

ESChat leverages FirstNet spectrum in pilot LTE networks to deliver reliable PTT, other services

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Mission-critical push-to-talk (PTT) functionality likely will not be part of [LTE](#) equipment for some time, but Band 14 700 MHz spectrum licensed to

[FirstNet](#)

promises to provide the dedicated resources needed to make over-the-top applications like ESChat reliable enough for first-responder use today, according to Josh Lober, president of SLA Corp., which developed ESChat.

“The challenge we always have is the one that FirstNet is being built to address, and that is having dedicated spectrum,” Lober said during an interview with [IWCE](#)’s *Urgent Communications*

“Better than 99% of the time, operating on the commercial network works. But, when an incident occurs, the public utilizes all of the available bandwidth. If it’s at a specific incident site, it’s often taken up with pictures and video, and these things degrade and impede the performance of any application that relies on data, including ESChat.

“FirstNet’s dedicated spectrum resolves that. Using today’s technology, FirstNet is capable of supporting push-to-talk voice and not have it be affected by what’s happening with the public.”

This has been demonstrated in numerous pilots this year, with first responders using ESChat for push-to-talk voice communications on Band 14 public-safety LTE pilot networks deployed this year at the FIS 2015 Alpine World Ski Championships in Colorado, the New Mexico State Fair and the Albuquerque Balloon Festival. The response to ESChat as a PTT solution was very positive, with FirstNet Colorado offering the following assessment from the proof-of-concept network deployed at the ski championships.

“Push-to-talk (PTT) is a requirement, not an option: Far and away, the most positive feedback was the ability to have PTT communications on the LTE device,” the FirstNet Colorado report states. “Additionally, there was a strong sentiment that the responders desired to use a single device for all operations. For example, one first responder said (while holding up his LMR radio) ‘When can I get rid of this?’”

Since 2009, ESChat has integrated with LMR networks using conventional radio-over-IP ([RoIP](#)) gateways, but the interest level in the ESChat [P25](#) ISSI media gateway—a solution that leverages the ISSI standard in P25 to enable [interoperability](#) between a P25 network and ESChat being used over an [LTE](#) network—has increased dramatically during the past 12 months, Lober said.

“That enables us to take full advantage of the features supported in ISSI,” Lober said. “We are able to do not only the group calling, which is available with the conventional RoIP gateway, but we are also able to take advantage of private calls from a single LTE ESChat device to a single P25 radio, group calls and emergency calls.

“The ISSI also supports networkwide radio IDs, so each radio user knows which LTE user is talking, and vice versa. And because ESChat includes integrated mapping, we’re also able to overlay the location of the P25 radios on the ESChat map screens.”

While ESChat is best known in the industry for its push-to-talk capability, SLA engineers continually have developed new functionalities in the application, Lober said.

“We have evolved our product to not only be a push-to-talk product, but an encrypted, secure communications solution that includes push-to-talk voice, secure text and image messaging, as well as location tracking and mapping,” he said. “So, we’ve evolved our system to include many features.

“The reliability of our system is well established, and our product is used by the U.S. military, the federal government, state and local law enforcement across the country, as well as industry, including some of the nation’s largest transportation companies, hotels, school districts and universities.”

But the reliability of the application is dependent largely on the reliability of the network, and

having a dedicated network like the one promised by [FirstNet](#) would address that fundamental need, Lober said.

“It’s a game changer for those of us who require real-time information, and that includes push-to-talk voice,” Lober said. “If we’re able to take the Band Class 14 spectrum availability, add that on top of what we’re doing with ESChat and secure push-to-talk voice, and then we can tie that into the existing [LMR] radio networks, it really provides a complete solution. Now, you’ve got truly one ubiquitous system whereby first responders can interoperate and communicate between agencies.”

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