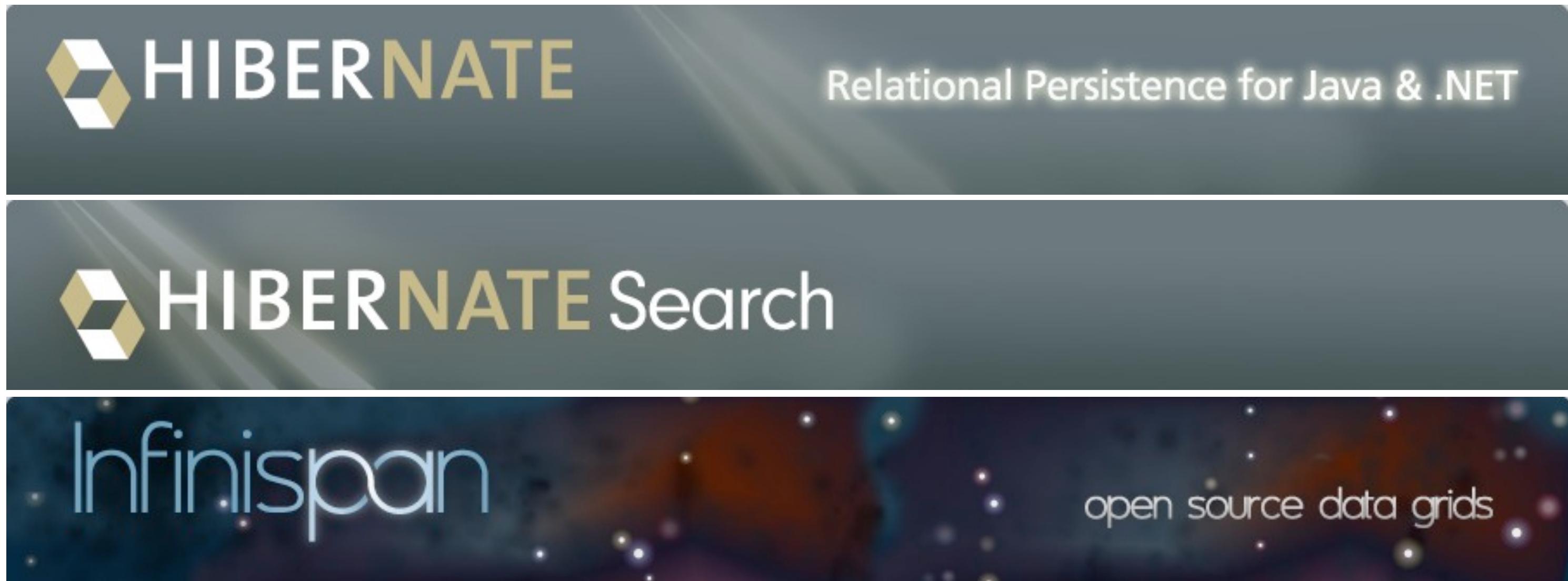
NotOnlySQL

- Data size
- Connectedness
- Architecture / Problem type

NotOnlySQL

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

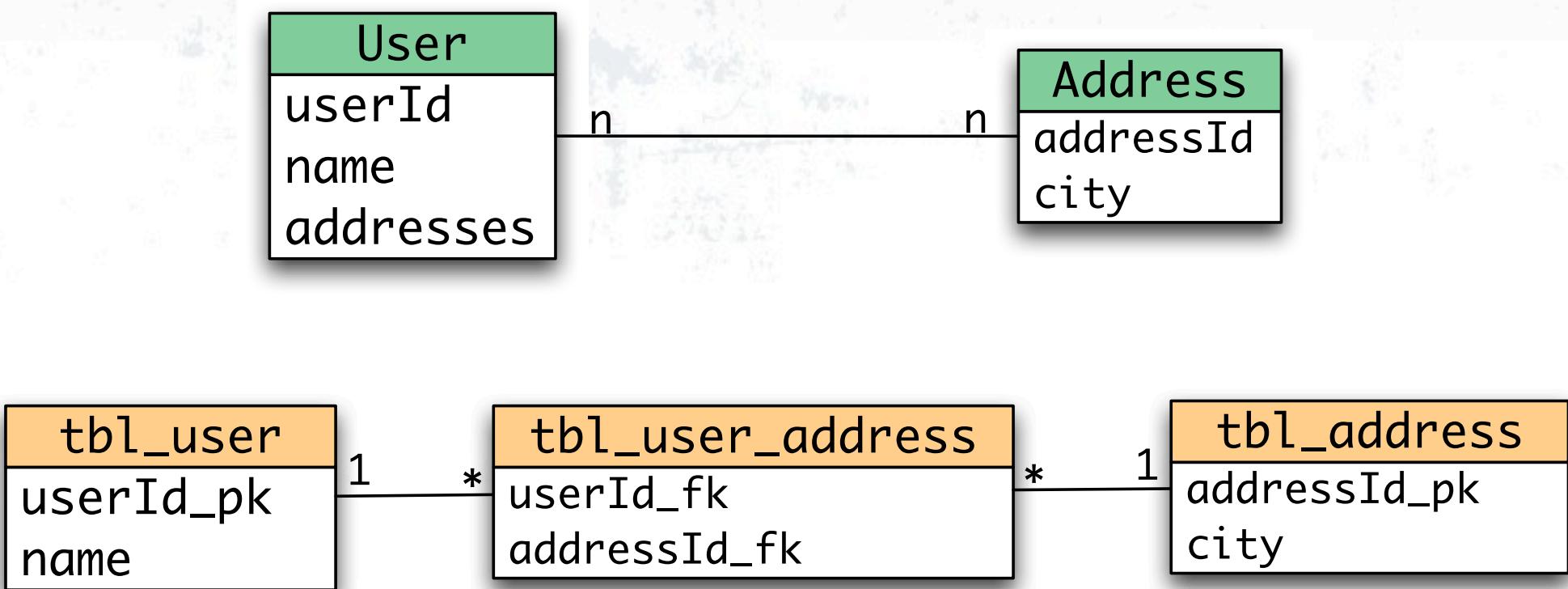




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How does it work?

- 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
 - column names representing the FK
 - column values representing the FK



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>

Demo

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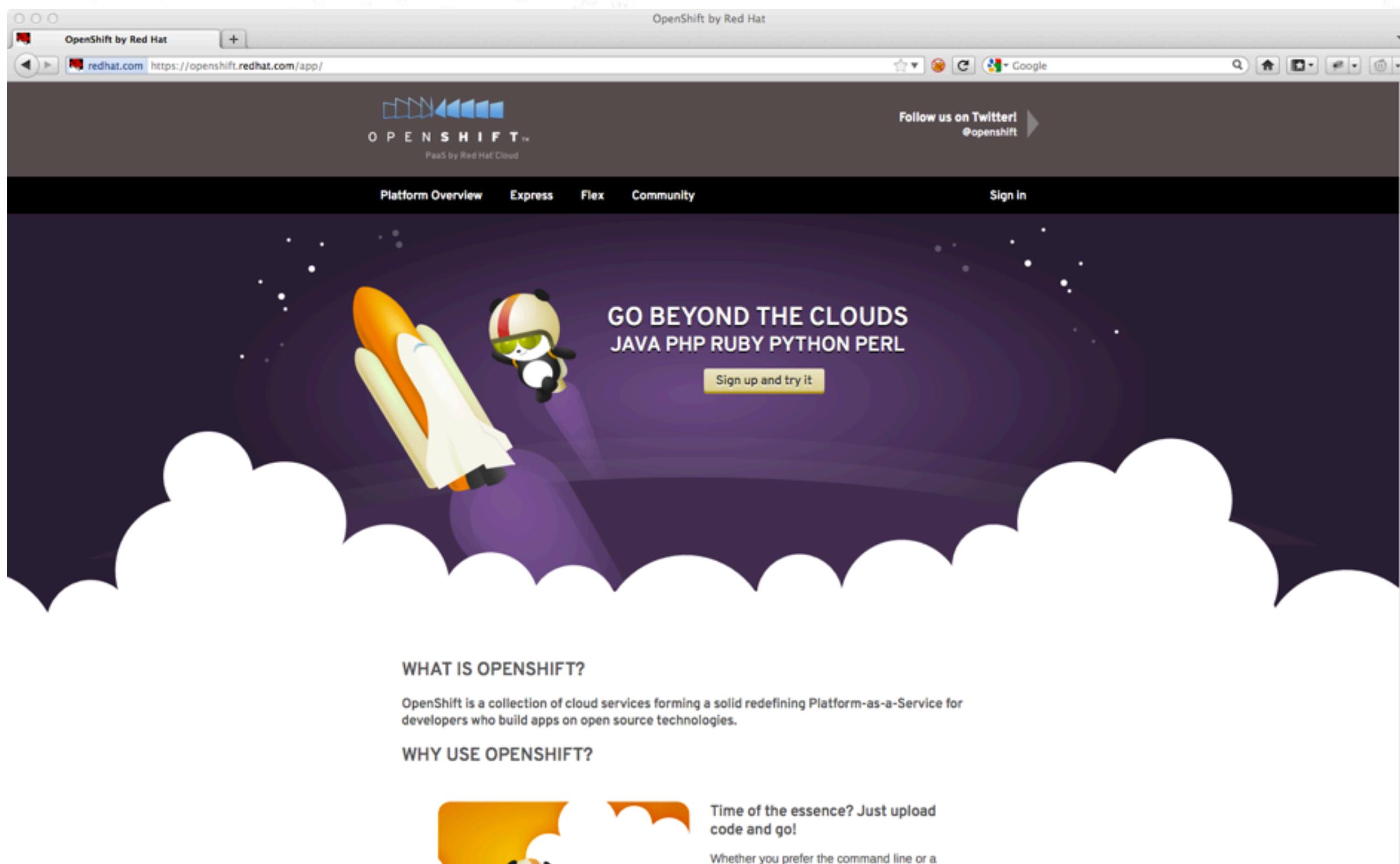
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- Replaced JPACriteria w/ Hibernate Search

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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```



```
# Signup at https://openshift.redhat.com/app/
```

```
$ rhc-create-domain -n <domain>
$ rhc-create-app -a <app> -t jbossas-7.0
```

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$ rhc-create-domain -n <domain>
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```

<http://<app>-<domain>.rhcloud.com>

Demo

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

What's hot?



- Works with Hibernate Core 4
- Improved performance
 - also in Hibernate Core
- Next release? Stay tuned!

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 title bar reads "Hibernate OGM - JBoss Community". The page header includes the JBoss Community logo and navigation links for Home, Members, Projects (which is the active tab), Products, Login, Register, Cool Stuff, and a search bar. The main content area features the "HIBERNATE OGM" logo and a navigation menu with links for Overview, Downloads, Documentation, Community, Issue Tracker, Source Code, and Build. A search bar for project pages is also present. Below the menu, a section titled "Hibernate OGM (Object/Grid Mapper)" provides an overview of the project's purpose and target features. It mentions support for Infinispan, Hibernate Search full-text queries, and simple JP-QL queries. The medium target is listed as supporting other key/value stores, NoSQL families, and complex joins/aggregations. The project is described as Open Source, with a link to contribute ideas and code. License information states it is released under the LGPL. A sidebar on the right lists "HIBERNATE Core", "HIBERNATE Shards", "HIBERNATE Search", "HIBERNATE Tools", "HIBERNATE Validator", "HIBERNATE Metamodel Generator", and "HIBERNATE OGM". Another sidebar titled "Quick Links" provides 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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