Building More Collaborative, Agile Country Fire Authority

Australia's Country Fire Authority uses Cisco network to improve communication to responders and citizens.

Executive Summary

Customer Name: Country Fire Authority
Industry: Public Safety
Location: Melbourne, Australia
Employees: 2000 staff; 61,000 volunteers

BUSINESS CHALLENGE

- Improve communication to employees and community to better respond to fires and other emergencies
- Provide standards-based, easy-to-deploy communications to additional command and control sites
- Improve communications flexibility to accommodate new applications and requirements

NETWORK SOLUTION

- Cisco Integrated Services Routers G2 (ISR G2s) provide secure, reliable support for rich-media communication and collaboration
- Cisco wireless solutions deliver scalable, mobile connectivity and support sites where wiring is not practical
- Cisco Certified Partner Logicalis provides technology expertise and expedites deployment

BUSINESS RESULTS

- Cisco solution extends reach and performance of CFA communications across greater geographic areas to help enable faster response to emergencies
- Agile solution lets CFA rapidly adjust resources as needed in the event of fire or other public safety issue
- Support for rich-media collaboration lets CFA easily add voice and video in locations, when and where it is appropriate, for better visibility into conditions

Business Challenge

Australia's Country Fire Authority (CFA) has evolved from its informal beginnings in community-based fire brigades to become one of the world's largest volunteer-based emergency service organizations. The agency is committed to the prevention, preparedness, response and recovery phases of fires and other emergency situations. Currently more than 1200 CFA brigades are located throughout regional Victoria and the Melbourne area.

Protecting the citizens of Victoria is of paramount concern for CFA. The agency serves a wide range of rural areas throughout one of the most fire-prone regions in the world, and provides not only emergency response, but a number of nonemergency services as well. CFA offers community awareness, education, and safety programs; technical services such as building code inspections and post-incident investigation; and municipal land use planning advice. The agency's Internet-based CFA TV channel also serves the community by providing the latest information on fire season safety and preparedness.

Given this broad range of responsibilities, a comprehensive communications plan is key to success. CFA is continually updating its strategy to maximize the efficiency of its communications infrastructure. Following the catastrophic Black Saturday bushfires of 2009, the Australian government established a Royal Commission focused on improving the way communities prepare for and respond to bushfires. The Commission's recommendations provided a springboard to help CFA take its communications infrastructure to the next level.

"CFA had been developing the technologies and strategies to expand its communications infrastructure for some time," says Mike Foreshew, executive manager of technology services at CFA. "The Royal Commission findings expedited the program, and when funds were made available, CFA was ready to act quickly."

CFA envisioned a solution that would enhance communications access to mobile personnel, including firefighters on the ground during bushfire emergencies and mobile communications vehicles. To enable the organization to rapidly deploy remote fire-fighting command operations, the solution would have to be versatile to respond to changing threats, and easy to set up and use, even in hostile, mobile environments.

"We needed to bring together a variety of different communications technologies into a single platform," says Ian Crampton, IT operations manager at CFA. "Instead of having

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— Mike Foreshew, Executive Manager, Technology Services, Country Fire Authority

five or ten different components at a location, we wanted to have one device on the network rack that was self-contained and easy to manage."

"It had to be a very flexible solution that could scale and change to accommodate new technologies in the future," says Glenn Kerr, network administrator at CFA. "We had to be able to replicate it very easily using a cookie cutter approach to different sites."

Network Solution

To make its vision a reality, CFA worked closely with Logicalis, an international provider of integrated information and communications technology solutions and services. Logicalis recommended a Unified Communications solution from Cisco that could support secure voice, data, video, and wireless connectivity. The combined expertise of Cisco and Logicalis helped streamline deployment.

"Once the design was completed and understood, Cisco and Logicalis pulled together all the equipment very quickly," says Foreshew. "As soon as we were ready to move forward, the technology was there, tested, proven, and ready to go. If we had an equipment issue, Cisco and Logicalis would swing into action immediately to get it resolved, so that it would not impede our implementation."

At the heart of the solution are Cisco® 2900 and 3900 Series Integrated Services Routers generation 2 (ISR G2s) at the CFA Incident Control Centres (ICCs). Designed to support rich media such as voice and video, these high-performance routers connect to the agency's WAN to deliver superior collaboration and reliability in a flexible platform that can accommodate different environments.

"We employ a set of cookie-cutter approaches for our different locations," says Kerr. "At small sites, we are installing Cisco 2900 Series ISR G2s, and Cisco 3900 Series ISRs at the larger sites. It is a standards-based solution that fits smoothly with our existing network equipment."

Cisco wireless access points at the ICCs provide additional flexibility and mobility. The CFA wireless network features Cisco CleanAir technology, which uses silicon-level intelligence to mitigate the impact of wireless interference and provide performance protection.

"All sites have the ability to access wireless data," says Kerr. "This is the best way to provide connectivity at some sites where cabling is not viable, because of building design. Our sites also have a 3G backup connection, so if the main WAN connection drops, the network fails over automatically."

CFA designed its network to fully support its incident management framework and procedures, providing flexibility to respond to a wide range of emergencies.

"Our responsibilities range from small issues such as a rubbish bin fire, all the way to a Level 3 incident for major incidents such as the Black Saturday bushfires," says Foreshew. "We had to develop an architecture that was truly synergistic with the way we ran incidents. We have a full-time staff of 2000, but 61,000 volunteers, at 1300 locations around the state. Our solution lets us support our extended, diverse workforce very quickly and easily. It had to be very simple to use and operate."

"Serviceability was also a key consideration for us," he adds. "If something fails, we need the ability to remove the component and replace it very quickly, and send the bad part back to the factory later. The solution had to be modular."

Business Results

The new Cisco solution has enabled CFA to extend the reach of its network throughout Victoria, consolidating and improving the infrastructure while providing faster, more reliable performance.

"Before we initiated this project, we had approximately 80 sites connected to our complex WAN," says Crampton. "Our new solution has enabled us to add another 200 locations to the WAN, tripling the size."

Incident preparedness has been improved, because the Cisco solution lets CFA support more staff and volunteers in more locations, to better monitor conditions.

"While CFA has a large paid staff, we are largely a volunteer organization," says Foreshew. "As a result of our planning, a lot of our ICCs will now be pre-manned. Our volunteers have businesses to run, so our solution enables them to bring in and securely connect their PCs, so they can continue to work. A volunteer can sit in an ICC monitoring and tracking conditions, and be able to send out an alert if they need help."

Agility is also critical when confronting a natural disaster or other emergency, and the new CFA network delivers a scalable, mobile solution that lets the agency respond rapidly to changing conditions.

"When a major incident occurs, our ICCs have to ramp up quickly," says Crampton. "We may need to deploy a lot more PCs and other equipment into these sites if we need to. If an incident is escalating, we have field technicians who can go out and expand a site very quickly. That's another benefit of wireless technology: you can instantly add 10 handsets or 20 laptops to the network."

"This surge capacity is important, because fire danger can escalate very quickly," adds Foreshew.

The new network gives staff at CFA sites access to a variety of communications options, including voice, video, and data collaboration tools.

"We use the Cisco Unified Communications Manager phone system between most of our major offices," says Crampton. "We have video call capability between sites. I can ring a regional manager, see what he looks like, and talk to him. We haven't yet delivered it to our ICCs, but if the business requirement comes up, we are able to add it."

"The solution we have deployed is a great collector and aggregator of information, and the key is determining how to best assimilate and manage it," says Foreshew.

Most importantly, the new CFA network enables the organization to empower its responders with better information, and enable them to work with the community more effectively in emergency situations.

"This initiative is not simply about generating cost savings or reducing headcount," says Crampton. "It is all about getting better information from the field to the people that manage the response, and to the people who live in the area, as quickly as we can."

"It's an insurance policy for the community," adds Foreshew. "Should the unthinkable happen, our responders will be as prepared as they can possibly be."

Next Steps

As CFA continues to develop its network infrastructure, its IT staff are prepared to enable even more collaboration options.

Product List
Cisco® 2900 and 3900 Series Integrated Services Routers G2
Cisco Unified Communications Manager

"Over the next few years, we will increase our incident management use of rich-media information," says Foreshew. "We are utilizing it on a small scale now, but will need to make it more widespread. That's why we designed our infrastructure with a lifespan beyond five years."

"Even though we might utilize only a 4-megabyte connection on our WAN links, we run the connection over fiber, because we will need the ability to boost bandwidth very quickly," says Kerr. "Video collaboration could be a driver for this."

With its modular, flexible communications foundation in place, CFA's readiness to safeguard its community is higher than ever, and will remain so for years to come.

For More Information

To learn more about the Cisco Integrated Services Routers Generation 2, visit http://www.cisco.com/go/isrg2 or contact your authorized Cisco salesperson.

To learn more about the Cisco Unified Communications solutions, visit http://www.cisco.com/go/uc or contact your authorized Cisco salesperson.

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C36-647408-00 03/11