Solution to redmine #668 for both Ed2 and Ed2.1

Remove the mirrorblocked related addCauses/commandtermination;

focus on the FC=OR attributes, the sequence is less strict

May 31, 2021

Abstract:

| sCtl28 | Verify that the FC=OR attributes opRcvd and opOk are updated correctly |
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Detailed:

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| **sCtl28 DOns****sCtl28 DOes** | **Verify the FC=OR attributes opOk, opRcvd, tOpOk** | [ ]  Passed[ ]  Failed[ ]  Inconclusive |
| IEC 61850-7-2 Subclause 20.2 and 20.3IEC 61850-7-3 Subclause 8 “opRcvd”IEC 61850-7-4 Annex AIEC 61850-8-1 Subclause 20 |
| Expected result1.2.3.4. Operate is accepted, DUT sends reports/GOOSE with opRcvd=T, opRcvd=F, opOk=T and opOk=F |
| Test descriptionConfigure a dataset with the opOk, opRcvd, tOpOk with FC=OR and enable a GOOSE control block (when supported) or a report control block with this dataset and trigger data-change. Equipment simulator does not change the position. Beh = on 1. Client sends correct Operate with test=false

Change Beh = test (when supported)1. Client sends correct Operate with test=true

Change Beh = test/blocked (when supported)1. Client sends correct Operate with test=true

Change Beh = blocked (when supported)1. Client sends correct Operate with test=false
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| Comment |

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| **sCtl28 SBOns** | **Verify FC=OR attributes opOk, opRcvd, tOpOk** | [ ]  Passed[ ]  Failed[ ]  Inconclusive |
| IEC 61850-7-2 Subclause 20.2 and 20.3IEC 61850-7-4 Annex AIEC 61850-8-1 Subclause 20 |
| Expected result1.2.3.4. Select and Operate are accepted, DUT sends reports/GOOSE with opRcvd=T, opRcvd=F, opOk=T and opOk=F |
| Test descriptionConfigure a dataset with the opOk, opRcvd, tOpOk with FC=OR and enable a GOOSE control block (when supported) or a report control block with this dataset and trigger data-change. Equipment simulator does not change the position. Beh = on 1. Client sends Select and Operate with test=false

Change Beh = test when supported1. Client sends Select and Operate with test=true

Change Beh = test/blocked when supported1. Client sends Select and Operate with test=true

Change Beh = blocked when supported1. Client sends Select and Operate with test=false
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| Comment |

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| **sCtl28 SBOes** | **Verify FC=OR attributes opOk, opRcvd, tOpOk** | [ ]  Passed[ ]  Failed[ ]  Inconclusive |
| IEC 61850-7-2 Subclause 20.2 and 20.3IEC 61850-7-4 Annex AIEC 61850-8-1 Subclause 20 |
| Expected result1.2.3.4. SelectWithValue and Operate are accepted, DUT sends reports/GOOSE with opRcvd=T, opRcvd=F, opOk=T and opOk=F |
| Test descriptionConfigure a dataset with the opOk, opRcvd, tOpOk with FC=OR and enable a GOOSE control block (when supported) or a report control block with this dataset and trigger data-change. Equipment simulator does not change the position. Beh = on 1. Client sends SelectWithValue and Operate with test=false

Change Beh = test (when supported)1. Client sends SelectWithValue and Operate with test=true

Change Beh = test/blocked (when supported)1. Client sends SelectWithValue and Operate with test=true

Change Beh = blocked (when supported)1. Client sends SelectWithValue and Operate with test=false
 |
| Comment |

Table A4.2 condition:

| 12: Control general | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25 | SCL-Writable control model: sCtl2PICS-TimOper: sCtl3SCL-stSeld: sCtl4SCL-multiple SBO: sCtl6SCL-CILO: sCtl7SCL-DO object has SBO/SBOw data attributes: sCtl13SCL-Operate time reasonably large: sCtl14PIXIT-Sr5 Behaviour=off: sCtl15SCL-Loc: sCtl16SCL-LocSta: sCtl17SCL-CmdBlk: sCtl18PIXIT-Ct9 AddCause:* Parameter-change-in-execution: sCtl20
* Step-limit: sCtl21
* Ended-with-overshoot: sCtl23
* Abortion-due-to-deviation: sCtl24
* Command-already-in-execution and operate time: sCtl26

SCL-SBO and SBOw: sCtl27SCL opOk or opRcvd: sCtl28 |
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No impact on certificate