Securing Fire Service that Protects Millions

Customer Case Study

EXECUTIVE SUMMARY

Organization: New South Wales Rural Fire Service
Industry: Government
Location: Lidcombe, Australia
Employees/Volunteers: 800+ staff, 71,000 volunteers

Challenge

- Maintain 100 percent network availability
- Centrally manage 100 branch offices across area of 312,000 square miles
- Simplify security management for limited staff

Solution

- Cisco ASA 5585-X Series Next-Generation Firewalls
- Cisco Web Security Appliance
- Cisco Identity Services Engine

Results

- Improved availability and reliability
- Consolidated firewall services to simplify management
- Provided scalability to meet future needs

New South Wales Rural Fire Service uses Next-Generation Firewalls to secure data center, ensuring nonstop availability.

Challenge

New South Wales is an immense state in southeast Australia that covers about 45,000 more square miles than the U.S. state of Texas. Despite its capital of Sydney, the state has just 7.5 million residents – 18.5 million fewer than Texas. That space leaves a large swath of rural territory that, given the warm and dry climate, is at high risk for bushfires.

The New South Wales (NSW) Rural Fire Service is responsible for preventing, mitigating, and suppressing fires, and protecting life and property in the 95 percent of the state that is rural. The NSW government formed the organization in 1997, three years after more than 800 bushfires in the state burned over 800,000 hectares of land and 205 homes.

To cover such a broad area, the NSW Fire Service relies on a heavily decentralized model. More than 900 staff members fulfill management and administrative positions at the Sydney headquarters and at over 100 remote branch offices, some of which are a 10-hour drive from headquarters. Forty IT personnel are charged with maintaining nonstop service at the organization’s two data centers, and providing reliable, secure remote access to and from the branch offices.

Almost all the disaster recovery, search and rescue, and firefighting responsibilities fall to the 2200 fire brigades across the state, which are “staffed” by more than 70,000 volunteers – possibly the world’s largest volunteer fire service. The volunteers are called on to deal with not only bushfires but also related emergencies, including floods and storms, and hazardous incidents.

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> **Ash Dey**
> IT Operations Coordinator
> NSW Rural Fire Service

"Our biggest strength and our biggest challenge is that we depend on volunteers for much of the work we do," says Ash Dey, IT operations coordinator, NSW Rural Fire Service. Monitoring and securing network traffic is a particular concern given the wide range of users and devices, from fire service-owned to personal devices that individuals bring onto the network.

During peak bushfire season from October through March, the NSW Rural Fire Service also hosts hundreds of media members, sister agency personnel, and other guests at its headquarters. The visitors need secure wireless Internet access and, like staff members and volunteers, limited visibility into the network, depending on their clearance levels.

Solution

While the NSW Rural Fire Service is a longtime Cisco customer, it is moving to a more end-to-end Cisco solution model, from the data center and core network to routing and switching and the edge of the network. "When we put in new infrastructure, we ask three key questions: Is it reliable? Scalable? Highly available? With Cisco, the answer has always been yes," says Dey.

At its two data centers, the fire service is consolidating from two internal and two external firewalls to two Cisco® ASA 5585-X Series Next-Generation Firewalls. The firewalls secure the data centers, while Cisco Identity Services Engine (ISE) is being implemented to protect the branch offices, which have all traffic routed through the core data centers.

In addition to the benefits of consolidation, Dey says the main driver for upgrading to Next-Generation Firewalls was ease of manageability. "We wanted a scalable solution that would enable us to virtualize instances based on the many types of components that we have in our data center," he says.

To help ensure greater reliability, the fire service eventually plans to expand from two to three data centers, which will further increase management challenges. "Without the centralized management of the Cisco firewall, the expansion would have been very difficult," says Dey. "Long-term, it also gives us the ability to combine to provide inter-agency services."

Reliable Email and Web Access

Five years ago, the NSW Rural Fire Service tried out a non-Cisco Web security solution, but Dey says, "Users complained that access was slow. It was fine when we trialed it on 40 or 50 users, but when we had almost 1000 employees using it, it couldn't keep up."

The fire service quickly moved to the Cisco Web Security Appliance (WSA) and has had no issues, despite demands that fluctuate from a low of 40 MBs to as high as 200 MBs during bushfire season. The solution is in place at the gateway and endpoints, providing a dual level of redundancy and protection.

The WSA is particularly important during bushfire season, when up to 200 media personnel, government employees, and others visit headquarters each day. Many want or need to access the Internet, and the WSA protects the network as well as the guests who are logging onto it from various devices.

"What I like most about the WSA is that it's reliable," says Dey. "The anti-virus and anti-malware work. The performance is great, and we just know that it's going to perform for us regardless of workloads."

The Cisco ESA has likewise been performing well for the past five years. Dey says the deployment was simple, and unlike the experience with the previous non-Cisco product, "We hardly see any spam mail come in now."

Securing the Edge

The fire service's 100 branch offices present a significant security challenge at the edge. The offices are too far away for IT to provide physical support, and the branch offices lack IT control rooms. Plus, end users rely on a wide range of mobile devices – including smartphones, tablets, and laptops – and require different access levels.

Cisco ISE will give the fire service a more secure, centralized control point for policy management and enforcement. The organization will be able to identify every user and every device through profiling and posture assessment, and then control who has access and how much, supporting its bring-your-own-device policy. That's essential in the field, and the self-service portal will also help control and secure guest access at headquarters. Cisco TrustSec® will also enable the organization to simplify policy management with Security Group Tagging.

"We can have policies, but until they're enforced, it's almost impossible to have the security you need," says Dey. "With ISE, we're getting the visibility and control we need at all our offices particularly as each user may have two to three devices requiring network access. Without that, it would be a mind-boggling job."

Results

Dey says that the NWS Rural Fire Service makes all its decisions — including those about IT infrastructure — based on a straightforward premise: "We are an emergency service, and our mission is to save human lives and property, and to make our community safer," he says. "Whatever we do, it has to align with that vision."

The Cisco ASA 5585-X firewalls and other Cisco solutions are providing the extreme reliability the organization demands, as well as improving scalability and manageability. Moving to the Next-Generation Firewalls has enabled the fire service to consolidate from four firewalls to two, while achieving better performance and gaining flexibility to add a third data center and eventually move to an inter-agency model without creating a management challenge.

The Web and Email Security Appliances have performed without fail, enabling Dey and the rest of the IT team to focus on other, more pressing issues. "It's our responsibility not only to protect our network, but to protect our end users, and our WSA and ESA enable us to do that," says Dey.

Implementing Cisco ISE will further strengthen the fire service's network visibility and control, including 802.1 x capabilities for wired access, as well as wireless access for mobile devices. With branch offices spread across more than 300,000 square miles of terrain, the ability to monitor and secure the network at the edge and from a central control point is a significant relief. ISE also supports the fire service's use of AirWatch for mobile device management.

“Our infrastructure has to be ready to respond to any circumstance, 24/7, 365 days a year,” says Dey. “Having a stable, reliable infrastructure is essential, and Cisco has helped us ensure that we are doing our job of making our community safer.”

For More Information

To find out more about the Cisco ASA-5585-X Next-Generation Firewall, go to:

- http://www.cisco.com/go/asa
- http://www.cisco.com/go/esa
- http://www.cisco.com/go/wsa
- http://www.cisco.com/web/go/ise
- http://www.cisco.com/go/trustsec
- http://www.cisco.com/go/anyconnect

PRODUCT LIST

Security

- Cisco ASA 5585-X Next-Generation Firewall
- Cisco Web Security Appliance
- Cisco Email Security Appliance
- Cisco Identity Services Engine
- Cisco TrustSec
- Cisco AnyConnect

Management Platform

- Cisco Prime Infrastructure
- Cisco Mobility Services Engine
- Cisco Security Manager

Data Center

- Cisco MDS 9140 Series Multilayer Fabric Switches

Routers and Switches

- Cisco Nexus® 7010 Switches with OTV
- Cisco Catalyst 4500 Series Switches
- Cisco 2900, 3800 Series Integrated Services Routers (ISR)

Wireless

- Cisco 5508 Wireless Controllers
- Cisco Aironet 3602 Access Points
- Cisco 3502 Access Points

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