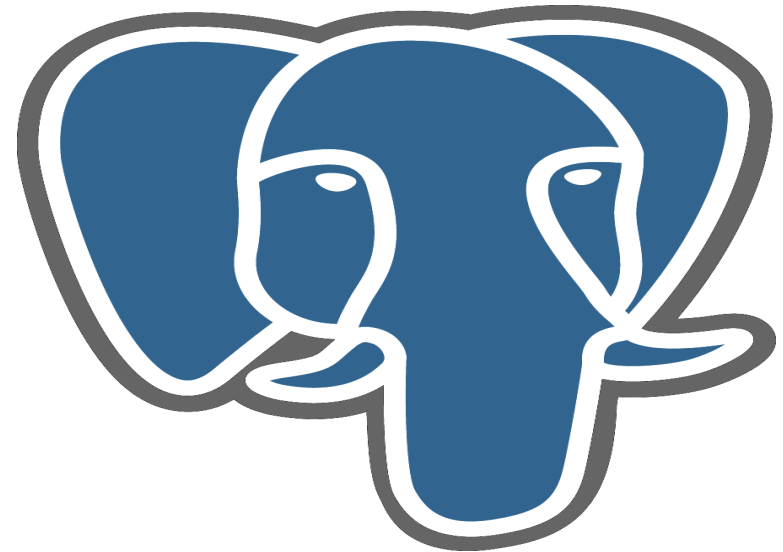
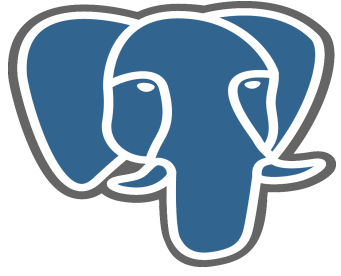


Practical PostgreSQL and AXLE Project

Simon Riggs
CTO 2ndQuadrant

April 2013

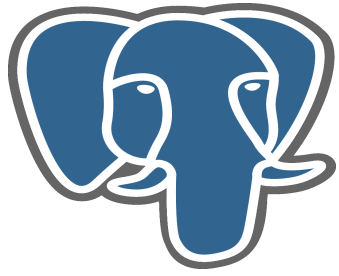




What is Postgres?

- Database Server software
- Production Quality
- Open Source
- Extensible
- Innovative, Advanced technology
- Suitable for a range of use cases

- **Practical Choice for European data: Big or Small**



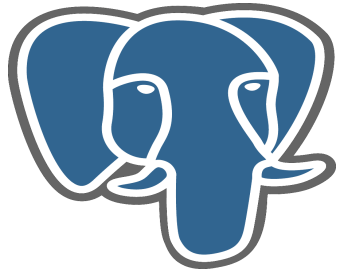
Who uses it? What for?

- Features

- Sync Replication
- Hot Standby
- MVCC
- Foreign Data Access
- Fast & Scalable
- Great Optimizer
- Great indexing
- Auto text compression

- Customers

- McAfee, CISCO, Nokia, Skype
- ABN Amro, Morgan Stanley, Reuters
- Open University, Oxford, Edinburgh
- Police, Health etc
- Many smaller web companies



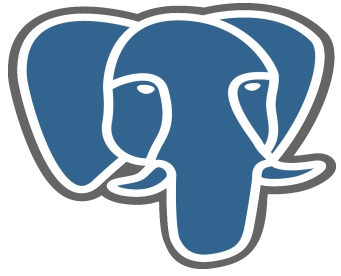
Innovative Features

- Original Research

- User defined datatypes
- Server side languages
- MVCC
- Partial indexes
- ...

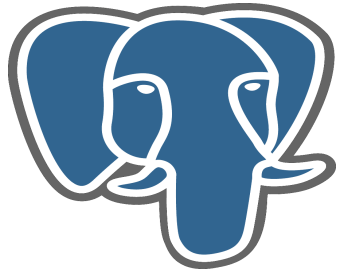
- Latest Innovations

- Full SERIALIZABLE
- Transaction-level robustness
- SP-GIST indexes for kd/quadtree (GIS)
- Range Data Types
- Continual optimizer improvements
- ...



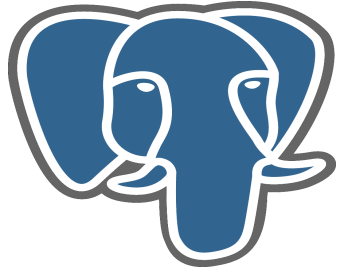
Broad Capability

- ***Not just*** Relational Database
- Object Relational Database
- Arrays
- Nested records
- Range data types
- Key-Value store
- XML/ JSON/ full-text indexing
- Recursive read *and write* SQL for linked/tree queries



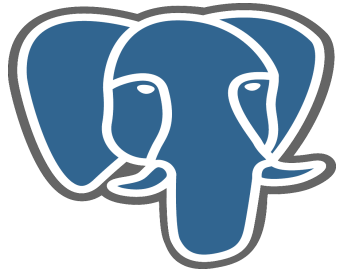
Derivatives

- Commercial
 - Netezza (IBM)
 - Greenplum (EMC)
 - ParAccel (Amazon)
 - StormDB
 - EnterpriseDB
 - Huawei
 - Salesforce.com
 - ...
- Research Projects
 - MayBMS
 - Postgres Raw
 - TelegraphCQ
 - ...



Recent FP7 funded additions

- Synchronous replication
 - Auto failover
 - Group commit
 - Low-energy power save mode
-
- 4CaaS Project to enhance cloud computing

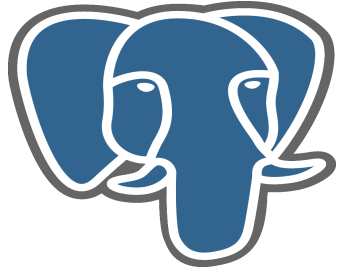


Work in Progress

- Bi-Directional Replication
- AXLE Project
 - Secure
 - Big
 - Fast
 - Hardware optimised
 - Visual Analytics



axleproject.eu



What now?

- Use Postgres for live implementations
 - <http://www.postgresql.org>
- Use Postgres in your research
 - <http://www.postgresql.org>
- Include 2ndQuadrant in research consortia
 - simon@2ndQuadrant.com
- Stay in touch with AXLE project news
 - register@axleproject.eu
- Disseminate your work as Open Source... it works!