

THE CITY OF WEST DES MOINES MOVES TO SOPHISTICATED ATMS SYSTEM

An Industrial Ethernet Application

TECHNOLOGY TODAY

Advanced Transportation Management Systems [ATMS] are evolving rapidly. As city and county governments evaluate their traffic systems, it is good planning to prepare for, if not immediately install, sophisticated video traffic monitoring applications along with traditional traffic control signals and traffic flow management systems. Ethernet over fiber optic cabling is playing a crucial role in the deployment of these sophisticated high-bandwidth systems.

ABOUT THE CITY OF WEST DES MOINES

The City of West Des Moines, Iowa, is updating its traffic system to include state-of-the-art ATMS applications. The project includes installing a city-wide fiber optic cabling system using Ethernet IP addressing with the bandwidth to support many applications simultaneously. Additional funding supports connecting School District buildings and the police and fire departments of West Des Moines, Clive and Urbandale.

THE CHALLENGE

The City used Traffic Systems Solutions Company (TSSC) to assist in a system design that looked ahead to all the opportunities that current technology could bring. The ability to monitor traffic conditions and modify real-time traffic flow during natural hazards such as snow, ice, and flooding, as well as man-made ones such as detours, construction, and roadway incidents, was highly attractive.

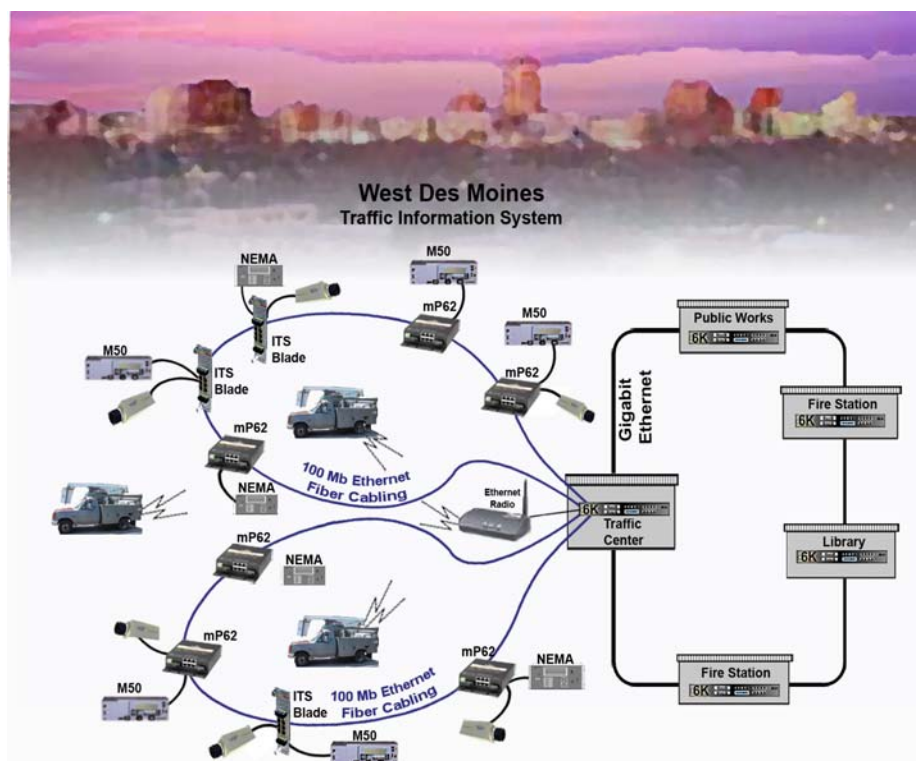
One of the key components for the success of the system was the identification of field-hardened IP networking and video equipment that could reliably function in extreme weather conditions.

THE SOLUTION

TSSC chose two of GarrettCom's field-hardened switches. Magnum P62F Ethernet switches support direct field connection to Ethernet radios, Siemens M50 Series traffic controllers and other devices which have IP addressing. In addition, the West Des Moines system design required space-saving Ethernet cards to be directly installed into some M50 controllers.

GarrettCom worked with TSSC to provide a specially-engineered version of the Magnum ITS Blade with a "hot" feature that keeps the network up even when the host controller is powered down.

An extended Ethernet link utilizing a 1 Gbps Ethernet backbone ring supports fiber optic network distribution centers at Public Works, the library, and two fire stations.



West Des Moines, ATMS

GarrettCom 6K-Series Ethernet switches provide new circuit capability as well as support for the Ethernet links to the traffic controllers, enabling both a city IS (Information System) network and an isolated Traffic/Transportation Information System.

The Magnum 6K-Series switches link with the P62Fs and Blades to form multiple self-healing rings in the field network. A multi-frequency central Ethernet radio link supports in-vehicle network applications for controlling and monitoring the ATMS application, as well as video-over-Ethernet to selected public works vehicles via IP video servers.

THE RESULTS

The new system permits the City of West Des Moines to control and modify traffic flows from the field without distracting the motoring public. The combination of wired systems and Ethernet radio access bridges allows centralized traffic management and overview, along with the ability for police and fire services to monitor and manage traffic situations on location during emergency situations. The new design also supports video and data links from the State of Iowa DOT cameras and data generators.

ABOUT MAGNUM PRODUCTS

The **Magnum P62F Hardened Switch** has six 10/100 Mbps switched RJ-45 ports and two 100 Mbps fiber ports and operates in temperature uncontrolled environments. It supports single mode or multi-mode line drivers on a per-port basis to accommodate different cabling distances between sites.

The **Magnum™ ITS Blade Ethernet Interface Card** fits into a slot in a 2070 or M50 Traffic Controller to offer the performance, high availability, and redundancy needed to support live video and other sophisticated traffic management services without taking additional space in a traffic control box. Outdoor-rated for temperature and humidity, it comes with six 10/100 Mbps switched RJ-45 ports and two 100 Mbps fiber ports.

The **Magnum 6K-Series of Managed Ethernet Switches** offers modularity, supporting a mix of fiber and copper ports, and advanced management features including standards-compatible support for self-healing rings and the most comprehensive set of web management and security features to be found in an industrial switch. A small footprint and flexible mounting hardware allow the 16- 25- and 32-port 6K-Series units to fit easily into control room spaces.

ABOUT GARRETTCOM

GarrettCom, Inc., is the leading manufacturer of industrial and carrier-class Ethernet LAN products. GarrettCom offers a comprehensive line of ETSI and NEBS-certified switches and hubs for use in telecommunications, industrial, and automated environments. Software applications, embedded in the company's MNS-6K Ethernet management software support 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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