2017-04-27_3rd_TimeSync_Subgroup_Meeting

April 12, 2017 15:20

Time & Date:
March, 29th 03:00 pm (CEST = UTC+2)

Participants:

Name	Company
Allen Goldstein	NIST
Bernhard Baumgartner	OMICRON Lab
Jean-Sebastien Gagnon	Vizimax
Ya-Shian	NIST
Higor Rachadel	GE
JC Billalabeitia	GE

Amin Abdul
Siemens
Volker Gsänger
Siemens
Lei Zhang (Roy)
Siemens

Housekeeping:

- All E-mail communication is handles via the TimeSync Subgroup Google group.
  To send an E-mail to all group members use: iop-timesync-sg@googlegroups.com

- To enlist for the subgroup either:
  use this link: https://groups.google.com/forum/?hl=en#!forum/iop-timesync-sg and click Apply for membership
  or send an E-mail to bernhard.baumgartner@omicron-lab.com

- All data is stored on the **IOP Sharepoint** server in this directory (and subdirectories)
  TimeSync_Subgroup

- Meeting reports: can be found here Meeting reports

Discussed Topics:

- **2017 Test cases:**
  2015 Test cases for IEC/IEEE 61850-9-3 were reviewed and unnecessary tests deleted

  - A new draft is generated after each subgroup meeting. If you want to add comments or modify the draft check out the current file and apply your changes. (Make sure that track changes is switched on).

    Current Draft:
    http://iec61850.ucaiug.org/2017IOP-NOrleans/IOP%20Documents/TimeSync_Subgroup/2017_Test_Cases/IOP%20PTP%20Test%20Cases%20for%20IEC_IEEE_61850-9-3_Draft_2.docx

  - **Separation between integrated test cases and subgroup test cases needed to minimize overlap.**
    - **Subgroup should focus on 9-3 related tasks**
      and
    - **Interoperability with IEEE C37.238-2017 (current status - Draft 21.2 only editorial changes left).**

- **Equipment list:**
  Every participant in the time sync subgroup should enter his equipment into the equipment list that can be found on the server:
  http://iec61850.ucaiug.org/2017IOP-NOrleans/IOP%20Documents/TimeSync_Subgroup/1588_Equipment_list.xlsx

  - PICS for all 9-3 equipment that will be brought to the IOP should be submitted in addition to entering them into the Equipment list.

- **Time Reference**
  - GPS Security (Spoofing and Jamming) should be evaluated.
  - GLONASS should be tested as well if possible. --> Jean Sebastian might be able to borrow a simulator
  - In-Room transmission of GPS Signal from Simulator would be better than distributing an L-Band Signal via cables (problems for some devices) --> Bernhard to check --> **GPS transmission not possible. GPS repeating requires a license.**
  - Might be interested to have a re-broadcast of live GPS signal for the integrated testing.
  - ☐ Talk to Herb about experimental license
  - ☐ Check equipment from OMICRON if available or not

- **BMCA**
  - **Idea:** Two Masters fed with different GPS Signals - how will this affect the BMCA

- **Transparent Clock Manufacturers:**
  - We need to get the following companies on board:
    Siemens / Rugged Com - have one-step TC
  - ☐ Check availability of one-Step clock from Siemens
    Cisco
    Belden - still in discussion
    Arbiter
    GE Switches
    Moxa

- *Slight change of **61850 how to react** on leap seconds:*
  A device not synchronized during the time of leap second insertion it must declare: "Leap second not known" in the 61850 time stamp.
  Edition 2.1 - quality bit in the 61850 time stamp.
  Jean - Sebastian & Roman - > please provide proposal for test case. Does this cause interoperability issues? (To be done in integrated demo?)

- **HSR & PRP Testing**
  - ☑ should be done - add to questionnaire - put column into equipment list

- **Interoperability of mixed IEC/IEEE 61850-9-3 and IEEE C37.238-2017 infrastructures** should be evaluated
  - ☐ work on first proposal

Questions:

- ? ☐ Does someone have a GLONASS Simulator for testing? -
- ? ☐ Has someone a **one-step** transparent clock available?
- ? ☐ Does someone have a second GPS Simulator? (possibly
- ? ☐ Who can help to contact the switch manufacturers?

Questions from NIST:

- ? ☐ Does 61859-90-4 does it reference to 2011 MIB - E-mail Roman from ABB to clarify
- ? ☐ BMCA testing
- ? ☑ Are IRIG -B Timing sources scope of the test?
  Answer: IRIG-B Testing is not in the focus of the IOP.

Questions to NIST:

- ? ☐ There is a test specification draft for 1588 by the IEEE committee - would be good input for testing . Can you make this document available.

To dos:

- ☐ **EVERYBODY: Please enter the equipment you plan to bring into the Spreadsheet available on the Sharepoint**
- ☐ **EVERYBODY: Review current 9-3 Test Case Draft and provide comments.**
- ☐ **EVERYBODY: Review the test cases mentioned at the end of the meeting report to see if any test cases for the TimeSync Subgroup can be derived.**
- ☐ Jean Sebastian: Check if GPS/GLONASS simulator is available - check if you can borrow one or get specialists to come.
- ☐ Bernhard: Publish presentation on Sharepoint
- ☐ Bernhard: Prepare proposal for PIC Template
- ☐ Bernhard: Add MIB column to equipment list

- [x] ~~Paul: Reach out to Rugged com~~
- [x] Sarah: Check what equipment GE will bring to IOP
- [x] Bernhard: Encourage Discussion - on Test cases - clearly mark ToDos in Mail
- [x] Bernhard: Send out survey on Equipment - find out what people are bringing
- [x] Bernhard: Check Google group issues (4 people so far not in TimeSync Google Group)
- [x] ~~Bernhard: Check if L-BAND transmission of GPS Signal is possible (Amplifier & Antenna) --> -360 dBm~~

Topic of this meeting:
Review of the test cases shown below and decide if any test cases for the 9-3 group can be derived.
Test cases that are not

1. IED Failure / Power down Testing

Power Down Sync Signal
Power Down OC
Power Down infrastructure
Powering up grandmasters with and without synchronization signal.
Clause 7.1

9. Isolated Testing IED restart [AG1]

Can we assume that IED is a clock slave and not a master, boundary or transparent clock.?
What are the timing system implications of power loss to a slave clock? Is this test in NIST scope?
Testing IED restart / power up of a GOOSE subscriber[AG1]
Restart of all components (GM, TC, BC and OC) should be tested
How is impact on the other devices. Monitoring: Commercial test device like (Calnex)

Discuss timing implications

~~16. IED in test blocked mode does not operate process output~~
~~Test case name: IEDISO-NORMAL-SV-N3~~

~~Can we assume that IED is a clock slave and not a master, boundary or transparent clock.?~~
~~What are the timing system implications of power loss to a slave clock? Is this test in Timing group scope?~~

~~17. Function with behavior off does not operate~~
~~Can we assume that IED is a clock slave and not a master, boundary or transparent clock.?~~
~~What are the timing system implications of power loss to a slave clock? Is this test in Timing group scope?~~

~~18. IED Replacement[AG1] [AG2]~~

~~[Can we assume that IED is a clock slave and not a master, boundary or transparent clock.?~~
~~What are the timing system implications of power loss to a slave clock? Is this test in Timing group scope?~~
~~More details needed~~

20. Network Failure

This certainly impacts timing. What do we do for this test?
- [ ] What are the network failure modes in this case?

~~21. EAP failure~~

~~his will impact timing. For example, network symmetry will change. What will the timing group do during this test?~~

~~22. GOOSE Cyber Intrusion[AG1]~~

~~Since this is just for Goose, can we assume no timing impact? Do we also want a test for timing cyber intrusion?~~
~~28. TEST CASE: IED ADDITION TO BAY[AG1]~~

Next meeting:

Tuesday May 9th
15:30 CEST - invitation will follow