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Green Button Download and Automated Data Exchange Conformance Suite

This project will develop a comprehensive set of conformance test cases and tools for the standards that underlie Green Button. The results of this project will accelerate the development of third party applications and will provide utilities with the confidence that the applications will work as expected.

Background, Objectives, and New Learnings

Green Button is an industry-led effort that responds to a White House call-to-action to provide electricity customers with access to their energy usage data via a "Green Button" on electric utilities' websites. Many utilities are actively implementing Green Button as a result of this call to action.

Numerous third parties are developing Web and smart phone applications and services that use Green Button data to help for businesses and consumers understand and manage their energy use. Applications include: tools to choose the most economical rate plan based on use patterns; deliver customized energy-efficiency tips; and conduct virtual energy audits.

There is an urgent need to develop testing and certification tools and services to ensure that these applications operate properly and provide consumers with a positive experience when using Green Button.

The objective of this project is to accelerate the development of the test tools and processes to ensure conformance with the standards that underlie Green

Button initiative. The results from this project will be made publicly available and will be a valuable tool for application developers.

The Utility Communication Architecture International Users Group (UCAIug) intends to participate and use the results from this project to support continued development of an overall lifecycle testing, certification, and standard improvement management program.

Benefits

The test tools and processes developed in this project will accelerate the development of Green Button-based applications and will provide utilities with the confidence that the third-party developed applications will work as expected.

Project Approach and Summary

The OpenADE Task Group of UCAIug OpenSG users group was formed to develop requirements for a standardized method for consumers and authorized 3rd parties to access energy usage information. These requirements became the basis for the NAESB standard R10008 Energy Service Provider Interface (ESPI), also known as NAESB REQ.21.

This project will provide the ESPI utility and vendor implementation community with a reliable path to a comprehensive set of ESPI engineering conformance test cases and tools. The project will capitalize on the efforts to date and underway by the creators of the ESPI standard in NAESB, OpenADE, and the OpenESPI open source project. This activity of heads-down focused work will bind its deliverables to the current activities, while not being impeded by the current voluntary process.

The artifacts produced will ultimately appear as part of the OpenADE Task Force ESPI Test Plan, and, as the testing infrastructure of the OpenESPI implementation.

The project scope is the development of a comprehensive engineering conformance test suite and associated tools for validating that an ESPI implementation based on the adopted NAESB REQ.21 standard is correctly implemented.   This is the first critical step in developing a comprehensive set of test tools to insure interoperability.

Deliverables

Deliverables are expected to include:

- **ESPI conformance test specification** - for the ESPI NAESB REQ.21 protocol specification.
- **Detailed documentation and structure for test cases and procedures**. These test cases take the high-level descriptions in the test specification and implement detailed test cases from which specific test procedures and/or automated test scripts can be developed.
- **ESPI test harness or other test automation tools**. This project will infuse the necessary test capability requirements and primitive test scripts to drive the OpenESPI implementation of ESPI.
- **ESPI test procedures and/or automated test scripts** for the conformance tests.

Price of the Project
The price for each member to participate is $40,000. The project qualifies for tailored collaboration funding. A minimum of ten participants is required to execute the full scope of the project.

Project Status and Schedule
The project will start July 1, 2012 and will take six months to complete.

Who Should Join
Electric utilities that plan on implementing Green Button should participate in this project.

Contact Information
For more information, contact the EPRI Customer Assistance Center at 800-313-3774 (askepri@epri.com)

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