

Summary of the LOTAR International Workshop

June 11th to 13th, 2013 – Airbus Cimpa, Toulouse, France

Approximately 26 on-site participants plus an additional 15 persons via teleconference.

Parallel meeting with the CAx Implementor Forum.

Project management

- Consolidation of the 2013 LOTAR International budget plan with the planned contracts to service providers.
- Preparation of the draft 2014 LOTAR project and budget plans, with the provisional list of Aerospace and defence members.
- Review of the updates of the **LOTAR public web site**, including the list of [new LOTAR communications](#).
- Summary of the STEP AP 242 project report to the LOTAR team: planning of finalization of AP242 Ed.1 DIS documentation, of DIS ballot and DIS ballot comments resolution. Confirmation of the international workshop for STEP AP242 Ed.2 white paper (18th – 20th Sept. 2013, SCRA, Charleston, USA), aiming at defining enhancements of the data model for 3D PMI, Composite, PDM and electrical harness.
- Summary of the conference calls organized in Q2 2013 for the “preparation of the PDM Implementer Forum white paper” workshop, planned on the 16th – 17th of Sept. 2013, SCRA, Charleston, USA.
- Continuation of the preparation of LOTAR components summaries per discipline for AIA / ASD SSG radar screens. Preparation of a new LOTAR web page on this topic for the Sept. 2013 workshop.
- Presentation by CNES of a summary of CCSDS activities related to OAIS (“Open Archive Information System”) standard: - PAIMAS (“Producer Archive Interface Methodology Abstract Standard”), - PAIS (“Producer Archive Interface Specification”), - Audit and certification, - Preservation workflow. Preparation of a regular coordination between the LOTAR and CCSDS OAIS projects.
- Summary of the LOTAR project to the NAFEMS Simulation Data Management workgroup. Preparation of a NWI in 2014 for launch of the LOTAR WG for LTA of Simulation information in 2015.
- Continuation of the management of consistency between the LOTAR standards, the associated ISO STEP standards / recommended practices for information models, and their implementer forums.
- Next LOTAR workshop: 23rd – 25th of Sept. 2013, in Charleston, USA, hosted by PDES Inc, SCRA.

WG “LOTAR of CAD 3D PMI” (Part 120, Part 125)

- LOTAR radar screen: the team discussed how to best represent the basic LOTAR parts and future domain parts (5xx, 6xx) on the slide. Agreed there shall be one radar blip per LOTAR domain, not one blip per LOTAR document, as that would clutter the screen and decrease readability
- A great deal of discussion and improvement in the management and documentation of types of PMI entity list and related test cases (LOTAR suite and/or NIST MBE models suite, new test cases)
- The team worked further on the PMI survey. We need to consistently define the terms "Semantic Representation", "Graphic Presentation" and "Character-based Presentation". Completion of the LOTAR definition for CAD 3D Semantic PMI.
- NAS / EN 9300-120e1 waiting to be synchronized with NAS9300-120e1 version by the end of May.
- Discussed NWI for Part 110 Ed.2. Part 110 Ed.1 only covers exact solid geometry. This needs to be extended to cover the current scope of LOTAR, i.e. exact shells, wireframes, and all classed of tessellated geometry. The current scope will remain untouched; Ed.2 will just add new entities and validation properties based on requirements from LOTAR domains (Composites, Electric Harness, ...)
- The team spent time discussing PMI Interdependencies with other Projects, and breaking down the PMI WG Process Flow into P121 Document Categories. This facilitated the team in developing the first 7 sections of the Part 121e1 document.
- Working with the CAD solution providers to see what PMI entities they support. The LOTAR project will send out a survey to the user community to determine the priority of implementation of PMI.
- During the joint meeting with the CAx-IF, progress to plan status updates from solution providers were presented: Dassault Systèmes; Siemens PLM; Kubotek USA; Datakit; CT CoreTechnologie.
- Discussion about Quality Information Framework (QIF) and quality throughout the manufacturing process.

- Progress of ISO PDF and PRC; discussion of collaboration between LOTAR and ISO TC 171.
- Presentation of planned enhancements in ASME and ISO standards in the next years.
- Start of discussion to involve the CAM solutions based on 3D NC machining form features.

WG “LOTAR of PDM information” (Part 2XX)

- Review of PDM harmonization status of STEP AP 242 BO model and PLCS PSM / AP 239 was a key topic during the workshop; opportunity for enhanced harmonization if the 2 projects talk directly on the topic. Is also related to the preparation of the STEP PDM Implementer Forum white paper.
- Part 200: made final editorial changes and will be sent in the next months for LOTAR external ballot.
- Technical Specification for validation properties of Part 210: final comments added. Discussion about where and how to publish the document. Need of an official LOTAR process for approval and management of evolution of such document.
- Part 210 edition 2: clarification on mandatory data, support of: option and effectivity, breakdown, support for: structure validation, reference data, verification and validation of the product (AS9100).
- Meta data for archive package: list of Meta data element collected. Next steps: collect the users expectations on retrieval agreements (/ use cases). Produce recommendation of meta data to be used
- Publishing policy to be defined regarding the organization and interdependencies of documents, the governance and management of evolutions (LOTAR PDM and PLCS DEXs, templates, Data Model, Recommended Practices, XML and HTML files). Topic for the next Sept. LOTAR workshop.
- Verification rules for PDM XML data: could be based on ISO Schematron, already broadly used.

WG “LOTAR of Composite design” (Part 3XX): to be review with Rich

- Boeing patent limiting the use of 3D approximate explicit representation on the way of resolution: workshop held the week after the LOTAR workshop to find an agreement with Dassault Systemes
- Presentation of Dassault Systemes status: new version of STEP composite implementations planned to take into the version V2 of the recommended practices.
- Presentation of the status of Siemens/FiberSIM: new version of STEP composite implementations planned to take into the version V2 of the recommended practices.
- Review of the web sites: AP242, LOTAR (some modifications to be done)
- Review of the status of the recommended practices: V2, validation properties, AP242 (some actions planned for the next workshop)
- Discussion on several technical points: rosette types, material properties harmonization,...

WG “LOTAR of Electrical Harness” (Part 4XX)

- Presentation and discussion of test cases for LTA&R of physical elec. harness for design and construction (“stick line” and “3D as installed” representations).
- Good progress for the description of essential information and test cases for LTA of physical electrical harness definition for design and construction, methods “flexible harness” and “3D as installed”.
- Preparation of the extension of STEP AP 242 ed2 to electrical harness to support the requirements of LOTAR “Harness” WG. Recommendation to use VDA VEC as input for the BO model of AP 242 ed2; organization of a tutorial of the VDA KBL / VEC specifications in Sept. 2013.
- Update of the LOTAR Elec. Harness WG roadmap according to the roadmap of STEP AP242 Ed2.
- Preparation of the invitation of Elec. Harness vendors to the LOTAR Elec. Harness WG (for S2 2013).
- Preparation of the next actions for Q3 2013.

WG 3D Visualization

- Continuation of the description of the use cases (LT archiving and retrieval of visualization data for certification, for external support).
- Continuation of the description of requirements especially on validation properties for LT archiving and retrieval of visualization data.
- Initiation of the trade study matrix and consolidation of test cases with coordination with other LOTAR WGs.
- Update of the status of ISO standards for 3D visualization (PRC, PDF/E, PDF, AP242, ISO JT Ed.1 & Ed.2).
- Review of the “3D visualization” work plan until September 2013