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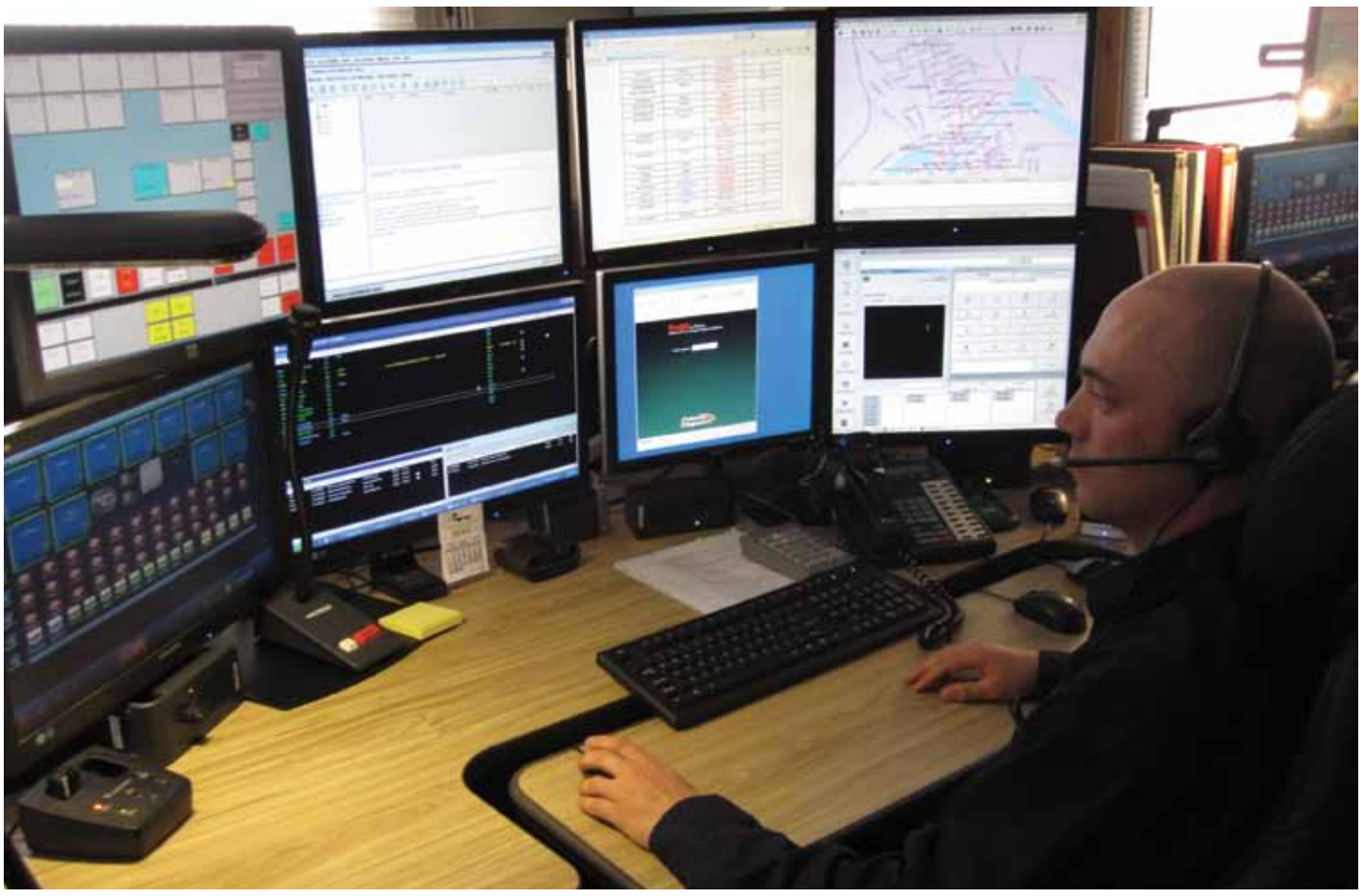

Dispatcher William Crawford III monitors multiple screens in his position at the Somerset County Regional Communication Center (SCRCC).

MAX Dispatch Extends Reach to Remote Sites over IP

The Somerset County Regional Communication Center's recent installation of Zetron's MAX Dispatch system not only offers updated features and functionality, but its IP capabilities extend the center's reach into a difficult-to-cover area 75 miles away.

Somerset County, Maine, is one of the most northerly counties in the continental U.S. A long, narrow county in mid-western Maine, it extends up between Quebec and New Brunswick for about 100 miles. Its northernmost towns are closer in proximity to Montréal than to any major U. S. city.

Because of the county's uneven topography and long, narrow shape, the radio dispatch communications Somerset County uses to send first responders to the scene of an emergency have at times been sporadic and unreliable. To remedy this problem, the Somerset County Regional Communications Center (SCRCC) recently installed Zetron's IP-based MAX Dispatch system. The new equipment has not only updated and greatly improved the SCRCC's dispatching capabilities, but will eventually allow them to connect over IP to a remote position at the northern edge of the county.

The SCRCC

The SCRCC provides public-safety communications for an area of roughly 4,000 square miles. "We answer 9-1-1 calls, dispatch first responders all over the county and also provide contract services to 19 municipalities located throughout several neighboring counties," says SCRCC director Michael Smith. "That includes answering 9-1-1 calls for Augusta, the state capitol in neighboring Kennebec County. We're the PSAP for about 145,000 people, so even though we're a sparsely populated county, it can sometimes get pretty hectic around here."

Coverage challenges

One of the agencies the SCRCC serves is in the town of Jackman, near the Canadian border and about 75 miles from the SCRCC. It functions as a first-responder office and remote site for Somerset County's sheriff's department and Emergency Management Services agency. The site's distance from the main center was one of reasons the SCRCC decided to obtain an IP-based system.

"Because the radio hops have to go all the way up through the corridor of a long, mountainous valley to reach Jackman, they haven't always been successful," Smith explains. "Variations in weather and even the leafing out of trees in spring can adversely affect our transmissions. We all felt that an IP-based solution would improve and extend our reach to this area."

The Border Interoperability Demonstration Project

Another factor contributing to the SCRCC's decision to install a new IP-based system was the Border Interoperability Demonstration Project—BIDP for short. It is a $25.5 million program established by the U.S. Dept. of Homeland Security's Office of Emergency Communications to promote interoperability and coordination across the U.S-Canadian and U.S.-Mexican borders. The Canadian border portion of the project involves several Maine counties, including Somerset. Funding for the SCRCC's new equipment would be provided by the BIDP.

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The Bald Mountain radio tower services the northernmost areas of Somerset County.

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>
> ***Michael Smith***
> *Director, Somerset County Regional Communication Center*

Live P25 Demos Signal New Era of Broader Interoperability and Customer Choice

Zetron's P25-compliant MAX Dispatch and Advanced Communications (Acom) systems were featured in the Project 25 Technology Interest Group's (PTIG's) live demos at IWCE in Las Vegas in March of 2013. Zetron solutions operating in various combinations with five major radio manufacturers' P25-compliant radio networks vividly illustrated the maturity of the P25 standards and Zetron's implementation of them.

"I can't believe what I'm seeing." "This is astounding!" These were the comments uttered by some of the visitors to the Project 25 Technology Interest Group (PTIG) booth at the International Wireless Communications Exposition (IWCE) in Las Vegas in March of 2013. Attendees were remarking on the first-ever multi-vendor Project 25 (P25) Console Sub-System Interface (CSSI) and Digital Fixed Station Interface (DFSI) interoperability demonstrations that were conducted live in PTIG's booth at the expo. Zetron was one of the console manufacturers featured in the demonstrations. The value Zetron places on P25 was clearly reflected in the leading role the company took in helping to coordinate and promote the event.

Making history

Participants in addition to Zetron included four other console manufacturers as well as seven radio sub-system manufacturers: Tait Communications, Cassidian, Codan Radio Communications, Harris, Motorola, RELM Wireless and Simoco. During eight sessions conducted over a two-day period, participants made history when they demonstrated 19 different combinations of live equipment interoperating with each other.

Zetron's MAX Dispatch and Acom

Zetron's demonstrations featured its MAX Dispatch and Advanced Communications (Acom) systems utilizing the TIA P25 DFSI and operating in various combinations with Tait, Codan Radio Communications, and Simoco conventional radio networks. Acom utilizing the TIA P25 CSSI was demonstrated live with Tait, Cassidian and Motorola trunked radio networks.

The DFSI and CSSI are the two P25 IP-based wire-line interfaces that pertain to radio dispatch consoles. The DFSI is used for making a direct connection between the console system and conventional base and repeater stations. The CSSI is used for connecting the console to the switch network (RF SubSystem [RFSS]) of a trunking or large conventional system.

Why the demos matter

Zetron product manager Randy Richmond explains some of the reasons why the live demonstrations at IWCE were so significant.

"Although PTIG has conducted a number of interoperability demonstrations over the past ten years," he says, "the demos this year at IWCE were important because they included the greatest number yet of manufacturers participating in P25 demonstrations and the broadest scope and diversity of active equipment. They also illustrated the seamlessness with which equipment utilizing interfaces based on P25 open standards can interoperate, as well as the maturity of the standards and Zetron's implementation of them. They also underscored the growing willingness of manufacturers to adopt P25 standards and cooperate with each other to ensure the success of those standards."

> "[The demonstrations this year] **illustrated the seamlessness** with which equipment utilizing interfaces based on P25 open standards can interoperate, as well as the **maturity of the standards** and Zetron's implementation of them."
>
> ***Randy Richmond***
> *Product Manager, Zetron*

The value of open standards

Solutions based on open standards have been touted as a great boon to customers, and rightfully so. For one thing they support interoperability across systems and equipment. This ensures that agencies are able to communicate with each other when events require it, even if they're not using the same manufacturer's equipment.

The critical need for interoperability was made painfully clear during Hurricane Katrina and 9/11. In both cases, the inability to interoperate made it difficult for agencies to communicate and coordinate their responses to events as they unfolded.

The ability of systems to interoperate also ensures that customers are not restricted to certain equipment choices. They have the freedom to make their equipment purchasing decisions based on what best meets their technical and budgetary requirements.

One console, multiple networks

One demonstration featured multiple consoles from different manufacturers connected to one network. This illustrated the ability of consoles to "hear" each other's traffic. Perhaps even more important, however, was another demo that showed how P25 interfaces can be utilized to connect one console system to multiple manufacturers' P25 conventional and trunked radio systems.

A demo featuring Zetron's Acom system was a case in point. The Acom console was able to handle multiple DFSI and CSSI connections with simultaneous traffic from several different radio systems. This functionality gives the console interoperability across different networks and allows patching traffic between systems.

More manufacturers adopt P25 interfaces

Utilization of the DFSI and CSSI is not new. Zetron already has over one-million console-hours of P25 CSSI operation in the field—more than any other console manufacturer. But this year has seen a marked increase in the adoption of these interfaces by the industry. Virtually every P25 trunked radio system manufacturer now offers the CSSI, and nearly all P25 conventional radio system manufacturers now offer the DFSI. Zetron consoles have tested successfully with each of these systems.

Realizing the promise of P25

The systems that operated together live at IWCE demonstrated some of the critical benefits P25 was originally created to achieve. Indeed, the realization of viable multi-vendor solutions fulfils the promise of P25 to promote interoperability and healthy competition, drive down equipment prices, and provide the solutions public-safety, utility, federal and other critical-communications agencies require. While the work goes on, the live demos made it clear that Zetron is in a stronger position than ever to support customers in their pursuit of mature P25-based solutions. To view videos of Zetron's live P25 demonstrations at IWCE, go to: **http://bit.ly/ZetronP25Demos**. ■

MAX Solutions Deemed 'a Critically Important Investment' for Ohio PSAP

The Lakewood, Ohio, Police Department's recent installation of Zetron's MAX Dispatch and Call-Taking systems not only supports their move to narrowbanding, improves their interoperability, and updates their functionality, but it also positions the agency to handle the next generation of public-safety communications technologies.

Although the pressure to change can feel like a burden, it can also serve as a catalyst that moves things forward beyond what was originally intended, expected or considered possible. A recent installation of Zetron's MAX Dispatch and MAX Call-Taking systems for the Lakewood, Ohio, Police Department demonstrates this principle. The project to install the new systems was originally triggered by a need to meet the FCC's narrowbanding requirements, but the new equipment has greatly improved Lakewood's public-safety communications and capabilities on many other fronts as well. It has updated their functionality, improved their interoperability, and moved them into the brave new world of IP-based communication technologies.

Lakewood, Ohio

A suburb of Cleveland, the City of Lakewood covers an area of seven square miles, has a population of about 52,000, and a population density of approximately 9,400 people per square mile. This is the highest population density of any city in Ohio and roughly comparable to that of Washington, D.C.

Lakewood PD

The Lakewood Police Department serves as a public safety answering point (PSAP) that answers the city's landline 9-1-1 calls and provides dispatching for the city's police, fire and emergency medical services. Emergency 9-1-1 calls originating from cell phones are taken by the Cuyahoga County Emergency Communications System, who then transfer to Lakewood any calls that fall within their jurisdiction.

Aging equipment, new requirements

Although narrowbanding was the catalyst for replacing the communications equipment, many factors influenced the project and the way it unfolded.

Lakewood's 1990's era Zetron button-based dispatch system had served them reliably for many years. But Lakewood had decided that in order to meet the FCC's narrowbanding mandate, they would migrate from their local UHF radio network to Ohio's statewide Multiple Agency Radio Communication System (MARCS). In addition to supporting their move to narrowbanding, this would also improve their interoperability across agencies and relieve them of having to maintain their own radio network. Their existing dispatch system was unable to interface with the MARCS network, however, so in order to migrate to the MARCS, Lakewood would have to purchase a new dispatch system. Given the age and limitations of their existing system and all they had to gain from obtaining a new one, it was not difficult to conclude that it was indeed time to purchase a new system.

They faced a similar situation with their 9-1-1 call-taking system. "Our call-taking equipment was antiquated," says Lakewood Information Systems Manager, Michael Coletta. "The vendor who serviced the system was having an increasingly difficult time getting parts for it."

Choosing Zetron and Independence Communications

After considering their options, Lakewood decided to purchase new call-taking and dispatch systems and install them as a single project. They issued a request for proposals, and their longtime radio equipment provider, Independence Communications, won the project with a proposal based on Zetron's MAX Dispatch and MAX Call-Taking systems.

"We chose Zetron because, based on our past experience with them, we feel we can rely on them and their products," says Coletta. "In addition, the MAX solutions are state-of-the-art IP-based systems that will meet our requirements now, position us for the future, and be supported by a single manufacturer. We also liked the fact that the systems would be installed and maintained by Independence Communications, a vendor we already know and trust."

Rewired, refurbished, repainted

Before the new equipment could be installed, the Lakewood PD communications room had to undergo a complete renovation. To facilitate this process, the existing communications equipment was moved to a temporary location in the basement of the police department.

Dispatchers Anne Kluiber (foreground) and Yvette Kavouras utilize Lakewood's new MAX systems to handle their dispatching and 9-1-1 call-taking tasks.

The project then got underway in earnest. The room was remodeled, repainted, and refurnished. The department's decades-old wiring, which was in much worse shape than anyone had anticipated, was all removed and replaced in a much more orderly way with new wiring.

The new communications equipment was then installed in parallel with the equipment it was replacing. "We didn't want to take any chances," explains Independence Communications president, Don Di Geronimo. "We installed the new dispatch and call-taking systems in parallel with the old ones, the new mobile radios alongside their old radios, and the connections to the MARCS network alongside their old network. If any issues cropped up, we'd have the old equipment to fall back on. But we never had to use it."

Implementation and training

MAX Dispatch and MAX Call-Taking were both installed at each of three workstations and set up so dispatchers could control both systems through their headsets.

Lakewood Mayor Michael Summers explains that the installations were conducted and configured with considerable input from Lakewood's dispatchers. "We wanted it all to work as well for the dispatchers as possible," says Mayor Summers, "so they were involved from the start. They offered great suggestions and stayed excited and positive throughout the entire process."

Excellent training and support

Although the PC-based consoles and updated screen designs were very different from the previous button-based equipment, the dispatchers took to them very quickly.

"The new equipment is extremely intuitive and easy to use, and Zetron's training was terrific" says Coletta. "Zetron's trainer, Hugo Hurtado, provided excellent technical and operational training and then stayed throughout the cutover to answer any questions that might arise. This made the transition very smooth and easy. Everyone felt very confident and well supported."

An important investment

The new equipment went live right on schedule at 10 a.m. on April 4, 2013. It is a great source of pride for Lakewood.

"The new equipment meets our goals and then some," says Coletta. "In addition to supporting narrowbanding, it gives us updated functionality and improved interoperability. The user interface is so intuitive that our operators are able to use it without thinking about it—which to me is a hallmark of good design. Another huge benefit is that because the systems are IP-based, Independence and Zetron can log into and service them remotely, which saves us considerable time and money."

"Although the project was originally triggered by our need for narrowbanding, it is giving us much more," adds Mayor Summers. "It has not only improved our effectiveness, response times and interoperability, but it represents a critically important investment in public safety that will serve our community for years to come."■

> "[The installation]… represents **a critically important investment** in public safety that will **serve our community for years to come.**"
>
> *Mayor Michael Summers*
> *Lakewood, Ohio*

MAX Dispatch Extends Reach to Remote Sites over IP

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Dispatchers at the SCRCC, from left to right: Ron Harris, Shane Hunt, Chris Ross, William Crawford III and Tanya Allen.

MAX Dispatch gives you the solid reliability and performance you expect from Zetron in a breakthrough, IP-based dispatch console system.

- **Intelligent UI:** Highlights information pertinent to the task at hand; reduces information overload.
- **Built-in Network Health Monitor:** Provides constant feedback about network status.
- **Advanced tools:** Streamline installation and minimize field time.
- **Dual connections:** Ensure end-to-end network redundancy.

"The BIDP program is designed to foster communication between Canadian and U.S. agencies when an incident spans the two countries," Smith explains. "The new equipment didn't have to be IP-based in order to qualify for BIDP funding, but we knew an IP-based system would be the best choice to support the BIDP's goals and meet our needs for remote operation."

Trust in Zetron and Yankee Communications

The SCRCC issued a request for proposals for a six-position IP-based dispatch console system. Zetron reseller, Yankee Communications, won the project with a proposal based on Zetron's MAX Dispatch system. MAX Dispatch was chosen for a number of reasons. It met the project specifications. In addition, the SCRCC had been using Zetron equipment for decades and were very happy with its reliability and performance. SCRCC administrators also wanted to work with Yankee Communications, who would obtain, install and maintain the system. Based in Clinton, Maine, Yankee Communications provides and supports two-way radio equipment and infrastructure for public-safety and heavy-industrial customers throughout their region. They have been the SCRCC's communications equipment and maintenance provider for many years.

"I have trust in two things," says Smith: "Zetron equipment, because of the how well it worked for us in the past; and Yankee Communications, because of their great service and thorough knowledge of what we need. They're here when we need them, whether it's four in the afternoon or four in the morning. Plus, when we visited an installation of MAX Dispatch at Shoshone County, Idaho, those using the system raved about it. When we took all of these factors into account, it only made sense to move forward with Zetron's new IP-based platform and Yankee Communications."

Ahead of schedule

Yankee Communications president, Rusty Bell, says that the MAX Dispatch system was initially installed in parallel with the SCRCC's existing Zetron Series 4000 system. "This was to ensure that if there were any glitches with the new equipment, operations wouldn't be interrupted," he says. "The two systems ran this way for nearly a year, but it wasn't necessary. MAX Dispatch has worked consistently and without a single interruption."

"We were able to go live with MAX Dispatch several weeks early because it tested successfully sooner than we'd planned," adds Smith. "This was fortunate because we'd just completed training our dispatchers and supervisors, so they could start using the new system while the training was still fresh in their minds. They grabbed onto the system faster than you'd believe. It was a very smooth transition."

'A great improvement'

The installation of MAX Dispatch at Somerset County, which went live without incident in June of 2012, has been running successfully for a year. According to Smith, it has already proved its worth.

"MAX Dispatch has been a great improvement for us," he says. "Everyone is extremely happy with it. No one ever says 'I wish it did this or that' because it does everything we need it to do. The system is also very flexible and easy to modify. Someone from Yankee can swing by on their way somewhere else and make any changes we need in about five minutes. Last but not least, we'll soon be putting in an Internet connection, so instead of sending signals from here to Jackman, we'll be sending them over IP. This will enable us to control the radio in the outpost 75 miles away as if we're sitting in downtown Jackman." ■

NENA Annual Conference
June 17 - 18, 2013 | Charlotte, NC

LSA Exhibition
July 14 - 18, 2013 | Destin, FL

APCO International
August 18 - 22, 2013 | Anaheim, CA

ZETRON FACTORY TRAINING

Please contact Zetron before scheduling factory training as dates are subject to change.

MAX Call-Taking
August 19 - 23, 2013
September 23 - 27, 2013

MAX Dispatch
August 6 - 9, 2013
September 17 - 20, 2013

Series 4000
September 10 - 12, 2013

The Advantage is published by Zetron, Inc.
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