

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 Brown Traffic Products 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.

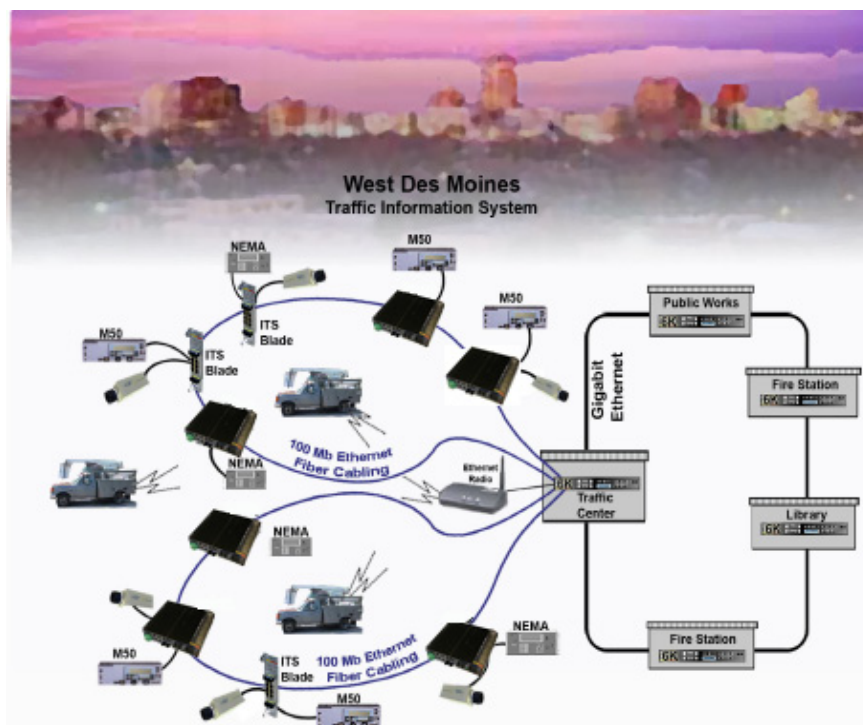
One of the key components for the success of the system was the identification of field-hardened IP networking and video equipment that could reliably function in extreme weather conditions.

THE SOLUTION

Brown Traffic Products chose two of GarrettCom's field-hardened switches. Magnum 6KQ 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 Brown 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 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

Magnum 6K Managed Switches are highly configurable switches, providing modular slots for user selection of 100Mb, 10Mb, or Gigabit Ethernet fiber or copper ports. The Magnum 6K line is hardened for the harshest industrial environments. Many 6K Switches are convection cooled (such as the Magnum 6KQ used as part of the Cargotec Port Security solution). Power input choices include 24VDC, -48VDC, 125VDC, AC, and dual DC input for redundancy.

MNS-6K Managed Network Software provides the latest technology for switch management, network management and security. Based on network standards, it is easily integrated into existing networks, and features standards-based redundancy functionality and Secure Web Management (SWM) GUI. MNS-6K-SECURE is available for those customers demanding *extra* security in their networks. It includes SNTP client and SNTP server that provides synchronized time services for networks. Both MNS-6K and MNS-6K-SECURE now feature industry standard RSTP-2004 to support larger rings and meshes.

To learn more about GarrettCom's range of hardened and innovative industrial networking products, visit www.GarrettCom.com.



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