Solution to redmine 6631

### tTf1 (mustUnderstand) for the ICT test needs clarification

Jan 8, 2022

Copied from #6622:

The test should be modified to test three scenarios.

1) An element has a mustUnderstand in the communication section of the IED being configured, but the IED being configured does not support it.

The ICT should reject the configuration of the IED and provide an error message.

>> Richard this is not tested because it’s non-conformant behavior of the SCT

2) An element has a mustUnderstand outside the scope of the IED being configured.

The ICT should import the file.

3) An element has a mustUnderstand element that is in another device but the SCD is configured for use in the IED being configured.

The ICT should reject the configuration of the IED and provide an error message.

Currently (in Ed2.1) mustUnderstand is only used for R-GOOSE and R-SV

The new tTf1:

|  |  |  |
| --- | --- | --- |
| tTf1Mandatory | Support MustUnderstand concept (I41)  | 🞎 Passed🞎 Failed🞎 Inconclusive |
| Ref. Part, Clause and Subclause of IEC 61850IEC 61850-6, Subclause 8.2.1 IEC 61850-6, SICS, I41 |
| Expected result3) Unknown 'MustUnderstand' elements can be imported user might get informed about not understood MustUnderstand elements.4) It is not possible to subscribe to the GOOSE control5) It is not possible to subscribe to the GOOSE control1. The IED accepts the configuration from the ICT
2. Export succeeds in valid 2007B4 format
 |
| Test description1. TUT provides or exports version 2007B4 ICD file
2. Use SCT simulator to instantiate an IED based upon the TUT ICD file and one or more “future” IEDs based upon version 2099 ICD file(s) with unknown 'mustUnderstand' elements and export version 2099 SCD, provide the schema when required by the TUT
3. Import version 2099 SCD
4. Try to subscribe to the GOOSE control from the future IED with MustUnderstand in the GSE communication section element
5. Try to subscribe to the GOOSE control from the future IED with MustUnderstand in the GSEControl element
6. Configure the IED with the current configuration in the ICT
7. TUT exports IID file
 |
| CommentThe mustUnderstand may not be added by the SCT in the IED under test section and it’s datatypes. As such only in the communication / substation section (and in the future IEDs) the mustUnderstand elements are added.The future IED has a mustUnderstand in the communication section in one GoCB.<ConnectedAP> <GSE> <Richard happy="true" mustUnderstand="true"/> </GSE></ConnectedAP>The future IED also has in another GoCB:<GSEControl name="GoCB02" appID="GoCB02" datSet="MyDatSet">                <IEDName>AA1\_D1\_Q11A1</IEDName>                <IEDName>AA1\_D1\_Q10A1</IEDName>                <IEDName>AA1\_D1\_Q07A1</IEDName>                <Elephant mustUnderstand="true">African</Elephant></GSEControl> |