

How integrated LTE solutions can enrich your communications

Long-Term Evolution (LTE) is revolutionising communications. It increases the capacity and speed of wireless data networks and results in a redesign of the network architecture to an IP-based system that reduces transfer latency compared to 3G architecture. In short, LTE expands your opportunities to obtain and use new types of data in your command-and-control communications.

This article provides an overview of Zetron's integrated LTE offerings and how they can maximise your use of information. It discusses the specific benefits of Zetron's integrated LMR and Push-to-Talk over Cellular (PoC) solution, then explains the benefits of a cellular-provided service over an "over-the-top" (OTT) service.

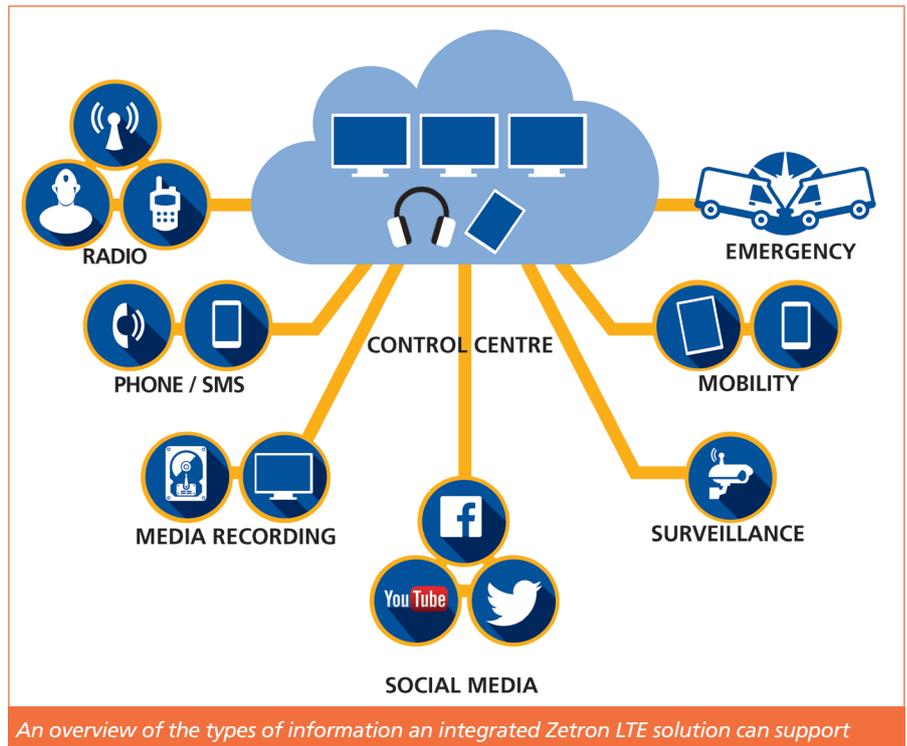
Overview of Zetron and LTE

LTE enables new data to be integrated into Zetron's command-and-control systems. This includes text messages, images, video, GPS tracking data of vehicles and personnel, and information provided by real-time video and sensors. The sharing of this type of information within and between agencies is becoming ever more vital to their operations.

With the increase in the volume and richness of information, however, the inevitable question arises: How do we best manage and use the information – without being overwhelmed by it?

The answer: Eliminate operational overflow by providing only the data that is relevant to those who need it, when they need it. Zetron does this with its integrated LTE solutions.

Zetron's integrated command-and-control systems provide customers throughout the world with fully integrated IP-based solutions that are known for their reliability, redundancy, and support of current and emerging standards. Our communication solutions include integrated command-and-control systems (ICCS), radio dispatch and telephony consoles, emergency call-taking, computer-aided dispatch (CAD), mapping, AVL, and security and surveillance systems.



Our integrated LTE solutions

Zetron's LTE solutions include mobile dispatching over an LTE network, integration with Push-to-Talk Over Cellular (PoC) and broadband PTT devices and services.

These solutions help you manage the receipt and delivery of video, voice, text, pictures, social media, alerts, and alarms. They also support real-time communication between different groups, regardless of their device, network connection, or location. This enhances situational awareness because it supports the seamless flow of the right information to those who need it, when they need it.

Zetron's AcomNOVUS integrated dispatch system serves at the heart of the LTE solution. AcomNOVUS presents information to your dispatchers and operators through efficiently designed user interfaces that combine visual displays, mapping technology, and filtering analytics. AcomNOVUS allows dispatchers to connect to multiple radio channels

simultaneously, make telephone calls, and patch calls to radio users. It also enables dispatchers to deliver information to field resources quickly and effectively.

Zetron's LTE PoC solution

Zetron's LTE PoC solution is a perfect example of how Zetron is integrating its industry-leading LMR connectivity and dispatching capabilities with those offered by public and private LTE network providers. The functionality LTE supports enables PTT services for a variety of users over a variety of devices.

Zetron has partnered with Kodiak to leverage AcomNOVUS as the bridge between Kodiak's broadband LTE cellular PTT platform and virtually any LMR system. Kodiak's open-standards-based broadband PTT solution delivers sub-second calling performance over LTE/4G, 3G, and Wi-Fi networks. Cellular subscribers who have enabled Kodiak's PTT service on their Android or iOS smart devices

can extend their PTT communications to LMR users through AcomNOVUS. This gives subscribers access to the many benefits of PTT communications over the smart devices they are already carrying.

These benefits include fully secure (AES) encryption, real-time group communications with teams ranging in size from a few users to hundreds, and the ability to communicate with everyone in a talkgroup with just the press of a button. Users can hear what's being said and can respond whether they're using a smart device or radio. Call set-up times are sub-second, and audio flow is fully managed through "floor control," just like a radio network. The easy exchange of critical information such as user status, presence, and location helps facilitate the coordination of widely dispersed teams.

The Zetron-Kodiak interoperable PoC service has been deployed in the U.S. on the AT&T cellular network. Zetron and Kodiak are actively exploring other deployment options in North America, Europe, and Latin America. Zetron is also running pilot projects of the Acom-Kodiak PoC services platform with local and regional public-safety agencies, utility companies, one of the world's largest airports, several metropolitan transit authorities, and several large universities.

Adding PTT services to a team's Android and iOS smart devices and extending PTT communications to the LMR network offers a number of important advantages to organisations of all sizes and types. The key advantages that a fully interoperable LTE-LMR PTT solution provides include the following:

- The extension of radio communications to users regardless of their device, network, or location enhances a team's efficiency, productivity, and safety.
- Existing radio users who are outside of their LMR coverage area or who are not carrying their radios can use their Android or iOS smart phones and tablets to access their

LMR talkgroups.

- Staff members who don't usually carry a radio still have full access to their radio resources, team members, and LMR network through their smart phones or tablets. This can be especially beneficial during emergencies or other critical situations.
- PTT services on smart devices reduce network loads on LMR systems. This frees up resources at critical moments while still allowing dispatchers and managers to monitor and control traffic from their console or desktop.
- PoC services expand the LMR coverage area without requiring investments in additional LMR infrastructure, radios, repeaters, channels, or tower space.
- PoC is an excellent communications option for law-enforcement officers, undercover detectives, and security personnel who must blend into their surroundings and maintain anonymity. PoC provides instantaneous, covert communications with team members and supporting resources.

Two ways to implement Zetron LTE-PoC

There are two options for enabling Zetron's LTE-PoC communications solution. The diagram below illustrates the first option, which is currently available.

AcomNOVUS is deployed at a customer's site and connects to Kodiak's PTT platform at the cellular provider's network operations centre (NOC). This allows the customer to use AcomNOVUS both as their dispatch platform with all its capabilities and as a dedicated gateway between their LMR system and their cellular provider's PoC service.

For the second option, AcomNOVUS is deployed by the cellular provider within their NOC and integrated directly with the Kodiak PTT platform. LMR connectivity is provided by a gateway connection to the customer's radio system.

This architecture allows cellular providers to offer hosted PoC services with LMR integration to multiple customers through a single Acom system with minimal requirements for on-premises equipment. While this option is not yet commercially available, Zetron and Kodiak are working together to develop the architecture for this solution and make it available to commercial and private LTE cellular providers in the near future.

Why carrier-integrated services are better than OTT

The Zetron-Kodiak solution is a carrier-integrated service that is delivered directly by the cellular provider. It offers important benefits over the proprietary broadband PTT OTT services offered by some LMR vendors and independent service providers. Their services deliver PTT voice over the data connection between the smart device and the internet in a way that is independent of the carrier that is providing the connection.

Kodiak's platform is built on the Open Mobile Alliance PoC standards (OMA-PoC), which ensures that PTT services are continuously optimised for the highest levels of quality, availability, and reliability. PTT applications and devices provided by cellular operators that adhere to the OMA-PoC standards are thoroughly tested and certified to perform as expected on the carriers' networks. In addition, PoC services from cellular providers provide buyers with a single point of contact for all support and payment inquiries.

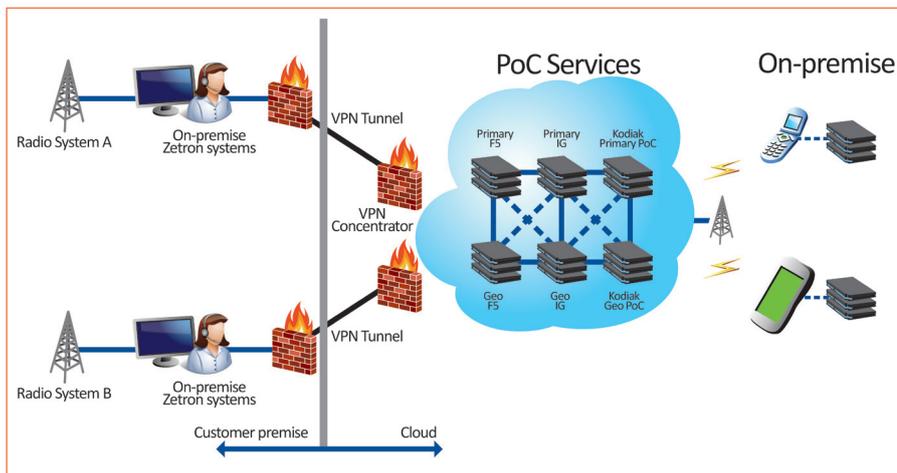
The OTT PTT services that are available from LMR vendors and independent providers simply cannot match the performance and quality of services delivered by LTE operators who use the Zetron-Kodiak platform to deliver PoC services with LMR integration.

Why Zetron's LTE PoC?

There's no question that PoC-LMR integration across LTE networks is a strong enabler of cross-organisational collaboration. It eliminates the traditional communication silos that are created when users are constrained to specific devices and networks.

Zetron's LTE-PoC provides organisations with an industry-leading interoperable communications solution. This extends their mission-critical and business-critical communications to all users who need to maintain close connectivity – whether in support of routine operations or emergency situations that require immediate collaboration between diverse groups.

For more information regarding Zetron's solutions, please contact: Andy Hatcher, Sales Director, Europe, Middle East and Africa on +44 1256 880663 or ahatcher@zetron.com



Zetron systems connected to Kodiak's gateway in a datacentre at a customer's site