Management Analysis & Development

Minnesota Department of Public Safety

Statewide Emergency Notification System Needs Assessment

October 2010

Minnesota Management & Budget, 203 Administration Building, 50 Sherburne Avenue, St. Paul, MN 55155
Telephone: 651-259-3800 • *Fax:* 651-797-1311 • *TTY:* 800-627-3529 • www.mad.state.mn.us/

Project team
Peter Butler
James Jarvis

Division director
Bill Clausen

Assistant director
Kristin Batson

Contact information
Voice: 651-259-3800
E-mail: manalysis@state.mn.us
Fax: 651-297-1117
Website: www.admin.state.mn.us/mad
Address:
203 Administration Building
50 Sherburne Avenue
St. Paul, Minnesota 55155

Other formats
To obtain these materials in an alternative format, — for example, large print or cassette tape — call voice 651-259-3800 or Minnesota relay, 7-1-1 or 800-627-3529 (voice, TTY, ASCII).

Copies of this report
For more information or copies of this report, contact the Minnesota Department of Public Safety – Homeland Security and Emergency Management.

Management Analysis & Development
Management Analysis & Development is Minnesota government's in-house fee-for-service management consulting group. We are in our 26th year of helping public managers increase their organization's effectiveness and efficiency. We provide quality management consultation services to local, regional, state, and federal government agencies, and public institutions.

Contents

Executive Summary

The Minnesota Department of Public Safety – Homeland Security and Emergency Management (HSEM) is the lead agency for developing and maintaining the state's emergency management system and structure. HSEM convened a Mass Notification and Warning Systems Steering Team to examine options for local governments to acquire emergency notification systems, which automatically send alerts and messages via multiple communication channels (telephones, e-mail, and wireless devices, for example).

Two-thirds of surveyed local emergency managers and Public Safety Answering Point coordinators do not have a vendor-provided emergency notification system. Most respondents use warning sirens and traditional media to notify the public, and activate response teams by manually calling or paging, or issuing an emergency radio message. While several jurisdictions are actively considering a system acquisition, many respondents said the initial and ongoing costs and budget pressures were significant barriers to obtaining a system. Two other concerns were low frequency of use compared to the costs and the lack of a central cell phone and wireless contact database.

One-third of respondents have emergency notification systems. The systems are typically contracted services costing $5,000 to $15,000 annually. Activating response teams and notifying people in a specific geographic area are the most common system uses, though actual activations rarely occur more than once per month. Many respondents like their systems' ease of use and flexibility, multiple notification methods, and speed, but also mentioned problems with maintaining a calling list, multiple activation steps, add-on costs, and various functional limitations.

The emergency notification system marketplace is viable and competitive. Several large vendors provide essentially the same service or system as part of a family of emergency communication products. Contacted vendors stated that their system could support a statewide initiative. Vendors employ a number of pricing models for contracted or subscription services, but were unwilling to quote rates. Purchased system costs vary widely, from $200,000 to $500,000 for a statewide solution, because of the breadth of service offerings.

To be widely used, survey respondents believe the State will have to fund a system's initial and ongoing costs and provide some level of staffing for system administration. Under a state-managed system, jurisdictions will not experience the cost of activations and may collectively contribute to high annual costs. The State will have to closely monitor use and impose parameters to prevent cost escalation.

Recommendations

To ensure that a statewide notification and warning system meets local emergency management requirements and FEMA-adopted interoperability standards (CAP or common access protocol) and can fully integrate with other systems, Homeland Security and Emergency Management leadership should:

1. Request that either the current or an expanded Mass Notification and Warning Systems Steering Team:
    a. Identify the requirements or features of a statewide notification and warning system to protect life, safety and property;
    b. Evaluate the viability of the existing state contract for multi-media messaging services; and
    c. Should the existing contract be unsuitable, develop and issue a formal Request for Proposals for a contracted emergency notification system, and evaluate vendors' responses against the state contract of record.
2. Define the State's financial commitment so that the system's capacity and features are optimally defined within an annual budget.
3. Provide state coordination with any federal initiatives related to integrated public alert and warning systems or programs.

Introduction

The Minnesota Department of Public Safety – Homeland Security and Emergency Management (HSEM) is the lead agency for developing and maintaining the state's emergency management system and structure. Through policy direction and grant funding, the office assists local emergency managers to prepare for, respond to, and recover from major emergencies and disasters.

Sheriffs' offices and local emergency managers use a range of communication services to notify and alert responder teams and the general public to emergency situations, potential disasters and general advisories. The notification technology is changing and cell phones and other non-geographically fixed communication devices are becoming more prevalent. An ever increasing number of vendors are offering new notification systems with a variety of features.

This project had two components:

- A survey of local emergency managers and Public Safety Answering Point (PSAP) coordinators on their use of emergency notification systems; and
- Web research, other states' experiences and vendor contacts to gather functional requirements, system capabilities, and technology trends to develop options for providing an opt-in notification service to local governments.

HSEM's Mass Notification and Warning Systems Steering Team provided invaluable input and guidance. Management Analysis & Development is solely responsible for this report's content. Steering team members may or may not agree with the conclusions and recommendations. Members were:

Cathy Clark, HSEM Field Services; chair
Darlene Pankonie, Washington County PSAP
Deb Paige, Washington County EM
Jackie Mines, DPS – Emergency Communication Networks
Jeff Johnson, Jackson County EM
John Blood, HSEM Operations
John Bowen, Crow Wing County EM
John Dooley, HSEM Operations
Judd Freed, Ramsey County EM
Judy Rue, Hennepin County EM
Kari Goelz, HSEM Operations
Scott Heide, Crow Wing County PSAP
Sue Barber, HSEM Administration

DPS = Department of Public Safety, EM = Emergency Management, PSAP = Public Safety Answering Point

Background on Emergency Notification Systems

Historically, the public has depended exclusively on radio and television to receive alerts, but radio and TV reach less than 40 percent of the population during the work day and even smaller percentages at night. Television and radio will remain valuable information sources, but the Internet is decreasing their reach.[1]

This report focuses on "emergency notification systems," which are vendor-provided systems that automatically send alerts and messages via:

- E-mail;
- Fax;
- Pager;
- Telephone line;
- Text message; and
- Wireless service.

A system can notify:

- All telephone numbers in a locality (reverse dialing);
- All telephone numbers in a geographically targeted area of a locality;
- Any individual who registered to receive an alert (opt-in); and
- Public safety and emergency response teams for activations.

A system contains a jurisdiction's entire address and telephone number registry and a database or list of response team members and opt-in recipients and their specific contact information. When activated, the system will send a standard or custom message through all channels to the selected audiences. The system could also activate other notification systems, such as warning sirens.

An emergency notification system's key characteristic is sending messages to a specific recipient or end-point through a direct communication channel. In contrast, the traditional and better known "emergency alert system" broadcasts alerts through AM and FM radio, as well as VHF, UHF and cable television systems. The Federal Communications Commission is expanding emergency alert systems' (EAS) reach by:

- Requiring all remaining broadcast stations and multichannel video programming distributors to install and maintain EAS signal receiving equipment;
- Adopting the Common Alerting Protocol to consistently disseminate warning messages over many warning systems to many applications;
- Establishing the Commercial Mobile Alert System (CMAS) for participating wireless service providers[2] to send emergency text alerts to subscribers; and
- Requiring public TV stations to act as an extra CMAS distribution system by relaying alerts to participating wireless service providers.

[1] http://www.fema.gov/emergency/ipaws/index.shtm
[2] Wireless providers are not required to participate.

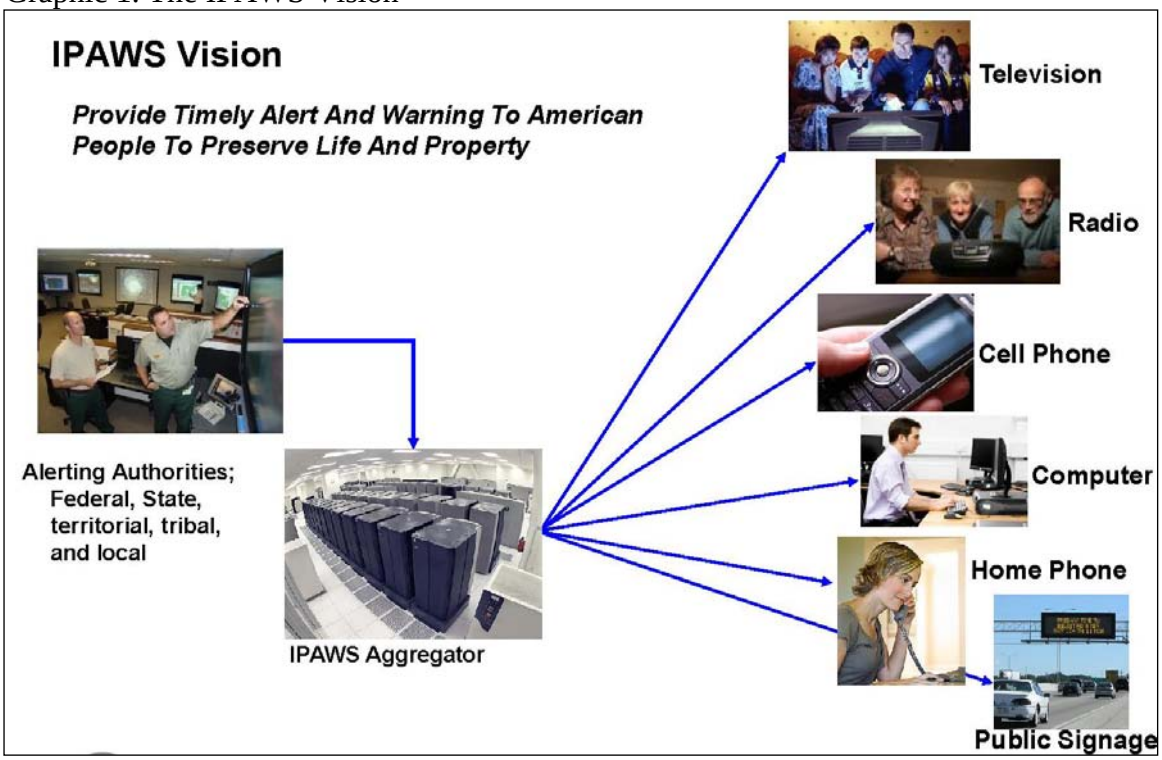
Additionally, the Federal Emergency Management Agency is developing the Integrated Public Alert and Warning System (IPAWS), which "will expand the alert system from an audio-only signal sent over radios and televisions to one that can support audio, video, text, and data alert messages sent to residential telephones, websites, pagers, email accounts, and cell phones, in addition to traditional broadcast media."[3] IPAWS will be completed by end of 2011, with mobile carriers joining in early 2012[4] and will:

- "Allow the President of the United States to speak to the American people under all emergency circumstances;
- Build and maintain an effective, reliable, integrated, and flexible alert and warning system;
- Enable Federal, State, territorial, tribal, and local alert and warning emergency communication officials to access multiple broadcast and other communications pathways for the purpose of creating and activating alert and warning messages related to any hazard impacting public safety and well-being;
- Reach the American public before, during, and after a disaster through as many means as possible;
- Diversify and modernize the Emergency Alert System (EAS);
- Create an interoperability framework by establishing or adopting standards such as the Common Alerting Protocol (CAP);
- Enable alert and warning to those with disabilities and to those without an understanding of the English language;
- Partner with the National Oceanic and Atmospheric Administration to enable seamless integration of message transmission through national networks."[5]

IPAWS will be a "system of systems" with both public and private infrastructure. The following graphics show how IPAWS will disseminate messages over multiple channels. However, IPAWS will rely on local emergency notification systems for telephone message dissemination (Graphic 2).

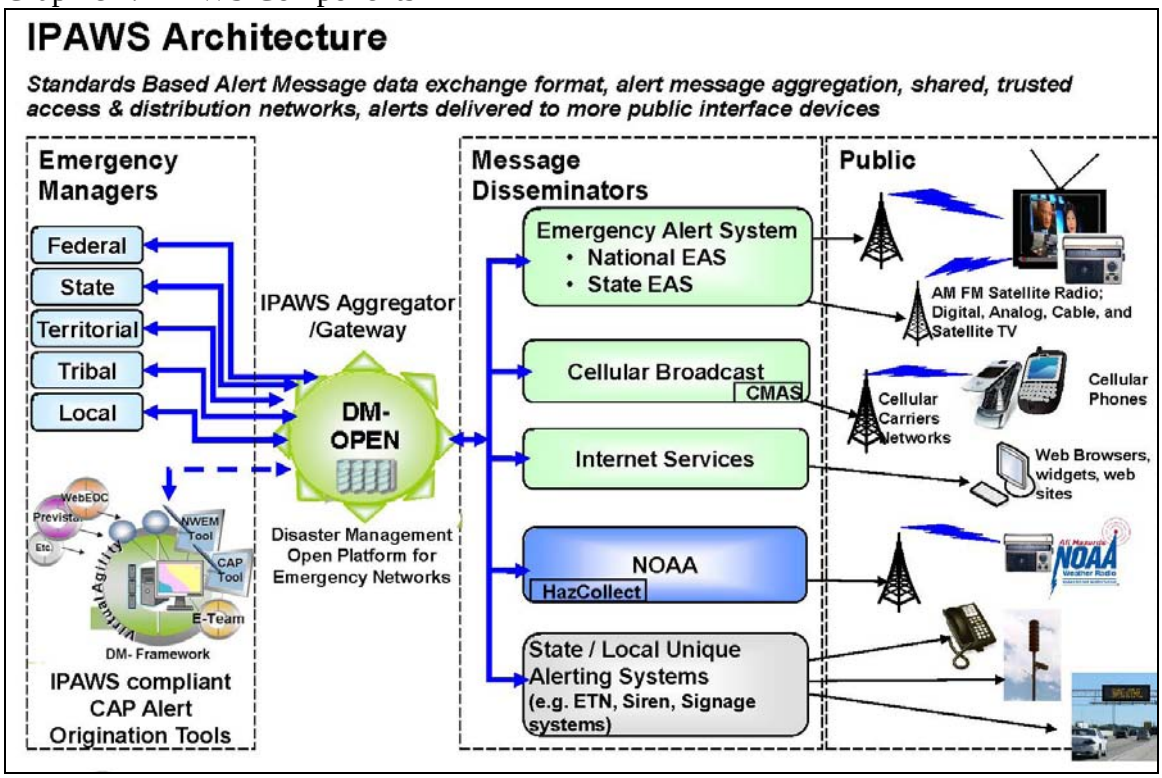
[3] http://www.fema.gov/pdf/emergency/ipaws/fact_sheet.pdf
[4] http://www.fema.gov/pdf/emergency/ipaws/ipaws_tri_fold_final_sept2010.pdf
[5] http://www.fema.gov/emergency/ipaws/index.shtm

Graphic 1. The IPAWS Vision



Source: http://www.fema.gov/pdf/emergency/ipaws/ipaws_2010_nab_presentation.pdf

Graphic 2. IPAWS Components



Source: http://www.fema.gov/pdf/emergency/ipaws/ipaws_2010_nab_presentation.pdf

Use of Notification Systems in Minnesota

An online survey collected data on local and tribal governments' and the State Patrol's use of emergency notification systems. Project consultants developed the survey based on two meetings with the steering committee. The survey collected information on:

- Notification methods for life, safety and property threats;
- Use of mass notification, geographically specific alerts and responder-team activations;
- Use of vendor-provided systems, traditional alert systems and social media; and
- Annual costs and funding sources.

The survey was e-mailed to 189 recipients:

- Each county's emergency manager (87 total);
- Each county's Public Safety Answering Point coordinator (83)[6];
- All ten State Patrol PSAP coordinators and Capitol Security (11);
- Four tribal government emergency managers and one PSAP coordinator (5); and
- The Duluth, Minneapolis, and St. Paul emergency managers (3).

Response rate

The survey's response rate was 86 percent and all but two counties responded. The emergency manager and PSAP coordinator response rates were very similar (Table 1). In a few cases, the county emergency manager or PSAP coordinator completed one survey for both programs.

Table 1. Response rate (excludes non-first class cities)

Group	Recipients	Completed surveys	Response rate
Emergency managers	94	78	83%
PSAP coordinators	95	85	89%
Total	189	163	86%

The survey e-mail invitation asked county emergency managers to forward the survey to city emergency managers.[7] Twenty-eight non-first class cities responded, mostly from Hennepin, Scott, and Washington counties. The city responses provide useful information but are not representative of all cities because of the few responses and nonrandom survey distribution. In total, 190 surveys were received from emergency managers, PSAP coordinators and non-first class cities.

[6] St. Louis and Steele counties have two coordinators each. Six counties with one person serving as emergency manager and PSAP coordinator are counted as emergency managers.

[7] Emergency managers in the first-class cities of Duluth, Minneapolis, and St. Paul also received direct e-mail invitations. Their responses are included in the "emergency managers" group.

Survey administration

In August 2010, project consultants administered an online survey and e-mailed the link to recipients using the Minnesota Department of Public Safety's emergency management and PSAP contact lists. Two reminder e-mails were sent to non-respondents after the initial e-mail.

Some survey answers were re-coded for consistency in reporting. For example, a vendor's name may have been spelled in multiple ways. Five agencies submitted more than one survey, so the duplicates were removed. Four respondents reported that their agencies have a system, but their answers indicated these systems were not the type defined in the survey, so the responses were counted as "no system."

Respondents who own or share a system

Use of vendor systems

One-third of respondents own or share an emergency notification system (66 of 190 respondents). Emergency management programs were equally likely to own a system as share one, while PSAPs were more likely to own a system than share one. Only four of 28 city respondents have a system. Systems are typically shared by emergency management and the PSAP, though a few respondents reported that all county or city departments share a system. In one case, two neighboring counties share a system. Just 11 percent of emergency managers reported that their Public Works Department has a system, while one-quarter said their Public Health Department did.

Four HSEM regions have most of the systems: Metro (12), West Central (10), Southeast (7 systems) and Northwest (6). The Northeast region has three systems and the Southwest has one. Two-thirds of respondents are located in a county with more than 25,000 residents. Thirty-four of 87 counties have at least one system.

Activating response teams and notifying people in a specific geographic area are the most common system uses (Table 2). Emergency managers' and PSAP coordinators' percentages were very similar for each type of use, except that emergency managers are more likely to report using the system for team activations. Cities are more likely to use an opt-in registry than counties. Few respondents use their systems for notifying groups with limited English proficiency. A few respondents reported "other uses," such as notifying volunteers and personnel or schools and hospitals. One person reported that the agency "could never get [the system] working."

Table 2. Use of emergency notification systems

How is the system used?	Overall	Emergency Management	PSAP	Non-first class cities
Activate response teams	80%	90%	69%	100%
Notify the public in a specific geographic area (the polygon)	74%	70%	75%	100%
Notify people who have signed up on a registry (opt-in)	56%	50%	56%	100%
Notifications to groups with limited English proficiency	6%	7%	3%	25%
Mass notification (reverse dialing)	64%	60%	63%	100%
Other uses	12%	10%	13%	25%
Respondents answering question	66	30	32	4

Percentages are based on the number of respondents who answered the question and exceed 100 percent because many respondents chose more than one use.

All respondents notify recipients through telephone lines or pagers (Table 3). Most, also use cell phone or mobile devices, presumably only for team activations and opt-in registrants in which the recipients have provided the necessary contact information. A majority of respondents also send e-mail or text messages.

Table 3. Notification methods

How are recipients notified?	Overall	Emergency Management	PSAP	Non-first class cities
Telephone line or pager	100%	100%	100%	100%
Cell phone or mobile devices	84%	90%	80%	75%
E-mail or text message	58%	57%	53%	100%
Workstations (PCs or laptops)	27%	30%	20%	50%
Respondents answering question	64	30	30	4

Percentages are based on number of the respondents who answered the question and exceed 100 percent because many respondents chose more than one method. One PSAP owns a system but does not use it and one PSAP respondent did not answer this question.

Most respondents rarely use their system more than once per month, except for activating teams (Table 4). Half of respondents activate teams between one and ten times a month.

Table 4. Frequency of system use

How often is the system used?	Rarely on a monthly basis	1 to 5 times per month	6 to 10 times per month	More than 10 times per month	Respond-ents
Activating response teams	42%	45%	7%	5%	55
Notifying people in a specific geographic area	76%	20%	4%	0%	50
Notifying people who signed up on a registry	72%	21%	8%	0%	39
Notifications to groups with limited English proficiency	100%	0%	0%	0%	13
Mass notification	81%	19%	0%	0%	48

Percentages may not total 100 percent due to rounding and are based on the number of respondents who answered the question. "Not applicable" responses are excluded.

Commonly used vendors and costs

Two-thirds of respondents use either CodeRed or City Watch, but ten other systems were also reported (Table 5). Two thirds also contract for the service and the rest have purchased the system.[8] Three-quarters of the systems were purchased or contracted for within the last three years (2008 to 2010). Several respondents are still learning or implementing their system. Two respondents wrote that they have or had a system, but never successfully implemented it.[9]

Table 5. Systems in use

System or vendor name	Percent of
City Watch	33%
CodeRed	30%
GeoComm	7%
Global Connect	7%
Honeywell	7%
PhoneTree	5%
Other systems with one user each	12%
Total	100%
Number of unique systems	43

Percentages may not total 100 percent due to rounding and are based on the number of unique systems as reported by respondents. If a county had two survey responses, only one is counted. "Other systems" are Emergin, HipLink, MIR3, One Call Now and SwiftReach Networks.

[8] Both the emergency manager and PSAP coordinator completed surveys from twenty-one counties with systems. Only one response per county was used to avoid duplication in system costs and vendors used. The other tables use all responses even if one county had two completed surveys.

[9] One respondent is recorded as owning a system and the other is recorded as having "no system."

A contracted service typically costs between $5,000 and $15,000 per year (Table 6). These annual costs are vendor payments for licensing, services and maintenance and exclude the respondent's own staff and other internal costs. Over half of respondents with purchased systems pay vendors less than $4,000 annually, but are more likely to have staff costs associated with supporting the hardware and software.

Costs may differ due to selected options, vendor, county population or usage. A few respondents said their system is used by multiple departments, not just emergency management or the PSAP. One respondent wrote that, "It is expensive for the number of minutes you get. We pay $15,000 a year and get 50,000 minutes [30 cents per minute for as many calls made per minute], which must be shared between two counties and three cities."

Table 6. Annual vendor payments (excluding original purchase price)

Annual vendor payments	Contracted service	Purchased system
$0	10%	43%
$2,000 to $4,000	7%	14%
$5,000 to $9,000	24%	14%
$10,000 to $15,000	34%	0%
Over $15,000	14%	14%
Unknown	10%	14%
Totals	100%	100%
Number of unique systems	29	14

Percentages may not total 100 percent due to rounding and are based on the number of reported unique systems.

The most common funding sources are 911 fees and property or other local revenues (38 percent of respondents use each). A few agencies share costs among departments or other cities and counties. While not explicitly asked, some respondents described their vendor's pricing method: blocks of time purchased, basic overhead charge plus a per-minute charge, and population based. Certain features, like a public phone list or text messaging, may cost extra.

Sixty percent of respondents said their notification systems will meet their needs during the next five years (Table 7). The most common response choice was "good" (48 percent overall). Emergency managers were more likely to rate their systems as "fair" or "poor" than PSAP coordinators or city respondents.

Table 7. Future needs met

How well will this system meet your needs during the next five years?	Overall	Emergency Management	PSAP	Non-first class cities
Excellent/Good	60%	52%	62%	100%
Fair	24%	31%	21%	0%
Poor/Very Poor	16%	17%	17%	0%
Totals	100%	100%	100%	100%
Respondents answering question	62	29	29	4

Percentages may not total 100 percent due to rounding and are based on the number of respondents who answered the question. "No opinion" respondents are excluded.

System likes

Many respondents like their emergency notification systems' ease of use and flexibility, multiple notification methods, and speed. Several new system users often qualified their comments with "still in learning mode" or "just being implemented," but have positive impressions overall. More experienced respondents often discussed system performance.

Ease of use and flexibility:

- "Takes one phone call to activate system."
- "Works well with our other mapping software."
- "Automated; system sends notifications based on Computer Aided Dispatch assignments."
- "The flexibility to be able to control the system and administer emergency notifications from anywhere there is an internet connection and a cell phone."
- "You can direct a more specific message."
- "Fairly easy to use if the computer systems allow it to be used and if the phone lines are answered on the vendor's part."
- "Multiple ways to preselect calling lists. Easy customer interface."
- "Law enforcement can contact everyone with one notification message."
- "Short learning curve."
- "We can create our own messages to be sent out; we can schedule messages to be sent out; we can track what devices were not able to receive the message."
- "Very robust, user friendly, flexible, web based system. We can utilize our own GIS tools to create customized calling lists with great precision."

Multiple notification methods:

- "User friendly with different options on how to notify the residence."
- "Multiple ways in which people, who are on response team lists, are able to be reached."
- "Meets customers where they are at today (cell phones, text messages, e-mail)."

Speed of notifications:

- "Quick response to all land line residences and cell phones who are registered."
- "The ability to notify large groups of people, almost instantly, of tornado warnings."
- "We are able to notify all of the citizens in our County within 30 minutes or less.[10] We used [the system] to evacuate a city in our County and were able to place a call to every residence in 5 minutes."
- "From the previous system we had, this one looks to be quicker with more options."
- "Dispatch sent out two different notifications using the mapping tool and it called over 800 residents in less than 5 minutes!"

Respondents also liked the statistical notification reports, ease of public registration, the ability to "launch" the system via computer or phone, system security and redundancy, and "the convenience of not having to own and maintain equipment."

System shortcomings

Many respondents mentioned problems with maintaining a calling list, multiple activation steps, and various functional limitations. Several complained about the services' costs or how using certain features add more costs. Some shortcomings reflect the system's age or limited phone capacity. Several respondents only have opt-in registry systems that cannot perform reverse dialing and geographically targeted notifications. Just two respondents discussed the public reaction to a notification; some citizens were complimentary and others complained.

Limited phone lines:

- "Limited capacity to notify those who need it most in a timely manner."
- "Troublesome, slow delivery with only 8 phone lines."
- "The system is not robust, cannot handle mass notifications, is slow."
- "Local infrastructure cannot support it fully – lack of phone lines."
- "TV stations and schools also use similar products and competition for existing phone line infrastructure within the community can crash the phone system."

[10] This county has approximately 50,000 people.

Calling lists:

- "Very difficult to maintain a current and viable data base."
- "The system doesn't allow for more than six activation lists."
- "If we don't get people to sign up the cell number online we are unable to contact them. This is especially important during evacuation times.....How do people know when to come back?"
- "Database is shared with everyone on the system - this can cause confusion."
- "Getting community call lists (participation from cities)."

Multiple activation steps:

- "Set up procedures can be time consuming in the event of an emergency."
- "It is too time consuming to activate and if our PSAP is busy and only one dispatcher on, [he/she] will not be able to activate because the system requires multiple steps and your full attention in order to activate it."
- "Takes a fair amount of time to compose and activate a message (2-3 minutes)."
- "The recording of message process - this can be cumbersome at times."
- "You complete computer work on the website, then call in to the system to record the notification. At this time, the notification recording process is lengthy for dispatchers who are also fielding other phone calls and radio traffic."
- "It takes quite a bit of time setting up the notification, but that could be because we have not used it often enough."
- "Difficult to activate the system."

Functional limitations:

- "Since we do not have a registry for people to sign up for, we have no way of notifying people without a land line."
- "Sometimes the phone message isn't complete or there is a long delay before the message is played."
- "Residents' answering machine cannot hear the whole message. Too much pre-recorded info in the message before our message comes on."
- "All log ons [users] get 100% access to the system, you cannot set it up so that they can only go to the list they need. It's all or nothing..."
- "Tests have shown poor text capability and has additional costs involved."

System dependencies:

- "The email/sms portion are Outlook based and if the 'system is down,' the ability to notify is gone."

- "If no internet available - we have no system."
- "Unknown when the system is inaccessible due to routine maintenance or software enhancements such as updates to the database."
- "You cannot keep it up and running 24/7/365 [purchased system]."

Four respondents discussed cost effectiveness and underutilization:

- "There are many functions this system can perform which agencies do not take advantage. This brings the question of its cost effectiveness into play."
- "We are underutilizing the technology - it could do more for us, but funding limits our full utilization."
- "It is used to notify and activate SWAT, severe weather related announcements. It isn't being used to its potential."
- "We have had it over 2 years and only used it once. Is it worth $15,000 a year to have a tool that ALMOST NEVER gets used?"

Respondents without a system

Two-thirds, or 124 of 190 respondents, do not have vendor-provided emergency notification systems. Nearly all use warning sirens and traditional media outlets (Table 8) to notify the public of emergencies. Typically one-third or fewer use mobile loudspeakers, door-to-door and free social media.

Table 8. Methods for notifying the public

What are the primary methods for issuing emergency notifications to the public?	Overall	Emergency Management	PSAP	Non-first class cities
Warning sirens	93%	98%	88%	91%
Mobile loudspeakers	24%	35%	16%	17%
Door to door	36%	42%	26%	43%
Media outlets (TV and radio)	81%	92%	76%	70%
Free social media (Nixle, Twitter, Facebook)	18%	17%	12%	35%
Other methods	21%	21%	26%	13%
Respondents answering question	121	48	50	23

Percentages are based on number of the respondents who answered the question and exceed 100 percent because many respondents chose more than one method. "Other methods" were typically weather radios.

Many respondents activate response teams through manual calling or the dispatch system (Table 9). Telephone trees and in-house mailing lists are not widely used.

Table 9. Methods for activating response teams

What are the primary methods for activating response teams?	Overall	Emergency Management	PSAP	Non-first class cities
Manually call or page each person	76%	83%	66%	83%
Telephone trees	33%	42%	28%	26%
In-house e-mail lists	20%	27%	8%	30%
Message over emergency radio units/computer aided dispatch	64%	73%	60%	57%
Other methods	11%	10%	12%	9%
Respondents answering question	121	48	50	23

Percentages are based on number of the respondents who answered the question and exceed 100 percent because many respondents chose more than one method. "Other methods" were typically group text messages to pagers or cell phones.

Most respondents are not sure or are unlikely to purchase an emergency notification system in the next five years (Table 10). Just ten percent were "very likely" and another 21 percent "somewhat likely." Cities had the highest percentage of "unlikely" responses. System cost and tight budgets are the primary barriers to obtaining a system.

Table 10. Likelihood of purchasing a system

How likely are you to purchase a vendor-provided system in the next five years?	Overall	Emergency Management	PSAP	Non-first class cities
Very or somewhat likely	31%	35%	31%	18%
Not sure	41%	33%	50%	36%
Very or somewhat unlikely	29%	31%	19%	45%
Totals	100%	100%	100%	100%
Respondents answering question	118	48	48	22

Percentages may not total 100 percent due to rounding and are based on the number of respondents who answered the question.

Many respondents without a system expressed concerns about the initial and ongoing costs and budget pressures. Other frequently mentioned topics were notification limitations, and the system's ease of use and maintenance.

System costs and low usage:

- "The cost and then buying a system that doesn't meet or keep up with the new technology. I've looked at two different systems and both are from $8,000 to $12,000."
- "Initial costs are not a great problem; it's the ongoing costs that create budget problems. If you are in an area that has a recurring need for emergency notification, it may be justifiable."

- “Price is the number one factor. I'm not sure how often we would use this service.”
- “Cost for a small community.”
- “Cost vs events needed. Systems become outdated and require costly updating.”
- “Cost and convincing the Board of Commissioners this is something that is needed.”
- “We had a notification system in the past but it became too expensive to justify the minimal use.”
- “Financial implications have and definitely will deter the option of us purchasing and utilizing an emergency notification system.”
- “The expense of the system compared to the number of times it is used.”

Budget pressures:

- “County is trying to obtain a 10% decrease in the next budget year.”
- “The systems we have seen in the past have been cost prohibitive, and because of cutbacks in the budget due to county program aid being cut, anything that costs any money whatsoever is cost prohibitive.”
- “Cost has been the reason we hadn’t purchased a system as of yet. We have a reasonably priced vendor picked out but haven’t budgeted the amount to date.”
- “A committee has been researching a Mass Notification System for the county for the last couple of months. We are currently in the process of discussing how to pay for a system.”
- “With the current budget crunch and cut back on personnel, keeping the system updated would be difficult, thus the system would not be as effective.”

Notification issues:

- “With high level of cell phone use in our jurisdiction, most systems are landline based and there is a concern of a large population which would be missed in present systems.”
- “Making sure that we notify everyone. Often times, there is someone who doesn’t get the notification and then it falls back on the comm center for not sending the message or getting the message dispersed appropriately.”
- “I think a large number of our county’s population would not be contacted by a ‘reverse 9-1-1’ type of emergency notification.”
- “We have looked into reverse 911 for the city, but found the time it takes to call the 30,000 homes in the city would not give sufficient reaction time in an emergency.”
- “How well does the system really work in a timely manner?”

Some respondents said the systems must be easy to use and maintain:

- "Keeping the database updated and accurate."
- "Needs to be easy to use."
- "Ease of access to system for emergency notifications."
- "We had purchased [a system] and never got it implemented; system [did not perform] and you need the personnel to maintain it."
- "User friendly, up to date DATA."

Five respondents are researching less costly options or have competing priorities:

- "We are using a siren system with voice capability and pushing for NOAA radios."
- "We are looking at alternatives based upon effectiveness and cost benefit. We currently page on VHF pagers and will keep that system but look for other alternatives as we migrate to 800 MHz. We are currently implementing NIXLE for public alert and warning, and investigating other alternatives."
- "We would like to purchase a system, but at this time [county] is migrating to ARMER, in the process of building a new PSAP, migrating to Next Generation 911 and updating other technology, so it may be a while."
- "We are in the throes of the interoperable communications project at this time and I do not see us taking on anything new until that is completed."
- "We don't know where our dispatch center will end up in the next five years so everything is on hold."

Three respondents raised questions about geographic coverage:

- "Vendors may vary depending on who can provide the best coverage in various parts of the state."
- "Concerned about how quickly mass notification can be made, particularly in rural areas where telephone lines are limited."
- "I would like to see a system in place [in this county] and would like some direction as to what system or vendor works well for rural areas."

Four respondents support a statewide approach:

- "Concern over the cost of a notification system like this. A statewide system makes the most sense to me."
- "I have been apprehensive about moving forward as I would like to see if there is a state solution in conjunction with the IP based 911 system."
- "We would prefer to be part of the proposed state emergency notification system in which we could share notifications and possibly costs if needed."
- "I feel we need a county wide or state wide system."

Procurement and Administrative Options

In assessing and addressing Minnesota's emergency notification system capabilities, the Minnesota Department of Public Safety – Homeland Security and Emergency Management has asked, "What options or approaches could Minnesota consider for helping local governments secure cost efficient, technologically upgradeable and scalable notification services on an opt-in basis?" Project consultants contacted emergency notification system vendors, conducted web research and contacted three other states to understand the marketplace and acquisition options.

The Emergency Notification System (ENS) market

In 2004, the National Emergency Number Association published "Minimum Standards for Emergency Telephone Notification Systems" (NENA 56-003). This document recognized that emergency notification system acquisition and deployment would increase with growing homeland security and domestic protection concerns. The report focused on technologies such as reverse dialing and recognized that Emergency Telephone Notification Systems (ETNS), which can precisely target populations in specific geographic locations, can augment traditional alert systems such as sirens, weather radio and broadcast announcements. As a result, public notification through landline telecommunications grew. Concurrently, the Internet and cellular telecommunications greatly expanded the number and type of communication channels.

By 2007, both established firms and new entrants were offering emergency notification systems to supplement the traditional landline "reverse dialing" technologies. Often, the system is a complimentary product or natural offshoot of the firm's core business, whether it is a 911 system, broadcast emergency alert system or other automated telephone product. The systems are marketed to multiple industries: government, health care, education, financial services, energy, and manufacturing for emergency and routine use.

By some vendors' own admission, these systems are a "commodity" product; all perform the same functions with similar user-interfaces. While a vendor's system is designed around either traditional telecommunications (Integrated Service Delivery Network) or Internet-based, both of these "backbones" ensure reliability and interoperability and either network can relay messages through the other.

Statewide Emergency Notification System options

Project consultants conducted several telephone interviews with ENS vendors, then sent 10 vendors a one-page questionnaire. Eight responses were received.[11] The questionnaire was explicitly described as a "request for information" and did not obligate the state to proceed with a formal Request for Proposals (RFP). The vendors' answers provide

[11] Avtex Solution (City Watch), Everbridge, Rapid Reach, SpectraRep, Plant CML (formerly Dialogic), Honeywell Building Solutions (Honeywell Alert), Emergency Communications Network (CodeRED), and Monroe Electronics (Digital Alert Systems). See Appendix E for the vendor questionnaire.

excellent information for considering next steps and potential RFP issues. However, only actual RFP responses can provide the most detail and specific pricing.

Project consultants also reviewed the state's MIR3 inEnterprise notification service contract established for the Minnesota Department of Health and open to other agencies and local governments. Emergency managers' requirements were not specifically considered when Minnesota Department of Health created the Request for Proposal that led to the MIR contract, but this contract is worth considering (see this report's next section: "Minnesota Department of Health Contract").

A statewide Emergency Notification System is possible

This project's steering committee recommended examining a statewide, or single vendor, solution. All contacted vendors said their system can support an unlimited number of users, depending on the number of licenses and network capacity. The systems are readily expandable as more users join. One vendor recommended sizing a purchased system for the anticipated number of initial users and expanding it as local user groups increase.

The system enables administrators to create individual accounts and build user groups within a city, county or department. Each group has certain permissions: system administrator, group administrator, user class administrator and basic user whose access to certain capabilities is controlled. For example, one user could generate AMBER alerts but not weather alerts. Data segregation among local governments is also possible. Each local government can control its own notification activity or instances, but the state or a regional group could have broader access as well.

One vendor asserted to be the only one to implement a fully interoperable statewide ENS. Connecticut's statewide system is based on state control and a state-paid "reverse dialing" database. The vendor manages this service on a flat rate, unlimited use plan charged to the State. Additional features are secured by local communities. However, Connecticut is a unique jurisdiction because it disbanded its county system in 1962.

One vendor recommended a "group purchase agreement"[12] instead of a statewide purchase because:

1. Expenditures can grow with the adoption rate without a large upfront commitment;
2. Individual jurisdictions can choose a mixture of systems and services;
3. The State does not have to promote a specific solution to jurisdictions; and
4. The State can negotiate discounts or retroactive credits based on achieving sales targets.

[12] The State of Minnesota uses "master contracts," which offer multiple vendors to choose from. The contract lists rates, conditions and products for each kind of service. Local governments are not required to use the state's master contracts.

However, a master contract reduces the State's ability to promote conformity in messaging, though the vendor contract could set a default configuration and enforce activation or message distribution requirements.

Message activation

Most systems are accessible by telephone and Internet. Local government units can have direct access to the service and can create and send notifications within their boundaries and to internal teams. The State can establish system protocols for users to follow, if desired, or each local government can set its own. To access the system, users enter a user name and password and complete a three-step process:

1. Identify "who" is to receive the message. Based on the user's permission and login data, he or she can access specific databases and activation features. The user selects a target audience through a predefined call-list, a database query or a mapping tool.
2. Type or record a custom message or select a pre-made one. Attach a text, audio or video file, if desired.
3. Review the message and launch the notification, which can be sent to a variety of devices at the user's discretion. Most systems support text messaging, e-mail, numeric pagers, telephones, cellular phones, 'out-of-area' area codes, faxes, TTY/TDD devices and wireless devices. A recipient can receive the message through multiple modes with a set priority (cell phone first, for example).

With the appropriate permissions, a user can access other users' lists and data. For example, a statewide map with all telephone data allows neighboring counties or a region to manage notifications across their boundaries.

Most end-user training requires two to three hours and may be taken online or in-person. One vendor offers a three-day curriculum with a number of hands-on sessions and real work examples. System administrators require more training.

The most significant challenge is recipient list management. If contact information is not well maintained, notifications will not reach intended recipients. Certain government databases, such as 911 numbers, are uploaded to statewide systems. Local governments can also upload their own databases. The ease of updating database lists and uploading more current ones are important capabilities to assess.

However, wireless, cellular, social media and e-mail addresses are not centrally managed or available from a single source. This contact information is obtained only through the device owner's registration (opt-in), though some vendors actively acquire and load numerous non-landline contacts into their licensed systems.

Federal efforts are expanding notification abilities through wireless systems. The Federal Communications Commission has established the Commercial Mobile Alert System (CMAS) to encourage wireless service providers to send emergency text alerts to their subscribers. The state of California and Sprint Communications recently announced the

nation's first CMAS deployment.[13] Further growth of this effort is critical because text messages can be sent more quickly to more recipients over communication networks than audio messages, which require more network bandwidth. Additionally, wireless networks can relay messages to subscribers in the designated notification area regardless if they are residents, visitors or commuters.

System acquisition and pricing

Three acquisition models exist. Some vendors offer all three models while others offer only the purchase or subscription model.

1. Purchase: the state purchases and installs the software and hardware in Minnesota or the vendor hosts the state's equipment.
2. Subscription or "Software as a Service:" the vendor provides a fully hosted service with no hardware or software purchased and no additional telephone lines required.
3. Hybrid ("purchase plus"): The state purchases and installs the software and hardware system and buys additional capacity (telephone lines) on-demand as needed. The user accesses the vendor's capacity through the user's onsite software. The hybrid solution also provides redundancy to a locally installed system.

Vendors described a number of subscription pricing models:

- A usage-based plan or an unlimited usage-plan based on the customer's population.
- The number of households and unique emergency responders each counted as one "unit." Pricing is based on total units times price per unit.
- Number of households or expected volume of notifications per year.
- Number of recipients and the selected feature set (opt-in only system).
- The number of system users and message recipients and network costs for delivering the message.
- A monthly fee plus cost per call placed.
- A standard plan (minute-based with a flat fee and a step-up number of minutes), an unlimited emergency use plan with a minute plan for non-emergencies, or an unlimited plan regardless of use.

Vendors were unwilling to quote their price schedules, but one vendor's online cost brochure listed four cents per call for calls less than 30 seconds.[14]

[13] http://calemanews.wordpress.com/2010/08/24/sprint-and-the-state-of-california-join-forces-to-make-potentially-life-saving-mobile-technology-a-reality/
[14] http://www.swiftreach.com/srn2/Portals/0/pdf/2006_SWIFT911_Brochure_WEB01.pdf

Factors determining a purchased system's cost include:

- The number of ports (telephone lines) needed, which determines the system capacity;
- Anticipated concurrent system users;
- Database size;
- Calling and messaging packages; and
- Desired implementation (purchase or hybrid).

Initial and ongoing costs

Purchased system costs vary widely, from $200,000 to $500,000 for a statewide solution, because of the breadth of service offerings. A single system purchased by a local government could range from $10,000-$50,000. Ongoing costs vary depending on whether the solution is purchased or a subscription. Typical purchased system costs:

- Maintenance: Most purchased systems' annual licensing, upgrades and vendor technical support costs 15 to 20 percent of the initial system cost.
- Personnel: Dedicated state personnel are generally not required. However, the State would be responsible for maintaining phone lines and network connections and performing system administrator responsibilities, such as creating new user groups and assigning permissions.
- Training: Training costs are generally included in the purchase price.
- Infrastructure: Typically, additional T1 lines are required for call capacity.

Subscription systems recover costs through the pricing schedules:

- Maintenance: No maintenance fees and no down time.
- Personnel: No dedicated state technical staffs are required, though system administrators are.
- Training: Training costs are included in licensing fee, typically a few hours with periodic refresher courses taken online.
- Infrastructure: No infrastructure/network commitments.

Request for Proposal Development

Both vendors and another state's experience provide guidance for developing a Request for Proposal (RFP). The needs of New Jersey public and private colleges and universities ran the gamut from basic to enhanced notification services. In fashioning a 2007 RFP, NJEDge.net, a nonprofit associated with Rutgers University, learned that the ENS vendors had segmented the market by focusing their respective efforts on either 'basic,' 'average,' or 'high-end' services. NJEDge.net developed and issued a three-part Request for Proposal (RFP), allowing vendors to specify which level of service they sought to provide.

Today, NJEDge.net is preparing to issue another RFP in November 2010 that will not seek levels of service. Because mergers and acquisitions, remaining vendors now offer a wide range of service that then target a specific end of the market. The resulting RFP will be based on user group input and a review of RFPs provided by Gartner Consulting, a national IT consulting group. Minnesota's Office of Enterprise Technology (OET) also has a contract with Gartner and is able to assist HSEM in securing sample RFPs.
The contacted vendors suggested asking responding firms these questions:

1. How many statewide or large agency systems does the vendor currently support?
2. What is the vendor's recommended approach to allocating ongoing costs among system users?
3. What does the drop down menu look like for accessing? Does the system allow direct access or require accessing one's account from the main account.
4. How are databases maintained on your system? May municipalities, from their locations, and the State, from a central location, upload data to the database?
5. Where are databases stored?
6. Are state-managed databases public information (seek input from IPAD)?
7. Does the vendor have any databases?
8. Who manages the opt-in feature for cellular phone numbers, email and social media?
9. Are emergency notification messages saved?
10. Must/should existing state and local ENS resources be integrated to develop a hybrid system?
11. Will cost per use considerations result in reduced use of system when notifications are required?
12. Will the state envision establishing a default configuration for use and enforce activation and message distribution requirements?
13. May CAP-like messaging protocols be established for all users to ensure consistency and quality of messages on a statewide system?
14. What are the pros and cons of establishing CAP-like messaging protocols when using a statewide system?
15. When would CAP-like messaging protocols be appropriate? How would they be enforced?

Many vendors offer sample RFPs. However, these materials are more properly characterized as 'infomercials' but do raise issues to consider in creating an RFP. All vendors offer online webinars that can help educate any group working on the RFP. One issue not raised with contacted vendors, but worth pursuing, is having the RFP ask vendors how they can facilitate implementation of Commercial Mobile Alert System (CMAS) in Minnesota.

Minnesota Department of Health Contract

The Minnesota Department of Health's Office of Emergency Preparedness (OEP) coordinates preparedness activities and assists department staff, local public health agencies, hospitals, health care organizations, tribes and public safety officials in their efforts to plan for, respond to and recover from public health emergencies.

In fulfilling this purpose, the OEP is a 24/7/365 business communicating health-related emergency information to a variety of healthcare providers ranging from 156 hospitals to thousands of clinicians located throughout Minnesota. One example was the notification to health care responders of the state's first H1N1 outbreak, as well as the location of the first H1N1-related death. These notifications were critical to initiate a specific set of responses by message recipients.

Current vendor

Because secure, reliable two-way communications between the OEP and these responders is essential, the OEP assessed its specific needs, reviewed the products in the market place and contracted with MIR3 (http://www.mir3.com/). MIR3's Intelligent Notification Technology offers rapid two-way notification to deliver important messages to service responders. The notification system is a simple-to-use desktop application that converts a typed message into text and artificial voice formats before sending it to a database of responders.

The system reaches each responder via a designated priority sequence to a variety of communication devices (i.e., fax, telephone, cell phone, pager, and email and text message). The notification system continues to send the message until the responder accepts it and provides a specific response of action to be taken. The system can:

- Alert individuals on any number of devices and in multiple languages.
- Give recipients multiple ways to respond to notifications.
- Automatically log and tally responses from all message recipients.
- Track activity with real-time and archived reports.
- Reach critical responders with flexible scheduling and escalation.
- Add notification capabilities to existing systems.
- Ensure continuity of communication with a fault-tolerant infrastructure.

This service offering is most similar to the emergency notification systems that were reviewed and discussed by the Management Analysis & Development team with the HSEM steering committee. MIR3 also markets the software to a range of business sections for crisis management, IT service management, corporate communications, customer relations, supply chain management, event management, and for any two-way notification purposes.

Costs

MIR3 has two fee components: a monthly flat charge and a quarterly usage charge. The flat, prorated monthly service is comprised of six cost elements under the state contract.

Table 1. MIR3 monthly flat charges

Item	Description	Monthly Cost
inEnterprise	This is the monthly subscription fee for the MIR3 software and includes one administrator account.	$2,379.81
Initiator Accounts	The Department of Health has five initiator accounts. Eighty-seven (87) of these accounts would be required for all Minnesota counties. As the number of accounts increases, the price per account is reduced.	$82.42
Shared Ports	The Department of Health uses voice-only 92 ports. Additional ports may be secured depending upon call volumes and duration.	$720.33
Recipient Accounts	This fee is based on the number of known recipients. The Department of Health generally uses the system to contact identified health responders and specific facilities. This fee is for approximately 30,000 recipients.	$1,112.64
inWebServices	The Department of Health uses inWebServices to integrate the MIR3 service with its own data system through an application programming interface.	$412.09
Application Initiator	This application works in conjunction with inWebServices to assure reliability.	$412.09

IMPORTANT NOTE: These prices are from the Minnesota Department of Health's current contract, which will be replaced by October 31, 2010 with a new contract and, presumably, new prices.

The quarterly usage charges vary, depending on the type of communication. Telephony is a "per minute" charge; text messaging, pager and email are a "per message" charge; and fax is a "per page" charge (Table 2). In September 2010, Health paid $5,119 in monthly flat fees and $5,019 for the third quarter 2010 usage charge.

Table 2. MIR3 per-message charges

Message channel	Price
Telephony	$0.05 per minute
Facsimile	$0.20 per page
Short Message Service	$0.03 per message
Email & Text Pager (non telephonic)	Included in flat monthly fee

Source: MIR3 salesperson's October 27, 2010 e-mail to Management Analysis

MIR3 can perform geographically directed mass notifications, but this service is not part of the current state contract. MIR3 offers a mapping interface between Google Maps and the inEnterprise service and a tool that allows the dynamic creation of groups depending on the geography of an emergency. The flat GIS fee is a formula equal to 60 percent of the monthly fee for initiator and recipient accounts.[15] For example, Health has 30,000 users on the system with a flat monthly cost of $1,112. The cost for GIS would be 60% x $1,112, or about $668 a month.

Other features and information:

- InEnterprise has an opt-in registry, but Health does not use this feature.
- The number of messages sent per minutes depends on the number of ports, message duration and volume of messages. Health requires 30,000 calls per hour.
- The rate of messaging is viewable on the inEnterprise screen. If messaging is going slowly, MIR3 will contact the customer and ask if they want more ports (phone lines).
- The State could create 87 initiator accounts or administrators. MIR3's per-initiator fee decreases as the number of initiators increases. Health has five accounts and pays an annual fee of $989, or $198 per account year.
- State staffing is needed to maintain databases and to initiate messages.
- To ensure customer database integrity, MIR3 offers inConnect, which reduces duplicates and updates fields by synchronizing databases.

Otter Tail County Dispatch is the only Minnesota county using MIR3. The county uses it mostly for team activations at an annual cost of $4,000. Dispatch staff stated the system is a "great tool" and reported only one problem: text messages converted to artificial voice are not always clear and require phonetic spelling of some words.

Health's contract is available to other State agencies and members of the Cooperative Purchasing Venture if it fits their needs (http://www.mmd.admin.state.mn.us/pdf/T-698.pdf).

[15] MIR3 salesperson's October 18, 2010 telephone call with the Management Analysis project team.

Conclusions and Recommendations

Many local jurisdictions do not have an emergency notification system. While some counties are actively investigating a potential acquisition, many survey respondents said the initial and ongoing costs and budget pressures were significant barriers to obtaining a system. Jurisdictions with systems reported many positive experiences, but also some implementation and functional issues. Several respondents noted that these systems are expensive and not frequently used. A statewide system can provide all counties with emergency notification functionality while ensuring greater utilization of a shared resource.

The emergency notification system marketplace is competitive and the state would receive several viable vendor proposals for a statewide system. The challenge is defining the system's functionality given the many options available. The system's design must align with an annual budget. Crafting a Request for Proposal requires significant time and a number of decisions to ensure submitted responses are complete and comparable. A critical issue to address is how a system can more comprehensively notify cell phone and wireless subscribers.

To be widely used, survey respondents believe the State will have to fund a system's initial and ongoing costs and provide some level of staffing for system administration. Under a state-managed system, jurisdictions will not experience the cost of activations and may collectively contribute to high annual costs. The State will have to closely monitor use and impose parameters to prevent cost escalation.

To ensure that a statewide notification and warning system meets local emergency management requirements and FEMA-adopted interoperability standards (CAP or common access protocol) and can fully integrate with other systems, Homeland Security and Emergency Management leadership should:

1. Request that either the current or an expanded Mass Notification and Warning Systems Steering Team:
    a. Identify the requirements or features of a statewide notification and warning system to protect life, safety and property;
    b. Evaluate the viability of the existing state contract for multi-media messaging services; and
    c. Should the existing contract be unsuitable, develop and issue a formal Request for Proposals for a contracted emergency notification system, and evaluate vendors' responses against the state contract of record.
2. Define the State's financial commitment so that the system's capacity and features are optimally defined within an annual budget.
3. Provide state coordination with any federal initiatives related to integrated public alert and warning systems or programs.

Appendices

A: Number of survey respondents by group

B: Survey results for respondents who own or share a system

C: Survey results for respondents without a system

D: Survey instrument

E: Vendor questionnaire

A: Total survey respondents by program

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
Does your department own or share a vendor-provided emergency notification system?								
Own	21%	40	19%	15	26%	22	11%	3
Share	14%	26	19%	15	12%	10	4%	1
None	65%	124	62%	48	62%	53	85%	23
Totals	100%	190	100%	78	100%	85	100%	27

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
Your Public Works Department								
Own	3%	3	1%	1		0	7%	2
Share	9%	9	10%	8		0	4%	1
None	88%	92	88%	68		0	89%	24
Totals	100%	104	100%	77	%	0	100%	27

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
Your Public Health Department								
Own	2%	2	3%	2		0	0%	0
Share	22%	22	27%	20		0	8%	2
None	76%	76	71%	53		0	92%	23
Totals	100%	100	100%	75	%	0	100%	25

No answer responses are excluded from all tables. PSAP coordinators were not asked whether the public works or health departments own or share a system.

B: Survey results for respondents who own or share a system

	Own or share			
	Overall	Emergency Management	Public Safety Answering Point	Cities (not 1st class)
How is the system used? Check all that apply.				
Activate response teams	80% 53	90% 27	69% 22	100% 4
Notify the public in a specific geographic area (the polygon)	74% 49	70% 21	75% 24	100% 4
Notify people who have signed up on a registry (opt-in)	56% 37	50% 15	56% 18	100% 4
Notifications to groups with limited English proficiency	6% 4	7% 2	3% 1	25% 1
Mass notification (reverse dialing)	64% 42	60% 18	63% 20	100% 4
Other	12% 8	10% 3	13% 4	25% 1
Totals	* *	* *	* *	* *

* Note: Multiple answer percentage-count totals not meaningful.
No answer responses are excluded from all tables in this report.

How is the system used? Check all that apply.

Volunteer notification or activation ... Public announcements ... overtime distribution or employee notifications ... Notify hospitals, schools, nursing homes of severe weather ... Notify specifc subpopulation (i.e. businesses or residences) ... Internal notification of personnel ... We have never used it, could never get it working or have IT person able to stay with it long enough to make it viable ... A wide variety. For example, Utility Billing uses it to notify delinquent customers of impending water shut-offs.

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
How are recipients notified? Check all that apply.								
Telephone line or pager	100%	64	100%	30	100%	30	100%	4
Cell phone or mobile devices	84%	54	90%	27	80%	24	75%	3
E-mail or text message	58%	37	57%	17	53%	16	100%	4
Workstations (PCs or laptops)	27%	17	30%	9	20%	6	50%	2
Other	0%	0	0%	0	0%	0	0%	0
Totals	*	*	*	*	*	*	*	*

* Note: Multiple answer percentage-count totals not meaningful.

	Excludes duplicate systems							
	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
What is the name of the system or vendor?								
City Watch	33%	14	41%	7	32%	7	0%	0
CodeRed	30%	13	29%	5	18%	4	100%	4
GeoComm	7%	3	0%	0	14%	3	0%	0
Global Connect	7%	3	12%	2	5%	1	0%	0
Honeywell	7%	3	6%	1	9%	2	0%	0
PhoneTree	5%	2	0%	0	9%	2	0%	0
Other	12%	5	12%	2	14%	3	0%	0
Totals	100%	43	100%	17	100%	22	100%	4

	Excludes duplicate systems							
	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
Was the system purchased or is it provided as a service through an annual or multi-year contract?								
Purchased system	33%	14	18%	3	45%	10	25%	1
Contracted service	67%	29	82%	14	55%	12	75%	3
Other	0%	0	0%	0	0%	0	0%	0
Totals	100%	43	100%	17	100%	22	100%	4

	Excludes duplicate systems							
	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
In what year was the system purchased or contract first signed?								
2010	21%	9	24%	4	18%	4	25%	1
2009	19%	8	12%	2	18%	4	50%	2
2008	33%	14	18%	3	45%	10	25%	1
2005 to 2007	21%	9	35%	6	14%	3	0%	0
Pre-2004	7%	3	12%	2	5%	1	0%	0
Totals	100%	43	100%	17	100%	22	100%	4

	Excludes duplicate systems			
	How system was acquired			
	Contracted service		Purchased system	
Annual cost				
$0	10%	3	43%	6
$2,000 to $4,000	7%	2	14%	2
$5,000 to $9,000	24%	7	14%	2
$10,000 to $15,000	34%	10	0%	0
Over $15,000	14%	4	14%	2
No Answer	10%	3	14%	2
Totals	100%	29	100%	14

	Excludes duplicate systems							
	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
How are the annual system costs funded? Check all that apply.								
State or federal grants	17%	7	29%	5	10%	2	0%	0
911 fees	32%	13	29%	5	33%	7	33%	1
Property taxes or other local revenues	44%	18	47%	8	38%	8	67%	2
Other	29%	12	29%	5	33%	7	0%	0
Totals	*	*	*	*	*	*	*	*

* Note: Multiple answer percentage-count totals not meaningful.

	Frequencies:									
	Rarely on a monthly basis		1 to 5 times per month		6 to 10 times per month		More than 10 times per month		Totals	
Notification frequency										
Activating response teams?	42%	23	45%	25	7%	4	5%	3	100%	55
Notifying people in a specific geographic area?	76%	38	20%	10	4%	2	0%	0	100%	50
Notifying people who signed up on a registry?	72%	28	21%	8	8%	3	0%	0	100%	39
Notifications to groups with limited English proficiency?	100%	13	0%	0	0%	0	0%	0	100%	13
Mass notification?	81%	39	19%	9	0%	0	0%	0	100%	48

"Not applicable" responses are excluded from the preceding table.

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
How well will this system meet your needs during the next five years?								
Excellent/Good	60%	37	52%	15	62%	18	100%	4
Fair	24%	15	31%	9	21%	6	0%	0
Poor/Very Poor	16%	10	17%	5	17%	5	0%	0
Totals	100%	62	100%	29	100%	29	100%	4

What do you like about the system?

You can direct a more specific message ... user friendly with differnt option on how to notify the residence. used it several time during the flood of 2009 and 2010. ... Low cost. ... It is used to notify and activate SWAT, severe weather related announcements. It isn't being used to its potential. ... The speed in which people are notified. The activation reports that are generated. That there are multiple ways in which people, who are on response team lists, are able to be reached. ... On 8/9/10 Dispatch sent out two different notifications using the mapping tool and it called over 800 residents in less than 5 minutes! Once you get the message programmed in, it's quick sending out the calls. ... We like the multiple means of notification. ... The system can reach people that we do not have the ability to notify with other means. ... Notifies a lot of people in a short amount of time. Has fairly good notifcation statistics. We have had it since January, but up until yesterday only used it for Fire/Ambulance training notification from built list. ... It exists ... It is quick at getting notifications out to notification groups ... We just recently purchased this system. In fact, we will be trained on it this week. From the previous system we had this one looks to be quicker with more options. The Sheriff's department uses this system for weather notifications and any other type of information they may need to send out to their deputies. We have not used it for residential notifications yet - we are looking into how we would use it for those types of notifications, our goal is to have it as an EMERGENCY notification and not a general notification (i.e. snow removal or road closures). We will also be using it to contact county employees and Public Health staff for emergencies. Emergency Management and the Sheriff Office shares the cost of this system which is determined by the county's population. ... Low cost, works well with our other mapping software, easy to use ... Have not used it yet. still in a learning mode. ... It was very helpful during the floods we experienced in 2007. It assisted the Public Works Department in their "after-incident actions and notifications. During the incident it was used to notify residents along the river. Most of its use is by some of our agencies for staff notifications. ... It is fairly easy to use. ... Very fast to use, and user friendly for the most part compared to the old standard numeric pager or even older VHF paging system used previously. ... The ability to manage it from the end user point. ... Security, Geographic calling capability, ... Seems to be a lot of flexibility but we haven't actually used the system yet. ... Quick response to all land line residence and cell phone who are are registered ... I like the ease of use and the conveience of not having to own and maintain equipment. It is also very convenient for the public to sign up and list their own phone numbers and cell phones numbers. I also like the speed in which notifications can take place. With our old system [vendor] it took an hour to notify the public

in a relatively small geographic location during a drill. With [new vendor] we are able to notify all of the citizens in our County within 30 minutes or less. We used [new vendor] to evacuate a city in our County and were able to place a call to every residence in 5 minutes.
I also like the statistical reports.
I also like the flexibility to be able to control the [new vendor] system and administer emergency notifications from anywhere there is an internet connection and a cellphone. ... Automated, system sends notifications based on Computer Aided Dispatch assignments ... we can create our own messages to be sent out; we can schedule messages to be sent out; we can track what devices were not able to receive the message. ... Fairly easy to use if the computer systems allow it to be used and if the phone lines are answered on the vendor's part. Customer Service has always been available when needed and offered plenty of training opportunities. ... Speed and versitility ... short learning curve ... nothing ... This is a new system and is just being implemented. I have researched Notification Systems for the past two years and have found this one to give me the best capabilities for the cost. We will be evaluating and using it for the next two years at which time the cost is expected to be shared by the users. ... Ease of use ... Web based, seems reliable and easy to use. Inexpensive. ... convenient and interactive ... Mass Notification or specific area notification ... n/a ... The ability to notify large groups of people, almost instantly, of Tornado Warnings. ... Very flexible and easy to use. Great Customer Service. ... Low cost ... Simplicity. ... At the time it was a great system. We need to upgrade ours. ... fast notification ... Provides the type of services we are looking for. ... It gets the message out. ... Ease of use. Multiple ways to pre-select calling lists. Easy customer interface. Redundancy of options to launch (computer or phone). Low cost per resident. Automatic weather warning is VERY well received (used for tornado, flood and t-storm warnings in [city] this summer already). Plan on using for public safety response teams (probably as a back-up to normal pagers at first). Meets customers where they are at today (cell phones, text messages, email). ... We just acquired this system and still need to be trained. Hopefully it will be easy to use. In the past we had [vendor] and our PSAP never did have any luck with that product although other agencies used it on a limited bases. Your best bet is to check with [name] our Emergency Manager, both products came through that office. His phone number is [number]. ... Law enforcement can contact everyone with one notification message ... Mapping, Group settings/notifications, Voice instead of type cast, Fast, user friendly ... Takes one phone call to activate system ... Not much. We need to go to a system that allows us to include all that you have listed in the questions earlier and to include all avenues of communication. ... Ease of use ... It provided a greater ability to inform the public at large and the public safety users of our dispatch system ... I apologize that I do not know all of the specifics about the system. I am new to this position and it was installed before "my time". If you need specifics, I can direct you to the dispatch folks. Thanks. ... No hardware purchase was required. ... It never worked ... Notify large number of people very quickly. System can be activated from anywhere if you have access to a telephone and a computer. ... Very robust, user friendly, flexible, web based system. Fully hosted, no need to purchase hardware. Vendor can furnish telephone lists for a fee. Billing model based upon some overhead and maintenance costs, then on a per call basis. Don't have to buy blocks of time that may not be used. We can utilize our own GIS tools to create customized calling lists with great precision. Good cascading or waterfalling and interactive/response capabilities for employee call-out notifications.

What are the system's shortcomings?

Users must register ... extremly expensive, you have to public sign up on a computer ... Troublesome, slow delivery with only 8 phone lines. ... Getting community call lists (participation from cities) ... Sometimes the phone message isn't complete or there is a long delay before the message is played. The system doesn't allow for more than six activation lists. System doesn't allow for overlay of flood plain maps, thereby giving us flood warnings that geared just to the people who live in the flood plain. ... Dispatch is using the system to call Fire Depts for monthly meeting reminders so all dispatchers can get use to using the system. It takes quite a bit of time setting up the notification, but that could be because we have not used it often enough. ... Unknown when the system is unaccessable due to routine maintenance or software enhancements such as updates to the data base. ... Difficult to activate the system. ... Set up takes some time, but after more use may be easier to use. ... The system is not robust, cannot handle mass notifications, is slow. we would like to use a more robust solution, but cannot afford it. ... You complete computer work on the website, then call in to the system to record the notification. At this time, the notification recording process is lengthy for dispatchers who are also fielding other phone calls and radio traffic. ... Our county dispatch is the primary source to send out notifications. Since we just received this system about 6 weeks ago, the only concern to date is the time it takes to send out a notification. However, we may learn of a different way of doing this after our training. ... phone land lines are only numbers dialed from the mapping ... Don't know. ... There are many functions this system can perform which the agencies within the City of [name] and [name] County do not take advantage. This brings the question of its cost effectiveness into play. ... Since we do not have a registry for people to sign up for, we have no way of notifying people without a land line. ... None other than the email/sms portion are Outlook based and if the "system is down" the ability to notify is gone. ... Database management ... Takes a fair amount of time to compose and activate a message (2-3 minutes).

Not suitable for weather notifications because of call costs above base use agreement and competing use of infrastructure resources. Example. TV stations, schools also use similar products and competition for existing phone line infrastructure within the community can crash the phone system. Geographic calling can be used by only one or two authorized individuals. ... Unknown at this time. ... None ... Vendor is no longer in the public safety market; system is not intended to be a "mass notification" system, so public warning is not addressed. ... If no internet available - we have no system. Cost, database shortcomings, lack of proper administration of system, delays have occurred in getting messages out due to phone line problems and the recording of message process - this can be cumbersome at times. Database is shared with everyone on the system - this can cause confusion. ... It's an opt-in system so we can only notify those who sign-up ... too new to tell yet. System not publicly started yet ... It is too time consuming to activate and if our PSAP is busy and only 1 dispatcher on will not be able to activate because the system requires mutiple steps and your full attention in order to activate it. Truly feel it is a waste of money because there are other options out there that don't cost anything to use. ... They remain to be seen. We have had our own [vendor] System for the past five years and I have to say it is "CRAP"! It is only good for notifying our SkyWarn group. We tried to use it with one of our school districts during the H1N1 pandemic and it took 3 days 24 hours around the clock to make 3,000 phone calls. ... setting system up ... Tests have shown poor text capability, and has additional costs involved. ... cost ... System is very slow in the notification process for larger groups. Current mapping section is not user friendly. ... very difficult to maintain a current and viable data base. It has limited capacity to notify those who need it most in a timely manner ... Not everyone is signed up. ... Little slow to Queue up, you cannot keep it up and running 24/7/365 ... No callback feature. ... We have had it over 2 years and only used it once. When

we used it for a crime notification we received compliments and complaints. The question comes up...Is it worth $15,000 a year to have a tool that ALMOST NEVER gets used? The only issue is that more and more people are going away from home phones and going cellular only. If we don't get those people to sign up the cell number online we are unable to contact them. There has been a push from a member of a City department to advertise it more judiciously so our data base becomes more complete. This is especially important during evacuation times.....How do people know when to come back? If you call the home phone and they have been evacuated it does no good. Cell phone data is very important but doesn't come from the 911 records. ... We can only use telephone as the contact. Old system. ... some programming problems. better now ... Set up procedures can be time consuming in the event of an emergency ... Takes 14-20 minutes to get the message out. ... Weather warning currently does not auto-call for blizzard or winter storm warnings. Launching from field can be time consuming and cumbersome if not using pre-set or all call lists. Dispatch has to be trained to use if field officers need to launch a call but d/n have time. ... Unknown. ... can't send text messages ... Not operator friendly ... local nfrastructure cannot support it fully- lack of phone lines ... Residents answering machine cannot hear the whole message. Too much pre recorded info in the message before our message comes on. ... Aging technology to keep up with expanding infrastructure and housing ... It doesn't allow us to have many options to communicate quickly. It is an outdated system. ... Our organization has too many systems. we need to have a centralized system for multiple notifications. We end up competing with ourselves. we are also underutilizing the technology - it could do more for us, but funding limits our full utilization. ... none ... N/a ... It never worked ... It was difficult to train the end users. It is expensive for the number of minutes you get. We pay $15,000 a year and get 50,000 minutes which must be shared between 2 counties and 3 cities. Also, all log ons get 100% access to the system, you cannot set it up so that they can only go to the list they need. It's all or nothing... ... Would like to see even better mapping interface and data exchange capabilities.

C: Survey results for respondents without a system

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
What are the primary methods for issuing emergency notifications to the public? Check all that apply.								
Warning sirens	93%	112	98%	47	88%	44	91%	21
Mobile loudspeakers	24%	29	35%	17	16%	8	17%	4
Door to door	36%	43	42%	20	26%	13	43%	10
Media outlets (TV and radio)	81%	98	92%	44	76%	38	70%	16
Free social media (Nixle, Twitter, Facebook)	18%	22	17%	8	12%	6	35%	8
Other	21%	26	21%	10	26%	13	13%	3
Totals	*	*	*	*	*	*	*	*

* Note: Multiple answer percentage-count totals not meaningful.

What are the primary methods for issuing emergency notifications to the public? Check all that apply.

NOAA Weather Radios ... All-Hazard Radios ... scanner ... telephone ... EAS notifications via the State Duty Officer ... phone ... www.511mn.org for Traveler Information emergencies ... e-mail distribution list ... Calling trees for several Lake Associations ... We are starting to use Nixle notification syatem ... EAS ... City website ... NWS Weather Radio ... City of Warren is the only community that we can set off sirens for. ... paging, email, etc. ... Township Website ... We have a blow down area in the northern part of our county that in the event of a fire starting in that area, the deputies would evacuate door to door. ... MNDOT's 511 system ... Weather Radio in certain situations ... weather sirens ... Tone Alert Monitors ... Bldg paging systems, email, Uniformed Officers & Troopers ... Pager tests to law, fire and ems heard by the public on scanners ... EAS machine ... Emergency Alert System is activated that puts the information out to the media ... NOAA Radio

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
What are the primary methods for activating response teams? Check all that apply.								
Manually call or page each person	76%	92	83%	40	66%	33	83%	19
Telephone trees	33%	40	42%	20	28%	14	26%	6
In-house e-mail lists	20%	24	27%	13	8%	4	30%	7
Message over emergency radio units/computer aided dispatch	64%	78	73%	35	60%	30	57%	13
Other	11%	13	10%	5	12%	6	9%	2
Totals	*	*	*	*	*	*	*	*

* Note: Multiple answer percentage-count totals not meaningful.

What are the primary methods for activating response teams? Check all that apply.

Group paging System (SRT) ... own VHF emergency management radio system ... Dispatch Volunteer Fire Departments for that area ... paging ... We have none, we contract fire response / ambulance ... group text pages ... activate sirens and utilyze NOAA ... We activate pagers for Cottonwood EMS. The deputies are notified via cell text. ... Agency paging ... cell phone text ... group paging that pages all members of a team ... Web Based notification system ... county dispatch for ems and police

	Overall		Emergency Management		Public Safety Answering Point		Cities (not 1st class)	
How likely are you to purchase a vendor-provided system in the next five years?								
Very likely	10%	12	13%	6	10%	5	5%	1
Somewhat likely	20%	24	23%	11	21%	10	14%	3
Not sure	41%	48	33%	16	50%	24	36%	8
Somewhat unlikely	4%	5	6%	3	2%	1	5%	1
Very unlikely	25%	29	25%	12	17%	8	41%	9
Totals	100%	118	100%	48	100%	48	100%	22

Please list your questions or concerns about purchasing and using an emergency notification system.

Concern over the cost of a notification system like this. A statewide system makes the most sense to me. ... Concerns would be costs associated with on-going maintenance, ease of access to system for emergency notifications, speed of notifications, limitations on minutes or number of users. ... With high level of cell phone use in our jurisdiction most systems are landline based and there is a concern of a large population which would be missed in present systems. ... We are in the throes of the interoperable communications project at this time and I do not see us taking on anything new until that is completed. County is also trying to obtain a 10% decrease in the next budget year. ... the cost and then buying a system that doesn't meet or keep up with the new technology . I've looked at two different systems both are from $8,000 to $12,000. I have sales people calling every week. ... With the lack of funding and budget reductions an emergency notification system is currently a want and not an absolute need. ... Making sure that we notify everyone. Often times, there is someone who doesn't get the notification and then it falls back on the comm center for not sending the message or getting the message dispersed appropriately. ... The systems we have seen in the past have been cost prohibitive, and because of cutbacks in the budget due to county program aid being cut, anything that costs any money whatsoever is cost prohibitive. ... Cost has been the reason we hadn't purchased a system as of yet. We have a reasonably priced vendor picked out but haven't budgeted the amount to date. ... The cost and maintenance, updating information, etc. ... Financial implications have and definitely will deter the option of us purchasing and utilizing an emergency notification system. ... None at this time ... Cost is the number one factor. ... A committee has been researching a Mass Notification System for the county for the last couple of months. We have had demos from vendors [three listed]. We are currently in the process of discussing how to pay for a system. Our primary concern is cost at this point. We are also discussing ease of use and maintenance of the address database, along with which vendor would be able to push out the data quick enough for our needs. ... Cost & annual fees and where to get the funding ... I would like to have a ENS but due to budget constraints that isn't possible. ... Cost is the most important concern. It is difficult for smaller agencies to fund a program such as this without the assistance of the County or a State or Federal grant. ... We would consider a different notification system if there were grants for them ... Price is the number one factor. I'm not sure how often we would use this service. ... Initial Costs are not a great problem, its the ongoing costs that create budget problems. If you are in an area that has a recurring need for emergency notification, it may be justifiable. Where is not a great need the dispatchers are not familiar with the system if not used frequently. This does not guarantee that everyone in the area received the notification due to many now only using cell phones. It will still require individual notification in the area to insure it has been evacuated. ... We are looking at alternatives based upon effectiveness and cost benefit. We currently page on VHF pagers and will keep that system but look for other alternatives as we migrate to 800. We are currently implementing NIXLE for public alert and warning, and investigating other alternatives. ... Can it be used for Missing Child, Crime Prevention tips, critical incidents, emergency water shut off etc. ... Concerns about where the information comes from for the data base and cost per incident. ... We had purchased [vendor] and never got it implementated, system sucked and you needed the personnel to maintain it. ... We don't know where our dispatch center will end up in the next five years so everything is on hold. ... Very important, but purchase is based on available funding. ... The State Patrol uses vendor provided paging systems to call out our Special Response Team (SRT) and On-Call Command Staff. Vendors may vary depending on who can provide the best
coverage in various parts of the state. MSP Communications in Roseville can provide more detailed information on these systems. ... COST, NEEDS TO BE EASY TO USE ... keeping the database

updated and accurate; how well does the system really work in a timely manner ... The systems I'm aware of call home phones and do not provide for households who have only cell phones. At that rate, I think a large number of our county's population would not be contacted by a "reverse 9-1-1" type of emergency notification. ... cost and liability ... Just the cost, otherwise we would have one operating already. ... Cost is the factor holding agencies back. ... Our biggest concern is the cost of keeping a notification system up todate with current information. With the current budget crunch and cut back on personnel, keeping the system updated would be difficult thus the system would not be as effective. ... NIXLE is free. System relies on citezens coming to us to sign up and deactivate when they move out of the area. There is no guarantee that contact is made and message is heard. ... Cost and how the public is notified ... COST VS. USAGE ... We are a state agency, so programs and systems are not purchased for individual districts, it is purchased statewide by upper management ... Up front cost and the annual maintenance/contract cost ... The cost of the systems we have looked at make it virtually impossible to justify. ... Cost for a small community. ... Cost would be the primary factor. ... We are hoping that one can be procured by the county on behalf of its cities and townships through a grant. If not, we will look to purchasing a system. ... Cost ... I would like to see a system in place in [county] and would like some direction as to what system or vender works well for rural areas such as [name] County. ... Huge cost - little funding. Cost vs Events Needed. Systems become outdated and require costly updating. ... The expense of the system and it's use compared to the number of times it is used. ... How does the system work and what are the costs? ... Lack of funds, we cannot get sirens to warn our citizens of severe weather. ... [Name] County has received bids to have an automatic notification (with a back up paging module in case our radio system goes down) from two vendors. I have been apprehensive about moving forward as I would like to see if there is a state solution in conjunction with the IP based 911 system. Do you have any advice as to whether I should go forward with purchasing a system at this time? ... I feel we need a county wide or state wide system ... Concerned about how quickly mass notification can be made, particularly in rural areas where telephone lines are limited. ... Without grant dollars it is not going to happen at this time. With grant dollars our county would very likely get involved. ... We would prefer to be part of the proposed state emergency notification system in which we could share notifications and possibly costs if needed ... Cost, interoperability (others can activate for us in needed), security, capability of system(s). SUSTAINMENT ... County owns a 911 only vendor IES/Radio pager. Bought in 2000. "It works" and will meet needs for next five years. ... Cost and convincing the Board of Commissioners this is something that is needed. ... The State Patrol does not use this type of system. Our participation in emergency notification is limited to NAWAS notification to us and relaying this information by radio or direct phone link to individual (or groups of) counties who then in turn do the actual notifications of the type listed in this survey. ... No concerns yet, good information learned about the systems ... Cost and ease of use ... User friendly, up to date DATA, ability to alert certain areas, 100% trust worthy, affordable. ... very large ongoing expenses for a system ... We had a notification system in the past it became too expensive to justify the minimal use. ... Budget restraints ... We have looked into reverse 911 for the city, but found the time it takes to call the 30,000 homes in the city would not give sufficent reaction time in an emergecny. We are using siren system with voice capability adn pushing for NOAA radios. ... My main concern is making sure wireless devices are contacted. ... Regarding the question about when would we see our agency purchasing a alerting system - I marked this "not sure" but should put the comment that this type of system would be at the recommendation of the agencies we serve. This is a product that they would purchase and we may or may not have it available within our center. ... Not having the funds available. ... Not sure at this time, we do not have a system in place. ... Cost of purchasing and/or maintaining the system

Appendix D

Survey on Emergency Notification Systems

The Minnesota Department of Public Safety's divisions of Homeland Security and Emergency Management and Emergency Communication Networks request your input on the use and need for automated emergency notification systems for life, safety and property threats.

All responses will be aggregated for a report without attribution, including the verbatim comments. No individual survey responses will be made public. This survey is voluntary, and there is no consequence for not participating.

The survey takes less than 10 minutes. Thank you in advance for assisting with this effort.

<< Back Next >>

If you experience technical problems or have questions about this survey, please contact Peter Butler, Management Analysis & Development, at (651) 259-3806 or peter.butler@state.mn.us.

Please enter the name of your governmental unit:

Emergency notification systems automatically dial telephone numbers and/or distribute e-mails to pre-established lists and/or the general public.

Does your _ANSWER_Q2_ own or share a vendor-provided emergency notification system? ○ Own ○ Share ○ None

We're interested in knowing if these departments have systems, too.

Your Public Works Department ○ Own ○ Share ○ None

Your Public Health Department ○ Own ○ Share ○ None

Please list any other departments or programs that own or share a system:

<< Back Next >>

If you experience technical problems or have questions about this survey, please contact Peter Butler, Management Analysis & Development, at (651) 259-3806 or peter.butler@state.mn.us.

Please answer the following questions about your owned or shared vendor-provided system.

How is the system used? Check all that apply.

- ☐ Activate response teams
- ☐ Notify the public in a specific geographic area (the polygon)
- ☐ Notify people who have signed up on a registry (opt-in)
- ☐ Notifications to groups with limited English proficiency
- ☐ Mass notification (reverse dialing)
- ☐ Other:

How are recipients notified? Check all that apply.

- ☐ Telephone line or pager
- ☐ Cell phone or mobile devices
- ☐ E-mail or text message
- ☐ Workstations (PCs or laptops)
- ☐ Other:

What is the name of the system or vendor?

Was the system purchased or is it provided as a service through an annual or multi-year contract?

- ○ Purchased system
- ○ Contracted service
- ○ Other:

In what year was the system purchased or contract first signed?

How much did you pay the vendor last fiscal year for licensing, maintenance or technical support for a purchased system, or for the contracted service? Exclude the original cost if purchased.

How are the annual system costs funded? Check all that apply.

- ☐ State or federal grants
- ☐ 911 fees
- ☐ Property taxes or other local revenues
- ☐ State appropriation
- ☐ Other:

<< Back Next >>

If you experience technical problems or have questions about this survey, please contact Peter Butler, Management Analysis & Development, at (651) 259-3806 or peter.butler@state.mn.us.

Last Page!

	Rarely on a monthly basis	1 to 5 times per month	6 to 10 times per month	More than 10 times per month	Not applicable
How often do you use the notification system for:					
Activating response teams?	○	○	○	○	○
Notifying people in a specific geographic area?	○	○	○	○	○
Notifying people who signed up on a registry?	○	○	○	○	○
Notifications to groups with limited English proficiency?	○	○	○	○	○
Mass notification?	○	○	○	○	○

How well will this system meet your needs during the next five years?

- ○ Excellent
- ○ Good
- ○ Fair
- ○ Poor
- ○ Very poor
- ○ No opinion

What do you like about the system?

What are the system's shortcomings?

You indicated that you do not own or share a vendor-provided emergency notification system. Please answer the following questions. If you do own or share a system, hit the back button and change your answer to "own" or "share."

What are the primary methods for issuing emergency notifications to the public? Check all that apply.

- ☐ Warning sirens
- ☐ Mobile loudspeakers
- ☐ Door to door
- ☐ Media outlets (TV and radio)
- ☐ Free social media (Nixel, Twitter, Facebook)
- ☐ Other: _____

What are the primary methods for activating response teams? Check all that apply.

- ☐ Manually call or page each person
- ☐ Telephone trees
- ☐ In-house e-mail lists
- ☐ Message over emergency radio units/computer aided dispatch
- ☐ Other: _____

How likely are you to purchase or contract for a vendor-provided system in the next five years?

- ○ Very likely
- ○ Somewhat likely
- ○ Not sure
- ○ Somewhat unlikely
- ○ Very unlikely

Please list your questions or concerns about purchasing and using an emergency notification system.

Appendix E

Vendor Survey

The State of Minnesota is requesting information from vendors on Emergency Notification Systems. This information will help the state to decide whether to proceed with a formal Request for Proposals (RFP) and the content of that RFP. The state is requesting information on potential costs and deployment options to assess the feasibility of a single state contract to serve the state's and local governments' ENS requirements.

This document is a request for information and does not obligate the state to proceed with a formal Request for Proposals. Any vendor who declines to provide the requested information will not be penalized should a formal Request for Proposal be issued.

As part of this assessment, ENS vendors are being asked to provide information on the following:

1. Does your company offer a state-wide ENS system that would allow each user entity (e.g., a municipality or a county) the ability to set up an individual account on the system?
2. What is the maximum number of user groups (cities, counties, etc.) for such a system?
3. May these individual local government users – from their account – activate the emergency notification system for their own teams? Target emergency (life/death) messages for their own populations?
4. May such a system be purchased? And if so, what factors determine the price(s)?
    a. Give an example of a price for the 'statewide system' and a single entity (e.g., municipality)
    b. What is a typical cost range for a purchased service (please note your assumptions)?
5. May such a system be leased? And if so, what factors determine the lease costs?
    a. Give examples of a lease cost for the 'statewide system' and for a municipality.
    b. What is a typical cost range for a leased service (please note your assumptions)?
6. May the system be a hybrid of part-purchased and part-leased? If so, how?
7. What process must be followed for a county or city emergency service personnel to use the system?
    a. What must a sender/user do to send an emergency message on the system to selected recipients? Can the state establish protocols for all emergency messages?
    b. To whom may the sender/user send an emergency message? In other words, what devices or capabilities must a recipient have to receive an emergency message?
8. If the State of Minnesota were to own or lease this system, what ongoing costs should it expect to incur –
    a. --- in dollars (maintenance)
    b. --- personnel (is dedicated personnel required?)
    c. --- training time to host/manage the state-wide ENS system
    d. – infrastructure commitments
9. How long does it take a user to be trained to use your emergency notification system?