

## MultiSpeak® Use Case Study: WIN Energy REMC

*The following case study is part of a series examining the significant values and benefits that MultiSpeak® provides to both electric utilities and software vendors. For the entire series of case studies, please visit [MultiSpeak.org](http://MultiSpeak.org).*

### What is MultiSpeak?

Distribution optimization is a key role of America's Electric Cooperative that relies on seamless, cyber secure, cost-effective, and reliable data interoperability. A critical challenge in achieving distribution optimization is de-risking technology integration in the electric distribution system. MultiSpeak® is the worldwide leading software interoperability standard and connectivity solutions for electric distribution utilities. It facilitates data sharing between independent systems in a seamless, cyber secure, cost effective, and standardized way.



Since 2000, MultiSpeak® has significantly saved both software vendors and utilities by simplifying software integration and minimizing expenses for custom interface solutions. MultiSpeak® is the only interoperability standard of its type listed in the NIST-SGIP Catalog of Standards. MultiSpeak® is used in more than 800 plus electric cooperatives, investor-owned utilities, municipals, public power districts, water and gas utilities, universities, and Department of Defense in more than 21 different countries worldwide.

### Utility Background

WIN Energy REMC (Western Indiana Energy REMC) is a not-for-profit electric distribution cooperative in southwestern Indiana serving nearly 17,000 homes and businesses in rural Clay, Gibson, Greene, Knox, Pike, Posey, Sullivan, and Vigo counties. Their non-coincident peak is 135 MW, and the distribution utility manages 33 substations with a total workforce of 46.

In the late 1990's, WIN Energy recognized that the separation of their different data processes including Line design (staking), Geographic Information System (GIS), Outage Management System (OMS), Interactive Voice Response (IVR), Customer Information Systems (CIS), Engineering Analysis (EA), and Advanced Metering Infrastructure (AMI) was causing inefficiencies and lost opportunities. After exploring potential solutions on their own, WIN Energy became one of two utilities involved in a

NRECA Cooperative Research Network (CRN) – now Business and Technology Strategies – pilot project that became the MultiSpeak® standard.

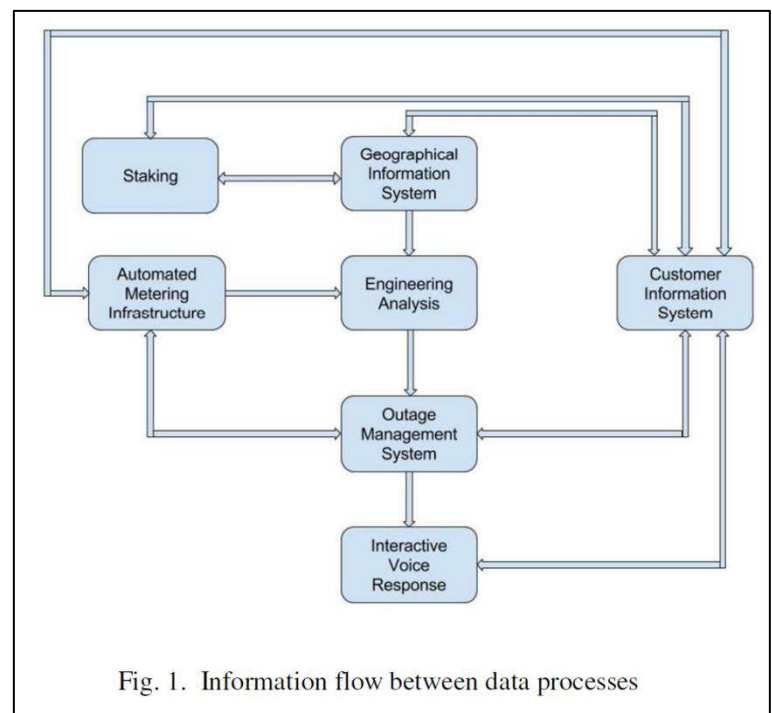
The driving push to become involved was when one of the processes WIN Energy was using, passing units between CIS and staking software, malfunctioned every time there was a software update from either of two vendors. Since the interfaces were customized, WIN Energy had to pay the vendors every time the interfaces had issues, which over the years became a significant expense. Having a common interoperability standard as a technical resource for vendors significantly helped both the vendors and the utility by saving considerable time and money.

According to Greg Wolven, Director of Engineering at WIN Energy, and head of the MultiSpeak® User’s Committee, this standardization empowers the utility to select the software vendors that best fit their business model, instead of a ‘one size fits all’ that sells an enterprise suite containing some of what the cooperative wanted and numerous other processes the cooperative did not want or need. This process has been coined as the ‘Best of Breed’ approach.

## MultiSpeak® Implementation and Benefits

Prior to MultiSpeak®, WIN Energy and other distribution utilities faced many challenges in developing this “best of breed” approach. One challenge was discovering the insufficient amount of information each software system knew about the process and data needs of the other software, even in the ‘suite’ approach. Another challenge was convincing vendors to acknowledge the need for certain datasets in varying degrees of detail or granularity. The problem was utilities needed to pass what a vendor considered as insignificant data into and out of a vendor’s system, because the vendor’s system was a critical step in the overall utility business process. The granularity of the data had to be maintained, not for one vendor, but for any vendor in the overall process to have useful data.

By implementing the MultiSpeak® standard between vendors, WIN Energy overcame these challenges and continued to add more MultiSpeak® interfaces over time. Now, WIN Energy has complete information flow processes between multiple distinct systems or endpoints



enabled by MultiSpeak®. Examples of these information processes and connections between seven (7) systems or endpoints are visualized in Figure 1. WIN Energy implemented these MultiSpeak® interfaces in close collaboration with several different vendors and through their direct and active participation in the MultiSpeak® advisory board meetings as an official MultiSpeak® subscriber.

The following list provides a sampling of the MultiSpeak® interfaces implemented by WIN Energy, the associated benefits of each:

- **CIS to Staking & Staking to CIS**

NISC iVue is connected to GeoDigital's WorkStudio to send units and stock materials from NISC to StakeOut. This saves approximately 30 minutes per month by eliminating custom-made DLL's (Dynamic Link Libraries) and parsing that was previously required. The reverse connection allows StakeOut to send units directly to NISC. There are around 100 work orders per month with an average of 600 entries for unit to Continuing Property Record (CPR) conversion. Manually, this process took about 1 minute per entry, or 10 hours per month. With the MultiSpeak® interface the process is instantaneous, saving 120 hours a year or about \$3,500 a year.

- **CIS to AMI & AMI to CIS**

NISC iVue is connected to Landis+Gyr Gridstream to send meter deployment, status change, and customer information from NISC to Gridstream. Conversely, the Landis+Gyr meters are able to send through iVue the latest meter reading value to Customer Service Representatives (CSRs). The CSRs are able to provide better responses to members because the daily (and hourly) reads are available in iVue. The savings from this include 18 labor hours saved in meter reading per month, or over \$6,000 a year in labor.

#### Data Systems used by WIN Energy

*Customer Information System (CIS):*

**NISC iVue** is a suite of utility software applications for accounting, billing, operations and system administration.

*Line Design (Staking):*

**GeoDigital Work Studio StakeOut** creates and manages work orders with detailed design data based on construction unit standards; existing GIS feature data, ancillary facility data, and spatial drafting tools.

*Advanced Metering Infrastructure (AMI):*

**Landis+Gyr Gridstream** provides operational control for Landis+Gyr advanced metering and home area networks.

*Outage Management System (OMS):*

**Milsoft DisSPatch** collects and analyzes service outage notifications to enable faster, quicker utility response and service restoration.

*Geographic Information System (GIS):*

**Milsoft WindMilMap** enables efficient and accurate capture, maintenance and utilization of geospatial information, physical asset data and maps for an electric distribution system.

- **AMI to OMS**

The Landis & Gyr Gridstream software is connected to Milsoft DisSPatch OMS (Outage Management System) and shows blink count and outage status both graphically and in tabular form. This allows WIN Energy to find blinks, and define the real extent of an outage. However, WIN Energy cautions that this system provides a tool for outage detection, not verification. By graphically displaying meters with a "lost" status in the OMS, outage detection and extent can be visually determined allowing for better use of resources.

In the past, without a good OMS, or engineering model interfacing with an AMI system, a member complaint about their 'lights' blinking sent a lineman to the field to review connections at that account. Once the lineman reviewed and tightened every connection specific to that account, the trouble ticket was closed. This may, or may not, have corrected the issue. Today, through a MultiSpeak® interface between the AMI and OMS, before sending someone to the field, the complaint is reviewed in the office and a determination as to the extent of the issue can be made. Often, the person complaining is not the only one with the issue. The field personnel can be informed as to the true extent of the issue and both increase reliability for all members affected and solve the issue, possibly in one trip. There are great savings to using this process. Addressing a member complaint often takes several trips and costs approximately \$300 per complaint of lost opportunity cost. There are approximately 4 to 5 complaints per week across the system, resulting in about \$60,000 of savings per year.

- **Customer Call on Outage**

The use of a true AMI system (AMI being defined as two-way communication) is often relied upon at Win Energy to determine if there is power to the meter. On average, the co-op's MSR's (Member Service Representatives) use this tool daily. When a member calls into the office to report an outage, while that member is on the telephone, the MSR is able to verify if there is power to the meter and whether the meter is involved in a line outage. In approximately one in ten, the issue is on the member's side, and Win Energy tries to talk the member through resolution to the problem without dispatching. During storms, this is an essential part of the co-op's trouble shooting. Win Energy estimates that approximately 50 times a year, it saves a 'dry run' (dispatching for issues not related to outages). Using both overtime and straight time, estimated savings are approximately \$5,000 per year.

- **CIS to OMS**

NISC iVue is connected to Milsoft DisSPatch to send customer information updates, such as name or phone number changes, from iVue to DisSPatch. Previously, this was a manual batch file process – now it is a completely automated process. The utility saves time, about 2 hours per week, by not having to check every update to

ensure the timeliness of data. Throughout the year, this saves an estimated \$3,100.

- **GIS to CIS**

WIN Energy is currently in the preliminary phases of connecting Milsoft WindMil mapping software with NISC iVue. WindMil will send updated geospatial data to iVue to enable easier identification of which county, township, board district, and operational district members belong.

Going the other way, this interface updates any special equipment changes from the CIS to the GIS system, such as transformers and reclosers. Whatever is in the CIS gets downloaded to the mapping and/or engineering model. By sending one change to both places, the engineering model is kept up to date. For every piece of equipment changed, this saves about 15 minutes of labor to update all relevant databases. The savings is approximately \$3,000 in labor costs per year.

Taking advantage of the information available in the described systems via MultiSpeak® interface provides a significant cost savings for electric power utilities. These are both direct and indirect. The ability to take advantage of system interfaces can provide an immediate benefit, such as AMI to OMS outage detection, more accurate longer term system planning, staking to GIS for creating and maintaining the system connectivity model, more detailed system analysis for targeted spending of Construction Work Plan money, and the intangible benefits of more satisfied customers due to increased system reliability, cost/rate containment, and outage communication.

## Lessons Learned

Through their extensive years of experience and active participation with MultiSpeak®, WIN Energy gained essential knowledge and best practices that can be shared with other electric distribution utilities. Their recommendations are:

- Consider making MultiSpeak® a requirement for any new software purchase as part of the Request for Proposal (RFP) for de-risking technology integration and ultimately saving the utility significant amount of time and money in implementing interoperable systems. NRECA's MultiSpeak® team is currently developing RFP template language and specification guides to help utilities and MultiSpeak® utility members.
- If MultiSpeak® does not have a process you need, make sure to pro-actively engage with the MultiSpeak® Advisory User Group. New processes are added every year based on user input.
- MultiSpeak® is an interoperability standard and does not solve data issues. Any existing data issues will still exist after you implement MultiSpeak® interfaces. These data issues are internal issues that need to be solved by the vendor and/or utility.

- Web services do not have to be done with a vendor. Once the data is defined, programs such as Microsoft Excel can make web service calls. This enables you to do reports and other functions with only one MultiSpeak® Compliant endpoint.
- Be sure to review internal procedures after implementing a MultiSpeak® interface. The change in a utility business process is a great moment to step-back and evaluate if there are any labor-saving measures you can take and eliminate the “That’s the way we’ve always done it” mindset.

Lastly, WIN Energy’s Greg Wolven encourages all utility beneficiaries and users of MultiSpeak® to become official subscribers. This is an important step because MultiSpeak® subscribers have greater access to free training and technical support. In addition, demonstrated cooperative support shows vendors that there is a strong community actively engaged in the MultiSpeak® standard.

### Contacts for More Information and Questions

For more information on MultiSpeak® or to become involved visit <http://www.MultiSpeak.org> or contact:

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## **Appendix A: Common Acronyms**

AMI – Advanced Metering Infrastructure

BTS – Business & Technology Strategies

CIS – Customer Information System

CPR – Continuing Property Record

CRN – Cooperative Research Network

CVR – Conservation Voltage Reduction

EA – Engineering Analysis

GIS – Geographic Information System

IVR – Interactive Voice Response

OMS – Outage Management System

RFP – Request for Proposal