STATE OF WISCONSIN

WISCOM STATEWIDE RADIO SYSTEM

"EFJohnson offered the State of Wisconsin much more than just a good value proposal. As a big customer for a smaller company, we've benefited from the opportunity to establish close relationships with all of the key players at EFJohnson. Their ability to deliver strong architecture and new designs for WISCOM has provided us with a high-quality statewide system that allows us to do the things we want to do. EFJohnson is a great company offering great products, and we are very happy with the work they have done for us."

Carl Guse | Wisconsin Department of Transportation

EFJOHNSON SYSTEM DESCRIPTION

PROJECT STARTED: 2009 | PROJECT COMPLETED: 2011 | PROJECT EXPANSION: Ongoing (2011+)

- Project 25 Statewide Trunked (Conventional & Simulcast solutions included as part of expansion)
- VHF Frequency Band (includes additional 800MHz sites for some areas)
- County Connections Program - ATLAS® P25 StarGate® Dispatch Consoles
- 81 Multi-Channel Sites Deployed for System Acceptance; Current Expansion at 100+ Sites
- Serving a Population of Approximately 5.7 Million

The EFJohnson ATLAS P25 system solution for WISCOM is based on EFJohnson's unique and patented distributed architecture that allows a fully scalable and flexible deployment. The fully backward compatible solution is comprised of both the prior generation and next generation hardware platform including ATLAS 4000 series repeaters, ATLAS 8000 controllers/gateways, ATLAS NMS and ATLAS dispatch consoles.

SITUATION

Historically, radio communications in the State of Wisconsin have consisted of statewide and local conventional repeater systems to provide basic communications and mutual aid capabilities. Additionally, some of Wisconsin's Emergency Management Districts developed their own independent regional interoperability areas, and several large urban areas deployed proprietary trunked systems. These circumstances have made statewide interoperability difficult.

In order to allow emergency responders to seamlessly communicate, particularly during a disaster, the State of Wisconsin adopted a plan to develop the Wisconsin Interoperable System for Communications (WISCOM). This integrated, interoperable trunked radio communications network, which is based upon P25 standards, is capable of providing mobile radio coverage on the VHF frequency band to public safety agencies, and certain non-governmental public service entities, throughout the entire state.

WISCOM is managed by the Statewide System Management Group, a committee of the State Interoperable Council. Members include representatives from law enforcement, fire services, EMS, emergency management agencies and municipal, county, state, and tribal governments. This wide representation ensures that the system meets the needs of all public safety users.

SOLUTION

EFJohnson provided the State of Wisconsin with its P25 compliant Trunked System to build the backbone of WISCOM's infrastructure. The robust system provides radio coverage for 95 percent of the state through 81 initial sites consisting of five repeater channels at each site. It is scalable to allow new site additions as coverage needs change, or as local agencies replace legacy systems and wish to become interoperable with WISCOM and jointly share common infrastructure. The current expanded scope of the WISCOM P25 solution includes the ATLAS P25 system offering with trunked, conventional and simulcast solutions as part of the hybrid system solution. In addition, the expansion of the WISCOM system also includes 800 MHz sites for urban areas.

Major features of the WISCOM ATLAS P25 Trunked System solution include:

- **Wide Area Architecture** - Seamless wide area connectivity allows users to communicate across site boundaries over a common IP network backbone and helps alleviate manual interventions such as channel/talkgroup changes.

- **Fully Distributed Switchless Network** - The fully distributed architecture enables maximum flexibility and scalability in network design and deployment. By eliminating expensive centralized core network and site equipment, network reliability is increased and single points of failure are eliminated.

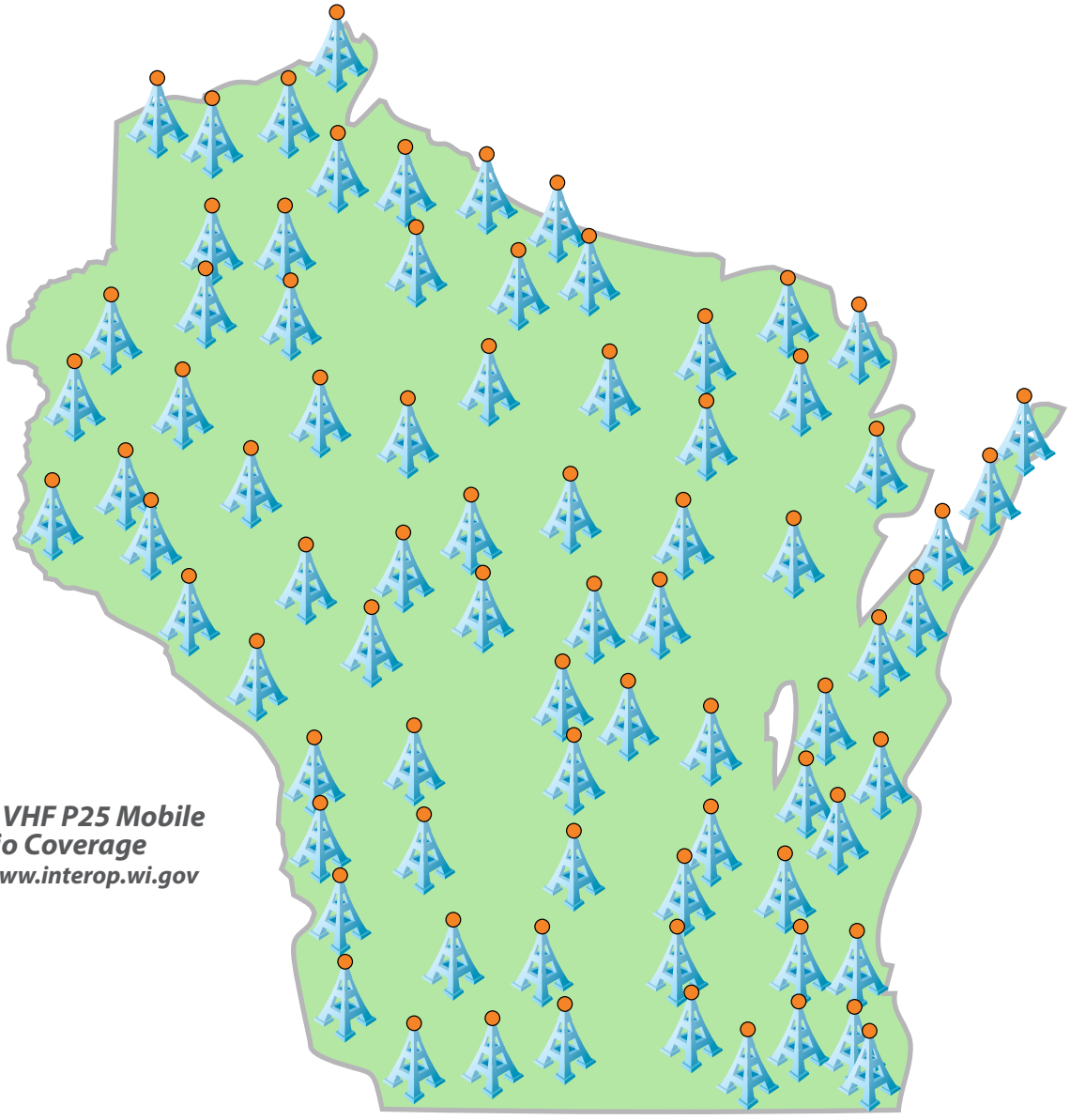
- **Decentralized Call Control and Switching Mobility** - Call control and switching functions are distributed across the wide area network at each site location. This offers seamless mobility and roaming across the network without relying on centralized switching, while at the same time reduces backhaul bandwidth requirements and expense on the IP network.

- **Self-Discovery and Auto-Healing** - Call processing and subscriber database management are distributed across the network at each site, thereby allowing independent site-to-site connectivity and call control. This enables the network to overcome outages by being able to self-heal and operate as independent distributed wide area networks until the outage is corrected. In addition, the distributed network also performs self-discovery when new sites are added which allows graceful, cost effective network growth without any disruptions to the existing topology.

Since the WISCOM initiative is partially funded by a Public Safety Interoperable Communications Grant (PSIC), the system was designed to meet P25 and interoperability requirements, as well as satisfy the FCC Narrowband mandate. To further control costs for this project, existing sites and IT facilities were utilized as much as possible.

BENEFITS

- The primary benefits of the EFJohnson ATLAS P25 Trunked system solution for WISCOM include:
- Interoperability among statewide public safety agencies
- Significant cost savings through no licensing fees, reuse of existing sites and IT facilities, as well as interface capabilities to legacy systems
- Ability for local agencies to eliminate costly equipment duplication by leveraging the state backbone
- Flexibility for agencies to expand their capacity as coverage needs change
- Meeting the required technical characteristics (FCC Narrowband capable, P25 compliant, interoperable) for grant funding eligibility



WISCOM VHF P25 Mobile Radio Coverage
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