



GMP BUILDS FIRST SMART GRID NETWORK ON VTEL'S LTE



GREEN MOUNTAIN POWER

HIGHLIGHTS

- GMP merges with Central Vermont Public Services to become Vermont's largest utility
- GMP receives a grant to build a Smart Grid
- GMP partners with local telco Vermont Telephone to build an LTE network
- CalAmp supplies only commercially available, hardened CPE equipment needed by GMP
- As a result, GMP improves operations and customer options

Green Mountain Power, headquartered in Colchester, VT, generates, distributes and sells electricity. In June of 2012, GMP merged with Central Vermont Public Service, an investor-owned utility and the largest electric company in Vermont, which serves more than 160,000 customers in 163 communities and is responsible for 40% of Vermont electricity sales. A leader in wind and solar generation, GMP now serves more than 250,000 customers. Seeking to enhance operations and customer services and in collaboration with other Vermont utilities, GMP applied for and received a \$69M grant from the American Recovery and Reinvestment Act of 2009 (ARRA) to build out a Smart Grid throughout the state of Vermont.

THE CHALLENGE

GMP needed a reliable, secure backhaul network to communicate with Smart Grid resources, resulting in a natural partnership with local telco Vermont Telephone (VTel). Coincidentally, VTel also received an ARRA grant to develop an LTE network to provide broadband to underserved communities in Vermont, resulting in the perfect backhaul solution needed by GMP to complete their state-of-the-art Smart Grid project. The two entities have leveraged their resources to build out the statewide broadband and Smart Grid networks in a partnership that will benefit Vermont residents. As a result, Vermont residents will gain access to LTE technologies even in remote, underserved areas via VTel and benefit from the state-of-the-art Smart Grid to be implemented by GMP, the state's largest power provider.

With a plan to deploy over 270,000 Smart Meters, it became apparent that GMP needed an industrial, secure, multiple band LTE device to aggregate Smart Meter data to the backhaul network. With no product commercially available at the time to support industrial grade requirements or with the capability to support any type of LTE spectrum (B17 or B14), GMP looked to a consultant to design a device to get the job done. Since GMP was going to utilize VTel's LTE network for backhaul, the consultant determined first and foremost that the device



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- Jeff Monder
Director of Smart Grid and Corp. Projects





CalAmp Fusion LTE

needed to support 4G LTE data communication. In addition, the hardware and software platform needed to provide the ability to field upgrade the device with existing LTE modules in the future. Also, GMP required the device have embedded router functionality, capable of supporting multiple local area wired Ethernet networks without requiring an external router or switch. Most importantly, GMP required that the device was rugged enough to withstand the harsh Vermont weather. "We needed a very rugged, long-lasting device that can stand up to our cold winters," said Director of Smart Grid and Corporate Project Management Jeff Monder.

THE SOLUTION

CalAmp, who had the device GMP needed already in development, had the answer in its industry-leading Fusion product. With Fusion being LTE and multi network capable, rugged, and GPS and WiFi enabled, GMP found the product it needed that could communicate with the Smart Grid and improve its operational efficiencies and customer services. "I would seek CalAmp for any of our future needs," said Manager of Telecommunications Curtis McMillion. "They are empowered to do what it takes and they've done what they said they could do."

With the help of CalAmp's Fusion, GMP can fully utilize the benefits of Smart Grid technologies, such as Advanced Outage Management (AOT). AOT provides real-time notification to GMP's central office if there is an outage, allowing GMP to take immediate action and improve their response times. In addition, GMP benefits from an Automated Metering Infrastructure (AMI), which automatically sends readings from the customer premise back to the central office for billing. Distribution Automation (DA) is yet another Smart Grid benefit, which can route power around problems, completely preventing an outage without the need for human intervention.

In the future, Monder predicts that GMP customers will have more information and new tools that will help them make better decisions about electricity use. This information can help customers save money and reduce their carbon footprint. As a result of this new architecture, GMP will deploy new services to consumers, including in-home displays, direct load control, a web portal, tamper detection alert and power outage notification, all of these requiring a bi-directional secure data transmission made possible by Fusion. "We have a rich set of offerings we want to offer our customers that will rely on communication over this network," said Monder. "We needed the backhaul and CalAmp equipment to get this done."

For the environment, it offers a change for the better as well. Smart Grid technology will help GMP manage electricity more efficiently, and will help incorporate more renewable energy sources into the mix and reduce the need for fossil fuel-based energy. Not only has GMP improved customer services and its operations by utilizing the industry-leading Fusion by CalAmp, it has led the way for excellence in power management.

FEATURED PRODUCT

The Fusion LTE is an industry leading, multi-network and ruggedized device, capable of withstanding harsh environmental conditions. Fusion offers a single, flexible platform to address a variety of communication needs with over the air configuration and system monitoring for optimal connectivity. Fusion is a ready to deploy device that enable wireless connectivity over public and private LTE cellular networks at 4G speeds.

PRODUCT FEATURES

- Enables wireless data connectivity over public and private LTE cellular networks at 4G speeds
- Multiple WAN connection options provide redundant data connection and automatic switchover upon loss of connectivity
- Optional b/g/n WiFi interface with configurable access point supports connectivity to IP applications in a variety of network scenarios

About CalAmp

CalAmp Corp. (NASDAQ: CAMP) is a proven leader in providing wireless communications solutions to a broad array of vertical market applications and customers. CalAmp's extensive portfolio of intelligent communications devices, robust and scalable cloud service platform, and targeted software applications streamline otherwise complex machine-to-machine (M2M) deployments. These solutions enable customers to optimize their operations by collecting, monitoring and efficiently reporting business critical data and desired intelligence from high-value remote assets. For more information, please visit www.calamp.com.

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