Beam me up Scotty!

Re-working the Data Model with Enterprise Architect
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Presentation Overview

Enterprise Architect (EA) by Sparx Systems is a leading-edge data modeling tool (among other things!). Both the ArcGIS Pipeline Data Model v6 and PODS ESRI Spatial v6 have been migrated to EA format. This presentation will describe the subset of tools used to migrate these models to EA format. Some concrete examples will be provided using the latest releases of APDM and PODS ESRI Spatial. Some thoughts about the future direction of pipeline data models will be discussed to infinity and beyond!

- What is Enterprise Architect?
- Past Tools/Methods
- Subset of Tools
- Concrete Examples - APDM 6.0, PODS ESRI Spatial
- Report Card
- Musings
Introductions

- Peter Veenstra - Willbros Engineering, Kansas City, MO, USA
- Narmina Lovely - BHPBilliton, Houston, TX, USA
- Ben Constable - Sparx Systems, Creswick, Victoria, Australia

http://www.sparxsystems.com/
What is it?

UML Modeling and Lifecycle Tool Suite
Model | Design | Construct | Test | Deploy | Manage

An agile, cost-effective modeling, design and management platform that accelerates and integrates Software, Business and Systems development

Modeling Software - UML, Mind Mapping, Data Flow

Framework for Modeling

ArcGIS Geodatabase Design Tool - utilizes XML Workspace Import/Export functionality native to ArcCatalog
REDSHIRTS
Well, gentlemen, you're all going to die.
Where have we been?

GIS Diagrammer
(http://tinyurl.com/495fkyu)

XRay - Vertex 3
(http://tinyurl.com/kxpbdaj)

Visio UML Modeling\ESRI Case Tool Import - ArcCatalog
Enterprise Architect - Subset of Tools

Base Functionality - toolbar, diagrams, packages, hyperlinks, documentation

Import from Visio UML and from ArcGIS XML Workspace

Organization of Model

Validation of output XML Workspace before import into ArcCatalog

Modularization

Base Line (Documentation, Delta)

Multiple Inheritance (Abstract Class Hierarchy)

Script and Query Engine
EA Tools - Base Functionality

Base Functionality - toolbar, diagrams, packages, hyperlinks, documentation, find

Demo HTML Doc
Demo PDF Doc
EA Tools - Import to EA

Import from VISIO UML Drawing

Import from ArcGIS XML Workspace
EA Tools - Organization of the Model

Organization of Model

Demo in EA
Validation of output XML Workspace before import into ArcCatalog
EA Tools - Modularization

Ability to generate partial schemas from a single-standard model without having to re-design the entire model or maintain separate models.

Demo PODS Modularization PDF
Demo Help
Demo in EA (Show Modules)
EA Tools - Multiple Inheritance

Multiple Inheritance (Abstract Class Hierarchy)

Show Abstract Class Hierarchy in EA
EA Tools - Script and Query Engine

Script and Query Engine

Demo in EA

SELECT t.connector.Name AS ConnectorName, t.object.Name AS OriginClass, t.connector ea_guid AS CLASSGUID, t.connector.Connector_Type AS CLASSTYPE
FROM t.object, t.connector
WHERE t.connector.Stereotype = "RelationshipClass" AND t.connector.Start_Object_ID = t.object.Object_ID
Can you hear me now, Spock?
EA Tools - XML Import Delta - Base Line

Base Line (Documentation, Delta)
Concrete Examples

APDM 6.0 - Demo in EA

Modularization - Demo in PDF

PODS Relational >>> PODS ESRI Spatial 5.1 - Demo in EA
WARNING!

RED SHIRTS MAY BE HAZARDOUS TO YOUR HEALTH!

WEAR AT YOUR OWN RISK
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functionality</td>
<td>A+</td>
</tr>
<tr>
<td>Modularity</td>
<td>A</td>
</tr>
<tr>
<td>Validation</td>
<td>A+</td>
</tr>
<tr>
<td>Delta on XML Workspace Import</td>
<td>C-</td>
</tr>
<tr>
<td>Vendor Support</td>
<td>A+</td>
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<tr>
<td>Other Data Types (Annotation, Dimensions)</td>
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<tr>
<td>Vertical Datum</td>
<td>A+</td>
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<tr>
<td>Graphic User Interface</td>
<td>B</td>
</tr>
<tr>
<td>Multi-User</td>
<td>A</td>
</tr>
<tr>
<td>File Size</td>
<td>A</td>
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</table>

http://ideas.arcgis.com/ideaView?id=087300000008DjeAAE
http://ideas.arcgis.com/ideaView?id=087300000008GyNAAU#comments
Where to go from here?

SPARX
http://www.sparxsystems.com (10.0.1.0 released, this presentation 11-beta)
http://www.sparxsystems.com/arCGIS/index.html
http://www.sparxsystems.com/arCGIS/model-validation.html
http://sparxsystems.com/resources/demos/requirements-management/requirements-reporting.htm
http://sparxsystems.com/resources/demos/reporting/webinar-20121219-enhanced-reporting.html

APDM
http://www.apdm.net (will be online next week)
https://www.linkedin.com/groups/APDM-ArcGIS-Pipeline-Data-Model-155824/about

PODS
http://www.pods.org

ESRI
http://www.esri.com/industries/pipeline/community/datamodel
http://downloads2.esri.com/support/TechArticles/Pipeline_Data_Model.pdf

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Narmina Lovely - Narmina.Lovely@bhpbilliton.com
Peter Veenstra - peter.veenstra@willbros.com
The end ....

Thank you to ... 

ESRI - Petroleum User Group

Tom Coolidge - ESRI Pipeline Industry Manager

Narmina Lovely - BHPBilliton

Pipeline Open Data Standard (PODS)

Ben Constable - Sparx Systems

Live long and prosper ...
STARRING WILLIAM SHATNER
Beam me up Scotty!

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