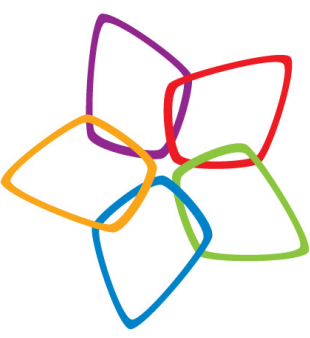


# PureData for Analytics at

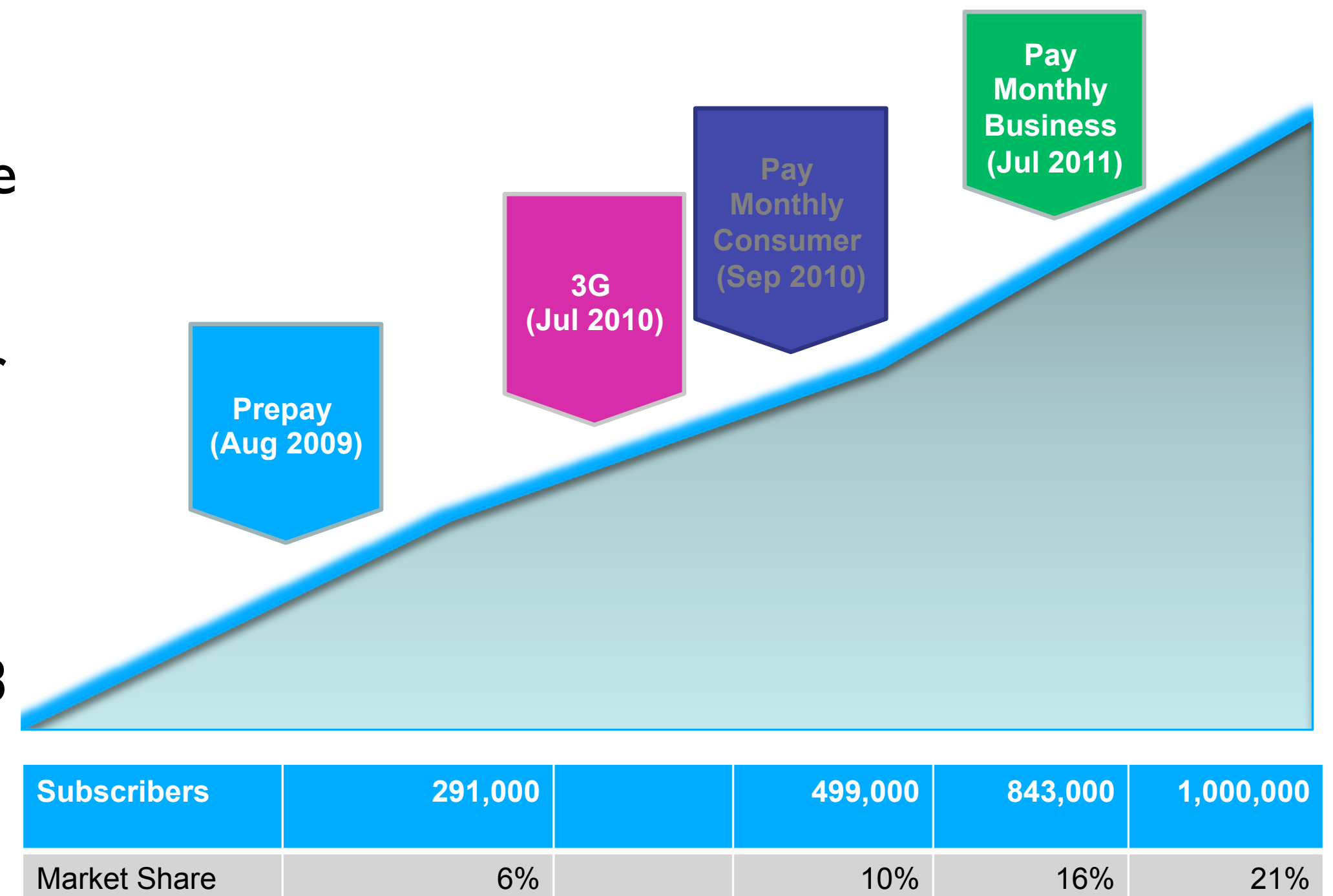


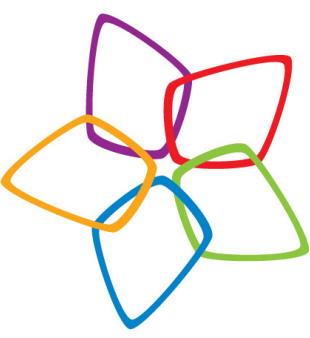
Why they bought one, and what they did with it afterwards  
by Huw Ringer



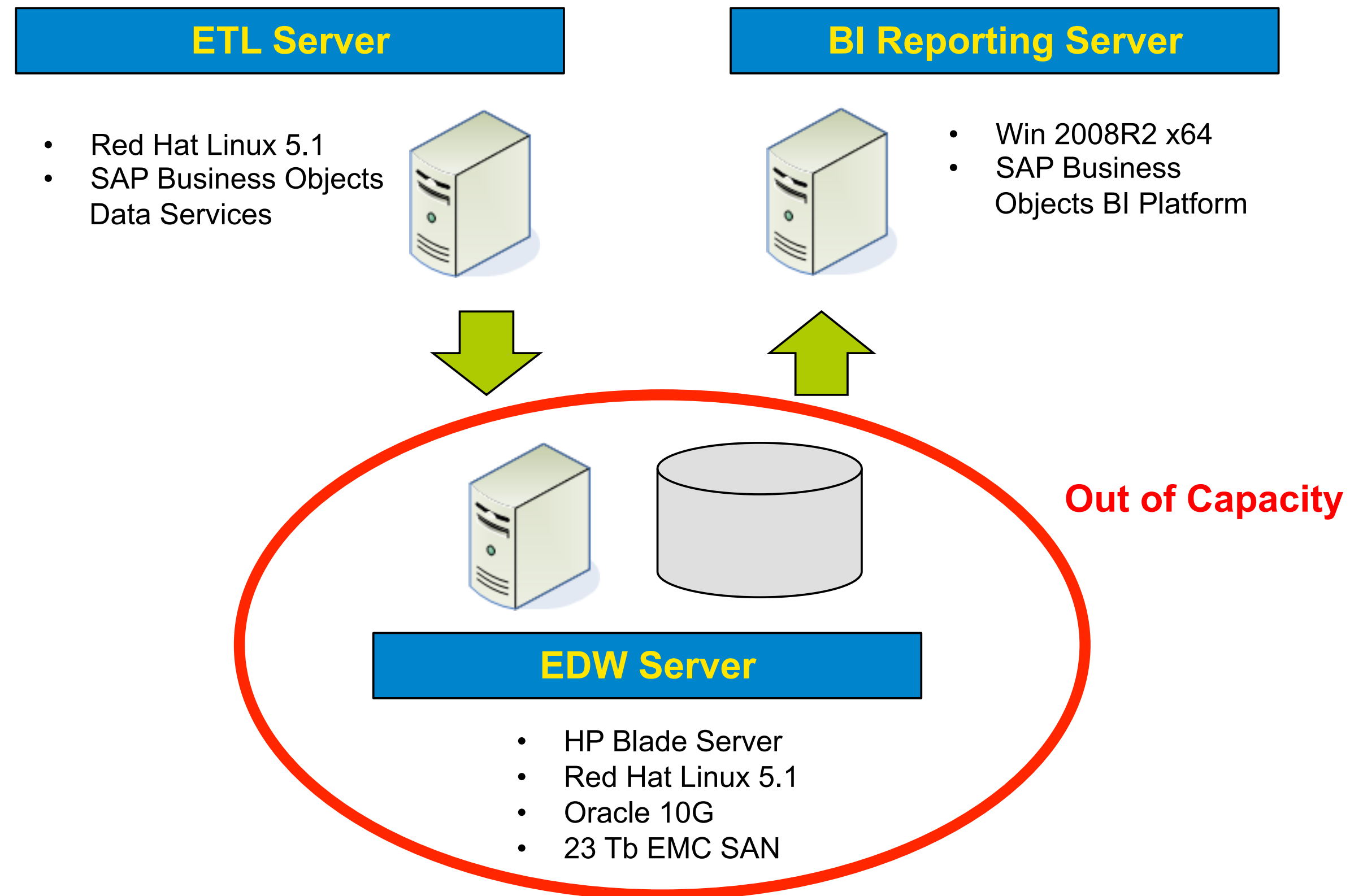
# Two Degrees Mobile is..

- the newest, third entrant to a fiercely competitive market
- focused on innovation, fairer pricing, customer satisfaction and service
- growing rapidly
- > 1 million subscribers, 21% market share, in 3 years





# The Old DW Environment





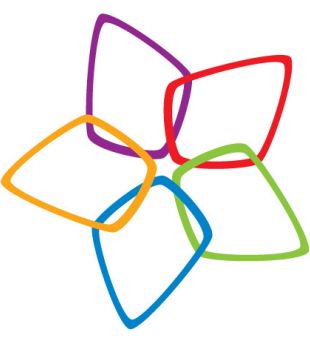
# The Business Problem

- Doubling Data Warehouse disk usage every 6 months
- Fast running out of capacity
- Unable to load any additional data sources
- Internal report availability SLAs proved increasingly challenging
- Degrading query performance
- Fixing these problems would require a lot more expensive disk, processing hardware, and software upgrades



# The Evaluation Process

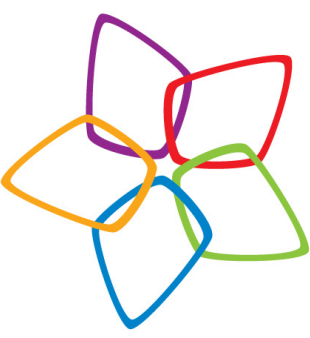
- Looked at alternatives to upgrading
- Consciously decided on a light evaluation process
- Participation by invitation only
  - Limited to 4 vendors
- All vendors had workable solutions
- Key success criteria were:
  - Capacity
  - Cost
  - Ongoing Administration
  - Local support
- Nov 2012 – Shortlisted vendors & Issued RFQ
- Dec 2012 – POC with first vendor
- Jan 2013 – POC with IBM



# The Proof of Concept

- 262 GB, 718 million rows of data loaded in <1 hour (single threaded)
- Overall achieved an average 4.9 x Compression (262 GB uncompressed / 53.9 GB compressed)
- 95,269 lines of Oracle DDL converted automatically to 992 equivalent lines of Netezza SQL (96X reduction in code complexity)
- A suite of benchmark queries were run, which included bulk updates/inserts, and some complicated queries

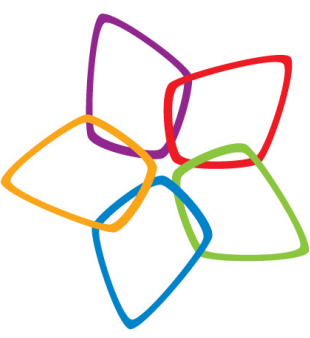
Query	Current System Runtime	Netezza TF12 Runtime	Improvement
MTHLY USG REPT	2700	3	900 x times faster
CAR MLY IC	43200*	27	1600 x times faster
HIST INS UPD (bulk update)	600	6	100 x times faster



# And the Winner?

- *“it was more cost-effective for us to put in the PureData System than it was to upgrade our existing platform”, Peter McCallum*
- Interestingly PureData didn't win because of its performance. It won based on a combination of:
  - cost,
  - capacity,
  - and the availability of local support





# Implementation Timeline

- Feb 2013 – Placed Purchase Order
- Mar 2013 – IBM PureData System for Analytics Installed
- Mar - April – Preparation for cutover
  - Data migration
  - ETL Code migration
  - Report migration
- May – Go Live
  - ETL loads into old EDW platform turned off
  - Data refreshed to IBM PureData System
  - ETL loads into IBM PureData System turned on
  - Old EDW platform turned off







# Obstacles and Lessons Learnt

- Getting existing ETL tool and code to work with the PureData appliance without having to rewrite everything
- Ditto reports and dashboards
- Minor differences in SQL syntax
- Set oriented approach to updates and inserts
- Migration automation techniques saved time, cost, and reduced risk
- Implementation timeframe was a little **too aggressive!**
  - more time testing would have reduced anxiety
- Communication with key business stakeholders was critical



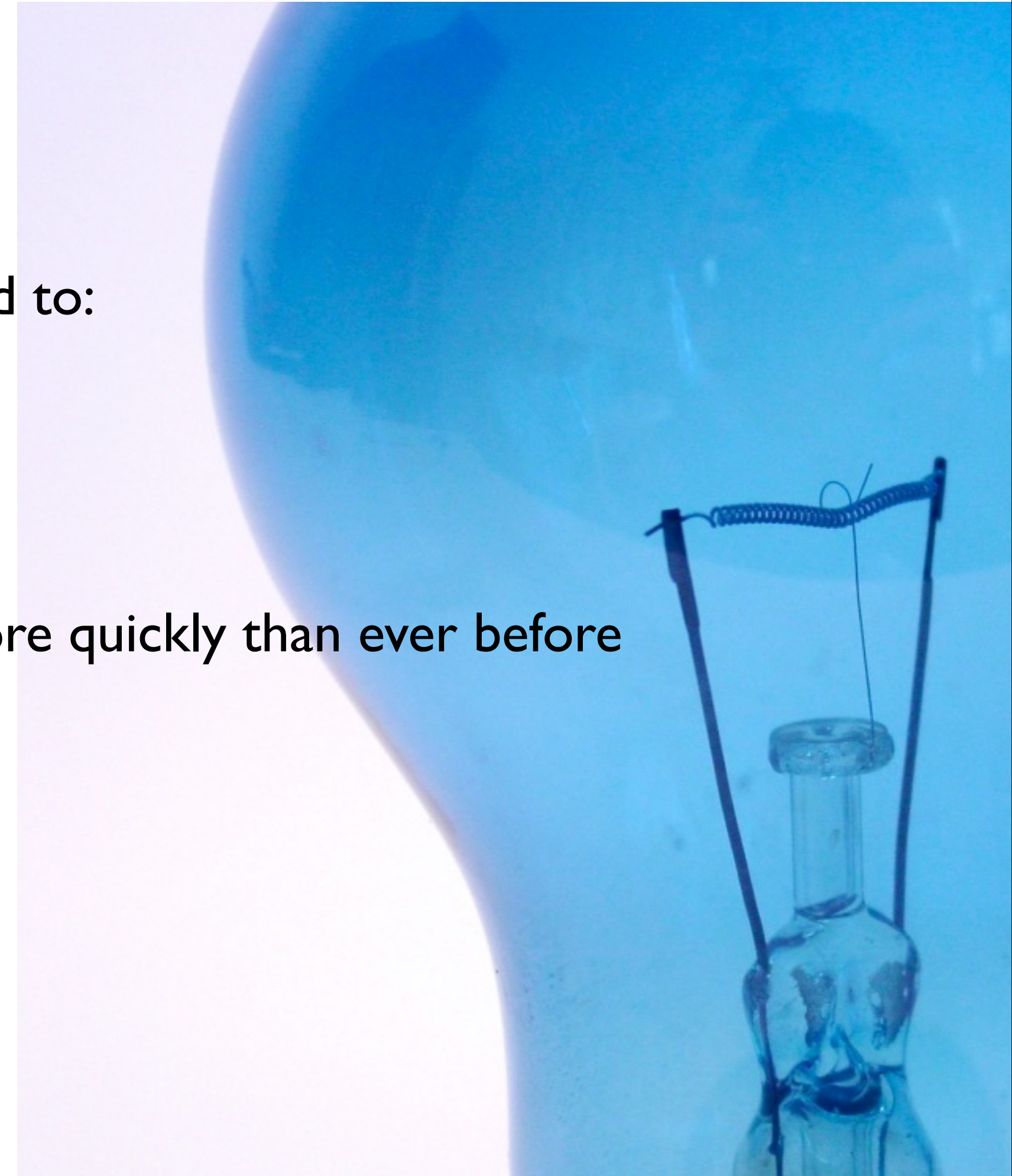
# Immediate Benefits

- Capacity to burn
  - 23 Tb reduced to less than 5 Tb
- Load Performance
  - Immediate 40% improvement in overnight load time
- Query & Analysis Performance
  - “Blisteringly Fast”
  - Some reports and queries now run 100 to 1000 times faster
- Lower cost of ownership
  - <1 Fulltime DBAs



# The Intangible Benefit of Performance

- The ability to quickly turn-around analysis much faster has led to:
  - Happier business users
  - More data-driven decision making
  - Significantly more questions being asked, and answered more quickly than ever before
  - Better products
  - Ultimately more loyal and satisfied customers





# Next Steps

- Take advantage of Netezza In-Database Analytics
  - Migrate existing analytical models into IBM PureData System
  - Reduce lag in scoring subscribers
  - Overcome current performance constraints
- Implement a physical development / test environment





**Any Questions?**