DRAFT
Highlights of the Testing Teleconference
Held on 3 March 2009 (15:00 to 17:12 UTC)

Introductions

This was a teleconference to report on the recent meetings in San Diego and Grenoble, review the draft Strict Checking SCL Document, status of Client Testing and possible updates to the procedures, cover some details on Server Test Cases and possible updates to the Test Procedures Change List (TPCL), and discuss action items and pending future activities for Testing. The agenda and invitation to participate was sent out to all the individuals on the Testing E-Mail List on 25 February 2009. Draft reference documents had been sent out and/or posted earlier. (We had initially selected the date for today's teleconference at our meeting on 27 January.) The Teleconference was held on March 3 starting at 15:00 UTC (10:00 AM US East Coast, 7:00 AM West Coast and 16:00 Europe Time). The Teleconference lasted just over 2 hours and was adjourned at 17:12 UTC. Jack Robinson prepared the minutes (this document).

Participants

The following people participated in the Teleconference:

- Garaj, Maciej --- GE
- Janssen, Marco --- Utinovation, UCAIug QAP Editor
- Muschlitz, Bruce --- Chair Testing SubCommittee
- Ouellette, Dean --- RTDS
- Pastors, Christof --- Siemens
- Robinson, Jack --- UCAIug and Testing SubCommittee Secretary
- Schimmel, Richard --- KEMA, IEC 61850 Test Procedures/ Issues Editor

REFERENCES:

A. Teleconference 27 January 2009 Minutes, Jack Robinson, Dated 13 February 2009

B. E-Mail Teleconference 3 March Announcement/ Agenda, Posted 25 February 2009, Bruce Muschlitz

C. Strict Type Checking SCL File (ZIP Format), Bruce Muschlitz, Posted 21 January 2009

D. Test Procedures for Merging Units 9-2LE Publisher, Revision 0.4, Richard Schimmel Editor, Dated 27 January 2009

E. Draft Test Procedures Approved Change List (TPCL) against Server Version 2.2, Richard Schimmel Editor, Dated 27 November 2008, Renamed as Version 1.0, Posted

F. Draft Test Procedures Approved Change List (TPCL) against Client Version 0.2, Richard Schimmel Editor, Dated 27 February 2009

Opening Remarks

Bruce Muschlitz, Testing SubCommittee Co-Chair, conducted the teleconference. We first reviewed the agenda (see Reference B). Given time, we will cover additional items. Jack Robinson agreed to take the minutes. Maciej Garaj of GE introduced himself and said he will be participating on the Testing Working Group replacing Drew Baigent. Bruce will add Maciej to the Testing E-Mailer.

Approval of 27 January 2009 Minutes

There are no recommended changes to the minutes of our most recent (January 27, 2009) teleconference, Reference A, and they are approved.

San Diego/Grenoble Meetings Report

Bruce gave a report on the meetings in San Diego and Grenoble. There were 10 participants in San Diego. At Grenoble, there were individuals from some of the other IEC Committees. Bruce pointed out that the Convener of TC 38, Pascal Tantin, says that they are developing Test Procedures for Merging Units. Apparently, these procedures would cover the devices and communications. We discussed the need for close liaison between UCAIug and TC 38 to eliminate duplicate work.

Richard noted that TC 17 is writing a type test for intelligent circuit breakers. These test procedures reference the IEC 61850 Part 10 as the basis for the communications. This same split of responsibilities, communications versus device functions, would make sense for Merging Units.

Richard agreed to write a letter to Christoph Brunner, Convener TC 57/WG 10, requesting that Christoph and Pascal Tantin (pascal.tantin@edf.fr), Convener of TC 38, discuss joint coordination and the possibility of UCAIug publishing the Merging Unit test procedures. Richard will prepare a draft and send to Marco for review before the letter is sent. Marco noted that TC 57 will hold their next meeting in June. This would be a good venue to further discuss coordination on the above.

Strict SCL Checking

Bruce has prepared a draft document covering SCL Checking (Reference D). The schema are intended as a sanity check on content and format. The ReadMe Document in the Referenced ZIP File defines the intent of the Strict SCL Checking. Vendors need to run their favorite SCL instance files against the schema and provide feedback.

Richard noted that Henry Dawidczak is in charge of the Siemens "free" SCL Conformance Checker which was on the old UCA web site (users have had no access to this since transitioning to the new "sharepoint" version of the site several years ago). In any case, Henry is the person who could assign a Siemens server to the workload of verifying a SCL file against the sample schema in Reference D. Christof agreed to check with Henry on the status of the Siemens tool and how we could connect and run the checker.

Time Quality/ Clock Failure

We discussed the use of the ClockFailure bit: Part 7-2 has this bit as mandatory, but PIXIT allows for no support of this bit. At our teleconference in January, it was reported that there may be some confusion in Part 7-2 regarding usage of these bits (to the level of detail required for

testing). Richard had an action item to review Part 7-2 and said today that the requirements in the standard are clear.

We spent some time discussing how to best handle the requirements. We agreed that Richard will update the PIXIT to show that the non-use of the 7-2 mandatory "ClockFailure" will be allowed. However, the PIXIT will make it clear that this will be changed in the future to require full compliance with IEC 61850 Part 7-2. The PIXIT will include a note stating that devices are prohibited from exposing the semantic ClockFailure using anything other than the ClockFailure Bit. (This prohibits a vendor from always sending ClockFailure=FALSE while setting some alternate bit elsewhere to indicate that the clock has failed). Richard will release the draft PIXIT changes by 24 March (2 weeks prior to next telecon).

Test Procedures Approved Change List for 61850 Servers

The most recent TPCL for Servers V2.2, Reference E, includes all comments discussed at our earlier teleconferences. Originally, the date in the title served to identify the approved changes and the list content. "ServerRevision2.2" identifies the document against which the changes are pending. In January, we agreed to add a version number to the document title. Reference E was identified as Version 1.0 and posted in the same area as the final approved Test Procedures (visible to both UCAIug Members and Testing SubCommittee and Working Group Members).

We discussed the next pending TPCL update. The TPCL for Servers V2.2 will be updated for FtN1 (invalid filename in GetFileAttributeValues) and CtlN1 (double select). Bruce will edit the TPCL, send to Richard for review, we will then release this as TPCL Version 1.1.

SNTP and Source (UDP) Port

As discussed in January, Bruce had an action item to look into this and write a draft TISSUE against 8-1 Ed1 if necessary. Bruce clarified his findings on use of port numbers.

We decided we do not need a correction for SNTP source port number. SNTP (RFC 2030) already allows ANY source port number. However, it also allows ANY destination port number which could introduce inter-operability problems. Edition 2 will solve this by extending the SCL "P" element to include "IP-UDP-PORT" and "IP-TCP-PORT" to allow any new application to explicitly specify the IP port numbers used for a specific purpose. For example, the "normal" 8-1 communication could have <P type="IP-TCP-PORT>102</P> to clarify the "normal" usage.

Status of Client Testing

The Client Test Procedures have been released as Version 1.0, dated March 2008. KEMA has submitted a formal request in accordance with the UCAIug Testing Quality Assurance Program to be accredited as an IEC 61850 Client Tester. As this time, the audit by the Accreditation Task Force is done, KEMA has satisfied all the conditions (based on the information provided), has completed an initial Client Device Test and is now accredited as an IEC 61850 Client Tester.

Richard reported that they created a relatively long list of changes, about 70 pages, to the Client Test Procedures (see the Client TPCL Reference F) based upon the first specimen test. We agreed that it would be easier, and more useful, to update the Client Test Procedures rather than maintain a large TPCL. Richard said the changes clarify the text in the procedures and do not impact the content or scope of the test cases. Richard agreed to prepare a draft of the Client Test Procedure (Version 1.05) by 24 March. We will review this at the next teleconference with the goal to approve and release it as Version 1.1.

We agreed that the certificate for the specimen test device would reference the Client Test Procedures Version 1.0. Jack noted that, as a mater of disclosure, the Test Report is supposed to identify the TPCL that was used during the device test to clarify any pending changes to procedures during the grace period between procedure release versions. The Test Report is private and owned by the testers and device vendor. As part of the Test Report, the TPCL may contain information crucial to understanding the details of the given device test.

Future Direction

Bruce has started a list of possible future activities (Reference B). The activities remain open and we will address each area as industry interest dictates.

    a. Ethernet switch - what are the requirements?
    b. Gateways - is this too broad a topic? KEMA is currently doing some gateway testing.
    c. SCL testing - how would we test this? Are vendor-specific tools meeting industry needs?
    d. Preparations for Edition 2 testing. What can/should be done now?
    e. Merging unit subscribers?

We discussed the need to write procedures for GOOSE performance testing. We had exchanged E-mails on this starting in early 2008 and considered adding a third page to the certificates to summarize performance test results. Richard said KEMA is getting requests from IED vendors for GOOSE performance testing and the UCAIug should move this to a high priority task considering the increased industry interest. For discussion at our next teleconference.

Other Issues/ Next Meetings/ Conclusion

The "mandatory to subscribe to any GOOSE content" item was not listed in our agenda and we will cover this at our next teleconference.

New business: Maciej Garaj asked whether IEEE 1588 (PTP) could be added as an alternate time sync mechanism for 9-2LE Merging Units (this would eliminate the second fiber cable to the MU). The group responded that 9-2 LE is controlled by the UCAIug Technical Committee, not Testing. Christoph Brunner will be contacted to consider this revision during the update process (it is not 4 years old).

We set a date for our next teleconference: 7 April 2009 at 14:00 UTC for two hours. With daylight savings this translates to start time of 07:00 AM West Coast USA, 16:00 Europe, and 10 AM East Coast USA. Bruce will send out a notice for this teleconference as soon as possible.

Our next face-to-face Testing Meeting will be after the Pittsburgh IEEE PSRC meeting 14-15 May, 2009. This meeting will begin at 13:00 14 May and continue until noon 15 May. We will schedule the meeting room so that we can continue through the afternoon of 15 May for those participants who can travel later.

The teleconference was adjourned at 17:12 UTC.

Teleconference Action Items

Includes open action items from our 27 January Teleconference.

1. Continue Client Test Procedures Activity. Richard to provide Version 1.05 by 24 March. To be reviewed and released as Version 1.1 after our next teleconference.
2. GOOSE Performance Testing. Future activity. Need to assign an editor to take the lead.
3. Consider preparation of GOOSE Implementation Agreement. Need for user document.
4. Update of the Testing QAP Documents is needed to cover Client Testing, the Client Certificate, and the use of the Test Procedure Change List (TPCL).
5. Update the Server TPCL to Version 1.1. Bruce will prepare the draft and Richard to check, Jack to post after it is approved as final.
6. Review the draft Strict SCL Check Document. Vendors agreed to run their SCL instance files against the schema and provide feedback. All to review the content and recommendations in the ReadMe Document.
7. Christof Pastors to check with Henry Dawidczak on the status of the Siemens SCL Conformance Check Tool and how we could make it available for UCAIug Members.
8. Richard to draft a letter to Christoph Brunner, Convener TC 57/WG 10, requesting that Christoph and Pascal Tantin, Convener of TC 38, discuss the possibility of joint coordination and the possibility of UCAIug publishing the Merging Unit test procedures. Marco to review before the letter is sent.
9. Richard will clarify handling of Clock Failure and will include in the PIXIT. Richard will release the draft changes by 24 March. We will review and finalize after April 7.
10. Setup next Testing teleconference to review documents and to resolve open issues. Tentatively scheduled for 7 April 2009 starting at 14:00 UTC (10 AM US East Coast, 7 AM West Coast and 16:00 Europe Time). Bruce and Jack will coordinate.
11. Setup next Testing Meeting after the PSRC May 2009 Meeting. We will meet the afternoon of May 14 and the morning of May 15. Possible continue meeting through the afternoon of May 15 depending on interest. Bruce and Jack will coordinate.