

Public Safety LTE Solution Overview

World's First Public Safety LTE Solution to Enable Control, Coverage/Capacity, Resilience for the Public Safety LTE Networks of Today and Tomorrow



The Challenge

Current public safety coverage solutions are outdated and do not enable the essential capabilities of modern LTE networks. The need for data in emergency situations is crucial, as first responders can use this capability to share images and videos or access life-saving applications. However, public safety organizations cannot move to LTE with current commercial LTE architecture, as they need coverage everywhere and cannot tolerate coverage gaps or network outages. Priority access for public safety traffic is crucial, as dropped packets and non-expedited traffic could result in loss of life in emergency situations. Similar to the carrier evolution from 3G to converged LTE networks, public safety needs a unique LMR/PMR to LTE migration plan.

Overview

Parallel Wireless's commercially available Public Safety LTE solution has been selected by EE for ESN in the UK and by US government organizations including FirstNet early adopters; has been tested and deployed in over 25 global military, police, and fire organizations. Our 3GPP-compliant solution provides a unified resilient LTE network across police, fire, ambulance, military, and Air Force in tactical operations, in emergencies and during natural disasters - all at much lower cost. It allows each government organization to have their own secure LTE network while being one unified platform across these networks. It can be deployed in various tactical and multi-cast environments from police station/military base, to deployable/man portable in ad hoc scenarios. The solution delivers reliable coverage in urban to rural areas, local organizational control, and resilience with self-healing features. It provides secure LTE communications consisting of voice, high throughput video, data, Push-to-Talk, MMS, and/or SMS for multiple users in daily operations or in emergency/tactical operations.

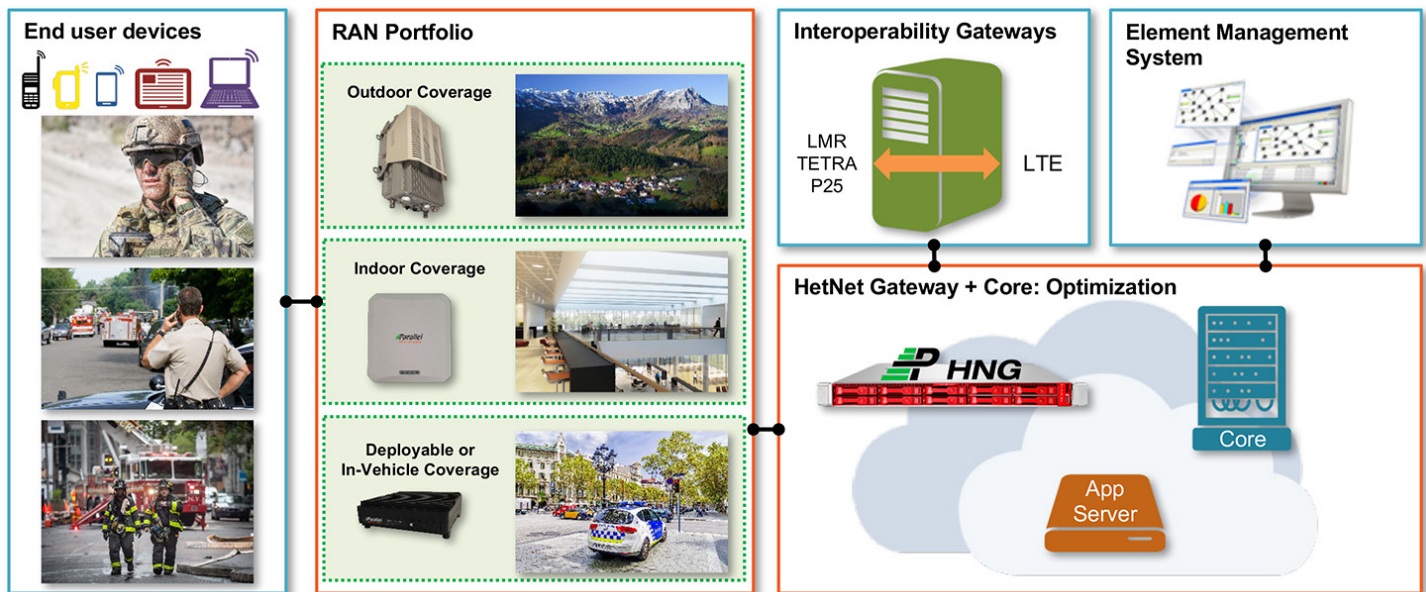
The Solution

The Parallel Wireless Public Safety LTE solution (or LMLTE) provides the public safety-grade service of LMR along with the performance and functionality of commercial LTE. LMLTE

delivers resilient indoor and outdoor coverage even on the edge of the network while roaming, or in basements, underground garages, tunnels, etc. with Bring Your Own coverage (BYOC) in-vehicle nodes. With the ability to use the same handsets for optimal voice, data, and video service in daily operations and in emergencies, there is no more need to carry multiple devices for different uses (i.e. a radio for voice and another device to send file transfers or videos). LMLTE is also fully interoperable with legacy systems as well as between different agencies and municipalities.

Deployment times are reduced with LMLTE, as it enables instant install via plug-and-play capabilities to ensure networks are configured in minutes without the need for special technicians. By allowing public safety personnel to use the same equipment in daily operations and when a disaster strikes, these capabilities enable first responder networks to be up and running instantly, saving precious life-saving moments in the event of a disaster. Not only is the installation made simpler, but ongoing network maintenance and optimization is also improved, as LMLTE provides self-healing and self-optimization capabilities. As a result, public safety networks experience optimal performance without any human intervention to provide unprecedented network resilience.





Network Control:

- Local organizational and network control that interoperates with the local and national network
- Wireless LTE network that is fully operational in minutes in disaster situations
- Priority access for public safety traffic

Reliability:

- Reliable and secure coverage for voice, data, file transfer, and multi-media day-to-day and in disasters for both indoor and outdoor scenarios.
- A mobile base station (BYOC) radio provides a strong LTE signal indoors (including basements, parking garages and other challenging areas)

Dynamic Capacity:

- Can be deployed on the ground, boat or in the air via weather balloons or drones

Resilience:

- Provides 3 levels of resilience: running over commercial network, dedicated public safety LTE and as final resort, network in a box (NIB) to ensure that the network remains operational for local communications even when remote connectivity is lost
- Self-organizing and self-optimizing network

Improved TCO:

- CAPEX savings realized through commodity hardware for backend network components
- OPEX savings realized through self-optimization and resource sharing

Summary

LMLTE from Parallel Wireless enables a graceful transition from LMR/PMR to LTE. The transition keeps today's capabilities and coverage whether in urban, rural or incident settings. The solution delivers reliable coverage, local organizational control, and resilience with self-healing features and multi-homed mesh backhaul capabilities - all at a lower cost, giving public safety agencies the ability to do more with less budget.