



## The path to oBIX 2.0

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Smart Grids, Smart Energy, Smart  
Buildings & the Internet of Things

## Brief History of oBIX

- 2003 CABA Committee report
  - Paul Ehrlich, Kirk McElwain, Ron Zimmer
  - Generic Web Service to interact with control systems
- 2004 OASIS Technical Committee
- 2006 oBIX 1.0 OASIS Committee Specification

Now most commonly used middleware for control systems, used world-wide



Clean up inconsistencies and interoperation issues  
Remove Encodings from core specification  
Remove Bindings from Core Specification  
Compatible with installed base.

## **oBIX 1.1**

### **Cleaning up the Core**



## **Common Encodings for oBIX 1.0**

- Begins with the encodings from oBIX 1.0
  - XML
- Add encodings for:
  - COAP
  - JSON
- Additional encodings can be added by creating a new stand-alone specification



## Bindings for oBIX

- REST Binding for oBIX 1.0
  - Based on original specification
  - Interactions cover JSON as well
- SOAP Binding for oBIX 1.0
  - Based on original specification
  - Standard WSDL added



## Changes to Conformance and Discovery

- An oBIX 1.x Server will
  - Support Core semantics per level specified
    - (1.0, 1.1, 1.x)
  - Support Encodings as defined in nnnnn
  - Support Bindings as defined in nnnnn
- New flexibility, greater discoverability, backward compatible



Scheduling  
Applying Common Semantic Frameworks  
Advanced Alarms & Diagnostics  
Security Assertions  
Telemetry and Reporting

## **oBIX 2.0 and Enterprise Contracts**



## **Scheduling & WS-Calendar**

- Conforms to schedules of people and enterprise
  - iCAL, RFC 5546, RFC 6321
  - VAVAILABILITY, VPOLL
  - Smart Grid / Smart Energy
  - Energy Models
- Service rather than Process



## Semantic Frameworks get beyond collections of points

- Semantic Frameworks
  - EMIX and Energy Interoperation
  - BIM and Space
  - Tagging Frameworks such as Haystack
- Searches and Binding Contracts
- ASHRAE FSGIM
- Open ADR
- Enterprise Applications



## Advanced Alarms and Monitoring

- More complex combinations of events to support alarms based on remote diagnostics
  - *if A happens followed within three minutes by B.*
  - *if the cycle between occurrences of A is less than 5 minutes.*



## Composite Security Models

- SAML
- Guidance on interacting with enterprise security
- Using the Semantic Frameworks
  - User has read access to all points in space that he leases...



## Telemetry & Reporting

- Additional contracts for large data sets
  - Long-running reports
  - Multiple Data points
- Smart Energy Standards
  - Energy Interoperation and OpenADR
  - Reports, Projections, Commitments



Standards in a fishbowl

## OASIS oBIX Technical Committee



## OASIS: Standards in a Fishbowl

- Visible to Public as soon as Committee sees it
  - Every Email
  - Every Draft
  - All Minutes
- [www.oasis-open.org](http://www.oasis-open.org)



## Technical Committee now underway

- Diverse International Active Participation
  - CABA
  - Institute of Computer Aided Automation, VUT
  - LonMark
  - Tridium
  - US Department of Defense
- Full list of participating Organizations:
  - CABA, EPRI, GSA, IBM, VTU, LonMark, MIT, SAP, Schneider Electric, TIBCO, Trane, Treasury Board of Canada, Tridium, UNC, DoD
- We could use your help



## How Can I Get Involved

- Join OASIS
- Sign up for TC
- Contact me if you need any assistance navigating the process
  - Toby.considine@gmail.com





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## Questions

