Organization for the Advancement of Structured Information Standards

http://www.oasis-open.org/

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Light, loose integration for inter-domain communications
We use composite protocols and security when we want them to scale.
Real-world installations are composed of multiple standards

... So are yours ...

Legacy data structure

WS-This

WS-Flat

WS-The-Other

FeeML

FieML

Eb-whatever

Your latest thing

Your VPN

ODBCL-JDBC
Smart Grids present challenges and Opportunities to Building Owners

- Intermittent Energy sources lead to unscheduled changes in availability
- Shortage & **Surplus**
- Manage each node as a microgrid that may contain microgrids
- Market Signals, not Control
Microgrids operate to support their occupants.
Key standards for Smart Buildings

• OASIS Smart Energy Standards
  • OBIX (open Building Information Exchange)
  • WS-Calendar (exchange schedule and calendar with services and people)
  • EMIX (Energy Market Information Exchange)
  • Energy Interoperation (OASIS)

• Slim BIM
  • GBXML
  • COBIE & OMNICLASS
Smart energy standards moving rapidly into market

• OpenADR Alliance
  • 100 companies delivering Energy Interoperation profile & out-of-the-box interoperability

• Transactive Energy Market exchanges (TEMIX)

• Key parts, profiles, and work in other standards, e.g.
  • ASHRAE SPC201
  • IEC PC118, interoperation with IEC TC57
There are many standards, select the right one for the job
Background Information
Presenter Contact Information

• Toby Considine
  • toby.considine@gmail.com
  • http://www.tc9.com/ blog and references

• William Cox
  • wtcox@CoxSoftwareArchitects.com
  • http://www.CoxSoftwareArchitects.com/
  • Annotated papers and presentations at “What’s New”

• Contact Toby or Bill for an introduction to OASIS or to any of the OASIS specifications mentioned

• Contact Toby for BIM and Green Building XML information

• Contact Bill for IEC PC118 information
OASIS Energy Specifications

• DR, DER, and Transactive Energy Services
  • OASIS Energy Interoperation
  • Basis for OpenADR2 and TEMIX (Transactive) profiles

• Price and Product Definition
  • OASIS Energy Market Information Exchange (EMIX)
  • Power Market prices, extends to Gas, Thermal, ...

• IETF iCalendar Extensions for Energy Schedules
  • OASIS WS-Calendar
  • PIM (abstract model) for WS-Calendar in progress
OASIS oBIX Specifications

- oBIX Technical Committee
  - Enabling mechanical and electrical control systems in buildings to communicate with enterprise applications
- oBIX 1.0
- oBIX 1.1 in progress
  - See http://www.oasis-open.org/committees/obix for links
  - oBIX 1.1 Committee Specification Draft 02
  - oBIX 1.1 Encodings
  - oBIX 1.1 REST Bindings, SOAP Bindings, WebSockets Bindings
Decoupling—Flexible Joints

- Allow independent evolution across
  - Technologies
  - Versions
  - Communication stacks

- “Flexible joints”
  - Key information
    - “reduce 10% from 4-6pm today”
  - Broad understanding

- Connect actors in one domain with actors in the same or others
Decoupling—Independent Evolution

- Coupled—MUST change when someone else changes

- Decoupled—change on your own schedule

Time