PostgreSQL
High Availability & Scalability

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PostgreSQL

• “The World's Most Advance Open Source DBMS”

• Design Objectives
  – Robustness
  – SQL Standard compliance
  – “It just works”

• Careful design, peer review
  – Fewer bugs, low time-to-fix
  – Steady progress on advanced features
MySQL v PostgreSQL Scalability
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http://jamonation.com/no
de/734
PostgreSQL Scalability

- Single node scalability
  - >16-way write scalability since 8.2 (>3 years)
  - >32-way read scalability since 8.3
  - L2 cache optimization
PostgreSQL Scalability

- Commercial DataWarehouse derivatives
  - PostgreSQL options beat all comers
Advanced Feature Plugins

- NoSQL
  - PL/Proxy
- EVA
  - hstore
- Interoperability
  - pgmemcache
PostgreSQL 9.0

- PostgreSQL 9.0
  - About to be released in Beta
  - On track for production in June
- Significant commercial sponsorship
  - Skype, NTT, many other major users
- Major new features
  - Streaming Replication
  - Hot Standby
  - New VACUUM FULL
Streaming Replication

• Efficient real-time “log shipping”
• Master → Slave replication using full security
• Multiple concurrent slaves
• Robust bi-modal design
Hot Standby

- Read-only access while “in recovery”
- Equivalent of Oracle 11g Active Data Guard
- Load balanced read scalability
- Query off-load from main write node
- Multiple highly available standby nodes
The Future is In-Progress

- Cluster Management
- Multi-node write clustering
- Simplified RESTful API for data access
- Synchronous Replication
Open Source, so what?

- Widest pool of developers
- Fastest fixes for security issues
- New, innovative solutions for real problems
- High Quality support
  - Multiple commercial 24x7 support options available
- Total Cost of Ownership
  - External costs for 10 server cluster over 5 years
    - PostgreSQL  £50k
    - ClosedSource  £650k