STATE OF CALIFORNIA

EDMUND G. BROWN JR., Governor

CALIFORNIA TECHNOLOGY AGENCY
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Carlos Ramos
Secretary of California

DATE: **February 5, 2013**

TO: **INTERESTED PARTICIPANTS**

SUBJECT: **TEXT-TO-911 REQUEST FOR INFORMATION 12-136175**

A. PURPOSE

The purpose of this Request for Information (RFI) is to solicit information and suggestions to the California Technology Agency, California 9-1-1 Emergency Communications Division (CA 9-1-1 Division) on currently available or proposed Text-to-9-1-1 services for planning purposes and for the education and understanding of the CA 9-1-1 Division. The California Technology Agency is requesting responses from all interested parties (Respondents) who can provide Text-to-9-1-1 solutions and/or services, or any subcomponent of such systems to California Public Safety Answering Points (PSAPs).

DISCLAIMER: READ BEFORE RESPONDING TO THIS RFI

- This RFI is issued for information and planning purposes only and does not constitute a solicitation for services or products. A response to this RFI is not an offer and cannot be accepted by the California Technology Agency to form a binding contract.
- Respondents are solely responsible for all expenses associated with responding to this RFI.
- Respondents are advised that the responses to this RFI may be subject to the Public Records Act.
- Respondents are requested to respond to the requirements based on actual or planned product or service offerings which are available for delivery within the next 18 months.

The California Technology Agency, at its sole discretion, may invite Respondents to this RFI to make a presentation to the CA 9-1-1 Division and/or to engage in a conversation concerning Text-to-9-1-1 solutions. The information provided by Respondents to this RFI may shape the requirements of future California Technology Agency efforts for regional or statewide Text-to-9-1-1 services within the State of California.

The California Technology Agency may, at its sole discretion, choose to ignore or to otherwise not consider or evaluate any response, or any portion of a response, received as a result of this RFI.

B. SCOPE

This RFI covers any and all possible requests for emergency assistance from the public that are appropriately directed to California Public Safety Answering Points (PSAPs) using text or texting technologies. The California Technology Agency is interested in learning about available and proposed Text-to-9-1-1 solutions and technologies and their associated costs, regardless of the originating device, application, or network. For example, text messages to 9-1-1 that originate from a proprietary instant message or Internet Protocol (IP)-based communication client via the public Internet or via a corporate enterprise IP network are in scope, as are Short Message Service (SMS) messages to 9-1-1 which originate from a basic mobile telephone via a wireless carrier network. "California PSAP" may include a PSAP operated by or servicing a university or an airport, as well as state, county, military, or municipal PSAPs.

Respondents to this RFI are not required to include any pricing information in their responses; however, the California Technology Agency may attempt to confirm the reasonableness of any budgetary pricing submitted. That is, RFI Respondents may be asked to explain the basis for their budgetary pricing figures.

C. KEY ACTION DATES

Listed below are the Key Action Dates and times within which actions should be taken or completed. If the California Technology Agency finds it necessary to change any of these dates, an Addendum to this RFI will be posted on the eProcurement System (BidSync) Webpage (formerly the California State Contracts Register) at http://www.eprocure.dgs.ca.gov/default.htm. Respondents must register with BidSync to submit questions and receive question and answer sets that may be issued.

Key Action	Date	Time
Release of RFI	February 5, 2013	5:00 p.m. PT
Last Day to Submit Questions on the RFI*	February 20, 2013	4:00 p.m. PT
State Responds to Questions	March 6, 2013	4:00 p.m. PT
Last Day to Submit RFI Response	March 20, 2013	4:00 p.m. PT

D. CONTACT OFFICIAL

All correspondence and questions related to this RFI shall be directed to:

Attention: Justin Ericson, Procurement Analyst
California Technology Agency
EMAIL: justin.ericson@state.ca.gov
Phone: 916-431-5088
Fax: 916-463-9908

Parcel Post (FedEx, UPS, etc.) or Hand Delivered
California Technology Agency
Attn: Justin Ericson
10860 Gold Center Drive Suite 200
(Security Desk)
Rancho Cordova, CA 95670

United States Postal Service (USPS)
California Technology Agency
Attn: Justin Ericson
Mail Stop Y18
P.O. Box 1810
Rancho Cordova, CA 95741

The contact person designated above is the contact person for this RFI. Organizations responding to this RFI that require clarification of any matter must contact only this individual. No other representative of the California Technology Agency is authorized to communicate with Respondents with respect to this RFI.

E. BACKGROUND

The CA 9-1-1 Division desires that California be a leader in the deployment of Text-to-9-1-1 emergency services.

Individuals with disabilities are using text messages as a means of everyday communication. The availability of Text-to-9-1-1 has become an important accessibility issue for individuals who are deaf, deaf-blind, hard of hearing and individuals who have speech disabilities through the use of national three-digit code, 9-1-1. Text-to-9-1-1 would also be an alternative to voice calls to 9-1-1 in certain circumstances where speaking aloud might expose and endanger the caller, such as domestic violence, burglary, or certain terrorism situations. It has also been established that wireless text and/or data services may also operate in locations where radio coverage is too weak to support a voice call to 9-1-1, such as wilderness areas. For these reasons, among others, the Federal Communications Commission (FCC) is in the final stages of issuing Text-to-9-1-1 rules. The CA 9-1-1 Division goal is to have California as a frontrunner of those complying with FCC Text-to-9-1-1 rules.

Short Message Service (SMS) is available on nearly every wireless telephone and is not restricted to “smart” phones. Billions of SMS messages are sent every day, and surveys of the United States public have revealed that increasing numbers of people believe they can send an SMS message to the digits “9-1-1”, even though

actual deployment of SMS-to-9-1-1 is all but non-existent. For liability protection and for the education of SMS users the major wireless carriers have implemented "bounce back" messages (automatic replies) for inbound SMS messages to 9-1-1, which indicate the service is not available, and instructing the caller to make a voice call to 9-1-1. The FCC's December 12, 2012 Further Notice of Proposed Rulemaking (FNPRM) indicates the FCC's intention to make bounce back messages mandatory across all wireless carrier networks by June 30, 2013.[1]

Because SMS is the ubiquitous cellular telephone texting system which is in widespread use around the globe, the CA 9-1-1 Division is particularly interested in SMS-to-9-1-1 solutions. The CA 9-1-1 Division anticipates SMS-to-9-1-1 will be included in the requirements for any statewide Text-to-9-1-1 solution.

The CA 9-1-1 Division does not anticipate that Text-to-9-1-1 will significantly replace voice calls to-9-1-1. Despite the concerns and fears of some stakeholders, various Text-to-9-1-1 pilot projects and deployments to date have not generated large Text-to-9-1-1 volume, although limitations of the various pilot projects and deployments may have contributed to the low usage rates. Nevertheless, Text-to-9-1-1, and particularly the widespread availability of SMS-to-9-1-1, contains many unknowns, particularly with respect to such basic questions such as emergency text call volume and the average time required by a call taker to service a Text-to-9-1-1 session. It is clear that Text-to-9-1-1 will be a quite different service than voice calls to-9-1-1, with different requirements and operational procedures.

The CA 9-1-1 Division is closely following FCC Text-to-9-1-1dockets[2] related to Text-to-9-1-1. The CA 9-1-1 Division is also aware of the December 6, 2012 agreement among The Association of Public-Safety Communications Officials (APCO), The National Emergency Number Association (NENA), and the "Big 4" (AT&T, Sprint, T-Mobile, and Verizon) wireless carriers [3] to provide national interim SMS-to-9-1-1 services by May 15, 2014. The CA 9-1-1 Division is interested in the implications of the December 6 agreement and the December 12, 2012 FNPRM for Text-to-9-1-1 services in California.

F. PLAN OVERVIEW

The RFI is divided into three categories: proposed California Technology Agency specifications for Text-to-9-1-1 services; general questions about Text-to-9-1-1 functionality; and questions regarding the Respondent's specific solution and budgetary pricing. Respondents are required to utilize the format provided in the attachments for all responses.

[1] FCC FNPRM In Section 3 On Page 3
[2] 10-255 and 11-153
[3] FCC FNPRM Section 3 Page 3 Footnote 3

There are two appendices for Respondent's information. Appendix A, *Current Environmen*t, provides Respondents with the current known CA 9-1-1 Customer Premise Equipment (CPE) installed at the PSAPs and the CA 9-1-1 network providers. Appendix B, *Request for Information (RFI) Definitions* is a glossary of terms used throughout this RFI.

The California Technology Agency is interested in Respondent's comments on the specifications for Text-to-9-1-1 services as listed in *Attachment I, Proposed Text-to-9-1-1 Specifications*. Were the California Technology Agency to issue a Request for Proposal (RFP) for Text-to-9-1-1 solutions today some version of the Attachment I specifications would likely become core solicitation requirements. Respondents are requested to speak to the feasibility and availability of each of these specifications, particularly with respect to solutions or potential solutions which the Respondent offers or envisions offering in the near future.

Attachment I describes the nature, characteristics, and acceptable limitations of Text-to-9-1-1 services which are of particular interest to the California Technology Agency. Respondents who are able to offer similar, equivalent, or better alternatives which are outside the specifications are invited and encouraged to explain how they are able to achieve equivalent functionality, and why the California Technology Agency should consider the Respondent's alternative solution in lieu of any specification contained in Attachment I.

Attachment II, Text-to-9-1-1 Questionnaire, contains more general questions concerning features, functionality or characteristics of Text-to-9-1-1 solutions which are of interest to the California Technology Agency, but may be not be available with current texting technologies. Therefore, subjects of these questions are less likely to evolve into requirements in possible future Text-to-9-1-1 solicitations in the near term. Nevertheless, the California Technology Agency is interested in Respondents expert opinions and visions on the issues raised by these questions.

Attachment III, Respondent Text-to-9-1-1 Solution, contains a list of basic questions which the California Technology has about any and all Text-to-9-1-1 product offerings, service offerings, or proposed solutions. Note that for planning purposes California Technology Agency needs to know budgetary pricing information for available Text-to-9-1-1 solutions. If the Respondent offers several solutions as separate products, the Respondent shall prepare multiple responses to Attachment III. Respondents are given an opportunity to include marketing materials as part of their response to Attachment III.

Respondents are encouraged to answer these questions to the extent that they are able, mindful of California public records statutes and requirements.

G. RFI RESPONSE AND CONTENT FORMAT

If vendors are interested in participating in this RFI, please adhere to the actions, dates and times included in Section C, Key Action Dates. The Respondent shall take the following action:

1. Prepare a cover page to their response that includes the following:
   a. Company name;
   b. Company mailing address;
   c. Point of contact information (name, telephone number, and email address).

   Original signature of authorized representative shall affirm that he/she has read the information in the RFI and would like to be considered to participate in the RFI.

2. Follow the numbering scheme format provided in each attachment and include responses to:
   a. ATTACHMENT I, Proposed Text-to-9-1-1 Specifications
   b. ATTACHMENT II, Text-to-9-1-1 Questionnaire
   c. ATTACHEMENT III, Respondent Text-to-9-1-1 Solutions. If the Respondent wishes to describe multiple products and/or solutions then multiple Attachment III response documents must be submitted.
   d. ATTACHMENT IV, Additional Information. A respondent may submit any additional information that has not been specifically requested but deemed important and relevant in this attachment.

   Responses should be concise and straightforward. Respondents should provide narrative, diagrams, pictures, and any other available means to convey their comments or answer to each specification or question.

3. Deliver one (1) original, four (4) copies, and one (1) CD/DVD-ROM or flash drive of your response clearly labeled to the Contact Official as described in Section D, Contact Official. Electronic format responses must be Microsoft Office 2003 or newer or PDF. All text, tables, and drawings must use the Microsoft Office Suite (2003 or later) and be provided in readable formats. RFI responses must be submitted by the deadline identified in Section C, Key Action Dates. Please seal and mark your response “Request for Information – Do Not Open”, and list the RFI number (12-136175) on the front of your package.

Responding to this RFI creates no obligation on the part of any Respondent to the California Technology Agency or to the CA 9-1-1 Division. Conversely, issuing this RFI and considering the responses creates no obligation on the part of the California Technology Agency or the CA 9-1-1 Division to any Respondent. Submitting a response to this RFI will not qualify an unqualified Respondent or enhance the review of that Respondents proposal(s) to any future solicitations. Not submitting a response to this RFI will not prohibit a response to any future solicitation, nor disadvantage the evaluation of a response to any future solicitation. By submitting a response to this RFI a Respondent is implicitly agreeing with these conditions.

The California Technology Agency asks willing Respondents to share non-binding budgetary pricing information for each proposed solution. Pricing is only for CA 9-1-1 Division planning purposes, and is an attempt to gauge order-of-magnitude costs and the relative feasibility of a possible future Text-to-9-1-1 solution(s) which the CA 9-1-1 Division might choose to deploy. Any pricing provided in a response to this RFI will not be considered an offer on the part of a Respondent.

Upon RFI response opening, all documents submitted in response to this RFI will become the property of the California Technology Agency, and will be regarded as public records under the California Public Records Act (Government Code section 6250 et. Seq.) and subject to review by the public unless it's deemed proprietary trade secret information. This confidential information must be clearly marked and identified as such on each page of the response on which it appears. Simply marking the entire response as confidential will NOT suffice. If a Public Records Act request is received, the marked information will be independently assessed by the California Technology Agency as to whether or not the information is indeed exempt. If deemed non-exempt, the respondent will be notified of our intention to disclose it, giving the respondent an opportunity to intervene.

H. ADDITIONAL INFORMATION

Any additional information that has not been specifically requested but the Respondent deems important and relevant must be submitted *on ATTACHMENT IV, Additional Information.* Examples of additional information may include:

1. Lessons learned from other Text-to-9-1-1 projects.
2. Considerations deriving from the December 6, 2012 agreement between APCO, NENA, and the "Big 4" wireless carriers on California Text-to-9-1-1 planning and future procurements.
3. Projected on-going support or maintenance requirements for suggested solutions.

I. COSTS

The cost of preparing and submitting a response to this RFI is the responsibility of each Respondent, and in no way will be the responsibility of the California Technology Agency.

J. ATTACHMENTS AND APPENDICES

1. Attachment I – Proposed Text-to-9-1-1 Specifications
2. Attachment II – Text-to-9-1-1 Questionnaire
3. Attachment III – Respondent Text-to-9-1-1 Solution
4. Attachment IV – Additional Information
5. Appendix A – Current Environment California Public Safety Answering Points (PSAPs)
6. Appendix B – Request for Information (RFI) Definitions

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

This attachment contains specifications which might become the basis for requirements in future California Technology Agency procurements for Text-to-9-1-1 services within the State of California.

The California Technology Agency desires the opinion of Respondents with respect to the practicality, feasibility, and cost of these base-line specifications, or suggestions of alternative specifications that would be able to achieve comparable functionality. This information shall be included in the "Response" area provided under each proposed specification. For example, if a small change to a specification would offer a significant cost reduction then this information would be of considerable interest to the California Technology Agency.

Claims that a specification can be satisfied should include some high-level explanation of how the specification can be satisfied. In addition if a Respondent concludes a specification is unreasonable, use the "Response" area following that specification to support that viewpoint. The response should be included in-line within a machine-readable copy of this attachment.

Respondents are requested to respond by marking one of the boxes to each specification below that includes their opinion if the specification can be fulfilled with:

- ☐ existing products,
- ☐ may be fulfilled by future products within ( ) months or ( ) years (insert applicable number in parenthesis)
- ☐ will likely never be fulfilled with any product

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

A. The requirements in Section A are common to all Text-to-9-1-1 solutions.

A.1. Workflow Integration - All Text-to-9-1-1 solutions should integrate well into existing PSAP call taker workflows. Ideally, the screens/windows for Text-to-9-1-1 emergency call-taking should appear on the existing answering positions, or at the least, be available at a shared voice/text 9-1-1 answering position. A "dedicated" text-only 9-1-1 answering position may not be feasible in most PSAPs.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

A.2. Management Information System (MIS) Integration - Text-to-9-1-1 call logging and statistics should be accessible at the PSAP and answering position level, commensurate with today's voice call logging and statistics. Ideally, emergency text calls will appear as part of the same MIS that processes today's voice emergency calls, identified as text emergency calls, and with the same or similar metrics, as applicable.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

A.3. State-Level MIS data - The CA 9-1-1 Division desires aggregate (statewide) Text-to-9-1-1 statistics, broken down by text system technology (such as Over The Top (OTT) versus SMS) originating carrier/network/system, time-of-day, geographic region, etc.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

A.4. Call Volume Control - The text solution must provide some mechanism to limit or restrict the number of currently active emergency text calls at any answering position, or in aggregate, at any PSAP. Ideally, this mechanism will be aware of other active emergency call(s) (either voice or text) in progress at the answering position or at the PSAP, regardless of the source or transport mechanisms of the other active calls. That is, the Text-to-9-1-1 solution should be tied-in with other emergency call delivery systems.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

A.4.1. When a call taker is occupied with an emergency text call then that call taker is "busy" and not available to answer additional voice or text emergency calls except as may be current PSAP operational practice. For example, some PSAPs may implement call queue information displays which permit a call taker to select and work multiple emergency calls, but under the call taker's control.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

A.4.2. A legacy PSAP is limited by the number of incoming voice trunks. When all trunks are busy in California, the caller receives a fast busy signal. A California Text-to-9-1-1 solution must exhibit comparable behavior as voice calls-to-9-1-1 so that a call taker and/or the PSAP cannot be overwhelmed with emergency text messages. For example, rather than issue a fast busy, a Text-to-9-1-1 solution might issue automatic "PSAP busy" reply message (bounce back messages) to new text emergency calls.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

A.4.3. Assuming the proposed solution will address item A.4.2 above; does the solution have the capability to customize the automatic "PSAP busy" reply message (bounce back messages).

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

A.5. Call Priority – Text-to-9-1-1 solution(s) should provide mechanism(s), where available and applicable, which provide emergency text calls with priority (preferred call handling and text delivery) over non-emergency text use within the texting delivery network.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

A.6. Text emergency call routing – The solution should be able to route 9-1-1 emergency text messages to a jurisdictionally appropriate PSAP, based, at minimum, on a "coarse location" of the caller. The "coarse location" would be the cell tower/sector coverage centroid, e.g. FCC wireless Phase I, as defined in FCC docket 94-102, equivalency. Of course, a solution capable of higher precision location, for example FCC wireless Phase II equivalency as defined in FCC docket 94-102, e.g. providing latitude and longitude coordinates for the caller, is highly desirable.

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

A.6.1. The text emergency message routing requirement may already be satisfied in an Next Generation 9-1-1 (NG9-1-1) system by a downstream emergency call delivery network, for example, text calls which are delivered to an Emergency Services IP Network (ESInet) with Session Initiation Protocol (SIP) location conveyance (NENA i3 compliant) and the ESInet is equipped to perform the emergency call routing function. In such circumstance this specification is waived for the geographical area served by the downstream network.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

A.7. Location determination/call delivery performance – Users of text services generally expect somewhat longer response times than the response times associated with voice calls. Nevertheless, reasonable emergency text message delivery performance is required. A factor in this specification is that it should permit 9-1-1 text messages to be delayed long enough to obtain higher quality caller location than coarse caller location, note that reasonable delay time will be determined by the CA 9-1-1 Division.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

A.8. PSAP requirements – Text-to-9-1-1 solutions should support legacy PSAPs via Telecommunications Device for the Deaf/Teletypewriter (TDD/TTY) signaling, and NG PSAPs via NENA i3 signaling. As an alternative to direct individual PSAP connections via NENA i3 signaling, the system may connect to multiple NG PSAPs via a NENA i3-compliant handoff to an ESInet.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

B. The requirements in Section B are focused on Short Message Service (SMS)-to-9-1-1

B.1. SMS-to-9-1-1 will be a requirement to any general Text-to-9-1-1 solution.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

B.2. The SMS-to-9-1-1 solution must be accessed by sending SMS text messages using the national three digit short code, "9-1-1". Systems which require the use of other digit strings (such as a 5-digit short code) will not be viewed by the CA 9-1-1 Division as effective solutions to an SMS-to-9-1-1 service.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

B.3. The solution will establish a "session ID" or provide some mechanism such that successive SMS-to-9-1-1 messages originating from the same mobile phone can and will be delivered to the same 9-1-1 call taker workstation, until either a "timeout" interval containing no SMS-to-9-1-1 messages has elapsed, or until the call taker takes an action which "terminates" the session.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

B.4. The solution should be able to provide, at minimum, geographic location information equivalent to FCC wireless Phase I 9-1-1, as defined in FCC docket 94-102, requirements, and ideally, location information equivalent to FCC wireless Phase II 9-1-1, as defined in FCC docket 94-102, requirements.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

B.5. Upon the receipt of the initial SMS-to-9-1-1 message from a specific mobile phone, the solution will route the SMS-to-9-1-1 "session" (per A.6) to a PSAP based on the available geographic location of the mobile telephone. The initial delivery of the message may be delayed, if necessary, for a few seconds while the location of the mobile phone is determined, note that reasonable delay time will be determined by the CA 9-1-1 Division. (see A.7).

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

B.6. If, for any reason, the SMS message cannot be delivered to a PSAP call taker, then the solution should generate an appropriate "bounce back" SMS message to the call originator.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

B.7. The point-of-interconnection (POI) with the wireless carrier's SMS network should be in a form and manner prescribed by the wireless carrier.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT I
Proposed Text-to-9-1-1 Specifications

B.8. The CA 9-1-1 Division recognizes that SMS-to-9-1-1 solutions will encounter a number of limitations. Many of the limitations arise from and are inherent to the technology of the existing SMS systems themselves. Some examples of limitations are listed below in B.7.1 through B.7.3. Respondents must enumerate all assumptions and limitations of their proposed SMS-to-9-1-1 solution.

B.8.1. SMS service, including SMS-to-9-1-1 service, may be available only to mobile phones possessing a subscription to the SMS service.

B.8.2. Like mobile voice service, SMS service is inherently unreliable and may not be available in all locations.

B.8.3. Location services for SMS-to-9-1-1 may operate differently and may not be as accurate as current mobile voice calls to 9-1-1 service.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***

☐ ***likely never***

Response:

ATTACHMENT II
Text-to-9-1-1 Questionnaire

The following questions represent concerns or questions that the CA 9-1-1 Division has with respect to Text-to-9-1-1 solutions. While at this point these are not potential Request for Proposal (RFP) requirements, answers to this section may shape the CA 9-1-1 Division's thinking on the issues which the question raises.

A. Call Prioritization Schemes – What capabilities or mechanisms are available or do solution(s) possess which are able or which could be used to prioritize handling of emergency calls? For example, for an SMS-to-9-1-1 solution where the emergency calls traverse the Short Message Service Center (SMSC), do emergency calls enter the same message queues as all other SMS messages, or are emergency messages assigned a unique message queue reserved for 9-1-1 messages.

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

B. Caller Identity Validation Questions–

B.1. What capabilities or mechanisms are available or do solution(s) possess which are able to authenticate the identity of the caller (or in practice, the caller's equipment?) For example, does the system record the electronic serial number (ESN) of the caller's handset, and does it verify that this ESN is assigned to a current customer contract?

B.2. What procedures would a Public Safety Answering Point (PSAP) need to use to obtain access to such information in an emergency or in any specific case? For example, must a PSAP obtain a court order to obtain contract information or the activity of a specific handset which has placed emergency calls?

Fulfilled with:
☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT II
Text-to-9-1-1 Questionnaire

C. Performance of Caller Location Systems - What capabilities or mechanisms are available or do solution(s) possess which are able to locate the caller's texting device? Please discuss the means (method) and typical performance of the capability or method, including at least a discussion of the accuracy of the location and the elapsed time required to obtain the location to a specified accuracy. For example, is the solution acquiring the latitude and longitude from the Wireless Service Provider (WSP) directly, a third party provider, or other method?

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

D. Mechanisms for Caller Location Validation – Are there mechanisms or methods where an independent validation can be applied to the caller's location? This is particularly a concern for devices which self-report their location, e.g. via Global Positioning System (GPS), as opposed to utilizing network operator supplied location services. For example, is it possible to check if the devices' reported location reasonably aligns with the network access point which the device is using to place the emergency call? (e.g. the device reports latitude and longitude within California, but the cellular tower which it is accessing is located in a different geographical location.) Any mechanism which can independently (from the caller's portable equipment) validate the caller's location is of interest to the CA 9-1-1 Division. If such mechanisms are available, please discuss how the validation information is applied or utilized, including if it is delivered or made available to the PSAP and/or call taker.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***
☐ ***likely never***

Response:

ATTACHMENT II
Text-to-9-1-1 Questionnaire

E. Security Mechanisms and Mitigations – How vulnerable are Text-to-9-1-1 systems to malicious attacks, and what capabilities or mechanisms are available or do suggested solution(s) possess which identify and/or defend against threats? Examples of threats included repeated 9-1-1 "prank" calls, such as repeated calls from the same device, distributed denial-of-service (DOSS) attacks, and unauthorized or inappropriate IP network access. An example of mitigation might be to route repeated calls from the same device to a special destination as specified by the PSAP. Please discuss the major threats associated with any suggested solutions and the available methods and procedures which each solution might use to identify and mitigate/defend against such threats.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***

☐ ***likely never***

Response:

F. The CA 9-1-1 Division desires to understand in some detail the mechanism(s) whereby a session identifier (or equivalent) is established for a particular Text-to-9-1-1 upon initial contact with a 9-1-1 call taker, and if/how that identifier is available to the PSAP. Specifically, is the session identifier attached to every individual 9-1-1 text message that is delivered to the PSAP, and how is that information logged or recorded in the PSAP and/or that State emergency call MIS system? The CA 9-1-1 Division is concerned that a complete audit trail of any Text-to-9-1-1 session be available or can be readily reconstructed, and that clear understanding of Text-to-9-1-1 traffic statistics will be available for administrative and planning purposes.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***

☐ ***likely never***

Response:

ATTACHMENT II
Text-to-9-1-1 Questionnaire

F.1. In addition, the CA 9-1-1 Division is concerned that text messages are delivered in sequential order. Please provide some detail related to the mechanism(s) ensuring texts are delivered in correct sequential order.

Fulfilled with:

☐ ***existing products*** ☐ ***future product within ( ) months or ( )years***

☐ ***likely never***

Response:

ATTACHMENT III
Respondent Text-to-9-1-1 Solution

In this section Respondents are invited to describe any Text-to-9-1-1 solution(s) that they have available or anticipate making available in the next 18 months which the Respondent believes will inform the California Technology Agency and which are in keeping with the purpose and scope of this Request for Information (RFI).

In particular, the California Technology Agency desires to know if the Respondent has available solution(s) which can satisfy the specifications of Attachment I, Proposed Text-to-9-1-1 Specifications, or if the Respondent anticipates being able to satisfy the specifications within a Respondent-specified time frame, along with a budgetary cost estimate for the suggested solution.

The California Technology Agency asks willing Respondents to share non-binding budgetary pricing information as outlined in this RFI. Pricing is only for CA 9-1-1 Division planning purposes, and is an attempt to gauge order-of-magnitude costs and the relative feasibility of a possible future Text-to-9-1-1 solution(s) which the CA 9-1-1 Division might choose to deploy. The California Technology Agency may follow up with a request for pricing if not provided.

If the Respondent wishes to describe multiple products or solutions then multiple Attachment IIIs, Respondent Text-to-9-1-1 response documents must be submitted.

Marketing materials may be inserted at the end of this section for each solution discussed.

A. For each solution presented, please provide:

1. Vendor Name

   Response:

2. Product Name

   Response:

3. Product Availability – include the date or anticipated date when the product would be available.

   Response:

ATTACHMENT III
Respondent Text-to-9-1-1 Solution

4. A high level overview of the solution:

    a. The type(s) of Text-to-9-1-1 calls supported, such as Short Message Service (SMS)-to-9-1-1, Over-the-Top (OTT) Text-to-9-1-1, or private enterprise.

    b. If the solution includes SMS-to-9-1-1 please discuss its ability to conform to the specifications of Attachment I, Proposed Text-to-9-1-1 Specifications, Section B, SMS-to-9-1-1.

    c. If the solution includes OTT, please discuss the range of supported caller equipment (e.g. platform, operating system, etc.), if special applications must be installed on caller equipment, and timeline to support additional devices.

    d. If the solution includes Internet-based devices other than mobile phones, please describe the call origination device(s), applications, and nature of the provided service(s).

    e. If the solution does not fit into one of the above three categories (SMS, OTT or internet application) please describe and explain.

Response:

ATTACHMENT III
Respondent Text-to-9-1-1 Solution

5. Include sufficient technical description such that the California Technology Agency can understand how the solution works.
    a. The scope of the solution, with particular attention to the interfaces/boundaries or interconnections with other systems. A drawing showing the relationship of the proposed solution to other networks and network operators and systems would be most helpful. Please clearly delineate the boundaries of what the Respondent is able to provide.

    b. Is the solution end-to-end (from originating device to call taker), or does it hand over, say, to the ESInet at an i3 interface?

    c. Limitations/assumptions of the solution, such as:

        I. Emergency text calls can originate from smart phones only that have the requisite application installed

        II. PSAPs must have Internet access and the call taker must run a specified browser on an Internet-connected PC

        III. Location determination requires the originating device have an operating Global Positioning System (GPS) receiver

Response:

ATTACHMENT III
Respondent Text-to-9-1-1 Solution

6. Describe the emergency text call routing mechanism, if provided by the solution. Examples: Emergency Services Routing Key (ESRKs), National Emergency Number Association (NENA) i3 Emergency Call Routing Function (ECRF), etc.

   Response:

7. Discuss the ability and how the solution accommodates Legacy and NENA i3 Next Generation 9-1-1 (NG9-1-1) Public Safety Answering Points (PSAPs), e.g. points of interconnection and demarcations, etc.

   Response:

8. Describe the advantages and features of the described Text-to-9-1-1 solution.

   Response:

9. Share the pricing/licensing model (population-based, answering-position-based, max number of concurrent active calls, etc.) and a budgetary or planning figure for licensing or acquiring the service based on the pricing model e.g. if population-based, cost per million population; if answering-position based, cost per answering position, etc.

   Response:

10. Share the current status/availability of the solution: shipping, beta, projected ship date, in commissioned service, length of time in service, customer references, etc.

    Response:

ATTACHMENT III
Respondent Text-to-9-1-1 Solution

B. If the Respondent includes an SMS-to-9-1-1 solution, please discuss:

1. How the solution simulates call sessions,
2. How Automatic Reply Messages are originated and handled, such as the conditions generating the message, the functional element in the system that is the source of message,
3. Identify the wireless carrier Point-of-interconnection (POI) – number, geo-diversity, nature of interface, etc.,
4. The assumptions and limitations on SMS-to-9-1-1 service e.g. caller must be subscribed to text service,
5. Reliability considerations e.g. “Best effort” message delivery, system response of PSAP unreachable, etc.

Response:

Appendix A
Current Environment
California Public Safety Answering Points (PSAPs)

This appendix provides Respondents with the current known California (CA) 9-1-1 Customer Premise Equipment installed at the PSAPs and the CA 9-1-1 network providers.

CA 9-1-1 Customer Premise Equipment Systems

Manufacturer (in alphabetical order)	Product
Cassidian (Plant)	MAARS View
Cassidian (Plant)	Rescue Star
Cassidian (Plant)	Sentinel 911
Cassidian (Plant)	Sentinel Patriot
Cassidian (Plant)	Vesta CCX
Cassidian (Plant)	Vesta M1
Cassidian (Plant)	Vesta Pallas
Cassidian (Plant)	Vesta Standard
Intrado (Positron)	Power 911 Lifeline
Intrado (Positron)	Power 911 M1
Intrado (Positron)	Power 911 Viper
Intrado (Positron)	Simon
Moducom	UltraCom
Motorola	CentraLink
Nine One One, Inc.	Comdial
Nine One One, Inc.	QuickLink
Nine One One, Inc.	QuickLink Response
Solacom Technologies, Inc.	ESP Guardian
XTend	Xtend Comm
Zetron	Integrator 9-1-1

CA 9-1-1 Selective Router Providers (in alphabetical order)

AT&T
Verizon

Appendix B
Request For Information (RFI) Definitions

This appendix is a glossary of terms used throughout this RFI.

Emergency Services IP network (ESInet) – A secure private wide-area Internet Protocol (IP) network which interconnects Public Safety Answering Points (PSAPs), and likely other public safety agencies such as early responders, and networks which may originate emergency calls, for the purpose of effectively and efficiently delivering emergency services. ESInets which carry real-time emergency calls must meet stringent requirements for availability and reliability.

Legacy PSAP - A PSAP that is equipped to receive emergency voice and TTY/TTD calls only via analog 9-1-1 centralized automatic message accounting (CAMA) trunks, or integrated services digital network (ISDN) trunks, and that receives external automatic location identification (ALI) data via dedicated low-speed serial data links in a fixed ASCII character format. The voice trunks usually originate from a 9-1-1 tandem switch or selective router operated by a local exchange carrier (LEC) that provides 9-1-1 service to the PSAP.

Next Generation (NG) PSAP – A PSAP which is equipped to receive multi-media emergency calls via the IP-based Session Initiation Protocol (SIP), including SIP location conveyance. An NG PSAP will have a connection to an ESInet and may receive NG calls via the ESInet from a variety of sources. Note that an NG PSAP may still support Legacy PSAP connections during the legacy to NG migration.

Over-the-top (OTT) – Describes a communications application that utilizes a wireless network's data service in order to communicate with other applications. Over-the-Top applications are usually provided by a third party, run only on specific types of smart phones (e.g. must be downloaded from the phone's application store), and require the user to have a data subscription on the wireless network. Over-the-Top applications are normally transparent and unknown to the wireless network operator.

Session Initiation Protocol (SIP) location conveyance – A means of communicating caller location data as attachments to SIP call setup messages. Session Initiation Protocol location conveyance is described in Internet Engineering Task Force (IETF), NENA, and European Emergency Number Association (EENA) documents, such as NENA 08-003 (NENA "i3").

Short Codes – Typically a five or six digit destination code associated with an SMS text message destination. Short codes are provided by wireless service providers to commercial customers in lieu of 10-digit SMS text destination codes, such as another cellular telephone.

Appendix B
Request For Information (RFI) Definitions

SMS-to-9-1-1 – The capability to send text messages to a geographically appropriate PSAP by sending an SMS text message to the three digit short code: “911”.

SMS text message – A text message which utilizes the Short Message Service (SMS) service plan feature offered by wireless carrier operators to their subscribers, and which feature is available to the users of most, if not all, wireless handsets, including “basic” and “feature” phones, as well as “smart” phones.

Text-to-9-1-1 – Describes any means of requesting emergency services from a PSAP via texting. Text-to-9-1-1 may include OTT emergency calling applications as well as SMS-to-9-1-1.