

GarrettCom Products Offer Holyoke Gas & Electric Flexibility and Security for Utility Operations

An Industrial Networking Application

TECHNOLOGY TODAY

Hydroelectric facilities have played a major role in the US power infrastructure for more than a century, and many of the original buildings and dams are still in use. Power utilities such as Holyoke Gas & Electric (HG&E) are successfully blending the past with modern-day networking technology as the needs and uses of their facilities change. Industrial-hardened Ethernet switches help Holyoke not only with the management of the electricity generation operations but also with modern-day challenges such as physical and cyber security and management of some of the secondary businesses that have grown around the original operation.

ABOUT HOLYOKE GAS & ELECTRIC

Municipally-owned utility Holyoke Gas and Electric is one of the oldest power companies in New England. It provides electricity and natural gas for more than 18,000 customers in the Connecticut River valley. The company has expanded through acquisitions of other power generation companies, and has achieved success as a fiber-optic network Internet service provider (ISP).

THE CHALLENGE

Keeping a 100+ year-old operation up to date requires agility and flexibility. A collection of older mill-style brick buildings can be dusty and subject to temperature extremes and vibration from the powerful waterflows, requiring hardened electronic devices. Physical and cyber security are also important, particularly as the first NERC CIP compliance deadlines approach.

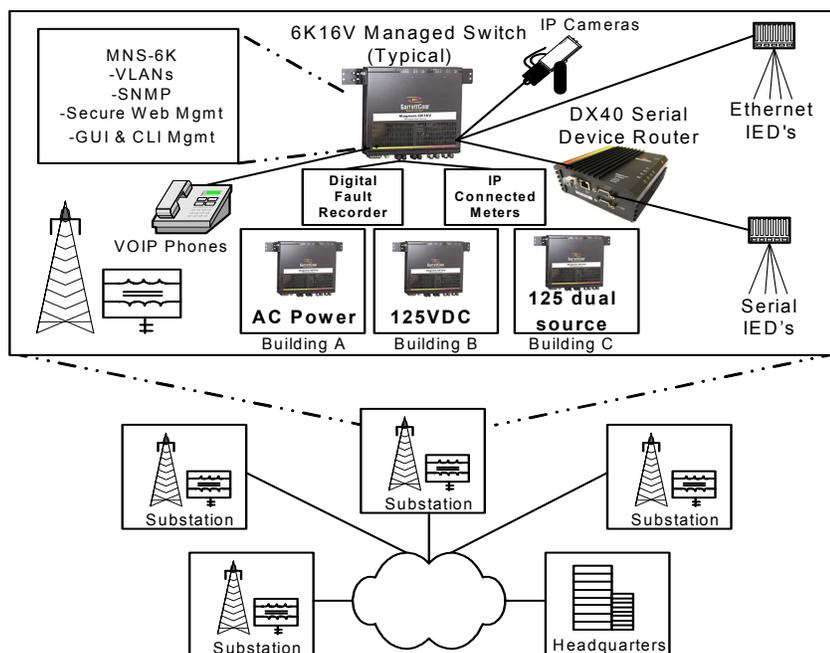
HG&E is a member of the North American power grid, thus security and network access control has to be sufficient to allow the company to safely and securely participate in the data sharing with utilities throughout the country that buy and sell electricity from each other. As an ISP, HG&E had additional compliance requirements based on homeland defense mandates such as the federal wiretap and tracing laws.

Finally, multiple acquisitions have resulted in a wide variety of communications products which have to interoperate. HG&E needed an industrial network vendor that understood and had the ability to support this prosperous and complex power utility company.

THE SOLUTION

HG&E selected GarrettCom's Magnum 6K-Series managed switches and DX Router/Terminal Servers for deploying Ethernet into substations and remote facilities. Of particular importance was the ability to choose among AC power, 125VDC power and dual-source DC. Many of the older and acquired buildings do not have AC power. The modular Magnum line allows HG&E to deploy the same switches, but with AC and 125VDC power as required. In addition, GarrettCom offers products in three levels of hardening – including premium grade for power utility infrastructure. This allows Magnum switches to be flexibly placed in the locations where they are needed.

Magnum Managed Network at Holyoke Gas & Electric Substations



Magnum 6K and DX Products at HG&E

The Magnum 6K switches are used in substations and other remote areas because they are able to operate in environments that range from high heat in summer months to below freezing in winter. The 6K's system modularity allows HG&E to specify multi-mode fiber optic cable for some sites and single mode at others.

GarrettCom's sophisticated MNS-6K network management software offers the most comprehensive set of security functionality available for industrial switches. The Magnum switches support HG&E's full range of security and surveillance equipment, including VOIP, video surveillance, access card readers, and entry key controls. MNS-6K functionality also supports both the ISP and NERC CIP security requirements such as secure cyber perimeters for critical infrastructure and system reliability through features such as VLANs, system logging, and redundancy.

THE RESULTS

HG&E has been able to provide a wide range of networked services for its internal operations and security and deliver many additional value added services to its customer base with Magnum 6K switches. The flexible Magnum switch design including multiple power sourcing and port configurations was key to enabling HG&E to adapt its network to multiple environments and to deploying IP-video surveillance and communications technologies in some challenging environments.

Compliance with multiple security and utility regulations and environmental regulations was facilitated by the physical and cyber security capabilities available with the GarrettCom switches, which extended the reach of the IT security strategies to the very edge of the network. The costs in terms of infrastructure deployment and troubleshooting have been reduced by real-time data access, resulting in greater efficiency in both water and power management.

ABOUT MAGNUM PRODUCTS

Magnum 6K Managed Switches are highly configurable switches, providing modular slots for user selection of 100Mb, 10Mb, or Gigabit Ethernet fiber or copper ports, and are substation hardened with "no-fans" or fan-based cooling. Power input choices include AC, 125VDC, -48VDC, 24VDC, and dual DC input for redundancy.

MNS-6K Managed Network Software provides the latest technology for switch management, monitoring and security. Based on network standards, it is easily integrated into existing networks and features standards-based redundancy functionality and Secure Web Management (SWM). MNS-6K offers standards-based cyber security tools for supporting NERC CIP network and systems compliance for power utilities and other critical industrial operations.

Magnum DX Routers & Device Servers combine features of a Serial Device Server, Ethernet Switch and an IP Router in a single product. Magnum DX Products deliver secure multi-protocol networking in a compact, rugged package built for heavy-duty industrial sites, substations, and other harsh environments. The Magnum DX line is IEEE 1613/IEC 61850-3 compliant for power utility substations.

Each DX unit serves as a multi-protocol concentration and access point for a fiber-based Ethernet connection to a small site. Encrypted per-session SSL and IPsec VPN capabilities, along with other industrial firewall and port security features, assure cyber-security protections will extend cost effectively all the way to end-point devices and small facilities.

ABOUT GARRETTCOM

GarrettCom, Inc. is the leading manufacturer of industrial and power utility networking products. GarrettCom offers a comprehensive line of IEC 61850, NEBS and ETSI-certified switches for use in power utility, factory floor, telecommunications, and outdoor environments. The company's management software supports redundant rings and secure web-based access to local and remote networks. GarrettCom markets its products through a network of resellers, OEMs, system integrators, and distributors worldwide. For more information on GarrettCom and its products, visit www.GarrettCom.com.



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