IEC61850 profile creation and management

Brainstorming

Meeting on 22 May 2013, Prague, Czech Republic

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Attendees

ENTSO-E Task Force on IEC61850: Vladan Cvejic (EMS); Grégory Huon (Elia); Patrick Lhuillier (RTE) ; Patrik Lindblad (Fingrid); Igor Mets (Elering); Diederik Moers (Elia); Carlos Rodriguez del Castillo (REE); Berthold Wuehrmann (Amprion); invited: Rick Liposchak (IEEE/P2030.100)

Experts committee: Alex Apostolov (independent expert), Christoph Brunner (IEC TC57 WG10 Chairman), Herb Falk (UCA Iug), Roman Graf & Laurent Guise (T&D Europe) – Excused: Henry Dawidczak (T&D Europe)

Enel (guests): Roberto Calone, Alberto Cerretti, Pietro Tumino

Brainstorming – IEC61850 Transmission Profile – Open questions

1. **What will be the IEC61850 Transmission profile format?**
2. **Who will create the IEC61850 Transmission profile?**
3. **Who will store and maintain it?**
4. **What process between different stakeholders (cfr sustainability)?**
5. **What is a realistic timing to develop it?**
6. **What for others domains: synergies, harmonized methodology, …?**
7. **How is the profile tested ?**

Brainstorming – What is a profile ?

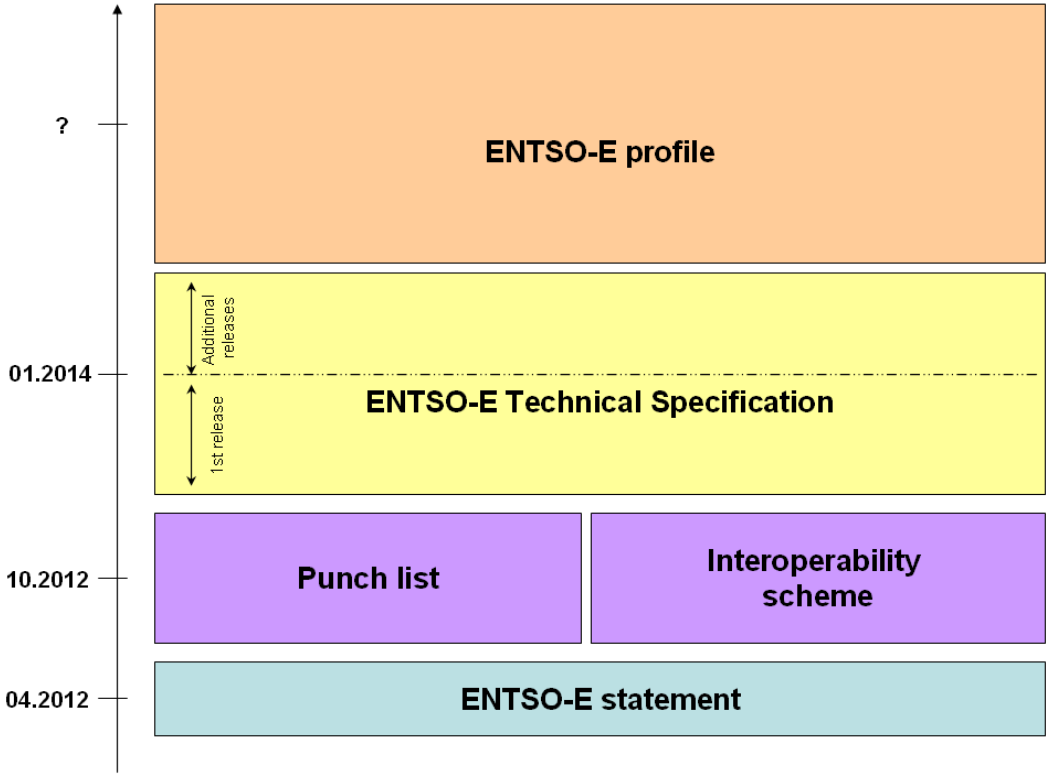
Generally a profile defines a *subset* of an entity (e.g. standard, specification or a suite of standards/specifications). Profiles *enable interoperability* and therefore can be used to *reduce the complexity* of a given integration task by:

- **selecting or restricting standards to the essentially required content, e.g. *removing options* that are not used in the context of the profile**
- **by setting specific values to defined parameters (frequency bands, metrics, etc.)**

A standard profile for communications standards may contain a selection of communication capabilities applicable for specific deployment architecture. Furthermore a profile may define instances (e.g. specific device types) and procedures (e.g. programmable logics, message sequences) in order to support interoperability.

It may also provide a set of engineering guidelines to ease the deployment of new technologies.

ENTSO-E TF - Deliverables planning



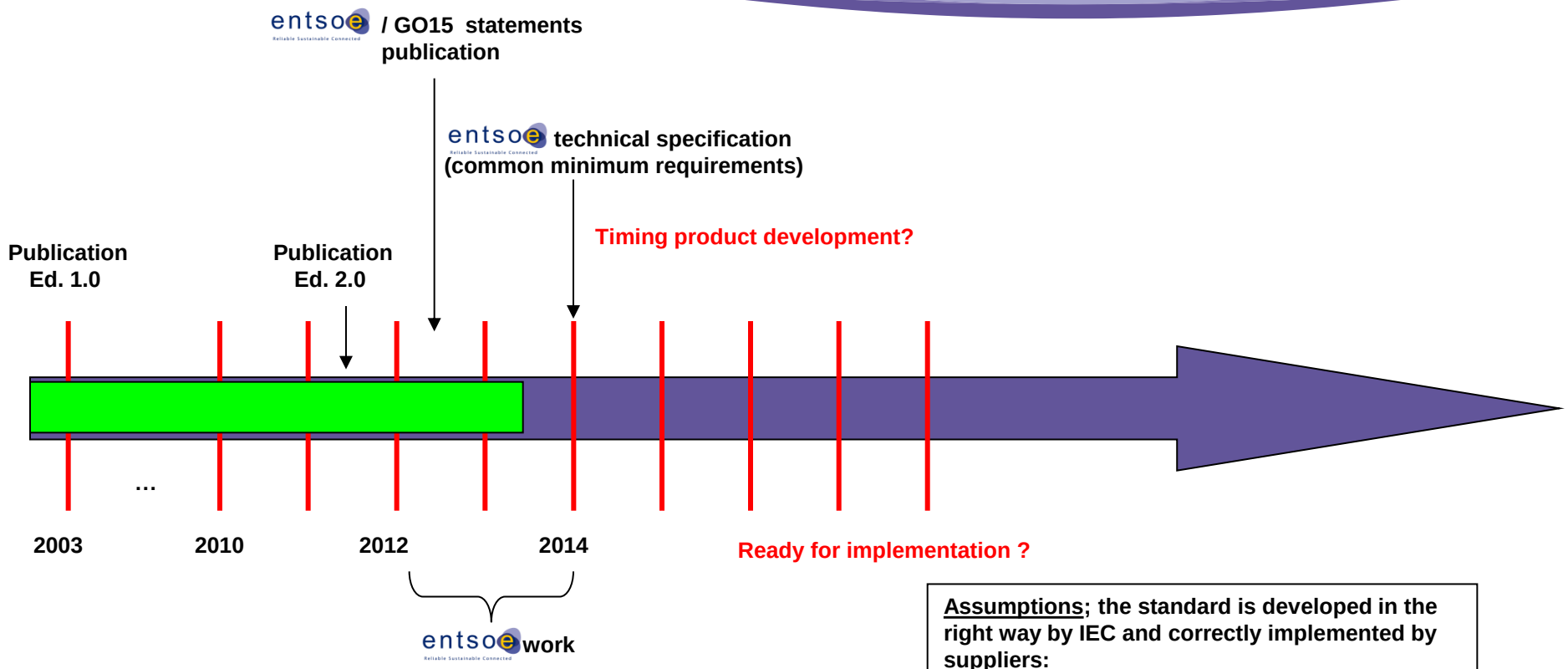
Goals of the spec : to collect and express the requirements from the ENTSO-E members in order to

1 give inputs for the market for product development (eg tools) (for what does not exist) and

2 give inputs for the transmission profile definition, and if needed, standard improvement (through IEC instances) and

3 can be reused by the users in their technical spec (for what it is already available as features/products);

Defining IEC61850 standard implementation roadmap …



Assumptions; the standard is developed in the right way by IEC and correctly implemented by suppliers:
- Full interoperability capabilities, instantaneous and over time on the products & solutions portfolio
- Full capable, cost effective & ergonomic tools are commercially available

Brainstorming – IEC61850 Transmission Profile – Conclusions (1/2)

- An IEC61850 profile needs a clear definition: the word “subset” can lead to confusion as it can be different from simply removing options. Also, this is not the goal to be restrictive towards vendors or to build applications that are not fully IEC61850 conformant by adding users specific features. It is therefore better to define a profile as the largest minimum of required functionalities common to a specific domain.

- The profile domain needs to be well defined: from a communication point of view, Transmission is not enough (eg. : substations, WAMS, substations to control centers are different sub-domains of Transmission)

- There can be many sub-profiles for a specific domain. Eg : CIM has profiles for topology, equivalent state, equipment, information, …

- A lot of IEC61850 parts needs to be covered by the profile, except perhaps IEC61850-3 (general requirements). In general, communication, information and engineering areas have to be addressed by the profile

- Profile format: it is proposed to add a column with the mention “required” in order to better visualize the difference with the standard (what is different or what is missing in the standard).

Brainstorming – IEC61850 Transmission Profile – Conclusions (2/2)

- IEC TC57 WG10 has to play an important role in the IEC61850 profile definition and draw up by domains. Indeed, as this profiling approach will be probably followed by different IEC61850 domains, there is a need of common definition and global methodology in order to stay efficient and to not reinvent the wheel

- UCAIug has an important role to play in profile conformance testing

- There are two options discussed to host the Transmission profile in first instances: 1. UCA Iug and 2. CEN/CENELEC. The idea that UCAIug hosts it presents advantages: conformance testing, international audience (possibility to enlarge from european transmission profile to international one), … CEN/CENELEC is kept as back-up option

- It is agreed that a draft version of the ENTSO-E technical specification will be sent to the Experts Committee for advice, in order to be sure to go in the right direction. This specification is the cornerstone of the profile to come. Timing: July/August

- Next ENTSO-E TF meeting will be held in Munich, in parallel with UCA IOP and will give the opportunity to make a status of ENTSO-E and WG10 work on technical specification and profile.