

Connections

A Newsletter from the TECB

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The TECB is excited to bring back our newsletter. The purpose of this newsletter is to provide Emergency Communications Districts (ECDs) and Public Safety Answering Points (PSAPs) with information on Board updates, new technology, progress with the Next Generation 911 (NG911) deployment, geographic information systems (GIS), training, and other matters that may affect public safety communications. The AT&T roll out of new ESInet and Next Generation Core Services (NGCS) continues to make headway with the first PSAP already cutover. ECDs are making advancements with deploying text-to-911, continuing the evolution of Tennessee as a leader in 911.

We hope you find the newsletter useful and informative. If you have suggestions for improvements or future articles, please feel free to reach out to me or any of the TECB staff.

Curtis Sutton, *Director*

BOARD MEETING UPDATE

The TECB met on October 26, 2022, approving its FY2024 budget and a Section 130 distribution. The Board authorized a distribution of \$14.2 million in Section 130 funds and permitted staff to distribute an additional \$2.5 million if the Board receives increased spending authority for FY2023.

The Comptroller of the Treasury and the Tennessee Municipal League provided reports on their studies of 911 funding. Chairman Stephen Martini directed staff to hold a special meeting of the Board on December 13th to receive comments regarding 911 funding from additional

stakeholders. The Board granted employment waiver requests to Sumner and Obion County ECDs and filled vacancies on its Policy Advisory and Operations Advisory Committees. It also approved a sample template for districts to utilize in their annual reporting on T-CPR Quality Assurance/Quality Control programs.

Target Solutions was reported as the successful bidder to the TECB's online training RFP. Target Solutions will replace the online training platform previously provided by Virtual Academy; more details will be forthcoming as we migrate platforms. Video of the meeting can be seen [here](#).

If you would like to provide comments to the Board on 911 funding for the meeting on December 13th, please contact Vanessa Williams at Vanessa.Williams@tn.gov.

WHAT IS i3 AND WHAT DOES IT MEAN TO MY PUBLIC SAFETY ANSWERING POINT (PSAP)?

i3 is an open standard developed with the contribution of a large community of industry, academic, and public-safety experts within the National Emergency Number Association (NENA). It describes protocols, interfaces, and systems required to ensure seamless interoperability between different types of 911 networks (legacy, next generation, etc.). The "end-state" i3 vision isn't in place today anywhere because legacy components like selective routers, automatic location

identification (ALI) databases, and pseudo-automatic number identifications (pANIs) are still part of the call flow. However, many parts are in place today and others are being tested nationwide. The Next Generation 911 (NG911) network was designed to be modular, allowing different components to evolve into i3 at different times. As these different components undergo their evolution, it is incumbent upon PSAPs to take steps to advance their systems as much as

possible so the greater public safety industry can achieve end-state i3 compliance as soon as possible and we can begin decommissioning the old equipment that has reached its end of life. Today, Next Generation Core Services (NGCS) providers are the most evolved; capable of simultaneously handling legacy and i3-based calls, processing and delivering calls to the PSAP's call handling equipment (CHE) via different technologies, and handling call

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transfers to other PSAPs using their technology of choice. This versatility facilitates a smooth transition into NG911 for both originating service providers (OSPs) and PSAPs. For PSAPs wondering what this all means to them, focus on what you control – your interface/connection to the NG911 network (NGCS provider). The sooner you evolve into i3, the sooner your telecommunicators will be enabled to take advantage of the new technology and provide the best possible response.

What changes will occur when I go i3?

- To a telecommunicator, little will change initially. The call handling screen layout may differ slightly and with new data features, such as law, fire, and ems responder information for wireless calls, but the general mechanics of processing and dispatching the 911 call will not change.
- Voice will be delivered over session initiation protocol (SIP) technology (digital voice), rather than analog technology on old equipment.
- Calls will typically geospatially route using quality Geographic Information System (GIS) data, which is more accurate than the previous emergency service number (ESN)-based routing. This will reduce the number of misroutes and transfers to neighboring PSAPs.

- Address maintenance via GIS instead of the legacy Master Street Address Guide (MSAG) will become a requirement.
- No more ALI queries over standalone ALI circuits – all voice and data are delivered to the PSAP CHE through the same Emergency Services IP Network (ESInet) connection.
- Network security – firewall(s) will be in place between the PSAP and the NG911 provider, typically as part of the CHE solution.
- The availability of call log data and reports, which could revolutionize operations.
- Other functionality can be configured, like alternate answer points, for when a PSAP can't answer their calls for any reason.

Where should I start?

- Begin the financial planning process for your upgrade to i3, systems will need to be upgraded.
- Talk to AT&T and let them know of your intention to go to i3.
- Work with your GIS resource(s) and plan to be busy in preparation for your i3 deployment. (GIS and ALI data should achieve a match rate of 98% or better.)
- Reach out to your CHE, computer-aided dispatch (CAD), and recording vendors.

Make sure they can handle i3 and SIP technology.

In general, all PSAPs need to plan for the upgrade to i3, regardless of whether they intend to use all the latest technologies or not. CHE, CAD, and recording systems may all need to be upgraded and/or reconfigured and tested for an i3 implementation. Note that it may be necessary to switch vendors entirely.

As AT&T continues to move forward with the NG911 2.0 project, right now is the perfect time to have these conversations about upgrading to i3 as costs are often included, whereas upgrading to i3 later may incur additional costs. If you're unable to complete upgrades or meet the GIS quality standards, PSAPs should consider moving forward with a request for assistance interface (RFAI) solution for CHEs that support it. When ready, PSAPs can upgrade to i3 at a later date.

If you need any help or have any questions, reach out to Tennessee Emergency Communications Board (TECB) staff, Eddie Burchell at eddie.burchell@tn.gov.

TEXT TO 911

Text-to-911 service is an important step in advancing the emergency services available to the citizens of Tennessee. This service is meant to provide a means for emergency communication for individuals who are deaf or hard of hearing, those who have speech disabilities, and for individuals who may be in a situation where it is unsafe to speak. The Tennessee Emergency Communications Board (TECB) is actively working to implement text-to-911 service across the state by the end of June 2023. For this effort, the TECB was awarded the Arc's Agency of Distinction Award, for bringing equal access to those in need of emergency services.

There are many misconceptions about text; for

example, it requires many hours of training, call volume will increase, additional staff is needed, etc. In reality, text-to-911 is a low volume service— even the largest PSAPs may see just a handful of texts per week, and call-takers can often handle text conversations simultaneously while handling other calls. In terms of training, text-to-911 is an easy application to learn and use; very little training is required. Please reach out to Jennifer Schwendimann at jennifer.schwendimann@tn.gov with any training-related questions.

In Tennessee today, 51 PSAPs, covering 57% of the population, are live with text-to-911. PSAPs that do not have live text service today are urged to move forward as soon as possible in order to

meet the TECB's June 2023 timeline. In order to obtain text-to-911 service, PSAPs should take the following steps:

- Discuss what is needed from your call-handling vendor.
- Request service from the TECB by contacting Eddie Burchell at eddie.burchell@tn.gov.
- Support the testing process.
- Ask for assistance if you need help.

988 SUICIDE AND CRISIS LIFELINE

On July 16, 2022, the 988 Suicide and Crisis Lifeline for mental health services in the United States went live. There may be many questions from 911 operators about how it works, how it interacts with 911, and who should use lifeline services.

How does 988 work?

When the 988 is called, immediate options are

provided to the caller. The caller can dial 1 for the veteran's crisis line or 2 for the Spanish sub-network; if either of these selections are entered, the call will go to counselors who are specialists in veteran needs or speak Spanish to ease communications. If neither option is selected, the caller is connected to one of more than 200 local and state-funded crisis centers that 988 calls are distributed to based on the caller's region.

Five of these center locations are regionally positioned across the state of Tennessee. These centers take the calls for their regions and have trained counselors with local knowledge for any dispatch or follow-up needs. If there is a text to 988 or an online communication is started with the suicide prevention line chat, the caller completes a short survey about his or her current situat-

ion and then is connected to a crisis counselor. In addition to the local centers, 16 national locations can assist callers to help ensure that no call goes unanswered if a specific local or state location is overloaded or offline for any reason.

How does 988 interact with 911?

Many PSAPs around Tennessee and the country have been working with local and State mental health crisis centers for years. The National Emergency Number Association (NENA) 911/988 Interactions Work Group contributed to the “988 Convening Playbook”, which was recently published by the National Association of State Mental Health Program Directors (NASMHPD). This playbook describes how PSAPs and Lifeline centers should interact for best results. (988/PSAP playbook)

Transfers from 988 Lifeline centers to 911 are rare and estimated at less than 2% of all calls received. When emergency services assistance is needed, many times the counselor will stay engaged with the caller while a supervisor or other counselor contacts the local PSAP for assistance. If the caller or person calling on behalf of someone in crisis requests emergency services multiple times during the call, the counselor may ask the caller to hang up and dial 911 so the correct PSAP receives the call and is able to obtain the necessary location

information. Calls to 988 do not work the same as calls to 911, and information on the caller is limited.

If your PSAP allows transfers to 988, the recommended way is to call 988 (your PSAP may have a private 10-digit number of your local Lifeline center). Dialing 988 directly would route to the closest local Lifeline center based on your PSAP location and allow you to communicate a warm transfer to the counselor. You are allowed to provide the counselor with information you have on the caller such as name, number, and location of the caller.

Who should use lifeline services?

The Suicide and Crisis Lifeline is exactly that—a lifeline. It goes beyond the immediate crisis of self-harm and provides expert help and guidance on a range of issues including substance abuse, economic worries, loneliness, sexual identity, depression, and mental and physical illness to name a few. If you or someone you know are in need of support, please do not hesitate to contact 988, and remember all communications are free and confidential.

Lifeline Centers in Tennessee

Lifeline centers are located across the state, as shown below. The map legend provides center names, service regions, and links to their websites.



Legend:

1. [Memphis Crisis Center](#)
2. [Volunteer Behavioral Health Crisis Services](#) (Middle, Upper Cumberland, and Southeast Tennessee)
3. [Frontier Health Mobile Crisis Response](#) (Northeast Tennessee)
4. [Contact Care Line](#) (Oak Ridge)
5. [Counseling and Crisis Services provided by Family and Children's Service](#) (Nashville)

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Error Reports

At this point, every District should be getting two reports every week from True North, whether they contain errors or not. These reports are more than a narrative of errors, they are designed to serve as a heartbeat for the connection between your data uploads and the QA processes at True North. If you do not receive a reporting e-mail, it means that connection is broken. If you are not receiving reports, please contact [True North Support](#) to get this resolved as soon as possible.

Service Boundaries

With the option of cutting over to i3 approaching, it is more important now to create and/or maintain your law enforcement, fire department, and EMS boundaries. True North is now accepting uploads of these service boundaries to review and assimilate into the statewide aggregate. Section 4 of the State's GIS Data Standards for NG9-1-1 outlines the correct schema for uploading these layers to True North. If you have questions about these layers or need assistance creating or reviewing your existing layer viability, please contact [True North Support](#).

Z-Axis Survey

On August 31, a short survey was sent out asking about elevation data in the ALI you are receiving. It would be very helpful if you could answer those few questions so we could review the current landscape of Z-axis information in the state in accordance with [34 FCC Rcd 11592 \(14\)](#). This survey can be accessed [here](#) and will only take a minute to complete.

UPDATE ON Z-AXIS (ALTITUDE)

Whether searching for the nearest restaurants on your phone, requesting a rideshare, or mapping a location in Google Maps, we are all familiar with and accustomed to X, Y location, sometimes referred to as horizontal coordinates. In emergency calls or text-to-911, it may be critical to know the height of the caller's location as well. It can allow the dispatcher to know what floor of a building a caller is on, or if the caller is on a bridge or underneath the bridge. This Z-axis or vertical location is delivered as the height above ellipsoid or the height above the ground of the caller's current horizontal location. The Z-axis should be delivered with calls and text from most wireless providers as of April 3, 2022. This location should be delivered to the emergency operator whether

you are on an NG911 or E911 platform. The Z-axis location should be shown in the line immediately following the X, Y location. While cell providers were mandated to make the information available, the mandate also requires the 911 network to send the Z-axis information and call-handling-equipment is required to recognize and display the height information with a percentage of confidence in the accuracy. This could necessitate updates to either or both. We know all calls and text-to-911 are not displaying Z-axis information yet, a situation leading AT&T/Intrado to temporarily institute a workaround for text Z-axis location to be sent in a Google Maps copy-and-paste format. AT&T/Intrado created a short video on this shown [here](#).

If your PSAP is not receiving dispatchable-level Z-axis information with calls and/or text, we recommend reaching out to your call-handling equipment provider for clarification on why it is not being displayed and what can be done to provide it to your operators.

TECHNICAL DESCRIPTION

The height is determined by the handset (mainly Apple or Android) and must be within 3 meters on 80% of all calls. The carrier (AT&T, T-Mobile, Verizon) receives this location and, based on environmental factors, determines an uncertainty estimation. For example, if the altitude provided is 100 meters with an uncertainty estimate of 3 meters along with an 80% confidence level, then the altitude of the caller will be between 97 and 103 meters 80% of the time. The altitude is determined by the handset and delivered via the carrier, so whether this is requested to a legacy automatic location identification (ALI) query or an NG911-based HTTP-Enabled Location Delivery (HELD) query is not relevant to this height location being delivered.





As of April 2021, Z-axis location data became available in the Altitude field of the E2 interface. The Z-axis uncertainty, separate from the Latitude/Longitude uncertainty, is located in the Altitude Uncertainty field.

Apple (iOS) and Android calculate Z-axis using proprietary methods using sensors on the devices.

STAY IN TOUCH WITH TECB!



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