

August 2007 Wireless Alert Workshops Summary

In the wake of the Virginia Tech tragedy in April 2007, Lieutenant Governor John Garamendi announced plans for the creation of a system to broadcast emergency messages to wireless communication devices in California communities, and has supported the continued development of other high-tech notification systems.

The Governor's Office of Emergency Services (OES) had also been charged through recent legislation to initiate an effort that examines policies, procedures and a framework for public-private partnerships with providers of mass communications systems to enhance public access to emergency alerts.

Working with the California Public Utilities Commission (CPUC), OES and the Lieutenant Governor's Office brought together subject matter experts in government and industry to review current efforts and discuss California's alert systems and capabilities, with a specific focus on wireless systems. Two workshops convened in San Francisco and Los Angeles at the CPUC offices on August 14, 2007, and August 21, 2007, respectively. Below is a summary of the workshops.

Agenda Items
California's Emergency Management, Public Alert System, and Current State Legislation
Federal Initiatives and Commercial Mobile Service Alert Advisory Committee (CMSAAC) Overview
Local and State Best Practices
Industry Panel – Current and Near Term Technology for Wireless Alerts

Critical Issues Identified by Industry
There is no one technology that would satisfy all service and performance expectations; multi-channel message delivery is needed. ¹
¹ Joint ITU-T/OASIS Workshop and Demonstration of Advances in ICT Standards for Public Warning, Oct 2006
The national process defined in the federal Warning Alert and Response Network (WARN) Act of 2006 may be the most effective way to achieve a robust, sustainable, scalable and reliable wireless emergency alert system.
Short Message Service (SMS) point-to-point and Multimedia Messaging Service (MMS) are not feasible or practical since these messages will quickly congest a network, resulting in significant message delays or messages not delivered, as well as denying voice service. SMS lacks security (e.g., "spoofing" and denial of service attacks) and geographic targeting.
Battery life degradation due to the need for the phones to search to locate the transmission.
End-user reaction to receiving alert notifications (i.e., "clogging" 9-1-1 or operator customer care services for more information, receipt while driving, etc.).
Architecture needed to support multi-languages.
Additional cell phone technology required.
Notification standards and protocols need to be developed.

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August 14, 2007 – San Francisco Audience Participation	
Question	Responses made by Governmental and/or Industry Representatives
How can vendors engage the major carriers to ensure that they are in-line with and efficient in working within the perimeters and standards?	Vendors may most benefit by establishing relationship with message initiators rather than carriers. <i>[T-Mobile]</i>
What is the plan for consumer education/awareness to be implemented along with the technology that is being recommended?	Public information campaigns will be attached to on-going OES programs. The First Lady Preparedness Campaign may also be a venue; the Lieutenant Governor has also mentioned public education campaigns. <i>[OES]</i>
Is the CMSAAC working with other network types in the country to combine capacity for congestion issues?	The CMSAAC is looking at commercial mobile alerts for all commercial devices including pagers. However, this is not in regard to integrating pager and cellular technology into one device, but making sure that the architecture supports not only cellular, but pager carriers as well. <i>[AT&T]</i>
Why isn't a multifunctional device being considered?	Cost and one-size will not fit all. <i>[Sprint/Nextel]</i>
After the CMSAAC's report is submitted, what is the time-frame for individual carriers to move forward?	Utilizing the Federal Communications Commission (FCC) schedule, they have 180 days after the report is submitted (due October 12, 2007) to complete the rulemaking process. The output of that rulemaking will define the perimeters; and Congress has given the carriers until September 2008 to elect to transmit alerts or not. <i>[AT&T]</i>
Can you clarify the aggregator function?	It is an application mechanism to authenticate messages and ensure that the person initiating the message has the authority to do so. <i>[T-Mobile]</i>
Assuming the FCC ruling has been made, how long does it take for technology?	Typically, 18-24 months from the start of the specification process to the actual development, to the actual first office applications out in the field. <i>[AT&T]</i>
Can you speculate on penetration rate and the time the population realistically has the handsets which can receive the notification or alerts?	Turnover rate on handsets are generally on the order of a couple of years. <i>[AT&T]</i>
How do the carrier companies and capabilities differ from the other companies that have already received statewide contract awards for network communication systems or broadcasting protocols?	The big differentiation is between systems that drive message traffic to other areas of technology. Telephone message systems do not run on their own infrastructure – they generate traffic. Therefore, the issue is that they can generate traffic at whatever volume they like and then blame the carrier if the traffic does not get through. The discussion here is in regard to an arrangement for the actual delivery of messages to the end user. <i>[Contra Costa County]</i>

August 2007 Wireless Alert Workshops Summary

August 14, 2007 – San Francisco Audience Participation, continued

Responses made by Government and/or Industry Representatives	Responses made by Governmental and/or Industry Representatives
Will confidentiality and integrity and similar issues be addressed in the standards and policies?	The CMSAAC is making recommendations to the FCC in the report due on October 12, 2007. <i>[T-Mobile]</i>
No notification system will work without power. Submitted AB 2393 docket information should be used to develop a tool for local emergency planners and other officials that demonstrates: a) telecommunication networks by area; b) power sources for those networks; c) issues that should be addressed during an emergency, along with a formal process to keep the information updated.	The California Utilities Emergency Association (CUEA) works hand-in-hand with OES as a gateway or a linkage address the issues specifically mentioned. <i>[CUEA]</i>

August 21, 2007 – Los Angeles Audience Participation

Question	Responses made by Governmental and/or Industry Representatives
What will be the cost to message recipients?	Pursuant to the federal WARN Act of 2006, warning alerts have to be provided at no cost. <i>[AT&T]</i>
Who is responsible for entering telephone numbers into the warning system?	The warning agency will have to do that. <i>[T-Mobile]</i>
What is the priority of cell broadcasts of emergency notifications if the network is busy?	There is currently no priority; however, current priorities will remain for public safety personnel. <i>[AT&T]</i>
Is it a third-channel, separate system?	Yes, it is a separate system. <i>[AT&T]</i>
What is the battery issue that has been discussed?	Since the broadcast will come from a cell site, phones need to tune into the specific broadcasting site which does cause wear on the batteries. <i>[AT&T]</i>
Will a software update be available for existing phones or will new phones be required?	Most likely new phones will be required as current phones do not have the technology (e.g., alert tones). <i>[AT&T]</i>
How are carriers in other states (e.g., Wisconsin) doing it?	Wisconsin is a test case. There are currently models of phones with some capability (e.g., European phones do have some of the technology, but not for the complete solution). <i>[AT&T]</i>
It sounds like it will be a number of years before any of the capability is available?	Typical development time for technology is 18 to 24 months. <i>[AT&T]</i>
Within 2 years? Is it possible to have this feature on phones currently in use?	Until the FCC requirements are published, it is very hard to say since the carriers are dependant on industry for the development of the necessary technology. <i>[Verizon]</i>

August 2007 Wireless Alert Workshops Summary

August 21, 2007 – Los Angeles Audience Participation, continued

Question	Responses made by Governmental and/or Industry Representatives
How will these messages affect pre-paid and limited plans (e.g., disposable cell phones)?	Carriers will be required to provide these notifications to all customers – even those with prepaid – with an opt-out option only. <i>[T-Mobile]</i>
Will notifications be provided in languages other than English?	Consensus data reviewed by the CMSAAC has demonstrated that there are potentially 37 languages to be supported for alternate messages. Languages other than English will require additional technology development (e.g., character sets, encoding). There are also capacity and message-length issues. Accordingly, the CMSAAC is recommending development of a national plan, which will be included in the report due on October 11. <i>[AT&T]</i>
What can be done right now, with today's framework and technology?	As a group, carriers believe there are genuine technical barriers to the SMS messaging network. However in the meantime, emergency managers could be trained on Common Alert Protocols (CAP), the process and system for statewide coordination of emergency managers could be developed along with guidelines for alerts, and California could participate in the federal pilot project. <i>[T-Mobile]</i>
Can clarification be provided regarding roaming and customers being unable to receive messages within certain territories?	The FCC has been asked to reconsider the order that was issued last week [mid-August 2007] for carriers to contractually negotiate for SMS and voice roaming with other carriers. However, some roaming agreements already exist between carriers which may include SMS. <i>[Cricket Communications and AT&T]</i>

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Comments Only

California is encouraged not to limit notifications to cell phone users. Broadcasting via radio waves is more effective. Technology may even be available to put a chip in cell phones to receive FM broadcasts. It is recommended that California research the State of Georgia's system via FM broadcasting.

Limitation on coverage and capacity has never been a matter of the carriers' commitment to putting out more infrastructure and network; local governments have limited placement of cell sites and micro cells in the right-of-way and in residential neighborhoods. Local governments and state policy makers are encouraged to become active in working with the elected officials on changing the dynamic between trying to prevent the antenna sites being deployed as opposed to actually embracing the technology and bringing it in with leadership.

OES and other stakeholders are encouraged to remain engaged in open access rules and other requirements being considered by the FCC. Those outcomes will greatly affect efforts being discussed in this forum.

Much of the problem is not technological, it is procedural, it is standards of practice, and it is the issue of the state having a warning program which has never existed in the budget. Although the initiative of the Lieutenant Governor focused on cellular, the technology seems to be moving faster than the organizational and procedural and human aspects. Accordingly, OES and PUC would have support and opportunity to expand into these more operational aspects.

Communications, like emergencies, are at the local level. There are existing communication systems and protocols, and there are a number of carriers and solutions and applications at work. There are best practices to get the word out at the local level – but, when talking about a bigger picture – more global major broadcast level – it may not be truly feasible. Solution provider vendors are encouraged to approach the carriers and let them know what they can do. Maybe they can partner. Public and private partnerships have been discussed in this forum, but the carrier has to recoup costs. Carriers may be able to develop supplementary or parallel systems, marrying with solution providers.

It is anticipated that 9-1-1 systems will overload from improper alert and warning information. Many counties in California are small and rural without resources, infrastructure or staff for complex systems. And in many cases, those same counties have the most challenges in terms of terrain. We have to have systems that are usable by somebody who might only use this once in 4 or 5 years or once in a career. Another concern from the local government perspective is cost vs. gain and marginal rate of return. Adding bells and whistles may not create a significant gain in getting the public to take a protection action (e.g., shelter-in-place or evacuate). And, if we have existing systems that reach a significant percentage of the population, there is a good chance that they will talk to their neighbors and the word will get out. So, a reasonable goal of what percentage of the population should be reached should be developed. We should avoid reliance on “instant wireless everything” as this approach may not be as good as a well-developed accurate, timely and consistent message.

[Comments received post-Workshops via OES e-mail]: It is recommended that California make the new wireless notification system a cooperating, not co-opting technology that does not limit access to valuable public safety information in the name of consistency. As part of the overall strategy, consider the public posting of fire department and selected police 9-1-1 dispatches. California should also consider the Urban Canyon® system in Seattle a best practice. This system that takes notification technology somewhat further and gives public and private responders strategic information.

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