

MultiSpeak® – Integration Made Easier
by
Power System Engineering, Inc.

MultiSpeak has come a long way in the last eight years. It began in January, 2000 as a joint effort between various vendors that provide automation suites mostly to electric cooperatives and the National Rural Electric Cooperative Association (NRECA). Their common vision was to develop standard software interface specifications for the purposes of simplifying the integration of various vendor suites. Thus, MultiSpeak is not itself a software product. It exists, in a way, behind the scenes—a common language that enables existing software products to speak to each other.

The initial release focused on core software products: customer information systems, interactive voice response, automated staking systems, geographic information systems, and engineering analysis. There were initially only a few interfaces designed for batch file transfers. It started with the premise that every piece of data was owned by an existing piece of software and that any other program that needed the data could get a copy of the data and possibly request the owner to modify the primary data store.

Version 2.2, released in 2003, included additional software products such as automatic meter reading, load management, outage management systems, and supervisory control and data acquisition systems (SCADA). In addition to the batch file transfers available with Version 1.1, Version 2.2 offered real-time messaging capabilities. In 2003, this real-time messaging layout was considered an industry leader, offering both request/response and publish/subscribe within its communications interface. Over the next two years, the MultiSpeak initiative continued to grow and become a utility standard.

In December 2005, Version 3.0 was released, and it remains the current release to date, there have been many revisions. In 2007, for example, five new builds of Version 3.0 were released. One major change in Version 3.0 over Version 2.2 was the use of web services. Some additional Version 3.0's more noticeable changes include:

- Support of synchronization based on groups of updates referred to as “sessions.”
- Capability for a client to resynchronize with servers via the new interface without requiring the client to perform a complete dump of all information from the server.
- Additions to allow data objects to be extended for real-time communication. Some of the data definitions were improved and others were added for breaking up large XML file transfers to improve network bandwidth issues, improve performance, and handle problems with splitting up unmanageable file transfers.
- Addition of a compact, self-describing data block format for exchange of large amounts of data, such as from an AMI system.

Some of the more recent improvements to MultiSpeak have focused on electronic payment processing, prepay metering, water and gas metering, distribution automation, and meter data management. Version 4.0 is expected to be released in late 2008 or early 2009.

One focus of a revision within Version 3.0 was to structure web services in a bus architecture. This makes it easier for an application to support services for a number of software packages in place at a utility. Figure 1 illustrates the bus architecture.

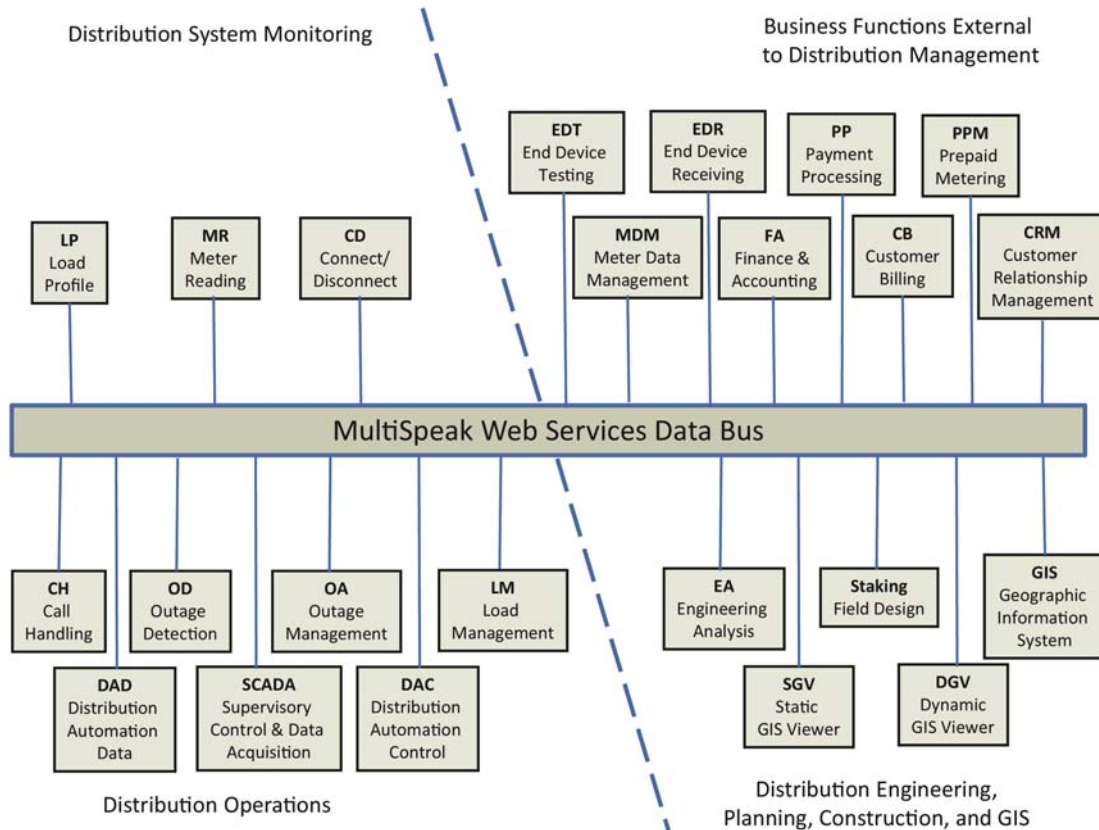


Figure 1: MultiSpeak Web Services Data Buss (multispeak.org)

Why are software vendors going with MultiSpeak?

Sean Solberg, with Powel (a mobile workforce suite vendor in St. Paul, MN) has been involved in the MultiSpeak initiative nearly from the beginning and is currently a vendor representative on the MultiSpeak Initiative Advisory Board. Sean states that “Powel derived a policy that MultiSpeak will be tried first, even with investor-owned utilities (IOUs), before going with custom integration.” Though some IOUs may be unaware of the MultiSpeak initiative, Solberg has found them pleased to discover that Powel has a standard web services interface because of MultiSpeak.

The successful joint efforts of NRECA and MultiSpeak are echoed throughout the utility “space,” although perhaps not to such a dramatic degree. Many other vendors are starting

to pay close attention to MultiSpeak as they advance their products' capabilities with the intention of integration.

What are utility automation employees saying about MultiSpeak?

Elton Veenstra, Manager of Engineering and Operations Systems at Great Lakes Energy, used MultiSpeak standards between Milsoft (an outage management systems and engineering analysis software) and the Aclara (TWACS) AMI system. Without the MultiSpeak standard, Veenstra points out that "the integration would have been significantly more expensive." Many utilities can benefit from this MultiSpeak initiative.

Greg Wolven, Director of Engineering for WIN Energy REMC in Vincennes, Indiana, is currently the Vice Chair for the MultiSpeak Initiative Advisory Board. Wolven states that part of the Advisory Board's next initiative focuses on automatic vehicle location and mobile workforce management.

WIN Energy REMC was one of the first two co-ops to adopt a MultiSpeak interface and was awarded the MultiSpeak First Adopter Award in 2001 for integrating CIS to Staking. Greg stated that "since the initial rollout, we have done CIS to AMR, AMR to CIS, AMR to OMS, and then just recently Staking to CIS."

A CIM and MultiSpeak Marriage?

MultiSpeak and the Common Information Model (CIM) group forged a new working relationship with the International Electrotechnical Commission (IEC), with the ambition of establishing commonality between MultiSpeak and CIM. The July 2007 issue of MultiSpeak's newsletter introduced this joint effort: "The MultiSpeak Initiative has begun working actively with Working Group 14 of Technical Committee 57, the body of the IEC that addresses distribution extensions of CIM to see where common ground exists and to see if the two standards can be brought closer together. Representatives of both groups are seeing benefits from this cross-fertilization of ideas." *MultiSpeak July 2007 Newsletter.*

Bob Saint, Principal Distribution Engineer, Energy Policy and MultiSpeak Program Manager with NRECA, is excited about this MultiSpeak and IEC collaboration. "MultiSpeak is really gaining some traction not just with cooperatives but with other utilities," he said. "I believe this will further promote MultiSpeak as a standard not just within cooperatives, but within the entire utility industry."

MultiSpeak is a successful example of the possibilities of joint efforts between utilities and software developers. NRECA took a lead role in the MultiSpeak initiative and gave it direction from its inception, helping to make the idea of MultiSpeak a successful reality. Many others are now jumping on the bandwagon. Take a closer look at MultiSpeak's history; many good things have come about since its first appearance in 2000.