Model and Data Interchange at Object Management Group (OMG)

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OMG’s XML Metadata Interchange

“XMI - XML Metadata Interchange allows MOF-compliant metamodels (and therefore models, since a model is just a special case of a metamodel) to be exchanged as XML datasets.”
Standards-like: DoDAF/MODAF. Standards: UPDM, UML/SysML, MOF/XMI.

Model Interchange Via XMI

Modeling Tool

Model/Data Interchange

Modeling Tool

Note: For simplicity, we show exchange between two tools. MIWG testing at OMG has dealt with ½ dozen tools. Projects should deal with complexity of versioning among toolsets through their usual configuration management processes.
Model Interchange vs Diagram Interchange

- Model interchange with XMI exchanges model information (e.g., classes, associations, activities)
- XMI does not currently include diagram layout information
- OMG Adoption of Diagram Definition standard (expected Sep 2010)
  - Most tools provide auto-layout capability to quickly generate the diagrams from the model information
  - Future OMG efforts will leverage XMI to also include exchange of diagram layout information
Model Interchange Working Group (MIWG)  
Objectives and Approach

• Objectives:
  – Enhance XMI Specification
  – Demonstrate interoperability of XMI-based tools

• Approach
  – Focus on model interchange among UML, SysML, and UPDM tools
  – Multiple vendors involved
  – Tests capabilities among vendor tools
  – Identify and resolve interchange issues

• Wiki Web Site:
  – http://www.omgwiki.org/model-interchange

• Interoperability Demonstrations at OMG Technical Meetings
  – December 2009 (completed)
  – December 2010 (upcoming)
## MIWG Participants
(as of Aug 2010)

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<tr>
<th>Tool</th>
<th>Vendor - Organization</th>
<th>Point of Contact</th>
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<tr>
<td>Metadata Manager</td>
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<td>Pete Rivett</td>
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Backup
DoDAF/UPDM, example of interlocking disciplines in an integrated system development environment

"Interlocking disciplines in an integrated system development environment."

Incremental Test Cases: Progress

- Completed Test Cases 1-10 (Jun 10):
  - Class Modeling, Profile Definition, Activity, Composite Structure, State Machine, Use Case, Interactions, & SysML blocks (simple)
- Upcoming Test Cases 11-17 (Jul – Dec 10):
  - More SysML, Requirements, Swimlanes, Parametrics, Allocations…
- **2011: UPDM**
  - NOTE: MIWG & UPDM GROUP will use the latest specification or standard that has been implemented by at least 3 commercial vendors at the time of the testing
- Participants (Dec 09)
  - Atego (participating tool), IBM (participating tools), SOFTEAM (participating tool), No Magic (participating tool), Sparx Systems (participating tool), Adaptive (Test case construction, validation and support), MDS (Test case support and version control), NIST (Independent test case validation), Lockheed Martin (Chair), Raytheon (co-chair)
And Last but Not Least, we come to a standard in Defense Architectures

The Unified Profile for DoDAF (US) and MODAF (UK) (UPDM) Group

- Established under & supervised by the OMG C4I Domain Task Force
  
  The C4I DTF is a Domain Task Force of the Object Management Group (OMG) that operates under the Domain Technical Committee and is focused on systems that support crisis response, Search and Rescue (SAR), and military operations.

PRESS RELEASE • Pressemitteilung  
• Communiqué de Presse • Comunicato Stampa


“New, independent industry group sets sights on fast-tracking a standard specification for defense architecture modeling”

Established to build on previous efforts within the Object Management Group (OMG) to develop a modeling standard that supports both

• the US Department of Defense Architecture Framework (DoD AF) and
• the UK’s Ministry of Defence Architecture Framework (MODAF).

• Note:
  – UPDM 1.0 was issued by OMG in December 2009 and UPDM 1.1 is being readied this summer for release to ISO this Fall 2010.
  – UPDM Group is working on UPDM 2.0 with Final Submission also this Fall to the OMG C4I DTF and Architecture Board. After anticipate revision, OMG release is expected Spring 2010. UPDM 2.1 will follow and will be submitted to ISO.

• http://www.updm.com/press/UPDM001.pdf
UPDM – Unified Profile for DoDAF/MODAF

Matthew Hause
UPDM Co-Chair

UPDM Group

Adaptive
Artisan Software
ASMG
BAE Systems
DoD
DND
embeddedPlus
Generic
General Dynamics
IBM
Lockheed Martin Co
Mega

Mitre
Northrop Grumman
L3 Comms
MOD
NoMagic
Raytheon
Rolls Royce
Sparx Systems
VisumPoint
Selex SI
Thales
Unisys

June, 2010
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