NEW ZEALAND FIRE SERVICE Responds Swiftly and Decisively to Earthquake with Intergraph®Incident Management Solution

IDENTIFYING GOALS:
The New Zealand Fire Service (NZFS) is a technologically advanced, responsive fire service with a national jurisdiction, serving the entire country to reduce the incidence and consequence of fire, and to provide a professional response to other emergencies. NZFS comprises eight regions with 440 stations spread throughout the country. There are around 1,700 career and 7,000 volunteer firefighters who dedicate themselves to preventing fires, protecting the communities they live in from the dangers of fire, and responding to other emergencies. NZFS has around 73,000 callouts per year, and its firefighters are professionally prepared and capable to respond to all emergencies. They also spend time helping communities prevent unwanted fires through delivering education programs, working with building owners and other community-focused work.

OVERCOMING CHALLENGES:
- Respond swiftly and appropriately to allocate critical resources
- Dispatch emergency field crews effectively for a first-class response
- Provide mapping capabilities and enable operators to locate, verify and dispatch in the Communication Centres
- Access accurate, real-time incident data for enhanced information sharing and interoperability between emergency services (Police, Fire, and Ambulance)

REALISING RESULTS:
Intergraph® has been supporting NZFS since the computer-aided dispatch (CAD) technology went live in New Zealand’s Communications Centres in 1998. The New Zealand Police Communication and Resource Deployment (CARD) system is used by New Zealand Police and tenanted by NZFS for national police and national fire and rescue emergency response. This is a single national system that is compliant with all local requirements and integrated into a wide-scale enterprise architecture using Intergraph I/CAD software.

New Zealand Ambulance Service was integrated with the Police and Fire CARD
environment in 2009, with the use of Intergraph’s InterCAD software to share event data between the three agencies. The Intergraph solution is able to support diverse agencies over multiple, integrated sites, and it is highly configurable and adaptable, enabling it to be interfaced to a wide variety of external systems.

As the legacy dispatch system was not geographically enabled, Intergraph also had the responsibility of developing the geospatial database for the system. The geospatial data is integrated into the Intergraph I/CAD system, providing comprehensive map data for the whole country, down to the street and individual property level. This includes cadastral, location verification and aerial images of New Zealand.

When the earthquake struck, the Police and Fire I/CAD system held up well, enabling the agency to respond swiftly and decisively to the earthquake.

Ian Pickard, Assistant National Commander of NZFS and Director of the NZFS Communication Centres, said, “Our command structure, support systems, equipment, training, professionalism, teamwork and our desire to help, all meshed together to provide the public with a first-class response.”

Immediately after the earthquake, NZFS implemented an operation using the usual Coordinated Incident Management Structure (CIMS) to coordinate emergency efforts. NZFS’s Data and Spatial Intelligence (DSI) team helped plug the information gap opened up by the earthquake. Using a suite of tools and data sources, including the Intergraph system, the team was able to provide I/CAD and emergency services operational data to the lead agency, the New Zealand Ministry of Civil Defence and Emergency Management (MCDEM), based at the National Crisis Management Centre (NCMC). The data enabled MCDEM to see what incidents Fire and Police were responding to, which helped to coordinate the overall response.

By drawing on all available data, the different agencies were able to help each other out for a comprehensive picture of what was happening. Interoperability of the Intergraph I/CAD system also ensured that the emergency service agencies (Police, Fire, and Ambulance) could access each other’s information easily to enable the quick and effective dispatch of all emergency crews.

The Christchurch Southern Communications Centre (Comcen) was shaken by the earthquake but was not damaged. There were no issues with the I/CAD system at the Comcen during the earthquake but an enhanced failover system was implemented by Intergraph in 2009, which will ensure a seamless failover from the national database to a standby database in less than 30 seconds in the event of system failure. In the first week, the Comcen took 4074 emergency calls compared with the usual 319 per week. Over 850 of those calls came in on the day of the earthquake, and the CARD system enabled the Comcen to cope with the increased demand.

**MOVING FORWARD:**

The operation moved quickly from response to recovery and it was almost business-as-usual within a fortnight of the earthquake.

“Intergraph’s Incident Management Solution enabled us to respond quickly and effectively to one of New Zealand’s biggest natural disasters,” said Pickard. “Interoperability of the I/CAD system ensured that all responding agencies could see a common operating picture so that we could deploy emergency crews accordingly. We intend to continue introducing technology as part of our operations for even greater efficiency and effectiveness.”

NZFS has embarked on a program to put tools into appliances to give staff better access to information. The Automated Location and Positioning System (ALPS) devices will give Communication Centres the advantage of being able to see where each truck is and the data will be integrated into the existing I/CAD system, enabling dispatchers to dispatch the nearest and most appropriate ones to an incident.

**ABOUT INTERGRAPH**

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualise complex data. Businesses and governments in more than 60 countries rely on Intergraph’s industry-specific software to organise vast amounts of data to make processes and infrastructure better, safer and smarter. The company’s software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph PP&M provides enterprise engineering software for the design, construction, operation and data management of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the public safety and security, defence and intelligence, government, transportation, photogrammetry, and utilities and communications industries. Intergraph Government Solutions (IGS) is an independent subsidiary for SG&I’s U.S. federal and classified business.

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