

Test Procedures Change List (TPCL) for  
IEC 61850 Client Test Procedures revision 1.1

UCA International Users Group  
Testing Sub Committee

Date: January 13, 2012  
Version 1.1

## Introduction

Problems that are uncovered during conformance testing that impact the IEC 61850 Standard are taken back through the TISSUES Process. However, there are some problems that relate only to the content of the Test Procedures. The UCAiug is the owner of the Test Procedures and so has the responsibility for tracking changes. Given the long time lag between major versions, we have a need to track interim changes that may impact testing. This "Test Procedures Change List (TPCL)" document specifies such interim changes. The UCAiug test sub committee reviews and approves each change. Changes resulting in new test procedures shall be specified in the next revision of the test procedures.

This list:

- Contains changes to the most recent Client conformance test procedures
- Indicate if a change is:
  - Accepted, resulting in a clarified test procedure (included after the change list table)
  - Denied
  - Added to the next revision
- Shall be used by recognized/accredited test labs
- *[Should be referenced in the test report only] REMOVE??*
- Is available at the UCAiug sharepoint for test sub committee members

## References

Conformance Test Procedures for Client System with IEC 61850-8-1 interface, Revision 1.1, October 31, 2009

## Change List

ID	TEST CASE	CHANGE	FINAL PROPOSAL	RESULT Comment from editor(s)
1	cRp2 cBr2	Some client systems expect that report control block settings: RptID and DataSet are pre-configured in SCL. As such these clients don't write the RptID and DataSet using online services as required in the test procedures. Note: RptID doesn't need to be configured in SCL because it has a default value	Move cRp2/cBr2 to conditional in table A4.2. The condition is "SetRCBValue(RptID or DataSet)"	Accepted at telco 17 May 2011
2	cSg4	There is a typo in expected result step 1. "SUT requests SelectActiveSG" should be changed to "SUT requests SelectEditSG"	Fix typo	Accept
3	-	Include TPCL version on certificate	Add "with TPCL version 1.0", Compare template	Accepted at telco 17 May 2011
4	cSrv5	Not all clients do support GetDataValues	Move from mandatory to conditional with condition: PICS – GetDataValues	Accepted at telco 11 January 2012

ID	TEST CASE	CHANGE	FINAL PROPOSAL	RESULT Comment from editor(s)
5	cDs1	Not all clients do support GetLogicalNodeDirectory(DATASET)	Move from mandatory to conditional with condition: PICS – GetLogicalNodeDirectory(DATASET)	Accepted at telco 11 January 2012

**Clarified Test Procedures (in order of the conformance blocks)**

Association

Server

Data set

Setting Group

cSg4	Edit setting group values	<input type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2 clause 13.3 IEC 61850-8-1 clause 16.2 PIXIT		
<u>Expected result</u>		
<ol style="list-style-type: none"> <li>SUT requests SelectEditSG</li> <li>SUT requests GetSGValues[FC=SE]</li> <li>SUT requests SetSGValues[FC=SE]</li> <li>SUT requests ConfirmEditSG</li> </ol>		
<u>Test description</u>		
<ol style="list-style-type: none"> <li>Request SelectEditSG to select first setting group of a server</li> <li>Request GetSGValues[FC=SE] to get the current setting group values</li> <li>Request SetSGValues[FC=SE] to set the new setting group values</li> <li>Request ConfirmEditSG</li> </ol>		
<u>Comment</u>		

Unbuffered Reporting

Buffered reporting

Control

File transfer

**Updated certificate template with TPCL reference and cRp2, cBr2, cSrv5 and cDs1 conditional:**

No. -xxxx

Issued to:  
<<MANUFACTURER>>  
<<FULL ADDRESS>>

For the client system:  
<<CLIENT NAME>>  
<<VERSION NUMBER>>  
<<ADDITIONAL INFO>>

Issued by: <TESTLAB>

**The client system has not shown to be non-conforming to:  
IEC 61850-6, 7-1, 7-2, 7-3, 7-4 and 8-1**

**Communication networks and systems in substations**

The conformance test has been performed according to IEC 61850-10 with client system's protocol, model and technical issue implementation conformance statements: "<<PICS>>", "<<MICS>>", "<<TICS>>" and product's extra information for testing: "<<PIXIT>>".

The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases as defined in the UCA IUG Conformance Test Procedures for Client System with IEC 61850-8-1 interface, [revision 1.1 with TPCL version 1.1](#)):

1 Basic Exchange (../22)	12a Direct Control (../7)
2 Data Sets (../8)	12b SBO Control (../9)
2+ Data Set Definition (../4)	12c Enhanced Direct Control (../7)
3 Substitution (../3)	12d Enhanced SBO Control (../9)
4 Setting Group Selection (../4)	13 Time Synchronization (../4)
4+ Setting Group Definition (../2)	14 File Transfer (../8)
5 Unbuffered Reporting (../18)	
6 Buffered Reporting (../22)	

This Certificate includes a summary of the test results as carried out at <testlab> in the Netherlands with <IED SIMULATOR> and <ANALYZER>. The test is based on the UCA IUG Conformance Test Procedures for Client System with IEC 61850-8-1 interface, [revision 1.1 with TPCL version 1.1](#). This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. xxxx will prevail.

<<LOCATION, DATE>>

<<manager NAME>>  
<<JOB TITLE>>

<<NAME>>  
<<JOB TITLE>>

1 Level A - Independent Test lab with certified ISO 9000 or ISO 17025 Quality System

Applicable Test Procedures from the UCA IUG Conformance Test Procedures for Client System with IEC 61850-8-1 interface, [revision 1.1](#) with [TPCL version 1.1](#)

<b>Conformance Block</b>	<b>Mandatory</b>	<b>Conditional</b>
1: Basic Exchange	cAss1, cAss2, cAss3, cAss4, cAssN1, cAssN4, cAssN5, cAssN6 cSrvN3	cAssN7 cSrv1, cSrv2, cSrv3, cSrv4, <a href="#">cSrv5</a> , Srv6, cSrv7, cSrvN1, cSrvN2, cSrvN4, cSrvN5, cSrvN6
2: Data Sets	cDs2, cDs5, cDsN1	<a href="#">cDs1</a> , cDs3, cDs4, cDsN2, cDsN3
2+: Data Set Definition	cDs6, cDsN4	cDs7, cDsN5
3: Substitution	cSub1	cSub2, cSub3
4: Setting Group Selection	cSg2, cSgN1	cSg1, cSg3
4+: Setting Group Definition	cSg3, cSg4	
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRpN2, cRpN3, cRpN7, cRpN8	cRp1, <a href="#">cRp2</a> , cRp6, cRp7, cRpN1, cRpN4, cRpN5, cRpN6
6: Buffered Reporting	cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr12, cBrN2, cBrN3, cBrN7, cBrN8, cBrN9	cBr1, <a href="#">cBr2</a> , cBrN1 cBr6, cBr7, cBr13, cBrN4, cBrN5, cBrN6
12a: Direct control	cCtl4, cCtlN1 cDOs1, cDOs2	cCtl1, cCtl2, cCtl3
12b: SBO control	cCtl4, cCtlN1 cSBOs1, cSBOs2, cSBOs3	cCtl1, cCtl2, cCtl3, cSBOs4
12c: Enhanced Direct Control	cCtl4, cCtlN1 cDOes1, cDOes2	cCtl1, cCtl2, cCtl3
12d: Enhanced SBO control	cCtl4, cCtlN1, cSBOes1, cSBOes2, cSBOes3	cCtl1, cCtl2, cCtl3 cSBOes4
13: Time sync	cTm1	cTm2, cTmN1, cTmN2
14: File transfer	cFt1, cFt2, cFt3, cFtN1, cFtN2	cFt4, cFt5, cFtN3