SHAW PTI EXCELS IN INDUSTRY-SPONSORED DATA EXCHANGE TESTS

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In July 2004, the sixth in a series of voluntary industry tests organized by EPRI to validate the use of the Common Information Model (CIM) and Generic Interface Definition (GID) were conducted. The CIM and GID have been implemented as international standards for exchanging network model and real-time data between diverse software applications.

Shaw PTI excelled in all phases of these interoperation tests. The Shaw PTI commitment to these standards as the foundation of our solutions architecture is assuring our clients of near “plug and play” application software and is providing them enterprise-wide data integration and significant cost savings opportunities.

The CIM and GID are defined in the International Electrotechnical Committee (IEC) 61970 standards set. The CIM is a data model specifically designed for the electric utility industry, and the GID is a communications methodology for exchanging CIM data between software applications.

The objective of the series of tests is to demonstrate that the various vendors’ implementation of these standards do indeed provide for the exchange of network model and real-time data among the vendors’ software applications. The network model exchange has been broken into three types of exchanges of load flow data:

1. Full network model exchange;
2. Partial model exchange (where complete data for a substation, for instance, is exchanged and added to an existing model); and,
3. Incremental model exchange (where a single value such as a component name can be exchanged and the value updated in the model).

Shaw PTI successfully demonstrated each of these capabilities by exporting and importing data and demonstrating successful data exchange through using the PSS/ODMS package to view the updated data set as well as converge the load flow after receiving the model changes.

The GID provides for four types of data to be exchanged through four definitions:

1. Generic Data Access (GDA) exchanges static, or in this case, network model data;
2. High-Speed Data Access (HSDA) exchanges time-critical data such as SCADA data;
3. Time-Series Data Access (TSDA) exchanges data that is characteristic of parameters’ value over time such as data contained in a SCADA historian; and,
4. Generic Eventing and Subscription (GES) that defines a process to alert other applications in the integration framework to data changes in one application that affect the data to be used in another application.

Shaw PTI successfully demonstrated our GDA and HSDA interfaces at these interoperation tests. The TSDA and GES interfaces are in development and will soon be shipped to our clients for whom we are performing integration projects.
Shaw PTI is the only vendor to have attended all six interoperation test series, and it showed in the successes we demonstrated. Other vendors at this sixth series of tests included: Areva (ESCA), Incremental Systems/Power Data, Electricité’ de France (EDF), Systems Integration Specialists Company (SISCO), and Siemens.

At Shaw PTI, we have incorporated, and have now tested, CIM/GID interfaces into the following applications:

- PSS/E™ (transmission planning)
- PSS/ODMS (on-line advanced network applications)
- PSS/ADEPT™ (distribution planning)
- ThermalCalc (on-line equipment rating system based on ThermalRate)

Our successful tests demonstrate that we can also exchange data with other vendors’ software to exchange static and real-time data with:

- EMS network applications
- Distribution applications
- Asset management applications

For some time, Shaw PTI has been promoting the CIM and GID standards as the foundation of our Technical Applications Integration (TAI) that is centered on our ODMS product line. Our success in these tests, as well as our installed and on-going projects that integrate both Shaw PTI’s software applications and other vendors’ applications into a single environment, have demonstrated the value of TAI implementation.

In the context of TAI, there is no longer a need to define a transmission model and a distribution model, or a planning model and an operations model. Shaw PTI’s TAI integrates distribution models with transmission models, and planning models and operations models into a single aggregated model for use by all applications.

Furthermore, using our CIM-based PSS/ODMS Model On Demand (MOD) and the CIM-based Historical Case Builder, Shaw PTI is the first to provide our clients a single model continuum from historical EMS network models (with historical SCADA data attached), through the present day operations model, to a future planning model. At any time throughout the model continuum, the model can be extracted as an operations model (bus-breaker) or planning model (bus-branch). Using PSS/ODMS, these model extracts are available in standard CIM/XML as defined by NERC, major vendor proprietary EMS formats, and PSS/O™ and PSS/E™ formats.

Three major features of the CIM/GID technologies as implemented by Shaw PTI in our TAI foundation, and as confirmed by our successful interoperation tests, are:

1. Using these standards, major systems can be retrofitted with updated software applications rather than “fork-lifting” the system to a completely new system (e.g. replace your EMS’ aging or non-existent network applications with Shaw PTI’s PSS/ODMS to gain integrated full-graphics model management [PSS/OneLine] along with advanced on-line network applications);
2. The TAI data platform is industry-standard which means tremendous software acquisition cost savings since software need not be custom interfaced to each client; and,
3. The solution is incremental, TAI does not need to bring all applications into the TAI environment at a single throw of the switch, we (or the client) bring on critical applications as the need arises.

The interoperation tests have demonstrated that the Shaw PTI technologies are well-founded and are implemented according to the standards. These technologies are saving our clients significant costs in aggregating their data into a single environment, reducing, or eliminating, duplicate data entry while improving the quality of the data in the TAI infrastructure.

We are proud to have had the opportunity to participate in these tests and to have been so successful. Congratulations to our staff who are working so devotedly to bringing these technologies to bear on our clients’ data dilemmas.