Meeting Date/Time: 22.08.2023 / 16:00

Participants: SCAI, HTW Berlin, BMW, DLR Institutes BT and FA/SY

Agenda:

1. VMAP Specification & Implementation Modules
    Separate independent Branches for Specification and Implementation
        CAE Results
                current & follow up solutions for simulation results
        Sensor Data
                separate branch in data hierarchy – but following similar
principles as results
        Full Model Data Extension
                "Numerical" Entities (separate branch in data hierarchy -
following similar principles as results)
                "Physical" Entities (separate branch in data hierarchie – but
workflow looks a bit different)

2. Numerical vs. physical specification

        Current workflow for numerical (result) data
                Specification v1.0 for CAE Results
                Write (numerical) VMAP .h5 File
                Write Mesh to File
                VMAP IO Library linked to a code or wrapper can read these data

        Extended workflow for numerical (input deck) data
                Numerical based specification entities for such components which
are used by many CAE tools
                Look & Feel similar to current result data entities
                Workflow to generate VMAP files quite similar to the current
workflow
                Question: which are the most common 'input deck' entities? and
how to handle the 'not common' parts?
                Question: how concrete and detailed is the semantic definition
of each specification element?
                Task: Oliver Kunc (DLR) will try to setup a first demand list
for 'numerical' specification elements

        Potential workflow for physical (input deck) data
                SMILE definitions
                Modeling Guidelines for definition entities are user & code
specific
                Guideline routines currently generate native code format
                Guideline routines could also generate a more generic (physical)
VMAP format
                Question: what is the best way to create/translate final native
formats from these generic VMAP files?
                Question: how many different (code/discipline/customer) specific
guideline implementations do we need - and who will do that work?
                Question: how flexible and case dependent is the semantic
definition of each specification element?
                Task: HTW  will explain in some more detail the current SMILE

workflow and try to extend it to these concepts
            Task: BMW will collevct some further use cases


4. other solutions
        Novus Nexus is working on similar 'abstract model definitions'
                https://novusnexus.com/resources
        FATXML data (metadata) from the design process through to the parts
level
                https://www.beta-cae.com/events/c7pdf/10B_3_DEITERS.pdf
        FATXML-Format Version V1.2_R4 (vda.de)

https://www.vda.de/de/aktuelles/publikationen/publication/fatxml-format-version-
v1.2_r4

5. Next Meeting September 19, 2023
        HTW/BMW: provide a schematic view of the 'guideline' workflow,
processes, files, ……
        BMW: door & body in white use & airbag cases
        DLR (Oliver): 1st list of specification entities for the
discretized/numerical approach
        BETA: Contact colleagues for FATXML solution (used at VW)
        SCAI: Contact Novus Nexus for a first discussion