

GridAPPS-D™ - an open source data integration platform for development of advanced distribution system management and operations applications

GridAPPS-D is a standards-based platform created to support the development of advanced functionality (applications) for use in modernized electric power system distribution networks integrating large quantities of distributed energy resources. This presentation will describe how the project has applied the Common Information Model to define a standardized application programming interface and associated data models that allows applications to interact with a CIM based operational technology data bus. The presentation will include discussion of how the project has enabled developers to create portable applications that can run against diverse network models through self-configuration. The ten example applications that are being developed will be reviewed. Finally, the presentation will include discussion of future plans for extension of the platform to support the development of distributed applications.

Presenters:

Dr. Ron Melton

Mr. Eric Stephan

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Bios:

Dr. Ron Melton

Dr. Melton is the Team Lead for Electricity Infrastructure Systems, a Senior Power Systems Researcher and Project Manager in the Electricity Infrastructure Group at the Pacific Northwest National Laboratory (PNNL). He is the Principal Investigator for the DOE Advanced Grid Research project for an ADMS Open Source Platform, a member of the core team for the DOE Grid Architecture project, and Administrator of the GridWise® Architecture Council. He was the Project Director of the Pacific Northwest Smart Grid Demonstration that concluded in June 2015. He has 10 years of experience in cyber security for critical infrastructure systems and over 30 years of experience applying computer technology to a variety of engineering and scientific problems. Dr. Melton is a Senior Member of the Institute of Electrical and Electronics Engineers and a Senior Member of the Association for Computing Machinery. Dr. Melton received his BSEE from University of Washington and his MS and PhD in Engineering Science from the California Institute of Technology.



Mr. Eric Stephan

Mr. Stephan is a data scientist working at the Pacific Northwest National Laboratory specializing in developing data architectures and contributing to international data standards communities. He currently serves as the IEC TC 57 CIM Model Manager for Working Group 13. He has been a member of the CIM Users Group since 2016 and previously contributed to the International Provenance and Annotation Working group (IPAW) Open Provenance Model (OPM), World-Wide-Web Consortium (W3C) Provenance Working Group, W3C CSV on the Web Working Group, W3C Data on the Web Best Practices (DWBP) recommendations and served as co-editor of the Data Usage Vocabulary (DUV) technical note. His research interests include streaming data analytics, scalable science and engineering data architectures, applied semantic Web, and experimental reproducibility. He received the B.A. degree in mathematics and computer science from Eastern Washington University, Cheney, WA, USA, in 1986.



PNNL Information Release: PNNL-SA-142883