

Summary of the LOTAR International Workshop 20 – 24 June, 2022, On-Line

Summary:

The Q2 2022 LOTAR workshop was well attended by more than 40 participants in total. Below are the highlights of the meeting.

Project Management:

- Established expectations (goals and objectives) for the workshop
- Reviewed the status of the Americas and European LOTAR budget plan for 2022 and associated SOWs and started with budget planning 2023.
- Reviewed AP242 ed4 status (kick-off in January 2022, planned publication of DIS Nov 2022, IS Oct 2023)
- Presented schedule for AP239 ed3, discussed DIS shift from June to October. Potential impact to P4000 in the future.
- Discussion about participation from Asia (Japan & South Korea).
- Discussed the relationship between the organizations developing LOTAR parts, the information model standards, the data quality tools (e.g. schematron), and the recommended practices (IF). As the models become integrated, support for these interrelationships are critical for ensuring preservation.
- MBSE IF is still under discussion. Currently working validation / verification through select vendors, and the primary activity has been through AFNET, RV&V IF.
- Discussed the current LOTAR test cases as input for the Implementor Forums
- Reviewed and updated LOTAR International web pages, discussed some potential improvements.
- Presentation of 5 year roadmap
- Continue working on External Element References and to test different solutions, but no agreement which to be used...

General Sessions:

- Reviewed ISO 10303 (AP242 ed 3 & ed 4, AP239 ed 3, P4000, AP243 ed1), Roadmap and discussed potential impacts to LOTAR parts.
- Discussed MBx IF activity for the past three months
- Summary of 3D PDF IF incl.
- Reviewed the LOTAR Basic and Common Parts status
- Provided status of LOTAR website updates.
- Reviewed schedule of upcoming 2022 and 2023 meetings. Note: Face to face planned for Charleston, SC, USA.
- Reviewed PM discussions on consistency and integration of LOTAR Parts with MBx IF and information standards development.
- Reviewed ongoing efforts to coordinate review and publication of LOTAR EN/NAS 9300 Parts through AIA and ASD.

WG “LOTAR Mechanical and PMI” (Parts 1xx)

- The CAx IF user group and implementer group had a joint session where the IG demonstrated automatic link between the 2 groups tools to manage requirements and issues.
- The 3D Mechanical CAD with PMI working group continues the review of Part 100. The main clauses have been reviewed. The review of annexes remains.
- The 3D Mechanical CAD with PMI working group plans and defines the scope for pilots of semantic assembly PMI based on AP242 edition 4 domain model.
- Continued review of LOTAR 1xx parts
- Planning Part 126 pilot for PMI in Domain Model, first phase in 2022.

WG “LOTAR Product Data Management” (Parts 2xx)

- Evolved Part 210 draft – almost complete!
 - Completed mapping of Part 210 conceptual model elements to P4000 core model entities
 - Identified “Work to go” for publication (e.g., EN / NAS submittal requirements)
 - Identified “Backlog” (addition of Annexes, potential conversion of diagrams to SysML)
- Discussed feedback and proposal from PDM-IF to 200-1TS (Validation Property) on how to clarify requirements for implementation by vendors
- Evolved Part 230 draft – validating conceptual models and P4000 mapping

WG “LOTAR Composites” (Parts 3xx)

- The Composite working group has reviewed the composite feature in JIRA planned for AP242 edition 4. The CAX IF user group LLA user stories have been proposed as input.

WG “LOTAR of Electrical Wiring Harness” (Parts 4xx)

- Since Jean Yves Delaunay’s retirement, lacking a European co-chair
- Bernd will act as communication hub until one is found
- Goal is to establish AP242 as bridge between the ECAD and MCAD worlds - currently all companies cover this with custom software
- Challenge is linking of information - more discussions on that during EER workshop on 24 June

WG “LOTAR of Model Based Systems Engineering” (Parts 5xx)

- The Q2 Workshop was well attended (over 24 different persons) holding three sessions that included a mix of “progress tasks”, as well as technical presentations. The presentations covered “Simulation Quality” from prostep SmartSE, “eFMI” and “FMIv3” from the Modelica Association.
- The Part 520 use case extensions for 2022 are leveraging the prototype results. New technologies include a formal process workflow, linking requirements, and a formal V&V process. Recommendations for new prototypes have been developed and released for approval.
- The team has been progressing the maturity of the Part 500 and 520 standards documents using the prototype workflows. A P500 draft was delayed but will be circulated very soon.
- LOTAR / PDES teams have been coordinating deliverables with other consortia (prostep ivip, NAFEMS, INCOSE, AFNeT, A&D_PLMAG, OMG), specifically the domain specific metadata templates. Our level of engagement has increased significantly, including the Vendor community.

Summary of the CAX-IF on line meeting held on 22 June 2022

The CAX-IF Implementor Group successfully kicked off of their 50th round of testing. Highlights include:

- 12 developers from 10 vendor companies attended
- Rosemary Astheimer provided an update on her work extending the Unicode String Specification
- A joint meeting with the CAX-IF User Group was held
 - A first integration of the UG’s “Redmine” tool for their user stories with the IG’s CAESAR test management system was demonstrated
 - Assembly PMI in the AP242 Domain Model was discussed as well as threads, holes, and compound features
- Round 50J Scope:
 - Assembly-level PMI presentation
 - AP242 Edition 3 Migration
 - Alternative Shape Representation (B-Rep and Tessellated) with PMI
 - Composites
 - Kinematic Mechanism (collaboration with the JT-IF)
 - Semantic and Graphic PMI
 - User Defined Attributes
- Round 50J will end during the joint PDES, Inc. / LOTAR / MBx-IF Workshop 19-12 September 2022 in Charleston, SC, USA.

Summary of the EWIS-IF on line meeting held on 22 June 2022

- Discussion on vendor support for anchors & references
- Discussion on External Element Reference by named duplication (proposed additional reference mechanism)
- Introduction to use of AP242 E2 Wire Harness for visualization of analysis data with Part 21, JT and 3D PDF

Summary of the External Element Reference Workshop held on 24 June 2022

On the Friday after the LOTAR meetings a workshop was held to discuss External Element Reference (EER) approaches and issues. Highlights from the workshop include:

- 50 participants representing industry, software development, and standards development.
- Overviews on STEP Part 21 and Part 15 implementation approaches provided.
- Use cases provided by Mechanical, Electrical, PDM, and Systems Engineering.
- Report-out from software vendors on their current and future support of EER.
- Output from the workshop:
 - Near-term goals: concrete examples needed for the different types of EER for better understanding
 - Everyone supporting EER for a specific scenario shall use the same approach, but there might be different EER approaches for difference usage scenarios.
 - Long-time goal: Multi-Domain Test Case for EER to test consistency of approaches

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