

Dual Bearer Devices: What are they and why are they needed?

InterComms talks to Rob Lovelace of Tetratab

This year in Critical Communications World, there is some expectation that manufacturers will be showing dual bearer devices. In particular the devices that are able to provide TETRA and LTE connectivity are the most anticipated - but why are these products needed and how will they be used?

For a long time now Police forces and Emergency Service providers around the world have been seeking the "one device" solution. Many users carry two devices today, the TETRA radio for their secure voice communication and a mobile phone in order to have access to data through

applications and non urgent call services. The security for the mobile phone device is of concern with this type of implementation as it's also used for personal use. It is not a suitable secure platform to deliver mission critical applications but preferred by users for its readiness and ease of access.

In order to solve the two device issue, dual bearer devices are anticipated to provide the best type of connectivity through one device, bringing the requirement to just one implementation and one charging, power and accessory strategy.



Casepad range of products used today by public safety on LTE.

- ▶ The idea of a dual bearer device is to gain all the benefits that both bearers have to offer.

TETRA is a proven, secure and reliable voice communication network and many organisations have a long term use plan for this technology and are satisfied with its security and use case.

However, it is widely known that TETRA has limitations regarding data, so a dual bearer device to provide LTE Data services will complete the user experience bringing bandwidth to the user.

This will allow a revolution in applications and information supplied to the user and potentially reduce the amount of voice traffic and improve precision and smart content of information.

One of the largest LTE projects currently is in the UK where the government is seeking to migrate from the TETRA voice service to a 4G LTE push to talk service in a program called ESMCP.

In such a project the dual bearer products have particular relevance as the "Go Live" process for devices is complex and requires careful management.

Dual bearer devices are being considered for this change for the following reasons:

- some areas of the network such as metro systems and public transport are not planned to or cannot transition at the same time as the wider public safety network, requiring public safety users to be able to connect to TETRA and LTE depending on what network is available. A dual bearer device will be able to do this with no affect for the user

- As regions transit from TETRA to LTE, national roaming users such as transport police which work across many regions will require to be able to communicate in regions that have changed over as well as those who have not yet changed. Having one device which seamlessly manages this will be key during this period
- The window to change from one provider to another will need to be short - vehicles therefore will need to be converted, users have their devices exchanged and will also need to be trained A detailed hardware switch over plan would be needed. With a dual bearer device, this can be done seamlessly as the devices can be implemented, vehicles converted and users trained before any switch over would take place. It essentially decouples the transition of the network from the device implementation.

The market will respond to the dual bearer device requirement in different ways depending much on their target user. Some devices will essentially retain a PMR style form factor and have enhanced data capability.

TETRATAB has been making computer products that have been dual bearer for over 7 years, the original devices being 3G and TETRA, as well as 4G and TETRA. As a result they have a unique experience in the sector and can advise clients on identifying the correct products for them and the correct implementation. Their outlook is to incorporate the correct radio technology into the correct smart device and ensure that the solution is practical for both the TETRA and LTE use case.

The TETRA in some cases is not only used for voice but also for carrying low bandwidth encryption information to encrypt the 4G data stream by an independent channel. Some applications already exist and have been implemented where high band width, non secure data has streamed over 4G with then a secure data overlay sent via TETRA.

By creating products for public safety to mimic those used in the consumer environment makes it easier to train new users and develop better solutions. For example the Casepad range of products, currently LTE only, have already changed the way some think of the mobile data terminal where the smart tablet product has become a dockable smart screen. Most ANPR solutions in the UK now propose the Casepad or other tablet as the smart interactive screen in the vehicle.

Dual bearer devices are expected from at least 3 major manufacturers this year at CCW. In this innovative sector, it will be their approach to the current and future use case of the device that will guide their success.

For more information regarding public safety and military solutions contact TETRATAB on: <http://tetratab.com>



10inch and desktop dock.