



# JAVAONE CONFERENCE 2013

## “LA ESTRATEGIA DEL LENGUAJE JAVA PARA EL FUTURO”



ING. ISRAEL ORTEGA CUEVAS  
DIRECCIÓN GENERAL DE PERSONAL  
UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO



## ¿Que es JavaOne-San Francisco?

Es una conferencia que se efectúa anualmente desde 1996. Propuesta originalmente por Sun Microsystems e impulsada desde el 2009 por Oracle Corp. para discutir las tecnologías y estrategias del lenguaje Java.

# Hechos Java

## Strategy Keynotes

- 97% de las computadoras ejecutan Java
- 3 mil millones de dispositivos ejecutan Java
- 9 millones de desarrolladores Java en el mundo
- 100% de los reproductores Blu-ray incluyen Java
- 125 millones de televisores ejecutan java
- 5 mil millones de Java Cards en uso
- 5 de los 5 principales OEMS embarcan java con sus productos



Peter Utzschneider Vice President Java Product Management

# Movilidad y medios sociales

## Strategy Keynotes

Cada minuto...

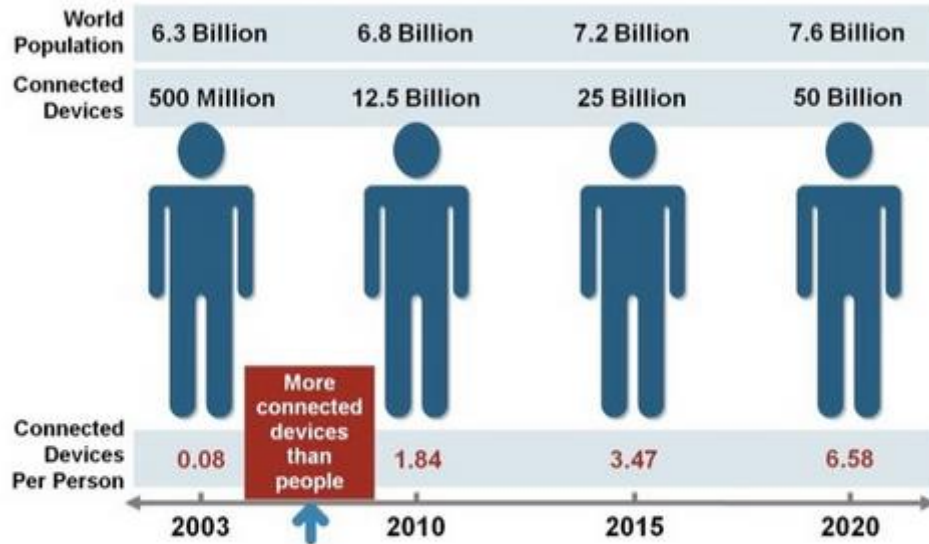
- 204 millones de mensajes son enviados
- 278 mil tweets son publicados
- 20 millones de fotos son vistas

Peter Utzschneider Vice President Java Product Management

- 100 horas de video son cargadas a Youtube



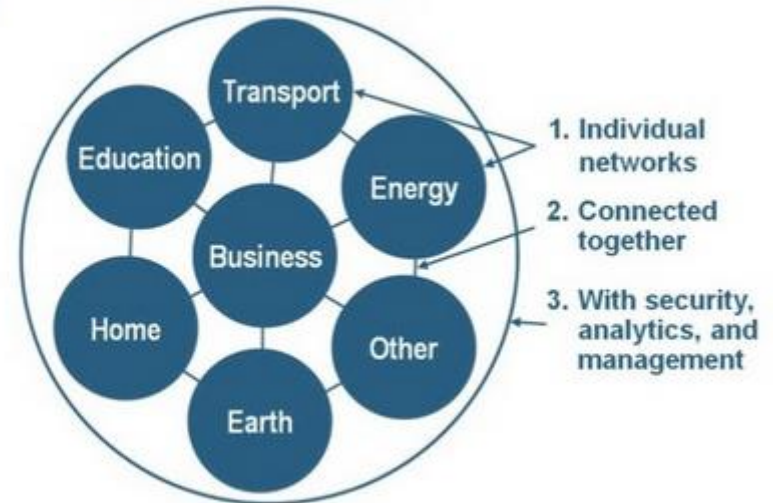
# Internet de las cosas



Source: Cisco IBSG, April 2011

## Strategy Keynotes

### Internet of Things



Source: Cisco IBSG, April 2011

# Java 8

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APIs

Java SE 8

Java ME 8

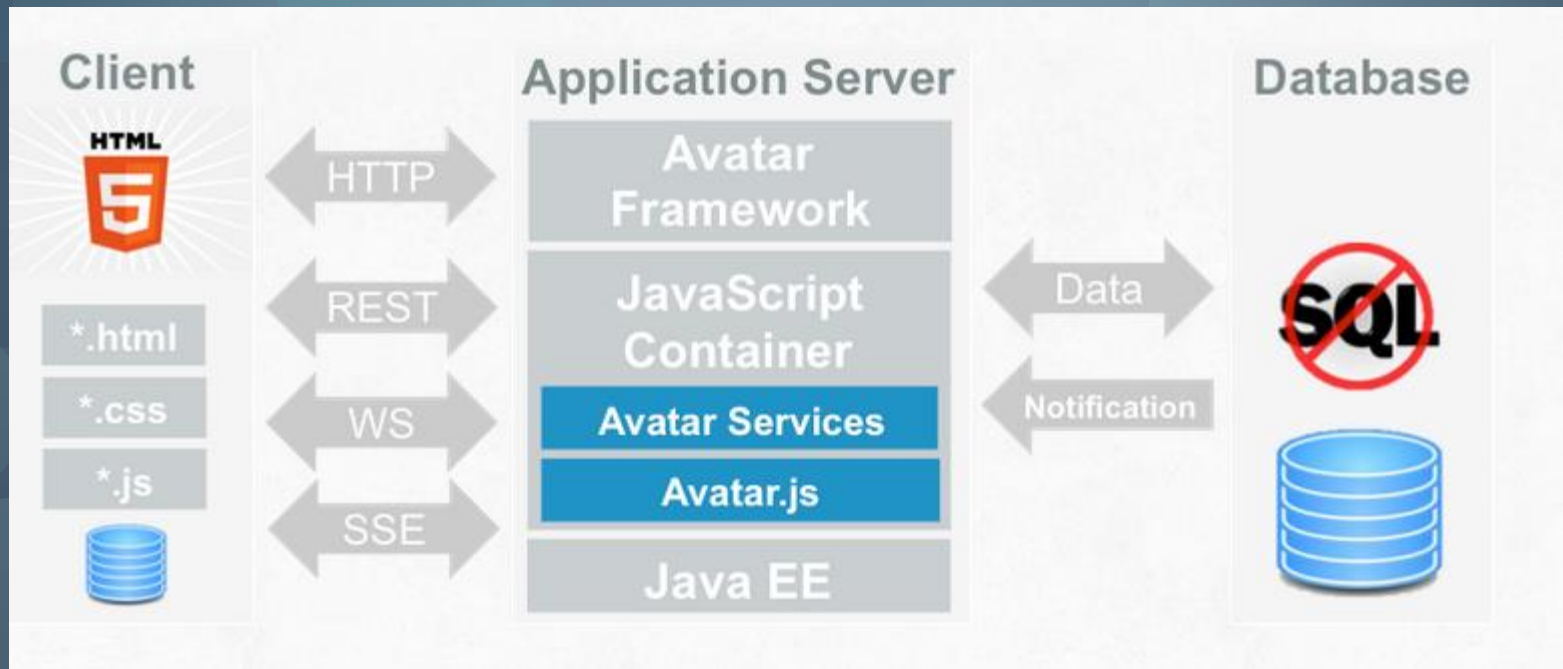
Strategy Keynotes  
Lenguaje

Java SE 8

Java ME 8

# Java 8 – Proyecto Avatar

## Strategy Keynotes



# Java 8 – WebSockets

## Strategy Keynotes

Canal bidireccional entre un cliente y un servidor  
(full-Duplex)

Integrado con HTML5

Información en el mismo instante en que se genera

Respuesta al gasto complejo e ineficiente basado en AJAX

Aplicaciones: juegos multi-jugador, monitoreo en tiempo real,  
herramientas de trabajo colaborativo, etc.



# KeyNotes, en resumen...

## Strategy Keynotes





Room  
Principal  
November  
Embedded  
develop  
Lea  
Rasp  
Mo  
Hack  
experts  
boards  
showed  
Curious  
control  
featur

Project  
hack-rest  
controller  
controllers testing  
URLs  
started  
blogger  
m  
new  
showed  
control  
featur

Thursday  
Sandoz  
Lambdas  
many  
advanced  
Ge  
November 1  
Embedded 1  
develop  
URLs  
12:00pm  
easy  
brave  
started

IoT  
even  
answer  
upstairs  
Hack  
new  
experts  
boards  
showed  
Curious  
control  
featur

showcased  
Yara Vinicius Internet  
hacking Wednesday  
September 9:30am  
Architect



imagination  
available  
overview  
embedded  
Paul

PLC  
D

Developer  
presented  
Smith  
15:00  
taken  
18:50  
get  
13:00  
join  
ks

Oracle

video  
Beer

packed  
Things

Persistence  
17:30-18:30

hack 10:50  
interest  
JavaScr  
explained  
Brian 15:00  
Tue  
fun  
progress  
Member  
hour  
Pi's  
Bevin  
first  
18:00  
starts  
people  
com

# Que temas se organizaron en el Java One 2013

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- Client and Embedded Development with Java FX
- Core Java Platform
- Edge Computing with Java in Embedded, Smart Card, and IoT Applications
- Emerging Languages on the Java Virtual Machine
- Java Development Tools and Techniques
- Java EE Web Profile and Platform Technologies
- Java Web Services and the Cloud
- Securing Java

# Client and Embedded Development with Java FX

The screenshot shows a web browser window displaying the "JavaFX Ensemble" website. The address bar shows the URL: <http://download.oracle.com/otndocs/products/javafx/2/samples/Ensemble/index.html#HIGHLIGHTS>. The page features a navigation menu with "All", "Samples", and "Document" tabs, and a "HIGHLIGHTS" section. A search bar is located in the top right corner with the text "Search samples and docs here!".

The main content area displays a grid of sample applications under the "HIGHLIGHTS" section. The samples are:

- Web View
- HTML Editor
- Cube
- Cube System
- Xylophone
- Advanced Media
- Digital Clock
- Display Shelf
- Adv Area Audio Chart
- Adv Bar Audio Chart
- Advanced Stock Line Chart
- Adv Candle Stick Chart
- Advanced Scatter Chart

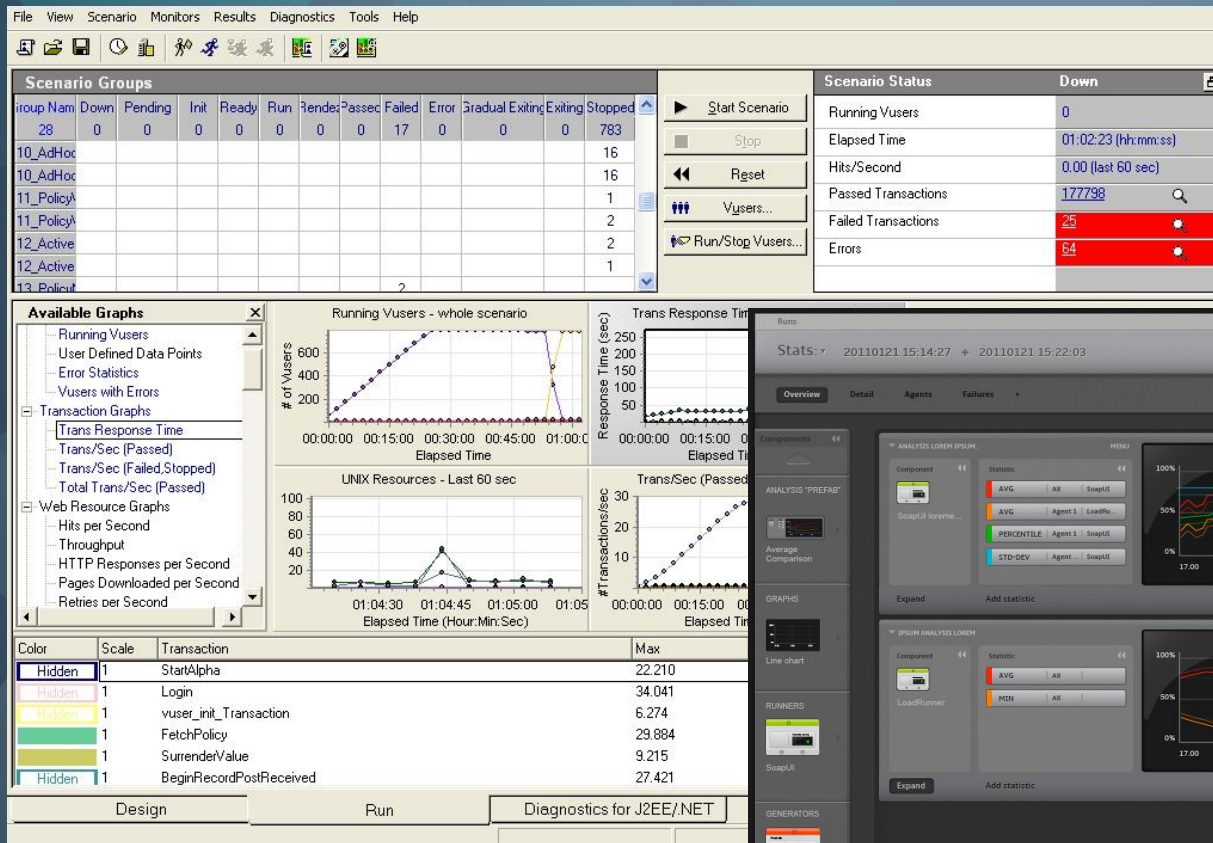
The left sidebar contains a list of categories and sub-categories:

- ▼ HIGHLIGHTS
- ▼ SAMPLES
  - ▼ Animation
    - ▶ Timelines
    - ▶ Transitions
  - ▼ Canvas
    - Fireworks
  - ▼ Charts
    - ▶ Area
    - ▶ Bar
    - ▶ Bubble
    - ▶ Custom
    - ▶ Line
    - ▶ Pie
    - ▶ Scatter

The bottom right corner of the browser window shows a zoom level of 100%.

# Client and Embedded Development with Java FX

## LoadUI



# Core Java Platform

- JSR 310. Java Time API in JDK 8.
- Fechas estándares ISO basados en calendarios, horarios y zonas horarias y calendarios específicos de la localidad, además de la manipulación de fechas y horas
- `date = date.plusMonths(3).minusDays(1);`
- `date = date.with(next(TUESDAY));`
- `date = date.with(lastDayOfMonth());`
- `time = time.plusHours(4).minusMinutes(1);`
- `time = time.truncatedTo(ChronoUnit.SECONDS);`



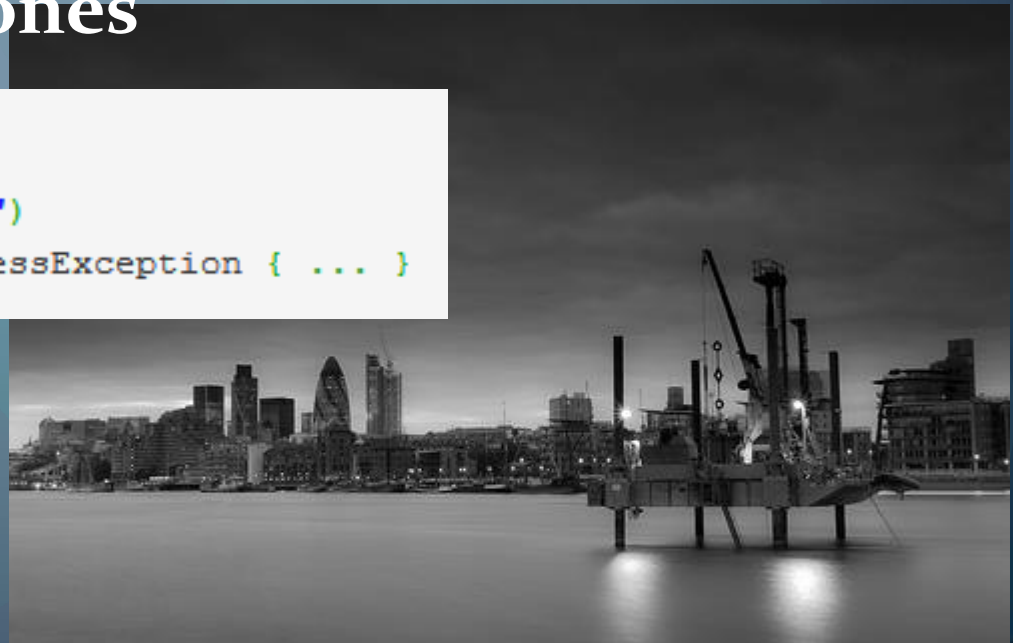
# Core Java Platform

## java.util.stream

- Obtener un stream.
- Realizar una o más operaciones intermedias.
- Realizar una operación final.

## Repetición de anotaciones

```
@Alert(role = "Manager")  
@Alert(role = "Administrator")  
public class UnauthorizedAccessException { ... }
```





# Eliminación del espacio PerGem

## PermGen (Permanent Generation)

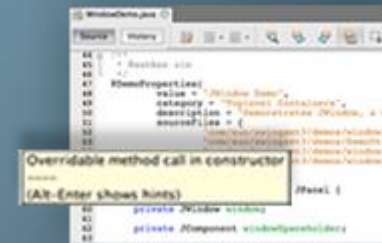
- Se elimina completamente
- Se eliminan JVM "PermSize" y "MaxPermSize"

```
java.lang.OutOfMemoryError: PermGen error.
```

- El espacio Metaspac cambiará de tamaño dinámicamente dependiendo de la demanda de la aplicación en tiempo de ejecución.

# Java Development Tools and Techniques

- NetBeans. Apoyado por *James Gosling*,



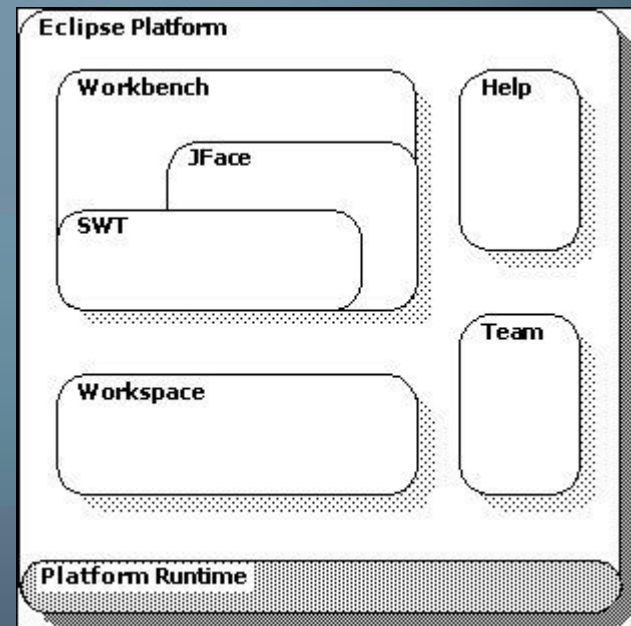
# Java Development Tools and Techniques

- Eclipse

Impulsado por IBM, pero controlado por la fundación eclipse, también es de código abierto.

Eclipse en si mismo esta estructurado como subsistemas que son implementados en uno o más plugins

Gran cantidad de plugins (OSGI)

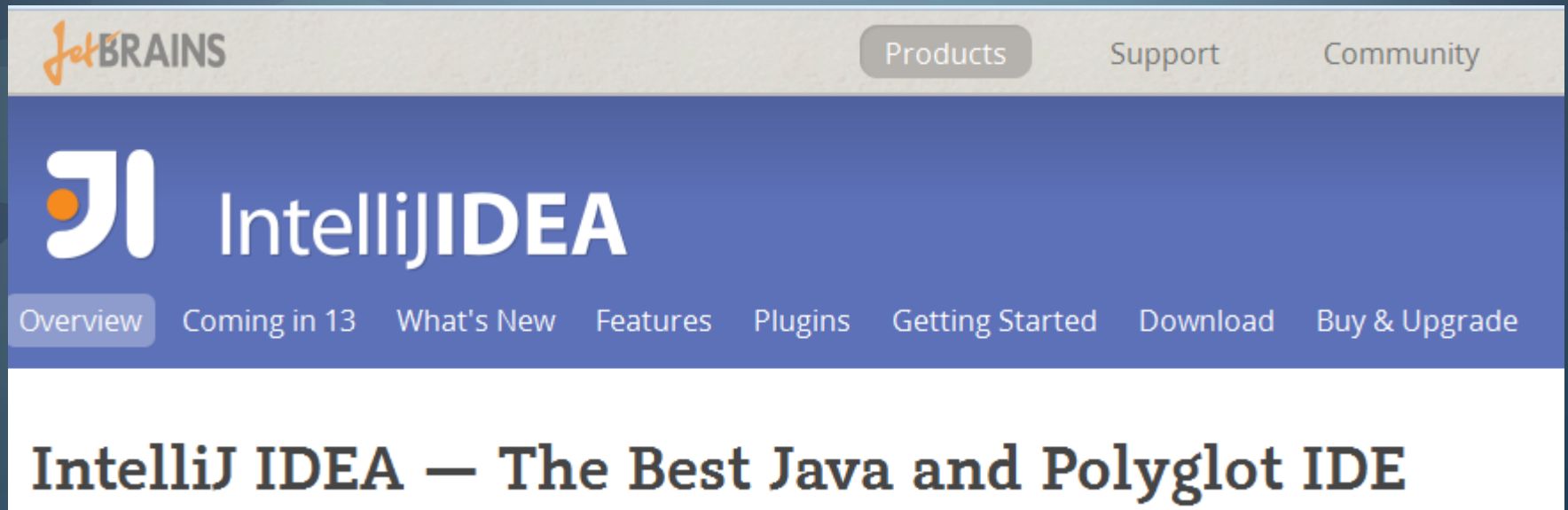


eclipse

# Java Development Tools and Techniques

- **intelliJIDEA - JetBrains**

IntelliJ IDEA es un entorno de desarrollo Java creado por Jet Brains del que existen dos distribuciones: Community Edition (open source) y Ultimate (comercial).



The image shows a screenshot of the IntelliJ IDEA website. At the top left is the JetBrains logo. To the right are navigation links for 'Products', 'Support', and 'Community'. Below this is a dark blue header with the IntelliJ IDEA logo and name. Underneath the header is a navigation menu with links for 'Overview', 'Coming in 13', 'What's New', 'Features', 'Plugins', 'Getting Started', 'Download', and 'Buy & Upgrade'. At the bottom of the screenshot, a white banner contains the text: 'IntelliJ IDEA — The Best Java and Polyglot IDE'.

# Emerging Languages on the Java Virtual Machine

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Libre de preocupaciones “livianas” como la declaración de variables y tipos de datos

Mayor flexibilidad y menor número de líneas para construir un programa

Tipos de lenguajes:

1. Ejecutar directamente el código fuente sobre la máquina virtual a través de ciertas clases Java que lo interpretarán.
2. Compilar el código fuente generando bytecode compatible con el de la JVM.

# Especificaciones:

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- JSR-223: Fija los mecanismos para los lenguajes scripting basados en Java
- JSR-292: Fija los mecanismos para proporcionar un mejor soporte a los lenguajes dinámicos ejecutados sobre la JVM.

# Emerging Languages on the Java Virtual Machine



BBJ



# Java Development Tools and Techniques

*NoSQL, WTF! Let's Talk NewSQL [CON699]*

Karthik Shyamsunder - Principal Technologist, VeriSign

Online Transaction Processing (OLTP) databases include a suite of features — disk-resident B-trees and heap files, locking-based concurrency control, support for multi-threading — that were optimized for computer technology of the late 1970's. Advances in modern processors, memories, and networks mean that today's computers are vastly different from those of 30 years ago, such that many OLTP databases will now fit in main memory...

**OLTP Through the Looking Glass, and What We Found There**  
Stavros Harizopoulos



# Java Development Tools and Techniques

- SQL, noSQL, NewSQL



**ORACLE®**

**SYBASE®**

**MySQL®**

## NewSQL Database Marketplace



# NoSQL

## Here Comes the NoSQL Guys!

### Key Value

**Project Voldemort**  
A distributed database.

**Redis**

**Amazon  
Dynamo**

### Column

**HBASE**

**Cassandra**

**HYPERTABLE**

**Windows Azure**

**Google  
BigTable**

**Amazon  
SimpleDB**

### Document

**mongoDB**

**CouchDB**

**riak**

**Lotus.  
damvo**

### Graph

**Neo4j**  
the graph database

**InfiniteGraph**  
The Distributed Graph Database

**AllegroGraph**

- Several database models – document oriented, key-value, graph-oriented ...
- Scale horizontally

# NewSql

## NewSQL Database Marketplace

 Clustrix



Virtuoso

  
ScaleDB

  
nuodb

  
ScaleBase  
Scaling Your Server At The Speed Of Your Business

  
TRANS|ATTICE

  
ScaleArc

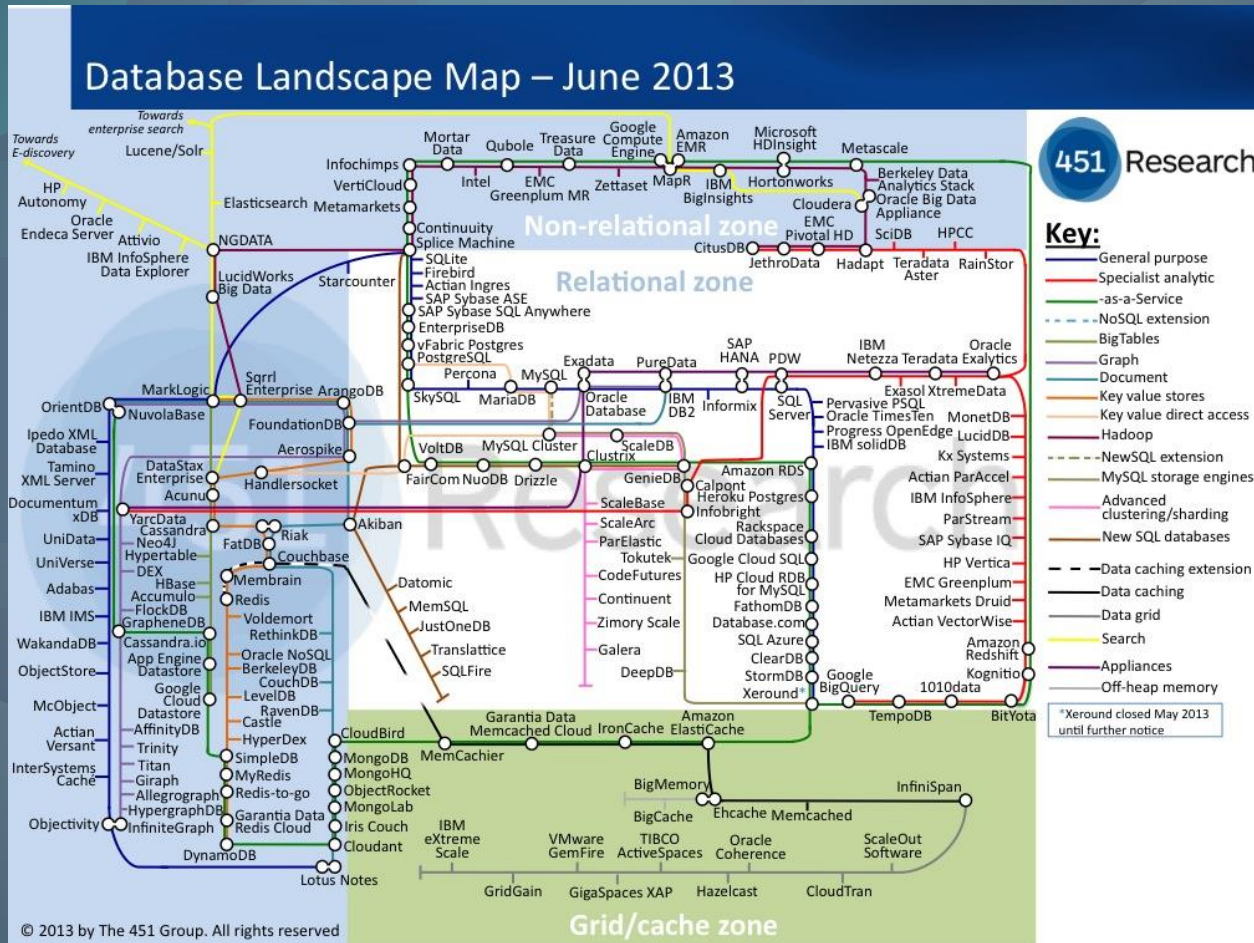
  
GENIE|DB

  
akiban

  
JustOne<sup>DB</sup>  
The Relational Database for Big Data

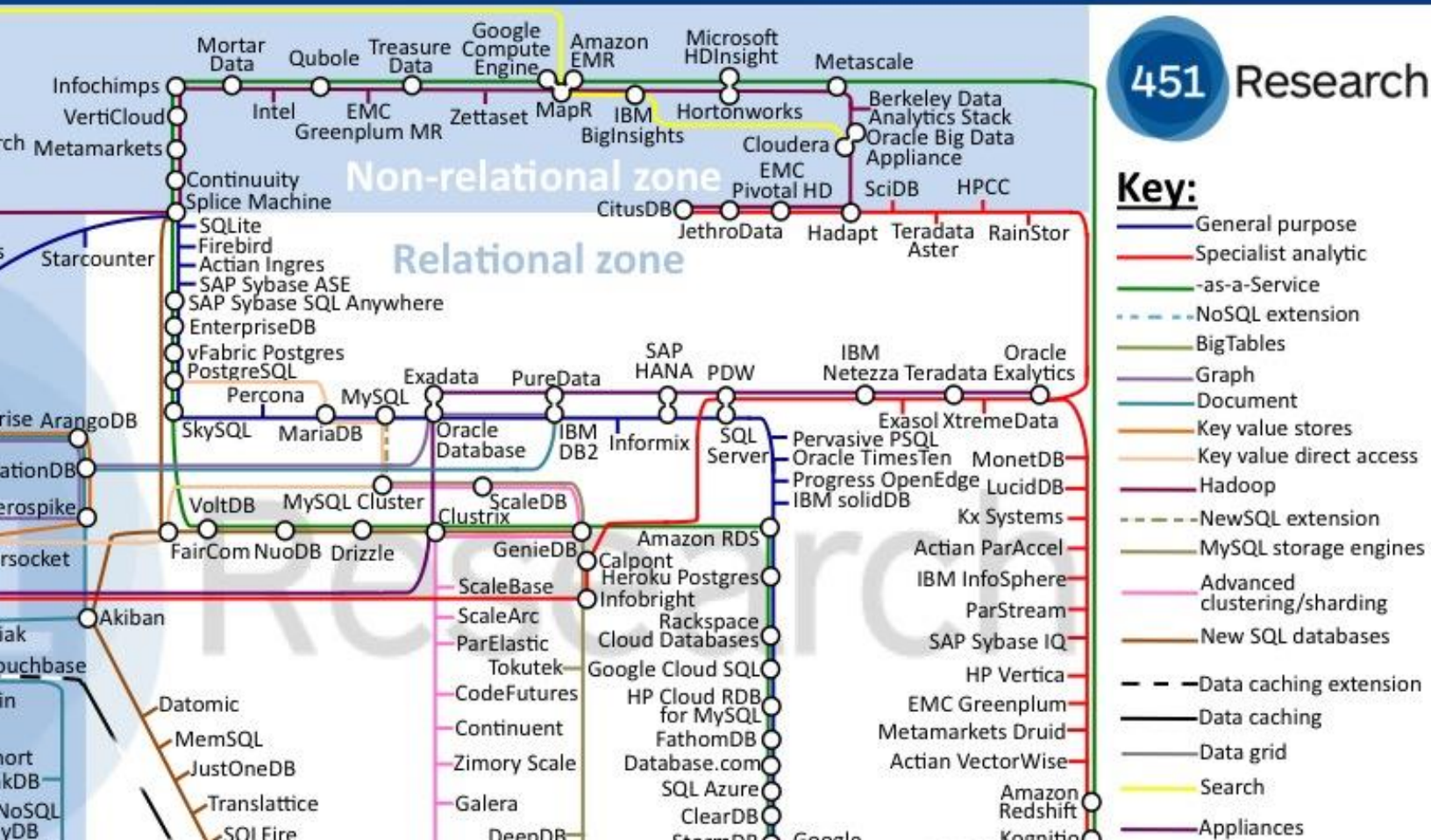
  
MySQL Cluster

# Mapa de las base de datos



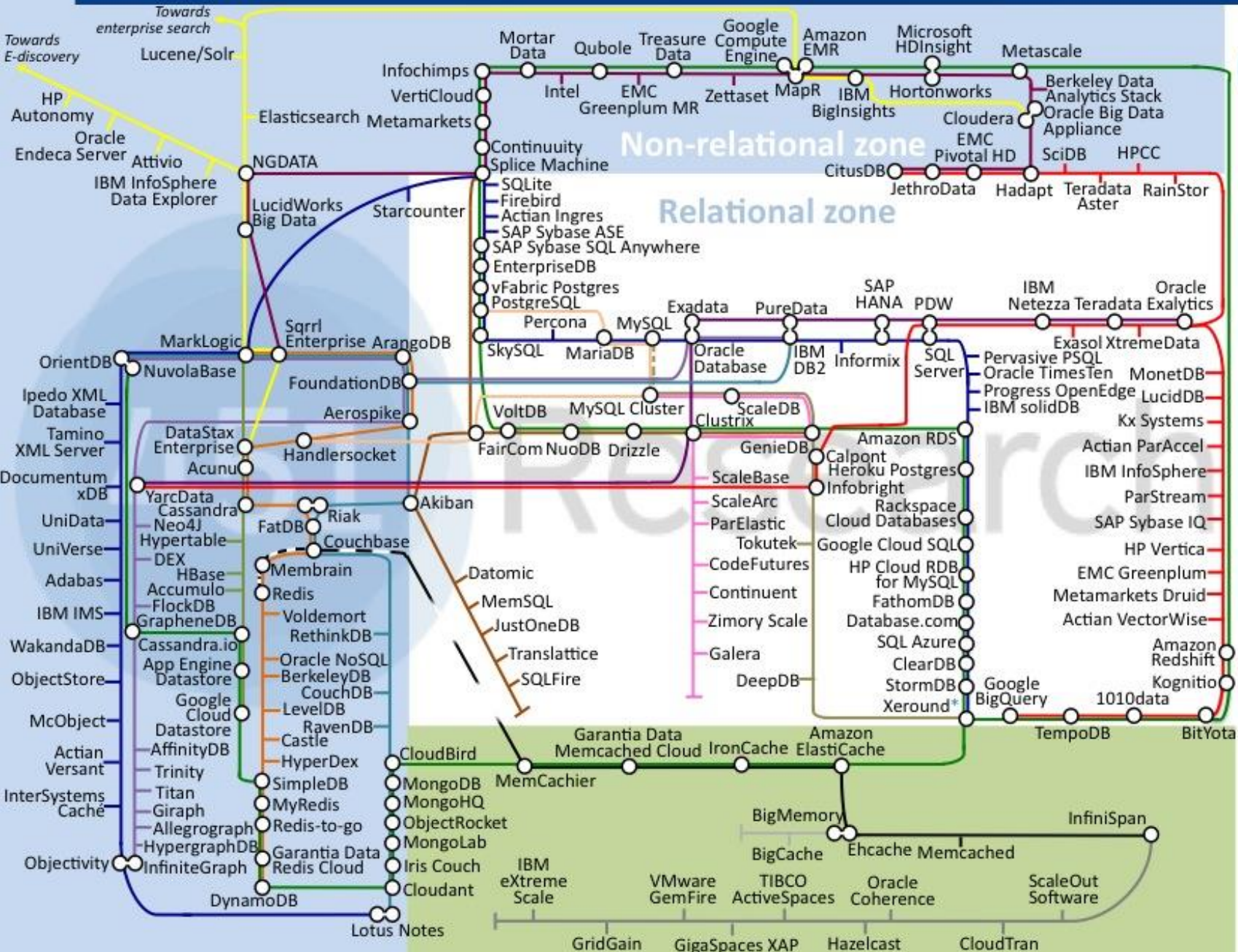
# Mapa de las base de datos

## Landscape Map – June 2013



# Database Landscape Map – June 2013

451 Res



## Key:

- General purpose
- Specialist applications
- as-a-Service
- NoSQL extensions
- BigTables
- Graph
- Document
- Key value stores
- Key value distributed
- Hadoop
- NewSQL extensions
- MySQL storage engines
- Advanced clustering/replication
- New SQL distributions
- Data caching
- Data caching
- Data grid
- Search
- Appliances
- Off-heap memory

\*Xeround closed March 2013 until further notice.

## Grid/cache zone

# Reflexiones

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¿Tiene futuro Java .....?

# Reflexiones

¿Cuánto gana un programador?

Lenguaje	Salario mensual	Cantidad
ABAP	\$28,992.31	13
C	\$19,825.43	76
Cobol	\$25,853.85	13
C#	\$21,965.37	313
Groovy	\$23,850.00	30
Java	\$22,008.00	413
Javascript	\$20,986.36	432
Lua	\$12,875.00	4
Node JS	\$25,018.18	11
Objective C	\$28,280.77	26
Perl	\$30,578.63	16
PHP	\$16,823.47	257
PL	\$22,555.51	213
Python	\$21,172.92	48
RPG	\$43,666.67	3
Ruby	\$23,762.00	38
Scala	\$28,566.67	3
VB	\$20,392.29	148

*Fuente: Encuesta de Salarios SG 2013 (al 14-nov-2013)*

*\*Salarios mensuales brutos en pesos mexicanos.*

*Fuente <http://swgu.ru/encuesta2013>*



Video

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Make the future Java

# Referencias

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Java FX Ensemble

<http://download.oracle.com/otndocs/products/javafx/2/samples/Ensemble/index.html>

HTML5 & JavaFX. Ryan Cuprak, Michael Finocchiaro, Dassault Systèmes

[https://oracleus.activeevents.com/2013/connect/fileDownload/session/2648FFEB27909C040D11780C93A18C72/CON2629\\_Cuprak\\_2.pptx](https://oracleus.activeevents.com/2013/connect/fileDownload/session/2648FFEB27909C040D11780C93A18C72/CON2629_Cuprak_2.pptx)

Ten Man-Years of JavaFX: Real World Project Experiences. Henrik Olsson

[https://oracleus.activeevents.com/2013/connect/fileDownload/session/4F88FAAA7BDB329ADA619DD8F9E763D3/CON2670\\_Olsson.pptx](https://oracleus.activeevents.com/2013/connect/fileDownload/session/4F88FAAA7BDB329ADA619DD8F9E763D3/CON2670_Olsson.pptx)

LoadUI <http://www.loadui.org/>

Introducing the Java Time API in JDK 8. Stephen Colebourne, Roger Riggs.

[https://oracleus.activeevents.com/2013/connect/fileDownload/session/8DE6247389A5D4D8DD38D8AEC6E3CF92/CON6064\\_Colebourne.pdf](https://oracleus.activeevents.com/2013/connect/fileDownload/session/8DE6247389A5D4D8DD38D8AEC6E3CF92/CON6064_Colebourne.pdf)

- 451 Research:  
[https://blogs.the451group.com/information\\_management/files/2013/06/451db\\_map\\_06.13.jpg](https://blogs.the451group.com/information_management/files/2013/06/451db_map_06.13.jpg)
- **OLTP Through the Looking Glass, and What We Found There.** Stavros Harizopoulos
- JDK 8 Security Docs:
- <http://download.java.net/jdk8/docs/technotes/guides/security/enhancements-8.html>

- *“Tenemos que aprender a mirar cara a cara la realidad. Inventar, si es preciso, palabras nuevas e ideas nuevas para estas nuevas y extrañas realidades que nos han salido al paso. Pensar es el primer deber de la 'inteligencia'. Y en ciertos casos, el único”.*  
*Octavio Paz en “El laberinto de la soledad”*

Gracias por su atención

@alvarovr

