

Meeting Date/Time: 19.09.2023 / 16:00

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

Agenda:

1. Numerical vs. physical specification - Detailed workflow in SMILE Process

Darius Friedemann presented some more details on the SMILE approach
SMILE process

- Unified Simulation Modelling Language
- Developed by HTW Berlin in Cooperation with BMW Group
- Automated Creation of Inputdecks
- Automated Consideration of Modelling Guidelines

Modelling Guidelines

- Readable for machines and humans
- Hierarchic structure
- Four main Levels:
 - Solver
 - Application Field
 - Discipline
 - User

Discussion

IDs and Parameters for Modelling Guidelines could be standardised
Guidelines themselves could be provided as templates and then be filled out & adapted
Configuration file for a specific use cases could be standardised
... but we need some concrete use cases before we can go into further details

2. Numerical vs. physical specification - Potential specification entities on numerical level

Oliver Kunc presented some first ideas for a standardisation on 'numerical level'

Extend existing VMAP standard by 'CONDITIONS'

- CONNECTION
- FIXATION
- ROTATION
- HEATCONVECTION
- CONTACT
- GRAVITY
-

Some first exemplaric implementations in a VMAP like standard have been made

Discussion

- These definitions can be extended step by step
- Usability can be shown by concrete examples from DLR

4. other solutions

Novus Nexus is working on similar 'abstract model definitions'
<https://novusnexus.com/resources>

HTW Berlin and SCAI will have a first meeting with NovusNexus on November 10, 2023

FATXML Format Version V1.2_R4 (vda.de) & data (metadata) from the design process through to the parts level

https://www.beta-cae.com/events/c7pdf/10B_3_DEITERS.pdf

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

is a standard to manage meta-data in CAE input decks
physical/numerical modelling data are not part of FATXML

VMAP should also be capable to manage meta data in a similar/compatible way

5. Next Meeting October 17, 2023

All: Numerical Level: Extend and refine Oliver's concept on 'Conditions'

BMW: Use Cases: ... for both levels needed

All: Physical Level: Extend and refine Darius/Bastian's SMILE-VMAP workflow concept