TVA Opens Data Collection Software for Industry Use

Oct. 7, 2009

TVA is sharing its success with a computer system developed to collect information on the eastern U.S. power grid—and support the creation of a smart grid— by making the system openly available to others in the industry.

The technology developed by TVA is called SuperPDC. PDC stands for phasor data concentrator, a system used to determine the health of a power grid. The system collects data from devices called phasors, which measure electric current 30 times every second. Each measurement carries a precise time stamp taken from global positioning system satellites, so that the entire electric grid can be analyzed at any moment in time.

By making the system available in the industry, others can use and contribute to the computer system as TVA tests and releases new versions. The entire TVA phasor platform also has been released under a public license agreement that allows the creation of new commercial applications based on it.

TVA announced its open PDC approach at a meeting of utility representatives, computer system vendors and researchers interested in improving the use of data on the power grid. The meeting in Chattanooga, Tenn., was led by the North American Electric Reliability Corporation.

Advancing the use of phasors is considered to be among the most important next steps in the improvement of power systems for smart grid technology. Development of a smart grid will provide electric utilities and consumers with a technology that will help lower energy use and costs. “We’re hopeful that TVA’s technology will enable both computer system vendors and the electric power industry as billions of dollars are invested to modernize the power grid over the next several years,” said TVA Vice President of Power Control Systems Jacinda Woodward. “The open source process will allow the TVA SuperPDC to undergo broad review to improve its performance, usability and security.”

The operational success of the TVA technology led the North American Electric Reliability Corporation to contract with TVA to expand the system into a regional PDC, which is targeted for wide industry use beginning in 2010. TVA currently collects information from the power grid throughout the eastern half of North America -- from Manitoba, Canada, to Miami, Florida. The grid is the electrical network that moves power from generating plants to homes and businesses.

TVA is a pioneer in the use of phasor technology, having installed the first TVA measurement devices in 1993. For more information, visit the openPDC project web site at http://openpdc.codeplex.com.

TVA is the nation's largest public power provider and is completely self-financing. TVA provides power to large industries and 158 power distributors that serve approximately 9 million consumers in seven southeastern states. TVA also creates economic development opportunities and manages the Tennessee River and its tributaries to provide multiple benefits, including flood damage reduction, navigation, water quality and recreation.

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