



simoco

wireless solutions

**ENSURING UNBREAKABLE
COMMUNICATION: MISSION CRITICAL
RESILIENCE FOR PUBLIC SAFETY AGENCIES**



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Introduction

In an ever-evolving world, public safety agencies stand as the unwavering guardians of our communities, dedicated to ensuring the security and well-being of every citizen. These dedicated men and women work tirelessly, often in the face of adversity, to protect us from harm and disaster. At the heart of their mission lies the critical need for robust, reliable, and resilient communication systems. Whether it's responding to emergencies, coordinating resources, or delivering timely information, the ability to communicate effectively is the lifeline that allows public safety agencies to fulfil their paramount duty. We will explore the indispensable role of mission critical communications in the realm of public safety and the imperative to ensure its unwavering resilience.

Embracing next generation communications solutions for public safety agencies

Public safety agencies across the globe face the crucial task of ensuring robust and adaptable communication systems. They must balance the need for effective communication with smart investments for the future. Two significant trends are driving their decisions: a shift from voice-based to data-centric communication and the increased accessibility of technologies like network bonding and satellite communication. To achieve optimal redundancy, agencies are incorporating multiple connectivity technologies like cellular, Wi-Fi, and satellite, depending on the specific situation. In the past, redundancy was achieved by running independent communication systems in parallel, but this method had limitations. Now, agencies are exploring new approaches to enhance connectivity, such as in-vehicle communication, to improve reliability and efficiency while reducing risks.

Parallel bearer bonding with InStream

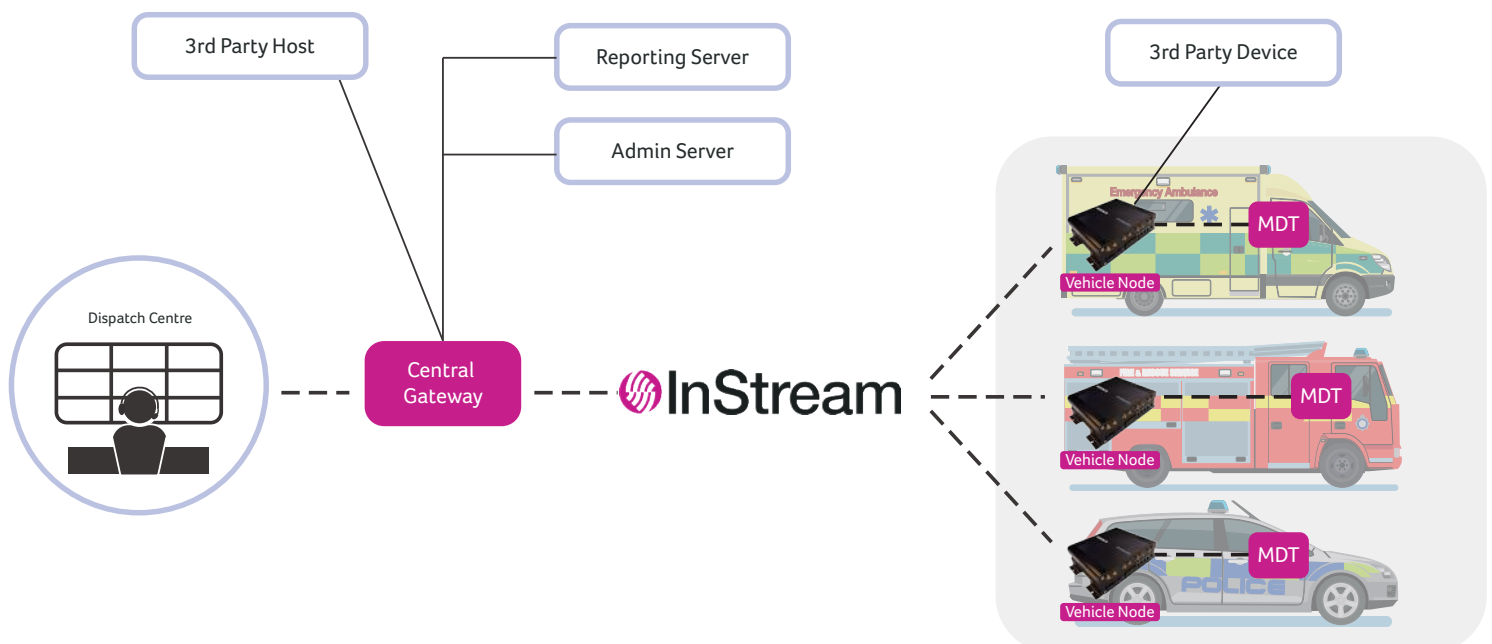
Police, Fire and Ambulance users love their two-way radios because they are incredibly reliable. One of the obstacles to deploying mobile data in public safety is that it is prone to outages for a variety of reasons, and this is just not acceptable when lives are at risk. As a vehicle moves around it needs to find the strongest mobile signal but switching from one carrier to another introduces a delay in handover that you cannot afford in an emergency. So, our combined multi-bearer router and onboard computer, the VR-950 gets around this by having several bearers running in parallel, known as InStream bonding. With room for up to four SIM cards this provides mission critical standard wireless performance. At the control room data centre the InStream Gateways are engineered to deliver 99.999% uptime or “Five 9s” reliability.





Vehicle as a node (VaaN)

In today's interconnected world, a vehicle has evolved beyond a mere mode of transportation; it has become a node of multifaceted connectivity and information exchange. Simoco, at the forefront of technological innovation, seamlessly bridges the realms of cellular, Wi-Fi, satellite, mobile data terminals, vehicle power management, and telematics to create a holistic ecosystem that enhances vehicle functionality and performance. Through Simoco's integrated solutions, vehicles can tap into the power of cellular networks for real-time communication, leverage Wi-Fi for high-speed data transfer, harness satellite technology for global coverage, utilise mobile data terminals for on-the-go connectivity, optimise power management to extend operational efficiency, and employ telematics for comprehensive data analysis. This convergence not only transforms vehicles into intelligent entities but also empowers businesses and individuals with unparalleled control and insight into their mobile assets, making the road ahead safer, more efficient, and smarter.



Declutter your vehicle Dashboard

Modern emergency service vehicles have accumulated a whole host of mobile solutions and user interface devices, including mobile data terminals (MDTs), light and siren control, camera and voice radio control systems. The VR-950 is more than just a mobile data router, it has an onboard computer that can do all the heavy lifting of data system and device control from a single box. Instead of User Interfaces, the VR-950 runs a whole range of replacement applications that can be integrated with the OEM touchscreen that can be found on the majority of new vehicles. This makes better use of the limited space available, making the installation process simpler and less costly and cuts down the number of distractions for drivers, whilst reducing the power drain on the vehicle battery.

Vehicle power management

And talking of batteries, you can have all the smart devices you like in a response vehicle but if you have no power then you are putting lives at risk. A response vehicle is a harsh environment in terms of power supply with, sometimes, heavily used batteries and multiple devices pulling power at different times. Simoco's cutting-edge technology utilising the VR-950 fixes this problem by revolutionising vehicle power management, ensuring optimal performance and reliability in diverse conditions. As well as reducing the overall power load by needing fewer devices, it uses built-in power management technology such as instant wake from sleep, and dual onboard power supplies which provides redundancy, minimising the risk of power failures, a 9–36-volt range universal input and an internal UPS. This means that, not only can it access a wide variety of power sources, but critically, that it can smooth out the changes in voltage from a vehicle battery when, for example, the engine is started. Without this feature the drop in power could effectively switch off all the devices in the vehicle, causing delays and risking lives. Through these innovations, Simoco empowers vehicles with resilient, efficient, and intelligent power management solutions, fostering greater uptime and productivity on the road.



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P25, Satellite and Two Flavours of Wi-Fi and LTE



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The Simoco mobile data solution takes account of the specific needs of vast geographic land mass and public safety communications infrastructure. Services rely heavily on P25 digital radio, which is reliable and optimised for narrowband voice. The VR-950 offers P25 and TETRA connectivity alongside the mobile data features. However, large countries with areas of land mass that have little, or no terrestrial coverage have the benefit of integrating with game changing satellite services like Starlink and OneWeb. When out of range of P25 and LTE, the device can automatically switch to a satellite network and keep the data flow intact, whether it's two-way voice over IP, video or geolocation data, there can be no out of signal areas for first responders. As part of the InStream bundle of bearers the VR-950 includes two Wi-Fi connections. This means that not only do you have an in-vehicle Wi-Fi hotspot, but you can also use Wi-Fi to connect to the enterprise network when parked back at base. This can be useful for transferring large data files like video evidence or mapping data. The VR-950 offers P25 and TETRA connectivity alongside the mobile data features. However, large countries with areas of land mass that have little, or no coverage have the benefit of integrating with game changing satellite services like Starlink and OneWeb. When out of P25/ TETRA range and LTE, the device can automatically switch to a satellite network and keep the data flow intact, whether it's two-way voice over IP, video or geolocation data, there can be no out of signal areas for first responders.

Platform for Software Applications

Connectivity is vital in public safety, but Simoco is also at the heart of innovation to drive improvements in public safety. The VR-950 is both a data router and a computer which means, unlike any other mobile router on the market, it can run a whole range of applications from a single device. In the UK Simoco has already developed a full mobilisation application for ambulances called Mobilize MDT which can run everything from booking in an ambulance crew and prioritising emergency calls to directing the vehicle to the most appropriate facility. Simoco's in house development teams can integrate existing applications or help develop entirely new bespoke applications for police, ambulance, and fire to further enhance safety and efficiency.



Committed to supporting you throughout your entire MCX journey

Mission critical is about saving lives and protecting the public so, with advances in technology, reliability is paramount. Simoco's VR-950 complies with the latest 3GPP LTE mobile standards with all its built-in provisions to prioritise public safety. Features like the InStream parallel bearers and power management to keep the lights on, mean that it delivers on that core promise of protecting lives both of emergency workers and the public. At the same time, the innovations it enables in terms of new software applications will keep police, ambulance and fire services equipped to face the challenges of the future.

Wireless solutions built to drive efficiency and help save lives



Five nines - Resilient technology with 99.999% mission critical reliability using InStream



Vehicle power management - including dual power supply, 'brown out' protection and low power consumption



Integration into applications and devices



Always on without hot swapping



Bespoke customisation and in house R&D capability



7-10 year manufacturer backed hardware and software support



Integration of P25/TETRA terminals



Safety and regulatory compliant

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