

Bureau of Interoperability Newsletter



Message from John T. Stevens, Statewide Interoperability Coordinator (SWIC) & Single Point of Contact (SPOC) for FirstNet in NH



Spring time in New Hampshire can often be an interchangeable environment with a mix of weather that we have certainly experienced. Summer is now on our doorstep with the expectation of good weather and an influx of vacationers who will certainly impact our public safety agencies statewide. Providing public safety the tools to better serve the public while maintaining enhanced officer safety is the mission that drives the Statewide Interoperability Executive Committee (SIEC). Communications is the heartbeat of public safety and the SIEC remains committed to providing public safety with increased opportunities to communicate. Whether it be

Land Mobile Radio (LMR), or Long Term Evolution (LTE) increasing connectivity throughout the State of New Hampshire, the SIEC through its proactive working groups are striving to improve connectivity statewide.

Initiatives that are currently scheduled and underway for 2019 include, but are also not limited to: COML & COMT Training, Communications TTX, COMU Functional Exercise (FE), and a Cyber Security Vulnerability WebEx for PSAPs. In addition to these efforts is the completion of New Hampshire's Tactical Interoperability Communications Field Operations Guide (TIC-FOG) which will be provided to every public safety agency in New Hampshire. The TIC-FOG will be an operational tool for Incident Commanders and specifically COML's to be better equipped to understand the communications landscape requiring connectivity.

New Hampshire, through the SIEC has created a tremendous collaborative and cooperative working environment with FirstNet/ AT&T, promoting FirstNet capability throughout New Hampshire. Much work still needs to be accomplished, but we continually identify needs and work with AT&T to address FirstNet connectivity statewide. We are confident that 2019 will show a marked increase in infrastructure development throughout New Hampshire. The North Country has already experienced an exponential increase in LTE capability while the south western portion of the state continues to have the SIEC's attention impacting discussions with AT&T for further development. AT&T through a commitment made by FirstNet to New Hampshire, is that within the first five years of the 25 year contract, AT&T must provide the opportunity for LTE service to 99% of the state's population and cover 96% of the state's geographical landmass. This is a tall order, but one that through collaboration, we are confident will be accomplished.

Significant to the FirstNet endeavor, FirstNet has agreed to host a New England FirstNet Conference in New Hampshire, September 10th & 11th, 2019. Details and logistics will soon be made available,

but please mark your calendars for September 10th that will be specific for New Hampshire Public Safety officials, while September 11th, will primarily be for the six New England States, through their SWIC's/SPOC's and staffs to discuss FirstNet New England initiatives. We are honored to be selected to co-host this event with FirstNet with both FirstNet and AT&T leadership presenting.

Next SIEC Meeting: September 20th, 2019 @ NHFA Classrooms 5 & 6. Wishing you all a safe and enjoyable summer and look forward to seeing you on September 20th, 2019.

A Retrospective Look at the Future of Communications

May 21 2019 at 02:46 PM | *By Dave George*

It's become an annual tradition to publish my thoughts and opinions on where I foresee advancements, trends and growth in the communications industry. Before crafting this year's forecast, I looked back at previous years and noticed four trends that repeatedly showed up as they continued to develop and evolve over time.

The Push-to-Talk Kick Off

In 1996, the first commercial push-to-talk (PTT) service was introduced in the U.S. Though readily adopted in the utilities, transportation and business sectors, it took quite a bit longer to proliferate in the public sector. However, due to radio frequency shortcomings, agencies were forced to consider alternatives. Eventually, first responders learned that by augmenting Land Mobile Radio (LMR) devices with PTT applications on smartphones, which most carry on the job anyway, they could communicate with the radio system, even when their radio couldn't.

Since then, PTT has evolved exponentially, primarily driven by the advent of FirstNet and other LTE networks. PTT morphed into Push-to-Talk over Cellular (PoC) and Mission Critical PTT (MCPTT), smartphones and tablets optimized by PTT accessories were integrated by many agencies, while PTT accessories continued to advance and will become more comprehensive with new and usual features. The sum total opened the door a little wider for the public sector's transition from LMR to PoC/MCPTT systems.

All in One Devices

Everyone continues to clamor for devices that serve multiple purposes. By way of a sanity check, picture an officer wearing a hundred pounds of equipment, then add a body cam and other new tools to his burden. All personnel carry smartphones as well, so why not create one that's public safety specific, add a fiber optic lens, tie it to a high-performance network, and eliminate the need to wear a body cam?

Infrared cameras, gunshot and facial recognition, hazardous chemical detection and many other applications could be packaged together and customized by industry for one primary device rather than multiple. Mission Critical Communications are equipped with a variety of applications, as are other markets like aviation and field services. Regardless of the diverse end-user programs and devices, the need to consolidate is universal.

The communications ecosystem is comprised of smart applications, systems and purpose-built intuitive devices supported by network services. As time goes on, better equipment and technologies will deliver more efficient ways to receive information and, as long as there are powerful networks able to support it, that's the direction we're heading.

Stream of New Networks

My philosophy is it's all about the network. 5G mobile broadband services are the latest buzz, though really just a super-fast version of 4G. Because there's always another network coming around the corner, I prefer to call it "the next evolution network." Third Generation (3G), Project 25 (P25), Terrestrial Trunked Radio (TETRA), Long Term Evolution (LTE) and Internet of Things (IoT) are just a handful of next evolution networks that have arisen over the years.

We've seen critical communications evolve from analog to digital narrowband technologies, and now LTE is the top candidate for a nationwide system. Though LMR isn't going away, public safety communications relying on PTT applications require the high-performance broadband connection that the First Responder Network Authority (FirstNet) will provide. LMR and FirstNet will co-exist for a very long time but, in the interim, the combination of networks will continue to promote development of transitional hybrid devices. Perhaps some will be two-way with built-in LTE boards or vice versa.

Among emerging networks of interest are a number of unlicensed spectrum offerings, which may extend 5G into new markets. Another network that addresses the hot topic of in-building cellular service is the 150 MHz Citizens Broadband Radio Service (CBRS), which brings bandwidth support to mobile devices in buildings and public spaces. Manufacturing, utility and transportation sectors are exploring the use of CBRS for industrial IoT.

On an even larger scale, a select group of satellite companies are planning to deploy low-orbit constellations that could blanket most of the Earth and bring high-speed broadband service to areas currently without access. Though a worthy endeavor, these projects may face major funding and regulatory hurdles.

The bottom line is, for any emerging technology to work, it must be tied to a high-performance network, which brings us back to why I believe it's all about the network.

The Next Big Thing

IoT Telemetry is next in line for fifteen minutes of fame. Telemetry predates the Internet of Things by many years. The word is derived from Greek roots: tele, meaning remote, and metron, meaning measure. An apt name to describe this automated communications process for collecting measurements and other data from remote places to monitor and analyze.

Sensors play a key role in telemetry as a source of data input. Pryme recently developed an IoT device to monitor sewer flow in Taiwan to mitigate illegal dumping. A primitive telemetry is already in use in law enforcement with sensors that monitor when an officer leaves the car, is running, etc.

Meanwhile, I see early stage development of new sensor peripherals that will enhance the usefulness of PoC/MCPTT devices. Most likely many of these sensor enhancements might become “untethered” from user communications devices via new networks like 5G. For example, a sensor in a patrol car might initially communicate through an officer’s FirstNet device, but later be able to communicate directly with the system through its own facility (i.e. 5G.) At first, there will be transitional technology tailored around what’s being measured, so this example might initially be accomplished with a vehicle mounted modem/router connected to the same network as the officer’s device. However, if a suitable wireless network was available to communicate with directly (i.e. 5G again), a separate modem/router would no longer be necessary and the complexity and cost of sensors could be dramatically reduced.

Where does IoT fit in to telemetry? Though the current data rate may be fairly low for reading measurements like water temperature, once there are hundreds of thousands of field devices in play, suddenly it becomes big data, which is IoT territory. Just as other aspects of communications are evolving, so have the opportunities for IoT and telemetry.

Designing unique and specialized sensors is a direction I see Pryme moving toward. We already have extensive experience with the operating environments and there are more IoT / RFID chips and modules available every day from major players like Texas Instruments, Silicon Labs, Qualcomm, Nordic and dozens more.

Whether you label it hindsight or foresight, history has always paved the way for the future, not only in the communications industry, but in every aspect of life.

Congratulations to our newest COMLs



Thayer Paronto



Tom Andross

Congratulations to Thayer Paronto and Tom Andross for earning their Communications Leader (COML) certifications!

Have a news story you’d like us to feature? Drop us a line.
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