



NASCIO Recognition Award Nomination

Cross-Boundary Collaboration and Partnerships Category

Submitted by

New York State Emergency Management Office

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Executive Summary

In December 2005, the Director of the New York State Emergency Management Office (SEMO) charged the Assistant Director for Technology to find a robust alert and warning system that would use all known technological gateways (phone, email, text messaging, fax, etc.). This system would have to be capable of reaching the entire 19.5 million population of New York State or any regions or subdivisions within.

No system existed at an affordable price. Thus began the development of NY-ALERT, New York State's alert and notification system.

Working with more than 50 private vendors in a collaborative effort, SEMO's Technology Director incorporated the best each had to offer to develop the web-based NY-ALERT. Launched in September 2007, the portal offers one-stop access through which state agencies, county and local governments, emergency service agencies and institutions of higher learning can provide emergency information to a defined audience (locally, countywide, regionally, or across the state).

Previously, emergency notifications had to be created for each technology used. This resulted in a time consuming effort and, more importantly, delayed the dissemination of the message by up to an hour. The development of NYALERT removed the technology boundary in mass notification and placed the emphasis on the creation of the message.

Notifying agencies can now create the message just once and the NY-ALERT portal properly formats the message for phone (landline and mobile), fax machines, email, SMS (text), RSS feeds, and website postings. The notifying agency selects the area to be notified and the technological gateways to disseminate the message. NY-ALERT is free and subscription-based—the subscribing individual determines what specific emergency notifications he/she wants to receive.

The private side of the portal allows governmental participants and academic institutions to provide secure, private notifications to identified groups.

Since NY-ALERT went operational in September 2007, more than 2.8 million user files have been created. It has been activated more than 25,000 times and delivered over 49.7 million email messages, 8.6 million SMS (text) messages, 1.8 million voice phone calls, 1.5 million fax messages, and has activated the Emergency Alert System eight times.

Description of the Business Problem and Solution

The business problem encountered by the New York State Emergency Management Office was to reduce the time involved, eliminate the duplication of effort and, simplify the process of providing emergency information to the public. Until the creation of NY ALERT in 2007, there had been no communications system that could use all existing communication technologies to disseminate information simultaneously.

Historically, it has been technically and economically prohibitive for New York State's county emergency managers to have access to the various emergency alert message systems (in an attempt to reach the broadest possible audience in an expeditious manner). Citizens increasingly rely upon modern communication technologies as their information sources (e.g., cell phones, PDAs, internet, etc.) whereas most legacy alerting systems (e.g., Emergency Alert System) provide alerts merely via television and broadcast radio systems. Additionally, there is a major shift away from traditional "home" telephones, with many citizens choosing to use their cellular telephones for all phone communications. This has resulted in a dramatic reduction in the effectiveness of reverse dialing systems currently available as they are predominantly reliant upon existing 911 databases for their citizens' contact information. NY-ALERT overcomes these challenges by integrating disparate systems, thus providing rural and urban emergency responders with a sole-source, web-based application free of charge.

NY-ALERT employs multiple technologies to communicate to the public. Notifying parties can utilize fax machines, list serves, telephone dialers, SMS (text), and other forms of messaging through the use of complex interfaces. NY-ALERT allows the users not to worry about how the message is going to be formatted across all communications gateways. Notifiers create the message once, and NY-ALERT properly formats the message for any of the receiving technologies. It is standardized on an open architecture to expand gateways that include instant messages, and radio and satellite communications. The public has the ability to sign up for specific events about which they want to receive information. NY-ALERT is also capable of importing specific civilian information to be used in private notifications.

NY-ALERT is based on a Microsoft.net 3.x platform, utilizing the CAP (Common Alert Protocol) as the open design which allows NY-ALERT to communicate across 30 vendor specific gateways. The system currently uses 64 servers in two disparate data centers. The base software platforms range from Windows 2008, 64-Bit systems to Linux systems. The base software used on the presentation tier is IIS 7.0 and Apache. With the core databases running SQL 2005 on multi-quad based processors and 8+ gigs of memory. Operation of the software is done through secure https screens with a username and password, and MMC (Microsoft Management Console). Multiple IPSs (Intrusion Prevention Systems) protect NY-ALERT from web-based attacks. Additionally, secure agents on the servers monitor all traffic patterns and report to security administration any variances from baseline performance.

NY-ALERT is a collaborative project involving numerous New York State agencies (including SEMO, the Office of Homeland Security, 60 campuses of the State University of New York, all 23 campuses of the City University of New York, the Department of

Transportation, State Police, and the Division of Military and Naval Affairs) and more than 40 county and local governments across the state. NY-ALERT has been designed as a tool that can simultaneously support numerous agencies and jurisdictions.

While SEMO provides overall governance and maintenance of NY-ALERT, relationships have been built with state agency, county, university/college, and local users of the system. Within SEMO, the project has involved collaboration across the agency to ensure NY-ALERT's proper integration. During the SUNY build-out of NY-ALERT, SEMO project staff worked closely with SUNY Administration and campus-level IT and public safety personnel to get feedback on system design. User comments were utilized for numerous improvements in the NY-ALERT platform. Private sector partnerships were also formed to leverage best practices and investments in cutting-edge technology to disseminate emergency information as quickly as possible.

The tactical plan of NY-ALERT was based on an executive decision within the New York State Emergency Management Office (NYSEMO) to allow one system for dissemination of information to the public while utilizing the same information in the creation of secure notification groups. The budget associated with this project was done in a two-phase approach. An extensive business case was written, analyzing cost solutions put forth that could offer the same capabilities of NY-ALERT. Third party solutions came in excess of \$100 million and did not take into account some of the new technologies that were being requested by the state. Development proceeded in-house, utilizing SEMO's existing technology, infrastructure, and data centers. The finalized budget was developed in partnership with the NYS Division of Budget to ensure continuity of operations for the system.

NY-ALERT Version 2.0, scheduled for launch in July 2009, incorporates much of the feedback we have received from subscribers, both individuals and organizations, to make both sides of the web-portal user friendly and more effective in disseminating messages.

Significance of the Project

NY-ALERT is the first mass notification system in the nation that combines public information and alerting tasks into one system, allowing the agency/organization sending a message to create the written message only once and then choose the communication gateways to disseminate it simultaneously. Previously, a message had to be written for each technology used (e.g., the Emergency Alert System, a website posting, email list-serves), which was a time-consuming process and delayed immediate distribution of the emergency information.

While many commercial alerting systems proclaim they can distribute a message, they do not discuss the issue of message reception. While not guaranteeing delivery of the message, NY-ALERT continues to work with third-party vendors of communications infrastructure (from PSTN to ISP) to do everything possible to ensure that the message will be received by its intended recipients and not crash the selected communications systems.

Benefit of the Project

There are two distinct groups who benefit from NY-ALERT. The 19.5 million citizens of the state of New York can benefit significantly if they elect to receive the emergency messages. NY-ALERT has the technological capability to store subscription files for each New Yorker. Storage capacity is available for over 50 million subscriber files. Currently, NY-ALERT has more than 2.8 million subscriber accounts. Subscribers, who receive the service free of charge, receive information through the device(s) they choose and in a very timely manner. Government agencies, institutions of higher learning, etc. are the second group who benefit from the use of NY-ALERT. The alert process is simplified by creating the message only once and then disseminating it through chosen gateways simultaneously.

Since NY-ALERT went operational in September 2007, it has been activated more than 25,000 times and delivered over 49.7 million email messages, 8.6 million SMS (text) messages, 1.8 million voice phone calls, 1.5 million fax messages, and activated the Emergency Alert System eight times.

During the December 2008 ice storm, which struck 16 counties in eastern New York State, NY-ALERT was used to deliver life safety information via text messages to victims who did not have electric service in their homes and thus could not receive information through conventional means.

SEMO leveraged its existing infrastructure and enlisted the talents of more than 100 private sector vendors to work collegially and cooperatively with state government to develop NY-ALERT, a robust system that never before has been attempted, at a minimal cost of \$5.53 million (\$1.23 million in cash and \$4.3 million in in-kind services).

The economic benefit is two-fold. NY-ALERT's open architecture has allowed SEMO to partner with multiple New York State agencies, thus saving funds by not developing competing systems. This has allowed NY-ALERT to be used for a wide range of notifications that have included 60 campuses at the State University of New York (SUNY), the New York State Office of Homeland Security, the New York State Division of Military and Naval Affairs, the New York State Department of Transportation, and more than 40 of New York's 62 counties for safety and non-safety events.

The cost savings has allowed agencies and organizations partnering with NY-ALERT to use system the interface required to communicate and automate the dissemination of information to the public. Additional cost savings can be realized by counties either by replacing existing systems, providing redundancy at no charge or, in the case of counties who have no system, providing them one free of charge so they can notify their residents in the event of an emergency.