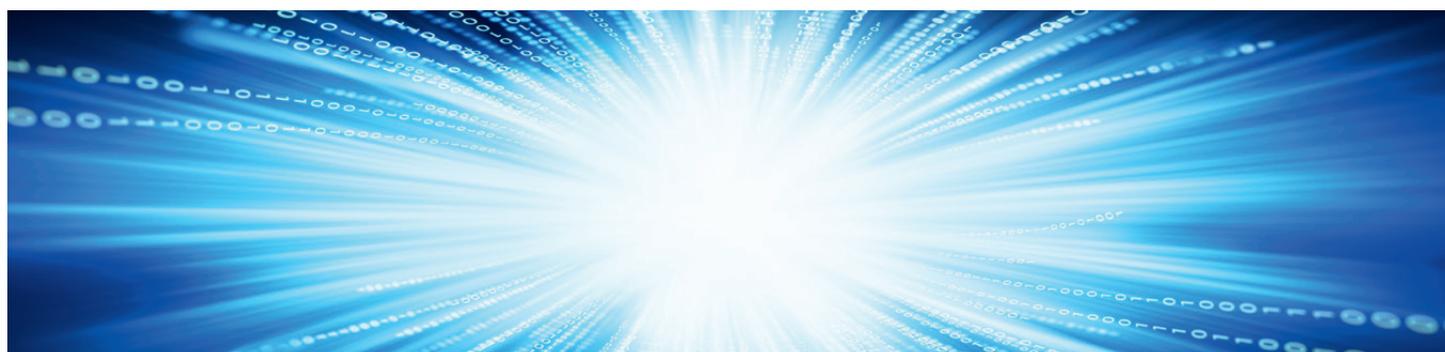


TETRA

Broadband Extension

Broadband network usage in a PMR environment
Leverage high bandwidth services in your TETRA network



In recent years, broadband services like video streaming have provided tremendous added value to mobile communication networks. Yet, organizations that guarantee public safety, such as law enforcement agencies or fire departments, have not been able to benefit from these potentially life-saving innovations. Many of them rely on the highly secure and mission critical professional mobile radio (PMR) standard TETRA Rel. 1, which is optimized for efficient voice communications and is not equipped to handle high-bandwidth services.

Extending the capacities and capabilities of a TETRA network to supply bandwidth comparable to modern broadband networks requires enormous investments. Therefore, smart solutions are needed in order to adopt commercial or dedicated mobile broadband networks within a TETRA environment and still guarantee the accustomed high level of security and reliability.

TETRA Broadband Extension (BE) provides a framework for integrating broadband data transmissions between your TETRA environment and mobile broadband networks. It extends the capabilities of your TETRA network so you can leverage the benefits of modern technologies, such as streaming video and comprehensive database consultations, for disaster response, law enforcement or whatever other area of public safety you operate in.

TETRA BE does not compromise any TETRA security features, because it guarantees end-to-end encryption across the different networks. It utilizes the TETRA encryption key exchange mechanism to ensure secure transmission of sensitive information.

On the operative level, TETRA BE automatically translates and transfers all group definitions in your TETRA network to the broadband network. This lets your operators manage dispatch groups using the TETRA hardware and functionalities they are accustomed to – they don't have to adjust their workflow and can continue to operate with the same level of efficiency.

TETRA BE is integrated quickly and easily without a large upfront investment as it does not require an upgrade of your network infrastructure.

TETRA Broadband Extension – efficient, secure and economical

- “TETRA Broadband Extension does not only connect TETRA networks to broadband networks. It also maintains the group functionality which makes our daily operation so much more efficient.”
- “TETRA Broadband Extension can even plug into public broadband networks without compromising security. This significantly reduced our CAPEX!”

Customer feedback

Atos

A system of systems – seamless connectivity between networks

At its core, TETRA BE builds a 1:1 relationship between your TETRA network and one or more broadband networks, hence you can utilize all the additional functionalities broadband offers within the secure realm of TETRA. There are no technical limitations on which broadband transmission technology you choose to employ, because TETRA BE can integrate networks as diverse as 3G, LTE, WIMAX or Wi-Fi, giving you the flexibility to use the broadband solution that best fits your needs.

TETRA BE establishes unified identities in the broadband and the TETRA network alike. Therefore, all traditional TETRA services are still transmitted by the TETRA core network, and the broadband network transmits all broadband services.

Group associations – manage your broadband terminals using TETRA applications

TETRA BE automatically transfers all TETRA group definitions directly to the broadband network. Thus, whenever a TETRA terminal is a member of a particular user group, the related broadband terminal is also a member of the same group.

As a result, your operators can manage broadband services using the TETRA applications they already know inside-out, such as the Atos TETRA Dispatcher. This obviates the need for additional training and allows them to reliably fulfill their tasks from the get-go. And because dispatchers easily integrate broadband services, such as streaming video from an accident site, operators are able to significantly increase their dispatch efficiency.

Multimedia expansion – add a diverse range of possible applications

TETRA BE allows the straightforward expansion of your TETRA dispatching solutions with multimedia APIs. Additional functionalities include, amongst others, "Radio to Broadband" and "Broadband to Radio" applications as well as uplink (mobile terminal to network) and downlink (network to mobile terminal) video transmissions. In this manner, remote office applications for the transmission of critical data to a tactical unit at an incident area are easily integrated.

End-to-end encryption – maintaining TETRA security measures

TETRA BE provides end-to-end security in the TETRA and in the mobile broadband network. It transfers the structure of the encryption keys used in TETRA to the broadband network, thus data exchange is encrypted according to the hierarchies of TETRA terminals. Information can

be decrypted only by an authorized control center or subscriber.

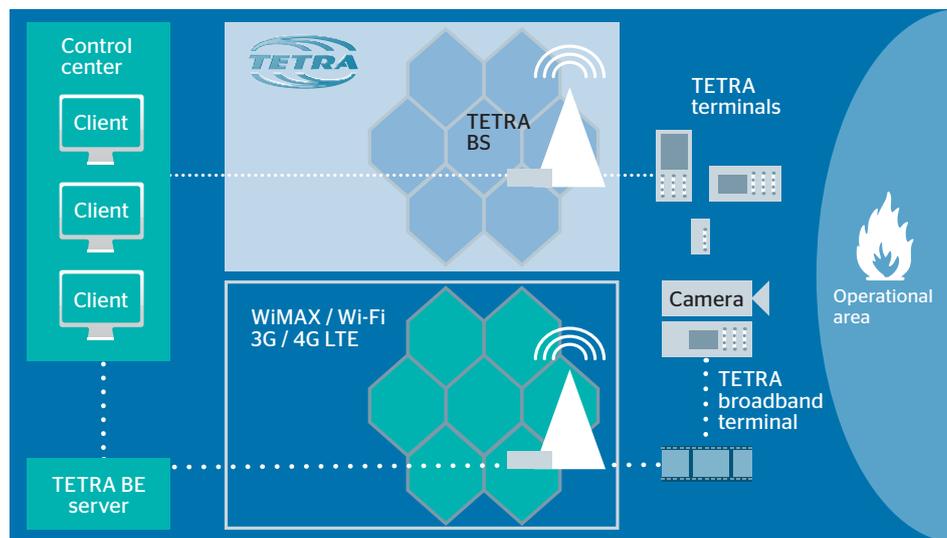
Therefore, broadband terminal groups inherit the end-to-end encryption security from their TETRA counterpart, and well-known TETRA security features such as "stun and kill" can also be implemented to remotely disable broadband devices.

Flexible architecture – quick and easy installation with minimal investments

Because TETRA BE leverages mobile broadband networks, no expensive TETRA network upgrades are required. Therefore, you can install TETRA BE without any major capital expenditures, and the implementation is easy and fast. Additionally, TETRA BE has the necessary flexibility to allow the transmission of broadband services over ad-hoc broadband networks to support the management of complex incidents and crisis scenarios.

TETRA Broadband Extension is the comprehensive solution to leverage broadband services in PMR networks with a minimum of capital expenditures. It transfers TETRA's user groups and security features to a broadband network, allowing you to utilize a variety of high bandwidth services with the end-to-end security and reliability of your TETRA network.

TETRA Broadband Extension (BE) – Leverage high bandwidth services in your TETRA network



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