

Connections

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Text to 9-1-1 Pilots Provide Important Lessons

The widespread implementation of text to 9-1-1 service in the regional planning commission (RPC) program areas—which will be made possible by the CSEC State-level Emergency Services Internet Protocol (IP) Network (ESInet) and regional ESInets that are being deployed across the state—has excited a lot of people in the public safety sector, for very good reason.

Text to 9-1-1 will be a game-changer on multiple levels. The service will enable members of the deaf/hard-of-hearing community and those who might be unable or unwilling to make a 9-1-1 voice call—such as in an active shooter or domestic violence situation—to make emergency texts using their wireless devices.

For example, multiple media outlets reported that Virginia Tech students tried to send 9-1-1 texts during the 2007 campus shooting incident, not realizing that the local public safety answering point (PSAP) was unable to receive them.

In the future, text to 9-1-1 service will enable citizens to transmit images and video from the scene of emergency incidents to PSAPs and emergency operations centers, which will improve situational awareness dramatically.

But first things first. CSEC has two pilot projects underway that it expects will provide crucial “lessons learned” that can be shared with 9-1-1 entities in Texas, to streamline the initial implementation of text to 9-1-1 service.

One involves the Brazos Valley Council of Governments (BVCOG), which is partnering with CenturyLink and Airbus DS Communica-



Video and images generated by citizens via text to 9-1-1 service promises to dramatically improve situational awareness.

tions (formerly Cassidian Communications).

The goal of this project is to validate the ability of the current multiprotocol label switching (MPLS) network to be leveraged for the transport of text to 9-1-1 data. The timetable calls for preliminary testing to begin in early May.

This test is important because the MPLS network, which currently is used to transport automatic location identification (ALI) data to PSAPs, is expected to be enhanced so that it can be used as the basis for the CSEC State-level ESInet. Transporting digital data packets is seen as a critical precursor to this enhancement, as the ability to do so is a fundamental requirement of the National Emergency Number Association (NENA) i3 architecture that will provide the technological foundation for NG9-1-1 service.

The second pilot project, which currently is in the planning stage, involves the Lower Rio Grande Valley Development Council (LRGVDC), which also will test the ability of the ALI MPLS network to transport digital data packets. The project will utilize an embedded Intrado Viper solution for the test. ■

Text to 9-1-1 service represents just the tip of the iceberg when it comes to the advanced capabilities that are in our future.

Game-changing ADA Celebrates a Big Milestone

The Americans with Disabilities Act celebrates a significant milestone this year— 25 years of progress for people with disabilities.

Over the years, PSAPs have felt the effects of ADA and have complied with its requirements, in particular **equal access** for all 9-1-1 callers. Implementing telecommunications devices for the deaf (TDD) in every PSAP was the first milestone.

The next big thing is the

movement to bring text to 9-1-1 service—which will be a lifesaver—to PSAPs nationwide. Implementing text to 9-1-1 service not only will be vitally important to those people who are deaf/hard of hearing or speech-impaired,



President Bush signs the ADA into law on July 26, 1990. (National Archives)

but also to any 9-1-1 callers who find themselves unable or unwilling to speak.

As behaviors and technologies change for our 9-1-1 callers, so too must our PSAPs. Those citizens that once used TDDs have, in many cases, transitioned to a smartphone or other wireless device.

As we recognize the ADA's anniversary, implementing NG9-1-1 and text to 9-1-1 demonstrates the 9-1-1 sector's commitment to providing universal equal access. ■

CSEC State-level ESInet is a Watershed Event

There are many reasons why the CSEC State-level Emergency Services Internet Protocol (IP) Network, or ESInet, is needed. There are generational issues that affect PSAP operations and technologies.

Perhaps the most compelling reason, however, is that an ESInet provides the path to Next Generation 9-1-1 services. Because an ESInet is IP-based, connected PSAPs will be able to provision text to 9-1-1 services, which many citizens believe already are in place.

Also, an ESInet provides PSAPs with greatly enhanced backup flexibility; this will provide them with improved redundancy, resiliency and reliability.

Finally, an ESInet will enable

PSAPs to receive and transmit highly bandwidth-intensive data that will enable first responders to provide better service while at the same time keeping them safer.

There are numerous instances where the ability to text to 9-1-1 will be a lifesaver. Think about a member of the deaf/hard-of-hearing or speech-impaired communities who has just been in a serious car crash, or about the victim of a home invasion or active shooter incident who cannot utter a sound, lest they be discovered.

Regarding flexibility, PSAPs connected to an ESInet will be able to share data with their neighbors for the first time, including GIS data via the Enterprise Geospatial Database Management System. (See our January newsletter for more information on the EGDMS.)

PSAPs also will be able to shift their operations to another 9-1-1 center when circumstances warrant, such as when a PSAP has been rendered inoperable or is inaccessible. Prone to both hurricanes and tornadoes, there will be times in the future when Texas PSAPs will rely on such a vital capability.

It is important to note that **local PSAPs remain in control** of their data and of the policies that affect how their calls are processed and handled.

Though we are only in the first phase of a multi-phase effort, the implementation of the CSEC State-level ESInet—one that will interconnect regional ESInets and PSAPs across the state—truly is a watershed event for the 9-1-1 sector in Texas. ■

An ESInet provides PSAPs with greatly enhanced flexibility that will improve redundancy, resiliency and reliability.

ECAC subcommittee work is wrapping up

Three subcommittees that have been working since last fall will present their recommendations to the Emergency Communications Advisory Committee (ECAC) this month regarding key elements of the CSEC State-level ESInet. The ECAC then will present policies/standards to the Commission for adoption.

Each subcommittee consists of members representing regional planning commissions (RPCs), emergency communications districts (ECDs), municipal ECDs, and a variety of vendors and subject matter experts (SMEs).

The Security subcommittee has been working to build consensus and will recommend an agreed-upon policy document to the ECAC that identifies relevant security principles applicable to the operation of the CSEC State-level ESInet.

The policy will be based on numerous existing standards and policies industrywide, including the National Emergency Number Association (NENA) *Security for Next-Generation 9-1-1 Standard* (NG-SEC), several National Institute of Standards and Technology (NIST) information security standards, and the Texas Administrative Code, Chapter 202, which also addresses information security standards.

One of the subcommittee’s primary goals is to create a policy that will help users of the CSEC State-level ESInet prevent cyber attacks that could affect the operability of the network and the ability to handle 9-1-1 calls.

Specific security principles include the following:

- Prevent cyber attacks and incidents against the CSEC State-level ESInet.
- Reduce the CSEC State-level ESInet’s vulnerability to cyber attacks and other disruptions.
- Respond and recover to minimize the impact of successful cyber attacks and disruptions.

The final draft is expected to be voted upon by the middle of February.

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Because i3 is primarily focused on applications, it was imperative for the Network subcommittee to also consider other standards that focus on infrastructure.



Readiness Assessments Continue in February

The assessment process that will ensure entities intending to participate in the CSEC State-level ESInet are adequately prepared for the first phase—which involves establishing network connectivity—continues this month.

The effort is being made in coordination with CSEC staff, the regional planning commissions (RPCs), the systems integrator and subject-matter experts.

Survey preparation began in January and will

continue in February. The purpose of the assessments is to gather and/or validate information regarding customer premises equipment (CPE), uninterruptible power supplies (UPS), and network routers installed in public safety answering points (PSAPs) and other entities. The data-gathering effort will take about 4-6 weeks to complete.

Once the data gathering is complete, an assessment of findings and a gap analysis will be performed to identify any upgrades or system enhancements that will need to be executed in

order for each participant to connect to the CSEC State-level ESInet. The assessment and gap analysis also is expected to take 4-6 weeks to conduct.

In addition, a financial analysis and educational outreach will be conducted to define what participating in the statewide network will entail.

Looking to the future, Phase II of the project—scheduled for fiscal year 2016-2017—calls for PSAPs connected to the CSEC State-level ESInet to leverage NG9-1-1-enabled intelligent call-handling technology. ■

The assessment process is designed to ensure that PSAPs connecting to Phase I of the CSEC State-level ESInet will be ready to do so.

ECAC subcommittee work is wrapping up

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Meanwhile, the Network subcommittee has been working to identify the CSEC State-level ESNet's technical and operational standards. The draft document was approved by the subcommittee on February 5.

Similar to the Security subcommittee, the Network subcommittee considered numerous standards previously created by the likes of NENA, NIST, the Association of Public Safety Communications Officials International (APCO), the National Fire Protection Association (NFPA), and others.

While NENA's i3 architecture—which will provide the technological backbone for Next Generation 9-1-1 (NG9-1-1) service—will provide much of the basis for the network policy, i3 is focused primarily on applications, so it was imperative for the subcommittee to also consider other standards that focus on infrastructure and interoperability.

Finally, the Geographic Information System (GIS) subcommittee is nearing completion of its draft document, which will establish a NG9-1-1 geospatial data standard.

As of this writing the document is being reviewed by subcommittee members and two additional work sessions then will be held to work out the final details. The document is expected to be voted upon by the middle of February.

GIS data will be heavily leveraged in a NG9-1-1 environment, primarily to locate emergency callers, regardless of whether those calls are generated by wireline, wireless or Voice over IP (VoIP) devices. This data ultimately will need to be aggregated into a database that will be leveraged by the CSEC State-level ESNet.

Consequently, CSEC is taking a vital role in assuring that the data will be well maintained and interoperable; the latter of which will be especially important during large-scale emergency incidents that require a multijurisdictional response.

The document being developed by the GIS subcommittee is based largely on several NENA standards, but those standards still are at the draft stage. As a result, it is likely that the GIS subcommittee will need to modify its data standard document after NENA's draft standards are finalized. ■



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The work being done by ECAC to foster data interoperability will pay huge dividends for future multijurisdictional emergency responses.