



## Full Spectrum achieves technological leap in smart grid communications

*New software provides wireless support for IEC 61850 "GOOSE" protocol – reduces scope and impact of power outages*

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Palo Alto, CA – Full Spectrum announced today a new version of its wireless communications software which supports the utility industry's IEC 61850 Generic Object Oriented Substation Event protocol (also known as "GOOSE"). The protocol is designed to reduce the scope and impact of power outages by implementing instantaneous and intelligent switching decisions without human intervention. It is a critical element in the implementation of the self-healing smart grid. To date IEC 61850 has been deployed primarily at electric utility substations over high capacity fiber connections. The challenge, until now, has been to operate the high capacity, low latency protocol over wireless infrastructure. Full Spectrum's IEC 61850 wireless support includes custom compression and quality of service algorithms to address this challenge.

Full Spectrum's new software release allows the IEC 61850 protocol to be pushed deep into the distribution electric grid where wired infrastructure is not cost effective to install and maintain. With IEC 61850 intelligent devices along the distribution grid, sensors can isolate faults and reroute power almost instantaneously. The implementation of IEC 61850 greatly reduces the number of customers impacted by outages. This is especially important for industrial and commercial power users where even brief power outages can be costly and dangerous.

Power outages have become an increasingly disruptive problem in the US electric grid. Approximately 500,000 customers are without electricity for two or more hours every day. Power outages cost the economy more than \$80 billion annually, according to the Electric Power Research Institute (EPRI). The implementation of IEC 61850 in a wireless environment is a key step to reducing the economic impact of power outages. Although prolonged and severe outages receive a majority of media attention, momentary power interruptions, which are more frequent, have a greater impact on the total cost of interruptions.

Full Spectrum's first implementation will be along a remote distribution line that serves commercial and industrial users including a hospital complex. The rapid switching will help reduce the frequency of outages which can be especially disruptive to medical facilities that maintain sophisticated and costly diagnostic and life support equipment.

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**About Full Spectrum Inc.:** Full Spectrum Inc. designs, develops and manufactures FullMAX™, its patented, 4th generation wireless system for private, wide-area data networks. FullMAX™ offers maximum wide area mobile and fixed wireless coverage with minimal tower infrastructure. For more information, please email [inquiries@fullspectrumnet.com](mailto:inquiries@fullspectrumnet.com) or visit [www.fullspectrumnet.com](http://www.fullspectrumnet.com)