

# Bechtel Modeling Overview

Instrument SIG Workshop

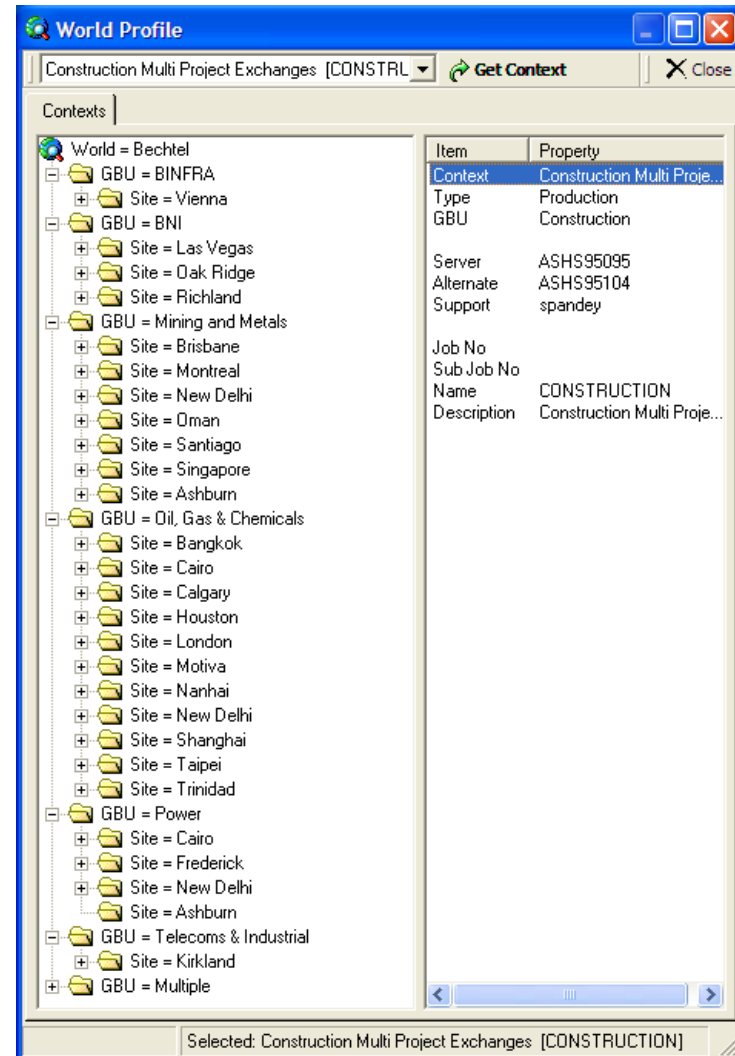
August 18, 2010

# Background

- Business Lines
  - Civil
  - Mining & Metals
  - Oil, Gas & Chemicals
  - Power (and Telecoms)
  - Government Work

# Legacy Integration

- About 200 active projects currently using legacy Data Exchange middleware
- Internal scope



# Legacy Integration (2)

- 66 apps
  - Instrumentation
  - Equipment, Line lists
  - P&ID
  - 3D CAD
  - Document Management/CMS
  - Procurement
  - Construction
  - Data Warehouse
  - Ad hoc spreadsheet/MS Access
  - Etc.
- Database and API

# Legacy Integration (3)

- Reference data derived from STEPLib
- 133 commodities
- 2329 properties
- Central managed, local extensions
- No relationship between commodities and properties
- Flat interfaces, <application, commodity>

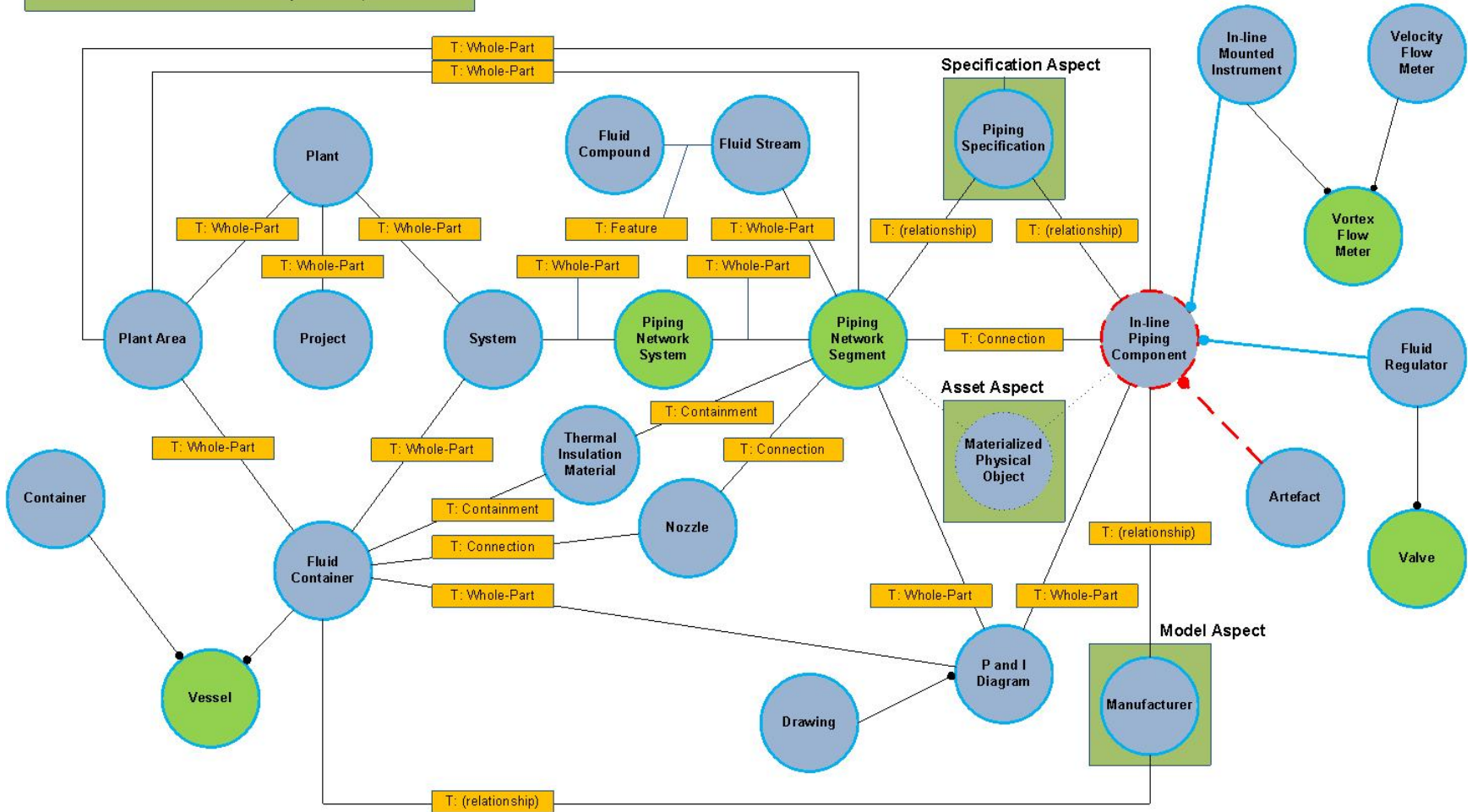
# 15926 Nirvana (Not)

- Staging Service
- Purchase Order
- Line Item
- Cost codes, distributions, receipts, vendors, cost elements, tags, argggh!
- Relationships

# Camelot

## Camelot Information Model

Note: All classes are **Functional Aspect** except where noted



# Camelot (2)



Want to criticize the modeling?

It's not the sort of thing you say  
to a heavily armed Christian!



# Methodology

- We primarily want to make statements at the Functional or Specification level
  - Mostly Individual templates, not Class templates
- Usually begin with some “object of interest” and properties that are in some way related

# Start Here

- Identify
  - Object of interest
  - Related objects
    - Type of relationship
  - Properties
  - Values
- Search!

# RDL Search

- Search typically starts with the **label**.
- This is the starting point for searches if only because in some systems this is all you can search. The PCA RDL Explorer is an exception.
- But wait, there's more!

# RDL Search (2)

- **Description/Definition** – sometimes this is missing or almost the same as the label. A good description is very helpful in clarifying the meaning of the RDL class. Search should be expanded to include the description as a future iRINGTools enhancement.
- Description vs. Definition to be resolved

# RDL Search (3)

- **Note** – some RDL classes have a Note which can provide additional context. Sometimes this is just a supplemental Description.

# RDL Search (4)

- **Entity Type** – check that the class found is of the correct level and type.
  - *Level* – the entity type must be the correct “level”, i.e. individual, class, or class of class. Most commonly a class is being searched for, and inexperienced users will find a class of class and not realize that it is not what they need. An example is INSTRUMENT CLASS. By convention classes of class normally have the word CLASS at the end of the label so that is a good first check.
  - *Type* – if the RDL item is the correct level check that the type is correct. This requires a basic understanding of the Part 2 entity types. Sometimes the label and description seem like a perfect match but the type is not at all what is needed. For example, TAG NAME has a label, description, and note that indicate it is what we want as a class representing component tags. However, the entity type is DocumentDefinition so it can't be used for that purpose.

# RDL Search (5)

- **Taxonomy** – a class should have specialization parents and children that make sense. The tools make it easy to browse this hierarchy. Browsing the taxonomy is also useful when a label search does not locate the desired result. You may be able to find a parent or child class and navigate to the desired class from there, or at least better understand what is there. Unfortunately sometimes the taxonomy is incomplete, or at least not what one would expect.

# RDL Search (6)

- **Classifications** – membership in a class may be a useful criterion. For example you might want to find classes with a particular provenance or certification. Unfortunately the current tools only show “upwards” classification, they show the classes that a class is a member of, but they don’t show the members of a class. This would be a simple enhancement 😊.



# RDL Search (7)

- **Templates** – specialized templates are very useful for class identification and navigation. Right now this is of limited use because there are few templates in the reference data, but it should become increasingly valuable. But this does require the use of specialized templates or some alternate way of defining OIMs.

# Next...

- Add any missing classes to sandbox
- Add or specialize templates for relationships
  - Add class template instance for cardinality
- Add or specialize templates for properties
- Add value mapping for app(s) if needed
- Beg for help in Thursday modeling meeting

# Base/Core Templates

- Add/propose new base template if needed
- Usually based on Part 2 relationships
- iRING UG Template Wiki
- POSC Caesar Template Wiki

# Adding New Reference Data

- iRINGTools
  - Reference Data Editor
    - Version 2.0.0!
  - Spreadsheet loader
  - Management
    - Mastering
    - Part 8 changes

# Now Map Your App

The screenshot displays the Icing Mapping Editor web application. The browser window title is "MappingEditor - Mozilla Firefox". The address bar shows the URL "https://facade.becpsn.com/MappingEditor". The application header includes the Icing logo and the text "Mapping Editor". Below the header, there are fields for "Project: 12345\_000" and "Application: Inspec", along with "Generate DTO" and "Refresh Facade" buttons. A search bar is present with a "Reset" button. A tree view on the left shows "Data Objects" with categories like "Equipment", "Instruments", and "Lines". The main area displays the "ISO15926 Information Model" tree, with "LineList" expanded to show various roles. The "hasIdentificationType" role is selected and highlighted. A "Details" table on the left shows the properties of this role. The "Mapping" area at the bottom right shows the selected role's structure. The footer contains reference data and adapter service URLs.

Key	Value
Role Name	hasIdentificationType
Role Id	tpl:R30790108016
Property Name	
Datatype	
ValueList	
Reference Id	rdl:R52602833166
Reference Name	FLUID IDENTIFICATION CODE

Reference Data Service: <https://facade.becpsn.com/RefDataService/> Adapter Service: <https://facade.becpsn.com/AdapterService/Service.svc>