Meeting Date/Time: 19.09.2022 / 11:00

Participants: SCAI, HTW Berlin, DLR (Institute of Composite Structures and Adaptive Systems), BETA CAE, BAM,

Agenda:

1. Presentation by DLR Martin Rädel
        COMPLETE MODEL STORAGE – A SOLVER-AGNOSTIC HIERARCHICAL APPROACH
        Problem: need to provide dedicated models for each solver
        Tasks: transfer of data in an integrated CAE workflow
        Approach: Hierarchiy of descriptions Mathematics - Physics - Mechanical
- numerical Model
        Goal: expandable and modular for materails and load cases and ...
        Implementation: using VMAP for heavy data and jMeS for 'light data'
and VMAP2XDMF converter for ParaView
                Ontology to describe relations
                Light data needs to be solver independent
                Geometry; CSM; Loads and BCs; MPCs; solutions
        Output through serialisation lib to JSON,XML, YAML
        Still many solver dependent parameters and definitions - stored as
additional code info
        Transforming code-internal-code formats works for many features for a
number of codes (ready to run)
        Unified postprocessing by paraview
        Shared infos: parts on their way to be open source; examples can be
shared directly

2. Discussion
        DLR and HTW already had a bilateral meeting
        Differentiation:
                description of file formats - in discussions
                no model creation in here
                SMILE deals much more with modelling
                DLR could provide (internmediate) formats between SMILE and the
native solvers
        How are models created now?
                (external) model generators
                import from existing models in native solvers
        Extendability
                adapting JAVA objects plus XML

2. Feedback regarding the integration of VMAP & SMILE
        Based on the slides presented by HTW in the last meeting there was a
detailed discussion regarding the integration of VMAP & SMILE.
        There is a general majority on integrating the two, however, the method
and goals need to be clearly defined.
        Whether the purpose of this integration is a just a tool independent
description of the model or abstract representation
        of an entity. There were many questions raised in the meeting regarding
the implementation/extension of VMAP
        to support components of a CAE Mode like MPCs, weld spots, etc.

3. Next Meeting is planned for Monday October 17, 2022 at 11:30
       Feedback from NAFEMS DACH Workshop (hybrid workshop for VMAP partners,
distrb
       DLR Oliver Kunc