

Using Internet Protocol to Harmonize Communications



A Network of Babel

Today's utility company owns a hodge-podge of communication systems that were purchased once the available technology made a compelling business case for implementation. For instance, a truck-to-depot communication system purchased in 1998 may have computerized data, but it is sent over traditional airwaves. Voice over Internet protocol? Not in the mix. Taking a step back, how many different systems does the utility company have that are similarly disconnected to internet protocols, the communication platform of the future? There's 800/900 Mhz radio, 150Mhz radio, satellite phones, one way pagers, two way pagers, TTY consoles, cellular phones, police and safety radio scanners, family radio handsets, and the list goes on. Since wireless coverage from commercial vendors can be spotty in all the areas covered by a utility company, most crews carry at least three communications devices and some carry anywhere from four to eight, according to the IBEW.

Communications in Tomorrow's Challenge

In view of this situation, the industry will need complete integrated communications systems to address its challenges. When a crew has to determine which handset to use, time is wasted and safety issues arise. And crews rarely make the most inexpensive choice. Since many experienced crew members will

be retiring in coming years, an integrated, holistic communications platform will be that much more important. Utilities will also need an integrated communication network to ensure compliance with cybersecurity standards from NERC and FERC. Integrated communications will significantly enhance the operation and reliability of the utility's physical infrastructure. The industry will be required to interface its communications with fire and police departments and other utility companies, to prepare for inevitable hurricanes and other emergency events. And now is the perfect time for utilities to begin complying with IEC 61805, international standards for Ethernet and IP electrical components. Such integration makes economic sense. A UTC study in 2005 indicated that companies that had implemented a single IP communication structure around VoIP had saved 35-41 percent.

Other benefits can also accrue. A well thought out communication network lays the framework for putting information at the fingertips of tomorrow's utility worker, the teenager that grew up on video games and computerized learning systems, like CAD, in place of mechanical drafting. This next generation of linemen will not be looking for paper copies of drawings, but rather electronic documents with tutorials, additional information and help attached.

Adding to communications complexity, smart metering, feeder switches, security cameras, and other devices will be deployed into substations and other distribution locations. One utility recently determined that an integrated communications system would simplify their business cases for distribution automation components and save the utility significant amounts of time and money.

Achieving Now

The Smart Energy Alliance™ (SEA™), comprised of six of the world's leading technology companies, was created in 2006 to help utilities develop communications systems that transform the entire utility organization.

The SEA believes that tomorrow's communications systems can be totally integrated using IP, from the corporate boardroom to the field. While numerous utilities have IP networks in place along with their proprietary networks, there are many questions about how to address overall planning and implementation so that equipment purchased in the past has a continuing lifespan. The SEA advocates case-by-case assessments and planning, to implement multi-year phased approaches to communications integration. Utility companies don't employ in-house experts on tomorrow's communications technology, and they shouldn't. Instead, engage SEA, an organization that's already evaluated the industry's communications needs holistically and can assess a company's legacy communications to determine the best means to leverage it, while planning for needed communications systems of the future.

Using a collaborative process with the utility and the six SEA members – Capgemini, Cisco, GE Energy, HP, Intel, and Oracle Corporation – there is a proven methodology for creating a system for IP to the Field that makes sense. Let our experts use their collective experience in delivering highly reliable and secure networking services for your communication challenges of tomorrow, today, harnessing the true power potential of your network.

The Smart Energy Alliance combines deep industry experience with a broad understanding of technology solutions from Capgemini, Cisco Systems, GE Energy, Hewlett-Packard Company, Intel and Oracle Corporation to accelerate adoption of new technologies in the utility industry worldwide.

For more information on the Smart Energy Alliance, visit <http://www.smart-energy-alliance.com>.

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