IEEE POWER & ENERGY SOCIETY / SUBSTATIONS COMMITTEE

C3 Working Group Meeting Notes

2012 JTCM Garden Grove, CA

Monday, 1/9/12 11AM

C3: **IEEE C37.1 Standard for Supervisory Control And Data Acquisition (SCADA) and Automation Systems**
Chair: C. Preuss
Vice Chair:
Secretary: E. William
Output: Standard

Name	Company	Web	M/G
Edward William Jr	SPX Transformer	No	M
John Tengdin	OPUS Consulting Group	No	CM
Sam Sciacca	SCS Global	No	CM
Herb Falk	SISCO	No	G
Craig Preuss	Black&Veatch	No	M
Jim Bougie	ABB	No	G
Mason Clark	DAQ	No	CM
Eric Thibodeau	Cooper Power Systems	No	G
Bogdan Popsecu	GE DE	No	G
Mark Simon	ComEd	No	G
Tim Tibbals	SEL	No	G
Chris Huntley	SEL	No	G
Marc Lacroix	Hydro Quebec	No	CM
Yoshi Serizawa	CRIEPI	No	G
Dan Nordell	Xcel Energy	No	G

Name	Company	Web	M/G
Dan Friedman	Amdocs Canadian Managed Services	Yes	M
David Haynes	Alclara	Yes	G
Marcus Steel	Powerlink	Yes	G
Wai Tsang	TecSec	Yes	G
Greg Luri	GE Energy	Yes	CM
Adi Mulawarman	Xcel Energy	No	M
M: Member G: Guest CM: Corresponding member			

Agenda

Call to Order

Presentations

Old Business

New Business

Next Meeting

Adjourned

Old Business

1) PAR submitted
2) New items to address in standard
3) Add formal definitions

    a) Substation integration

    b) Substation automation

    c) IED

4) Split into standard for master station (outside SUBS scope) and standard for substations

5) Keep tables or not?

6) Tables were really start of data requirements between interfaces that are similar to the interfaces of SGIP

7) Align with SGIP

8) Consider reorganizing into "testable requirements" versus design approach – could be C37.1.1 or separate, new standard?

    a) What testable requirements are missing?

    b) Use as informative standard that point to 1613, 1615, 1711, 1815, etc.

9) Operational versus non-operational data

10) Availability

    a) Discuss availability and how it is calculated

    b) Discuss difference between hardware and software communications availability

11) Add point list as important design tools

12) Discuss synchrophasors

13) Action items

    a) Update NISTR 7628 diagram

    b) Split C37.1 into two documents

        i) One standards based – testable requirements

        ii) Recommended practice – how to do integration and automation

New Business

1) PAR approved Sept-10-2011
2) Title is now "Standard for Supervisory Control And Data Acquisition (SCADA) and Automation Systems"
3) NISTR 7628 diagram update
4) C37.1 split up results
5) Alignment with 61850-90-2
6) Add better reference to serial port characteristic requirements

    a) We have normative reference to ANSI X3.1, Information Systems—Data Transmission—Synchronous Signaling Rates.

    b) No specific reference in the text, but specifies levels up to 2048 bps

    c) EIA-232-F has an upper limit of "20,000 bits per second" but no specification of levels, ie 2400, 4800, 9600, 19.2k, etc

    d) Per TIA-EIA-562 "Electrical Characteristics for an Unbalanced Digital Interface" goes up to a maximum of 64 kbp/s, but no specification of levels

    e) TIA 574 actually specifies a DB9 connector for asynchronous ports for speeds supported by TIA 562

    f) TIA 562 specified maximum of 64 kbps

7) More on alarm management (Bill Hollifield in ISA)

    a) ISA SP-18 Alarm Management committee

    b) ISA SP101 HMI committee

    c) The Alarm Management Handbook, 2nd Edition, © PAS 2009

    d) The High Performance HMI Handbook, © PAS 2008

    e) The ISA book: Alarm Management: A Comprehensive Guide, © ISA 2011

    f) The Electric Power Research Institute (EPRI) guideline on Alarm Management, released in 2008.

8) How should IEDs handle multiple masters and specifically controls (different form of redundancy – both pri/bu always active)?
9) Logging of high speed data and careful use of OPC (DA versus "newer OPC stuff")
10) USB ruggedness
11) Colors used for graphics on screens
12) Does C37.1 handle RTD and thermocouple performance requirements?
13) Difference between a substation gateway and server?

Future meetings

1) May 20-24, 2012: PES Substations Annual Meeting in Raleigh, NC
2) September 10-12, 2012: PSRC September meeting in Portland, OR
3) January 2013: PES JTCM has not been announced yet

Notes

1) Most discussion was centered on NISTR 7628 "spaghetti diagram" and the contribution made by Adi Mulawarman via email.
2) The decision was to look into IEC 61850 and IEC 61850-90-2 report for help with generic interface definitions
   a) Marc Larcroix, John Tengdin, Jim Bougie, Mason Clark, and Bogdan Popsecu are interested in supporting this effort.
3) Discussion took place regarding a split of C37.1 into a recommended practice and standard (1.1).
   a) The chair indicated that this exercise was interesting in that it was more difficult to do than anticipated
   b) Much of what was there was in line with 1613
   c) A request was made to circulate draft 1.1 showing "the split"
4) Little else was accomplished under new business after alignment with 61850-90-2 listed above, but the items were quickly reviewed by the chair