Using an ADL to describe a large information system

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Introducing the Project

- Very established system (15 years)
  - widely used, actively developed
  - multiple languages (Perl, Java, C++, C#, ...)
  - over 10 MLOC
    - variable quality of documentation and code
- Urgent need to extend and improve
  - so immediate need to understand
- Project formed to “document” the system

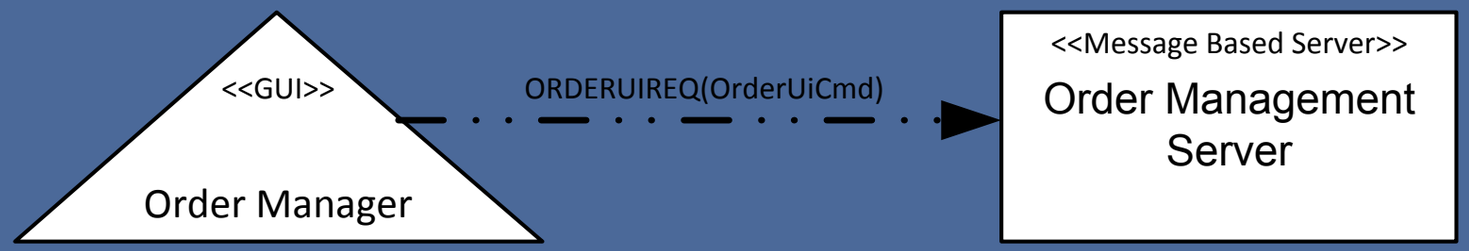
Project Context

- 20 teams on 4 primary sites
- Little enthusiasm for this exercise
  - needed to be sold at every level and every stage
- Varied experience with modelling
  - but in general little to none
  - no general experience of UML or other notations
  - no widely available modelling tools
- Daunting but an interesting opportunity!

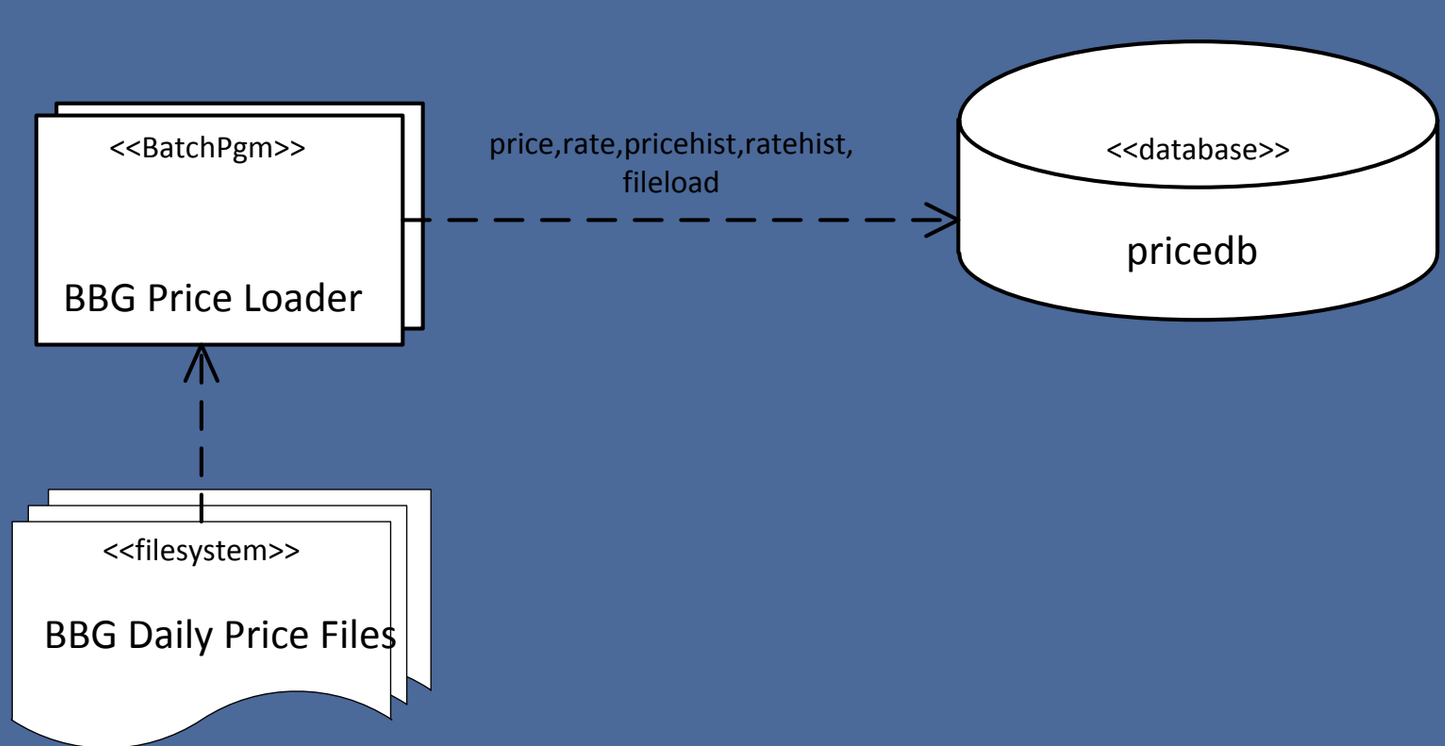
The ADL and Approach

- Unbelievably we defined our own ADL
  - 12 component types, 5 connector types
  - ADL elements tied directly to the system "style"
- Notation design done very deliberately
  - Daniel Moody - "Physics" of notations
- Tools and support materials from the start
  - Visio, wiki, templates, examples, training, ...

ADL Graphical Notation



(a) Thick client UI and message driven server



(b) File Loader, reads files, writes to database

Deliverables

- A description for most of the system
  - hosted as a tree of wiki pages
  - reasonably accurate & consistent
- Informal but thorough definition of the architectural style of the system
  - a new concept to the organisation
- A new degree of understanding
  - style, complexity, interconnectedness, module criticality ... insights to guide decision making

Techniques and Lessons

- Simplicity
  - Match the notation to the system's real style
  - Don't complicate by solving the general case
  - Keep tools simple and familiar (Visio, Wiki)
- Technology transfer is crucial to acceptance
  - carefully designed notation really helps
  - support materials are critical
- Nuanced communication is important
  - to keep cooperation and communicate the value

Questions?

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