

Implementation, benefits and handling of formal metadata schemata as enablers for Platform interoperability - From Data Structures to Modelling Platforms

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ABSTRACT

There is a strong need for coupling of numerous existing and new modelling platforms. Efforts have been made to standardize existing Application Programming Interfaces (APIs), data formats (e.g., HDF5) and other interface standards to achieve interoperability. This has been successful to a certain extent for some modelling domains, but requires compliance to the given syntactic standards.

EMMC proposes a different approach to this challenge that can potentially couple a wider range of modelling tools, by introducing formal metadata schema as enablers for semantic interoperability. Within the proposed approach, different tools are agnostic towards which formats and protocols are used. By introducing an extra level of abstraction, it is possible to exchange information about what data exists, and how data semantically applies to different models in a generic way. We will show that the formal syntactic form of the metadata is the essential common denominator for sharing information between platforms.