The Computerworld Honors Program

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Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization:
City Of Rogers, Arkansas

Organization URL:
http://www.rogersarkansas.com/

Project Name:
Rogers, Arkansas - Mobile Data Solution

What social/humanitarian issue was the project designed to address?

What specific metrics did you use to measure the project's success?
Public safety is one of the most critical services government provides, and the police and fire departments represent the largest segment of the budget of the city of Rogers, Arkansas. Rogers' mobile data solution project was designed to enable a higher level of responsiveness to the public safety needs of the community while keeping costs low. Previously, the mobile police, fire, and emergency medical services (EMS) units relied almost entirely on radio communications. Police officers in the field had no link to national or state criminal databases and were unable to do field reporting, capture and send data to their EMS counterparts, or coordinate efforts with other law enforcement agencies. To check a license plate, officers had to radio the dispatch center with the license number, have the dispatcher look up the information and then read the information back to the officer, all of which delayed response time and introduced the possibility of error. Filling out reports meant constant trips back to the officers' desk, which meant less time in the field and lower overall productivity. Fire and EMS personnel faced similar challenges. Prior to this solution, they were notified of 911 calls via stationary fax machines located within fire stations and relied on radio dispatchers to provide updates as new information was received. Not only was this inefficient, but the initial reports frequently lacked crucial information or contained inaccurate information. The project goal was to provide mobile personnel with access to headquarters resources from the field, as well as to increase the speed and effectiveness of their response to emergency situations through improved communications and coordination. The metrics for this effort included: improve responsiveness, efficiency and preparedness of emergency responders;

deliver superior field functionality within existing budget, as well as realizing additional cost savings; and improve data collection and reporting.

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

The solution is powered by a virtual computing environment, which delivers 119 published desktops to public safety officers via Citrix Access Gateway. Altogether, the city has deployed 101 units to its police force: 75 in police vehicles, 18 for detectives, 4 for command staff and 4 for its narcotics unit; and 18 to its fire department: 9 in fire/rescue vehicles, 4 in ambulances and 5 in staff vehicles. These provide access to Microsoft Office and the Aegis Mobile Computing solution from New World, the city's public safety platform. It uses Provisioning Server to deploy Citrix XenDesktop and Citrix XenApp images, Citrix EdgeSight for monitoring, and Citrix XenServer as its hypervisor. Originally, specifications called for Panasonic Toughbooks, which cost $4,000 each, with locally installed applications. However, this was both costly and required at least one additional employee, given that locally installed applications would require constant local device access, and the city's emergency vehicles were often out of the station. Instead, the city now delivers centrally managed virtual desktops to lower-cost devices -- command units use iPads, patrol units use Wyse zero clients, and fire department and EMS units use Motorola NW 810s. In all, the city has reduced endpoint hardware costs by $320,000, saving $100,000 per year in IT staffing costs. A USB GPS antenna mounted on each vehicle feeds its location coordinates back to a virtual desktop, which provides data to a 911 call center and police and fire dispatch for a quicker response. The initial technical issue was the discovery that the city's public safety platform didn't support the publication of the Aegis application via XenApp. In researching a solution, the city found that it could use XenDesktop to meet New World's requirements with minimal hands-on support.

Please list the specific humanitarian benefits the project has yielded so far.

Rogers' mobile data solution has enhanced first responders' ability to protect and serve the citizens of Rogers. Police officers now can spend more time on the street doing patrol work and field reporting, and less time in the patrol room working on reports. As a result, they can respond more quickly and effectively to crimes in progress and other emergencies, with improved coordination across department resources. Officers can check license plate numbers and perform other critical tasks in real time right from their cars without the need to work through radio dispatchers, eliminating bottlenecks and errors. Reports are also processed more quickly through multiple tiered levels of approval from field officers through field commanders and back to headquarters, making decisions faster. GPS data keeps dispatch, patrol cars and fire vehicles constantly informed of where other vehicles are located. Dispatchers also have more information, such as the vehicles' direction and speed, as well as the ability to message the units as needed. Instead of relying on dispatchers to send notifications of 911 calls through a stationary fax machine, the city's firemen and paramedics are now notified in real time via their devices and can update information themselves. Additionally, as one of 150 accredited fire stations in the United States by the Center for Public Safety Excellence, the Rogers' fire department is held accountable to strict data collection and reporting standards. Having this mobile data solution has improved its ability to accurately reflect its performance, set accurate benchmarks and support its goal of continuous quality improvement. The mobile data solution also helps the city safeguard public information, even as it is accessed from the field. No data actually resides on local endpoints, ensuring no public information is compromised from a stolen or misplaced unit, in compliance with HIPAA regulations.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

The solution has profoundly improved the responsiveness and efficiency of the city's emergency personnel as noted by Fire Chief Tom Jenkins: "Previously, we had to rely on an archaic communications method which placed a significant strain on our firefighters and paramedics. Sometimes the information that was manually transmitted would contain errors such as an incorrect address or emergency unit number. This could cause as much as a 30-second delay in being able to respond. And because this information was delivered in print, it couldn't be updated with new and possibly critical information. Today, our mobile data solution enables our responders to receive information in real time, and they can update information, such as addresses or conditions as they see it, which saves seconds and seconds ultimately save lives. Additionally, the solution has significantly improved emergency responders' preparedness, which not only saves victims lives but the lives of the responders themselves. Just this morning, we responded to a fatality house fire. Thanks to this technology, I was able to obtain critical information about the event in real time as it occurred while I was at the station and enroute to the fire. While some of this information was also conveyed via the radio, I honestly would have missed it if I hadn't seen it on my unit. Having this critical information at my fingertips ensured that we were fully prepared going into the house and knew what to expect and that we had the necessary gear on-hand to address the issues that were presented. We are confident this system will continue to deliver huge dividends for us. Our firefighters and paramedics have been flabbergasted about this technology. It is the best solution of its kind that I have ever laid my eyes on."