

AK 25 • Fügetechnik

Working Group Meeting - χ MCF Standardization

>>> Minutes <<<

on May 27. 2020, 9:30am – 2:00pm

- Webex Meeting -

Participation

- Nikolaos Economidis (Beta CAE Systems SA)
- Michael Tryfonidis (Beta CAE Systems SA)
- Kosmas Gourgounis (Beta CAE Systems SA)
- Dr. Carsten Franke (PROSTEP AG)
- Dr. Lothar Kaps (VW)
- Dr. Karin Tröndle (VW)
- Nils Himmelsbach (BMW)
- Dr. Halvar Schmidt (BMW)
- Thomas Deiters (VW Osnabrück GmbH)
- Michael Sauer (Dassault)
- Luc Feuvrier (Dassault)
- Wolfgang Hübsch (Magna ECS)
- Catalin Runcianu (Siemens)
- Timothy Guirguis (Altair)
- Dr. Stephan Vervoort (Hottinger Brüel Kjaer (HBK))
- Dr. Ulrich Fox (Ford)
- Dr. Robert Schilling (Ford)
- Lorand Kalotai (Ford)
- Dr. Matthias Weinert (Ford)

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Summary on xMCF Standard Updates (V3.1) (N. Economidis)

- Summary of implemented Changes
 - New connection types (clinch rivet & ROTAV)
 - ABAQUS labels: pname in addition to pid (parallel)
 - Part Index for the partners in a contact definition (5.3)
 - Editorial: description of connection topology simplified / clarified (2.4)
 - FATXML
 - Introduction of <entity> tag
 - FATXML schema is uploaded to VDA (full publication expected very soon)
- Open Issues / Decisions
 - Xerces C++ lib for xsd1.1 validation (issue #40)
 - Negative response from the XERCES org
 - Alternative: ALTOVA software company (business case difficult)
 - Siemens also moved to Java
 - **Agreed alternative/offer:**
 - Nick Economidis will create a xsd 1.0 schema (strip off assertions etc) & will let the team know the outcome
 - As we would lose functionality xsd 1.1 remains the master
 - Section Laser needed (issue #12)
 - Section laser has been removed
 - Laser is a technology, not a section
 - Agreed to remove
 - Sheet Angle needed for I weld? (issue #39)
 - Agreed to take it out
 - <part> instance identifier (issue #24)
 - To be kept as a proposal for the next version (not to be dropped at this point in time)
 - Should not hinder the publication of the current version
 - V3.0.1 vs 3.1
 - Team agreed to publish it as V3.1 since some functionality has been added
 - URL address for FATXML schema (issue #18)
 - URL vs zip approach
 - Discussion on Pros & Cons (key argument: server accessibility & URL stability)
 - Agreed to publish a zip file with all required schemas, i.e. incl FATXML along with the actual report (pdf) on the FAT server
- Publication of xMCF 3.1
 - Agreed to publish now updated standard on FAT after incorporating the final decisions above
 - Nick will inform the team once this is complete (on GitHub)
 - Agreed to publish
 - xMCF document
 - xMCF schema files (**xsd 1.1 as master** & xsd 1.0)
 - copy of FATXML schema file
 - folder with example files
 - folder test suite with java validator & valid + invalid examples

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Software Implementation Status of xMCF Standard

- ANSA/MetaPost
 - Most items are already implemented
 - ToDo:
 - Contact (bigger project; timing tbd)
 - Clips (variety of clips seen as difficult)
 - ROTAV & clinched
 - New connection types (clinch rivet & ROTAV)
 - <femdata> update already included
 - Attribute "pname" will be implemented very soon
- Altair
 - Implementation of 0D joints shown in video
 - Implementation in general ongoing
 - First Beta-Version available incl enhancements of export functionality
- HBK / DesignLife
 - Project currently on hold due to overall merger situation & Corona
 - Priority currently given to other project (web based Software)
 - However, project is not dropped and still seen as important
 - Developing this into an ISO standard may provide some pro arguments
 - No information on when the project can be picked up again
- Siemens / LMS
 - Project still being pursued; however, status as in last meeting
 - Import/export functionality of SW, seam welds & bolts already given
- Dassault / CATIA/3DS
 - Gap analyses of xMCF vs internal approaches initiated but higher effort than expected and slowed down due to current Corona situation
 - Plan to complete the deep dive during H2/2020

ISO Standardization

- Contact to the VDA representative (Hr Eric Werns) established
- Suggestion by E. Werns to submit the project into the TC22/SC31/WG5
- First presentation to the AA31 (German working group mirrored to SC31)
- M. Weinert will update the xMCF WG on the status per email
- Discussion on cost implications (caused especially by potential certification cost); M. Weinert to get clarification from the AA31 working group
- L. Feuvrier will provide a contact name of the TC184/SC4 who are working on STEP AP 242 ed 3 (already given: Pierre Duchier; Airbus Operation)

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Planned Topics for the next Workshop

- Update on ISO Standardization
- Topic List for xMCF enhancements
 - Variant Management, Prep items:
 - How are variants currently handled at the various OEM sites
 - How was it defined in the original Ford MCF?
 - Use cases from OEMs?
 - Catalogue for standard parts (bolts, nuts, rivets, ...)
 - More clip details / variety
 - Step welds vs stepped weld lines
 - Inclusion of additional process parameters (e.g. tolerances, maximum permissible welding distortion, electrode parameters for SWs, process codes according to American Welding Society)
 - Exceeding weld line ends
 - Clinches with additional material (TOX®-ClinchNiet) & tangential direction (TOX®-TWINpoint)

Next Workshop / Meeting

- Date: 08.12.2020
- Location ProStep, Darmstadt
(if personal travel will not be possible, Webex or Mix of F2F/Webex is considered)
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- **Important Change after the Meeting:**
the date 8.12. is not possible, hence, an alternative date is required.
- Options are Dec 9 & Dec 10
Please feedback your availability on the two options.