Mobile Messaging Applications for First Responders

Market Survey Report

March 2021

Homeland Security
Science and Technology

NUSTL
NATIONAL URBAN SECURITY
TECHNOLOGY LABORATORY

The *Mobile Messaging Applications for First Responders Market Survey Report* was prepared by the National Urban Security Technology Laboratory for the U.S. Department of Homeland Security, Science and Technology Directorate.

The views and opinions of authors expressed herein do not necessarily reflect those of the U.S. Government.

Reference herein to any specific commercial products, processes, or services by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the U.S. Government.

The information and statements contained herein shall not be used for the purposes of advertising, nor to imply the endorsement or recommendation of the U.S. Government.

With respect to documentation contained herein, neither the U.S. Government nor any of its employees make any warranty, express or implied, including but not limited to the warranties of merchantability and fitness for a particular purpose. Further, neither the U.S. Government nor any of its employees assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed; nor do they represent that its use would not infringe privately owned rights.

The cover photo and images included herein were provided by the National Urban Security Technology Laboratory, unless otherwise noted.

FOREWORD

The National Urban Security Technology Laboratory (NUSTL) is a federal laboratory organized within the U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T). Located in New York City, NUSTL is the only national laboratory focused exclusively on supporting the capabilities of state and local first responders to address the homeland security mission. The laboratory provides first responders with the necessary services, products, and tools to prevent, protect against, mitigate, respond to, and recover from homeland security threats and events.

NUSTL manages the System Assessment and Validation for Emergency Responders (SAVER) Program, which conducts objective assessments and validations on commercially available equipment and systems and develops knowledge products that provide relevant equipment information to the emergency responder community. The SAVER Program mission includes:

- Conducting impartial, practitioner-relevant, operationally oriented assessments and validations of emergency response equipment.

- Providing information, in the form of knowledge products, that enables decision-makers and responders to better select, procure, use, and maintain emergency response equipment.

SAVER Program knowledge products provide information on equipment that falls under the categories listed in the DHS Authorized Equipment List (AEL), focusing primarily on two main questions for the responder community: "What equipment is available?" and "How does it perform?" These knowledge products are shared nationally with the responder community, providing a life- and cost-saving asset to DHS, as well as to federal, state, and local responders.

NUSTL is responsible for all SAVER activities, including selecting and prioritizing program topics, developing SAVER knowledge products, coordinating with other organizations, and ensuring flexibility and responsiveness to first responder requirements.

NUSTL provides expertise and analysis on a wide range of key subject areas, including chemical, biological, radiological, nuclear, and explosive weapons detection; emergency response and recovery; and related equipment, instrumentation, and technologies. In support of this tasking, NUSTL conducted a market survey of mobile messaging applications for first responders. Mobile messaging applications fall under AEL reference number 13IT-00-ALRT titled "System, Alert/ Notification."

Visit the SAVER website at www.dhs.gov/science-and-technology/SAVER for more information on the SAVER Program, or to view additional reports on mobile messaging applications and other technologies.

Visit the NUSTL website at www.dhs.gov/science-and-technology/national-urban-security-technology-laboratory, or contact NUSTL@hq.dhs.gov for more information.

U.S. Department of Homeland Security

SAVER

System Assessment and Validation for Emergency Responders

POINT OF CONTACT

National Urban Security Technology Laboratory (NUSTL)
U.S. Department of Homeland Security
Science and Technology Directorate
201 Varick Street
New York, NY 10014

E-mail: NUSTL@hq.dhs.gov

Website: www.dhs.gov/science-and-technology/SAVER

Author: Bhargav Patel, Mechanical Engineer

EXECUTIVE SUMMARY

Smart phones and other mobile devices are ubiquitous in our society. First responder agencies are increasingly adapting and implementing mobile technologies into their day-to-day operations, in part because these devices can increase their capabilities in two critical domains: situational awareness, and communications and information sharing.

This market survey report contains 23 different mobile messaging applications that could potentially be leveraged by first responders when responding to incidents and emergencies. Some of these applications were developed with first responders explicitly in mind as the primary end users, while others, developed for the broader consumer marketplace, may also lend themselves to first responder applications.

When searching for a mobile messaging solution to enhance situational awareness, communication and information sharing in a secure and reliable manner, first responder organizations have many viable options to explore and from which to select a tool that meets their specific needs.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

Law enforcement departments across the country are beginning to use smartphones and mobile messaging apps with the goal of augmenting the safety and efficiency of their operations. The Boston Police Department (BPD) requested assistance from the Department of Homeland Security (DHS) Science and Technology Directorate (S&T), National Urban Security Technology Laboratory (NUSTL) in exploring mobile messaging applications (herein also "mobile apps," "messaging apps," or simply "apps") with potential to support incident response and management in the Boston region.

Currently, some first responders are not equipped with a dedicated, text-based messaging platform while on the job. These personnel must communicate location positions and other critical information over the radio. Reliance on radio, however, limits the first responders' ability to quickly share photos, maps, and location information all at once.

This market survey identifies messaging apps that enable first responders to send information such as messages, alerts, images, and locations between field operators using mobile devices and officers stationed at static locations (such as an incident command location or headquarters building) who are using desktop computers.

NUSTL performed due diligence to develop a report that is representative of products in the marketplace. To provide the BPD and other agencies with information on commercially available mobile messaging apps, NUSTL posted a request for information (RFI) on the federal business opportunities website (fedbizops.gov) and requested a technology scouting report from the Technology Scouting Branch within DHS S&T [1]. From October 2019 through January 2020, NUSTL also gathered information using internet research, industry publications, consultations with subject matter experts, and subsequent contacts with mobile messaging app developers in order to produce this market survey report.

Solutions that fall into the category of "mobile messaging applications" generally have a few relevant features in common:

- Users can share written text-based messages
- Users can share image messages
- Users can share multimedia messages such as audio and video recordings
- Exchanging messages relies on wireless networks and standard information exchange protocols (e.g., Wi-Fi, TCP/IP, fourth generation long term evolution (4G LTE), short message service (SMS), multimedia service)

The mobile messaging apps included in this market survey report contain the features mentioned above, as well as two additional features of particular importance to first responders as detailed in the next section.

2.0 MOBILE MESSAGING APPLICATIONS OVERVIEW

Smart phones and other mobile devices are ubiquitous in everyday society. First responder agencies increasingly adapt and implement mobile technologies into their day-to-day operations, in part because these devices can increase their capabilities in two critical domains: situational awareness and communications and information sharing.

According to "Project Responder 5" [2] "Situational Awareness" is the capability to provide and distill specific knowledge concerning emerging threats, hazards, and conditions in a timely fashion to support incident management decisions across all phases of incident response. "Communications and Information Sharing" is the ability for both the on-scene responder and incident command to access, integrate, and display images and video from the incident scene.

2.1 PRIORITY FEATURES FOR FIRST RESPONDERS

Based on conversations with first responders, mobile messaging app features that are particularly important to their work include, but are not limited to:

- Multimedia sharing – messaging app solutions able to send pictures (like .jpg and .png), videos (such as mp4), and audio files (for example, mp3) between users
- Location sharing – messaging app solutions able to share the location of users to other users also on the app's platform
- Auditability – messaging app solutions able to be audited for both training purposes, after-action reviews, and meeting legal or regulatory requirements

An effective mobile messaging platform would enable first responders to send location maps, pictures, and other real-time alerts instantaneously to an entire first responder team. Users could actively track the locations of other officers on duty, analyze pictures with layered information, and stay abreast of unfolding situations through mass alerts. As a result, the messaging application would enable the advanced coordination needed for first responders to manage large-scale events. The application would also allow incidents, responder communications, and actions taken to be revisited.

2.2 FIRSTNET

First responders may also access a priority network while using mobile messaging applications—a matter of devices (hardware), not just applications (software). While using a particular software solution can boost capacity for situational awareness and information sharing, using hardware compatible with FirstNet can boost communications reliability as well as expand the range of mobile applications available.

In 2012, Congress established FirstNet, a nationwide broadband network dedicated to first responders – a response to the diminished communication capabilities first responders experienced during 9/11 due to network congestion. During any incident with high-traffic network activity, first responder devices connected to the FirstNet network receive priority for text and voice communication, through a mechanism called "priority and pre-emption."

Public safety devices will gain access to the network first, network resources will not be taken away from public safety devices and in some severe cases commercial users may be momentarily disconnected from the network. Thus, emergency and security personnel can handle large-scale situations without compromised communication abilities.

In addition to providing voice, data, and messaging services, FirstNet hosts an app catalog that features software and apps tailored to the needs of first responders. [3] The solutions offered for first responders range from communication apps, fleet management software, and push-to-talk communications to cloud storage options and device security solutions. Apps are vetted by FirstNet to ensure developers are following industry best practices. In addition, during times of network congestion, traffic on apps from the FirstNet catalog receives priority connection versus publicly available apps. Supervisors and chiefs can apply for FirstNet network access, devices, rates, and (once connected) its app catalog.

This report, however, does not address solutions available only in the FirstNet catalog. This market survey focuses on commercially available messaging applications, but notes when an application is compatible with FirstNet for readers who may be interested in taking advantage of its network prioritization features.

Both iOS and Android devices may be compatible with FirstNet. FirstNet-certified hardware, however, is not limited to mobile smart phones. A full list of certified FirstNet devices is available from the National Institute of Standards and Technology [4].

For more information, please visit firstnet.gov.

3.0 PRODUCT INFORMATION

This section provides information on 23 mobile messaging apps and how well they meet the criteria outlined as priorities for first responders in section two: increased situational awareness and enhanced information sharing through multimedia sharing and location sharing, as well as after-action auditability. Table 3-1 summarizes key specifications, while additional information and photos are provided in sections 3.1 through 3.23.

Listed from left to right, the columns appearing in Table 3-1 are:

Product Name: The name of the product or solution

Manufacturer: The name of the organization or company that developed the product

Mobile OS: Indicates with what type of mobile operating systems the mobile messaging app is compatible with; the possibilities are limited to Android and iOS [5]

Desktop Client: Indicates if a desktop interface is available, and if so, with what operating system it is compatible with (Web-browser based clients are operating system agnostic)

Auditable: Indicates whether the solution can be audited for both training purposes and other after-action reviews

Multimedia Sharing: Indicates whether the solution can send files that contain images, videos, or audio with other users of the app

ESRI Compatible: Indicates if the solution is able to send Environmental System Research Institute (ESRI) Geographic Information System (GIS) location information, maps, and files through the platform (This often requires the ability to read .SHP, .SHX, and .DBF filetypes as they have some dependency on each other) [6]

FirstNet: Indicates whether a mobile application is available in the FirstNet catalog

Location Sharing: Indicates whether the solution allows end users to share their location with others also on the app platform

The table also indicates "**unknown**" in several instances when a clear result or answer to a specification was not readily available.

Table 3-1 Summary of Mobile Messaging Application Features

Product Name	Manufacturer	Mobile OS	Desktop Client	Auditable	Multimedia Sharing	ESRI Compatible	FirstNet	Location Sharing
AT&T Enhanced Push to Talk	AT&T Services Inc.	Android	Web Browser	Yes	Yes	Unknown	Yes	Yes
ATAK-Civ	Airforce Research Laboratory	Android	WinTAK	Yes	Yes	Yes	No	Yes
Bridge4PS	Bridge4PS	Android, iOS	Web Browser	Yes	Yes	No	Yes	No
D4H Incident Management	D4H Technologies	Android, iOS	Web Browser	Yes	Yes	Yes	No	Yes
DragonForce	Drakontas	Android, iOS	Web Browser	Yes	Yes	Yes	Yes	Yes
ESChat	SLA Corporation	Android, iOS	Windows	Yes	No*	Unknown	Yes	Yes
Evertel	The Halstead Group, LLC.	Android, iOS	Web Browser	Yes	Yes	No	Yes	No
Hangouts	Google	Android, iOS	Web Browser	Yes	Yes	Unknown	No	Yes
Haystax	Fishtech Group Inc.	Android, iOS	Web Browser	Yes	No	Yes	No	Yes
HipLink Mobile	HipLink Software	Android, iOS	Web Browser	Yes	Yes	No	Yes	Unknown
iMessage	Apple Inc.	iOS	MacOS	Unknown	Yes	No	No	Yes
Intrepid Response Platform	Intrepid Networks LLC	Android, iOS	Unknown	Unknown	Yes	Yes	Yes	Yes
iTAK	Airforce Research Laboratory	iOS	Web Browser	Yes	Yes	Yes	No	Yes
Mutalink Edge @Team	Mutualink Inc.	Android, iOS	Web Browser	Yes	Yes	No	Yes	Unknown

Product Name	Manufacturer	Mobile OS	Desktop Client	Auditable	Multimedia Sharing	ESRI Compatible	FirstNet	Location Sharing
Orion Push to Talk	Orion Labs Inc.	Android, iOS	Unknown	Unknown	Yes	Unknown	Yes	Yes
PublicEye	ZCO Corporation	Android, iOS	No	Unknown	Yes	Yes	Yes	Yes
Signal	Signal Foundation	Android, iOS	Windows, MacOS	Unknown	Yes	No	No	Yes
Slack	Slack Technologies	Android, iOS	Web Browser	Yes	Yes	No	No	No
Stashcat	Heinekingmedia GmbH	Android, iOS	Web Browser	Unknown	Yes	No	No	No
TangoTango	Tango Tango Inc.	Android, iOS	Windows	Unknown	No*	Unknown	Yes	Yes
Teams	Microsoft	Android, iOS	Windows, MacOS	Yes	Yes	No	No	Yes
Teamwire	Teamwire	Android, iOS	Web Browser	Yes	Yes	No	No	Yes
WhatsApp	WhatsApp Inc.	Android, iOS	Windows, MacOS	Unknown	Yes	No	No	Yes

"Unknown" appears when a clear answer for the specification was not readily available
* Indicates only image files can be shared

3.1 AT&T ENHANCED PUSH-TO-TALK – AT&T

AT&T Push-to-Talk is a FirstNet certified service that supports secure multimedia messaging for individuals and groups. First responders can share their locations with a pin on a map that allows dispatchers to locate them in the field. Supervisors can remotely manage groups, create channels for specific personnel, and use a web browser version of the application to stay connected to officers on mobile devices. In addition, AT&T Enhanced Push-to-Talk is compatible with land mobile radio systems. Land mobile radios are a push-to-talk, two-way mobile communication method that uses non-cellular radio transceivers.

3.2 CIVILIAN TEAM AWARENESS KIT FOR ANDROID (ATAK-CIV) – AIRFORCE RESEARCH LABORATORY

ATAK-Civ is a government-off-the-shelf (GOTS) mobile application that uses GPS and maps to give first responders pinpointed location information for informed event response. Since being used in overseas military operations, ATAK-Civ has been modified for domestic use by federal, state, and local police departments and first responders. Through ATAK-Civ teams can track and mark on maps the locations of team members, incidents, and threats for enhanced team situational awareness. The app enables users to chat and share files through either user-to-user or user-to-teams communication

Figure 3-1 Android Team Awareness Kit (ATAK)

Image courtesy of Airforce Research Laboratory

channels. Recently, a new universal push-to-talk plugin for ATAK was developed that uses Mumble, an open-source backend. The Team Awareness Kit (TAK) can be considered as a suite of services across different platforms that are interoperable. It includes, ATAK-Civ, WinTAK-Civ a Windows based TAK client, and TAKServer which can be used by all TAK clients to coordinate information.

3.3 BRIDGE4PS – MOBILITY4PS

Bridge4PS is a public safety information sharing platform that is built upon the open source chat platform Rocket Chat. End users can interface with the product through a mobile app (available for iOS and Android). Data is hosted through Amazon Web Services (AWS) Govcloud, allowing important information to be independent from the device being used to access it. This allows a user's data to be accessed remotely, and furthermore allows the devices to easily be transferred among different users without worrying about any critical data residing on the device.
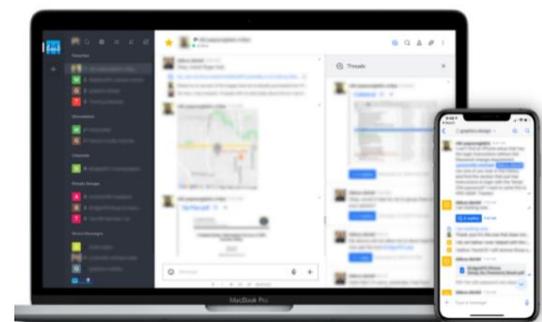

Figure 3-2 Bridge4PS

Image courtesy of Mobility4ps

3.4 D4H INCIDENT MANAGEMENT – D4H TECHNOLOGIES

D4H Incident Management is a commercial off-the-shelf software program that allows officers to send updates from the field in order to increase the team's situational awareness. First responders can send messages and photos in group chats and document location details on a map. In addition, supervisors can assign tasks and monitor progress. D4H Incident Management also enables users to annotate and customize maps in order to build out a common operating picture of a given situation. This platform can be used to manage both crises and day-to-day communications and is available to both desktop and mobile users.

Figure 3-3 D4H Incident Management

Image courtesy of D4H Technologies

3.5 DRAGONFORCE – DRAKONTAS

DragonForce has both a mobile and desktop interface and allows for real-time tracking of officers. It has group and individual messaging capabilities that are encrypted and logged for after-action auditing. In addition, it is ESRI compatible, enabling first responders to mark areas of interest on street, satellite, or topographical maps for others to see through the app. DragonForce also has a "whiteboarding" feature, allowing first responders to draw, add comments, and collaborate on shared floorplans, images, and maps. It is a part of the FirstNet app catalog.

Figure 3-4 DragonForce

Image courtesy of Drakontas

3.6 ESCHAT – SLA CORPORATION

ESChat is a solution that supports secure group messaging for texts and images. ESChat's desktop and mobile interfaces allow dispatchers and supervisors to both communicate with officers in the field and track their locations live. The app also supports historical location tracking so first responders can pinpoint their location on a map at configurable intervals to leave "breadcrumbs" with a date, timestamp, as well as the speed and direction of the user when the location pin was dropped. In addition, administrators can choose to store the chats on the ESChat server for later audits.
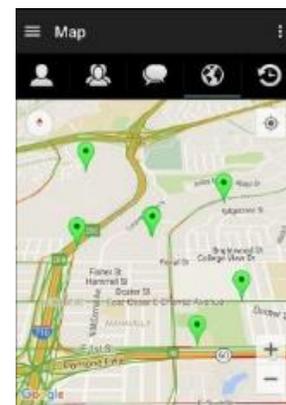

Figure 3-5 ESChat

Image courtesy of SLA Corporation

3.7 EVERTEL – THE HALSTEAD GROUP, LLC

Evertel is an instant messaging and information sharing application created specifically for first responders, available for iOS and desktop. Officers can create group chats with instant messaging and photo sharing capabilities. All data is logged and thus auditable. It is important to note that Evertel does not currently support a feature that automatically shares the location of its users with other users.

Figure 3-6 Evertel

Image courtesy of The Halstead Group LLC

3.8 HANGOUTS – GOOGLE

Google Hangouts is a messaging application that can be used through a web browser or as a mobile application. It is compatible with both iOS and Android smartphones. The application supports multimedia messaging and group, video, and audio chats. When Google Hangouts is used and set-up through Google's enterprise framework, Google Workspace, chats, and other actions can be logged for later review by a system administrator. Google has announced that in 2021 Hangouts will be transitioned to two distinct products: Google Chat and Google Meet.

Figure 3-7 Hangouts App Icon

Image courtesy of Fabien Alexis. CC BY-SA 3.0

3.9 HAYSTAX – FISHTECH GROUP INC.

Haystax is an incident reporting and routine field intelligence gathering app, which is built specifically for law enforcement agencies. It has the capability to monitor social media, as well as integrate automated license plate recognition (ALPR) and video feeds for added context during incident responses. Officers can use their smartphones to send status updates and alerts back to commanders who can see officers in the field through Haystax's blue-force tracking via a web browser interface.

Figure 3-8 Haystax

Image courtesy of Fishtech Group Inc.

3.10 HIPLINK MOBILE – HIPLINK SOFTWARE

HipLink Mobile is a secure text messaging app that is FirstNet approved and compatible with both desktop (via web browser) and mobile devices (iOS and Android). Users can send messages, both text and multimedia, to groups of people or individuals. In addition, officers can send location coordinates to others. HipLink Mobile has a persistent alerting feature that allows messages to be sent with increasing severity levels. HipLink features full administration and management controls and is an auditable application.
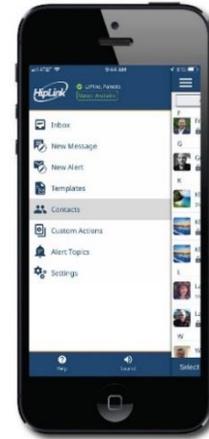

Figure 3-9 HipLink Mobile

Image courtesy of Hiplink Software

3.11 IMESSAGE – APPLE

iMessage is the native texting and instant messaging platform installed on iPhones. Users can send messages, photos, videos, and location pinpoints to each other using Wi-Fi or data. Viewable in the "Find My" app, iMessage shares a user's location with other iPhone users in real time. That location data, however, is not stored so it is not available for later review. This app is only available on desktop for macOS users; there is no web browser version. Also, of note, there is no enterprise platform for iMessage, making after-action audits difficult.

3.12 INTREPID RESPONSE PLATFORM – INTREPID NETWORKS LLC

The Intrepid Response Platform is a first responder communication platform for both the web and iPhone and is available only through the FirstNet app catalogue. The app supports group or person-to-person chats that include photo and video sharing. The map feature of the app provides live GPS locations of team members and allows officers to define the response area on a map. This messaging app also serves as a team mobilization tool that provides directions to the response area and emergency notifications. The Intrepid Response Platform also has push-to-talk functionality that can augment existing communication systems.

3.13 MUTUALINK EDGE @TEAM – MUTUALINK INC.

Mutualink Edge @Team supports group texts as well as push-to-talk, video sharing, and real-time location sharing to increase situational awareness. Officers can send and receive files as well as broadcast a video feed in a group at the tap of a button to provide more context during an emergency. Edge @Team is iPhone-compatible and the dispatcher version, called Mutualink Edge Interoperable Workstation, is available for download on Windows computers. Mutualink Edge @Team is part of the FirstNet app catalog.

Figure 3-10 Mutualink Edge @Team

Image courtesy of Mutualink Inc.

3.14 ORION PUSH-TO-TALK – ORION LABS INC.

The Orion Push-to-Talk app, compatible with android and iOS devices, allows officers to create chat groups or directly message individuals. First responders are able to view the locations of others with GPS location tracking in real time. Dispatchers and supervisors can communicate with officers in the field by using Orion's Dispatch Console. This app was created for workforce coordination but has first responder applications due to its location tracking and chat capabilities.

Figure 3-11 Orion Push-to-Talk

Image courtesy of Orion Labs Inc.

3.15 PUBLICEYE – ZCO CORPORATION

PublicEye is a collaborative app created specifically for public safety workers. It supports text, audio, and video chatting. In addition, it supports ESRI map integration, allowing officers to mark incidents and create real-time alerts for other members of their unit. PublicEye is also able to monitor social media surrounding a specific crime scene for additional, nearly real-time information. PublicEye is operable on Android and iOS mobile devices and desktop computers.

3.16 SIGNAL – SIGNAL FOUNDATION

Signal is an end-to-end encrypted instant messaging platform that has both a mobile and desktop interface, allowing officers in the field and commanders at the station to communicate on the same platform. Signal, being an end-to-end encrypted application, is not an easily auditable platform. In fact, one key feature allows users to set messages to disappear. This could cause an issue regarding data retention regulations.

3.17 TEAMS – MICROSOFT

Teams is an instant messaging platform on which users can send messages, photos, videos, and host audio/video conferences on both desktop and mobile devices. Teams allows users to create both group chats, individual instant messages, teams and channels. In addition, first responders can share their locations but must manually send updates when they move to a new location. Administrators of Teams can set the server to archive all chat history, which allows for after-action audits when needed. Teams also allows integration into other Microsoft products and services such as Office 365.

3.18 SLACK – SLACK TECHNOLOGIES

Slack is a commonly used instant messaging and file sharing platform that works on both desktop and mobile. Through Slack, emergency responders can send messages in various group chats monitored by the department and can send updates in real time. Slack does not support the capability for automatic location and maps sharing, it may have the capability to integrate smoothly, however, with another application that does. In addition, Slack's 'Enterprise Grid' subscription allows administrators to maintain access logs and retain logs of a user's messages and deletions.

3.19 STASHCAT – HEINEKINGMEDIA GMBH

Stashcat is an encrypted application that supports secure group and person-to-person chats on both desktop and mobile devices. In addition, departments can create "channels" that host conversations on specific topics. Stashcat serves as an alternative to more mainstream instant messaging platforms because it was created specifically for government agencies and businesses to communicate securely.

Figure 3-12 Stashcat

Image courtesy of Heinekingmedia GmbH

3.20 TANGOTANGO – TANGO TANGO INC.

TangoTango is an app created specifically for first responders that allows them to seamlessly integrate their mobile phones into their existing radio communications. Emergency responders can track their team members' locations through the app and send texts and images in group or individual chats. It is not clear whether TangoTango has a desktop interface for dispatchers. TangoTango is FirstNet certified.

Figure 3-13 TangoTango

Image courtesy of Tango Tango Inc.

3.21 TEAMWIRE – TEAMWIRE.

Teamwire is a messaging platform that was created specifically for government and healthcare applications. Users can enable a feature for sharing messages with selected contacts in a distribution list or can create group chats for sharing photos, videos, location pinpoints, and documents. This application also has a one-way information channel "broadcasting" function that chiefs can use to push out announcements and alerts. Teamwire has both a mobile app and a desktop interface so supervisors can communicate with officers in the field.
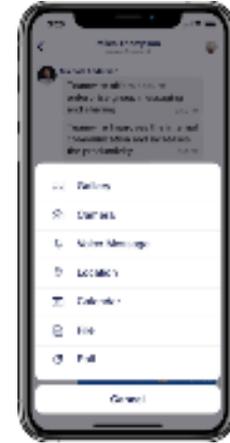
Figure 3-14 Teamwire

Image courtesy of Teamwire

3.22 WHATSAPP – FACEBOOK INC.

WhatsApp is a free, instant messaging app used primarily by private users. Users can send messages, photos, and videos on both desktop and mobile devices. In addition, users can manually send their location in group or individual chats. Other options include sharing one's live location or simply a location pinpoint. There is no enterprise subscription or administrative role through the app, however, making after-action audits difficult.

4.0 VENDOR INFORMATION

Additional information on the mobile messaging applications in this market survey report can be obtained from the vendors listed in the table below.

Table 4-1 Vendor Information Summary

Product Name	Manufacturer	Website
AT&T Enhanced Push-to- Talk	AT&T Services Inc.	https://www.business.att.com/products/enhanced-push-to-talk.html
ATAK-Civ	Airforce Research Laboratory	https://atakmap.com and https://civtak.org
Bridge4PS	Bridge4PS	https://bridge4ps.app
D4H Incident Management	D4H Technologies	https://d4htechnologies.com/incident-management
DragonForce	Drakontas	https://drakontas.com/dragonforce
ESChat	SLA Corporation	https://www.eschat.com/index.php
Evertel	The Halstead Group, LLC.	https://www.getevertel.com
Haystax	Fishtech Group Inc.	https://haystax.com/law-enforcement
HipLink Mobile	HipLink Software	https://www.hiplink.com/products/hiplink-mobile-application
iMessage	Apple Inc.	https://support.apple.com/explore/messages
Intrepid Response Platform	Intrepid Networks LLC	https://intrepid-networks.com
Mutualink Edge @Team	Mutualink Inc.	https://mutualink.net/push-to-talk
Orion Push-to-Talk	Orion Labs Inc.	https://www.orionlabs.io/orion-push-talk-app
PublicEye	Zco Corporation	https://www.publiceyes.com
Signal	Signal Foundation	https://www.signal.org
Teams	Microsoft	https://www.skype.com/en/business
Slack	Slack Technologies	https://slack.org
Stashcat	Heinekingmedia GmbH	https://stashcat.com/en
TangoTango	Tango Tango Inc.	https://tangotango.net/law-enforcement
Teamwire	Teamwire	https://www.teamwire.eu
WhatsApp	Facebook Inc.	https://www.whatsapp.com

5.0 SUMMARY

This market survey report provides information on 23 different mobile messaging applications that could prove useful when coordinating responses to incidents and emergencies. The apps provide a variety of mechanisms for increasing situational awareness across first responder teams and organizations engaged in time-sensitive operations.

Some of these mobile technology solutions were developed with first responders explicitly in mind, including some that are compatible with or only available through the FirstNet communications network. Other messaging apps reviewed herein were developed for the broader consumer marketplace yet may lend themselves to first responder applications. The products vary in important areas such as ease of use, reliability, and ancillary features—including key features for first responder organizations such as multimedia messaging, location sharing, and auditability.

There are many viable solutions for first responders to explore, making it possible for organizations to select the application that best meets their needs for enhancing communication of incident information and situational awareness in a secure and reliable manner.

6.0 ACRONYMS

AEL   Authorized Equipment List
ATAK   Android Team Awareness Kit
BPD   Boston Police Department
ESRI   Environmental System Research Institute
GIS   Geographic Information System
GPS   Global Positioning System
iTAK   iOS Team Awareness Kit
NUSTL   National Urban Security Technology Laboratory
RFI   Request for Information
S&T   Science and Technology Directorate
SAVER   System Assessment and Validation for Emergency Responders

7.0 REFERENCES

[1] DHS S&T, "Technology Scouting Research Summary: First Responder Messaging Apps," DHS S&T, Washington DC, 2019.

[2] Homeland Security Studies and Analysis Institute, "Project Responder 5," Department of Homeland Security Science and Technology Directorate, Washington D.C., 2017.

[3] FirstNet with AT&T, "FirstNet App Catalog," [Online]. Available: https://apps.firstnet.att.com/?auth=false.

[4] National Institute for Standards and Technology, "FirstNet certified devices," [Online]. Available: https://www.nist.gov/ctl/pscr/process-document-nist-list-certified-devices.

[5] International Data Corporation, "Smartphone Market Share," [Online]. Available: https://www.idc.com/promo/smartphone-market-share/os.

[6] G. Geography, "https://gisgeography.com/arcgis-shapefile-files-types-extensions/," [Online]. [Accessed August 2020].