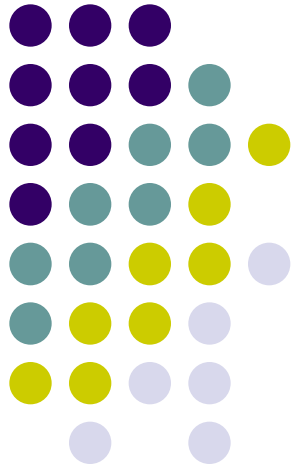
NG9-1-1

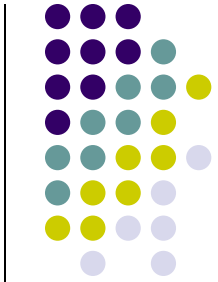


RI Department of Public Safety

RI E 9-1-1 Uniform Emergency Telephone System

William P. Gasbarro/Gregory M. Scungio, Co-Directors

RI E 9-1-1 History and Travel



- In November of 1988, RI E 9-1-1 commenced its operations in our Providence, RI PSAP (Public Safety Answering Point/ call taking center).
- RI E 9-1-1 operates three shifts, 24x7x365 and is a 9-1-1 transfer agency in which we transfer incoming 9-1-1 calls to the appropriate local (police, fire and medical) service responders after verifying the nature and location of the call.
- In our first year of operation, R I E 9-1-1 Telecommunicators (call takers) processed approximately 100,000 wireline calls.
- RI E 9-1-1 call processing has become substantially more complex since the mid-1990s due to the proliferation of wireless communications. This trend of increased wireless communications has been dubbed the “wireless phenomenon.”
- In May, 2000, RI E 9-1-1 moved into an updated PSAP in North Providence, RI.

History and Travel – Continued

- Wireless communications advanced during the implementation of Phase I (tower location information for a wireless call) and Phase II (latitude and longitude location for a wireless call) technology, which led to an increase in the accuracy of identifying the location of a 9-1-1 wireless caller.

- Thereafter, RI E 9-1-1 came under the umbrella of the Rhode Island Department of Public Safety.

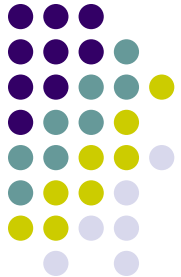
- In November of 2010, RI E 9-1-1 moved to its new Primary PSAP location in a wing of the RI Department of Public Safety/RI State Police Headquarters at 311 Danielson Pike, North Scituate, RI.

- In 2013, RI E 9-1-1 employed 41 call takers, received approximately 522,000 incoming calls (of which 74% were wireless) and transferred approximately 763,000 calls.

Introduction to NG9-1-1

- Next Generation 9-1-1 (NG9-1-1) is an (Internet Protocol) IP-based based system comprised of managed emergency services, IP networks, functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provides additional capabilities.
- NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for PSAPs and other emergency service organizations.
- NG9-1-1 is an emergency platform whereby a text message can be delivered to a 9-1-1 PSAP. Additionally, it is envisioned that, at a future date, picture and video images, along with other sources of communication, will be delivered to 9-1-1 PSAPs via the NG9-1-1 platform.

Introduction to NG9-1-1 - Continued



- Presently, NG9-1-1 is being implemented by various states and communities via “workaround” software manufactured by third party vendors. NG9-1-1 manufacturers anticipate having their own software solution available in June or July of 2014.
- NG9-1-1, also identified as “TEXT TO 9-1-1,” will allow a caller who is unable to communicate verbally to text his/her emergency message to a 9-1-1 PSAP via a wireless communication device. For example, someone suffering from a medical episode who cannot speak can text to 9-1-1 with their emergency, or, someone who is under duress and who cannot communicate verbally can text his or her emergency message to 9-1-1.
- NG9-1-1 has been embraced by the deaf and hard of hearing community as this platform is expected to be a significant improvement over TDD (Telecommunication Device for the Deaf) calls.

National Projected Timeline

- The four largest wireless telecommunications carriers in the United States, T-Mobile, Verizon, Sprint and AT&T, which jointly have in excess of 90% of the wireless business, have entered into a voluntary agreement, relative to the implementation of NG9-1-1, with the FCC (Federal Communications Commission).

- This agreement stipulates that on or before May 15, 2014, these four carriers will be capable of transmitting NG9-1-1 text messaging to any PSAP that requests the same and has the technology to receive the text messages.

- Presently, in Rhode Island, if a 9-1-1 caller were to text a message to RI E 9-1-1, that caller would receive a “bounce back” message from their wireless carrier stating, “Please make a voice call to 9-1-1. There is no text service to 9-1-1 available at this time.”

Estimated NG9-1-1 Project Costs and Projected Timeline for Rhode Island Implementation

RI E 9-1-1's implementation of NG9-1-1 consists of three phases:

PHASE 1

- The prior purchase and installation of a Solacom selective router by RI E 9-1-1 for the sum of $155,000.00. This Solacom selective router functions at our Primary PSAP located at 311 Danielson Pike in North Scituate, RI, and assists with the receipt and delivery of traditional, Voice Over Internet Protocol (VoIP), Session Initiation Protocol (SIP*), and various other forms of network transmitted 9-1-1 incoming calls.

*Session Initiation Protocol (**SIP**) is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video **calls** over Internet Protocol (IP) networks.

PHASE 2

- Phase 2 consists of the purchase of updates to our existing Solacom selective router and the purchase of fourteen (14) Guardian workstations. The updated Solacom selective router affords RI E 9-1-1 the ability to receive “TEXT TO 9-1-1” calls and route them to the individual Guardian workstations manned by RI E 9-1-1 Telecommunicators.
- A Guardian workstation consists of desktop hardware and software that allows a RI E 9-1-1 Telecommunicator to receive and transfer both traditional 9-1-1 calls and “TEXT TO 9-1-1” calls.
- In accordance with NENA (National Emergency Number Association) guidelines and traditional 9-1-1 protocols, these Solacom updates and Guardian workstations are designed to be redundant and diverse; meaning, if one piece of hardware or software fails, it will not impede RI E 9-1-1’s ability to receive and transfer 9-1-1 calls.
- The cost of Phase 2 is $277,000.00, which is budgeted in the RI E 9-1-1 FY14 budget, and the associated paperwork has been submitted for approval.

PHASE 3

- Phase 3 consists of the purchase of an additional fourteen (14) Guardian workstations that will be installed at our Alternate PSAP located at 1951 Smith Street, North Providence, RI.
- Phase 3 will allow RI E 9-1-1 the ability to receive both traditional and "TEXT TO 9-1-1" calls at both the Primary and Alternate PSAPs.
- Phase 3 will cost $200,000.00 and it is RI E 9-1-1's understanding that these funds are budgeted in the RI E 9-1-1 FY15 budget.
- In addition to Phase 2 and Phase 3 technology allowing RI E 9-1-1 to receive "TEXT TO 9-1-1" calls, this technology will replace our ECS-1000 selective routers that are presently functioning at our Primary and Alternate PSAPs.
- The ECS-1000 selective routers are the lifeline of RI E 9-1-1, as they receive and distribute our incoming calls. These selective routers have been deemed at "end of life" by their manufacturer, and as such are no longer supported by the manufacturer.
- Furthermore, the ECS-1000 selective routers are so dated that they cannot function with any software newer than Microsoft XP, to which support has been discontinued by Microsoft as of April 9, 2014.

How NG9-1-1 Will Be Implemented by RI E 9-1-1

- Once the approval has been issued for the purchase of Phase 2 of RI E 9-1-1's NG9-1-1 update, we will then place our order for the Solacom selective router updates, fourteen Guardian work stations for the Primary PSAP and associated ancillary hardware and software.
- It is our understanding that the build time for Phase 2 hardware can take up to five (5) months.
- RI E 9-1-1 will submit the necessary paperwork to complete Phase 3 (final phase), which is the purchase of an additional fourteen (14) Guardian work stations and associated hardware and software for our Alternate PSAP in June of 2014.
- Thereafter, the installation of Phase 2 and Phase 3 hardware and software, and testing and training, is expected to take up to another three months.
- The timing of Phase 2 and Phase 3 is critical as once we have all the components on site, only then will RI E 9-1-1 be able to fully implement NG9-1-1. We must implement NG9-1-1 at both the Primary and Alternate PSAPs simultaneously. If RI E 9-1-1 were to implement NG9-1-1 at only one PSAP, the other PSAP would be rendered "blind" and would only display an emergency caller's phone number, and would not have the ability to receive subscriber or location information that we presently receive. Therefore, it is imperative that Phase 2 and Phase 3 be implemented simultaneously at both sites.

NG9-1-1 Training

- RI E 9-1-1 and Solacom have jointly configured a call taking ANI/ALI (Automatic Number Identification information/Automatic Location Identification information) screen that mirrors our existing call taking screen.

- Due to the similarity of the screen views, and similar functionality, we expect the learning curve to be limited and the training to take no more than four hours per call taker. (A number of call-takers will be trained simultaneously by RI E 9-1-1.)

- Additionally, our systems service and maintenance vendor has confirmed that this implementation can be phased in gradually, whereas we can operate under our existing hardware and software configuration while the new NG9-1-1 software and hardware configuration is slowly introduced into the PSAP, station by station. This phased-in implementation allows RI E 9-1-1 the flexibility to work out any issues that may arise with the introduction of the new equipment, without interruption to daily operations.

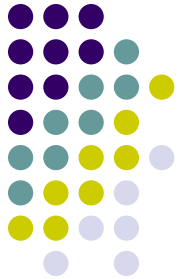
- In accordance with our Phase 2 specifications, Solacom will train key personnel of RI E 9-1-1 on the NG9-1-1 software.

Impact on Local Municipalities

- Once Phase 2 and Phase 3 implementation, testing and training is complete, RI E 9-1-1 will be capable of transmitting a received 9-1-1 text message to the local service provider via our CAD (Computer Aided Dispatch) system. This text transfer from RI E 9-1-1 to the local service provider would require that the local provider have a CAD system that interfaces with our Valor CAD and a modem and static IP connection.

- The cost of the modem is approximately $150.00 to $200.00 and a static IP connection is a reoccurring monthly charge of approximately $95.00 to $100.00. Charges vary by manufacturer for the configuration of the local municipal service provider's CAD to interface with the RI E9-1-1 CAD.

Matters Presently Being Resolved



Non-English Language Issues

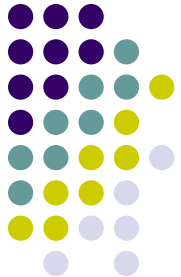
- RI E 9-1-1 currently utilizes the service of Language Line, a contracted multi-lingual interpreter/translation service for the processing of incoming 9-1-1 non-English verbal calls.
- Presently, RI E 9-1-1 does not have the capability to translate a non-English text message.
- RI E 9-1-1 has contacted Language Line and is engaged in ongoing discussions relative to their procedures and protocols for our transmitting to them a text message in a non-English format.
- Language Line is developing a means of translating non-English text messages and confirming the translation with both the texting party and the RI E 9-1-1 call taker.

Matters Presently Being Resolved – Part 2

Recording Issues

- RI E 9-1-1 presently uses diverse and redundant recording equipment that is manufactured by Exacom to capture and retain our incoming 9-1-1 calls. These calls are retained by RI E 9-1-1 for a period of three years from the date of the call.
- Our Phase 2 NG 9-1-1 equipment will allow us to capture the details of an incoming and transferred text message.
- Our Exacom recording equipment presently does not have the capability of recording text, picture and/or video images.
- Additional configurations to our Exacom hardware/software will be required to record, retain and retrieve text, picture and/or video images.

Text Message Processing Issues



- RI E 9-1-1 presently monitors and reports, in our Annual Call Volume report, the number of incoming and transferred 9-1-1 calls. In calendar year 2013, we received approximately 522,000 incoming calls and transferred approximately 763,000 calls, of which 74% of our incoming calls were wireless.

- Additionally, we track, on a weekly basis, the number of calls in queue (on hold) and percentage of calls in queue.

- RI E 9-1-1, when capable of receiving “TEXT TO 9-1-1” calls, expects that the length of time it will take a Telecommunicator to process an incoming text call will increase, as compared to the time it takes to presently process a traditional verbal call.

- This anticipated increase in call processing time is due in significant part to the nature of a “TEXT TO 9-1-1” call. For example, a text message has to be typed and sent by the texting party and then received by RI E9-1-1, this message receipt can be delayed. Additionally, it must be read and understood by the receiving RI E 9-1-1 Telecommunicator and any questions relative to the text must be clarified by the Telecommunicator via an inquiry back to the texting party. Once read, understood and clarified, the message must be verbalized and/or transmitted to the local service provider. This process will likely require more Telecommunicators to be available to receive incoming 9-1-1 calls due to the increased processing time of a “TEXT TO 9-1-1” call.