MATLAB integration with data visualization tools
Who is Qsuper?

• Queensland’s largest super fund and one of the largest in Australia
• We have a customer base of more than 565,000 members with over $72 billion in funds under management
What we do?

Aim to deliver strong consistent returns with lower volatility.
How do we do this?

By analysing a lot of data.

The challenges this presents?

Scalability of personnel: Our investment analysts need to cover all development functions. Investment analytics, data processing, report and application development.

We need to find ways to scale this out.
Why a reporting tool?

Appetite for more sophisticated reports.
Consumers want drill through, interactivity, mobile access.
Extending to be an application interface

- Scenario modelling
- What if analysis
- Functions that require user input
- Can trigger secondary processing
Indirect integration with Reporting Tools

• MATLAB has significant indirect interaction with BI Tools for
  • Reporting
  • Data Analysis
  • Data Validation

• This approach allows the most appropriate reporting tool to be used in each instance & allows the reporting tool to change, without changing the upstream process
Scenario Analysis

• MATLAB used to transform & integrate multiple sources of data in Data Warehouse

• Changes from baseline then passed through portfolio modelling
Benefits

• Provides enterprise security
• Allows separation of roles: Report builder and analytics developer
• Provides a GUI development framework for visual interfaces.

Things to Consider

• Using two tools together adds complexity so we only integrate when we have to.
• Spotfire has a simple approach to monitoring running functions. You can’t see if they are queued or long running.
• Limited flexibility on submitting functions for execution.
Techniques we have used

- Limit the number of parameters passed.
- Simplify transformations in reporting tool.
- Same code base for Prod and Non-Prod environments.
Architecture
What’s next?

• Spotfire have added in-line editing functionality. We hope that we can use this to effectively scale to larger numbers of parameters.

• Mathworks are extending the Spotfire connector with functionality to repoint functions to other MPS servers and allow editing of function signatures.