IEC 61850 User Feedback Task Force - Feature #438

The engineering-process is well defined for a green field / new IEC 61850 substation but needs clarification for refurbishment

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

Status:	Resolved	**Start date:**	
Priority:	Normal	**Due date:**	
Assignee:		**% Done:**	0%
Category:	Standard clarification required	**Estimated time:**	0.00 hour
Target version:			
ID:	1	**To discuss in WG10:**	Yes
Source:	Vattenfall	**Short Proposal:**	Add Part 6 a use case for extension to existing system from existing SCD. Add SICS for specification tool
TF Unique ID:	1 # Vattenfall	**Standard(s):**	IEC 61850-4
WG10 Proposal:	Answer from Joerg regarding 6-100:For the brown field engineering, as well as for discussions about IED specification, the understanding of SSD and SCD file needs to be clarified. These files are not defined by their content, but by their role in the Engineering process.Some examples: •A Utility delivers as part of a specification an SCL file with only a Substation Section, even no Data Types: This is an SSD•The System Integrator is lazy and returns a file with only "as built" IEDs, Data Types and Communication Section: This is an SCD•A Utility adds a new bay to an existing SCD (brown field). And uses this as specification for the extension of the existing station: This is an SSD•A Utility creates a specification with Substation Section and Virtual IEDs. The Virtual IEDs are completely engineered (GOOSE, Reports, etc.) : This is an SSD•The System Integrator return an identical file, but "as built": This is an SCDUp to now (SCL ED2)the user has to know the meaning of the file. It cannot be derived from the content. 6-100 however is adding some semantics to the File:•An SCL file can have a GUID and a Semantic Version•An SCD can have a reference to the SSD that it implements•Each IED in an SCD can have o a reference to the ISD file, that was specifying ito a reference to the ICD, IID or CID file it is based on•Each virtual IED in an SSD can reference the ISD file it was specified with.	**Needs More Information:**	Yes
Estimated Completion:	Ed 3	**Assigned TF:**	61850-4
Discuss in Upcoming Meeting:	No		

Description

The engineering-processen is well defined for a green field / new IEC 61850 substation but needs clarification for refurbishment and extensions. In a green field project Vattefall starts by defining the SSD and hands it over to supplier as part of the bid for tender.

Clarification of the process for an existing substation is required. Here utility needs to start by extending or modifying an existing SCD substation from original supplier. How are the modified parts of substation section handled? Can a SSD be created that maintains links to existing communication and IED structures, into which a new supplier can continue work? (61850-6:2009 clause 10 needs to define also "specification tool" besides system configurator. Can data flow engineering rights and SED files that be used for this use case?)

History

#1 - 02/11/2021 07:59 AM - Vladan Cvejic

- Subject changed from The engineering-processen is well defined for a green field / new IEC 61850 substation but needs clarification for refurbishment to The engineering-process is well defined for a green field / new IEC 61850 substation but needs clarification for refurbishment

- Status changed from New to In Progress

- Standard(s) set to IEC 61850-6 (-100)

- WG10 Proposal changed from Answer from Joerg regarding 6-100:
For the brown field engineering, as well as for discussions about IED specification, the understanding of SSD and SCD file needs to be clarified. These files are not defined by their content, but by their role in the Engineering process.

Some examples:
• A Utility delivers as part of a specification an SCL file with only a Substation Section, even no Data Types: This is an SSD
• The System Integrator is lazy and returns a file with only "as built" IEDs, Data Types and Communication Section: This is an SCD
• A Utility adds a new bay to an existing SCD (brown field). And uses this as specification for the extension of the existing station: This is an SSD
• A Utility creates a specification with Substation Section and Virtual IEDs. The Virtual IEDs are completely engineered (GOOSE, Reports, etc.) : This is an SSD
• The System Integrator return an identical file, but "as built": This is an SCD

Up to now (SCL ED2)the user has to know the meaning of the file. It cannot be derived from the content. 6-100 however is adding some semantics to the File:
• An SCL file can have a GUID and a Semantic Version
• An SCD can have a reference to the SSD that it implements
• Each IED in an SCD can have
o a reference to the ISD file, that was specifying it
o a reference to the ICD, IID or CID file it is based on
• Each virtual IED in an SSD can reference the ISD file it was specified with.
to Answer from Joerg regarding 6-100:For the brown field engineering, as well as for discussions about IED specification, the understanding of SSD and SCD file needs to be clarified. These files are not defined by their content, but by their role in the Engineering process.Some examples: • A Utility delivers as part of a specification an SCL file with only a Substation Section, even no Data Types: This is an SSD• The System Integrator is lazy and returns a file with only "as built" IEDs, Data Types and Communication Section: This is an SCD• A Utility adds a new bay to an existing SCD (brown field). And uses this as specification for the extension of the existing station: This is an SSD• A Utility creates a specification with Substation Section and Virtual IEDs. The Virtual IEDs are completely engineered (GOOSE, Reports, etc.) : This is an SSD• The System Integrator return an identical file, but "as built": This is an SCDUp to now (SCL ED2)the user has to know the meaning of the file. It cannot be derived from the content. 6-100 however is adding some semantics to the File:• An SCL file can have a GUID and a Semantic Version• An SCD can have a reference to the SSD that it implements• Each IED in an SCD can have o a reference to the ISD file, that was specifying ito a reference to the ICD, IID or CID file it is based on• Each virtual IED in an SSD can reference the ISD file it was specified with.

- Discuss in Upcoming Meeting set to No

Checking done.

#2 - 12/05/2023 07:08 AM - Vladan Cvejic

- Discuss in Upcoming Meeting changed from No to Yes

- To discuss in WG10 set to No

- Needs More Information set to Yes

#3 - 12/05/2023 08:26 AM - Vladan Cvejic

- Status changed from In Progress to Resolved

- Discuss in Upcoming Meeting changed from Yes to No

- To discuss in WG10 changed from No to Yes

- Standard(s) changed from IEC 61850-6 (-100) to IEC 61850-4

- Assigned TF 61850-4 added

Most of the issues are resolved by 90-30 (old 6-100) but rest of the questions should be addressed by part 4 (Ed3).
Editor to be determined on the next WG10 meeting.