

Integrated Safety Center Helps Ensure Public Protection

Customer Case Study



Czech region first in Europe to launch unitary public safety answering points for police, fire, and ambulance

EXECUTIVE SUMMARY

Customer Name: Moravia-Silesia
Regional Government

Industry: Public sector

Location: Czech Republic

Challenge

- Provide single point of contact to improve citizen safety
- Improve emergency services coordination during major incidents
- Help enable multichannel collaboration by integrating voice, video, and geographic information systems

Solution

- Cisco collaboration consolidating 15 dispatch centers into one building, and integrating voice, video, data, and mobile communications

Results

- Rapid set-up of crisis management teams to mitigate threats to public safety
- Improved response times through better coordination and streamlining of services
- Operational cost savings from shared infrastructure and greater economies of scale

Challenge

Reduced workforces and constrained budgets mean today's emergency services need cost effective solutions to keep citizens safe. Moravia-Silesia knows this only too well. One of the 13 Czech Republic regions, it covers some 5500 km² with a varied landscape of rivers, forests, and mountains. Yet it is also one of the country's most populous and heavily industrialized regions. In the capital of Ostrava, the fire brigade, rescue services, and state and metropolitan police forces joined up to improve emergency services coordination for the city's 300,000 residents.

The resulting shared integrated emergency system (IES) played a key role during catastrophic floods in 1997, which badly affected one-third of the urban area and threatened tens of thousands of citizens. In 1999, the IES project was awarded the European Information Technology Prize, and the government decided to extend the system to form a regional integrated safety center (ISC) for the whole of Moravia-Silesia.

A European first of its kind, the ISC would consolidate 15 separate dispatch centers, bringing together fire and ambulance services with state and city police forces. The end goal was to provide a common view, optimize resource allocation, and coordinate decision-making.

"Our vision was a single command hub for disaster management to enable a rapid and closely coordinated multiagency response," says Tomas Kaspar, CIO at the ISC. "Public safety was front of mind, but we knew we could also achieve cost savings and economies of scale with demonstrable gains in operational efficiency."

Solution

A disused building in Ostrava was chosen as the location. Architectural designs were drawn up, and a tender issued to possible technology partners. While the European Union provided over 90 percent of project funding, decisions on technology were taken locally. The ISC concluded that Cisco could provide operational integration with a superior technology roadmap to support future evolution.



“There are clear savings because we’re using one building and a common ICT infrastructure, and sharing operational costs among the organizations. This wouldn’t have been possible when there were multiple agencies handling calls.”

Tomàs Kaspar
CIO
Regional Integrated Safety Center



Designed to avoid any single point of failure, the center’s LAN is built on a Cisco® Borderless Network architecture comprising Cisco Catalyst® 6500, 4500, and 3560 Series Switches. This highly available platform helps enable the cohesive processing and sharing of information from multiple sources including radio, closed-circuit TV (CCTV), geographic information systems, and live video streams. All of these are vital to providing real time situational awareness as events unfold.

Within the building each emergency service has its own control space. Dedicated incident rooms serve as an escalation point for multiskilled leadership teams. The dispatch area, meanwhile, is shared among all services, with 31 seats grouped in eight circular cells in two parallel rows. This arrangement provides eight seats for the fire brigade, 10 for ambulance services and state police forces, and three for the municipal police.

IT services are run over dedicated virtual LANs secured by Cisco firewalls using policy-based access. Open standards help enable the Cisco architecture provide the ISC with a common collaborative platform that is highly available and secure.

Moreover, the ability to unify multiple applications through flexible application program interfaces (APIs) was critical to the project’s success. “The openness of the Cisco architecture allowed us to easily integrate the different dispatch systems of each organization,” says Kaspar, “and we’ve taken this approach a step further and integrated public safety answering points.”

At the center of the solution is the Cisco 7825 Series Media Convergence Server. Capable of supporting up to 30,000 Cisco Unified IP Phones within a single Cisco Unified Communications Manager cluster, this server delivers a host of Cisco collaborative applications. Voice, video, and radio communications are integrated into the desktop with touch-screen capabilities. Staff can use a combination of the Cisco Unified IP Phone 6961 for video and voice communications and the Cisco Unified IP Phone 7975 for high-fidelity wideband audio. Cisco ASA 5510 Series Adaptive Security Appliances provide security.

Various Cisco TelePresence® systems, including the MCU 4520, Codec C40, and E20, help enable video communication. These allow ISC staff and crisis management teams to quickly and effectively collaborate using audio and video communications. In addition, the center is testing mobile video integration by, for example, equipping police cars with TelePresence units to share video footage from road traffic accidents. The center also receives content from city CCTV systems, as well as key traffic management hubs such as the Klimkovic highway tunnel.

Results

The Moravia-Silesia regional government has established best practice in deploying collaboration technologies for emergency services. The solution is unparalleled in the European Union and provides a proven approach for public safety and security organizations. At the start of the ISC project, the region’s governor, Evžen Tošenovsky, declared: “The coordination of all units from a single location makes it possible to contribute, in a fundamental way, to increased security for all citizens.”

Although precise quantification is difficult, the ISC points to a number of operational advantages. “There are clear savings because we’re using one building and a common ICT infrastructure, and sharing operational costs among the organizations,” says Kaspar. “This wouldn’t have been possible when there were multiple agencies handling calls.” These savings will help to cut total of cost of ownership significantly. Streamlined workflows and effective collaborative tools are helping to improve staff productivity and incident response times.

“We solve cases together from one place, using exactly the same data through common visualization. Different services can access common applications in formats that match their specific needs.”

Petr Faster
Fire Officer
Moravia-Silesia Region

“We’re eliminating data duplication and achieving synergies through a unified information system,” says Kaspar. “Calls from all regional emergency numbers are now routed to a single center, and operators can identify the caller’s location, irrespective of whether the source is a landline or mobile phone.” Meanwhile coordination has been greatly improved. “With Cisco Unified Communications we no longer need lots of sub-regional control rooms,” adds Kaspar. “Instead we have one virtual regional control room, with the same functionality and more.”

This collaborative approach to public safety is making a real difference. “We solve cases together from one place, using exactly the same data through common visualization,” says fire officer Petr Faster. “Different services can access common applications in formats that match their specific needs.”

These rapid response capabilities were used to good effect in 2012, when the ISC quickly established crisis management teams and support lines to address the risk of methanol poisoning from tainted alcohol smuggled into the country.

For More Information

To learn more about the Cisco architectures and solutions featured in this case study, please go to:

www.cisco.com/go/borderless

www.cisco.com/go/collaboration

www.cisco.com/go/publicsafety

Product List

Collaboration

- Cisco Unified Communications Manager
- Cisco Unified IP Phone 6961, 7975G
- Cisco MCS 7825 Media Convergence Server for Cisco Unity
- Cisco TelePresence
 - Cisco TelePresence MCU 4520
 - Cisco TelePresence Codec C40
 - Cisco TelePresence E20

Security

- Cisco ASA 5510 Series Adaptive Security Appliance

Routing and Switching

- Cisco Catalyst 3560, 4500, and 6500 Series Switches



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