

CoMPAS Functional Scope

Core Functions for Profile Management & Configuration Tools

The main functional blocks required in order to address the needs previously described (and therefore to be included in the roadmap) are:

- System configuration: “System Specification Description (SSD)” and “Substation Template Description (STD)” to “Substation Configuration Description (SCD)” conversion, PACS policy registry (scripts?), API to vendor specific IED configurators
- IEC61850 profile management: logical device/function builder, library of common profiles for usual functions, versioning, definition of reusable user profile of IEC 61850 data model (potentially continue/restart ENTSO-E profiling tool)
- Conformity verification of System Configuration description Language (SCL) files
- System specification: profile to “System Specification Description (SSD)” conversion, PACS policy registry (scripts?), API to vendor specific “IED Capability Description (ICD)” tools, ICD conformity check, ICD compatibility management, ICD versioning / repository
- Availability of Substation PACS data at enterprise level (Functions & settings, operational process data)

IEC61850-CIM Mapping Functions

- In order to fulfill the need for enhanced interoperability between processes at substation and enterprise levels, the roadmap of the project should also include the development of mapping functions between CIM and 61850.
- New standard IEC 62361-102 provides recommendation to both CIM and IEC 61850 groups to improve both standards' cross-compatibility
- But the standard 62361-102 focuses only on one way: IEC CIM configuration from IEC 61850

The mapping functions to be developed should be automatic, configurable and bidirectional.

- CIM and IEC 61850 are both based on XML file for representation of a configuration. Automatic rules could be derived from the standard based on which open source transformations could be developed.
- Transformations will have to focus not only on XML but also on semantic of data
- Transformations are needed both ways (from IEC 61850 to CIM and from CIM to IEC 61850)

Principles Adopted for Profile Management Tools

The roadmap for the development of profile management tools should follow these principles:

- Develop tools to facilitate profiling. The existence of an upstream profile is a key element to automatize configuration
- Strictly follow the rules described in the standard fascicules
- Not to develop a whole common profile
- Promote shared profile implementation rules (e.g. each function is considered to be a Logical Device, acknowledge existence of functions for process interface)
- Build a library of common profiles for usual functions (e.g. distance protection, gateway...)

Functional Diagram - Building Blocks

