

Meeting Minutes January 23, 2013

Members

Ron Ambrosio, IBM T.J. Watson Research Center
Paul De Martini, Newport Consulting
Erich Gunther, EnerNex Corporation
Mark Knight, CGI
Alex Levinson, Lockheed Martin
Tracy Markie, Engenuity
James Mater, Quality Logic
Bob Saint, NRECA
Tom Sloan, Kansas State Legislator
Jeff Taft, Cisco
Ken Wacks, consultant to Sensus Metering Systems Inc.

Associates

Doug Houseman, EnerNex Corporation

Support – Pacific Northwest National Laboratory (PNNL)

Ron Melton, PNNL & GWAC Administrator
Sherry Kowalski, PNNL & GWAC Assistant

Steve Widergren, PNNL

Speakers and Guests

Ed Cazalet', TeMix
Leonard Tillman, Tillman & Santoni, LLC
Joe Bucciero, EnerNex, LLC
Larry Lackey
Tariq Samad, Honeywell
William Cox, Cox Software Architects, LLC

Members Emeritus

Robert Burke, ISO New England
Rik Drummond, Drummond Group
Tony Giroti
Dave Hardin, EnerNOC, Inc.

Members – not present

Ward Camp, Landis + Gyr

Welcome and Administrative Business

Erich Gunther, GWAC Chairman

Erich Gunther called the meeting to order at 10:06 am.

Proprietary Information Notice

Ron Melton read the proprietary information disclosure policy according to the bylaws to the members and guests.

Action Items

Ron Melton, GWAC Administrator

Meeting minutes from the October/November face-to-face and November's web meeting were distributed to the Council for review. Changes were submitted by Mark Knight and Robert Burke.

Mark Knight motioned to accept the October 31 and November 1, 2012 minutes with changes, Tracy Markie seconded the motion and the motion was carried.

Mark Knight motioned to accept the November 14, 2012 web meeting minutes as presented, Tracy Markie seconded the motion and the motion was carried.

Ron Melton reviewed the calendar for the GWAC meetings and the upcoming outreach dates:

- **February 5-6, 2013:** GWAC Face-to-Face Meeting, General Electric Smart Grid Center of Excellence, Atlanta, GA
- **March 20, 2013:** GWAC Web Meeting
- **April 15, 2013:** GWAC Web Meeting, Date was changed from April 24
- **May 21-22, 2013:** GWAC Face-to-Face Meeting, Portland, OR
- **May 23-24, 2013:** Pacific Northwest Transactive Energy Conference

Chairman Selection

Ron Melton, GWAC Administrator

Ron Melton and the Council thanked Erich Gunther for his service and contributions as the GridWise Architecture Council Chairman. Ron Melton announced that Mark Knight was elected by the Council members as the 2013 GridWise Architecture Council Chairman effective immediately.

Slate of Candidates and Vote

Ron Melton, GWAC Administrator

Ron Melton reviewed the selection process and the members of the selection committee. The selection committee presented the slate to the Council for discussion and confirmation. The proposed slate of candidates was selected from six submitted applications and two current Council members who expressed their interest to continue on the Council for another two-year term.

Council member term status was reviewed.

Member	Term Start	Term End
Robert Burke	March 2009	December 2012
Ward Camp	January 2011	December 2012
Tony Giroti	January 2011	December 2012
Tracy Markie	March 2009	December 2012

Bob Saint	March 2009	December 2012
Erich Gunther	May 2004	December 2013
Ron Ambrosio	May 2004	December 2013
Rik Drummond	May 2004	December 2012
Mark Knight	January 2011	December 2013
Alex Levinson	January 2008	December 2013
Paul De Martini	January 2012	December 2013
Thomas Sloan	January 2010	December 2013
Kenneth Wacks	January 2007	December 2013

Rik Drummond resigned from the Council, Tony Giroti, Robert Burke, and Bob Saint did not choose to re-elect and all transitioned to Emeritus status. Ron Melton thanked all the new emeritus members for their service on the Council and encouraged them to continue their involvement with the Council’s future activities.

The slate proposed the following:

- Tracy Markie – Current Council member seeking re-election
- Ward Camp – Current Council member seeking re-election
- David Forfia – New candidate who is the Director of Enterprise Architecture for the Electric Reliability Council of Texas
- Jeff Gooding – New candidate who is the IT Principle Manager of Smart Grid Systems Engineering at Southern California Edison
- James Mater – Current Associate and is the General Manager of SmartGrid Business at QualityLogic, Inc.
- Jeff Taft – New candidate and is a Distinguished Engineer and Chief Architect with Connected Energy Networks Business Unit at Cisco Systems

Robert Burke motioned to accept the proposed membership slate as presented; Ron Ambrosio seconded the motion. Discussion followed and hearing no objections, the motion carried.

2013 Grid-Interop Recap

Paul De Martini, GWAC Member & Ron Melton, GWAC Administrator

Paul De Martini reported that the GridWise Architecture Council facilitated a successful Grid-Interop foundational session that was focused on transactive energy. GWAC was effective in communicating the definition, explanation, and context of transactive energy with a number of Grid-Interop participants. It appears that the transactive energy discussions are getting traction within the industry and the GWAC is well poised with the upcoming meetings in Atlanta and Portland.

The meeting attendance was not as high as in past years, however, the level of participant engagement was high.

Ron Melton reported that the dinner presentation by Collin Harrison from IBM on Challenges of Grid Resiliencies in the Face of Intersecting Infrastructures went beyond his expectations. Collin's presentation also pointed out some of the importance of the work the Council undertakes focused in the power system and also underscored the importance of the recent discussions on grid resiliencies.

Pacific Northwest Transactive Energy Conference

James Mater, GWAC Member

The First International Transactive Energy Conference is scheduled for May 23-24, 2013, and will be held at the World Trade Center in Portland, Oregon.

The Council has a working and planning group that consists of:

- James Mater
- Ron Ambrosio
- Paul De Martini
- Erich Gunther
- Jeff Taft
- Terry Oliver – Bonneville Power Administration
- Ron Melton - Program Chair

This group will be responsible for much of the content and materials of the conference.

The subtitle of the conference is "Transactive Energy Implementing the Future of the Electric System.". The key themes of the conference are:

- Industry control architecture inadequate for high penetrations of intermittent renewable and distributed energy resources (DER).
- Distributed and hierarchical controls, services and pricing methods, coordinated reliability and economic objectives are needed to enable the 21st century power system.
- Transactive energy architecture, market designs, systems, services, pricing and standards R&D are underway to address 21st century system requirements.

This conference is a GWAC conference and is hosted by Smart Grid Oregon, Portland General Electric and Bonneville Power Administration. Other key sponsors are expected to be included.

The conference goals are to:

- Bring together key participants that are researching, developing, and deploying transactive energy techniques and business models.
- The key goal is to continue to develop the Transactive Energy Framework based on the GridWise Interoperability Setting Framework (GWAC Stack). This key goal will be the focus of the GWAC workshop on February 5-6, in Atlanta, Georgia.
- Facilitate accelerated development of transactive energy.

The program will be divided in four basic tracks based on the GWAC Stack.

Planned tracks:

- 1A: Business and Policy Architecture (theory)
1B: Business and Policy in Practice (Implementing Markets/Value/Pricing)
- 2A: System Control Architecture (theory)
2B: Control Architecture (Commercial Implementations)
- 3A: Enabling Cyber-Physical Infrastructure (theory – Grid Integration)
3B: Enabling Cyber- Physical Infrastructure (practice - Implementation Elements, M&V);
- 4A: Transactive Energy Cross-Cutting Issues (theory - Probabilistic Planning Decisions, Algorithms and Analytics)
4B: Transactive Energy Cross-Cutting Issues (Observability, Controllability)

The Planning group is seeking GWAC members to lead/monitor/report on the framework progress from each session. The responsibilities of the track leads:

- A moderator who introduces key resource people and manages the discussion
- A scribe who takes notes and helps the GWAC member synthesize the discussion
- Invite 2-4 domain experts
 - Session 1 experts would be leading theorists and researchers
 - Session 2 experts would be leading implementers
- Possible small workgroup sessions after the context-setting comments by domain experts

Registration details and logistical information will be released within the next few days and can be found at the Conference URL: <http://www.pointview.com/pv/online/?site=131#home>

Transactive Energy Framework

Ron Melton, GWAC Administrator

In preparation for the Transactive Energy Meeting in Atlanta, Ron Melton suggests that the Council begin work on the Transactive Energy Framework (TEF). The intent for the TEF is to be a foundational document with the objective of incorporating the Interoperability Context Setting Framework (GWAC Stack) into the material as an organizing principle. This document can be used as a starting point for the broader community. The broad scope is to have the document address transactive energy architecture and interoperability considerations with the following four topics.

- Conceptual architecture
- High level functional requirements
- Key interoperability requirements
- Cross cutting requirements

Ron Melton presented a draft outline to the Council to review and discuss.

Suggested Transactive Energy Framework Draft

- Transactive energy background – frame the broad problem
- Conceptual architecture – what are the collections of moving parts and how are they related?
- Interoperability requirements – what are the key points of interoperability (System of Systems and Intra-system)?
- What are the cross-cutting requirements?

Transactive Energy Framework Elements			
GWAC Stack Layer	Architecture	Interoperability / Implementation	Cross Cutting Elements
Organizational	Policy and Business Models	Valuation / Pricing	Probabilistic planning decisions Algorithms and analytics
Informational	System Architecture(s)	Functional Requirements	Observability Controllability
Cyber Physical (Technical)	Grid Integration	Implementation Elements	Optimization Reliability Stability Verification Security

The context that the framework is to be thought about is the electric power system as a probabilistic (stochastic) system and the implementation of transactive energy techniques as distributed control mechanisms.

GWAC members volunteered to develop a 1-2 paragraph description for each cell of the above TEF elements. The assignments are listed below.

- Business & Policy Models - Paul De Martini
- Concept of Operations, Functional Requirements - Alex Levinson
- System Architectures - Doug Houseman
- Grid Integration & Implementation Elements - Erich Gunther
- Valuation and Pricing- Ron Ambrosio
- Cross Cutting Elements - Mark Knight

Mark Knight suggested that the Council members attending DistribuTECH meet and discuss their assignments prior to the February GWAC meeting.

Doug Houseman suggested that the Council look for use cases make sure we have a complete set to be used to develop conceptual architecture. Alex Levinson offered to work on the business model and objectives.

Review Agenda for February Meeting and Workshop

Ron Melton, GWAC Administrator

Ron Melton reviewed the workshop agenda, objectives, and participant list for the February 5-6 GWAC meeting and workshop in Atlanta, Georgia. As of January 23, 2013, there are 34 participants registered. The meeting objectives are to:

- Develop an annotated Transactive Energy Framework outline.
- Develop two key questions for each major section of the Transactive Energy Framework which can be used at the Transactive Energy Conference and Workshop breakout sessions.
- Identify and develop reference material and discuss how to make materials available to the broader audience.

Action Item Review

Ron Melton, GWAC Administrator

- Council members who are attending DistribuTECH are to email Sherry Kowalski their travel dates for coordination purposes.
- **Transactive Energy Framework assignments:** Write a one 1-2 paragraph description of the Transactive Energy Framework Elements.
 - Paul De Martini – Business & Policy
 - Alex Levinson – Concept of Operation, Functional Requirements
 - Doug Houseman - System Architectures
 - Erich Gunther – Grid integration & Implementation Elements
 - Ron Ambrosio – Valuation and Pricing
 - Mark Knight – Cross Cutting Elements
- Paul De Martini to produce a write-up on the Grid-Interop foundation session.
- Paul De Martini to create slides summarizing the broad view / concept of operations for transactive energy.
- Review the GWAC Interoperability Context Setting Framework document before the February GWAC meeting.

Adjourn

Erich Gunther motioned to adjourn the meeting, Jeff Taft seconded the motion. Meeting adjourned at 11:50 am.