

Summary of the LOTAR International Workshop

September 23rd to 25th, 2013 – SCRA, Charleston, SC, USA

There were approximately 40 on-site participants plus an additional 5 participants via WebEx and teleconference. There was a parallel meeting with the CAx Implementor Forum.

Project Management

- Additive Manufacturing in LOTAR: Design data for "classic" and "advanced" manufacturing is very similar, as the used CAD features are the same. Opportunity to leverage what is done in other industry groups such as IMS.
- LOTAR standards consistency overview: Complemented Manufacturing with Additive Manufacturing and Measurement, adding several standards to the chart. For CAD/CAM interoperability, need to bear in mind that AP242 and AP238 are not in sync, especially for PMI. Also refer to <http://www.asd-ssg.org/plm-interoperability>
- AP239/AP242 Harmonization:
 - Phase 3 completed; resulting harmonization proposals communicated to AP242 and AP239 / PLCS authoring organizations.
 - Possible risk for PDM Recommended Practices (in scope of LOTAR Part 210) and PDM data exchange by possible replacement of DEXlib approach (STEP AP239) with PLCSlib approach (OASIS PLCS). Experiences from the logistics domain suggest this may introduce inconsistencies in the XML data and require an additional reference model.
- AP242e2 Whitepaper (Workshop Sep. 18-20) next steps: Meeting planned in December to fathom AP242e2 project support by LOTAR Hosting Organizations (ProSTEP iViP, PDES, AIA, ASD)
- PDM-IF Whitepaper (Workshop Sep. 16-17) – Discussed possible hosting organizations. AFNET is ready to host it and manage funding on the European side. US counterpart needed.
- LOTAR Standard Parts development news:
 - Part 007e3: Input available from most LOTAR workgroups, final call for contribution is out.
 - Part 020 (Governance & Planning): Goal to submit it for external ballot before end of 2013.
 - Part 200 (PDM Fundamentals & Concepts): Same as for P020.
 - Part 120e1 (3D CAD with PMI Presentation): Will be sent out for publication in Oct. 2013.
- 2014 Planning: confirmed list of member companies, reviewed work plan, agreed on meeting dates and locations, and set up budget plan with initial funding allocation to the workgroups.
- The Leadership Team calls every Monday will include once per month all workgroup chairs, to status projects, and discuss issues/concerns across domains.
- Next LOTAR workshop: December 3-5 2013, in Darmstadt, Germany, hosted by ProSTEP iViP.

“CAD 3D PMI” Workgroup (Part Family 1xx)

- EN9300-120e1 was synchronized with NAS9300-120e1 and both documents were updated. They are to be sent out with cover letters to AIA & ASD-STAN for publication before end of October.
- Continued work on Part 121 “3D CAD with Semantic Representation of PMI” in cooperation with CAx-IF to determine Verification Rules and Validation Properties for Semantic Representation.
- Discussed Quality Information Framework (QIF) and quality throughout the manufacturing process and the use of templates that allow for quality checking results to be provided to supply chain. A technology demonstration was given as well. For more information: <http://www.qifstandards.org/>
- Joint session held with the CAx Implementor Forum. Solution providers gave updates on their support of LOTAR-relevant capabilities. Communicated and discussed new requirements.
- Launched two new pilot activities for Semantic PMI (Part 121) and Assembly PMI (Part 125).

“PDM” Workgroup (Part Family 2xx)

- Reviewed and discussed evaluation of issues surrounding AP239 and PDM. Proposed solution is an AP239e3 approach. Question is how to bridge the time until edition 3 is available – current situation could be improved by joining the OASIS CCB. Decision to be made at 4th Qtr 2013 LOTAR WS.
- Created specifications for two activities to be conducted in 2013:
 - Development of target requirements for final Part 210 DEX to prevent misunderstandings, gaps, etc.
 - Investigation of Model Based Publishing possibilities
- Presented AP239 Pugh Matrix to interested parties and made updates focusing on the OASIS PSM consistency with ARM/AIM

“Composites” Workgroup (Part Family 3xx)

- Tessellated 3D Geometry for Composite Parts Patent: currently, usage by vendors is handled case by case; final resolution close.
- Part 300 document review started. Found that there are no GD&T specific to composites, only on the resulting solid. However, there are PMI annotations in the form of notes on plies, cores etc.
- WSU Tests: Some issues identified; exchanges still ongoing. WSU will be performing more tests under contract with LOTAR in 2014.
- Proposed a number of topics for composite structures at the AP242e2 Whitepaper workshop: Area specific local notes (LAI), enhancement of External Element References, Material properties.
- Composite design for manufacturing (e.g. flat pattern) Mfg. contacts needed to work on.

“Electrical Harness” Workgroup (Part Family 4xx)

- Reviewed and discussed Electrical Harness extensions to be proposed for AP242e2.
- Reviewed and discussed requirements planning around LOTAR Use Case Mapping and Company Methods and Data.
- Discussed the Physical Electrical Harness implementation model as well as AP242 schematic symbols and layouts.
- Work was started under NIST funding for AP210 and expected to be delivered with AP210e3.

“Visualization” Workgroup

- Use case “Long-term Archiving and Retrieval of the derived visualization data for certification” is complete. Next step is to distribute it to the LOTAR members for review.
- Visualization workgroup members will attend meeting sessions in each technical workgroup to facilitate discussions around requirements, use case, test case development and/or POC participation.
- Output from workshops will steer bi-weekly conference calls based on input / requirements gathered during Visualization sessions in each LOTAR workgroup.

“Meta Data for AIP” Workgroup (Part 02x)

- Further work on Metadata requirements, in particular on what information needs to be indexed. Complete a metadata sheet together with the PDM workgroup
- Evaluated the metadata DEX from Reference Implementation (RI) of PDM workgroup: population of the DEX, results analysis and review of the linkages between AIP documents.
- Industry participation needed.