Redmine #638 solution:

Replaced tOpOK by tOpOk  
Replaced opOK by opOk

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| **sCtl28 DOns** | **Verify the MirrorBlockedCommand and FC=OR attributes opOk, OpRcvd, tOpOk** | Passed  Failed  Inconclusive |
| IEC 61850-7-2 Subclause 20.2 and 20.3  IEC 61850-7-4 Annex A  IEC 61850-8-1 Subclause 20  TISSUE #1676 (multiple figures for control) | | |
| Expected result  1) and 3)   * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T and then OpRcvd=F and opOk=T with updated tOpOk * DUT send report/GOOSE with opOk=F   2), 4), 6) and 8)   * DUT returns Operate response- and sends reports/GOOSE with only OpRcvd=T and then OpRcvd=F   5) and 7)   * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T, then OpRcvd=F, then opOk=T and then opOk=F | | |
| Test description  Configure a dataset with the opOk, OpRcvd, tOpOk with FC=OR and enable a GOOSE control block (when supported) and a report control block with this dataset and trigger data-change. Equipment simulator does not change the position. When no FC=OR are supported just perform step 5 and 7.  Beh = on   1. Client sends correct Operate with test=false 2. Client sends correct Operate with test=true   Change Beh = test when supported   1. Client sends correct Operate with test=true 2. Client sends correct Operate with test=false   Change Beh = test/blocked when supported   1. Client sends correct Operate with test=true 2. Client sends correct Operate with test=false   Change Beh = blocked when supported   1. Client sends correct Operate with test=false 2. Client sends correct Operate with test=true | | |
| Comment | | |

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| **sCtl28 SBOns** | **Verify the MirrorBlockedCommand and FC=OR attributes opOk, OpRcvd, tOpOk** | Passed  Failed  Inconclusive |
| IEC 61850-7-2 Subclause 20.2 and 20.3  IEC 61850-7-4 Annex A  IEC 61850-8-1 Subclause 20  TISSUE #1676 (multiple figures for control) | | |
| Expected result  1) and 3)   * Select is accepted * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T and then OpRcvd=F and opOk=T with updated tOpOk * DUT send report with opOk=F   2), 4), 6) and 8)   * Select is accepted * DUT returns Operate response- and sends reports/GOOSE with only OpRcvd=T and then OpRcvd=F   5) and 7)   * Select is accepted * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T, then OpRcvd=F, then opOk=T, and then opOk=F | | |
| Test description  Configure a dataset with the opOk, OpRcvd, tOpOk with FC=OR and enable a GOOSE control block (when supported) and a report control block with this dataset and trigger data-change. Equipment simulator does not change the position. When no FC=OR are supported just perform step 5 and 7.  Beh = on   1. Client sends correct Select and Operate with test=false 2. Client sends correct Select and Operate with test=true   Change Beh = test when supported   1. Client sends correct Select and Operate with test=true 2. Client sends correct Select and Operate with test=false   Change Beh = test/blocked when supported   1. Client sends correct Select and Operate with test=true 2. Client sends correct Select and Operate with test=false   Change Beh = blocked when supported   1. Client sends correct Select and Operate with test=false 2. Client sends correct Select and Operate with test=true | | |
| Comment | | |

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| **sCtl28 DOes** | **Verify the MirrorBlockedCommand and FC=OR attributes opOk, OpRcvd, tOpOk** | Passed  Failed  Inconclusive |
| IEC 61850-7-2 Subclause 20.2 and 20.3  IEC 61850-7-4 Annex A  IEC 61850-8-1 Subclause 20  TISSUE #1676 (multiple figures for control) | | |
| Expected result  1) and 3)   * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T and then OpRcvd=F and opOk=T with updated tOpOk * DUT send CommandTermination- with addCause time-limit-over, DUT send report with opOk=F   2), 4), 6) and 8)   * DUT returns Operate response- and sends reports/GOOSE with only OpRcvd=T and then OpRcvd=F   5) and 7)   * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T, then OpRcvd=F, then opOk=T, and then opOk=F * DUT send CommandTermination- with addCause blocked-by-mode | | |
| Test description  Configure a dataset with the opOk, OpRcvd, tOpOk with FC=OR and enable a GOOSE control block (when supported) and a report control block with this dataset and trigger data-change. Equipment simulator does not change the position. When no FC=OR are supported just perform step 5 and 7.  Beh = on   1. Client sends correct Operate with test=false 2. Client sends correct Operate with test=true   Change Beh = test when supported   1. Client sends correct Operate with test=true 2. Client sends correct Operate with test=false   Change Beh = test/blocked when supported   1. Client sends correct Operate with test=true 2. Client sends correct Operate with test=false   Change Beh = blocked when supported   1. Client sends correct Operate with test=false 2. Client sends correct Operate with test=true | | |
| Comment | | |

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| **sCtl28 SBOes** | **Verify the MirrorBlockedCommand and FC=OR attributes opOk, OpRcvd, tOpOk** | Passed  Failed  Inconclusive |
| IEC 61850-7-2 Subclause 20.2 and 20.3  IEC 61850-7-4 Annex A  IEC 61850-8-1 Subclause 20  TISSUE #1676 (multiple figures for control) | | |
| Expected result  1) and 3)   * SelectWithValue is accepted * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T and then OpRcvd=F and opOk=T with updated tOpOk * DUT send CommandTermination- with addCause time-limit-over, DUT send report with opOk=F   2), 4), 6) and 8)   * When the DUT returns SelectWithValue response- it will send no report/GOOSE. * When SelectWithValue is accepted continue * DUT returns Operate response- and sends reports/GOOSE with only OpRcvd=T and then OpRcvd=F   5) and 7)   * SelectWithValue is accepted * Operate is accepted, DUT sends reports/GOOSE with OpRcvd=T, then OpRcvd=F, then opOk=T, and then opOk=F * DUT send CommandTermination- with addCause blocked-by-mode | | |
| Test description  Configure a dataset with the opOk, OpRcvd, tOpOk with FC=OR and enable a GOOSE control block (when supported) and a report control block with this dataset and trigger data-change. Equipment simulator does not change the position. When no FC=OR are supported just perform step 5 and 7.  Beh = on   1. Client sends correct SelectWithValue and Operate with test=false 2. Client sends correct SelectWithValue and when accepted Operate with test=true   Change Beh = test when supported   1. Client sends correct SelectWithValue and Operate with test=true 2. Client sends correct SelectWithValue and when accepted Operate with test=false   Change Beh = test/blocked when supported   1. Client sends correct SelectWithValue and Operate with test=true 2. Client sends correct SelectWithValue and when accepted Operate with test=false   Change Beh = blocked when supported   1. Client sends correct SelectWithValue and Operate with test=false 2. Client sends correct SelectWithValue and when accepted Operate with test=true | | |
| Comment  For SBOes it’s not mandatory to perform all checks during the SelectWithValue (PIXIT Ct18) | | |