UPDM AND UAF SPECIFICATIONS AT OMG

UPDM and UAF Introduction

The Unified Architecture Framework® (UAF®) is a generic and commercially orientated architecture framework based on the Unified Profile for DoDAF and MODAF™ (UPDM™). These frameworks define ways of representing an enterprise architecture that enables stakeholders to focus on specific areas of interest in the enterprise while retaining sight of the big picture.

Based on the Object Management Group® (OMG®) Unified Modeling Language™ (UML®) 2.0, Systems Modeling Language (SysML®), and Service Oriented Architecture Modeling Language™ (SOAML®), UPDM meets the specific business, operational and systems-of-systems integration needs of commercial and industrial enterprises as well as the U.S. Department of Defense (DoD), the UK Ministry of Defence (MOD), the North Atlantic Treaty Organization (NATO) and other defense organizations.

UPDM was developed in response to a need from the UML/SysML and military communities to develop standardized and consistent enterprise architectures based on the U.S Department of Defense Architecture Framework (DoDAF) and the UK Ministry of Defence Architecture Framework (MODAF). Initial requirements were derived from both military frameworks as well as the NAF (NATO Architecture Framework), combined with requirements from the business sector (because 90 percent of the concepts and themes captured in the military frameworks address issues that are equally applicable in the commercial and industrial domains). Participants included a broad spectrum of interested parties, covering industry, tool vendors, and end users as well as representatives of the DoD and MOD.

UPDM Value Proposition

In these days of increasing complexity and rising costs, it is important to ensure that the systems that are being developed can talk to each and meet the overarching capability that they were intended to achieve. UPDM architecture models provide a means to develop an understanding of the complex relationships that exist between organizations, systems, and systems-of-systems and enable the analysis of these systems to ensure that they meet the expectations of the user community.

- UPDM supports current DoDAF/MODAF/NAF requirements and can evolve to meet future needs:
  - produce standard DoDAF/MODAF/NAF products as well as extensions
  - leverage cross-industry, standards-based approaches (e.g., MDA®, UML, SysML) to enhance tool and architecture data interoperability
  - MDA foundation enables UPDM to evolve with DoDAF v2 and beyond (i.e. security, human factors)
  - UPDM is methodology agnostic (structured, OO, etc.)
- UPDM provides a set of rules to enable users to create consistent enterprise architectures (as models) based on DoDAF/MODAF and NAF semantics. These models then become the repositories from which various views can be extracted.

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Unified Architecture Framework Profile

The OMG UAF is the next stage in the development of UPDM; it takes the principles of UPDM and extends it to reach a wider audience. As well as encompassing DoDAF, MODAF, and NAF, UAF also includes views that can capture human machine interface and human factors concerns, security analysis and systems-of-systems lifecycle concepts. Because of this expansion in scope, it became necessary to change the way views were represented in UPDM. This resulted in the definition of a grid-based approach that separates the metamodel from the view specification and from a specific architecture framework representation.

The UAF 1.0 specification is currently going through the finalization process at OMG. Implementations of it from a variety of tool vendors are expected soon. In the future, the OMG UAF Task Force intends to expand the application of the UAF to the Internet of Things.

	Taxonomy Tx	Structure Sr	Connectivity Cn	Processes Pr	States St	Interaction Scenarios Is	Information If	Parameters Pm	Constraints Ct	Roadmap Rm	Traceability Tr
Metadata Md	Metadata Taxonomy Md-Tx	Architecture Viewpoints [a] Md-Sr	Metadata Connectivity Md-Cn	Metadata Processes [a] Md-Pr	-	-	Conceptual Data Model, Logical Data Model, Physical schema, real world results	Environment Pm-En, Measurements Pm-Me	Metadata Constraints [a] Md-Ct		Metadata Traceability Md-Tr
Strategic St	Strategic Taxonomy St-Tx	Strategic Structure St-Sr	Strategic Connectivity St-Cn	-	Strategic States St-St	-			Strategic Constraints St-Ct	Strategic Deployment, St-Rm Strategic Phasing St-Rm	Strategic Traceability St-Tr
Operational Op	Operational Taxonomy Op-Tx	Operational Structure Op-Sr	Operational Connectivity Op-Cn	Operational Processes Op-Pr	Operational States Op-St	Operational Interaction Scenarios Op-Is			Operational Constraints Op-Ct	-	-
Services Sv	Service Taxonomy Sv-Tx	Service Structure Sv-Sr	Service Connectivity Sv-Cn	Service Processes Sv-Pr	Service States Sv-St	Service Interaction Scenarios Sv-Is			Service Constraints Sv-Ct	Service Roadmap Sv-Rm	Service Traceability Sv-Tr
Personnel Pr	Personnel Taxonomy Pr-Tx	Personnel Structure Pr-Sr	Personnel Connectivity Pr-Cn	Personnel Processes Pr-Pr	Personnel States Pr-St	Personnel Interaction Scenarios Pr-Is			Competence, Drivers, Performance Pr-Ct	Personnel Availability, Personnel Evolution, Personnel Forecast Pr-Rm	Personnel Traceability Pr-Tr
Resources Rs	Resource Taxonomy Rs-Tx	Resource Structure Rs-Sr	Resource Connectivity Rs-Cn	Resource Processes Rs-Pr	Resource States Rs-St	Resource Interaction Scenarios Rs-Is			Resource Constraints Rs-Ct	Resource evolution, Resource forecast Rs-Rm	Resource Traceability Rs-Tr
Security Sc	Security Taxonomy Sc-Tx	Security Structure Sc-Sr	Security Connectivity Sc-Cn	Security Processes Sc-Pr	-	-			Security Constraints Sc-Ct	-	-
Projects Pj	Project Taxonomy Pj-Tx	Project Structure Pj-Sr	Project Connectivity Pj-Cn	Project Activity PJ-Pr	-	-			-	Project Roadmap Pj-Rm	Project Traceability Pj-Tr
Standards Sd	Standard Taxonomy Sd-Tx	Standards Structure Sd-Sr	-	-	-	-			-	Standards Roadmap Sr-Rm	Standards Traceability Sr-Tr
Actuals Resources Ar		Actual Resources Structure, Ar-Sr	Actual Resources Connectivity, Ar-Cn	Simulation [b]					Parametric Execution/ Evaluation [b]	-	-
Dictionary * Dc											
Summary & Overview SmOv											
Requirements Rq											

The grid genericizes the framework making it more appealing for use by industry while still supporting the needs of the DoD, MOD and NATO.

Want to learn more?

We are happy to discuss how OMG membership will benefit your organization! Please feel free to explore our website at www.omg.org and when you are ready, please contact **bd-team@omg.org** or call + 1-781-444-0404 to get started.

About OMG

The Object Management Group is an international, open membership, not-for-profit computer industry standards consortium. OMG Task Forces develop enterprise integration standards for a wide range of technologies and an even wider range of industries. OMG's modeling standards enable powerful visual design, execution and maintenance of software and other processes. Visit **www.omg.org** for more information.

OBJECT MANAGEMENT GROUP®

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