



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

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."

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. ■



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