2017
annual **INCOSE**
international workshop

Los Angeles, CA, USA
January 28 - 31, 2017

Opening Plenary

Tool Integration and Model Lifecycle Management Working Group

www.incose.org/IW2017

Tool Integration and Model Lifecycle Management Working Group

Chair and co-chairs
Axel Reichwien: Chair
John Nallon: Co-chair
Lonnie VanZandt: Co-chair

TIMLM WG Web page
http://www.incose.org/ChaptersGroups/WorkingGroups/transformational/tools-integration-interoperability

Number of Members
103 Members on INCOSE Committee Listing

INCOSE Connect address
https://connect.incose.org/WorkingGroups/TIMLM/Pages/Home.aspx

MLM Wiki Page
http://www.omgwiki.org/MBSE/doku.php?id=mbse:modelmgt

MBSE Wiki Page
http://www.omgwiki.org/MBSE/doku.php?id=start

TIMLM formed by the merger of the Tool Integration and Interoperability WG and MBSE Initiative Model Lifecycle Management Activity Team

- During IW2016 the merging the MBSE Model Lifecycle Management Activity Team with the TIIWG was discussed by MBSE, TIIWG and the MLM Activity Team Leaders.

- In 2015, TECHOPS expressed a strong desire to infuse the MBSE accomplishments and the MBSE vision into the INCOSE Working Groups where appropriate.

- Many members of the TIIWG were supporting the MLM AT and visa versa, as well as MBSE sessions.

- In February of 2016 a merger proposal presented to TECHOPS, a new charter was developed and the new TIMLM WG approval granted in May 2016.

Charter

(1) **Purpose :** to provide the INCOSE membership the best practices and guidelines for integrating computer based tools, interchanging data and the interoperability of tool data and the lifecycle management of models in the systems engineering environment in direct support of the INCOSE SE Vision 2025.

Goals : (subset of charter goals)

(2)

- Foster efficiency of systems engineering process execution through integrated processes, tools and environments including design, manufacturing and sustainment lifecycle systems.

- Provide a forum for discussion and information dissemination on tool integration, process implementation and operational behavior in a model based systems engineering environment.

- Promote the development, validation and deployment of standards that advance the interoperability of engineering toolsets and the management of models.

- Characterize the management of system models in support of the INCOSE Vision 2025 and the INCOSE MBSE Initiative.

Charter

Goals : (subset of charter goals con't)

(2)

- Identify the scope of model lifecycle management and establish scenarios and best practices that address the concerns of the community.

- Determine efficient modeling structures to use including repositories, models and data written within the models

Scope :

(3)

- Focus on the integration and interoperability of tools, data and processes as they relate to Systems Engineering processes and methods throughout the acquisition and product development lifecycle.

- The scope of TIMLM activities as defined by the Direction of the BOD, CAB and Technical Operations leadership is to meet the needs of the MBSE Initiative Activity Teams, the TIMLM members, the needs of other INCOSE Working Groups and the membership of INCOSE in regards to an Integrated Systems Engineering Environment.

TIMLM WG was formed by merging the Tool Integration and Interoperability WG and MBSE Initiative Model Lifecycle Management Activity Team

- We have a new NAME, NEW CONNECT Site, new WEB Site (slide 2),

- An MLM project site has been created on the TIMLM CONNECT site, MLM Site Link

- Links established to the MBSE Wiki from CONNECT,

- New pages on the Wiki for the TIMLM WG and links to the INCOSE Web page established for IW2017

Interoperability
John Nallon
Co-chair

Interoperability Definitions

- **IEEE:** *Tool interoperability is the ability of two or more tools to exchange information and to be able to use the information that has been exchanged without a special effort from the user.*

- **Wikipedia:** *Interoperability is a property of a product or system, whose interfaces are completely understood, to work with other products or systems, present or future, without any restricted access or implementation.*

Model Lifecycle Management
Lonnie VanZandt
Co-chair

Model Lifecycle Management Definition

- **MLM** is a *governance process* synchronizing the CRUD operations on heterogeneous models within the supporting modeling tools and model repositories, throughout the enterprise lifecycle

- accomplished through the *management of Model Configuration* Items, including versions, variations, configurations and baselines of models, simulations, analysis results, and the tools that are used by multiple geographically dispersed users.

- including the management of all the *provenance* associated with the models, tools, and analysis results: *who* made the change, *what* changes were made, *when* and *why*, as well as *where* and *how* the models are applied.

IW2017 TIMLM Agenda

IW2017 Agenda – Intro and SAVI

Day	Time	Objective(s)
Saturday 01/28 ROOM TBD	1:30 pm - 3:00 pm	**Welcome,** **Review Merger and NEW WG** **Review TIIWG Access via INCOSE Site, Connect Site** Login, Navigate, Where is What, Discussion Lists, Req Survey
	3:00 pm – 3:30 pm	**Break**
Saturday 01/28 ROOM TBD	3:30 pm – 5:30 pm	**System Architecture Virtual Integration (SAVI) Project :** **Intermodal Error Checking and Consistency Review and Demonstration** **An Aerospace Vehicle Systems Institute Project (AVSI)**
Saturday 01/28 ROOM TBD	5:30 pm – 6:00 pm	**MBSE Workshop Sunday Look Ahead**
	7:00 pm – 9:00 pm	**INCOSE Foundation Soiree**

IW2017 Agenda – OSLC and LOTAR

Day	Time	Objective(s)
Sunday 01/29/16 Room TBD	09:00 am - 10:00 am	OSLC Core v3.0 Overview Bill Chown – Mentor Graphics
	10:00 am – 10:30 am	Break
	10:30 am – 12:00 pm	MBSE Impact on Long Term Archiving and Retrieval (LOTAR) of Digital Data Mark Willliams – Boeing Nigel Shaw – PDES/Eurostep
LUNCH	12:00 – 13:00	

IW2017 Agenda- Interoperability and Model Exchange

Day	Time	Objective(s)
Sunday 01/29/16 Room TBD	1:00 pm - 3:00 pm	PDES Systems Engineering Interoperability Case Study using Data Exchange Standards John Russell – Honeywell/PDES John Nallon – CSC/TIMLM WG Nigel Shaw – Eurostep/PDES/TIMLM WG
	1:00 pm – 3:30 pm	Break
	3:30 pm – 5:00 pm	Model Exchange Issues Using OMG Standards Findings and Open Discussion Mark Williams – Boeing Brittany Friedland – Boeing
Sunday 01/29/16 Room TBD	5:00 pm – 6:00 pm	MBSE Initiative Outbriefs and Reception

IW2017 Agenda – Review and Data Exchange

Day	Time	Objective(s)
Monday 01/30/16 Room TBD	09:00 am - 10:00 am	TIMLM WG IW2017 Review and 2 Day Look Ahead Open Discussion John Nallon: Co-chair Lonnie VanZandt: Co-chair
	10:00 am – 10:30 am	Break
	10:30 am – 12:00 pm	Data Exchange Standards Overview Ap233/Ap239/Ap242 and MoSSeC John Russell – Honeywell/PDES Inc. Nigel Shaw – Eurostep John Nallon – TIMLM WG
LUNCH	12:00 – 13:00	

IW2017 Agenda – Concept Model for Collaborative Engineering

Day	Time	Objective(s)
Monday 01/30/16 Room TBD	1:00 pm - 3:00 pm	**Concept Model for Collaborative and Cooperative Engineering Workshop** **Lonnie VanZandt – Sodius/ TIMLM WG Co-Chair** **Dr. William Schindel – ICTT/ MBSE Patterns WG Chair** **Dr. Donna Rhodes – MIT/**
	3:00 pm – 3:30 pm	**Break**
	3:30 pm – 5:30 pm	**Concept Model for Collaborative and Cooperative Engineering Workshop** **Lonnie VanZandt – Sodius/ TIMLM WG Co-Chair** **Dr. William Schindel – ICTT/ MBSE Patterns WG Chair** **Dr. Donna Rhodes – MIT/**
Monday 1/30/16	5:30 - ?????	**On our own, no planned sessions or receptions**

IW2017 Agenda – Planning, Wrap UP, Plenary and Bazaar

Day	Time	Objective(s)
Tuesday 01/31/16 Room TBD	08:00 am - 10:00 am	TIMLM WG IW2017 Panel Planning Working Session Lonnie VanZandt: Co-chair
	10:00 am – 10:30 am	Break
	10:30 am – 12:00 pm	IW2017 Wrap Up INCOSE Web Site and Connect Site and MBSE Wiki Hands On Walk Through John Nallon – Co-chair Lonnie Van Zandt – Co-chair
LUNCH	12:00 – 13:00 1:00 pm – 2:00 pm 3:00 pm – 4:00 pm 4:00 pm – 6:30 pm	Final Quad Chart Prep and Wrap Up INCOSE IW2017 Closing Plenary WG Bazaar and Final Reception

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