



GridWise Architecture Council Meeting

April 23 – 24, 2007 in Washington D.C.

Meeting Minutes

Prepared 4 May 2007

The meeting was held from 9 a.m. – 12 p.m. on April 23rd and from 9 – 11 a.m. April 24th and led on the 23rd by Rik Drummond, on behalf of Jack Mc Gowan, and by Jack Mc Gowan on the 24th. The following individuals were present:

Architecture Council Members

Ron Ambrosio, IBM T.J. Watson Research Center
Joe Bucciero, KEMA Consulting
David Cohen, Infotility (24th only)
Rik Drummond, Drummond Group
Erich Gunther, EnerNex Corporation (24th only)
Stephanie Hamilton, Southern California Edison (24th only)
Mike McCoy, Becker Capital Management
Jack Mc Gowan, Energy Controls, Inc. (24th only)
Russell Robertson, Tennessee Valley Authority
Richard Schomberg, Electricite de France
Alison Silverstein, Consultant (24th only)

Architecture Council Support

Steve Widergren, PNNL
Olga Kuchar, PNNL

Guests

David Holmberg, NIST

Attendees

This was an open meeting held during GridWeek. Ken Huber of PJM attended the session on both days.

Not Present

Dave Hardin, Invensys Process Systems
Lynne Kiesling, Northwestern University

Welcome and Introductions

On April 23rd, Rik Drummond introduced himself and gave a brief overview of the Architecture Council. About 10 additional attendees joined the council meeting. Each one gave a brief introduction.

Proprietary Information Notice

The members and attendees were reminded of the proprietary information disclosure policy from the Bylaws.

Meeting Minutes Approval

The revised minutes for the March 7-8, 2007 face-to-face meeting in Las Vegas, NV were approved without further changes.

Upcoming GWAC Meetings

The next GWAC face-to-face meeting is scheduled for May 22-23, 2007 in Chicago, IL, combined with ConnectivityWeek and GridWise Expo. Other important meeting dates are as follows:

- July 13, 2007: web meeting from 9 – 11 am PT
- September 11-12 or 12-13, 2007 – face-to-face meeting in Austin, TX
 - This is a new item due to the symposium being moved to mid-Fall
 - Originally October 17 – 18 or 18 – 19, 2007, in Austin, TX
- Mid-October 2007 – web meeting from 9 - 11 am PT
- Late Oct/Early Nov 2007 – Interoperability Symposium
 - Location ideas Albuquerque, NM or St. Louis, MO

May Meeting Arrangements

Since the May GWAC meeting is being co-joined with Connectivity Week and the GridWise Expo, we are planning a full day meeting on 22 May and a half day meeting after the Connectivity Week plenary session on 23 May. Being in Chicago, Lynne Kiesling is coordinating the guest speaker arrangements.

The guest speakers for this meeting are:

- Mike North from Argonne National Laboratory to speak on agent-based system work relating to markets.
- Bill Rand from Northwestern University (NECO) to speak on genetic algorithms.
- Scot Wheeler, graduate student, Kellogg Graduate School of Management, NU
- Dave Cohen, GWAC member, to present the ConEd Project.

Action Items: Olga Kuchar will coordinate with council members to confirm speakers for the upcoming meetings.

Interoperability Framework Workshop

The Interoperability Workshop was a success with 45 participants representing power, buildings, industrial, communication, information technology, and academia! The workshop was held on April 11-12, with a follow-up on April 13 with facilitators and leads. Steve Widergren and Andreas Tolk coordinated the workshop. Kelly McNair, Dir. Information Mgmt, TXU ED was the keynote speaker. Clasma hosted the dinner. PNNL and EnerNex provided facilitators.

The objective of the workshop was to build consensus for the preparation of community involvement to improve integration of emerging automation systems related to all elements of the electric system. We achieved our expected outcomes:

- Consensus on interoperability framework paper
 - Actions to improve the paper
 - Develop credibility to framework paper
- Champions for articulating and addressing interoperability issues
- Ideas and leaders for a follow-on symposium

Attendees were asked to prepare by reading the Interoperability Framework Whitepaper, testing the framework with an example of their choosing, and submitting a 1-2 page position paper. The position papers, scenarios, notes, and summaries will be available for download from the GWAC website (www.gridwiseac.org) by mid-May.

The participants generally accepted the framework, but there is the ability to improve the document. The following are some of the suggestions for improvement:

- Layered Categories
 - Revisit business context: not just semantic context, but need to bridge with functional context
- Cross-cutting Issues
 - Desire to tie issues to interoperability categories (better integrate within the document)
 - Replace Performance/Reliability/Scalability with Quality of Service
 - Discovery & Configuration needs to include topology
 - Consider a new cross-cutting topic: “data management of data engineering”
- Overarching Structure
 - Add more context to document, particularly regarding next steps
 - Move philosophical tenets section forward
 - Explain framework relationship with standards
 - Introduce scenarios, but move details and add others in addendum
 - Make a living document: governance details and Wiki possibilities

Other related issues to the interoperability framework document:

- Use of document
 - Audience and purpose
 - Companion documents/extensions necessary

- Security/privacy tensions with ability to interoperate
- Cross-cutting issue details (drill down)
- Critical infrastructure organizational challenges
 - Robustness of a complex system to threats
 - Situational awareness
 - Political alignment and will
- Methodology and tools
- Actionable directions

The workshop will result in a revised framework document and workshop proceedings. The revised framework document will be finalized by May 22nd for the GridWise Expo and ConnectivityWeek. Workshop proceedings will be available by download from the GWAC website. The workshop proceedings will include: list of participants; workshop presentations; position papers; scenarios; breakout session notes; proceedings summary; and actions. A Proceedings CD and thank you letter will be sent to all participants in early May.

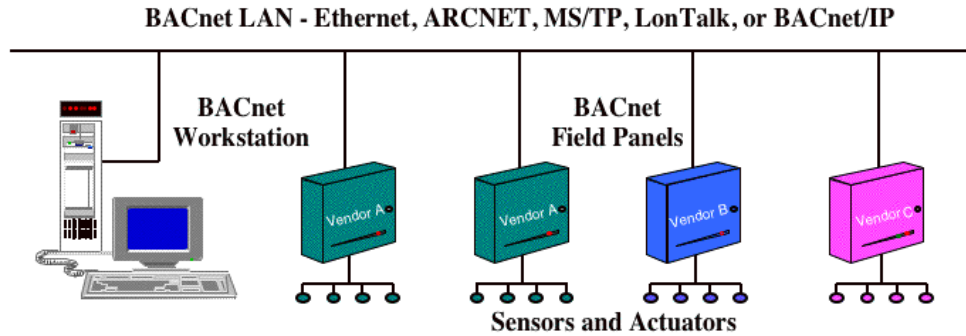
A press release of the workshop was distributed at GridWeek and is available for download from the GWAC website.

Actions:

- *Steve Widergren and Olga Kuchar will consolidate the workshop information into a proceedings summary. A CD and thank you letter will be mailed to all participants.*
- *Framework team to discuss the next step in updating the framework document for release on May 22nd, and also propose a path forward for the framework document.*

BACnet (Guest Speaker: David Holmberg)

David Homberg, NIST, gave a presentation about BACnet. The presentation is available for download from the GWAC SharePoint site. BACnet is a data communication protocol for building automation and control networks and is the only standard protocol specifically for buildings. BACnet allows HVAC, fire, security, lighting, and other building systems to work together. BACnet provides interoperability in data sharing, alarm and event management, trending, scheduling, and remote device and network management. BACnet is currently both ASHRAE/ANSI standard 135 as well as ISO standard 16484-5. The current version of BACnet is 2004, with a new update to be release this year.



Native BACnet devices provide BACnet communications directly, device to device

GridWise Expo Planning

ConnectivityWeek is May 22 – 24, 2007 in Chicago, IL, with the GridWise Expo track on May 24. A GWAC face-to-face all-day meeting will precede the Expo on Tuesday, May 22, and continue on Wednesday, May 23, in the afternoon following the ConnectivityWeek plenary meeting. GWAC members will use the ConnectivityWeek room block for the hotel. Please visit the GridWise Expo website at <http://gridwiseexpo.com/2007/na/>.

On Thursday, May 24th, several GWAC members will be leading GridWise sessions:

- Interoperability Framework panel moderated by Rik Drummond. Use this opportunity to capture involvement from Interoperability Workshop participants.
- Value Proposition of a Smart Grid for End Users panel moderated by Lynne Kiesling. Involve consumer-side panelists, such as Walmart, as well as Site Controls, Comverge, Carrier, CellNet, and FedEx/Kinkos. Another idea is to get a venture capitalist perspective on growth of business in this area.
- Interoperability and Regulatory/Policy Issues panel moderated by Alison Silverstein. Suggested topics include data availability (ownership), consumer advocacy, and regulator perspective. PJM, NERC, a state regulator, and someone from the buildings space will be pursued.
- Advances in Smart Grid Utility Practices panel moderated by Stephanie Hamilton with discussion with four utility companies, ten to fifteen minutes each.

Actions:

- *Steve Widergren, Rik Drummond, Jack Mc Gowan, Ron Ambrosio, and Russell Robertson will brainstorm on the Gala and awards. Target to define 5 potential award candidates. Consider an individual award and an organization award.*
- *GridWise Expo panel moderators to finalize their session participants.*

GWAC Directed Activities

DOE has set aside funding with the GWAC project administration for direction by the GWAC to advance work related to their mission.

Suggestions will be presented to Eric Lightner for his review. After the Las Vegas meeting, the GWAC voted to produce the following papers (from highest to lowest):

1. GridWise Interoperability Delivers **Financial** Benefits
2. GridWise Improves Your **Environmental** Impact
3. GridWise Improves Grid Security and **Reliability**
4. GridWise Interoperability Benefits for **End Users**

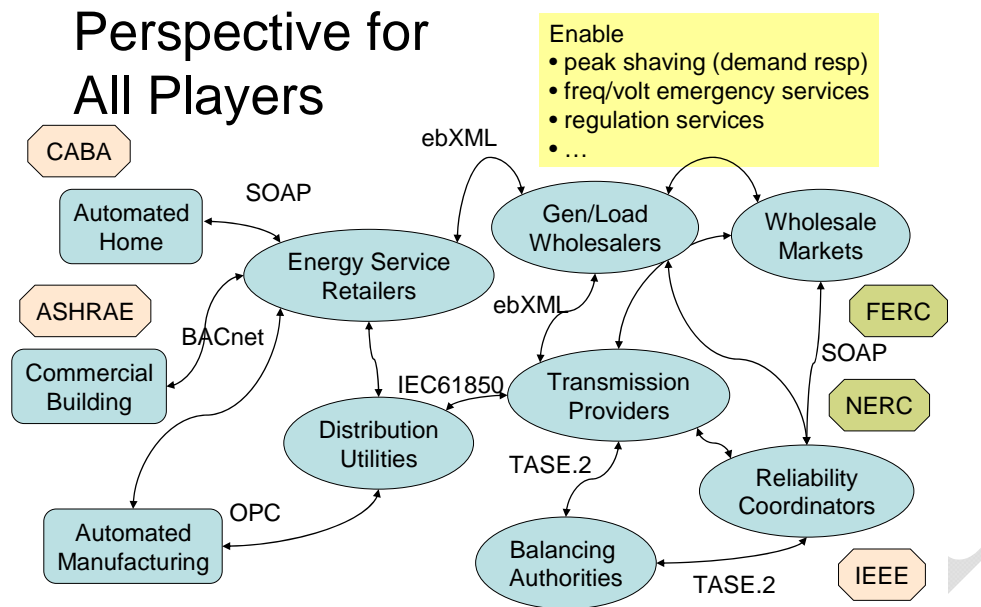
The guidance is for each of these papers to explain impacts in the areas highlighted, with a maximum length of 12 pages. These papers do not provide new research but summarize existing research and provide a detail bibliography. These standalone documents would be mined for information, and quotable.

There was discussion over the scope and objectives of these reports. If they are to be respected and quotable with reliable information, each one could cost over \$100,000. If they are to summarize information from a survey of existing material, which can then go into presentations or communication articles, then they could cost much less. A difficult point with in the reports is attributing quantifiable benefit from interoperability as the obvious benefits come from the capabilities that are enabled by interoperability.

Council members and staff will look for examples of documents similar to ones they would like to see produced (e.g., summary reports created for financial institutions on areas for investment). A team was formed to consider an outline for constructing the financial benefit study as a first document. A proposed purpose, audience, and estimated cost to produce will come out of this step.

Dave Cohen, Mike McCoy, Erich Gunther, and Rik Drummond were named to the Benefits Studies team.

Steve Widergren also presented a concept that arose out of his discussions with staff at PNNL concerning the benefits studies. The idea is to create a landscape of the various aspects of the electricity system that can be used to provide perspective to the interfaces between business functions, relevant integration technologies, responsible parties, stakeholders, standards and trade groups and the like (see example below). This could be used for such things as to show how different groups “fit” into the GridWise vision, points for potential interoperability improvement, mapping outreach advances or pointing out holes that need to be addressed. (Administrator note: Don Watkins (member emeritus, BPA) often asked for a perspective of how the different pieces fit together.) The Council encouraged further development of this idea.



Actions:

- The Benefits Study Team (and other members) to provide example study documents to the GWAC.
- The Benefits Study Team to use the financial benefits topic to draft an outline for presentation at the Chicago meeting. This includes purpose, audience, and estimated cost to produce.
- Steve Widergren to further develop a diagram and ideas for a perspective of electricity stakeholders, technologies, and related organizations.

Policy/Regulatory Team Progress

The Council showed appreciation for the decision-maker’s interoperability checklist document compiled by Alison Silverstein with backing by the Policy/Regulatory Team. The draft checklist was completed to support distribution at GridWeek, where it received good visibility. The GWAC is to review the paper by 9 May 07. The document is available from the GWAC SharePoint site and downloadable from the GWAC website. Alison said that the draft has been reviewed outside the Council and she received positive feedback.

Some preliminary comments are,

- The title should be shortened to the “Decision-maker’s Interoperability Checklist.”
- Add GWAC contact information to the checklist and whitepaper.
- Checklist should also address the concern of what if the user does not meet the checklist requirements. What is the path forward?

Actions:

- Olga Kuchar to send out the decision-maker’s checklist and policy whitepaper. The GWAC members are to submit responses, edits, and comments to Lynne Kiesling and Alison Silverstein by May 9th.

- *Olga Kuchar will schedule a Policy Team teleconference on one of the following days of May 14 – 16th. The meeting should review checklist comments and next steps for the white paper and other Policy Team work. Richard Schomberg is to join this team.*
- *Alison Silverstein to provide by e-mail the names of outside reviewers to Olga Kuchar.*
- *Olga Kuchar adjusts the Chicago agenda to include a discussion of the checklist.*
- *GWAC to define a review cycle for team documents that will be released to the public through the Council. This process to be discussed at the next Council meeting.*

Interoperability Symposium

The interoperability symposium is targeted for mid-Fall (late October or early November) with two locations under consideration – Albuquerque, NM or St. Louis, MO. The objectives of the symposium are to assemble ideas and resources in function/business areas for actionable steps to improve interoperability. The symposium is the next major step in engaging a larger community in addressing interoperability issues. It will consist of panels, papers, and presentations. There will be a call for papers with a peer review. This will be supported by with connections to champions identified at the workshop.

A symposium planning committee is being formed. Steve Widergren mentioned that Ron Jarnagin at PNNL will help lead the planning and preliminary discussions have included Anto Budiardjo. Rik Drummond and Ron Ambrosio volunteered to represent the GWAC. Two other workshop attendees are expected to be involved.

Action:

- *A symposium planning committee will propose recommendations between Albuquerque or St. Louis and dates so that an announcement can be made in time for the GridWise Expo.*

Summary of New Action Items

#	Item	Owner	Due Date
301.	<i>Coordinate with council members to confirm speakers for the upcoming GWAC meetings.</i>	<i>Kuchar</i>	<i>Ongoing</i>
302.	<i>Steve Widergren and Olga Kuchar will consolidate the workshop information into a proceedings summary. A CD and thank you letter will be mailed to all participants.</i>	<i>Widergren, Kuchar</i>	<i>4 May 07</i>
303.	<i>Framework team to discuss the next step in updating the framework document for release on May 22nd, and also propose a path forward for the framework document.</i>	<i>Widergren</i>	<i>22 May 07</i>
304.	<i>Steve Widergren, Rik Drummond, Jack Mc Gowan, Ron Ambrosio, and Russell Robertson will brainstorm on the Gala and awards. Target to define 5 potential award candidates. Consider an individual award and an organization award.</i>	<i>Widergren Drummond Mc Gowan Ambrosio Roberston</i>	<i>14 May 07</i>
305.	<i>Council members to send their outreach presentations and a short summary of activities to Heather Kuykendall or Olga Kuchar for posting on the GWAC SharePoint calendar.</i>	<i>All Members</i>	<i>Ongoing</i>
306.	<i>GridWise Expo panel moderators to finalize their session participants.</i>	<i>Silverstein Keisling Hamilton Drummond</i>	<i>22 May 07</i>
307.	<i>The Benefits Study Team (and other members) to provide example study documents to the GWAC.</i>	<i>Cohen McCoy Gunther Drummond Widergren</i>	<i>22 May 07</i>
308.	<i>The Benefits Study Team to use the financial benefits topic to draft an outline for presentation at the Chicago meeting. This includes purpose, audience, and estimated cost to produce.</i>	<i>Gunther Cohen Drummond McCoy</i>	<i>22 May 07</i>
309.	<i>Steve Widergren to further develop a diagram and ideas for a perspective of electricity stakeholders, technologies, and related organizations.</i>	<i>Widergren</i>	<i>22 May 07</i>
310.	<i>Olga Kuchar to send out the decision-maker's checklist and policy whitepaper. The GWAC members are to submit responses, edits, and comments to Lynne Kiesling and Alison Silverstein by May 9th.</i>	<i>Kuchar Kiesling Silverstein GWAC</i>	<i>9 May 07</i>

311.	<i>Olga Kuchar will schedule a Policy Team teleconference on one of the following days of May 14 – 16th. The meeting should review checklist comments and next steps for the white paper and other Policy Team work. Richard Schomberg is to join this team. Olga Kuchar adjust the Chicago agenda to include a discussion of the checklist.</i>	Kuchar	25 Apr 07
312.	Modify the checklist by adding GWAC contact information to the checklist and whitepaper. Checklist should also address the concern of what if the user does not meet the checklist requirements. What is the path forward?	Silverstein	25 Apr 07
313.	<i>Alison Silverstein to provide by e-mail the names of outside reviewers to Olga Kuchar.</i>	Silverstein	May 07
314.	<i>GWAC to define a review cycle for team documents that will be released to the public through the Council.</i>	All Members	22 May 07
315.	<i>A symposium planning committee will propose recommendations between Albuquerque or St. Louis and dates so that an announcement can be made in time for the GridWise Expo.</i>	Widergren	22 May 07

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