STARRS works together to protect the public in the St. Louis region

Overview

■ ***Business challenge***

To respond to mandates from the Department of Homeland Security more effectively, the St. Louis Region formed the St. Louis Area Regional Response System (STARRS), a collaborative working group of first responders, experts and other stakeholders. STARRS is tasked with creating ways to better protect the public and improve the efficiency and effectiveness of emergency response, while working with industry to execute the projects it devises.

■ ***Solution***

Building on concepts generated by STARRS committees, IBM has implemented a variety of solutions to fulfill the critical needs of delivering police, fire and EMS services to the public more effectively. The first two are the STARRS Virtual Emergency Operations Center and the STARRS Patient Tracking System.

■ ***Key benefits***

- *Allows first responders to collaborate seamlessly and transparently*
- *Provides immediate access to critical information*
- *Integrates a wide variety of information types*
- *Offers easy expandability*
- *Captures critical patient information on-scene and transmits it to hospitals*
- *Helps make emergency response efforts faster and more effective*
- *Improves EMS productivity 10-15 percent*

Working together on a regional basis

The terrorist attacks of 9/11 emphasized just how important working together can be. Collaboration between police, fire, EMS, various governmental jurisdictions, agencies such as FEMA, the private sector, the military and the public is of overwhelming importance. However, because these diverse groups are separated by a variety of boundaries, in the past they have rarely been able to cooperate closely.

Business Benefits

- Allows a large number of jurisdictions and first responder agencies to collaborate seamlessly and transparently
- Provides immediate access to critical information to geographically dispersed personnel
- Reduces comparable response times from 72 hours to approximately one hour
- Integrates a wide variety of information types
- Offers easy expandability thanks to service oriented architecture
- Captures critical patient information on-scene and transmits it to hospitals
- Lessens patient processing time dramatically
- Helps make emergency response efforts faster and more effective
- Improves EMS productivity by 10-15 percent

"So this nurse thought, 'What if we could secure all of that before the patient even gets here?' In hindsight, it seems so obvious, but it took some robust technology to make it happen. It's a great example of how technology can be used to help us save lives."

– Monroe Yancie, chief paramedic, St. Louis Fire Department

First responders from different agencies can literally be standing near one another, yet be unable to communicate. Worse, they could be talking to different command centers that may not be basing decisions on the same information.

Breaking down the organizational, cultural and technological barriers that stand in the way of first responder collaboration is no easy task. And in the region surrounding a major city, the problem is compounded. There are many different organizations and agencies, all of which have to communicate and work together in a crisis, yet they all answer to different local, county, and even state governments.

Many parts of the country are still grappling with the challenges posed by the need to get these diverse groups to work together. Funding can be hard to get, and it's tough to get everyone in a region to agree on the best way to spend the money.

The St. Louis region, which encompasses parts of two states and includes eight counties, has come up with an innovative way to pool resources and get everyone working together. In order to be better prepared in the post-9/11 world, the St. Louis Area Regional Response System (STARRS) was formed. Its task is to create jointly conceived, jointly funded projects that benefit all of the agencies and citizens in the entire region.

STARRS creates special committees, made up of first responders, stakeholders and experts, to tackle problems such as interoperability. These committees define specific needs and outline the capabilities that solutions must have, always bearing in mind that any solution must benefit the entire region.

The advantages of this unusual approach are manifold. Since STARRS is comprised of those who actually use the solutions that the group devises, those solutions can be designed better from the outset. And since funding and resources are shared and the solutions must benefit all in the region, more robust and effective systems can be created than would be affordable otherwise. The end result is better preparedness and better service to the public.

A virtual command center

One of the premier projects to have come out of the STARRS concept is the Virtual Emergency Operations Center (VEOC), which takes the Emergency Operations Center concept that is already in widespread use nationwide, and extends it regionally. "When you look at first response on a regional level," says Mike Smiley, deputy director of the Office of Emergency Management for St. Louis County, "the challenge is one of sharing information. We have this patchwork of agencies, but we all have to be on the same page, working together."

The STARRS VEOC solution uses a Web-based incident management package called E Team. The STARRS Emergency Operations Center (EOC) Workgroup knew that the VEOC software would have to be integrated with existing databases and systems from other jurisdictions to maximize its utility, and IBM was chosen as the best technology partner to perform the integration work.

In keeping with the STARRS concept of sharing resources, the VEOC project encompasses the entire region. "The solution has tied all eight of the EOCs in the region together," notes Smiley. "By doing so, we share data almost instantaneously as we work simultaneously on an area-wide issue. The EOC software enables each of the jurisdictions to be more effective and responsive locally, but it's our ability to share information and resources that makes us all far more capable in a regional sense."

The platform incorporates IBM Rapid Response, a packaged incident management solution built on IBM WebSphere® and Lotus® collaboration software. This provides a portal to the E Team incident management software and serves as the common platform for integration of other databases and information sources.

The flexibility and seamlessness of the solution was a key factor, according to Smiley: "It's completely transparent. Before, we had a network of contacts, but there were gaps and it was all we could do to reach out and get the information we needed. Now, we get it automatically because it's put out there in the normal course of doing our jobs."

What makes the STARRS VEOC unusual is its IT foundation: a service oriented architecture (SOA) that enables rapid evolution through the easy incorporation of new processes and technologies as they become available. With SOA, the VEOC is not tied to any particular technology or organizational structure. The entire system is modular and highly flexible.

IBM Rapid Response is the key element that ties all of the region's systems together, according to Nick Gragnani, executive director of STARRS. He stresses the importance of having a single point of access. "There are several different software packages out there that provide VEOC functions. There are various other software applications in use as well, but on their own they're not well integrated. What we were looking for was a service oriented architecture. That's what Rapid Response gives us. It ties all these different software tools together into a suite, and we can access all of them through a single portal."

Key Components

Software

- IBM DB2® Express
- IBM Lotus Sametime®
- IBM Tivoli® Directory Integrator
- IBM WebSphere Portal Express

Hardware

- IBM System x™
- Symbol handhelds
- Panasonic laptops

Services

- IBM Global Business Services

Business Partner

- E Team

Why it matters

The St. Louis Area Regional Response System (STARRS) exemplifies an unparalleled spirit of cooperation, bringing together first responders throughout the St. Louis region to create solutions that better protect the public–sharing resources while benefiting all. Prime examples of solutions that STARRS has created are the Virtual Emergency Operations Center, which enables first responders throughout the region to access shared information and incident management tools along with shared resources, and the Patient Tracking System, which enables EMS responders to more efficiently and rapidly gather and transmit critical patient information to hospitals from the scene of an incident.

A new tool for patient tracking

The second STARRS-generated IBM project in the region is the Patient Tracking System (PTS). Designed to help EMS and regional hospitals track patients and their status from the site of an incident much more effectively, it supplants the old method of having EMS responders literally call the hospital using a cell phone to pass information about incoming patients.

With PTS, EMS responders carry barcoded ID bracelets and a hand-held device. At the scene of an accident or other incident, the patient is assessed and the ID bracelet attached. The needed information, such as injury, severity, gender and age is entered into the device and transmitted to the hospital wirelessly, along with the barcode ID. When the patient arrives, the hospital scans the barcode so that the patient is accurately tracked.

"This system saves time and eliminates a source of possible error," says Monroe Yancie, chief paramedic for the St. Louis Fire Department. "One of the issues we face is volume. We handle about 65,000 calls a year, and transport around 45,000 patients per year. The scale of the information challenge is considerable."

IBM Global Business Services gathered requirements, helped design the solution, and then implemented the IBM and partner technology across eight counties and provided the overall management expertise, user training and ongoing technical support.

The system is in the early stages of deployment, so the information captured is limited. In the future, it will be able to obtain the information encoded on standard ID cards such as driver's licenses. This kind of information might include organ donor status, blood type, name and address.

"The origins of this system show the value of asking those who are on the frontline to come up with solutions," Yancie says. "The basic idea actually came from a hospital emergency department nurse. They were scrambling to get all of the necessary information about patients coming in, and it was a bottleneck. So this nurse thought, 'What if we could secure all of that before the patient even gets here?' In hindsight, it seems so obvious, but it took some robust technology to make it happen. It's a great example of how technology can be used to help us save lives."

For more information

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