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**ZETRON®**

# ADVANTAGE

28-position Acom  
Supports Yarra Trams'  
Multi-site Operations



**Equipping the Village of Rosemont**  
Rosemont, IL

**5 Stars for MAX Dispatch**  
Scott County, VA



# 28-position Acom Supports Yarra Trams' Multi-site Operations



*One of Yarra Trams' vehicles stops in front of Melbourne's Flinders Street railway station.*

**The two Zetron Acom dispatch systems recently installed for Yarra Trams in Melbourne, Australia, are providing the future-proof functionality required to support the company's current multi-site operations. The systems will also allow Yarra Trams to expand as the need arises.**

Melbourne, Australia, is known throughout the world as a vibrant and beautiful city. Situated on the Yarra River in the state of Victoria, Melbourne has an excellent road system, efficient public transportation, and four world-class sporting venues, all within its inner city. Plus, the city is a true melting pot with a thriving culture of diverse neighborhoods, entertainments, activities, and traditions.

So it's perhaps not surprising that Melbourne has just been named the world's most livable city—for the sixth year in a row—by the Economist Intelligence Unit (a sister organization to *The Economist* magazine). The rating is based on a comparison of 140 cities by factors such as safety, stability, healthcare, culture, educational resources, environment, and public transportation.

It could be argued that Melbourne's Yarra Trams network contributes significantly to the city's success and livability. The largest tram network in the world, it includes over 155 miles (250 kilometers) of double track and completes over 200 million passenger trips each year.

It takes considerable communication and coordination to ensure that Yarra Trams' operations run with the precision and predictability they require. That's why Yarra Trams recently installed Zetron Acom

integrated communications systems in their new Unified Operations Centre (OC) and in their disaster recovery (DR) center. The Acom solution is not only able to support Yarra Trams' current operations, but with its IP-based digital architecture and high configurability, it is fully capable of supporting the emerging technologies, updates, and expansion that are all part of Yarra Trams' plans for the future.

## The need for a new system

The project began in late 2014. Darren Young, Yarra Trams' operational control systems team manager, explains what prompted the effort: "We'd been using an analog dispatch system to communicate with our trams via consoles and mobile portable radios," he says. "But the system was approaching its end of life and could not be expanded or made future proof."

Another factor was that Yarra Trams wanted to consolidate several key operations in their new OC, so they needed a system that would be able to support a range of new and existing functions, including:

- Radio and telephone communications between tram drivers, field operators, and the OC.
- Automatic vehicle monitoring data communications that transfer operational data between the trams and the OC.
- Power center operations. The Yarra Trams network is powered by electricity. Power center operators housed in the OC would use the system to manage electricity to the network.
- Customer information services. Customer service agents would use the system to communicate changes in tram services to customers.
- Rolling-stock maintenance. Rolling stock refers to the trams themselves. The rolling-stock team would use the system to manage routine and non-routine tram maintenance issues.

Rick Perks, Yarra Trams' principal project manager for automatic vehicle monitoring and passenger information applications, describes additional features they were looking for in the new equipment. "It would have to be efficient, cost effective, scalable, and of mission-critical quality," he says. "It would also have to be interoperable with other radio technologies and our existing transceivers. Finally, it would have to support our redundant disaster-recovery center, and the system in the DR would have to be configured to function exactly like the one in the OC."

## Zetron stands out

To find a new system, Yarra Trams initiated a competitive tender process. Zetron and several other dispatch system vendors responded, but Zetron and its Acom system were ultimately chosen for the project. "Zetron stood out for a number of reasons," says Young. "Their proposal did the best job of addressing our requirements and provided a configurable console user interface. It also came with high-quality support and maintenance and an attractive project timeline."

## A multi-site solution

The solution agreed upon for Yarra Trams included:

- Two Acom systems—one installed at the primary data center and one installed at the DR center.
- 28 console positions—16 at the new OC, 11 in the DR operations room that would replicate the consoles at the OC, and one administrator's console in the maintenance facility.
- A trigger radio solution installed at the DR that would support 14 channels and provide backup for communication between consoles and radios.

## The implementation

Zetron Australasia project manager, John Kitchen, explains how the implementation at Yarra Trams' various locations unfolded: "First, we installed the core system at the DR site. Next, the primary Acom core was installed in the primary data center, and the consoles were installed in the new OC. The old operations center stayed up and running during this process, with all radio resources connected to both the new and the old systems. Once the final cutover date was set, the operators were moved to the new OC and started using the new console system. Finally, the share connections to the radios were removed, leaving only the Acom systems connected to the radios."

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**“Acom’s IP architecture... will allow us to **expand and upgrade easily** when the time comes to **support additional transceivers and digital radio technologies**.”**

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*Darren Young, Team Manager, Operational Control Systems, Yarra Trams*

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## Adaptations for Yarra Trams

Yarra Trams' Acom systems were designed to address the customer's unique needs. For instance, they were configured to integrate with a unified communications platform so users would be able to make phone calls over the Internet from their consoles. They were also integrated with existing equipment, including voice loggers, intercoms, and radio transceivers. In addition, to make the new equipment as easy as possible for the operators to learn, the consoles screens were configured to use the same radio-channel naming conventions utilized on Yarra Trams' previous system.

## A future-ready solution

The Acom solution for Yarra Trams has been running successfully for just over a year. Both Darren Young and Rick Perks are very pleased with its performance and the possibilities it offers for the future.

"Our operators like the configurable, user-friendly console screens; the new instant-recall recorder; the monitor-chosen channels; and the intercom," says Young. "I like the Acom's IP architecture because it gives us the future-readiness we were seeking and will allow us to expand and upgrade easily when the time comes to support additional transceivers and digital radio technologies."

Zetron engineers also received kudos from the customer: "Zetron was very cooperative, resourceful, and timely in addressing our questions and concerns," says Perks. "Those assigned to the project were well informed and highly capable in all aspects of the project, from installation to commissioning."

Given the advanced features, functionality, and improvements Yarra Trams' new Acom systems are delivering, they might well play a role in helping Melbourne retain its position as the world's most livable city—for a seventh consecutive year.■



# MAX Call-Taking Equips Village of Rosemont to Serve 75K Visitors per Day



*Rosemont dispatcher Angie Pawinski tracks the progress of a call on Rosemont's new MAX Call-Taking system.*

**The MAX Call-Taking system recently installed for the Village of Rosemont, IL, equips Rosemont to handle the many visitors who are drawn to the area's popular outlet malls and venues.**

The Village of Rosemont, Illinois, is not your typical Chicago suburb. Although it has a population of 4,200, its proximity to O'Hare International Airport (five minutes) and downtown Chicago (twenty minutes) make it a thriving tourist, entertainment, outlet mall, convention, and trade-show hub that attracts roughly 75,000 visitors per day.

While this activity makes Rosemont dynamic and prosperous, it also poses real challenges to its local public safety answering point (PSAP). The agency must be equipped and ready to serve not only Rosemont's resident citizens, but also the area's huge and fluctuating transient population.

That's why the Village of Rosemont recently updated their PSAP with Zetron's MAX Call-Taking system. The new state-of-the-art, IP-based solution gives the agency the flexibility they need to respond as the situation demands. It combines both their administrative and 9-1-1 calls into a single system, connects with the local Voice-over-IP (VoIP) system, and equips them to handle text-to-911 and other Next-Generation functionality.

## Public safety in the Village of Rosemont

Rosemont Village 9-1-1 coordinator, Jim O'Toole, describes his PSAP and the considerable responsibilities that fall to his agency. "The PSAP is part of the police department," he says. "Our police officers are trained not only as police, but also as firefighters and emergency medical technicians. If we dispatch to a fire call, we have an officer go with the truck. Our officers all carry fire gear and a radio, and our firefighters are all certified police officers who can move into that role if we need extra police."

"Here at our center, we answer 9-1-1 calls and dispatch police, fire and EMS for the Village of Rosemont," O'Toole continues. "But that's not all. Interstate highways 90, 294, and 190 all converge at Rosemont. Average daily traffic coming through our area is close to 599,000. We often answer 9-1-1 calls that originate from those three major roads because of the way our cell towers are situated. We then forward some of those calls to the state police or Chicago PD, as appropriate, and sometimes send our fire or police to assist them."

## Updating the 9-1-1 center

The Village of Rosemont decided to update their equipment because both their computer-aided dispatch (CAD) and 9-1-1 call-taking systems were aging and needed to be replaced. "Our CAD system couldn't keep up with the demands on the agency," says O'Toole. "And the call-taking system had reached its end of life and wasn't Next-Generation compliant."

Rosemont had also recently implemented a new community-based VoIP phone system. Their new call-taking system would have to integrate with the VoIP system in order to allow them to communicate with security officers and other personnel at the area's many venues. They also wanted a system they could use for both administrative and 9-1-1 calls.

"Some time ago, I was at a PSAP where the administrative and 9-1-1 phones were not integrated," O'Toole explains. "Suddenly, both phones at a position rang at the same time. The call taker didn't know which one to answer first. He hesitated, trying to figure out what to do. Every second is precious in a PSAP; we can't afford that kind of delay. We wanted to be sure our new system would combine functions and allow our call-takers to manage both types of calls simultaneously without putting callers at risk."



## The expert edge

The Village of Rosemont issued a request for proposals, then invited several vendors who responded to give demonstrations of their proposed solutions. This included Zetron reseller, Mercury Systems, of Naperville, IL, who had submitted a proposal based on Zetron's MAX Call-Taking system.

"Howard Gadorus of Mercury, and Zetron territory manager, Paul Singh, participated in the demos," says O'Toole. "We fired a lot of questions at them. We asked, 'Can the system do this, can the system do that?' and they answered every question at the snap of a finger. Many of the vendors who gave demos couldn't do that. Mercury and Zetron had the expert edge when it came to understanding and explaining their system and what it could do."

Based on a comparison of each system's capabilities and costs, vendor responses during the demonstrations, and the recommendations of the three dispatch personnel who sat in on the demos, Rosemont awarded Mercury Systems the project to install Zetron's MAX Call-Taking system.

## Staging, training, and cutover

Gadorus says that they followed their routine process of fully staging and programming the new MAX Call-Taking system before delivering it to the PSAP. This helps ensure that any kinks have been worked out and the final implementation goes smoothly.

"While the core was being configured, organized and put into the rack, our information-gathering team met with PSAP representative to collect all of the information for their trunks, telephone lines, speed dials, and transfers," says Gadorus. "Then we loaded the phone book with all the supplemental information they use in their daily operations."

Once the staging was done, Mercury set up several console positions in Rosemont's training room and dispatchers were given two hands-on training sessions of about four hours each.

The final cutover followed. Each position was shut down and unplugged, one at a time, moved into the dispatch room, plugged in, and checked to make sure it would take phone calls and 9-1-1 calls.

"Mercury was on site with us for about 10 to 12 hours that day, making sure everything was operational," says O'Toole. "They even stayed through our shift changes until everyone was acclimated to the new equipment."

The process was completed without incident, thanks to the thoroughness of the preparation that went into it and the expertise and experience of those performing the installation.

## 'A good purchase by the Village'

Summing up the project and the system's performance ever since it was installed, O'Toole says he's very grateful that MAX Call-Taking was recommended to him. "It was a very good purchase by the Village and the public safety department," he says. "The system has been running since day one. We're proud of it, and our dispatchers are very happy with how it operates."

Gadorus is pleased with the results of the project and the reliability of MAX Call-Taking. "The system core is so advanced," he says. "A PSAP manager or IT director who looks closely at its architecture will see that, from a technical standpoint—including its redundancy—MAX Call-Taking exceeds everything else that's currently out there. Plus, it allows me to sleep at night. I don't worry that the system might malfunction—because it doesn't!" ■

**“ [F]rom a technical standpoint—including its redundancy—MAX Call-Taking exceeds everything else that's currently out there.”**

*Howard Gadorus, V.P. of Sales and Engineering, Mercury Systems, Corp.*



*The Village of Rosemont's water tower.*



# 5 Stars for MAX Dispatch!

*Frances Sandidge monitors multiple screens from her dispatch position as she handles a phone call.*



**Scott County Virginia's new MAX Dispatch system is receiving high praise for its reliable performance, ease of use, redundancy, and adaptability.**

The public safety answering point (PSAP) and dispatch center in Scott County, Virginia, recently took a huge leap forward in their emergency communications technology. They replaced their decades-old analog dispatch system with Zetron's IP-based MAX Dispatch. Known for its streamlined, state-of-the-art look and feel, MAX Dispatch may not be the equipment one might expect to find in a PSAP in Virginia's Appalachian foothills. But there it is, nonetheless. And it is proving to be the perfect match for an agency that needs a reliable, cost-effective system that is flexible, redundant, and able to carry them into the future.

## Scott County, Virginia

Located in the southwestern corner of Virginia, Scott County has a rich history. American folk hero and frontiersman, Daniel Boone, is known to have commanded several forts in the area in about 1774. The county also has 11 stops on the Daniel Boone Wilderness Trail that was blazed by Boone and runs from what is now Kingsport, Tennessee, through the Cumberland Gap and into Kentucky.

With a population of approximately 24,000, Scott County is still known for its rural character and setting. But it is also home to an increasing number of industrial and technology-based companies. As the county grows and evolves, so do its needs for effective, up-to-date public-safety equipment and services.





## Scott County 9-1-1

Scott County's E9-1-1/GIS Department is located in Gate City, the county seat. The agency provides dispatching for the Scott County Sheriff's Office, the Gate City and Weber City police departments, seven fire departments, three rescue agencies, the Department of Forestry, and the Department of Game and Wildland Fisheries. The PSAP also handles the county's 9-1-1 calls.

Scott County radio technician Chris Harmon was very involved in the project to install the center's new dispatch system. He says that the age of their previous system was one of the main reasons they decided to buy a new one.

"Our old system was way outdated and was costing us considerable time and money," he says. "It was becoming more and more difficult to find replacement parts for it, and repair costs were going up. We also had deepening concerns about its reliability. To make matters worse, there was only one vendor who worked on the system, and he was in North Carolina. If we had a problem, sometimes he'd show up, and sometimes he wouldn't."

"There was something going wrong all the time," adds Scott County 9-1-1 director, Janice "Tutti" Jennings. "We really needed a system we'd be able to count on that would also be compatible with emerging technologies."

### Two-Way recommends MAX Dispatch

To find a new dispatch system, Scott County sought the advice of their local radio service provider, Two-Way Radio. With offices in Bluefield, Bristol, Wytheville, Beckley, and Wise, Virginia, Two-Way Radio provides communications equipment sales, installation, and service to customers throughout southwestern Virginia and into Tennessee.

Two-Way Radio suggested that Scott County install Zetron's MAX Dispatch as their new system. Sam Vincill is the shop manager for Two-Way's Bristol office. He says he recommended MAX Dispatch both because of the good things he was hearing about the system and his positive experiences with Zetron.

"The customers we work with appreciate the fact that Zetron provides a good product they can count on," he says. "The better and longer the equipment works, the better the customer feels. And Zetron does what it takes to bring that about. They are as interested as I am in taking care of the customer."

Scott County was pleased that Two-Way Radio would be in charge of purchasing, installing, and servicing their system. "We know from our history with Two-Way that they're very responsive, and we can trust what they say," says Harmon. "Their office is also close to us, so they can be here quickly if and when we need them."

"Plus, not only is MAX Dispatch easy to use," Jennings adds, "but its screens could be set up to mimic our old ones. This would make the transition to the new equipment easier for our dispatchers, which is critical because they have an important job to do. We want to limit the impact of change on them as much as we can."

The decision was finalized, and a four-position MAX Dispatch system was ordered for Scott County and shipped to Two-Way Radio's office in Bristol, VA.

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**"We love MAX Dispatch...  
It's working so well for us. We'd  
recommend MAX Dispatch to  
anyone. It's a five-star system."**

*Janice "Tutti" Jennings, Director, Scott County E9-1-1/GIS*

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### 'We tried to break it'

Once the equipment arrived, the next step involved setting up and configuring it at Two Way Radio's office before taking it to the 9-1-1 center.

"When I'm working with public safety, I have to be sure that the system's going to work the way I want it to," Vincill explains. "It isn't leaving the shop until I feel confident with how it's behaving. So with the help of Zetron's engineers, we set the system up here at the shop, and played with it. We tried to break it. We made up scenarios and took it through its paces—what if this happens, what if that happens, what does it do here, what does it do there? We did this until we were satisfied with how it was operating. I give Zetron's technicians a thumbs up," he adds. "They're top notch. I deal with a lot of people in tech support, and you can't beat Zetron."

During the staging process, technicians from Two-Way Radio also talked with each dispatcher about what they did and didn't want in their screen layouts. The technicians then used the information to further refine the screens. This helped ensure that the screens would accurately reflect the dispatchers' day-to-day needs and preferences.

### No crying in dispatch

When the staging was completed, the system was taken to the 9-1-1 center to be installed, the technicians ran the old and new systems in parallel and changed over to the new consoles, two at a time.

"Once the installation was done, they cut over to the new system, and the old system was removed put in the trash," says Harmon. "We didn't cry at all when it left. Neither did our dispatchers."

### 'A five-star system'

Scott County's MAX Dispatch system has now been in place long enough for Jennings, Harmon, and the agency's dispatchers to get familiar with it and appreciate what it has to offer.

"It's very reliable," says Harmon. "With the old system, I often got calls for help in the middle of the night. I haven't gotten a call about the new MAX Dispatch system since it was put in. I also like how redundant it is. Each console has two network ports, so if one goes down, the other backs it up. That is awesome!"

"We love MAX Dispatch," adds Jennings. "Because it's so flexible, we'll be able to expand it very cost effectively if we need to. Two-Way Radio did a great job helping us research, purchase, and install the system. It's working so well for us. We'd recommend MAX Dispatch to anyone. It's a five-star system." ■



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