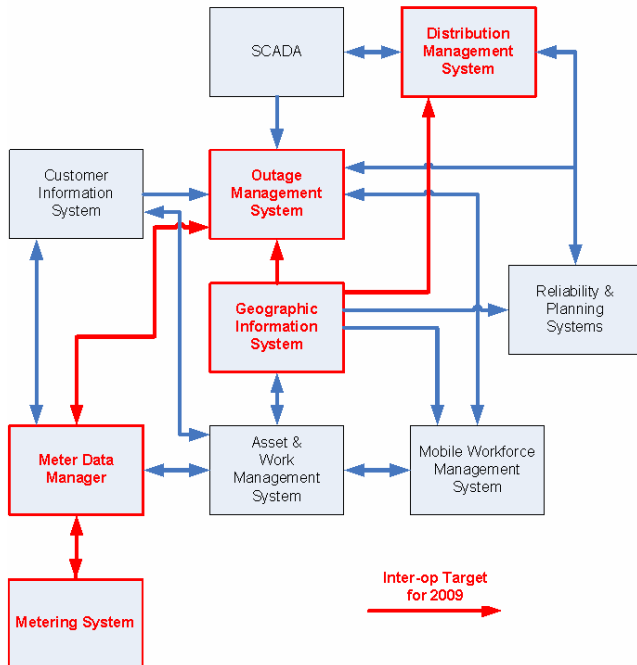


# Distribution CIM (IEC 61968) Inter-Operability Testing

## Metering system messaging and electrical model exchange inter-operability using the IEC 61968 (CIM) standards



Metering system messaging and electrical model interchange using IEC 61968

- Define the interfaces for the metering system inter-operability testing for IEC 61968-9 (Interfaces for meter reading and control) and IEC 61968-14-9 (MultiSpeak metering interfaces) standards.
- Define the power system model exchange profile using the IEC 61968-13 standard—the Common Distribution Power System Model (CDPSM).
- Conduct the inter-operability tests to gain knowledge and experience on the integration of disparate systems.
- Harmonize CIM/MultiSpeak definitions.

The Common Information Model (CIM) defines standard interfaces for the exchange of information used to manage and operate a utility's electric distribution system. Adoption of the CIM by utilities and support of the CIM by vendors may reduce the cost of system integration while improving the usefulness of the information. This may result in more responsive and more efficient operations, and more cost-effective distribution information management and operations control systems.

This 2009 Supplemental project will focus on two main efforts:

1. Inter-operability among Advanced Metering Infrastructure (AMI) head-end systems, Meter Data Management (MDM) systems, and Outage Management Systems (OMS).
2. Topology and electrical model compatibility between GIS and OMS and/or SCADA/DMS using the Common Distribution Power System Model (CDPSM).

### Value

Through the planning and execution of inter-operability testing, multiple benefits may be realized including (1) application and system support of the CIM for standard messaging, (2) utility awareness leading to the adoption of the CIM for integration projects, and (3) improvement in the international standard.

### Drivers and Trends

With the advent of Advanced Metering Infrastructure (AMI) projects, the issue of managing the data from many different sources and turning the data into useful information is a focus for many distribution utilities. In addition, new advanced distribution applications are being developed that require an

accurate, up-to-date electrical model for analysis. Standard methods for the integration of this information may enhance the value of the data as well as reduce the integration costs.

## Project Summary

This project intends to undertake the following:

1. Take the IEC 61968-9 standard, define inter-operability profiles and determine message specifications for use by vendors of metering head-end systems, meter data management systems and outage management systems.
2. Develop inter-operability profiles for the IEC 61968-14-9 standard corresponding to the appropriate MultiSpeak message specification.
3. Take the updated IEC 61968-13 (CDPSM) standard and define an inter-operability profile.

The project will coordinate inter-operability testing among the vendors and provide a report on the state of the standards (and vendor support thereof) along with recommendations for improving the standards going forward.

## Deliverables

- Workshops with project participants and application vendors to develop the CIM profiles and message specifications for inter-operability testing.
- Inter-operability testing with an opportunity for project participants to witness the tests.
- Inter-operability test report with an assessment of the IEC 61968-9, 61968-14-9, and 61968-13 standards (and vendor support thereof) along with recommendations for improving the standards going forward.

## Cost of Project

The estimated cost to complete this project is \$300,000. The cost per participant is \$30,000. This project qualifies for TC funding.

## Project Status and Schedule

This project is expected to begin in April 2009 with an expected duration of twelve months. The interoperability tests are expected to begin in the fourth quarter of 2009.

## Who Should Join

Utilities who are (1) planning on integrating metering with distribution operations and/or (2) planning on maintaining their master distribution electrical model in a GIS should join this project in order to help define the profiles and message specifications used in the inter-operability tests.

## Contact Information

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 ([askepri@epri.com](mailto:askepri@epri.com)).

## Technical Contact

Lee King at 865.218.8116 ([lking@epri.com](mailto:lking@epri.com)).

### Electric Power Research Institute

3420 Hillview Avenue, Palo Alto, California 94304-1338 • PO Box 10412, Palo Alto, California 94303-0813 USA  
800.313.3774 • 650.855.2121 • [askepri@epri.com](mailto:askepri@epri.com) • [www.epri.com](http://www.epri.com)