Postgres in 5 years – Expectations from the Marketplace

Keith Alsheimer, CMO EDB
What this is about...

- NOT about forecasting the future
- IS about understanding current positioning and market forces
- An attempt to triangulate different perspectives
- Reaffirmation of our collective roles in determining the future
Agenda

Who is EDB and Who am I?
The Postgres journey so far
Thoughts from stakeholders
Market forces shaping direction
WE ALL decide the future…
Who is EDB?

- 150 employees
- Global presence
- Focused on serving needs of enterprise, government and ISV markets
- Platinum Sponsor of PostgreSQL
The PostgreSQL Journey...

1996

Stability
- Fixing Crashes
- Cleaning up code
- Culture of perfection

1998

Basic Functionality
- JDBC
- MVCC
- Optimizer Stats
- PL/pgSQL

SQL Standards
- Standards
  - SQL 92 Joins
  - Prepared queries
  - Foreign Keys

2001

Core Functionality
- Write Ahead Log
- Prepared Queries
- Info. Schema
- Auto Vacuum

Enterprise Features
- Streaming Replication
- Performance
- Vertical Scale
- PITR
- pg_upgrade

Ease of Use
- Windows Port
- Graphical Installers
- pg_basebackup
- Tools

2013

???

---Courtesy Bruce Momjian---
Postgres today

- Feature rich
- Extremely stable
- Highly pluggable
- Huge user base
- Developer friendly
- Passionate community
- Well respected
- Impressive deployments
Widely adopted...

To do: Need more customers.
In demand...

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Indeed.com searches millions of jobs from thousands of job sites. This job trends graph shows relative growth for jobs we find matching your search terms.
Relevant...

DB-Engines Ranking

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So where do we go from here?
Some interesting perspectives

- Major contributors
- Customers (mostly DBAs, developers and their management)
- Analysts
Major contributors said…

“We need to realize we are now competing with commercial databases”

“Creating pg_basebackup has eliminated some consulting opportunities but has enabled a host of others.”

“Oracle knows it’s database days are numbered, I now get concerned about the new kinds of databases that are Cloud friendly.”

“Plug-ability is our greatest competitive asset”

“Our greatest strength maybe our greatest curse”

“Two years ago, my business was 10% cloud deployments. Now it is 70% cloud deployments.”

“We don’t need to turn into something we are not.”

“We have a great community … we need to grow it.”
Customers (DBA’s & Developers) said…

“I don’t take you seriously because you don’t have incremental backup”

“Why is it so hard to partition data”

“We are now doing 1 Billion writes a day. Working with your product is challenging in this environment.”

“I can’t be off line that long for an upgrade.”

“We want Logical Replication”

“What Postgres lacks most is parallel query”

“I can’t find good Postgres DBA’s”

“I want to optimize for your database.”
Analysts said:

• Donald Feinberg, Gartner:
  - Postgres functionality has increased greatly and is now more than sufficient to run both mission-critical and non-mission-critical applications.
  - Constraints include lack of certification by major third-party software vendors, such as Infor, SAP and TOTVS and lack of third-party database administration tools.
  - Dominant vendors will continue to evolve and enhance their DBMS products in support of new classes of applications

• Noel Yuhanna, Forrester:
  - PostgreSQL has the second-largest open source community; has competitive technology and features and continues to expand its growth across various industries.
  - Performance, integration, security, unpredictable workloads, and high availability are companies’ top data management challenges.

• Matt Aslett, 451 Group:
  - PostgreSQL is a proven database for enterprise relational application workloads
  - Increased commercial offerings and cloud-based functionality are driving adoption
New Gartner ODBMS Magic Quadrant

- **Leaders**: Oracle, IBM, SAP
- **Challengers**: Microsoft, Big Commercial DB's
- **Niche Players**: PostgreSQL, EnterpriseDB
- **Visionaries**: No SQL/New SQL

As of October 2013
Market forces influence direction

New Workloads/Platforms
(Big Data & cloud)

mongoDB
Couchbase
basho

Easy to use / deploy

PostgreSQL

High-end Enterprise Requirements

PostgreSQL is growing from the “middle-out”
Postgres is well positioned now

• Enterprise features without the cost
• Wider range of performance than MySQL & others
• More pluggable than any other database:
  – Backend languages, Index Types and FDWs
  – Opportunity to connect with emerging technologies
• Best Geo-Spatial implementation
• Legendary stability
• Serializable Snapshot Isolation
• Strong, independent, thriving community

TPS on OpenSim Benchmark

MySQL

PostgreSQL
The Next 5 Years??

**PostgreSQL**

- **Easy to use / deploy**
  - Diagnosing Problems
  - Configuring for success
  - Still easier installs
  - Tighter integration with frameworks
  - Integration with other data stores
  - Very simple in the cloud

- **New WorkloadsPlatforms (Big Data/Cloud)**
  - Liaisons with other communities
  - FDW for common no-SQL DB's
  - Continue to evolve new datatypes: JSON, XML, HStore

- **High-end Enterprise Requirements**
  - Vertical Scale (parallel query)
  - Horizontal Scale
  - Performance Diagnostics
  - Incremental Backup
  - Integration with other data stores
  - Zero down time upgrades

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Ideas on How to Help…

• Become a community liaison with a synergistic community such as: Hibernate; Casandra; Hadoop; Jango; ActiveRecord

• Write, develop and maintain a Foreign Data Wrapper

• Help EDB with the development and testing of parallel operations—contact Dave Page or Tom Kincaid

• Develop a killer query diagnostic tool

• Start a user group

• Shout from the roof top what’s makes us different and better!!

• Share YOUR ideas!!
Our ultimate destination is dependent upon each other…