INTERNATIONAL AIR-CONDITIONING • HEATING • REFRIGERATING EXPOSITION

AHR EXPO®

January 28-30, 2013
Dallas Convention Center
Dallas, TX

Co-sponsors: ASHRAE AHRI

Honorary sponsor: HRAI

Why we need to be part of several Connection Communities?

Tuesday, January 29th, 2013 from

2:00 - 3:30 pm

Moderator

Ken Sinclair

AutomatedBuildings.com

Why we need to be part of several Connection Communities?

Moderator -   Ken Sinclair AutomatedBuildings.com

Speakers;

Andy McMillan, President, BACnet International

Louis Hamer, Enocean -VC North America & Board Member

Tracy Markie for Chairman LonMark International

Scott Muench, VP, J2 Innovations for Niagara Framework

Barry Haaser, Managing Director of the OpenADR Alliance

Open Connection Communities

My overall takeaway from AHR Expo 2012 Chicago was the growing importance of being part of several strong Open Connection Communities. Who we are connected to and the value they bring to our products and services defines who we are and likely who we are to become. Open Connection Communities will shape building automation's future.

Interacting With Energy

Cloud computing to replace the personal computer as the 'device' of choice by 2014

Connection Communities
begat
Connection Communities

We want to show everyone the importance of our existing connection communities in allowing us all access to the higher level of connection now needed to interact with the likes of Apple, Android, Amazon, Microsoft, and other rapidly evolving web services to achieve professional cloud interactions on our own devices.

Andy McMillan
President, BACnet International

Andy McMillan, President and GM, Philips Teletrol

Andy has extensive open systems industry experience spanning office, industrial and building automation. He is currently President of BACnet International and previously chaired both North American and global user groups for manufacturing automation protocols. Andy's career has included leadership roles in strategy, product development, marketing and business development.

Andy has been a featured speaker on open systems and automation-IT convergence at conferences in North America, Europe, Japan and Australia. Andy has co-authored a book on open systems networking and holds a dozen patents in sensors, automation and software. He has MBA and BSEE degrees from the University of Michigan and is a member of ASHRAE, AEE, PRSM, and IEEE.

Connections Around Technologies

BuilConn — Building Connections Forum 2003

Andy McMillan
Open Systems Background

User
- Chair – US Manufacturing Automation Protocol (MAP) User Group
- Chair – Global Federation of MAP User Groups
- Consultant – Open IT solutions for medical industry

Supplier
- Founder and VP – Think & Do Software Inc.
- President and CEO – Teletrol Systems Inc.

Standards
- Technical committee participation (LAN, Broadband, MMS …)

Testing and Interoperability
- Director – First commercial OSI protocol conformance test center
- Board Member – ENE '88

Industry Observer
- Author – MiniMAP '93
- Consultant – IVHS Open Systems Industry Development

* Long History
* Many Perspectives
* Multi-faceted
* Product Agnostic
* Cross Industry
* More than Social
* Means to and End

Connections Around Disciplines

* Problems cross disciplines
* People cross disciplines
* Traditional connection communities? not so much!

A Vision for Connection Communities

* Communications Channels

* Closed Interactions

* Rigid Membership Boundary

VS

* Communication Webs

* Open Interactions

* Fuzzy Membership Boundary

Louis Hamer, Enocean - VC North America & Board Member

Louis Hamer
Vice President, Product Marketing and Business Development
SCL Elements / CAN2GO

Vice-President, Product Strategy, CAN2GO/SCL Elements Inc. With more than 15 years of experience in wireless products for telecommunications, security, and facility automation, he has brought a series of innovative products to market and has authored several patents and standards. Mr Hamer is also well versed in marketing strategies targeted to end customers, value-added resellers and OEMs. As co-owner/executive at CAN2GO, Mr Hamer built an innovative Building Automation solutions targeting the mid-market and wireless retrofits. Prior to joining CAN2GO in 2010, he cofounded Eco2Max, an engineering firm specializing in energy efficiency and building automation. Louis-Nicolas Hamer graduated in electrical engineering from the University of Sherbrooke's coop program; he has also completed technology product management and entrepreneurship training by the MIT. He is a frequent contributor to various local and international conferences and publications on the subjects of energy efficiency, greenhouse gas reduction, wireless technologies and network reliability and security. Mr. Hamer is a registered professional engineer and an accredited LEED professional.
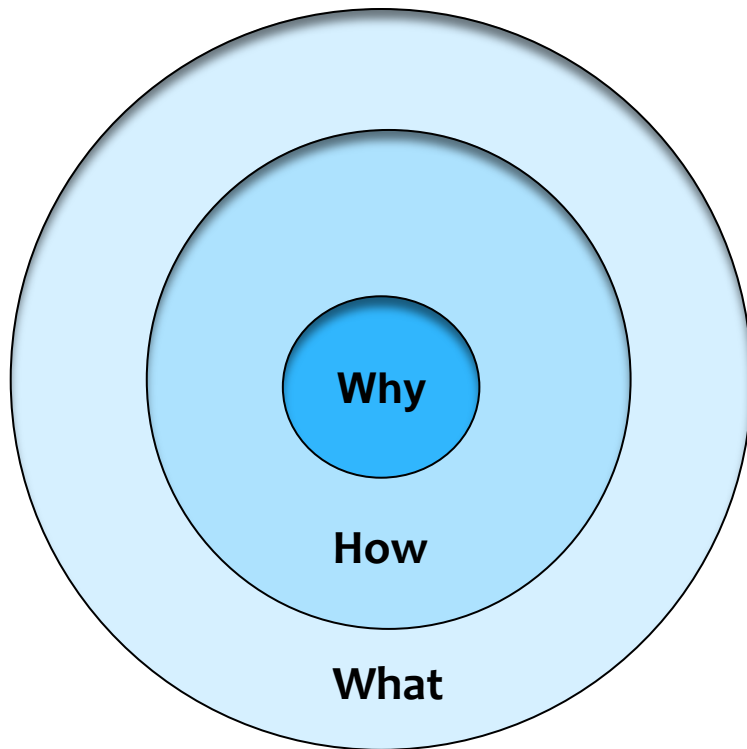
The EnOcean Standard

* **> 300 Companies supporting**

* **> 1.000 Interoperable products**

* **> 250.000 building projects deployed**

* **Award Winning Green Technology**

* **IEC/ISO 15435-3-10 Standard**

* **Field Proven for over 10 years**

* **The only wireless standard developed for and capable of ultra lowest power energy harvesting products**

The EnOcean Standard

* **Why?**
  * **The Alliance believes in providing solutions to enable a more sustainable and energy efficient world at reasonable cost**

* **How?**
  * **Battery-less (less waste) and wire-less (less need for copper wire) sensors and actuators that can be installed faster and more cost-effectively enabling building automation in new and retrofit project**

* **What?**
  * **Fostering a community of manufacturers that develop EnOcean-based products.**
  * **Helping members create demand**
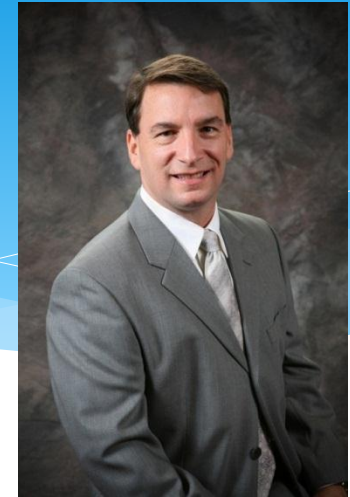 * **Ensuring a wide ecosystem to interop with Bacnet, Lon, OBIX, the cloud (web, smart phones, tablets)**

Tracy Markie Chairman LonMark International

Tracy Markie has more than 30 years of experience in the control systems and energy markets. A published author and presenter, Mr. Markie's articles on the subjects of automation and energy management have appeared in more than a dozen national publications. He currently serves on the GridWise Architecture Council, a group appointed and sponsored by the U.S. Department of Energy. He also serves on the boards of LonMark International, as Chairman, and the SunSpec Alliance, an association dedicated to bringing interoperability standards to the solar industry. Mr. Markie is a Certified Energy Manager through Association of Energy Engineers and a LonMark Certified Professional. He received his B.S. in Electrical Engineering Technology from the University of Maine and his MBA from the University of Connecticut. He has held various technical and managerial positions at Intel Corporation, United Technologies, Tronix Corporation, and National Semiconductor.

Tracy Markie Bio

- More than 30 years of experience in the control systems and energy markets.

- Chairman of the Board of LonMark International

- GridWise Architecture Council member for 4 years, a group appointed and sponsored by the U.S. Department of Energy.

- Board member for the SunSpec Alliance, an association dedicated to bringing interoperability standards to the solar industry.

- CEO for two companies:
  - *Engenuity Systems,* a distributor and value-added-reseller of energy solutions and building automation products
  - *Small Box Energy,* an energy management solutions provider targeted specifically to the small box retail industry (quick serve restaurants, convenience stores and casual dining restaurants)

- Certified Energy Manager through Association of Energy Engineers and a LonMark Certified Professional.

- B.S. in Electrical Engineering Technology from the University of Maine and MBA from the University of Connecticut.

- Past experience includes various technical and managerial positions at Intel Corporation, United Technologies, Tronix Corporation, and National Semiconductor.

LonMark Overview

* International standard for control networks used in energy management, indoor/outdoor lighting controls, train controls, restaurant equipment and smart meters

* Independent, non-profit worldwide member supported organization formed in 1994

* Recognized certification authority for ISO/IEC 14908.x standards

* 400 members and 12 affiliate organizations worldwide

* Certified over 900 products since 1994

* Certified over 400 people worldwide

Sponsor Members

DISTECH CONTROLS™

ECHELON®

Honeywell
HOME AND BUILDING CONTROL
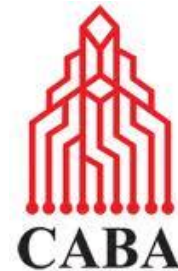
PHILIPS

Schneider Electric

SIEMENS

2013 Focus

* Wireless Channel For LON
* Outdoor lighting market - Promotion and adoption of the Interoperable standards for outdoor luminair controller profile
* Education - develop and deliver new programs
* Improve/enhance our member engagement
* Community outreach initiative - address mutual issues and challenges cross industry

Key Issues & Challenges

* Remaining relevant in a solutions oriented world

* Industry acceptance of proprietary solutions

* LonMark 2.0

* Competing standards

* Cloud and Internet based solutions

Opportunities for Collaboration

* Encourage cross industry collaboration

* Enable connectivity between standards

* Joint education and outreach

* Share technical information

* Discounted memberships

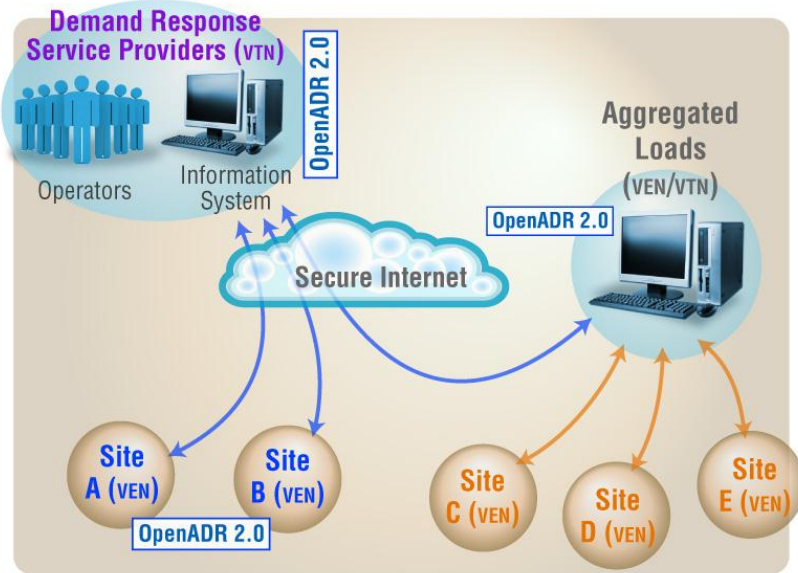# Scott Muench, VP J2 Innovations for Niagara Framework

Scott is responsible for marketing and sales activities at J2 Innovations, with his primary focus on attracting new customers and establishing new business partnerships. He also plays a key role in the company's strategic planning and business development. Previously, Scott served as Director of Sales and Sr. Applications Engineer for Tridium and for the last decade has been an active spokesman for the Niagara Community. Prior to Tridium, Scott has held various roles with a large System Integrator where he gained 10 years of experience in the building automation space.

Barry Haaser, Managing Director of the OpenADR Alliance

Barry Haaser is the Managing Director of the OpenADR Alliance and plays a leadership role in a number of energy related organizations, including SGIP, EIS Alliance, LonMark International, and the USNAP Alliance. Barry is the President of the Lakeview Group, a company providing marketing and association management services. Prior to starting his own company, Barry spent 15 years with Echelon Corporation (ELON) where he held a number of marketing and business development positions in the U.S. and Europe. Barry was previously Vice President of Marketing at Alacritech and Director of Marketing at Saratoga Systems. Barry holds a Bachelor of Science degree in Business Administration from San Jose State University. Barry currently sits on the Board of Directors of SGIP 2.0, Inc.
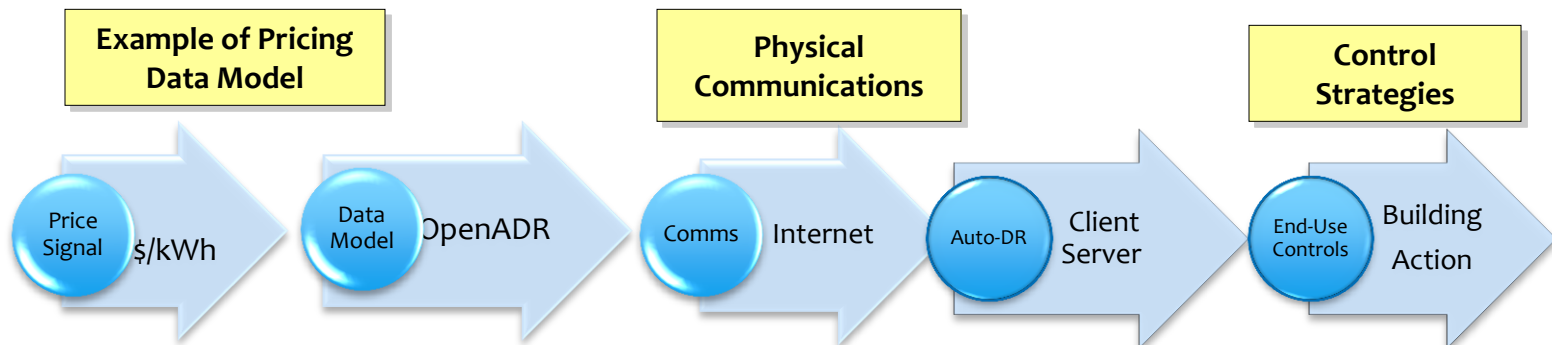
Open Automated Demand Response

OpenADR is an information exchange model to facilitate communication of price and reliability signals.

Signaling- continuous, 2-way, secure messaging for dynamic prices, emergency and reliability signals.

Client-server architecture - uses open interfaces for interoperability with publish and subscribe systems

Hardware retrofit or embedded software many clients fully implemented with existing XML software

Example of Pricing Data Model

Physical Communications

Control Strategies

Price Signal — $/kWh

Data Model — OpenADR

Comms — Internet

Auto-DR — Client Server

End-Use Controls — Building Action

OpenADR Mission

The mission of the OpenADR Alliance is to foster global development, adoption, and compliance of Open Automated Demand Response (OpenADR) standards through collaboration, education, testing, and certification.

Alliance Goals

* Coordination with standards organizations for development of OpenADR technologies

* Implementation of global testing and compliance

* Education on the standards, implementation, policy and markets

* Adoption and market acceptance and of OpenADR

Enabling Global Scaling of Automated Demand Response To Meet Generation Needs for Peak and Renewable Integration

Sponsor Members

Contributor Members

Adopter Members

Connected Communities