



205 E. Central Avenue, 3rd Floor
Orlando, FL 32801
(877) 553-9049
TapShield.com

How Mobile and Cloud Technologies are Reducing Emergency Response Times

When disaster strikes, one of the most important aspects for first responders, organizational leaders and people in the affected areas is to ensure that all lines of communication are open. The flexibility and accessibility of the cloud is why many institutions and establishments in the U.S. are beginning to embrace cloud technology to ensure personal safety, especially when it comes to reducing time-to-action for first responders during an emergency. . Furthermore, the rise in mobile technology usage enables people in affected areas to post status updates on social media so responders can better understand unfolding situations.

This white paper discusses how online smartphone and cloud technologies can greatly reduce emergency response times.

Impact of Cloud and Mobile Technologies during an Emergency

The cloud's efficiency as a disaster response tool was demonstrated during the magnitude 9.0 earthquake that leveled parts of northeastern Japan. "The disaster proved the cloud's ability, efficiency and advantages in emergency response on a national basis," as the chief researcher of Information Technology Promotion Agency in Japan, Ben Katsumi concludes at a presentation at CloudScape in 2013¹.

In addition to replacing PCs and other technological hardware that were lost during the tsunami, Japan also provided its people with free cloud service during this time, so that they could communicate with first-responders, loved ones and the community around them. The services proved to be invaluable in facilitating peer-to-peer communication between families or loved ones who had been separated.

The Problem with Traditional Methods of Emergency Reporting

When it comes to emergencies, the loss of a few seconds can mean the difference between life and death. Traditional methods of emergency reporting in the United States are limited to 911 calls or 10 digit security telephone numbers amongst others.

"What is your location?" and *"What is the nature of your emergency?"* are two of the first questions that emergency services ask whenever they receive calls, wasting precious minutes before they can dispatch appropriate services. On average, it takes an emergency operator at least two to three minutes to collect the necessary information in order to respond to the caller.

Recent infrastructure improvements, such as E-911 (Enhanced 911) upgrades are falling short for various Public Safety Answering Point's (PSAPs) due to the decades-old infrastructure and the lack of precise caller location from those dialing 911 from cell phones. In fact, police say 911 dispatchers are having trouble sending help to callers who use cellphones. The reason: unlike a landline, cellphones provide just a rough estimate of GPS info—with a possible radius of a few hundred yards—of the caller's location³.

"The location of the caller is the most important thing,"
said [Eric Parry](#), who oversees 911 calling technology used in Utah.
"If I have a 'what,' that helps me know what I need to send.
If I don't have a 'where,' then the 'what' doesn't help me in the least."

The proliferation of cellphones is both a blessing and a headache for law-enforcement officers and other emergency responders. More people with cellphones means it is easier than ever to make a quick call for help. Yet, unless responders can identify the caller's precise location, response times can be significantly delayed.

Improving Response Times

Finding a caller's location isn't always accurate or easy. There are several factors that can aid in better response time, including:

Accurate Location – Critical information starts with understanding accurate caller location at the onset of an emergency call, so that dispatchers can set emergency responders en route while learning and providing additional detail of the call. To speed response and to assist callers unable to identify their current location, the emergency call centers rely on instant and accurate location of the caller. For landline phones, this is based on the subscriber billing address, while cellular phones either provide this information derived from a built-in GPS receiver or a network-assisted solution, e.g., based on time-of-arrival differences.

Nature of the call –Emergency response services that are adept at determining the nature of calls are better equipped at handling emergencies.

Caller ID – The emergency response center needs to be able to identify the caller to limit prank calls, to allow call back in case the caller gets disconnected and to log calls for evidence. In almost all cases, the number is delivered even if the caller has suppressed calling number (caller ID) delivery.

Leveraging Mobile & Cloud Technologies for Improved Response

TapShield technology turns smartphones into *personalized mobile safety systems* with the ability to send relevant information to emergency responders in a single gesture. TapShield dramatically reduces overall response times by up to 47 percent through the use of its real time GPS location tracking, which provides users' exact location. TapShield appeals to today's student and business demographic because it leverages personal technologies like smartphones and crowdsourcing that are ingrained in modern culture.

The TapShield Safe Campus and Enterprise solutions are used by some of the largest colleges and corporations in the U.S., and allow security officials to lower risk and provide users with their own personalized safety device. TapShield feature highlights include:

- **Silent Alarm** - TapShield is the only mobile safety application capable of sending a covert emergency alert without the user having to touch his/her smartphone. TapShield Yank™ uses advanced smartphone technology to issue an alert once the headphone or a Smart Dongle™ is pulled out of the device, instantly sending real-time GPS and caller info to authorities.
- **Always Connected** – TapShield enables discreet, two-way communication between users and authorities through secure Voice Over IP (VoIP) during and after a crisis.
- **Never Alone** - Using TapShield Entourage™, users can alert their contacts when they depart one location for another location to ensure that they arrive safely at their end destination. If the user does not arrive at his/her scheduled destination within the allotted time, authorities are alerted to the users' precise location enabling them to respond effectively.
- **Community-based Security** - Instead of relying solely on Blue Lights, call boxes or nearby authorities, TapShield is the only mobile app to crowdsource emergency reporting and response, essentially expanding security forces into a pervasive, campus-wide network of potential responders. SafeCircle™ alerts other relevant

responders in the surrounding area as to whether their help is needed or whether they should evacuate the area.

- Dispatchers use Shield Command™, a cloud-based incident response platform, to receive real-time GPS location, key caller identification information and nature of the emergency within 5 seconds.
- Mobile Mass Notification System (MMNS) can alert up to one million users within a specified area using Geofencing technology, all within seconds.
- Using the latest in native and cloud technologies, implementation is easy with no server, hardware or software installation required.

Summary

By leveraging the latest in cloud and native mobile technologies, TapShield is able to improve emergency response times by up to 47 percent when compared to traditional methods of emergency reporting such as dialing 911 or ten-digit security or campus police phone numbers. Learn more at www.tapshield.com

Sources:

¹ – *Cloud Shines Brightly as Future of Disaster Response IT*
<http://www.njvc.com/solutions/cloudcuity/cloud-computing-disaster-response>

² - Utilization of Social Media in the East Japan Earthquake and Tsunami and its Effectiveness http://www.jsnds.org/contents/jnds/34_1_1.pdf

³ - *Cellphone Tracking Leaves Gaps in Emergency Services*, WSJ Online, 12/3/13
<http://online.wsj.com/news/articles/SB10001424052702304579404579231913503559556>

About TapShield

TapShield is the market leader in mobile personal safety. We design, develop and market enterprise grade mobile solutions for emergency notification and response. Learn more at www.tapshield.com



TapShield.com ♦ 877.553.9049 ♦ Email: hello@tapshield.com