COMPLETION OF EMS NETWORK APPLICATIONS RETRO FIT

Stephen F. Mauser  
Assistant Vice President  
stephen.mauser@shawgrp.com

Shaw PTI has just completed the deployment of our recently introduced PSS/O\textsuperscript{\textcircled{DMS}} software suite. The software is a convergence of our Power System Simulator for Operations (PSS/O - which has a heritage as robust as PSS/E), the Operational Database Maintenance System (ODMS), and the PSS/OneLine graphics interface software. The package is compliant with the IEC industry-standard Common Information Model (CIM) data model, and the more-recently introduced IEC Generic Interface Definition (GID) specification for integration and messaging buses\textsuperscript{1}. The Shaw PTI software uses, as an option, the Systems Integration Specialists Company (SISCO) Utility Integration Bus (UIB) for its integration platform.

In the resulting configuration, the real-time SCADA data and the detailed bus-breaker network model are available in a CIM compliant environment to either the client’s homegrown software applications or third party applications. Having this data available external to the EMS allows software to be developed that is independent of the EMS, which increases the opportunity to develop new software applications as well as reduce the costs of development and installation since there is no longer a need for customization to each EMS installation.

There are several unique features of this architecture that offer the client an environment for growth and expansion in their use of the data now exposed to the integration bus:

- The PSS/O\textsuperscript{\textcircled{DMS}} software is well-established in the control center environment and offers unique qualities and capabilities to the user - including the ability for the user to easily configure tabular displays - releasing the user from the need to hire the vendor to customize the presentation;
- The PSS/O\textsuperscript{\textcircled{DMS}} integration includes an ODBC database structure organized according to the CIM such that Microsoft Office applications or third party applications can access the data using standard CIM nomenclature;
- The industry standard open messaging architecture makes real time SCADA and network data available to any third party software application that uses the CIM/GID architecture via the Integration Bus standard;
The integrated PSS/Odms© package interfaces transparently with other modules of ODMS (including Model on Demand and Model Merge) and with PSS/E;

The system is fully integrated through the data manipulation facilities of ODMS to a single network model which can serve as the base model for both operations and planning; and,

The system accepts and produces standard CIM XML (NERC RDF) for data file exchange with other facilities.

The package could be deployed as an add-on to SCADA systems with no network analysis software or as a replacement to the vendor’s current network analysis software for EMS systems. There is minimal effort on the client’s side for database and display build since ODMS and PSS/OneLine provide automated tools to import most vendor’s breaker models in addition to PSS/E format and automatically generate one-line diagrams for the imported model.

1 International Electrotechnical Committee - Technical Committee 57, Working Group 13 - IEC 61970-1, 2, 402 address the Generic Interface Definition; IEC 61970-3 addresses the Common Information Model