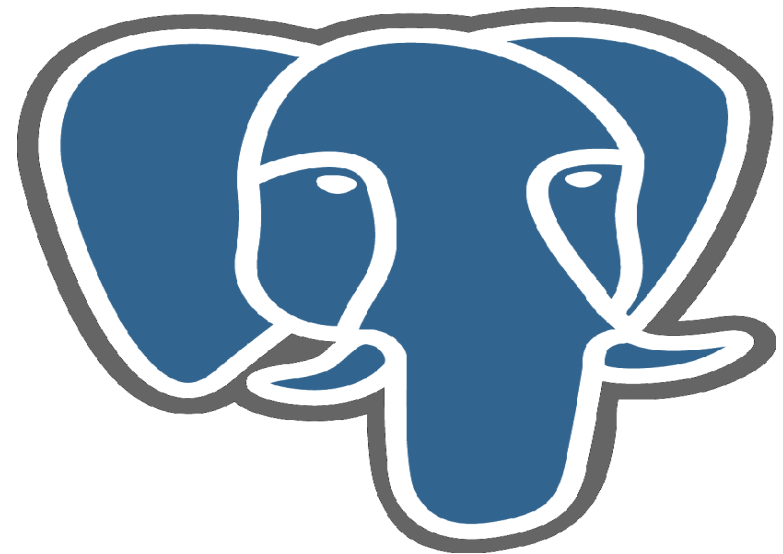


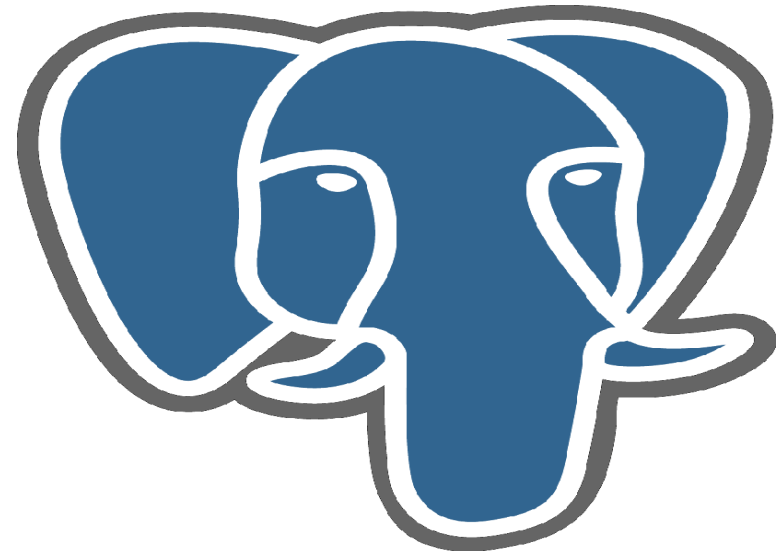
**2ndQuadrant**   
**Professional PostgreSQL**

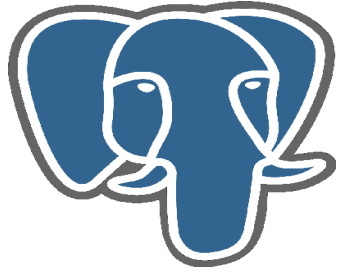
# PostgreSQL Futures



# ~~PostgreSQL Futures~~

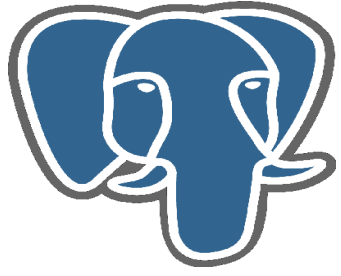
## Simon's Shoppin g List





# Log Shipping Developments

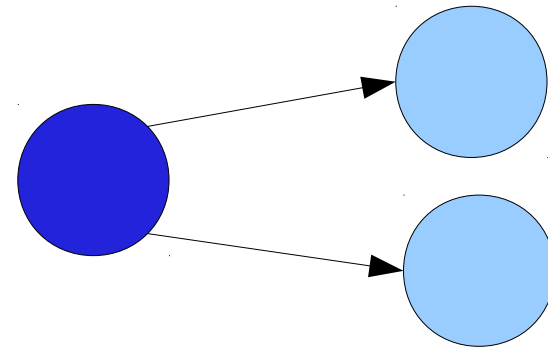
- 8.0 – Point in Time Recovery, Full WAL info
- 8.2 – Restartable Recovery, Log Switching
- 8.3 – Full page optimization, pg\_standby
- 8.4 – BgWriter during Recovery
- 9.0 – Streaming Replication  
Hot Standby
- 9.1 – Synchronous Replication
- 9.2 – Cascading Replication

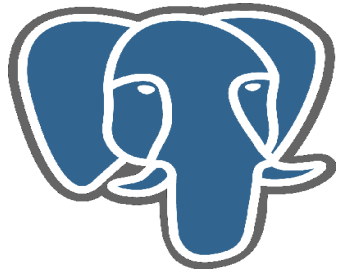


# High Availability Replication

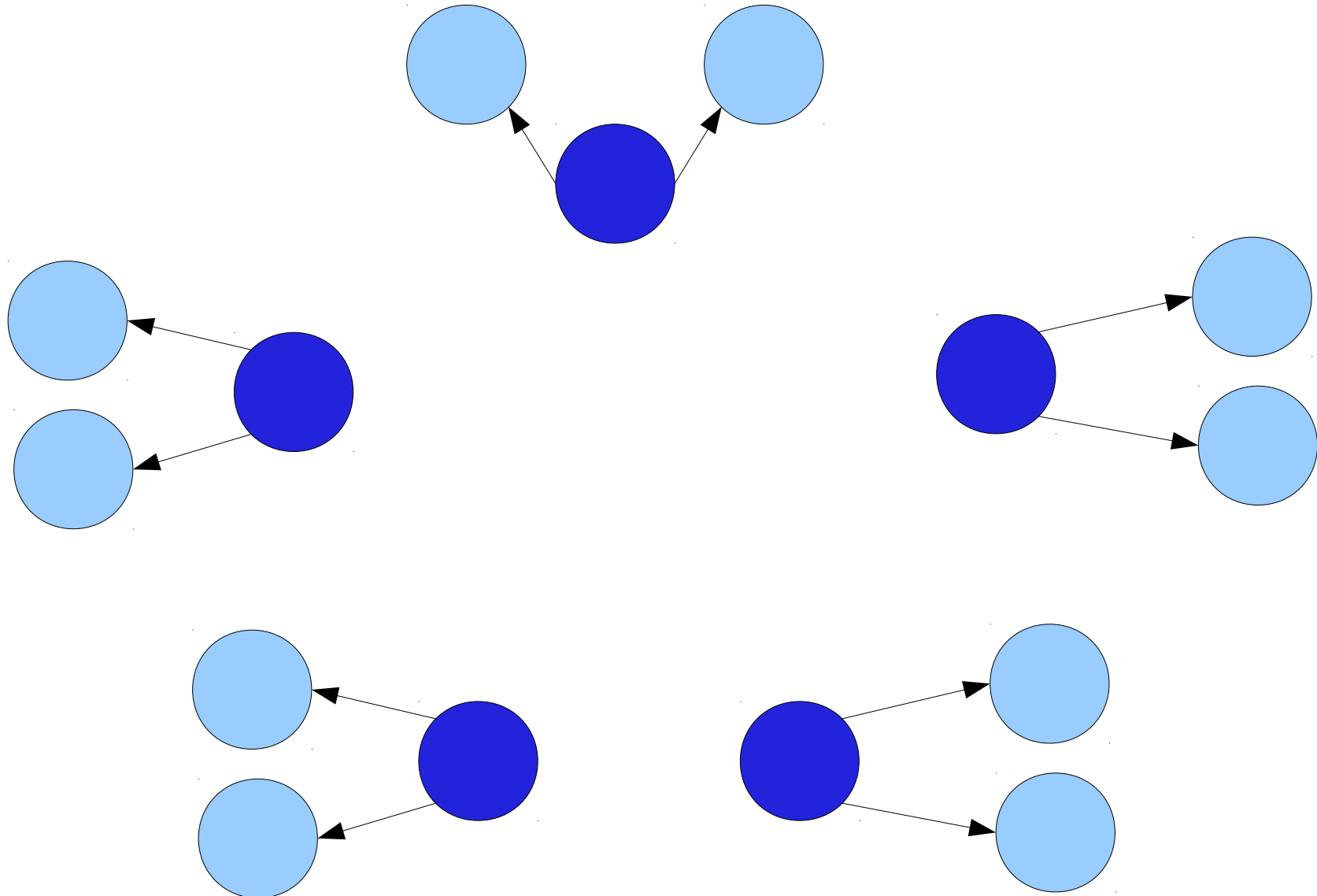
- Master-Slave clusters
- High Availability
- Read scalability

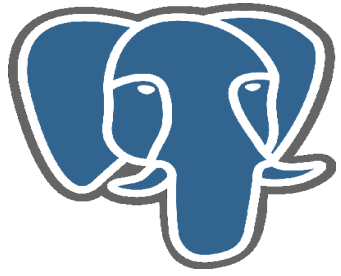
## **CLUSTER**



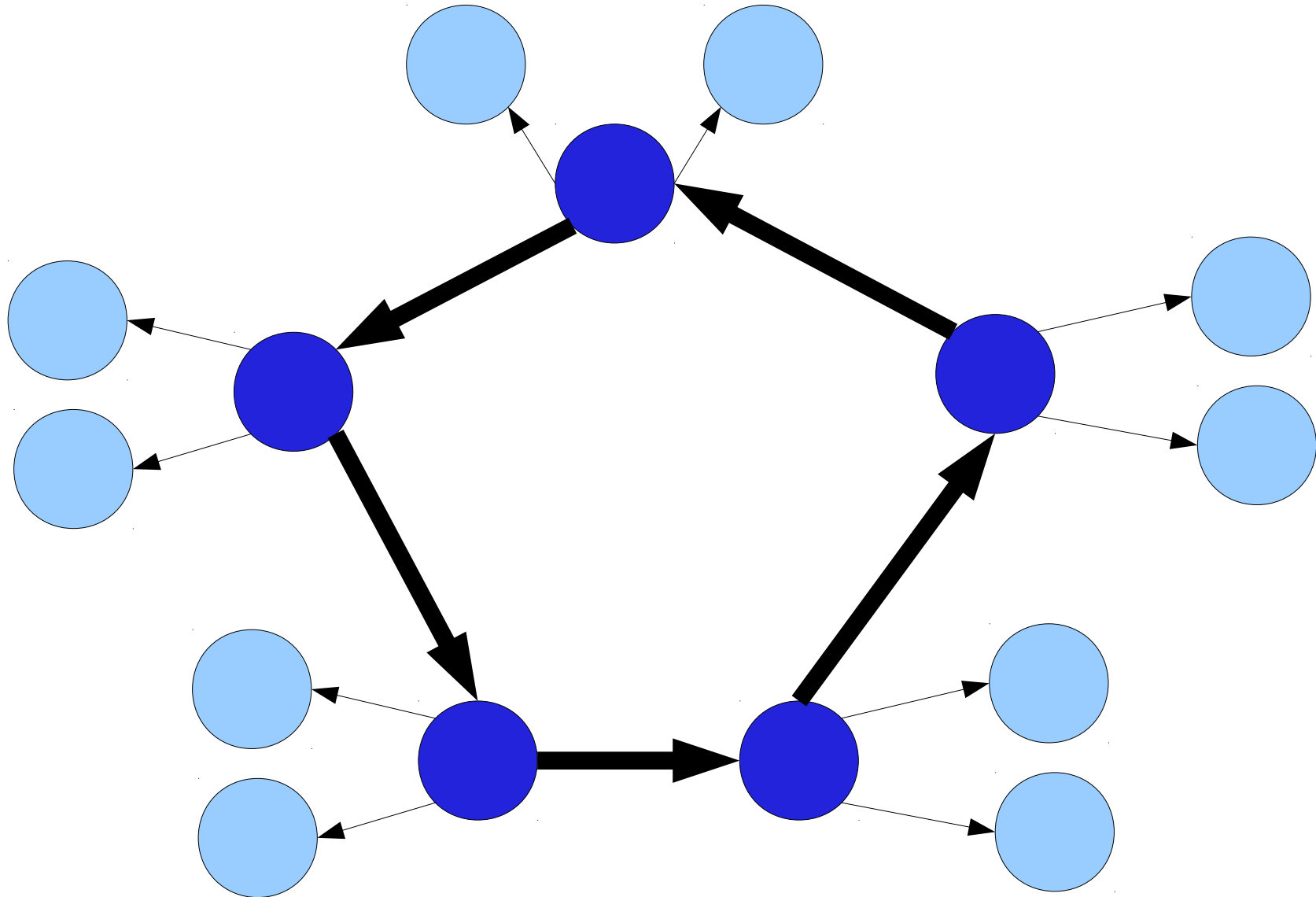


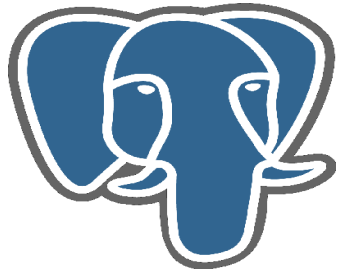
# Multiple High Available Masters



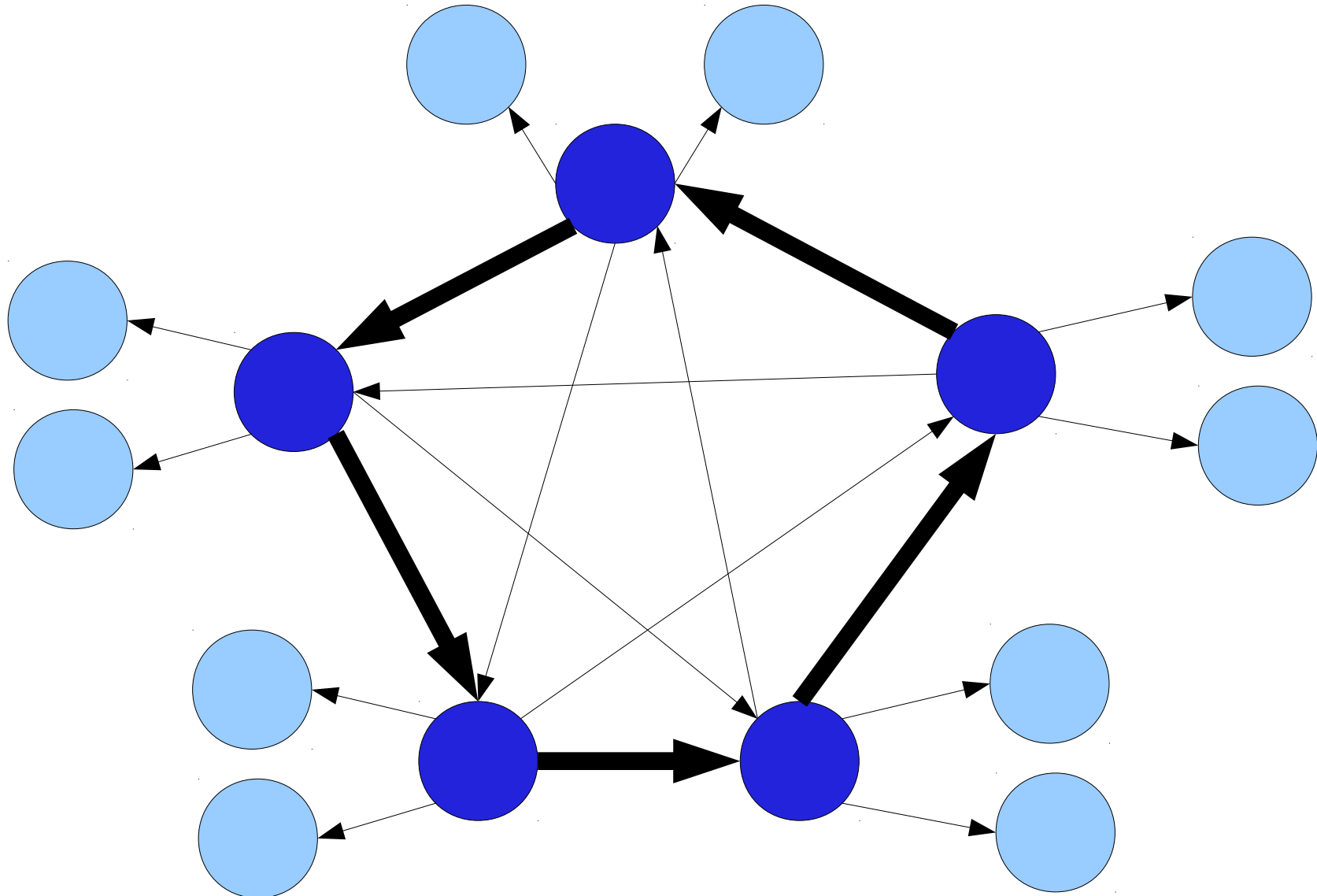


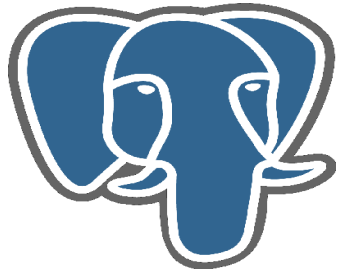
# Minimally Efficient Data Flow





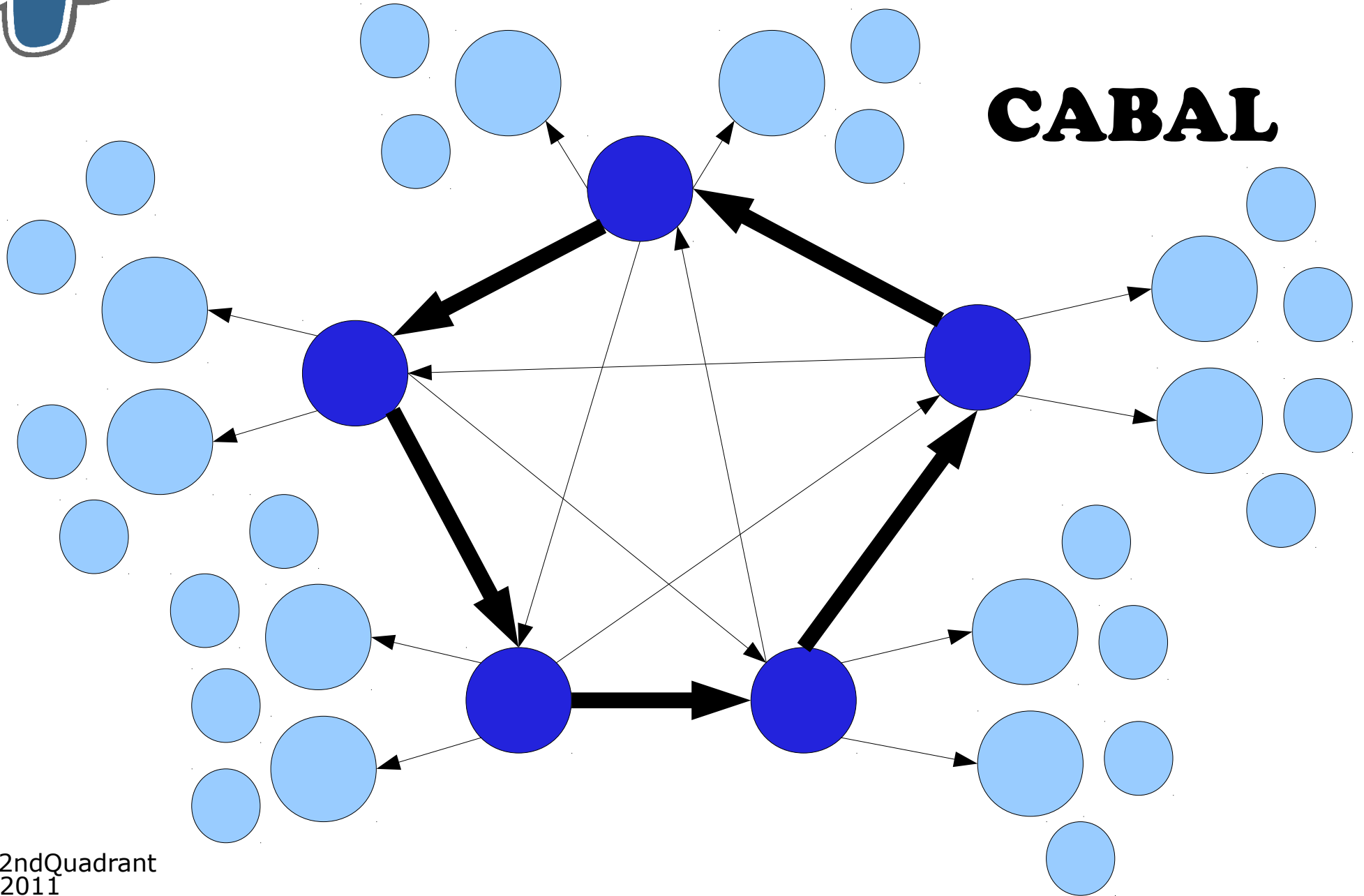
# Add Secondary Connections



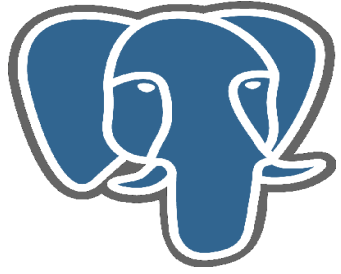


# Add extra read slaves

**CABAL**

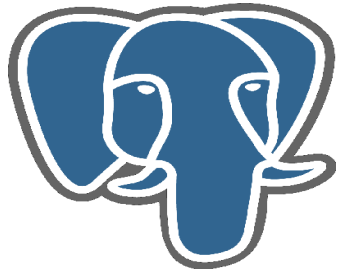






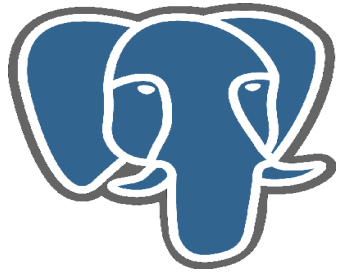
# Bi-Directional Replication

- OK, some people call it multi-master
- Read Anywhere
- Update Anywhere
- Conflict Resolution
- Conflict Avoidance
- Selectable (Local-only, Replicated, Sharded)
- Filtered, Deferrable
- Major Release Upgrades



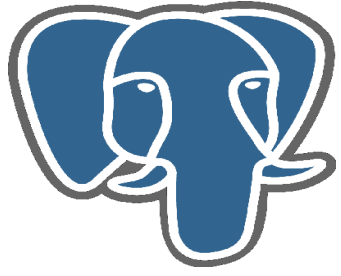
# Operational Enhancements

- Power reductions
- Reduced locking
- Temp table catalog bloating
- AutoREINDEX
- Hint Bit perfection



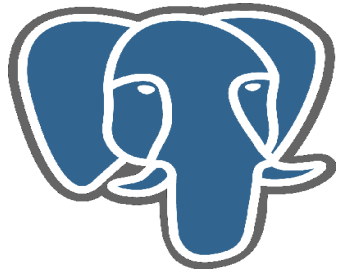
# SQL Enhancements

- MERGE
- Ref types
- Multisets
- ASSERTIONS



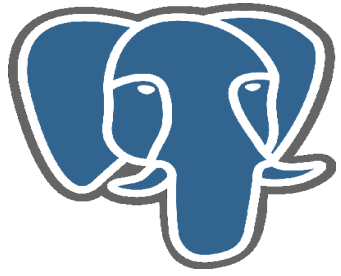
# NoSQL Enhancements

- Hstore in core
- Typed Attributes
- Name compression
- Direct Access
- Simple workload optimisations



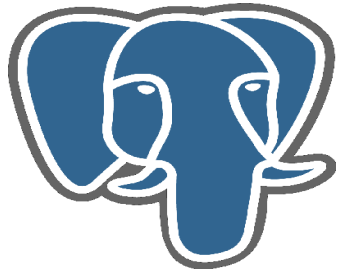
# Foreign Key Enhancements

- Bulk FK optimisation
- Other FK optimisations
- Read only tables



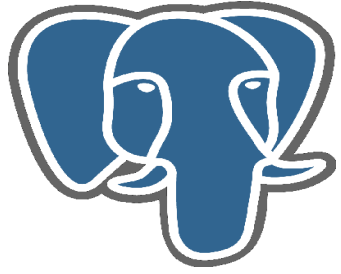
# Transaction Enhancements

- Nested Transactions
- Autonomous Transactions



# Query Speedups

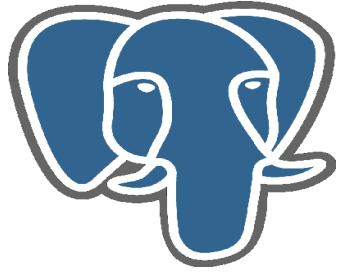
- Parallel Query
- Column Store
- Approximate Queries
- Materialized Views
- Partial MVs



# Multiple SQL Dialects

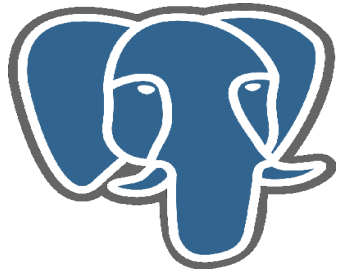
- Identifier handling
- Pluggable parsers
  - Future proofing applications
  - SQL Standard compliance
  - JCR-SQL
  - Faster porting of code
  - New SQL features



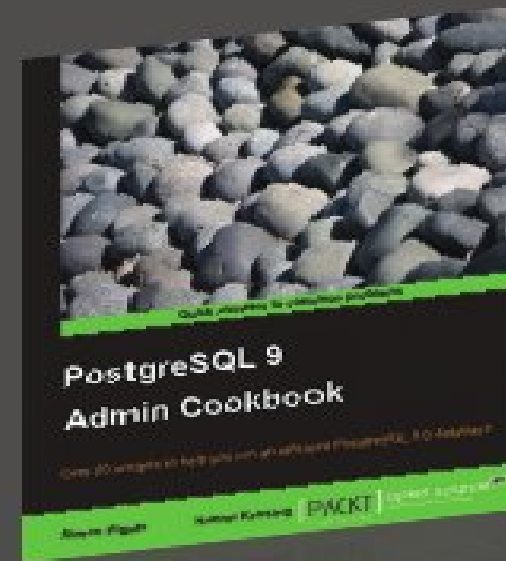
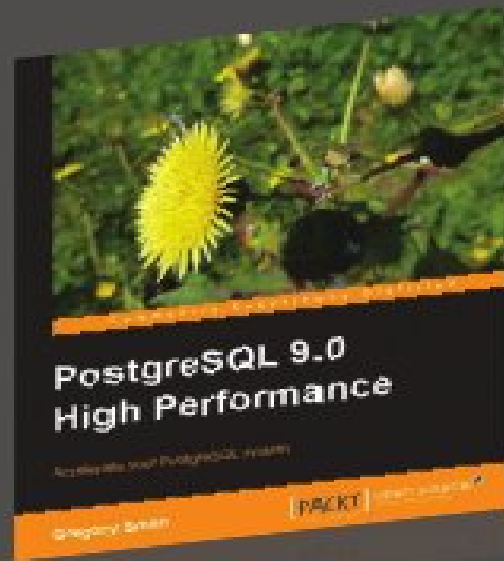


# Making the future real

- Vision
- Ambitious Goals
- Positive Attitude
- Funding
- Attention to Simplicity
- Sense of Urgency
- Make It “Just Work”



# PostgreSQL 9.0



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