Implementing European networkcodes using IEC CIM

Recent European networkcodes mandate to register generators that supply electricity to the grid. To fulfill the EU networkcode requirements a modelling approach is chosen to identify interfaces between grid users / DSO's and TSO's. BPMN/UML and requirements are used to keep track of the complexity of the EU networkcodes and their overlap in both customer journey and data. The modelling approach helps with traceability/compliance: how and where are networkcodes implemented.

Once interfaces are identified; formal data specification are based on IEC CIM. To fulfill the "Requirement for Generators" requirement, a nationwide database is build. This database will be used for end-user to register their production unit directly and to allow all relevant system operators to read and edit the data.

An IEC CIM based API/interface is built for the relevant system operators to access this database. Several IEC CIM extensions are added to make this work. The IEC CIM based profile is finally converted to the Open API specification (OAS/swagger) to build this interface.

In this presentation, I will showcase the method that Dutch transmission/distribution sector took to translate the EU netcode to IEC CIM specification. I will do this by briefly discussing each step by using examples.

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Short bio:

Sander takes a role as data architect within the IT department and is involved in the use of IEC CIM and IEC 61850. Sander started in 2010 at Alliander in a trainee position and had multiple positions within Alliander on the edge of electrical technology and IT/OT.