Commonwealth of Virginia

SMS Text-to-9-1-1 Implementation Guide for Virginia's PSAPs

The Text-to-9-1-1 Subcommittee has directed the creation of this guide, a resource for PSAPs interested in implementing SMS text-to-9-1-1. The document compiles various materials from organizations such as the FCC, NENA, and APCO that have information on text-to-9-1-1 implementation.

Developed by the

9-1-1 Services Board

Revised December 2016

SMS Text-to-9-1-1 Implementation Guide for Virginia's PSAPs
December 2016

Purpose

The SMS (Short Message Service) Text-to-9-1-1 Implementation Guide and Planning Kit are resources for PSAPs in Virginia that are interested in implementing SMS text-to-9-1-1. They contain a concise compilation of information, templates, and resources from various organizations such as the FCC, NENA, and APCO. Also, the *Additional Resources* section at the end of this document contains a list of hyperlinks to comprehensive materials pertaining to SMS text-to-9-1-1 implementation.

A copy of this guide and a map of Virginia's deployments, among other material are available on VITA's "Text-to-9-1-1 Resources" page:
https://www.vita.virginia.gov/isp/default.aspx?id=6442473870

This guide briefly describes the three methods of implementing SMS text-to-9-1-1: 1) web browser with Internet access, 2) direct IP, and 3) TDD/TTY.

Background

On August 8, 2014, the Federal Communications Commission (FCC) adopted the **Second Report and Order and Third Further Notice of Proposed Rulemaking** (FCC 14-118) that requires text messaging providers to enable people in the United States to text 9-1-1 in an emergency. As a result of this ruling, when a PSAP requests text-to-9-1-1, the Commercial Mobile Service Providers (CMSPs) have six months to deploy text-to-9-1-1 at the PSAP. This ruling requires all wireless carriers and certain IP-based text application providers to be prepared to support text-to-9-1-1 by December 31, 2014.

The four major CMSPs (AT&T, Sprint, T-Mobile, and Verizon) as well as others, such as US Cellular, are able to provide SMS text messaging to support text-to-9-1-1; however, in order to deploy text-to-9-1-1, the PSAP needs to contact each of the carriers. They should also work with their IT staff to ensure that their hardware and software can receive and send 9-1-1 text messages.

Organizations such as NENA, APCO, and the FCC have provided various documents, guides, and reference materials pertaining to text-to-9-1-1 deployment which are compiled in this guide. The **SMS Text-to-9-1-1 Planning Kit** brings together many of these resources to help PSAPs plan for and implement text-to-9-1-1. In addition to templates and a checklist, this kit provides a step-by-step overview of what needs to be done as well as informational documents for further reading.

Direct references to the planning kit items are mentioned as PK1 (Planning Kit item number 1), PK2, etc. in this document.

SMS Text-to-9-1-1 Planning Kit Contents

PK1A, **PK1B**. **SMS Text-to-9-1-1 Implementation Planning Checklist for web-based (A) and IP-based (B) solutions**: From NENA's *Interim SMS Text-to-9-1-1 Information and Planning Guide*. Appendix F.

PK2. **Request for Service Letter:** TEMPLATE letter for the PSAP to send to each CMSP. Source: NENA

PK3. **Commercial Mobile Service Provider (CMSP) Contact List**: Contact information of the four major wireless carriers—AT&T, Sprint, T-Mobile, and Verizon per NENA's "*Carrier Points of Contact*" link: http://www.nena.org/?page=textresources, plus US Cellular.

PK4. **SMS Text-to-9-1-1 Questionnaire**: PSAP completes and sends to each CMSP. Source: NENA

PK5. **Information to be supplied by Public Safety and Guidelines for PSAPs or 9-1-1 Authorities:** Source: APCO

PK6. **Text-to-9-1-1 Readiness and Certification Form**: Instructions and form to be sent to the FCC as soon as text-to-9-1-1 is deployed at the locality. Source: FCC

PK7. **SMS Text-to-9-1-1 Status Change Notification E-mail**: Instructions along with TEMPLATE message to the FCC.

PK8. **NENA's FAQ's for Interim Text-to-9-1-1 Solution** (Informational)

PK9. **APCO's Interim SMS Text-to-9-1-1 Information and Planning Guide** (Informational)

Using the Guide and Planning Kit

The goal of the SMS Text-to-9-1-1 Guide and SMS Text-to-9-1-1 Planning Kit is to help PSAPs in planning and deployment of **SMS text-to-9-1-1**, also known as **interim text-to-9-1-1**. This technology only supports text messages via carrier native SMS. It is an interim solution, because SMS text-to-9-1-1 does not support multimedia, such as photos, videos, and multiple recipients, which are sent as Multimedia Messaging Service (MMS) messages.

Throughout the implementation process, the PSAP coordinates with the CMSP and TCC as well as with IT personnel at the PSAP. When there are questions or concerns at any stage of the process, it is important to express them to the CMSP, TCC and/or IT personnel.

Currently, there are three methods commonly used to deploy text-to-9-1-1:

- Web browser based with Internet access
- Direct IP
- TDD/TTY

As of October 2016, the web browser solution is still the most popular deployment method in the United States (Source: "Text to 911 Readiness & Certification Registry," FCC, Accessed November 2016). However, direct IP has become more popular in Virginia due to emerging

technologies. TDD/TTY is not recommended due its limitations and older technology. As of August 2016, out of 28 deployments in Virginia, 11 are web browser, 13 are Direct IP and 4 are TDD/TTY. A summary of each method is below.

Web browser based with Internet access - This solution requires that a PSAP have a dedicated computer with Internet access. The telephone number associated with the device used for texting and the x/y coordinates of the cell sector centroid associated with the texting device are displayed on 9-1-1 equipment in the PSAP. Also, the web browser solution enables full duplex conversations. This will allow a PSAP call taker and a 9-1-1 caller to be texting simultaneously without fear of cutting off the other person's text.

The Text-to-9-1-1 Subcommittee recommends that a text aggregator be included in the web browser solution. This solution would aggregate all text-to-9-1-1 traffic from multiple wireless carriers and TCC vendors, allowing PSAPs to interact with a single service provider for text-to-9-1-1. It would also expand the capabilities of the basic web browser solution by including efficient two-way texting conversations and transferability among participating PSAPs. The current ATIS standard for texting does not include requirements for transferring, so the enhanced capabilities offered by the text aggregator provide significant functional capabilities to PSAPs that transfer calls on a frequent basis.

Direct IP - This method most resembles the NENA i3 NG 9-1-1 solution. It requires that a PSAP have connection to an IP network, as well as 9-1-1 equipment capable of receiving IP messages. Some Virginia PSAPs have worked with their call handling equipment vendors in deploying this option. With the eventual deployment of a statewide Emergency Services IP Network (ESInet), text-to-9-1-1 will transition to the Direct IP solution.

Telecommunications Device for the Deaf (TDD)/Teletype (TTY) over standard PSAP trunks - This method of Text-to-9-1-1 delivery requires the least modification to the PSAP equipment. SMS calls are converted to TTY messages and relayed to the PSAP over the existing PSAP wireless 9-1-1 trunks. This process does not require any changes to the existing 9-1-1 call handling equipment or network, but it is the most limiting of the Text to 9-1-1 deployment solutions. It cannot be upgraded to a web browser or direct IP solution and simultaneous voice and text communication is not available.

Public education is an integral part of the implementation process. As more citizens embrace texting in their everyday lives, texting 9-1-1 in reaching the PSAP in an emergency has become a reality. Virginia's deaf and hard of hearing community have been proactive in asking PSAPs in Virginia to provide this service. Also, domestic violence organizations and police authorities have mentioned text-to-9-1-1 as a crucial means to contact the PSAP for individuals involved in a domestic violence or home invasion event. The public should know that texting 9-1-1 should be used as a last resort in contacting the PSAP. The links in the Additional Resources section provide information on community outreach as well as additional resources on SMS text-to-9-1-1.

Interim SMS Text-to-9-1-1 Information and Planning Guide Checklist

NENA has provided an informative step-by-step guide in a checklist format that identifies the tasks and responsibilities for the introduction of SMS text-to-9-1-1. The guide provides direction in deploying text-to-9-1-1 at the PSAP using the following methods: web browser based with Internet access, direct IP, and TDD/TTY solutions. The three SMS text-to-9-1-1 methods are described below. The Alliance for Telecommunications Industry Solution (ATIS) is the original source in the creation of this guide.

The checklist identifies the following key entities that need to work together for successful deployment:

- PSAP or 9-1-1 Authority
- CMSP (Commercial Mobile Service Provider): the big four are AT&T, Sprint, T-Mobile, and Verizon
- TCC (Text Control Center): West (formerly Intrado) and Comtech TCS (formerly TCS) are the ones currently available in the United States.

Six deployment tasks:

1. Initial Service Request
2. Project Kick-Off
3. Configure TCC Network
4. Training
5. Field Testing
6. Deployment

The checklist below from NENA's Interim SMS Text-to-9-1-1 Information and Planning Guide describes each of the tasks above for the web browser based solution. The tasks that indicate the PSAP as the owner/initiator are highlighted in yellow.

This checklist is also available for printing and reference in the planning kit (**PK1A**) as well as the direct IP checklist (**PK1B**). Web-based, direct IP and TDD/TTY checklists are on NENA's web site as a Word document:
http://www.nena.org/resource/resmgr/Docs/Interim_SMS_Text_Appx_F.docx

Legend for Responsibilities Columns of Deployment Tasks Table

"I" indicates involved in the deployment task.
"O" indicates the owner of the deployment task.

√	Task Description	Responsibility		
		TCC	CMSP	PSAP
	1 - **Initial Service Request**			
	1.1 - PSAP requests service from each CMSP Template letter and CMSP contact list in planning kit: **PK2**, **PK3**	I	I	O
	1.4 - PSAP completes questionnaire for each CMSP Sample questionnaire: **PK4**			O
	1.2 - CMSP acknowledgement of service request		O	
	2 - **Project Kick-Off**			
	2.1 - Confirm details from questionnaire	I	O	
	2.2 - Obtain PSAP Admin Contact	O		I
	2.3 - Obtain PSAP boundaries	O		I
	2.4 - Obtain PSAP IP Address	O		I
	2.5 - Obtain liability letter from PSAP PSAP must verify or provide the PSAP boundary information and sign an end user license agreement. Appendix E from the National SMS Text-to-9-1-1 Service Coordination Group describes information that the PSAP needs to supply: **PK5**	I		O
	3 - **Configure TCC Network**			
	3.1 - Provision PSAP in Text Control Center (TCC)	O		I
	3.2 - Verify / Update PSAP Boundary in TCC GIS systems	O		I
	3.3 - Open TCC Firewall for PSAP IP Address	O		I
	3.4 - Obtain/integrate internet connectivity to call stations (if needed) It is important that the PSAP works with its IT personnel as well as the CMSP and TCC providers. IT personnel should be aware of IT-related activity throughout the implementation process and should be involved in communicating with the CMSP and TCC providers, as needed.			O
	3.5 - Upgrade browser software on stations (if needed)			O
	3.6 - Open PSAP Firewall for TCC IP Address	I		O
	3.7 - Set alternative routing policy	I		O
	4 – **Training**			
	4.1 - Create Web Browser Admin User	O		I
	4.2 - Web Browser Admin training	O		I
	4.3 - Create Web Browser User Logins			O
	4.4 - PSAP Call Taker Training Sample training documents: http://www.nena.org/?text_training_docs. Also refer to planning kit for additional resources: **PK8**, **PK9**	I		O
	5 - **Field Testing**			
	5.1 - Pre-production testing	O	I	I
	5.2 - Provide PSAP Readiness / Test Plan	O	I	I
	5.3 - Network cutover	O	I	I
	5.4 - Schedule and complete SMS to 9-1-1 Test Cases The PSAP must schedule time to test SMS text-to-9-1-1 to ensure that it works effectively at the PSAP. The CMSP and TCC providers are involved in this process as well.	I	I	O

√	Task Description	Responsibility		
		TCC	CMSP	PSAP
	5.5 - PSAP signs off on completed Test Cases			O
	6 – **Deployment**			
	6.1 - CMSP sends "Live" notification to PSAP	I	O	I
	6.2 - Submit Completed PSAP Text-to-9-1-1 Readiness and Certification Form to FCC and copy VITA The PSAP is required to submit a form to the FCC that acknowledges readiness to accept and send SMS text-to-9-1-1. VITA keeps track of text-to-9-1-1 deployment throughout the state, and the information will be available to the PSAPs, so please copy VITA in the submission e-mail. Form, instructions, and template e-mail: **PK6**, **PK7**			O
	6.3 - Public Announcement / Public Education Public announcement and education is an integral step in deploying SMS text-to-9-1-1. Calling 9-1-1 is the preferred method of communication. Texting 9-1-1 should only be used as a last resort.		I	O

Source: ***Interim SMS Text-to-9-1-1 Information and Planning Guide,***
http://www.nena.org/resource/resmgr/Docs/Interim_SMS_Text_Appx_F.docx

As soon as text-to-9-1-1 is available for each carrier, the PSAP must submit a completed **PSAP Text-to-9-1-1 Readiness** form to the FCC and copy Lewis Cassada at VITA (lewis.cassada@vita.virginia.gov). You may use the **Text-to-9-1-1 Status Change Notification** template to copy/paste in an e-mail with the FCC form attached. VITA keeps track of text-to-9-1-1 deployment throughout the state, and the information will be available to the PSAPs. In addition, the FCC tracks nationwide deployment in its PSAP Text-to-9-1-1 Readiness and Certification Registry: http://www.fcc.gov/encyclopedia/psap-text-911-readiness-and-certification

Additional Resources

"Interim SMS Text-to-9-1-1 Information and Planning Guide," APCO International.
http://www.apcointl.org/resources/next-generation-communications-systems/text-to-9-1-1.html

"Media & Public Questions and Answers About Text-to-9-1-1," NENA.
http://www.nena.org/resource/resmgr/docs/QA_on_Text_to_9-1-1_FINAL.docx

"PSAP Text-to-9-1-1 Readiness and Certification Registry," FCC.
http://www.fcc.gov/encyclopedia/psap-text-911-readiness-and-certification

"Second Report and Order and Third Further Notice of Proposed Rulemaking (FCC 14-118)," FCC.
https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-118A1.pdf.

"Sending Text Messages to 911," National 911 Program. http://www.911.gov/911-issues/texting911.html

"SMS Text-to-9-1-1 Resources for PSAPs & 9-1-1 Authorities," NENA.
http://www.nena.org/?page=textresources

"Text-to-9-1-1 Whitepaper," VITA.
http://vita.virginia.gov/uploadedFiles/VITA_Main_Public/ISP/E-911/2015/WPFINv3.pdf

"Text-to-9-1-1 Resources Page," VITA.
https://www.vita.virginia.gov/isp/default.aspx?id=6442473870

"What You Need to Know About Text-to-911," FCC. http://www.fcc.gov/text-to-911

Abbreviations Used in this Document

Abbreviation	Meaning
APCO	Association of Public-Safety Communications Officials
ATIS	Alliance for Telecommunications Industry Solution
CMSP	Commercial Mobile Service Provider
ESInet	Emergency Services IP Network
FCC	Federal Communications Commission
GIS	Geographic Information System
IP	Internet Protocol
IT	Information Technology
MMS	Multimedia Messaging Service
NENA	National Emergency Number Association
NG9-1-1	Next Generation 9-1-1
PSAP	Public Safety Answering Point
SMS	Short Message Service
TCC	Text Control Center
TDD	Telecommunication Device for the Deaf
TTY	Text Telephone (*or* Teletype)
VITA	Virginia Information Technologies Agency

PK1A Web-Based Solution Checklist – Text-to-911 Deployment ▫ "**I**"=involved; "**O**"=owner of the task
Highlighted=PSAP action required; "PK"=Planning Kit item available

√	TASK DESCRIPTION	RESPONSIBILITY		
		TCC	CMSP	PSAP
	1 - **Initial Service Request**			
	1.1 - PSAP requests service from each CMSP Template letter and CMSP contact list in planning kit: **PK2**, **PK3**	I	I	O
	1.4 - PSAP completes questionnaire for each CMSP Sample questionnaire: **PK4**			O
	1.2 - CMSP acknowledgement of service request		O	
	2 - **Project Kick-Off**			
	2.1 - Confirm details from questionnaire	I	O	
	2.2 - Obtain PSAP Admin Contact	O		I
	2.3 - Obtain PSAP boundaries	O		I
	2.4 - Obtain PSAP IP Address	O		I
	2.5 - Obtain liability letter from PSAP PSAP must verify or provide the PSAP boundary information and sign an end user license agreement. Appendix E from the National SMS Text-to-9-1-1 Service Coordination Group describes information that the PSAP needs to supply: **PK5**	I		O
	3 - **Configure TCC Network**			
	3.1 - Provision PSAP in Text Control Center (TCC)	O		I
	3.2 - Verify / Update PSAP Boundary in TCC GIS systems	O		I
	3.3 - Open TCC Firewall for PSAP IP Address	O		I
	3.4 - Obtain/integrate internet connectivity to call stations (if needed) It is important that the PSAP works with its IT personnel as well as the CMSP and TCC providers. IT personnel should be aware of IT-related activity throughout the implementation process and should be involved in communicating with the CMSP and TCC providers, as needed.			O
	3.5 - Upgrade browser software on stations (if needed)			O
	3.6 - Open PSAP Firewall for TCC IP Address	I		O
	3.7 - Set alternative routing policy	I		O
	4 – **Training**			
	4.1 - Create Web Browser Admin User	O		I
	4.2 - Web Browser Admin training	O		I
	4.3 - Create Web Browser User Logins			O
	4.4 - PSAP Call Taker Training Sample training documents: http://www.nena.org/?text_training_docs. Also refer to planning kit for additional resources: **PK8**, **PK9**, **PK10**.	I		O
	5 - **Field Testing**			
	5.1 - Pre-production testing	O	I	I
	5.2 - Provide PSAP Readiness / Test Plan	O	I	I
	5.3 - Network cutover	O	I	I
	5.4 - Schedule and complete SMS to 9-1-1 Test Cases The PSAP must schedule time to test SMS text-to-9-1-1 to ensure that it works effectively at the PSAP. The CMSP and TCC providers are involved in this process as well.	I	I	O

PK1A Web-Based Solution Checklist – Text-to-911 Deployment ▫ "**I**"=involved; "**O**"=owner of the task
Highlighted=PSAP action required; "PK"=Planning Kit item available

√	TASK DESCRIPTION	RESPONSIBILITY		
		TCC	CMSP	PSAP
	5.5 - PSAP signs off on completed Test Cases			O
	6 – **Deployment**			
	6.1 - CMSP sends "Live" notification to PSAP	I	O	I
	1.2 - Submit Completed PSAP Text-to-9-1-1 Readiness and Certification Form to FCC and copy VITA The PSAP is required to submit a form to the FCC that acknowledges readiness to accept and send SMS text-to-9-1-1. VITA keeps track of text-to-9-1-1 deployment throughout the state, and the information will be available to the PSAPs, so please copy VITA in the submission e-mail. Form, instructions, and template e-mail: **PK6**, **PK7**			O
	1.3 - Public Announcement / Public Education Public announcement and education is an integral step in deploying SMS text-to-9-1-1. Calling 9-1-1 is the preferred method of communication. Texting 9-1-1 should only be used as a last resort.		I	O

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Source: SMS Text to 9-1-1 Resources, **Appendix F**: https://www.nena.org/?page=textresources

PK1B i3 ESInet (IP-Based) Solution Checklist – Text-to-911 Deployment ▫

"**I**"=involved; "**O**"=owner of the task

Highlighted=PSAP action required; "PK"=Planning Kit item available

√	Task Description	Responsibility		
		TCC	CMSP	PSAP/ESInet Provider
	1 - Initial Service Request			
	1.2 - PSAP request for service Template letter and CMSP contact list in planning kit: **PK2**, **PK3**	I	I	O
	1.2 - CMSP acknowledgement of service request		O	
	1.3 - CMSP sends questionnaire to PSAP		O	
	1.4 - PSAP / ESInet provider completes questionnaire Sample questionnaire: **PK4**			O
	2 - Project Kick-Off			
	2.1 - Confirm details from questionnaire	I	O	
	2.2 - Obtain PSAP Admin Contact	O		I
	2.3 - Obtain ESInet provider contact	O		I
	2.4 - Obtain PSAP/ESInet provider boundaries	O		I
	2.5 - Obtain PSAP/ESInet provider IP Address	O		I
	2.6 - Design Peering connectivity between TCC and ESInet provider	O		I
	2.7 - Design Circuit Order between TCC and ESInet provider	O		I
	2.8 – Order circuits	O		
	2.9 - Obtain liability letter from PSAP PSAP must verify or provide the PSAP boundary information and sign an end user license agreement. Appendix E from the National SMS Text-to-9-1-1 Service Coordination Group describes information that the PSAP needs to supply: **PK5**	I		O
	3 - Configure TCC Network			
	3.1 - Configure VPN for pre-production testing (Between TCC and ESInet provider)	O		I
	3.2 - Validate Message Session Relay Protocol (MSRP) in pre-production environment	O		I
	3.4 - Install Circuits	O		I
	3.5 - Configure and test circuits	O		I
	3.6 - Validate MSRP in production environment	O		I
	4 – Training			
	4.1 -Create Admin User	O		I
	4.2 - TCC Admin training	O		I
	4.3 - Public Safety Telecommunicator (PST) training Sample training documents: http://www.nena.org/?text_training_docs. Also refer to planning kit for additional resources: **PK8**, **PK9**, **PK10**	I		O
	5 – Field Testing			
	5.1 - Pre-production testing	O	I	I
	5.2 - Provide PSAP Readiness / Test Plan	O	I	I

PK1B i3 ESInet (IP-Based) Solution Checklist – Text-to-911 Deployment ▫

"**I**"=involved; "**O**"=owner of the task

Highlighted=PSAP action required; "PK"=Planning Kit item available

√	TASK DESCRIPTION	RESPONSIBILITY		
		TCC	CMSP	PSAP/ESINET PROVIDER
	5.3 - Network cutover	O	I	I
	5.4 - Schedule and Complete SMS to 9-1-1 Test Cases The PSAP must schedule time to test SMS text-to-9-1-1 to ensure that it works effectively at the PSAP. The CMSP and TCC providers are involved in this process as well.	I	I	O
	5.5 - PSAP signs off on completed Test Cases			O
	6 – Deployment			
	6.1 - Carrier sends "Live" notification to PSAP	I	O	I
	1.2 - Submit Completed PSAP Text-to-9-1-1 Readiness and Certification Form to FCC and copy VITA ISP The PSAP is required to submit a form to the FCC that acknowledges readiness to accept and send SMS text-to-9-1-1. VITA keeps track of text-to-9-1-1 deployment throughout the state, and the information will be available to the PSAPs, so please copy VITA in the submission e-mail. Form, instructions, and template e-mail: **PK6**, **PK7**			O
	6.2 - Public Announcement / Public Education		I	O

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Source: SMS Text to 9-1-1 Resources, Appendix F: https://www.nena.org/?page=textresources

Appendix D

Request for Service letter

{9-1-1 Authority Letterhead}

Date:

[CMSP Contact Name]
[CMSP Contact Title]
[CMSP Name]
[CMSP Street Address]
[CMSP City, State & Zip]

Dear _____:

The ___[Requesting Entity]____hereby formally requests and authorizes [CMSP Name] to provide SMS to 9-1-1 based on other emergency communications service as defined in 47 USC 615.b. (9)(B). The Public Safety Answering Point(s) to be deployed is/are:

___[PSAP Name]	[FCC PSAP ID][1]	[PSAP Location]____
___[PSAP Name]	[FCC PSAP ID]	[PSAP Location]____
___[PSAP Name]	[FCC PSAP ID]	[PSAP Location]____

Please begin deployment activities upon receipt of this letter. Your point of contact will be:

Mr./Ms. _____

Title:_____

Address:_____

Email:_____

Phone:_____

Regards,

[9-1-1 Authority signature]

[1] FCC's PSAP ID registry: http://transition.fcc.gov/pshs/services/911-services/enhanced911/psapregistry.html

NOTE: This service request letter was developed based on Annex B from J-STD-110.01, *Joint ATIS/TIA Implementation Guideline for J-STD-110, Joint ATIS/TIA Native SMS to 9-1-1 Requirements and Architecture Specification*; more information is available from the Alliance for Telecommunications Industry Solutions (ATIS)
< http://www.atis.org >.

PK3

Points of contact for SMS text-to-9-1-1

Requests for Service: AT&T Mobility
Chief E9-1-1 Compliance Officer
P.O. Box 97061
Redmond, WA 98073-9761
Info contact: Allen Muse, ENP
Public Safety Relations Manager
AT&T Mobility
Tel. (615) 661-3388
Mobile: (615) 828-3099
Email: allen.muse@att.com

Sprint contact for Requests for Service:
INTRADO
Attn: Sprint Text-to-911
C/O: Dan Neu
PO BOX 999
LONGMONT CO 80502
Or Scanned & Signed Requests are accepted at: Sprint.PCS@intrado.com

T-Mobile
Lynn Mell
Senior Manager of Regulatory Affairs
9-1-1 Regulatory Team
T-Mobile USA, Inc.
425-383-4898 (Direct), 425-246-3758 (Mobile Phone)
12920 SE 38th Street; Bellevue, WA 98006
lynn.mell@T-Mobile.com

Verizon Wireless
Peter McHale, ENP
Verizon Wireless
1120 Sanctuary Parkway, Suite 150
Alpharetta, GA 30009
peter.mchale@vzw.com
770-797-1226

US Cellular
David Comer
Regulatory Affairs Technical Program Manager
U.S. Cellular
773-399-4193 (Direct), 773-699-6720 (Mobile)
david.conner@uscellular.com

PK4

Appendix C

Carrier questionnaire

SMS to 9-1-1 PSAP Readiness Questionnaire Please fill out & return to: [Carrier Contact Name] _____ [Carrier Contact Address] _____	
Name of PSAP	
PSAP FCC ID	
Contact info:	
Street	
Street	
City	
State	
ZIP	
PSAP Primary Point of Contact:	
First Name	
Last Name	
Desk Phone	
Cellular Phone	
Email address	
PSAP Admin Line	

PK4

Existing SMS to 9-1-1 service today?	Yes ☐ No ☐ If yes, please explain:
Will your PSAP be accepting SMS to 9-1-1 messages for other PSAP jurisdictions?	No ☐ If Yes, list name & FCC ID (authorization letter from these PSAPs or 9-1-1 Authorities may be required):
Are there call taker workstations that can install Microsoft® Internet Explorer® version 8, Firefox® latest version, or Chrome™ latest version?[1]	Yes ☐
	No ☐
If answered no above, can there be a special waiver to install one of the listed browsers?	Yes ☐ Preferred Browser:
	No ☐
Are there workstations with a browser already installed?	Yes ☐ No ☐ If yes, list browser and version:
Do the workstations have public internet access?	Yes ☐ No ☐
Does your PSAP have an ESInet or other IP network connectivity? ***Please note:*** *Support for IP networks that are not NENA i3 ESInet compliant are handled on a case-by-case basis*	Yes ☐ No ☐
If yes:	
Are the IP links redundant?	
Where are the Points of Interconnection (POIs) located?	
Who is the ESInet facility vendor?	
If no:	

[1] Internet Explorer is a trademark of Microsoft. Firefox is a trademark of Mozilla, and Chrome is a trademark of Google.

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Who is the 9-1-1 Service Provider in your county?	
Do you have a point of contact for ordering and configuring circuits?	Yes ☐ No ☐ If yes, Name: Contact Number:
How long does it take to complete a circuit order?	
Is there a firewall or internet proxy in place?	Yes ☐ No ☐ If yes, firewall make & model:
Is there a firm that manages your workstations or firewall? If so please list firm and contact information.	Yes ☐ Contact Name: Contact Number:
	No ☐ (Please list primary in house IT department contact) Name: Contact Number:
Please list the number of workstations accessing the SMS to 9-1-1 service.	
How many dispatchers will be handling the service?	
Is the PSAP CPE equipped to handle TTY calls?	Yes ☐ List CPE make and model:
	No ☐ Can the CPE be upgraded?
Is the TTY workstation(s) connected via existing CAMA/SS7 trunk groups?	Yes ☐ No ☐
Is the TTY workstation(s) also connected to the ALI?	Yes ☐ No ☐

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Appendix E

Information to be supplied by Public Safety, and Guidelines for PSAPs or 9-1-1 Authorities
(taken largely from ATIS material – see note below)

Beyond the information in the questionnaire (Appendix C), routing information is required:

When a PSAP or 9-1-1 Authority deploys SMS to 9-1-1, they must provide the wireless operator (and the TCC provider) with the coverage area that will be accepting SMS to 9-1-1 messages. That process can be similar to (or the same as) the method used to provide wireless Phase II information.

Background

PSAP boundaries, in the form of polygons, are provisioned in the (TCC) Routing Server (RS). Then, routing information (e.g., Route URI) is assigned to each polygon.

Although J-STD-110 [Ref 1] and the associated Supplement A [Ref 2] enable the RS to be queried with either civic or geodetic location, only a geodetic location will be used in the query from the TCC for the interim SMS to 9-1-1 solution. When the RS receives a routable location (either coarse or a more refined location) and a services urn (urn:service:sos), it correlates the location with one of the provisioned polygons and returns the Route URI associated with that polygon. That URI allows the TCC to determine the type of PSAP and to set up a dialogue with that PSAP. If inter-TCC communication is invoked, the URI allows the originating TCC to determine the terminating TCC, and the URI retrieved in the terminating TCC will determine the type of PSAP.

If the RS cannot correlate the location with a provisioned polygon, it returns an error. This allows the TCC to generate a bounce-back message indicating service not available. If inter-TCC communication has been invoked, and the Terminating TCC receives an error indication from the RS it notifies the Originating TCC, which generates a bounce-back message.

Guidelines for PSAPs or 9-1-1 Authorities

It is primarily the responsibility of PSAPs, 9-1-1 Authorities, and NENA to develop implementation guidelines that impact PSAP operations. However, the following subset of implementation guidelines related to PSAP operations is based on CMSP (carrier) and TCC provider implementation guidelines that also relate to PSAP operations. These guidelines are being provided to assist PSAPs, 9-1-1 Authorities, and NENA in their development of implementation guidelines for SMS to 9-1-1 service.

These guidelines are important to ensure the successful implementation of the SMS-to-9-1-1 service. PSAPs, 9-1-1 Authorities, and NENA should consider including these guidelines in their PSAP training material.

It is the PSAP's or 9-1-1 Authority's responsibility to work with CMSPs (or delegated TCC

service providers) in requesting an SMS to 9-1-1 interface from the TCC to the emergency services network or directly to the PSAP. J-STD-110 [Ref 1] and the associated Supplement A [Ref 2] defines the common set of interfaces that are available to the PSAP or 9-1-1 Authority.

A Public Safety Telecommunicator (PST) has direct control over a given SMS to 9-1-1 dialogue session. The emergency caller will not be able to end an emergency dialogue session. Only the PST can manually end a session. A PST's judgment as to when an SMS to 9-1-1 session should be terminated is a key factor.

If a PST does not take action to manually end an SMS to 9-1-1 session, a provision at the TCC has been made for a dialogue inactivity timer to automatically end the session. The TCC supports a single configurable dialogue inactivity timer [five (5) minutes minimum to a maximum of one (1) hour; thirty (30) minutes default] that applies to all PSAPs. APCO and NENA are expected to work directly with the TCC providers if the default setting of the single configurable dialogue inactivity timer value needs to be modified.

Upon receipt of each new message from a mobile device or from the PSAP, the TCC restarts the single configurable dialogue inactivity timer. Upon expiry of the dialogue inactivity timer, the TCC ends the dialogue.

When a dialogue inactivity timer value is updated, the updated value is only enforced for new SMS to 9-1-1 dialogues afterwards. The dialogue inactivity timer value for all ongoing SMS to 9-1-1 dialogues is not modified.

The PSAPs or 9-1-1 Authorities are responsible for communicating temporary suspension and resumption of SMS to 9-1-1 messaging to the TCC service provider. This suspension triggers a bounce-back message.

Any informational messages back to the emergency caller other than the bounce-back message needs to be set up directly by the PSAP and originated from the emergency services network or PSAP. The TCC provides bounce-back messages in situations where SMS to 9-1-1 is not possible, as required by the FCC First Report and Order [Ref 3].

PSAPs or 9-1-1 Authorities determine if text or call back procedures to the emergency caller are needed and, if so, establish and initiate set up such procedures outside of the TCC procedures that have been established for SMS to 9-1-1 messaging.

"This material is reproduced with permission from, and is copyrighted by, the Alliance for Telecommunications Industry Solution (ATIS) as part of J-STD-110.01, *Implementation Guidelines for J-STD-110.* [Note: J-STD-110 is entitled: *Joint ATIS/TIA Native SMS to 9-1-1 Requirements and Architecture Specification*]"

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PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information 202 / 418-0500
Internet: http://www.fcc.gov
TTY: 1-888-835-5322

DA 14-1905
Release Date: December 30, 2014

PUBLIC SAFETY AND HOMELAND SECURITY BUREAU ANNOUNCES AVAILABILITY OF PSAP TEXT-TO-911 CERTIFICATION AND READINESS FORM

PS Docket Nos. 10-255 and 11-153

By this *Public Notice,* the Public Safety and Homeland Security Bureau (Bureau) provides certification and registration instructions for Public Safety Answering Points (PSAPs) that seek to request delivery of text-to-911 service from Commercial Mobile Radio Service (CMRS) providers and other providers of interconnected text messaging services (collectively, "covered text providers").

On August 13, 2014, the Commission adopted rules to commence the implementation of text-to-911 service and established an initial deadline of December 31, 2014 for all covered text providers to be capable of supporting text-to-911 service.[1] The text-to-911 rules provide that covered text providers must begin routing 911 text messages to requesting PSAPs by June 30, 2015 or within six months of a valid PSAP request, whichever is later. To constitute a "valid PSAP request," (1) the PSAP must certify that it is technically ready to receive 911 text messages in the format requested; (2) the appropriate local or State 911 service governing authority must have authorized the PSAP to accept and, by extension, the covered text provider to provide, text-to-911 service; and (3) the requesting PSAP must notify the covered text provider that it is both technically ready to receive 911 text messages and has been authorized to accept such messages.[2]

At the Commission's direction, the Bureau will maintain a centralized database that will list those PSAPs that have registered and certified their readiness to receive texts to 911, and will list the date of each PSAP's request.[3] PSAPs that wish to register in the database should follow the instructions set forth below. PSAPs that began accepting texts prior to December 31, 2014 and that were listed on the Bureau's most recent public Text-to-911 Deployment Report[4] will be presumed to be "text-ready" and will be automatically registered in the database, unless they inform the Bureau otherwise.

---

[1] Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, Framework for Next Generation 911 Deployment, PS Docket Nos. 11-153 and 10-255, *Second Report and Order and Third Further Notice of Proposed Rulemaking*, 29 FCC Rcd 9846 (*Second Text-to-911 Order*) (2014). *See* 47 CFR § 20.18(n).

[2] 47 CFR § 20.18(n)(10)(iii).

[3] PSAPs may also provide other written notification reasonably acceptable to a covered text messaging provider. *See Second Text to 911 Order* at 29 FCC Rcd at 9872-73 ¶ 52, 9873-74 ¶ 56.

[4] *See* FCC, Text to 911 Deployments as of November 12, 2014, *available at* http://transition.fcc.gov/pshs/911/Text_911_Deployments.pdf (last visited Dec. 30, 2014).

Instructions to 911 Authorities and PSAPs

In order to prepare the centralized database, the Bureau has established a web page that contains the PSAP Readiness and Certification Form (Form) for 911 authorities and PSAPs to provide information on each PSAP that is ready to accept texts. The Form provides entries for the PSAP to (1) indicate that it is text-ready, and (2) include its contact information and other information necessary to notify covered text providers of the PSAP's readiness. In order to submit their information, PSAPs need to:

- Visit the FCC web site at www.fcc.gov/encyclopedia/psap-text-911-readiness-and-certification.
- Download the Form.
- Fill out the Form. The Form requests the following information:
  - Date of submission;
  - Name and contact information of person submitting the form;
  - PSAP facility information, including FCC-issued PSAP ID number, long-form name of facility, physical address, and county of operation;
  - PSAP point of contact information for Text-to-911 coordination;
  - PSAP method to receive texts (*e.g.*, Text-to-TTY, Web Browser, Direct IP or other method);
  - Identification of the authorizing state or local entity; and
  - Certification that PSAP is technically ready to receive texts.
- Email the completed Form to: **T911PSAPREGISTRY@fcc.gov**.

Paperwork Reduction Act of 1995. This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. Therefore it does not contain any new or modified "information burden for small business concerns with fewer than 25 employees" pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198. On October 27, 2014, the reporting requirements addressed by this *Public Notice* were approved as an emergency collection under **OMB Control No. 3060-1204**, as set forth in the Appendix.

For further information regarding this proceeding, contact Tim May, Policy and Licensing Division, Public Safety and Homeland Security Bureau, at (202) 418-1463 or timothy.may@fcc.gov, or David Siehl, Policy and Licensing Division, Public Safety and Homeland Security Bureau, at (202) 418-1313 or david.siehl@fcc.gov.

-FCC-

Approved by OMB
3060-1204
Expires: April 30, 2015
Estimated time per response:
1 hour

Public Safety Answering Point (PSAP) Text-to-911 Registration Form

Instructions: please enter information in each text box. Please add extra fields to the tables as necessary if submitting information for multiple PSAPs.

1. Date of Submission

2. Name and Contact Information of Person Submitting Form

Name	
Primary Contact Information	

3. PSAP Facility Information

In the table below, list each PSAP that is requesting delivery of emergency texts pursuant to 47 CFR 20.18(n)(10)(iii), defining a Valid Request from the requesting PSAP(s). For each PSAP listed, enter the FCC-assigned PSAP identification number, PSAP name, and PSAP physical address, including street, city, state, ZIP code, and county. Please add extra fields to the table as necessary if submitting information for multiple PSAPs.

Note: For PSAP facility information, the public registry will list only PSAP ID, PSAP name, state, ZIP code, and county level information for each registered PSAP. The PSAP physical address will not be publicly listed.

PSAP ID	PSAP name	PSAP physical address (include street, city, state)	ZIP code	County

4. PSAP Point of Contact Information for Text-to-911 Coordination

For each PSAP listed in response to Question 3, please provide the full name, title, and phone and email contact information of the person or entity that will serve as the PSAP's point of contact with covered text providers that must coordinate text-to-911 service delivery. This information will be made publicly available in the FCC PSAP Text-to-911 Registration Database.

PSAP ID	Name of contact	Title	Organization	Phone number	Email address

5. **PSAP Method to Receive Texts**

For each PSAP listed in response to Question 3, please indicate which technological method the PSAP has selected to receive texts (only one method may be selected for each PSAP). Please add extra fields to the table as necessary if submitting information for multiple PSAPs.

PSAP ID	Text-to-TTY	Web Browser	Direct IP	Other (additional information required below)

If applicable, for each PSAP for which you indicated "Other," please describe the requested method of delivery. Please add extra fields to the table as necessary if submitting information for multiple PSAPs.

PSAP ID	Other method of delivery

6. Authorizing State or Local Entity

For submission of this Form to constitute a valid PSAP request for Text-to-911 service and to provide sufficient notification that the PSAPs listed in response to Questions 3-5 are technically ready to receive 911 text messages, provide the name of the applicable 911 governing authority (*e.g.*, local or state agency or official) that has specifically authorized the named PSAPs to accept text-to-911 service.

7. Certification

Check the box:	By checking this box, the person and/or entity named in Question 2 certifies that as of the date of the submission of this form, the PSAPs listed in response to Questions 3-5 are technically ready to receive 911 emergency text messages in the format indicated in response to Question 5.

APPENDIX

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. § 3507), the FCC is notifying the public that it received OMB emergency approval on Oct. 27, 2014, for the collection of information, including the Readiness and Certification Form, described in this *Public Notice*. The public reporting burden for this collection of information is estimated to be 1-8 hours (average) per response, including the time for reviewing reporting instructions; searching existing data sources; gathering and maintaining the data needed; coordinating with the necessary third party entities, including state and local authorities; and completing and reviewing the collection of information. This collection of information is for the purpose of assisting the Commission in carrying out provisions of the *Text-to-911 Second Report and Order*, PS Docket Nos. 11-153 and 10-255, FCC 14-116, released Aug. 13, 2014, and published in the Federal Register on Sept. 16, 2014, at 79 FR 55367. Send comments regarding this burden estimate, or any other aspect of this collection of information, including suggestions for reducing the burden to Federal Communications Commission, AMD-PERM, Washington, DC 20554, Paperwork Reduction Project (3060-1204), or via email to PRA@fcc.gov. DO NOT SEND THE PSAP Readiness and Certification Form TO THIS ADDRESS.

Under 5 C.F.R. § 1320, the Federal Communications Commission may not conduct or sponsor a collection of information unless it displays a currently valid OMB Control Number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act that does not display a currently valid OMB Control Number. This emergency collection has been assigned OMB Control Number 3060-1204, and its expiration date is April 30, 2015.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. § 3507.

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Text-to-9-1-1 Status Change Notification Instructions and TEMPLATE

The PSAP must register with the FCC that the locality is ready to provide text-to-9-1-1 services to its citizens.

Instructions

1. Use the **Text-to-9-1-1 Readiness and Certification Form** from the kit or go to http://www.fcc.gov/encyclopedia/psap-text-911-readiness-and-certification and download the form.
2. Fill out the form. The form requests the following information:
    - Date of submission;
    - Name and contact information of person submitting the form;
    - PSAP facility information, including FCC-issued PSAP ID number, long-form name of facility, physical address, and county of operation;
    - PSAP point of contact information for Text-to-911 coordination;
    - PSAP method to receive texts (*e.g.*, Text-to-TTY, Web Browser, Direct IP or other method);
    - Identification of the authorizing state or local entity; and
    - Certification that PSAP is technically ready to receive texts.
3. Email the completed form to: **T911PSAPREGISTRY@fcc.gov** and copy Lewis Cassada with VITA (lewis.cassada@vita.virginia.gov).

Please contact the FCC with any questions. Contact information is on their web site at http://www.fcc.gov/encyclopedia/psap-text-911-readiness-and-certification

E-mail Template

To: T911PSAPREGISTRY@fcc.gov, CC: lewis.cassada@vita.virginia.gov

Attachment: Text-to-9-1-1 Readiness and Certification Form

Hello,

Please find attached the completed **Text-to-9-1-1 Readiness and Certification Form from [PSAP NAME] in Virginia.**

[SENDER'S NAME and SIGNATURE BLOCK]

FAQ for Interim Text-to-9-1-1 Solution

Purpose: The purpose of this document is to provide additional information to 9-1-1 authorities/PSAPs when deciding when and how to accept interim solution SMS text-to-9-1-1 calls. This document is intended as a companion to the *SMS Text-to-9-1-1 PSAP Considerations* document; it is not intended to be a detailed instruction manual on how to implement or handle text-to-9-1-1 calls.

Each 9-1-1 authority/PSAP will need to consult with their wireless texting providers on the solutions offered for texting to ensure the proper solution is selected for their PSAP(s). The deployment of text-to-9-1-1 will vary from jurisdiction to jurisdiction, much like wireless deployment. Also, depending on the texting solution chosen, the texting capabilities may differ. The answers below are intended as guidance to some of the frequent questions the committee has received in relation to texting-to-9-1-1.

OVERVIEW OF SOLUTION

The interim text-to-9-1-1 solution will be for the most commonly utilized texting technology, Short Message Service (SMS), texting only. The interim solution will have three options in order to allow PSAPs that have not begun deploying NG9-1-1 services the capability to receive text messages.

Text to TTY/TDD – this option will allow the PSAP to receive incoming text messages via their current TTY/TDD system. The text would display on the 9-1-1 equipment exactly like a TTY call. A proposal has been made to deliver a different class of service that would allow the calltaker to differentiate between a TTY call and a text-to-9-1-1. The Automatic Location Information (ALI) display will show the caller's text number in the location where the wireless caller's Call Back Number is displayed on voice calls, and the x/y coordinates of the cell site centroid where the person is texting. The text messages will be delivered via the existing 9-1-1 trunks, which would mean that once a text came in via this method the 9-1-1 trunk would be tied up and unable to accept another call or text session.

Web Portal – this solution would require a PSAP to have internet access. A separate web portal would be opened at the beginning of the shift and would need to be monitored for incoming text messages. This solution currently requires a separate monitor for the web portal; however, some equipment manufacturers are working to incorporate the portal into the 9-1-1 display. The ALI will display the number associated with the device used for texting, and x/y coordinates of the cell site centroid of the person texting.

NG9-1-1 Interface – this solution would require the PSAP to have IP capable equipment and IP connectivity to the carrier. The text message will be delivered directly into the 9-1-1 equipment. This solution should be compatible with a full NG9-1-1 I3 solution. The ALI display will contain information similar to a wireless caller today including the x/y coordinates of the cell site centroid. As standards are approved, the Class of Service will likely display as "TEXT".

OPERATIONAL

Can the location of the "caller" differ from the location of the incident?

As with a traditional 9-1-1 call, the location of the incident may be different then the location of the "caller" so you will need to ask or confirm location of incident.

PSAP should always query "caller" immediately to obtain location.

How will misroutes be handled?

Some solutions allow you to transfer texts as you do today with traditional 9-1-1 calls; you will need to check with your texting provider. However, if not able to transfer you will stay anchored to the text and then relay information to the appropriate PSAP following your current SOP's.

How can we communicate quickly and efficiently with the "caller"?

PSAP should use plain English language with no short codes; and as needed, PSAP should request texter do the same

You will utilize your keyboard to type back to the "caller"

You may use pre-programmed condensed questions. PSAPs should review SOP's in relation to these messages.

PSAPs should review their SOP's and determine prioritization of questions to ask

How many text conversations can be handled at one time?

The NENA Guidelines for Text Message Calls OID recommends no more than three text message sessions at a time.

PSAPs will need to consult with their text provider on solutions they offer as this will be dependent on the solution, Example:

If you chose a text to TTY solution, this will be determined on the number of the E9-1-1 trunks

If you chose the Web Portal or delivery via NG9-1-1 Interface, thresholds can be set for the number of text sessions per agency/positions, etc.

PSAPs will need to consult with their text provider on how to place texts on hold, if you can place texts on hold, etc. as this will depend on your solution.

Will the text conversation drop as the person texting moves between jurisdictional boundaries?

The "caller" is anchored to the originating PSAP until the call taker ends the conversation. Depending on the provider delivering the text to the PSAP for the wireless carrier, there may be a time limit between gaps in the communication. Consult with your wireless provider and their vendor to determine if that is the case.

How many texts are anticipated to come into the PSAP?

The studies thus far have shown that the call volume is low and training is necessary to keep the skill sets fresh.

How will a PSAP handle a volume of texts during a disaster?

This again depends on the solution you choose on how you are able to process the texts. Each PSAP has the ability to determine how many texts will be presented to the PSAP at one time.

PSAPs may want to consult with their legal counsel and review their SOP's

How will Pre-Arrival EMD instructions being handled?

PSAPs may want to work with their EMD vendor to find out if they are working on this, and determine what their solution is

PSAPs will have to review SOP's and make adjustments to them in regards to pre-arrival as well as quality assurance purposes

TECHNICAL

Will the telecommunicator know where the text originates?

This is incumbent upon how your texting provider delivers location. You will need to consult with your texting provider to determine what level of location is delivered.

How will the text message be delivered to the proper PSAP?

With texting, the routing is not done by tower location, however by Centroid location. (The centroid is the geographic center of the cell sector's RF footprint).

If there are multiple sectors, there are multiple centroids. If the "caller" is between 2 sectors, they could go to either sector and possibly be delivered to a different PSAP than they need to be, depending on the routing plan in place for the site. You will need to consider your routing plan and it will be necessary to work with the wireless carriers in the area in reference to this.

How will these messages be recorded?

PSAPs will need to understand their obligation on how long they need to keep these records via their States Record Retention laws.

Archiving of text messages will depend on the texting solution chosen by the 9-1-1 Authority/PSAP. 9-1-1 Authorities/PSAPs should discuss with their call logging vendor the possible solution for archiving text.

The text vendor solution may archive the messages, however the telecommunicator will need to note the date, time, phone number in order to obtain the information so PSAPs will have to review their SOP's in relation to this.

Is it possible to print these messages?

This will need to be discussed with your texting provider. This feature will depend on the texting solution chosen by the 9-1-1 Authority/PSAP. At this time we are not aware that this capability is available to the PSAP for the web portal option unless a printer is connected to the workstation. The PSAP will have to keep a manual log of each text for their reference in order to receive a printout from their texting provider.

Will we be able to receive text on texting devices with no data plan?

Any phone that doesn't have an active subscription that includes text capability will not be able to send a text-to-9-1-1. Non-service Initialized (NSI) phones will not be able to send text-to-9-1-1. (For example, if using WiFi on an IPAD/PHONE with no data package, and the user attempts to send a text message to 9-1-1, it will not reach 9-1-1.)

Only SMS anchored to a wireless carrier will be delivered to 9-1-1. In the future, video, pictures, or multiple recipients will be sent as a MMS message, not SMS.

Will pre-paid wireless consumers be able to send text-to-9-1-1?

Pre-paid consumers will have to consult with Pre-Paid phone vendors to determine if they are able to text-to-9-1-1. This may depend on the package that is purchased by the consumer.

Are there time delays?

This is dependent on the solution your agency chooses. For the PSAP's information, the SMS Interim Text solution redirects 9-1-1 SMS text messages through a text control center (TCC) which only processes text messages, with message delivery in less than a minute.

If the text message isn't delivered, the TCC system continues to attempt delivery.

Text messages require less bandwidth, thus text messages can be sent with lower wireless signal strength.

How will texting work with call queues?

If the PSAP is using the text to TTY solution, the text message will come through your E9-1-1 trunks, and tie that trunk up for the duration of the conversation.

If the PSAP is using a web portal solution, each agency will set the thresholds for the volume of texts.

Texts in excess of the threshold may receive the bounceback message or be alternate routed to another PSAP

PK9

Interim SMS Text-to-9-1-1 Information and Planning Guide

Version 2 May 2014

Produced by the Ad Hoc National SMS Text-to-9-1-1 Service Coordination Group (SCG)

(see Appendix A for SCG purpose and list of stakeholder organizations)

ABSTRACT

The purpose of this Guide is to provide a detailed overview of the Interim SMS text-to-9-1-1 solution. The document describes the service, areas of consideration for Public Safety, and related planning and implementation recommendations. Portions of this document have been adopted from multiple sources, including early adopters.

Target audience: Public Safety management (9-1-1 Authorities and PSAP managers)

Introduction

The interim text-to-9-1-1 solution will utilize the most commonly available texting technology, carrier native Short Message Service (SMS) texting. Carrier native SMS is that feature provided by the carrier, and not a third party texting or messaging application (app) that may be installed on the mobile device. The SMS interim text-to-9-1-1 service provides support for wireless subscribers to send 9-1-1 SMS text messages to PSAPs and for subscribers to receive text replies from PSAPs. Wireless customers with SMS service are able to send emergency SMS messages to a PSAP by using the single code "911" as the destination address of the SMS message.

According to the National Organization on Disability (2007), there are an estimated 54 million individuals with a disability in the United States, which has a total population of more than 300 million. Over 37 million individuals are deaf, hard of hearing, or have a speech disability.

In December 2012, an agreement was reached among the largest four wireless carriers (AT&T, Sprint, T-Mobile, and Verizon), NENA, and APCO

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to provide a nationwide, interim SMS text-to-9-1-1 solution by May 15, 2014. Since the time of the agreement, work to bring SMS text-to-9-1-1 service into reality has progressed in various stakeholder groups.[1]

SMS Text-to-9-1-1 – what it is and isn't

The interim solution will only process text-to-9-1-1 messages via carrier native SMS. This means that photos, videos, or multiple recipients for a text message are not supported, as those cause the message to be sent as a Multimedia Messaging Service (MMS) message.[2]

SMS text-to-9-1-1 service is national in scope and is independent of any vendor applications implemented in individual PSAPs.

While the interim SMS text-to-9-1-1 solution may provide the most overall benefit to the deaf, hard of hearing, and speech disability communities, it can be used by the general public, especially in situations which include incidents of domestic violence in which case a voice 9-1-1 call could endanger the victim further, or in situations in which passengers in vehicles are determined to text to emergency services to report a driver doing drugs or drinking. Public advocacy will include the concept of "call when you can, text if you can't." Indiscriminant texting to 9-1-1 will be highly discouraged.

Why Public Safety should quickly embrace Interim SMS Text-to-9-1-1

- Instead of having to rely on third party access to 9-1-1 call centers that could delay the emergency response process, the interim solution allows direct access to 9-1-1 telecommunicators for individuals who are deaf, hard of hearing, or have speech disabilities, and possibly save lives in other dangerous situations where voice calls are not possible.

- Support federal objectives and expectations.

- The Department of Justice (DOJ) filed comments in the FCC text-to-9-1-1 rulemaking stating that "in fulfillment of PSAPs' existing obligation to provide effective communication under Title II of the [American with Disabilities Act], PSAPs must accept a call from a person with a hearing or speech disability that originates as an SMS call, but reaches the PSAP as a TTY call."[3] DOJ has an open rulemaking on NG9-1-1 obligations for PSAPs, which may result in additional guidance in the near future. For more information, go to: www.ada.gov.

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[1] These include the ad hoc national SMS Text to 9-1-1 Service Coordination Group (which produced this document), AT&T, ATIS, APCO, CTIA, DOJ, DOT – 9-1-1 Office, FCC, Intrado, LRKimball, NENA, Sprint, TIA, T-Mobile, TeleCommunication Systems (TCS), Verizon Wireless

[2] MMS is a way to send messages that include multimedia content to and from mobile phones. It extends the core SMS capability that allows exchange of text messages. The most popular use of MMS is to send photographs from carrier-equipped handsets. However, MMS messages are delivered in a completely different way from SMS.

[3] For the full Department of Justice letter, see: http://apps.fcc.gov/ecfs/document/view?id=7022129201.

- The Federal Communications Commission continues to consider obligations for wireless carriers to provide text-to-9-1-1, as an interim text solution for when a voice call to a PSAP is not possible (or appropriate).[4] The FCC also is considering improved indoor location accuracy for wireless callers. For more information on the FCC's text-to-9-1-1 efforts, the Commission has a web page that is kept updated to cover text-to-9-1-1: http://www.fcc.gov/text-to-911.

Why is SMS text being used for interim text-to-9-1-1

- To assist Public Safety in responding to the carrier/NENA/APCO commitment of December 2012

- 2012 activities leading to SMS solution

  Established by the FCC pursuant to The Twenty-First Century Communication and Video Accessibility Act of 2010 ("CVAA"), the Emergency Access Advisory Committee (EAAC) recommended that an achievable interim method for text-based messaging to 9-1-1 would be necessary until Next Generation 9-1-1 (NG9-1-1) is fully developed, deployed and adopted by industry, public safety and consumers. In furtherance of this recommendation, the EAAC requested that all stakeholders, including industry, consumers, public safety, the FCC, and the Department of Justice, work together to find an interim solution that could be rapidly deployed to provide nationwide access to 9-1-1 services through an industry standards-based mobile text communications solution(s) to provide critical coverage for people who are deaf, hard of hearing and or have speech disability during the transition to NG9-1-1. In January 2012, the EAAC designated a subcommittee to make recommendations to encourage the availability of pre-NG9-1-1 interim text-to-9-1-1. In March 2012, the EAAC adopted a resolution to support "as an interim solution for text-to-9-1-1, at a minimum, SMS, and other technologies as appropriate, with a three digit short code 9-1-1." More information about the EAAC and its reports and recommendations, can be found at: http://www.fcc.gov/encyclopedia/emergency-access-advisory-committee-eaac.

- SMS text standards and service capability are already in place in national carrier networks

  SMS has been available for some time in carrier networks for general texting support. As such, the necessary standards and capabilities already exist and are in use, and SMS was viewed as the most easily and quickly adaptable method to support a national text-to-9-1-1 service.

- Intent to provide text capability to PSAPs without equipment/software costs

  The original plan for interim text involved two fundamental ideas: SMS system architectures would not be modified and interface options to the PSAPs would include at least one service choice that would not require additional PSAP equipment or software costs. It was recognized that PSAP training would be required on the use of SMS text-to-9-1-1 service.

[4] FCC rulemaking docket # 11-153.

Why SMS to 9-1-1 text service is interim (compared to MMES and NG9-1-1 in the future)

Other national text services are not viable in the near term. A number of other capabilities in both the carrier and Public Safety networks are required in order to support alternate forms of text messaging beyond SMS in conjunction with NG9-1-1 designed text delivery.

This includes Multimedia Emergency Services (MMES), which must be implemented in carrier systems, and which requires IP interfaces between carriers and NG9-1-1 systems. When these standards are completed, testing and implementation must follow. Of course, NG9-1-1 systems must be in place to take advantage of the multimedia content that this type of text messaging provides.

MMES standards tailored for North America are currently being developed in ATIS, a US-based standards development organization. These standards will be based on existing international (3GPP) standards for MMES; MMES will allow for simultaneous use of pictures, videos, text, and voice between an emergency caller and a PSAP. However, ATIS MMES standards are not yet completed and therefore an MMES solution is not likely to be available from all carriers for several years. In the interim, text to 9-1-1 using existing SMS technology will provide an acceptable short-term solution (beyond the existing voice calling to 9-1-1) for emergency callers to be able to communicate with PSAPs.

PSAP Training and Public Education

The agreement on interim SMS text involved NENA and APCO taking responsibility for developing PSAP training and support aspects. That development work has been under way in preparation for trial and availability by May 2014. PSAP training and standard operating procedures for handling text are basically consistent with call processing for TTY calls.

PSAP training and Standard Operating Procedures (SOP) information and resources or links can be found at:

http://www.nena.org/?page=textresources

Public education is being coordinated by the FCC, and resources for that purpose are being developed by several organizations, such as NENA, APCO, the National 9-1-1 Office, and the FCC. Additionally, PSAPs are encouraged to consult with their local seniors, deaf, hard of hearing, and speech disability communities to identify and address local concerns, and to ensure effective consumer outreach regarding Interim SMS text-to-911. Some national advocacy organizations have local membership chapters and you can locate contacts in your area by looking at their web sites. A few such web sites are:

- National Association of the Deaf (NAD) http://www.nad.org/community/state-association-affiliates
- Hearing Loss Association of America (HLAA) http://www.hearingloss.org/content/hlaa-chapters-and-state-organizations

- The ARC, for People with Intellectual and Developmental Disabilities http://www.thearc.org/find-a-chapter
- The National Federation of the Blind https://nfb.org/state-and-local-organizations
- The American Council of the Blind http://acb.org/node/9
- American Association of Retired People (AARP) http://local.aarp.org/?intcmp=AE-HP-LN-INFO-AARPLOCAL

Public education resources and links can be found at the following web sites :

NENA http://www.nena.org/?page=textresources

APCO https://www.apcointl.org/resources.html

Federal Communications Commission http://www.fcc.gov/text-to-911

Department of Transportation, National Highway Traffic Safety Administration

National 9-1-1 Office www.911.gov (E-mail: nhtsa.national911@dot.gov)

How Interim SMS text-to-9-1-1 works

The interim solution has three interface delivery options, two of which allow Public Safety entities that have not begun deploying NG9-1-1 services to still have the capability to receive text messages. The location-based routing of SMS text-to-9-1-1 messages parallels that of wireless Phase I,[5] that is, based on cell site and sector. As we know, cell sector coverage does not generally follow community, PSAP jurisdictional, or county boundaries, so SMS text-to-9-1-1 cannot be limited to these geographic oriented boundaries. Yet, the consumers who wish to use SMS text to 9-1-1 must have some clear, understandable idea of where they can and cannot utilize the service. It is believed that county-oriented service is preferable, whether temporarily to a single PSAP in multiple PSAP counties, or to all PSAPs in a county at the onset. PSAP by PSAP implementation can be confusing to the consumer, due to lack of service area clarity.

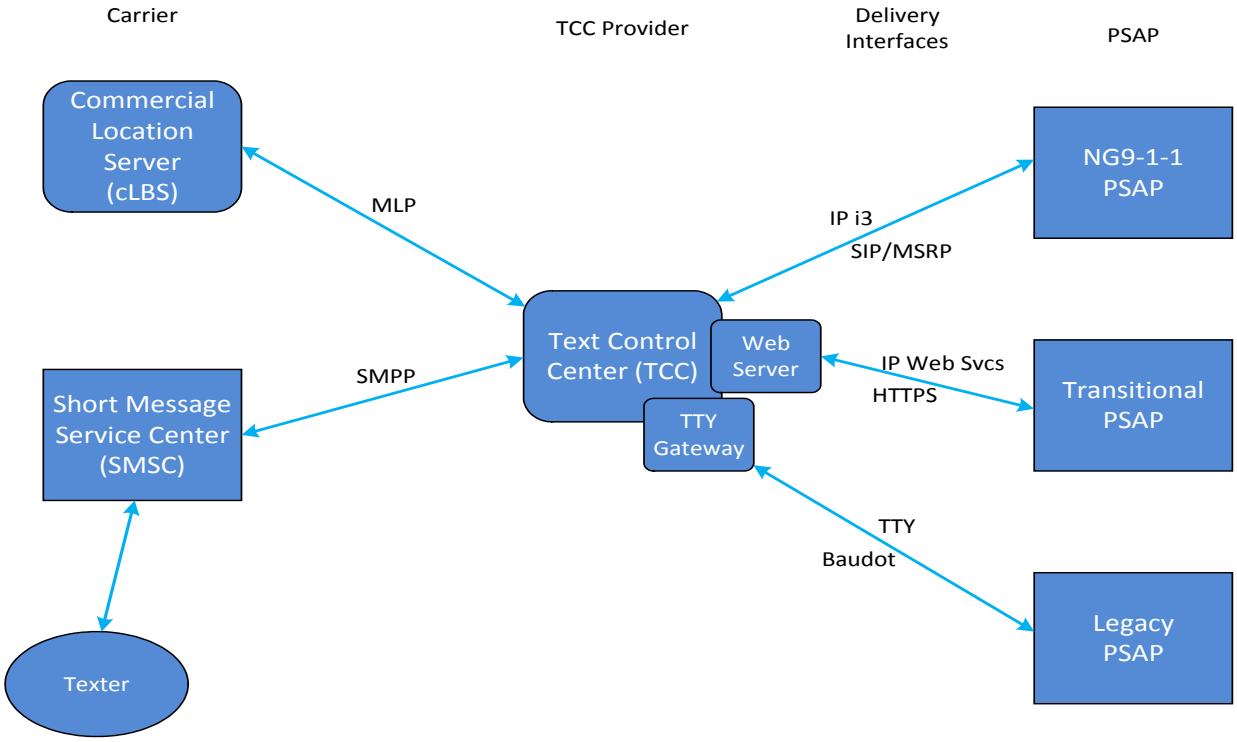
A `bounce back' message has already been implemented by the `big four' carriers, as of June 30, 2013, for anyone who attempts to use SMS text-to-9-1-1 prior to local service availability or when the service may be otherwise unavailable. The remaining carriers were required by the FCC to implement bounce back messages by September 30, 2013.

The Interim SMS text-to-9-1-1 solution will not be supported when a subscriber is roaming, due to SMS service limitations. Instead, the subscriber will receive a bounce back message explaining that SMS text-to-9-1-1 service is not available and to contact 9-1-1 by another method, such as a voice call or relay service. In the context of SMS text-to-9-1-1, roaming means the subscriber is receiving wireless service from any carrier other than his/her home carrier, regardless of the subscriber's current location.

[5] Wireless E9-1-1 Phase I is the delivery of a wireless 9-1-1 call with callback number and location information of the cell-tower and sector from which the call originated. Call routing is usually determined by cell-sector.

Text Control Center - Nationally, the wireless carriers and their vendors are deploying Text Control Center (TCC) functions to interface between a carrier-originated wireless 9-1-1 text user and the PSAP environment. The TCC uses some of the functions of core NG9-1-1 system design, with additional specialized functionality to meet the needs of SMS text-to-9-1-1. When TCCs from different vendors are able to interoperate with each other, PSAPs can connect to multiple carriers through a single TCC.

SMS Interim Text-for-9-1-1 Diagrams



High Level SMS text-to-9-1-1 Diagram

[cLBS = commercial location-based service]

The above diagram shows the TCC with each of the three interface delivery options outlined in J-STD-110. Each of these interface options involve preparatory steps for the PSAP, (see section on Planning for SMS text-to-9-1-1 below), as well as establishing routing plans and overflow/alternate routing agreements and rules for text messages between wireless carriers/TCC operators and Public Safety entities.

As standards development work continues, there is a need to define new Class of Service values (e.g., displayed as “TEXT”, “TXT1” , “TXT2”, or similar). Further development discussion is needed on whether there will be different class(es) of service to identify a SMS text-to-911 message.

ESInet/IP i3 Network Service Interface[6] – this option would require the PSAP to have IP capable equipment and IP connectivity to a designated TCC, either a carrier's TCC or a special purpose TCC that interworks with one or more carrier TCCs. The text message will be delivered into the 9-1-1 PSAP CPE interface[7]. This solution is compatible with a standard NG9-1-1 (i3 compliant) solution. The ALI display will contain information similar to what is presented for a wireless caller today, including the x/y coordinates of the cell site or the cell sector centroid.

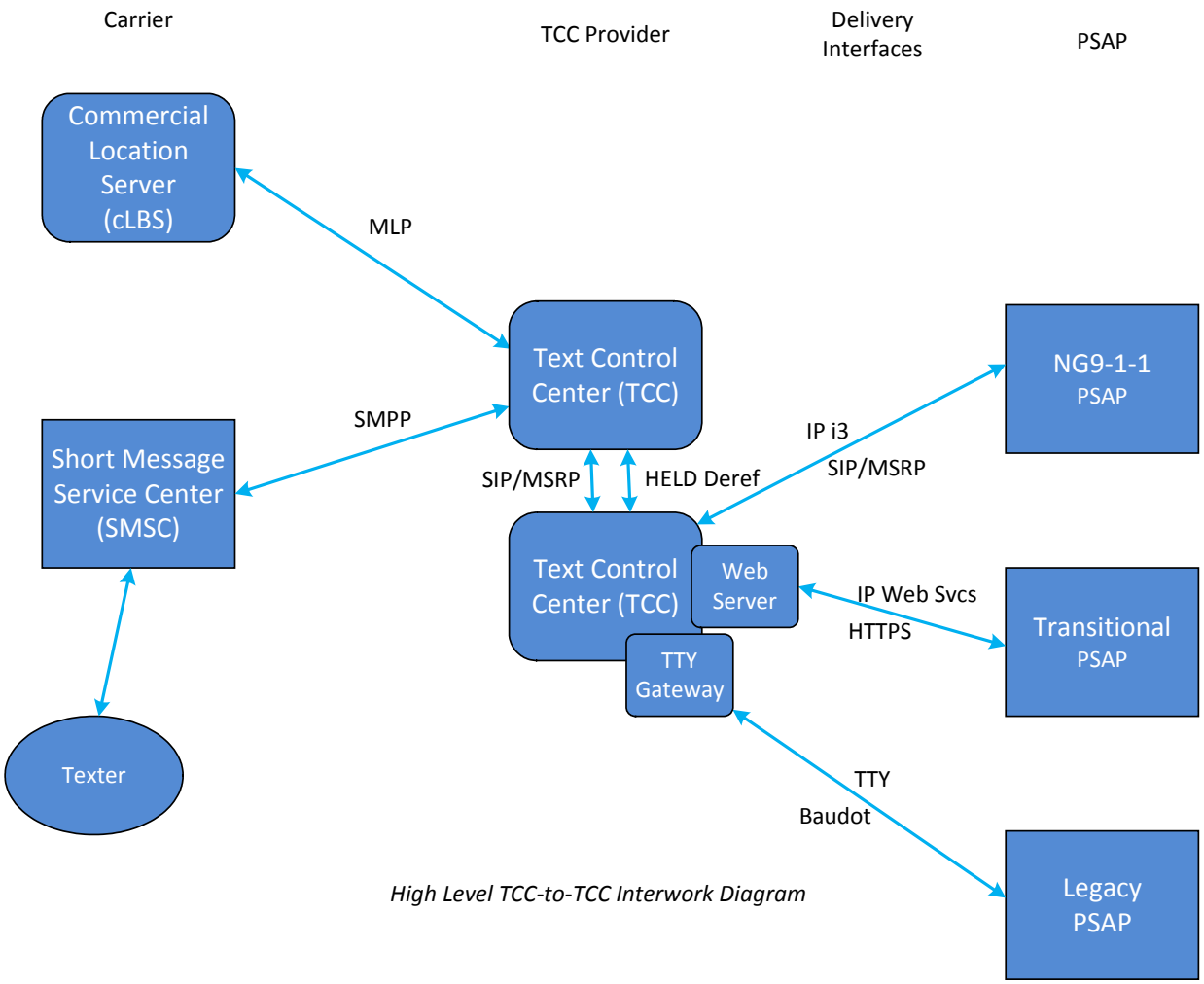
Web Service – this option would require a PSAP to have IP-based access, either through a private IP network or over the public Internet. A separate web portal would be opened at the beginning of the shift and would need to be monitored for incoming text messages. This solution requires a separate browser window and in some cases may require a separate monitor for the web portal; however, some equipment manufacturers have incorporated the portal into the 9-1-1 user display. The ALI will display the telephone number associated with the device used for texting and x/y coordinates of the cell site or the cell sector centroid associated with the texting device.

TTY/TDD Text – this option would allow the PSAP to receive incoming text messages via E9-1-1 and their current TTY/TDD system. The text would display on the existing 9-1-1 equipment similar to how a typical TTY call is received. The ALI display will show the caller's telephone number in the place where the wireless caller's Call Back Number is displayed on voice calls, and the x/y coordinates of the cell site or the cell sector centroid associated with the texting device. The text messages would be delivered via the existing 9-1-1 trunks, which would mean that once a text came in via this method, the 9-1-1 trunk over which it arrived would be tied up and unable to accept another voice call or text session.

[6] A potential vendor implementation option exists for PSAPs that uses a direct IP network but that is not yet NG9-1-1 capable – instead leverages i3 SIP/MSRP PSAP CPE equipment and applications to support the receipt of text messages. Such an approach is considered negotiable on a case-by-case basis by some carriers, and would require the same standards based IP interface, and must be designed by the vendor to interact with the TCC functional features.

[7] As of January 2014, the NG9-1-1 interface is not yet fully available, which may delay its utilization by May 2014. This interface is to be used as both a TCC/ PSAP interface and an interface between TCCs.

TCC Interconnection



High Level TCC-to-TCC Interwork Diagram

Interconnections between different TCCs – PSAPs will be connected to at least one TCC in order to support the interim SMS text-to-9-1-1 service. Since some carrier TCCs will be ready to be interconnected before others, there is an option for a PSAP to stay interconnected to just a single TCC. This can be in the form of a specific carrier TCC as shown in the following diagram, or may be a separate aggregation service offered by a TCC service provider that provides additional features and capabilities.

Early Adopter Deployment Experiences

Call volume impacts, based on current, limited trials and deployments of SMS text-to-9-1-1, have shown that concerns about PSAPs being overwhelmed by texts to 9-1-1 may be unfounded. A proactive public

education campaign will make a difference in how the public perceives and utilizes text-to-9-1-1.. As of April 2014, there is no indication that text-to-9-1-1 causes significant numbers of text messaging for emergencies. In fact, the opposite is true. Reports from the state of Vermont, and North Carolina communities around Raleigh-Durham, demonstrate that text-to-9-1-1 is not a burden to the PSAP operations. Reports about these trials and deployments of text-to-9-1-1 are available at:

North Carolina - http://apps.fcc.gov/ecfs/document/view?id=7021985670.

Vermont - http://apps.fcc.gov/ecfs/document/view?id=7520957727.

The FCC maintains a list of specific areas where text-to-9-1-1 may be currently available, and this list is located at this webpage: http://transition.fcc.gov/cgb/text-to-911-deployments.pdf.

An early adopter summary of several states and areas is provided in Appendix G

Planning for SMS text-to-9-1-1 service by 9-1-1 Authorities

Public safety should plan for SMS text-to-9-1-1 on a county or multi-county basis. As noted above, cell sector coverage does not follow community, PSAP jurisdictional, or county boundaries, so SMS text-to-9-1-1 cannot be limited to these geographic oriented boundaries. Yet, the consumers who wish to use SMS text to 9-1-1 must have some clear, understandable idea of where they can and cannot utilize the service. For various reasons, it is believed that a county-oriented service approach is preferable, whether temporarily to a single PSAP in multiple PSAP counties, or to all PSAPs in a county at the onset. PSAP by PSAP implementation can be confusing to the consumer, due to lack of service area clarity.

If a PSAP CPE upgrade includes support for SMS text, the CPE upgrade should be scheduled in advance of SMS text implementation. In concert with the planned SMS text interface method, the 9-1-1 Authority or PSAP manager will need to discuss, arrange, and schedule any equipment upgrades with their 9-1-1 System Service Provider or their equipment vendor. (See interface descriptions above under `How Interim SMS text-to-9-1-1 works' and in applicable carrier or TCC provider documentation.)

In areas where there is no PSAP text coverage, the 9-1-1 texter receives a default (bounce-back) message similar to, "*Please make a voice or relay call to 9-1-1. There is no text service to 9-1-1 available at this time.*"

A PSAP may be authorized to take text messaging for other affiliated PSAPs on a temporary basis, through an agreement between PSAPs within or between Public Safety organizations. (See first page of Questionnaire in Appendix C.)

SMS text transfer capabilities between PSAPs are dependent on specific vendor implementations.

Planning Background and Considerations

The wireless carrier and their Text Control Center provider route text messages to the appropriate PSAP over the selected interface based on the cell sector, and provide the PSAP with a latitude/longitude location of the calculated centroid for the center of the cell sector RF coverage (e.g. coarse location) using commercial location positioning service.

More precise texter location may be available, but is carrier/vendor implementation specific.

Interim SMS text-to-9-1-1 service is only available to valid wireless subscribers with a text-capable phone and service plan that includes text messaging.

The interim SMS text-to-9-1-1 solution is not limited to people who are deaf, hard of hearing, or have speech disabilities. The public is advised to utilize SMS text only when a voice call is not possible or advisable.

<u>It is highly recommended that planning for SMS Text-to-9-1-1 include consultation and input from hearing and speech organizations in your county or area. Getting their input and help in public education efforts and PSAP operations procedures will assist in a smooth implementation of the service</u>
<u>.</u>
To better set expectations, the PSAP must understand the role and responsibilities associated with each of the options for Interim text-to-9-1-1 service interconnectivity.

1. **SMS to PSAP via IP connectivity (ESInet/IP Network Service Interface)**
    - PSAPs install dedicated, redundant IP circuits to the Text Control Center at their own expense or has an ESInet in place
    - PSAP customer premise equipment (CPE) must be capable of receiving IP messages on standard (NENA i3 and ATIS J-STD-110 defined) IP interfaces (SIP/MSRP)
    - Call taker workstations must have integrated text handling software
    - PSAP is responsible for CPE equipment (upgrades/maintenance/technical support), firewall configurations and text call taker training
    - PSAP must provide point of contact for CPE and IP/ESInet customer support
    - SMS text is delivered to the PSAP and MIS/RMS and logging/recording capability is included

2. **SMS using Web Service method**
    - PSAP must have public Internet or private IP network connectivity into workstations readily available
    - PSAP workstations must have web browser capability (IE8 or higher, Chrome or Firefox)
    - PSAP is responsible for CPE equipment (upgrades/maintenance/technical support) and firewall configuration (if applicable)
    - Text is not delivered to the PSAP literally, must be managed at the web server via the Internet or a private IP network
    - MIS/RMS and PSAP logging/recording functions are not active during the text session, and such data are obtained from the web server separately
    - PSAP must provide point of contact for CPE customer support
    - The PSAP needs to be logged in at the beginning of each shift in order to be aware of text message alerts.

3. **SMS to TTY Conversion**
    - SMS converted to TTY (Baudot code) before sent to Public Safety 9-1-1 network
    - TTY messages sent to E9-1-1 Selective Router for delivery to the PSAP TTY call station
    - PSAP should bid ALI with ESRK/pANI for coarse location (e.g. cell site and sector) related to the subscriber's call
    - PSAP is responsible for CPE equipment (upgrades/maintenance/technical support) and call taker training, if required
    - PSAP must provide point of contact for CPE customer support
    - SMS text as TTY messages is delivered literally to the PSAP, and MIS and recording capability are included if TTY functions are integrated with CPE
    - 'Garbling' with SMS sent as TTY is expected to be no different than TTY at a PSAP today
    - Proper setup, prior to deployment, is required in the interconnecting networks and elements and at the PSAP to minimize Bit Error Rate
    - Observed PSAP considerations to date include: Local TTY terminal modem settings, volume settings, PBX configurations, CPE configurations, etc.

Request for Service process

After the planning process for each PSAP and its selected interface are underway, the 9-1-1 Authority should prepare the service questionnaire(s) and the Request for Service letter (Appendix C and D), and send to each involved carrier. Consider doing this via registered mail, in order to establish receipt date as a base for the implementation process.

See Appendix E for description of information to be supplied by Public Safety

Implementation process

Public Safety management should review the carrier implementation plan (Appendix F) and consider what Public Safety steps need to be taken in preparation for implementation. The carrier and their TCC provider will coordinate start date and work for the implementation steps.

PSAP by PSAP testing

The carriers have defined test plans (see Appendix F) for each interface type. Public Safety management should review these plans in advance and determine whether any other testing is needed, negotiating with carrier and/or TCC representatives as needed. Specific testing procedures and schedules for testing should be determined in advance.

Ongoing Operations

At minimum, management of alternate routing and out of service routing plans will be required. For this and other purposes, maintaining contacts at the carriers and TCC providers is necessary.

Appendix A

SCG Purpose and list of contributing organizations

The National SMS Text-to-9-1-1 Service Coordination Group was established in mid-2013 to provide a means to coordinate the various preparation and implementation work of the SMS text stakeholder groups. Example objectives include a common set of information on what SMS text-to-9-1-1 is about, how it works, and considerations for planning SMS Text for the benefit of Public Safety management across the nation. It was also presumed that this would benefit all other stakeholders by avoiding multiple versions and content, and possibly contradictions, being produced by individual parties. Coordination of PSAP training and public education development work is also an objective. The SCG was initiated by Roger Hixson (of NENA), who serves as the facilitator for the group. It is expected that the SCG will continue to evolve the above work through mid-2014.

Member stakeholder organizations include:

AT&T
Alliance for Telecommunications Industry Solutions (ATIS)
APCO
Department of Transportation – National 9-1-1 Office
Federal Communications Commission (FCC)
Intrado
LRKimball
NENA – The 9-1-1 Association
Sprint
T-Mobile
TeleCommunication Systems (TCS)
Verizon Wireless

Appendix B

Public education and PSAP training resources

The agreement on interim SMS text involved NENA and APCO taking responsibility for developing PSAP training and support aspects. That development work is under way in preparation for trial and availability before May 2014. PSAP training and standard operating procedures for handling text are basically consistent with call processing for TTY calls.

PSAP training and SOP information and resources or links can be found at:

http://www.nena.org/?page=textresources

Public education is being coordinated by the FCC, and resources for that purpose are being developed by several organizations, such as NENA, the national 9-1-1 Office, and the FCC.

Public education resources and links can be found at the following web site:

http://www.fcc.gov/text-to-911

http://www.nena.org/?page=textresources

https://www.apcointl.org/resources/next-generation-communications-systems/text-to-9-1-1.html

Further information on education and training resources will be added here in future versions of this document, or at the links above, as information becomes available.

Appendix C

Sample Carrier questionnaire

It is highly recommended that planning for SMS Text-to-9-1-1 include consultation and input from ~~hearing and speech~~ organizations representing those who are deaf, hard of hearing, or have a speech disability~~led~~ in your county or area. Getting their input and help in public education efforts and PSAP operations procedures will assist in a smooth implementation of the service.

SMS to 9-1-1 PSAP Readiness Questionnaire Please fill out & return to: [Carrier Contact Name] _____ [Carrier Contact Address] _____	
Name of PSAP	
PSAP FCC ID	
Contact info:	
Street	
Street	
City	
State	
ZIP	
PSAP Primary Point of Contact:	
First Name	
Last Name	
Desk Phone	
Cellular Phone	
Email address	
PSAP Admin Line	

Existing SMS to 9-1-1 service today?	Yes ☐ No ☐ If yes, please explain:
Will your PSAP be accepting SMS to 9-1-1 messages for other PSAP jurisdictions?	No ☐ If Yes, list name & FCC ID (authorization letter from these PSAPs or 9-1-1 Authorities may be required):
Are there call taker workstations that can install Microsoft® Internet Explorer® version 8, Firefox® latest version, or Chrome™ latest version?[8]	Yes ☐
	No ☐
If answered no above, can there be a special waiver to install one of the listed browsers?	Yes ☐ Preferred Browser:
	No ☐
Are there workstations with a browser already installed?	Yes ☐ No ☐ If yes, list browser and version:
Do the workstations have public internet access?	Yes ☐ No ☐
Does your PSAP have an ESInet or other IP network connectivity? ***Please note:*** *Support for IP networks that are not NENA i3 ESInet compliant are handled on a case-by-case basis*	Yes ☐ No ☐
If yes:	
Are the IP links redundant?	
Where are the Points of Interconnection (POIs) located?	
Who is the ESInet facility vendor?	
If no:	

[8] Internet Explorer is a trademark of Microsoft. Firefox is a trademark of Mozilla, and Chrome is a trademark of Google.

Who is the 9-1-1 Service Provider in your county?	
Do you have a point of contact for ordering and configuring circuits?	Yes ☐ No ☐ If yes, Name: Contact Number:
How long does it take to complete a circuit order?	
Is there a firewall or internet proxy in place?	Yes ☐ No ☐ If yes, firewall make & model:
Is there a firm that manages your workstations or firewall? If so please list firm and contact information.	Yes ☐ Contact Name: Contact Number:
	No ☐ (Please list primary in house IT department contact) Name: Contact Number:
Please list the number of workstations accessing the SMS to 9-1-1 service.	
How many dispatchers will be handling the service?	
Is the PSAP CPE equipped to handle TTY calls?	Yes ☐ List CPE make and model:
	No ☐ Can the CPE be upgraded?
Is the TTY workstation(s) connected via existing CAMA/SS7 trunk groups?	Yes ☐ No ☐
Is the TTY workstation(s) also connected to the ALI?	Yes ☐ No ☐

Appendix D

Sample Request for Service letter

{9-1-1 Authority Letterhead}

Date:

[CMSP Contact Name]
[CMSP Contact Title]
[CMSP Name]
[CMSP Street Address]
[CMSP City, State & Zip]

Dear _____:

The ___[Requesting Entity]____hereby formally requests and authorizes [CMSP Name] to provide SMS to 9-1-1 based on other emergency communications service as defined in 47 USC 615.b. (9)(B). The Public Safety Answering Point(s) to be deployed is/are:

___[PSAP Name]	[FCC PSAP ID][9]	[PSAP Location]____
___[PSAP Name]	[FCC PSAP ID]	[PSAP Location]____
___[PSAP Name]	[FCC PSAP ID]	[PSAP Location]____

Please begin deployment activities upon receipt of this letter. Your point of contact will be:

Mr./Ms. _____

Title:_____

Address:_____

Email:_____

Phone:_____

Regards,

[9-1-1 Authority signature]

[9] FCC's PSAP ID registry: http://transition.fcc.gov/pshs/services/911-services/enhanced911/psapregistry.html

NOTE: This service request letter was developed based on Annex B from J-STD-110.01, *Joint ATIS/TIA Implementation Guideline for J-STD-110, Joint ATIS/TIA Native SMS to 9-1-1 Requirements and Architecture Specification*; more information is available from the Alliance for Telecommunications Industry Solutions (ATIS)
< http://www.atis.org >.

Appendix E

Information to be supplied by Public Safety, and Guidelines for PSAPs or 9-1-1 Authorities
(taken largely from ATIS material – see note below)

Beyond the information in the questionnaire (Appendix C), routing information is required:

When a PSAP or 9-1-1 Authority deploys SMS to 9-1-1, they must provide the wireless operator (and the TCC provider) with the coverage area that will be accepting SMS to 9-1-1 messages. That process can be similar to (or the same as) the method used to provide wireless Phase II information.

Background

PSAP boundaries, in the form of polygons, are provisioned in the (TCC) Routing Server (RS). Then, routing information (e.g., Route URI) is assigned to each polygon.

Although J-STD-110 [Ref 1] and the associated Supplement A [Ref 2] enable the RS to be queried with either civic or geodetic location, only a geodetic location will be used in the query from the TCC for the interim SMS to 9-1-1 solution. When the RS receives a routable location (either coarse or a more refined location) and a services urn (urn:service:sos), it correlates the location with one of the provisioned polygons and returns the Route URI associated with that polygon. That URI allows the TCC to determine the type of PSAP and to set up a dialogue with that PSAP. If inter-TCC communication is invoked, the URI allows the originating TCC to determine the terminating TCC, and the URI retrieved in the terminating TCC will determine the type of PSAP.

If the RS cannot correlate the location with a provisioned polygon, it returns an error. This allows the TCC to generate a bounce-back message indicating service not available. If inter-TCC communication has been invoked, and the Terminating TCC receives an error indication from the RS it notifies the Originating TCC, which generates a bounce-back message.

Guidelines for PSAPs or 9-1-1 Authorities

It is primarily the responsibility of PSAPs, 9-1-1 Authorities, and NENA to develop implementation guidelines that impact PSAP operations. However, the following subset of implementation guidelines related to PSAP operations is based on CMSP (carrier) and TCC provider implementation guidelines that also relate to PSAP operations. These guidelines are being provided to assist PSAPs, 9-1-1 Authorities, and NENA in their development of implementation guidelines for SMS to 9-1-1 service.

These guidelines are important to ensure the successful implementation of the SMS-to-9-1-1 service. PSAPs, 9-1-1 Authorities, and NENA should consider including these guidelines in their PSAP training material.

It is the PSAP's or 9-1-1 Authority's responsibility to work with CMSPs (or delegated TCC

service providers) in requesting an SMS to 9-1-1 interface from the TCC to the emergency services network or directly to the PSAP. J-STD-110 [Ref 1] and the associated Supplement A [Ref 2] defines the common set of interfaces that are available to the PSAP or 9-1-1 Authority.

A Public Safety Telecommunicator (PST) has direct control over a given SMS to 9-1-1 dialogue session. The emergency caller will not be able to end an emergency dialogue session. Only the PST can manually end a session. A PST's judgment as to when an SMS to 9-1-1 session should be terminated is a key factor.

If a PST does not take action to manually end an SMS to 9-1-1 session, a provision at the TCC has been made for a dialogue inactivity timer to automatically end the session. The TCC supports a single configurable dialogue inactivity timer [five (5) minutes minimum to a maximum of one (1) hour; thirty (30) minutes default] that applies to all PSAPs. APCO and NENA are expected to work directly with the TCC providers if the default setting of the single configurable dialogue inactivity timer value needs to be modified.

Upon receipt of each new message from a mobile device or from the PSAP, the TCC restarts the single configurable dialogue inactivity timer. Upon expiry of the dialogue inactivity timer, the TCC ends the dialogue.

When a dialogue inactivity timer value is updated, the updated value is only enforced for new SMS to 9-1-1 dialogues afterwards. The dialogue inactivity timer value for all ongoing SMS to 9-1-1 dialogues is not modified.

The PSAPs or 9-1-1 Authorities are responsible for communicating temporary suspension and resumption of SMS to 9-1-1 messaging to the TCC service provider. This suspension triggers a bounce-back message.

Any informational messages back to the emergency caller other than the bounce-back message needs to be set up directly by the PSAP and originated from the emergency services network or PSAP. The TCC provides bounce-back messages in situations where SMS to 9-1-1 is not possible, as required by the FCC First Report and Order [Ref 3].

PSAPs or 9-1-1 Authorities determine if text or call back procedures to the emergency caller are needed and, if so, establish and initiate set up such procedures outside of the TCC procedures that have been established for SMS to 9-1-1 messaging.

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Appendix F

Carrier implementation plan

Carrier testing plan

Due to the size of this material, it was not included in the Interim SMS Text-to-9-1-1 Information and Planning Guide document and can accessed at the following website address:

http://www.nena.org/?page=textresources

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Appendix G

Interim SMS Text-to-9-1-1 Operational Experiences

Monroe County 9-1-1 New York - City of Rochester (handles calls for the entire county including City of Rochester)

Interface: TCS Gem 9-1-1 Web Portal on separate terminal, also includes their mapping, etc.

Population served with text? – 747,813

How long have you had text? June 20, 2013 tested about a month & did press conference on 7/17/2013. (Verizon only) Monroe County will test and deploy with T-Mobile on April 21, 2014.

Public Education/PR

During Press release they announced it was Verizon only & if possible call 9-1-1 because it's faster & easier. There is a large Deaf & Hard of Hearing community in area that they worked with and they were in attendance at the press conference. In addition, the Deaf and Hard of Hearing community came to the center to help with training and to educate call takers on what they would see if Deaf person were texting. They gave tips on how to communicate better with Deaf community.

Statistics:

In that time how many texts have come into your center? 73 texts from citizens

30 resulted in CAD events

10 of them were secondary calls on an event already in the system, they did add info to the event.

6 requesting info – it was 9-1-1 but no response needed

10 of them did then hang up & make a 9-1-1 call

17 were inappropriate

For December, 2013 they had 13 texts not including tests.

They have also had some texts (not sure how many) related to suicide but they weren't from the person attempting suicide, but a friend.

Do you have statistic on the length of time a text is taking your call takers to handle?

1/13 – 00:29 text regarding friend that was going to commit suicide & 00:50 conversation ended

Domestic violence – 8:32, job entered at 8:34 and with officers at 8:47. That's a little longer than a phone call, but not too much.

Calltaker Feedback:

At first calltakers were afraid to be bombarded, thought they'd need a whole console just for texting. They were worried they wouldn't be able to provide level of service to either phone or text; now it's pretty run of the mill for them.

Monroe County has the supervisor at the beginning of each shift do a test text to make sure all call takers have volume turned up on their web portals. The volume must be turned up in order for the call taker to hear the text come in. Everyone logged in to the portal gets the sound.

At the end of a text session they have call taker "print screen" because once the session is ended the conversation disappears. TCS has upgraded the administrative functionality and the Monroe County administrator now has access to search, view, and download SMS conversation logs via the GEM Admin website- no need to email TCS and request activity log.

State of Vermont – one PSAP is taking all SMS text messages for the 8 PSAPs in the state

Interface: i3/IP into equipment

Population serving: 90% coverage with AT&T & Verizon

Launched with Verizon in April 2012, did a trial with Sprint for 4 months in December 2012, and launched a trial with AT&T in August 2013.

Public Education/PR

Vermont has utilized the "9-1-1: Call if You can, text if you can't" tag line. They have now done several radio and TV Public Service Announcements (PSAs). They have a YouTube page with all of the PSAs. One of the PSAs is targeted to the Deaf and Hard of Hearing community and provides information on how to text 9-1-1.

Statistics:

Between April 2012 and November 8, 2013, 257 texts to 9-1-1 have been processed and received. Of those 257 texts, 124 were tests conducted as part of establishing and maintaining the service. Of the remaining 133 texts, 10 were actually continuations of a previously received text, the session for which ended unexpectedly. The remaining 123 texts are categorized as follows:

- 54 appear to be accidental texts, intended for another recipient (for example, "whasup?", "do you still like me?"). Attempts to confirm the existence of an emergency by the 9-1-1 call taker went unanswered.

- 28 were confirmed to have been accidental, as a response to that effect was received by the 9-1-1 call taker following a query of "Vermont 9-1-1, where is your emergency".
- 7 were contacts regarding a crime that were not deemed to be an emergency (report of stolen property, for example) and the individual was able to take a voice call to complete the report.
- 34 were legitimate emergencies that required some type of response. Those emergencies are broken down as follows:
    - 2 automobile accidents
    - 1 burglary in progress, other location
    - 1 intruder in residence
    - 1 attempt to enter residence
    - 1 burglary in progress at location of citizen
    - 1 child left alone in vehicle
    - 2 erratic operation of other vehicle
    - 4 involving domestic violence
    - 2 involving the sale or use of drugs, including a report of over 40 college students who were celebrating 4/20, otherwise known as national "weed" day
    - 6 non-life threatening medical emergencies of various types
    - 1 overdose, unknown whether drugs or alcohol involved
    - 1 operation of damaged vehicle
    - 1 stabbing incident
    - 1 suspicious person
    - 1 theft in progress
    - 1 violation of conditions of release (parole)
    - 1 threatening male refusing to leave premise
    - 1 cutting, self-injury
    - 4 suicide threat
    - 1 request for police – unknown reason

State of Maine - Two of the 26 PSAPs for Maine are taking Interim SMS text-to-9-1-1 for the state. These PSAPs were already used to being back-ups for the others, so are familiar with handling Maine-wide 9-1-1 calls.

Interface: TTY interface, no modifications, but did shut off auto-answer since text needs the opposite interaction

Some adjusting of audio volumes required.

They do not have Internet at PSAP positions, so TTY interface is attractive vs remote webserver

Started service May 2013

No costs other than staff time, minimal training since TTY already in place

Public Education/PR

Joint press release with Verizon Wireless and they did public education through the Deaf and Hard of Hearing groups and their newsletters

Statistics:

Texting very low volume, and Calltakers do testing among themselves for practice

Texting is not just nice to do, it is a need in the community. Please don't be afraid of it.

North Central Texas Council of Governments –

Program Information: The NCTCOG Regional 9-1-1 program has 44 PSAP in 13 county's surrounding the Dallas Fort Worth Metroplex. Our program does not include Dallas, Tarrant, or Denton County. We have a population of 1.6 million and 10,000+ square miles coverage area.

Out of the 44 PSAP in our program, 33 are Text ready. The project began in January 2013 with Verizon Wireless. T-Mobile deployment began on April 7, 2014. As of April 15, 2014, 19 PSAP have been deployed with both carriers. By June 2014, all 33 Text ready PSAP will be active with Text to 9-1-1.

Interface: GEM 911 over ESInet with core services on 9-1-1 workstations.

Public Education: 30 days after each county has deployed we hold a public announcement where we invite the local newspapers, city officials, business owners, and first responder personnel to attend. During these public announcements we provide information on how to use Text to 9-1-1, give a live demonstration of what the Telecommunicators see when a text message comes in, and then open the floor for questions. Due to the complexity of the region, NCTCOG 9-1-1 is taking a grassroots approach when doing additional public education outreaches. Promoting the service only in the areas where it has been deployed. NCTCOG 9-1-1 has created a public service announcement and pamphlets to be used when back into the PSAP cities and counties to do more informative training after the public announcement.

Statistics: Since deployment, we have received 9 requests for help via SMS – Text.

Training: All Telecommunicators are required to attend a 2 hour training, which encompasses not only training on the product, but also covers components of Next Generation 9-1-1. Each PSAP by Interlocal agreement are required to process 20 test requests for help via text per month.