

IEC 61850 User Feedback Task Force - Support #417

There is no mechanism proposed by the Standard to positively identify data points in the data model. For instance PTOC can refer

02/03/2021 02:07 PM - Herbert Falk

Status:	Closed	Start date:	
Priority:	Normal	Due date:	
Assignee:		% Done:	0%
Category:	Standard extension required	Estimated time:	0.00 hour
Target version:		To discuss in WG10:	No
ID:	9	Short Proposal:	(1) Standardising function / subfunction types as mentioned in Issue 4 will help to support the semantic identification of vendor instantiated LNs(2) Modeling guidelines / agreements may further help
Source:	ENTSO-E	Standard(s):	6-100
TF Unique ID:	9 # ENTSO-E	Needs More Information:	Yes
WG10 Proposal:	<p>SCL of IEC 61850-6, Ed. 2.1 will support the possibility to relate logical node instances to function / subfunctions / eqfunction / eqsubfunction. There is a new task force in WG10 that will specify Function / Subfunction types. Once Function / Subfunction types are defined and used in SCL, this will allow to link a LN Instance to the particular Subfunction. It is recommended in addition to use an appropriate description attribute of the LN data model.</p> <p>a. Addressed in the 61850-6-1006-100 and Osmose are not enforcing directly additional semantics to the IED data model, but the definition of the ISD file together with the data exchange and Power System Resource Reference allow the user to specify semantics in a much more formalized way:</p> <ol style="list-style-type: none"> SourceRef and ControlRef allow to add semantic information by: <ol style="list-style-type: none"> Providing naming fields for the user to add some meaning. Create references to co-operating LNodes, e.g. CSWI and XCBR can be linked via SourceRef. Power System Resource References create a link between a Function/SubFunction and any element of the Substation/Process section. With this the user can express e.g. <ol style="list-style-type: none"> Association of MMXU and CT or VT. Circuit Breaker which is tripped by a PTRCc. Line which is protected by a PDIS d. etc. Applications are introduced in the Substation/Process section. They relate Functions and in this way also Logical Nodes to a common semantic. E.g. if an RBRF and a PTOC belong to the same Application, it is obvious that it provides the initiation of the RBRF. All these semantic refinements take place in the Substation/Process section. 6-100 also gives guidelines how 		

to create an ISD file out of this specification and allows in this way to transfer this semantic to the relay selection/procurement.6-100 has improved the modeling, but has not yet standardized the Function sand Applications.

Estimated Completion: Draft sent for comments: IEC 57/2237/DC. Comments deadline: 2020-07-31

Discuss in Upcoming Meeting: No

Assigned TF:

Description

There is no mechanism proposed by the Standard to positively identify data points in the data model. For instance PTOC can refer to any number of protection events related to current. Does User have to ask Vendor to make indexing and prefix arrangement as he (User) would specify for each generic LN that covers functionality segregated to several instances(for example definite time OC Dt1EftPTOC1, Dt1PhsPTOC2,.) ? And how will software that will import/communicate model recognize which DO has semantics that is required? Should description be mandatory part of import process during configuration of Client and how it should be integrated (rules)? More precise LN modeling rules required.

History

#1 - 02/03/2021 02:49 PM - Herbert Falk

- Status changed from New to In Progress

#2 - 12/06/2022 09:01 AM - Vladan Cvejic

- Status changed from In Progress to Closed

- WG10 Proposal changed from SCL of IEC 61850-6, Ed. 2.1 will support the possibility to relate logical node instances to function / subfunctions / eqfunction / eqsubfunction. There is a new task force in WG10 that will specify Function / Subfunction types. Once Function / Subfunction types are defined and used in SCL, this will allow to link a LN Instance to the particular Subfunction. It is recommended in addition to use an appropriate description attribute of the LN data model.

aAddressed in the 61850-6-100

6-100 and Osmose are not enforcing directly additional semantics to the IED data model, but the definition of the ISD file together with the data exchange and Power System Resource Reference allow the user to specify semantics in a much more formalized way:

1. SourceRef and ControlRef allow to add semantic information by:

a. Providing naming fields for the user to add some meaning

b. Create references to co-operating LNodes, e.g. CSWI and XCBR can be linked via SourceRef

2. Power System Resource References create a link between a Function/SubFunction and any element of the Substation/Process section. With this the user can express e.g.

a. Association of MMXU and CT or VT

b. Circuit Breaker which is tripped by a PTRC

c. Line which is protected by a PDIS

d. etc.

3. Applications are introduces in the Substation/Process section. They relate Functions and in this way also Logical Nodes to a common semantic. E.g. if an RBRF and a PTOC belong to the same Application, it is obvious that it provides the initiation of the RBRF

All these semantic refinements take place in the Substation/Process section. 6-100 also gives guidelines how to create an ISD file out of this specification and allows in this way to transfer this semantic to the relay selection/procurement.

6-100 has improved the modeling, but has not yet standardized the Function sand Applications. to SCL of IEC 61850-6, Ed. 2.1 will support the possibility to relate logical node instances to function / subfunctions / eqfunction / eqsubfunction. There is a new task force in WG10 that will specify Function / Subfunction types. Once Function / Subfunction types are defined and used in SCL, this will allow to link a LN Instance to the particular Subfunction. It is recommended in addition to use an appropriate description attribute of the LN data model. aAddressed in the 61850-6-1006-100 and Osmose are not enforcing directly additional semantics to the IED data model, but the definition of the ISD file together with the data exchange and Power System Resource Reference allow the user to specify semantics in a much more formalized way: 1. SourceRef and ControlRef allow to add semantic information by: a. Providing naming fields for the user to add some meaning b. Create references to co-operating LNodes, e.g. CSWI and XCBR can be linked via SourceRef 2. Power System Resource References create a link between a Function/SubFunction and any element of the Substation/Process section. With this the user can express e.g. a. Association of MMXU and CT or VT b. Circuit Breaker which is tripped by a PTRC c. Line which is protected by a PDIS d. etc. 3. Applications are introduces in the Substation/Process section. They relate Functions and in this way also Logical Nodes to a common semantic. E.g. if an RBRF and a PTOC belong to the same Application, it is obvious that it provides the initiation of the RBRF All these semantic refinements take place in the Substation/Process section. 6-100 also gives guidelines how to create an ISD file out of this specification and allows in this way to transfer this semantic to the relay selection/procurement. 6-100 has improved the modeling, but has not yet standardized the Function sand Applications.

- Estimated Completion changed from Draft sent for comments: IEC 57/2237/DC.

Comments deadline: 2020-07-31 to Draft sent for comments: IEC 57/2237/DC. Comments deadline: 2020-07-31

- *Discuss in Upcoming Meeting set to No*
- *To discuss in WG10 set to No*
- *Short Proposal changed from (1) Standardising function / subfunction types as mentioned in Issue 4 will help to support the semantic identification of vendor instantiated LNs*
- *(2) Modeling guidelines / agreements may further help to (1) Standardising function / subfunction types as mentioned in Issue 4 will help to support the semantic identification of vendor instantiated LNs(2) Modeling guidelines / agreements may further help*
- *Needs More Information set to Yes*

Since there is no representation from ENTSO-E anymore we can close these tickets for now. Additionally, we can eventually re-open if in the future similar needs are identified by other users.