



INTERNATIONAL ELECTROTECHNICAL COMMISSION

TC57: POWER SYSTEM CONTROL AND ASSOCIATED COMMUNICATIONS

WG10: POWER SYSTEM IED COMMUNICATION AND ASSOCIATED DATA MODELS

Minutes of Meeting held in Montreal, Canada on July 13, 2004

	Name	Country
Chair:	Christoph Brunner	Switzerland
Secretary:	Klaus - Peter Brand	Switzerland
Participants:		
	Erkki Antila	Finland
	Alexander Apostolov	United States
	Kay Cinard	United States
	Henry Davidczak	Germany
	Herb Falk	United States
	Grant Gilchrist	Canada
	Erich Gunther	United States
	Marco Janssen	Netherlands
	Ashish Kulshrestha	United States
	Thomas Lindberg	Sweden
	Claes Malcolm	Sweden
	Thomas Rudolph	Germany
	Karlheinz Schwarz	Germany
	Tatsuj Tanaka	Japan

Permanent invited guests from WG17 and 18:
Frances Cleveland (17) United States

Local guests
Michel Toupin Canada

1. Opening of the meeting

2. Appointment of secretary

Klaus Peter Brand was nominated as secretary

3. Approval of the agenda

Two items were added to the agenda:

- Security issues (Herb Falk)
- Report from „Wind power standardization“ (Karlheinz Schwarz)

4. Approval of the minutes of the meeting held in Stockholm

Agreed to have 7-3, 7-4, 7-1, 7-2 (complete 7) in XML representation. To be clarified with IEC.

Follow up:

- An open issue was clarified: data sets cannot be used for logs
- Alex to distribute input about multi-functional units (Alex)

5. Membership and WG 10 communication

- Reflector from CISCO node was not working all the time (migration of server)
- In future we use the IEC reflector node with the following address: tc57wg10@iec.ch
- The membership list was circulated for updates

6. Issues related to security (Falk)

WG15 (next meeting in November) deals with issues regarding security. While for the 7-layer stack, standard protocols can be used but we need to add some dedicated specification for GOOSE and SV messages.

Normally, GOOSE and SV messages stay inside the substation, and no dedicated measures are needed.

In case of wireless communication or using remote synchro-phasors in wide area protection systems, GOOSE and SV messages may be exposed outside the substation and, therefore, dedicated measures are needed.

Proposal:

- Authentication by 16 bit CRC algorithm including all bits in the APDU
- Use the two reserved fields in the VLAN header (two 8 bit fields – reserved 1 and reserved 2) to store a digital sign

Impact of above proposal on performance needs to be further investigated. Proposal for CRC algorithms are expected from WG10 members.

NOTE – Originally, the security field as specified for SV in IEC 61850-9-2, Table 13 was intended to be used to store a digital sign. However, it was forgotten to add that field in 8-1. That's why we have a new proposal. The security field present in 9-2 may probably be skipped in future revisions

7. Report on TF Power Quality progress on Monday (Apostolov)

The descriptions of power quality related logical nodes

Additional LNs in part 7-4

Some new CDCs in part 7-3

Discussion about open items

How to identify the phase?

- Integer set point
- CDC with the attribute Bitstring

Discussion about recording

Next steps

- New report prepared and to be distributed over the reflector node (Alex)
- Draft for WG
- Draft CD
- Template for CD existing (decide where to pose it)

8. Report on TF Part 10 progress on Monday (Schwarz)

Most comments on CDV have been solved.

Comment CAN 3 was further discussed in the plenary. To what extent a device has to be retest after fixing a test deficiency?

This depends on the impact of the fix on other functionalities of the device. Such a situation has to be considered both in part 10 and in any test procedures given e.g. by the UCA International Users' group.

9. Report on TF TISSUES progress on Monday (Hoga / Report by Brunner)

TISSUE list for part 6, 7-2, 8-1 and 9-2 have been updated.

10. Report from ISO TC184, SC5 meeting regarding MMS issues (Schwarz)

10.1. UTC time

Actual status with 8-1 works

Proposal for IEC

New type extensions for MMS in 8-1 as informative Annex
It will be replaced by future ISO decision

Proposal for ISO

Time type extension in ISO required as normative Annex
Close WG2 of TCO184 (chairman Karlheinz) but keep a maintenance team

10.2. Maintenance team

Should WG10 overtake the role of the maintenance team?

Karlheinz has to provide a list with members to ISO:

From WG10, Herb Falk, Grant Gilchrist, Christoph Brunner and Thomas Lindberg have volunteered to be nominated on that list.

Reference in the amendment of part 8-1

11. Report from UCA users group; info regarding activities at CIGRE 2004 conference in Paris (Brunner)

Christoph introduced the planned activities of the UCA users group at the CIGRE. It includes a booth with 14 companies and a Users Group meeting which will have the following two parts:

- Morning session with a mini tutorial on IEC 61850
- Afternoon session with some papers and a panel discussion

Both sessions will start with an introduction into the UCA International Users Group.

12. Report from TC88 / Wind power (Schwarz)

12.1. Status

(OH from Karlheinz: see attachment to the report)

Status: Second CD before CDV

- Modeling of historical and statistical values
- Problem in modeling (Measurements in XGEN?)
- Common information model (like CIM)
- Power plant control
- Organization and numbering of documents

12.2. New requirements for IEC 61850

No new service requirements for part 7-2 known so far.

- A mapping on Web services is a new issue that is required both by TC 88 for the Wind power as well as by TC 57 WG 17 for distributed energy resources.
- It was suggested, that TC 57 WG10, 17 and 18 will develop that document and it shall get a number in the IEC 61850 basic numbering scheme i.e. IEC 61850-8-2

Karlheinz will work out a proposal for a New Work item; the goal is to have it ready for the SPAG meeting in September.

Lunch Break one hour

Short Presentation of IECISA (was inserted to the agenda)

Frances shortly presented the Integrated Energy & Communication System Architecture IECISA) project that had been prepared by EPRI.- Open questions:

- How is the relationship to IEC? By persons only?
- Is the EPRI project closed?

13. Modeling for statistical and history of statistical information (Schwarz)

Goal: Prepare a proposal for common discussion of WG10 with WG17 and WG18 on Wednesday morning (Schwarz)

Statistical data (mag/avg/rms)

- need special and comprehensive CDCs (Average, rms, etc.)
- refer to time intervals

Historical data

- refer to a sequence of data over time

13.1. Modeling for statistical data

Model Statistical Values with

- different LNs (Proposal WG10/Stockholm)
- with different data
- with attributes
- with FC?

From Data to Statistical Data and Historical Data

- Dedicated Attributes like mag, MAX, MIN, AVG, hlyMax, etc.
- Dedicated LN classes like LN XYZ (Max, Min <CalcMthd>)
- Dedicated LN types like LN XYZ1 (statistical,Max, Min since last reset)
- Dedicated LN classes like LHST(Data HST-MV,.../Array)

Proposal (Falk)

- Use Data NamePlt (Name plate) in the related LN (Logical Node)
- Add attribute CalcMthd "Calculation Method" with parameters
 - source
 - ...
 - ...
 - reset [CO]
 - time of last reset

Open Questions

- Are Avg and quality the most important data attributes?
- How is the quality of statistic values determined out of the quality from many values with different quality?
 - Local issue! Has to be described in the data sheet.
- Why time of the last reset?
- Reset in Nameplate or in Mode?

13.2 Modeling for historical data

Special Node agreed by WG10 in Stockholm

General

Historise all data

Use as special node the LN IARC i.e. define a new LN class or refurbish IARC

Use for sequence something like FIFO

Define all data channels included data by use of Data Set feature

SCL defines the data, data types, etc.

Data names are inherited from the data sets

Dataset

MMXU1.V [MX]

MMXU1.A [MX]

Instance is referenced

Control block

Is a new control block in 7-2 needed?

Refurbishment of LN IARC

LN IARC

- DataSetRef
- Numbers of entries
- Interval

V1...WYE V [0]

V2 [1]

V3 [2]

A1

A2

A3

Some discussion

Frances: Solutions looks like a log

Christoph: Wind power people like the data interface

Frances: Log of basic calculated data, post-processed data, large sets of configuration data. Can the IEC 61850 based communication system handle only basic data and not calculated data?

Christoph: Through the LN reference we know the source. SCL configures the node. Browsing shows us the content

Conclusion

No conclusion for historical data

Use of data set is tricky

14. Planning and organization of future work

- First draft CD for PQ planned for the next meeting
- Draft FDIS for part 10 planned for end of September
- Draft CD of Amendments planned for November. Clarifications required may be handled in phone conferences.
- Responsibilities for the draft CD:
 - 5 Brand,
 - 6 Wimmer
 - 7-1 Schwarz
 - 7-2 Schwarz
 - 7-3 Brunner
 - 7-4 Clinard and Brand
 - 8-1 Falk
 - 9-2 Lang

15. Any other business

-

16. Date and place of next and further meetings

Next and further meetings were discussed on Wednesday, together with WG 17 and 18. It was in general preferred, to have common meeting locations WG10, 17 and 18 and to schedule the meetings within one (full) week. The following dates were reserved:

- November 29 to December 3, 2004; proposal South of France (Nimes, Nice, etc.)
- April 4 to 8, 2005 in Detroit / MI, U.S.

For the meeting in November a first schedule was drafted:

- Monday: WG10
- Tuesday Morning: Joint WG10, 17 and 18
- Tuesday afternoon, Wednesday and Thursday: individual group meetings (10TFPQ, 10TIS, WG17 and WG18)
- Friday morning: Joint WG10, 17 and 18 with report on progress
- There is also a technical visit foreseen

17. Closing of the meeting