

Singing the Same Tune

MultiSpeak® versions 4.0 and 4.1 are helping to further boost dialogue between electric co-op software applications and equipment

By **Bill Koch**

Like a fine wine, the MultiSpeak® Initiative (MultiSpeak)—a collaboration between NRECA and vendors, consultants, and electric utilities aimed at developing standard interfaces between commonly used (primarily distribution system) software applications and automation tools—continues to get better with age. First launched in October 1999, MultiSpeak essentially allows meters, consumer databases, and utility equipment to “talk” to one another without expensive custom programming—helping boost system efficiency and service reliability.

Today, MultiSpeak specifications (which permit interoperability among more than 25 different technologies including Supervisory Control and Data Acquisition, advanced metering infrastructure [AMI], automated meter reading, automatic vehicle location [AVL], customer information, geographic information, and interactive voice response systems) are used by 50 software purveyors and nearly 400 electric co-ops along with a growing number of municipal electric systems, 23 investor-owned utilities (including two large ones in Michigan), and 18 foreign power companies. MultiSpeak also has been partnering with the

Common Information Model, developed by the Geneva, Switzerland-based International Electrotechnical Commission, to create a single global utility data integration standard.

In September 2009, the National Institute of Standards and Technology (NIST) included MultiSpeak as one of 31 existing interoperability standards that can support smart grid deployment.

“MultiSpeak is viable, robust, and up to date and will continue to offer an important tool to co-ops, particularly those without IT staff,” comments Bob Saint, NRECA principal *continued on page 39*

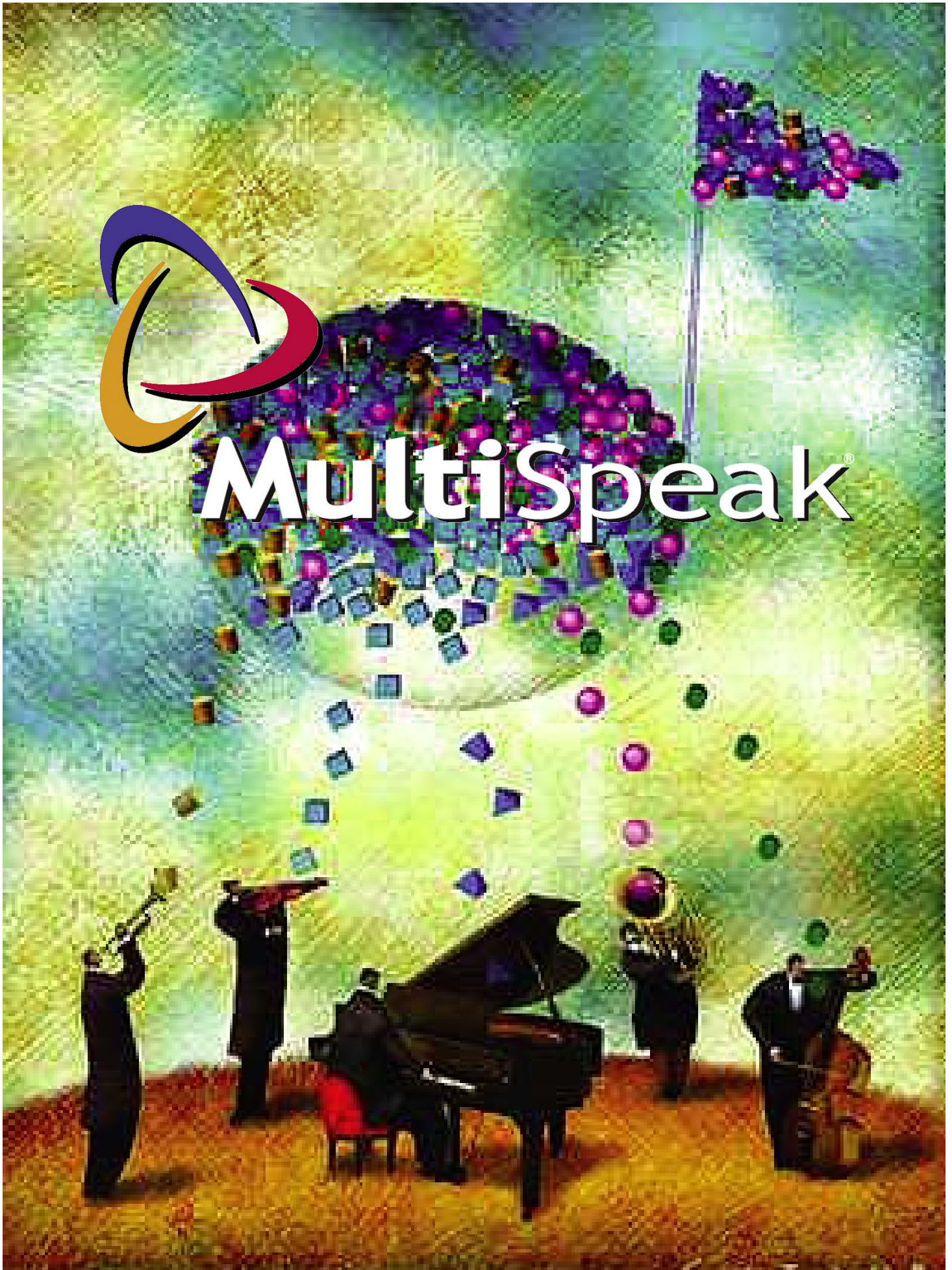
INFO TO GO

Four things you need to know about MultiSpeak® versions 4.0 and 4.1

1. MultiSpeak Version 4.0, with its bus architecture, extends interoperability to more software applications, such as automatic vehicle location and work management systems.
2. Previous editions of MultiSpeak are not obsolete.
3. Upgrades to the web services-based MultiSpeak Version 3.0 offer added efficiencies.
4. Unified modeling language allows interfaces in Version 4.1 to more easily work with smart grid interoperability standards selected by the National Institute of Standards and Technology.



MultiSpeak[®]



distribution engineer and MultiSpeak program manager.

MultiSpeak Version 4.0, released in February 2009, built on the successful web services approach used in Version 3.0 by introducing bus architecture, which makes information more accessible to a broad range of applications. With bus architecture, interfaces don't have to be written for specific point-to-point data exchange. Version 4.0 also covers work management and AVL systems; provides enhanced support for water and gas metering, engineering model catalogs, and compatible transmission power system model exchange capabilities (CIM-CPSM); and can handle foreign languages, postal addresses, currencies, units of measure, and telephone numbers.

Gary McNaughton, MultiSpeak technical coordinator and vice president of Cornice Engineering, Inc., in Grand Canyon, Ariz., relates: "When planning a MultiSpeak interface, communications between electric co-ops and vendors are essential. We are currently working on use cases—a set of standardized business process steps that document how a utility performs work, and how each step is supported by one MultiSpeak 'call.' Once use case definitions are standardized, co-ops can use the definitions to specify which ones they wish to require in a request for proposals. This enhances communications with potential vendors."

To become MultiSpeak compatible, products must achieve interoperability certification. In October 2009, Clevest Solutions, Inc. (clevest.com), and Milsoft Utility Solutions (milsoft.com) became the first vendors to complete MultiSpeak 4.0 interoperability testing by successfully integrating AVL data from Clevest's Mobile Field Force application with Milsoft's DisSPatch outage management system (OMS). AVL allows co-ops to track line trucks in the field using real-time GPS data.

Arthur Lo, Clevest Solutions chief technology officer & vice president, notes that Mobile Field Force integration with DisSPatch OMS means faster outage restoration and improved safety for lineworkers. "Our software receives outage information from the real-time interface with DisSPatch OMS. Co-op personnel can then view outages and truck locations on viewers layered within our software. A

quick status check identifies and assigns the best available crews to investigate problems."

He continues: "One big advantage is there is no lost paperwork. All actions are time stamped, captured, and retrievable for reports."

At Sellersburg, Ind.-based Clark County Rural Electric Membership Corporation, a 22,000-member co-op covering five counties in southern Indiana, Dave Barton, manager of operations & engineering, points out: "We adopted the Clevest/Milsoft interface about seven months ago. We're using the AVL portion right now with Clevest software and cellular modems in some 19 mobile units—we receive position updates every 30 seconds."

A modem in each line truck communicates AVL data over a Verizon cellular network to DisSPatch OMS at the main office. "There's a definite advantage to expanding AVL services to include two-way exchange of work order information," Barton says.

Four County Electric Membership Corporation in North Carolina has also implemented the Clevest/DisSPatch MultiSpeak 4.0 interface. The Burgaw-headquartered distribution system, serving more than 32,000 members northwest of Wilmington, initially only wanted to know where line crews and trucks were, where they were headed, and how fast they were moving, indicates Doug Krynicki, the co-op's vice president of information technology. "About 50 mobile units are being tracked, and AVL information is sent to our DisSPatch OMS using the data channel of a Tait Electronics [taitworld.com] two-way data and voice radio system."

According to Krynicki, crews assigned to one of the co-op's three districts could be in the best position to handle a service interruption in another district. "The ability to make the most expedient assignments speeds service restoration and saves on equipment wear and tear and employee time. We're now looking to expand AVL functionality to our system operations map and also examining ways to exchange work order information between office and field."

Early this year, DisSPatch OMS and the Mobile Control AVL from SageQuest (sagequest.com), a Software-as-a-Service solution, received MultiSpeak Version 4.0 certification following successful interoperability testing.

While NIST chose MultiSpeak as one of its approved smart grid interoperability standards, the Gaithersburg, Md.-based federal agency also called for the use of unified modeling language (UML)—a

general-purpose data "tongue" that includes graphic notation techniques—in future MultiSpeak adaptations. As a result, MultiSpeak Version 4.1 (released in July 2010) is UML-based.

"This will make it easier for vendors new to MultiSpeak to understand how it works, significantly broaden the types of software that interoperate, and give co-ops a wider variety of applications to choose from," McNaughton mentions.

However, earlier MultiSpeak efforts are not destined for the scrap heap. In particular, MultiSpeak Version 3.0 and its kin that rely on web services—a popular Internet standard that enables data exchange and integration to occur more transparently and efficiently—remain fully functional.

"Co-ops never have to change a MultiSpeak interface that's working," McNaughton argues.

At Denison, Iowa-headquartered Western Iowa Power Cooperative, Office Manager Janet Iversen reports massive ice storms in December 2009 and again a few weeks later showed the benefits of developing one-click access to meter information. A Cooper Power Systems (cooperpower.com) AMI system the co-op installed in 2009 feeds data to a Yukon server housed at Professional Computer Systems (PCS; pcsco.com) in Denison. Western Iowa Power also uses Utilit-e Connect, a PCS-hosted billing and customer information system.

"Previously, we had to contact Utilit-e Connect for a consumer's account number and then log on to the AMI system to get metering information," Iversen explains. "So we worked with PCS to fashion a new, streamlined interface. We soon settled on using MultiSpeak 3.0 to get the job done."

Now, Western Iowa Power can retrieve consumer and meter data without extra steps. "PCS can calculate a bill for us from a real-time meter reading or pull a reading for a specific date," Iversen concludes. "We can even call up and display AMI statistics such as blink counts." ■