

North American SynchroPhasor Initiative (NASPI)
[Formerly, Eastern Interconnection Phasor Project (EIPP)]

Performance and Standards Task Team (PSTT)
[Formerly, Performance Requirements Task Team (PRTT)]

Meeting Minutes

November 30, 2007

By Teleconference and Live Meeting

A meeting of the NASPI Performance and Standards Task Team was held on November 30, 2007. Thirteen (13) participants were in attendance. The attendance list can be found in Appendix A. The following action items and agreements resulted from the meeting.

NEXT MEETING

Next PSTT Teleconference Schedule is scheduled on January 25, Friday, 8:00am-9:00am PT (1 hour). Please adjust for your respective time zones. Instructions for teleconference and LiveMeeting can be found in Appendix B.

Please start your set-up 5 minutes before the start of the teleconference.

Individual task forces can send request to Teresa Carlon (teresa.carlon@pnl.gov) for setting up additional teleconferences.

ACTION ITEMS AND AGREEMENTS

- Vahid Madani will send a note to the task leads with regards to a commitment date for the scope documents.
- Jerry Stenbakken will arrange a PMU Testing Guide conference call to address comments between himself and John Hauer and others. The call is scheduled for December 13, 2007.

CONTACT INFORMATION

- Performance and Standards Task Team Co-chairs – Vahid Madani, PG&E, (510)874-2300, VXM6@pge.com; Damir Novosel, InfraSource, (919) 334-3010, damir.novosel@infrasourceinc.com. Supported by Henry Huang, PNNL, (509) 372-6781, zhenyu.huang@pnl.gov.
- PSTT Resources Website: <http://www.naspi.org/resources/pstt/psttresources.stm>. Contact: Teresa Carlon, (509) 375-3628, teresa.carlon@pnl.gov.
- PSTT SharePoint Site: <http://www.eippshare.org/prtt/default.aspx>. Contact: Teresa Carlon, (509) 375-3628, teresa.carlon@pnl.gov.

MINUTES

Agenda items with some discussion points were sent out to the team prior to the meeting. Notes from the resultant discussion for each agenda item are as follows.

1. Roll call – see Appendix A.
2. PES 2008 General Meeting Panel Session - International Experience with PMUs - Henry Huang and Sakis Meliopoulos will present at the conference on behalf of the PSTT.
3. Mark your calendar - the NASPI Work Group Meeting will be held March 6-7 in New Orleans, hosted by Entergy.
 - i. Task Team members to start thinking about topics for discussion at the NASPI leadership meeting (March 5th) and submit their questions or suggestions to Henry, Damir, or Vahid.
 - ii. Task Team members are requested to provide topics of interest and any coordination topics with other Task teams. Topics of interest beyond review of assignments.
4. Damir Novosel said the ESG feedback was very positive and the PSTT received a KUDO for its International efforts. The PMU Testing Guide needs to be finalized before year-end and must be delivered to the NASPI leadership absolutely no later than the third week in January.
5. The next ESG meeting is on February 12 in Phoenix, AZ. Vahid asked TT members to gather their questions / suggestions for the ESG meeting.
6. Jerry Stenbakken will arrange a PMU Testing Guide conference call to address comments between himself and John Hauer and others. The call is scheduled for December 13, 2007. Other discussion took place with regards to listing vendors in the testing guide. Henry Huang suggested adding a “Disclaimer” to the document stating something like “The PSTT Guides and Standards are for industry. When a product manufacturer is referenced, it is solely for the purpose of examples, and no endorsement of the product is intended nor implied.” Vahid Madani added that we could simply state, for example, Vendor A or Vendor B – very generic. Other discussion included how to reference PMU standards and calibration procedures.
7. There will be no December PSTT conference call. Calls will resume again on January 25, 2008.

Next, the TT members continued with discussion of assignments and scopes of the 2008 Goals. Vahid mentioned that it is really important to finalize the scopes so work can begin in terms of coordinating with other NASPI TTs or Industry activities in IEC or IEEE.

Sushil Cherian presented the next steps in the scope for IEC 61850 applications and interoperability for use of PMUs. Please refer to our share point for latest copy (<http://www.eippshare.org/prtt/default.aspx>).

8. Review scope documents (see comments in table below).

2008 Goals	Task Leader (Bold)
<p>1. Define standard PMU</p> <p>11/2/07 Comments: Ken Martin sent out the scope document prior to the teleconference. Discussions were focused on at what level the standard PMU should be defined: at the device level, the function level, or the applications level? With a multi-function PMU, PMU function should not affect other functions, and vice versa. In China, a PMU can also serve as a local PDC with certain phasor applications. The tentative consensus is that the standard PMU should be defined considering all levels.</p>	<p>Ken Martin, Sakis Meliopoulos, Harish Mehta</p>
<p>2. Requirements to guide PMU deployment and system architecture needs, locally and regionally</p>	
<p>a) System and device requirements for combined applications</p> <p>11/2/07 Comments: A scope document was sent to the team prior to the teleconference. Applications need to be grouped into categories before requirements can be addressed. Chris Anderson will send a related document to Yi and Jim. This task seems to have some overlap with item #7 “Requirements for Protection and Control”. Vahid will look at Yi’s scope document against item #7 to identify commonalities and differences. A question was raised regarding why we need combined requirements if we already have requirements for individual applications. This needs more discussion.</p>	<p>Yi Hu, Jim Hackett</p>
<p>b) Phasor Tools Listing - Requirements and specifications for phasor tools</p> <p>11/2/07 Comments: A scope document was sent to the team prior to the teleconference. Accessibility tools were proposed to be added to the scope. Also users should be able to make specifications for</p>	<p>Henry Huang, Jim Hackett, Enrique Martinez, Tony Weekes., Sushil Cherian</p>

2008 Goals	Task Leader (Bold)
<p>phasor tools. Several people provided valuable comments based on their experiences. Vahid encouraged everyone that has developed a tool or has recognized value for a particular tool based on their experience to send a note to Henry for consideration.</p>	
<p>c) Guidelines for synchronization techniques - Accuracy and Availability</p> <p>11/9/07 Comments: Discussion of synchronization codes: GPS, IRIG-B, and 1488. Each type has different errors and issues. A reference sheet listing pros and cons of each would be useful. Also, discuss the requirement for synchronization. Goal would be to develop a guideline. Vahid had started such a document and will send to Jerry Stenbakken.</p>	<p>Bill Dickerson, Jerry Stenbakken, Alfredo Vaccaro</p>
<p>d) Requirements for hardware and firmware upgrades</p> <p>11/9/07 Comments: No progress to report.</p>	<p>Shane Haveron, Jim Hackett, Floyd Galvan., Enrique Martinez</p>
<p>3. Procedures for testing PMU at the commissioning level</p> <p>11/9/07 Comments: Vahid Madani reviewed existing document. If the document has covered all areas, including testing, then the document may be considered complete. Discussion as to whether or not the title of the document needs to be changed or if other information still needs to be added. Other people need to be involved to review and approve document.</p>	<p>Vahid Madani, Tony Weekes., Ken Martin, Mladen Kezunovic, Alfredo Vaccaro</p>
<p>4. Standardizing PMU Configuration for IEC 61850 Applications</p> <p>Implementation Agreements (Standards) for Interoperability of the Synchrophasor Values</p> <p>11/9/07 Comments: The scope document was sent to the team</p>	<p>Shane Haveron, Roger King., Sushil Cherian</p>

2008 Goals	Task Leader (Bold)
<p>prior to the teleconference. The goal is to develop a companion standard for IEEE 61850. Deliverables need defined so resources can be identified. For example, ESG/NERC financial support to help hire consultants. Action Sushil will develop an estimate by next task team meeting.</p> <p>11/30/07 Comments: Shushil presented the resource estimate to the attendees.</p>	
<p>5. Expand guidelines for using devices with Integrated PMU Functionality</p> <p>11/9/07 Comments: The goal is to expand a previous presentation to a document, including testing guide for integrated PMUs. Coordinate with Jerry Stenbakken to decide what should reside in which document regarding testing.</p> <p>Invited Chris Anderson, Jerry Stenbakken and Roberto Cimadevilla to the team.</p>	<p>Damir Novosel, Jim Hackett, Vahid Madani, Enrique Martinez, Yi Hu</p>
<p>6. Issues with “Dynamic Phasors”</p> <p>11/9/07 Comments: The goal is to determine whether the current steady-state based phasor definition would still be applicable with higher sampling rates, transient signals, frequency tracking, etc. Higher sampling rates increase data volume, which may exceed practical technical limits. Identify deliverables so that resources can be determined.</p> <p>Roberto Cimadevilla was welcomed to join the group.</p>	<p>Henry Huang, Tony Weekes, Jerry Stenbakken, Bogdan Kasztenny, Mark Adamiak, Ken Martin, Arun Phadke</p>
<p>7. Standards & requirements for Protection and Control Applications</p>	<p>Shane Haveron, Enrique Martinez, Ken Martin, Jim Hackett, Virgilio Centeno, Vahid Madani, Yi Hu, Sakis Meliopoulos, Mohammad Zubair</p>

9. As a reminder, scope document filename format should be as follows:

Each document should start with the last name of the WG lead, followed by WG number on this document, followed by Goal title, followed by revision date:

Example:

Hu-2a- System and device requirements for combined applications-10-31-07

or

Martin-1- Define standard PMU-10-31-07

10. Next Meeting: **January 25, 2008, Friday, 8:00am-9:00am PT.**

11. Meeting adjourned.

Appendix A:

November 30, 2007 Conference Call Attendees

Attendee	Affiliation
Alfredo Vaccaro	Università degli Studi del Sannio, Italy
Damir Novosel	Quanta Technology
Henry Huang	PNNL
Jay Murphy	Macrodyne USA
Jerry Stenbakken	NIST
Jim Hackett	MethaTech
Ken Martin	BPA
Mohammad Zubair	Hydro One
Sushil Cherian	Kalki Tech
Teresa Carlon	PNNL
Tony Weekes	Manitoba Hydro
Vahid Madani	Pacific Gas and Electric Co.
Yi Hu	InfraSource Inc.

Appendix B: Instructions for Teleconference and LiveMeeting

1. Instructions for conference call participants:

- **Local participants:** call 376-7411 and ask for the conference title "**PSTT**" or "**PRTT**" (confirmed by Teresa Carlon).
- **Long-distance participants:** call 1-800-664-0771. When you hear the Octel voice mail system answer, please dial 0 and ask the Operator for the conference title "**PSTT**" or "**PRTT**".
- **International participants:** Please use one of the two ways: 1) call 509-376-7411 (will incur long distance charge to you) and ask for the conference title "**PSTT**" or "**PRTT**"; 2) let Teresa Carlon, (509-375-3628, teresa.carlon@pnl.gov) know in advance that you want to participate, and then Teresa will have PNNL Telephone Service personnel call you and connect you to the teleconference.

(If you need assistance, please call PNNL Telephone Services at 509-375-6400)

2. Instructions for LiveMeeting:

Depending on the results for action item #1 above, time of meeting may change, Live Meeting log in information will NOT change.

Teresa Carlon has invited you to attend a Live Meeting.

<https://www.livemeeting.com/cc/pnnl/join?id=DZKT3R&role=attend&pw=tzZ%292H%2Bjq>

Subject: PSTT Teleconference/Live Meeting 8:00am PT
Meeting URL: <https://www.livemeeting.com/cc/pnnl/join>
Meeting ID: DZKT3R
Meeting Key: tzZ)2H+jq
Role: Attendee

Click to add to your Outlook calendar:

<https://www.livemeeting.com/cc/pnnl/meetingICS?id=DZKT3R&role=attend&pw=tzZ%292H%2Bjq&i=i.ics>

FIRST TIME USERS: To save time before the meeting, check your system to make sure it is compatible with Microsoft Office Live Meeting:

<http://go.microsoft.com/fwlink/?linkid=52354>

This Live Meeting invitation is a personal invitation; it should not be forwarded.

For assistance, visit Live Meeting Help and Support:

http://r.office.microsoft.com/r/rlidLiveMeeting?p1=7&p2=en_US&p3=LMIInfo&p4=support