

Unified Architecture Framework (UAF)

Course Outline

Overview of Architecture Frameworks

- Department of Defense Architecture Framework (DoDAF) 2.02
- Ministry of Defense Architecture Framework (MODAF)
- Security Views from Canada's Department of National Defense Architecture Framework (DND AF)
- North Atlantic Treaty Organization (NATO) Architecture Framework (NAF) v 3.1
- Best practices derived from historical support of DoDAF, MODAF and UPDM
- Well-formed models with clear separation of stakeholder concerns
- Grid Approach for NATO Architecture Framework (NAF 4)
- Why the Grid?

Overview of Object Management Group® (OMG®) Standardization

- Unified Modeling Language™ (UML®) 2.0 Standard
- Systems Modeling Language™ (SysML®) Standard
- SysML v1.4 profile
- Unified Profile for DoDAF and MODAF (UPDM) 2.1
- Basics of Unified Architecture Framework (UAF)

Introduction to Unified Architecture Framework (UAF)

- What is the UAF?
- Value proposition of UAF
- UAF and representation of an enterprise architecture
- UAF and specific business, operational and systems-of-systems integration needs
- Developing models
- Systems Engineering (SE) technical processes
- Associated UAF metamodel
- Architecture data exchange between related tools

Working with Unified Architecture Framework (UAF)

- Operational capabilities
- Services and interactions between complex systems
- Tracing systems to strategies, and organizations
- Models to verify architectural completeness
- Support for Additional Viewpoints beyond those defined in DoDAF, MODAF/ MODEM, NAF, and the Security Viewpoint from DNDAF

Introduction to Unified Architecture Framework Profile (UAFP)

- UAFP 1.0 supporting capabilities
- Model architectures for a broad range of complex systems
- Representation of hardware, software, data, personnel, and facility elements
- Model consistent architectures for system-of-systems (SoS)
- Analysis, specification, design, and verification of complex systems
- Ability to exchange architecture information among related tools
- Department of Defense Architecture Framework (DoDAF) 2.02
- The Ministry of Defence Architecture Framework (MODAF)
- Security Views from Canada's Department of National Defense Architecture Framework (DNDAF)
- The North Atlantic Treaty Organization (NATO) Architecture Framework (NAF) v 3.1
- Core concepts in the UAF domain metamodel
- DoDAF 2.02 Domain Metamodel (DM2)
- MODAF ontological data exchange mechanism (MODEM)

Scope UAFP 1.0 – Unified Architecture Framework Profile (UAFP)

- Language extensions supporting integrated architecture description (AD)
- Creating models describing a system or a System of Systems (SoS)
- Set of stakeholders' concerns such as security or information
- Set of predefined viewpoints and associated views

Developing Models with UAF and UAFP

- Complete workflow of systems of systems engineering using the UAF Framework.

- Activities of defining capability requirements
- Specifying operational scenarios
- Solutions for operational scenarios,
- Managing project portfolios required to implement the selected solutions
- Tool vendors
- IBM, No Magic, PTC, and Sparx Systems