Plans for MultiSpeak®/CIM Harmonization

Common Information Model (CIM) Role in Smart Grid for Transmission and Distribution
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National Rural Electric Cooperative Association
A Touchstone Energy® Cooperative

MultiSpeak®
Introduction to MultiSpeak®

- Developed by NRECA in collaboration with key industry vendors
- Currently covers applications of interest to distribution utilities and to the distribution portion of vertically integrated utilities, moving towards support for transmission.
- Standard is mature, scope is continuing to grow
- In use at over 500 utilities in at least 11 countries
- More information and specification available at www.MultiSpeak.org
MultiSpeak Background

- MultiSpeak Initiative is a group of about 60 vendors that provide products and services to distribution utilities.
- Recently membership was opened to utilities interested in supporting the effort.
- Currently about 35 utilities are members of MultiSpeak, including Consumers Energy, DTE, and Minnesota Power.
- Members have access to latest drafts of specification and can affect the direction of the spec.
MultiSpeak Specification

- Semantic framework documented in XML schema.
- Rich set of service definitions, documented in web services (WSDL).
- Web service payloads formatted in XML.
- Easy to extend for semi-custom implementations.
- Currently most implementations are in Version 3.0.
- Version 4.1 issued June 2010 – V4.1 was chosen by NIST to be CIM harmonization target.
- Well defined, third-party compliance and/or interoperability testing program since 2001 – applies to all interfaces.
Changes in Version 4

- Based on UML class model to support CIM harmonization
- Internationalization
  - International telephone and address fields
  - Unit/value pairs with wide selection of units
  - Supports all ISO 4217 currency codes
- Adds work management and AVL
- Enhanced support for water and gas metering
- Adds support for engineering model catalogs
- Adds CIM CPSM-compatible transmission power system model exchange, will add in CIM CDPSM as unbalanced profile is completed
Plans for MultiSpeak/IEC CIM Harmonization

- Separate standards continue to be a stumbling block for utility implementations.
- Utility implementations in process trying to bridge the standards and look for best of both worlds.
- MultiSpeak V4.1 (current) and future releases will move towards IEC CIM where appropriate.
- V4.1 is internationalized and supports an IEC CIM-compatible power system model.
- IEC and MultiSpeak jointly will develop international standards leading to harmonized profiles. Will be documented as 61968-14 series of standards.
Proposed MultiSpeak Release Schedule

- V4.1 – Includes features for harmonization with IEC 61968-9 (ed. 1) and ZigBee SEP 1.0.
- V4.2 – Will include support for NAESB PAP 10, IEC 61968-9 (ed. 2), OpenADR, and ZigBee SEP 2.0 (Planned for YE 2010 release).
- Releases planned for year-end in future years. MultiSpeak will include appropriate input from other SDOs that are issued before 7/31.
Planned 2010 EPRI Harmonization Project

- Will create mapping between MultiSpeak and CIM for interfaces where CIM has a defined profile:
  - 61968 Part 9 (AMI-related interfaces)
  - 61968 Part 13 (Power System Model Exchange, both transmission and distribution)
- Will document modifications necessary in both MultiSpeak and CIM to support harmonization
- Will generate an Enterprise Service Bus (ESB) Implementation Guidebook for MultiSpeak
- Establish an ESB test bed at EPRI Knoxville for joint MultiSpeak/CIM interoperability testing
Plans for 2011 Inter-op Testing

- Joint CIM/MultiSpeak V4.1 Inter-op Testing Planned for March 2011, based on EPRI harmonization project.

- MultiSpeak and CIM applications will co-exist on same ESB with bus service to perform translation.

- Lessons learned from IOP will be referred back to CIM and MultiSpeak working groups for modification and standardization.
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