

# MERCER

Consulting. Outsourcing. Investments.



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## Ruby in Finance

Case study: 60 million USD p.a.

Jon Egil Strand, Oslo



## Agenda

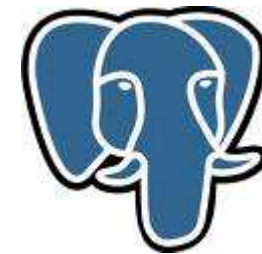
- Background
  - Me / Mercer / DC-Pension
- The case: Outsourcing 60 million USD p.a.
- The Engine: Ruby at the core
- Why Ruby / Lessons learned

## Background: Who is he?

- Jon Egil Strand (31)
- Financial mathematician
- M. Sc. Norwegian University of Science and Technology / University of Oslo / Boston University

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# Background: Who is he?


The screenshot shows the Merb website homepage. The browser title is "Merb | Looking for a better framework? - Mozilla Firefox". The address bar shows "http://www.merbivore.com/". The website has a green header with the "merb" logo and navigation links: Home, Why Merb?, Features, Contribute, Documentation, Get Merb. The main content area features the slogan "All you need... none you don't." and three columns highlighting key features: "Built for speed." (with a speedometer icon), "Lightweight." (with a snowflake icon), and "Powerful." (with an atom icon). Below these is a section titled "Faster, Lighter, More Agile." with a "Download Merb" button (Stable, Trunk) and a "Get Up to Speed" button (Official API, Tutorials (Coming Soon)).

www.merbivore.com

The screenshot shows the fStat website. The browser title is "fStat - fat-tailed quantitative derivative analysis - Mozilla Firefox". The address bar shows "http://www.fstat.no/options/chart\_ask\_rates/1868". The website has a dark theme with the "fStat" logo and navigation links: Overview, Rates, About. The main content area features a line chart titled "REC8D230" showing the ask-rate over time from 2008-01-15 to 2008-04-02. The y-axis ranges from 0.0 to 2.0. A text box below the chart explains: "What's this? The chart shows the ask-rate for REC8D230. The ask rate is the ratio of the market ask-price to the simulated price. When the two are identical, the ratio is 1.0. A higher number indicates that the market price is higher than the simulated price, and vice versa."

www.fstat.no – combining merb and R

## Background: Mercer

- Global financial consultancy
- 15 000 employees globally
- Financial brokerage
- Actuarial calculations
- International Pension Liability Accounting
- Investment Consulting
- Outsourcing 

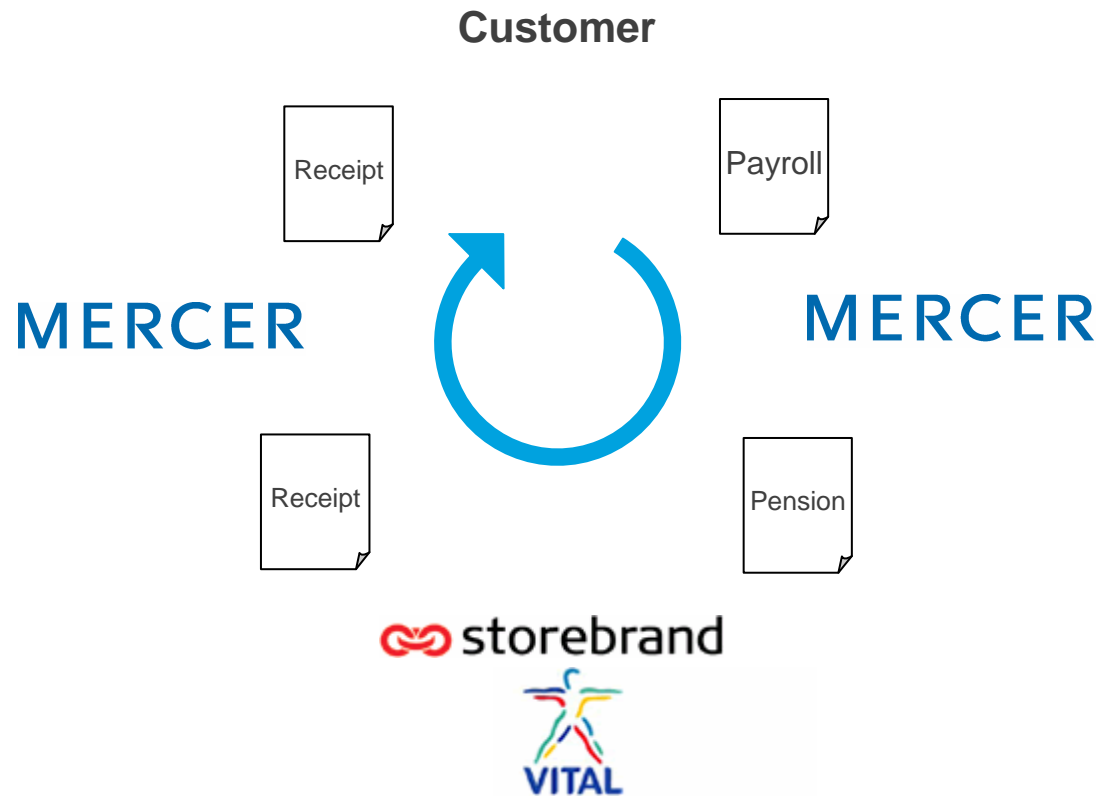
# Background: Defined Contribution Pension Schemes





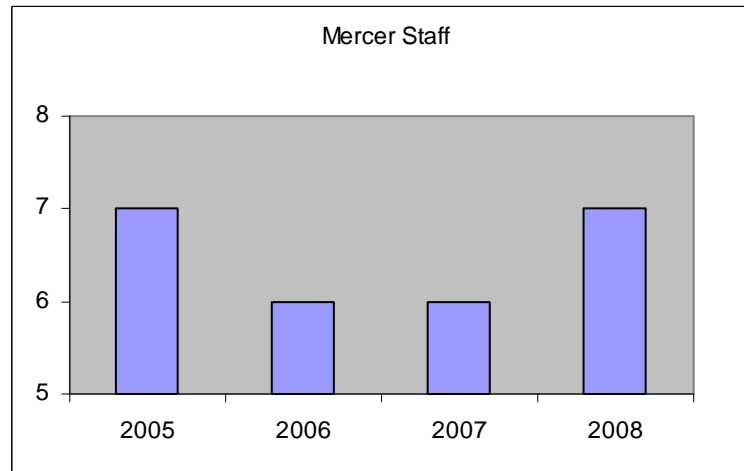
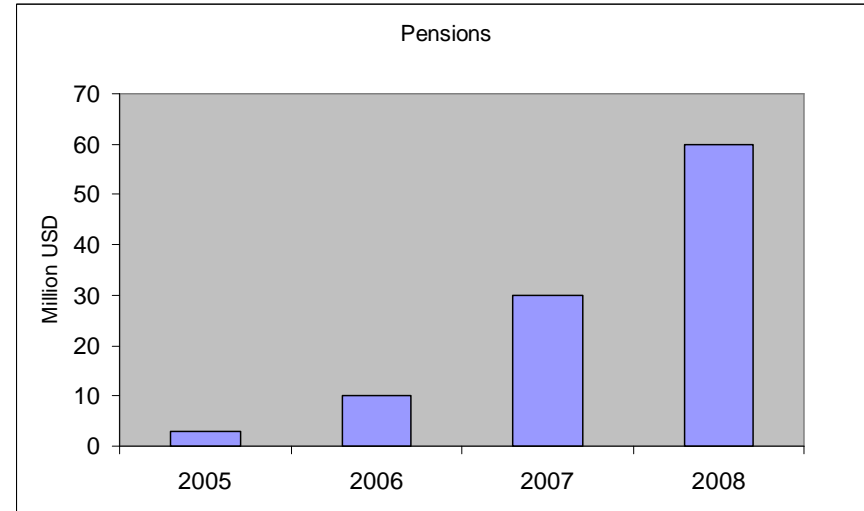
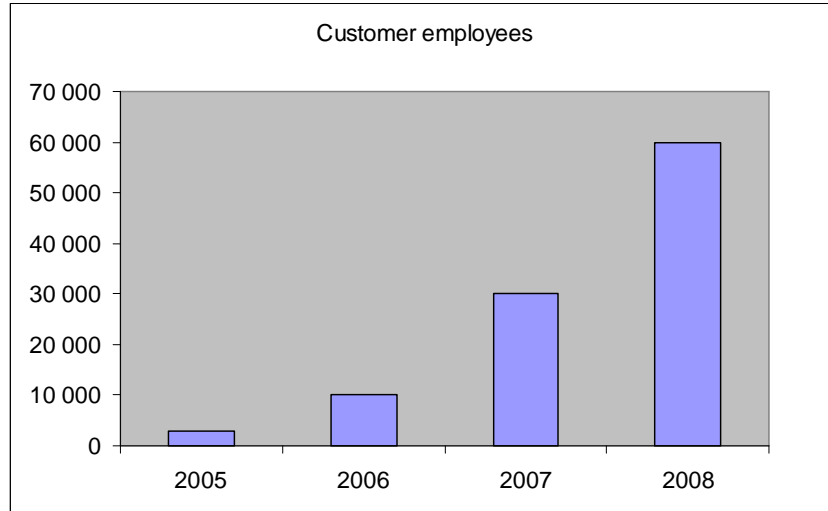
**The Case:  
Mercer Outsourcing**

# The Case: Outsourcing what?





## The Case: Volume and staff





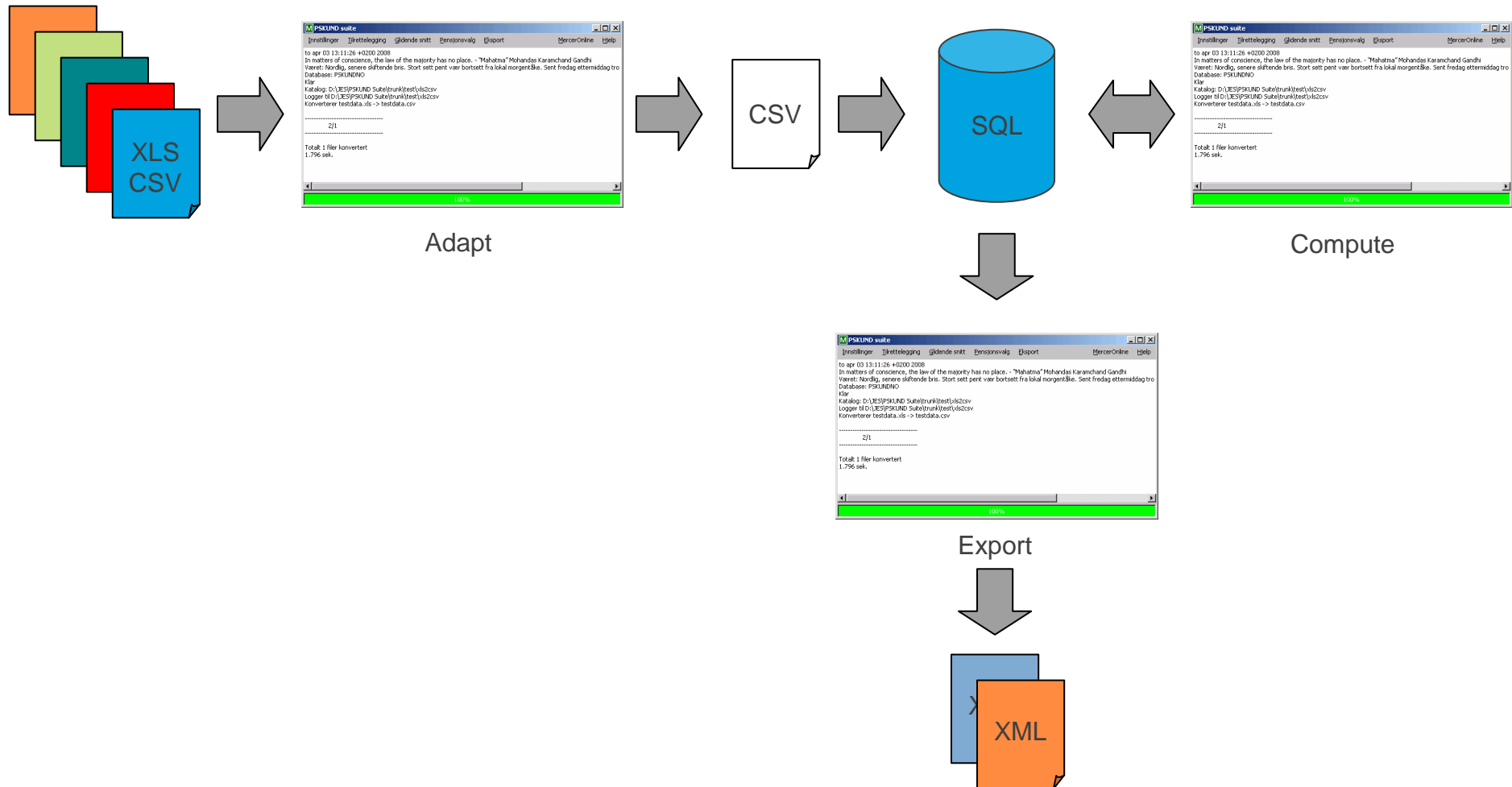
**The Engine**  
**Ruby at the core**

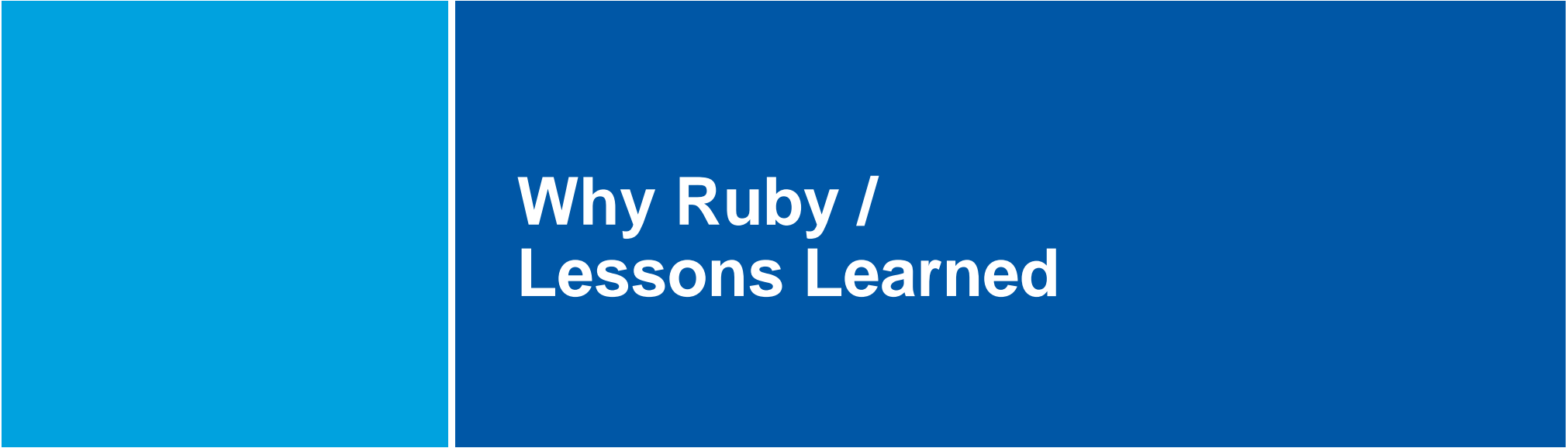


## The engine: The ecosystem

- Windows XP / Windows Server 2003
- MS SQL server
- Website .Net
- Active Record
- FXRuby
- RSpec

# The engine: Flow





## **Why Ruby / Lessons Learned**

## Why Ruby: Culture in Mercer Outsourcing

- Three key focus areas:

Customer

Customer

Customer

listen to what he's not saying



## Why Ruby: Show, don't tell

- Show real results
- Show real results fast
- Develop quality software
- Develop quality process
- Document quality
- Learn the trade & develop business



## Lessons Learned: The good

- Extremely fast time to market
  - not only for initial release, but also for all subsequent features
  - dev-cycle of hours, sometimes minutes
- Very flexible technology
  - embraced many more areas of the business than initially planned
  - allows for organic, iterative development
  - Easy to grow the software and business as one
- Ruby community has deep culture and good tools for testing
  - high quality
  - documentable quality





## Lessons Learned: The bad

- No stand-alone app
  - full dev-env on all workstations, not only on dev's
- Dependency on key personell

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