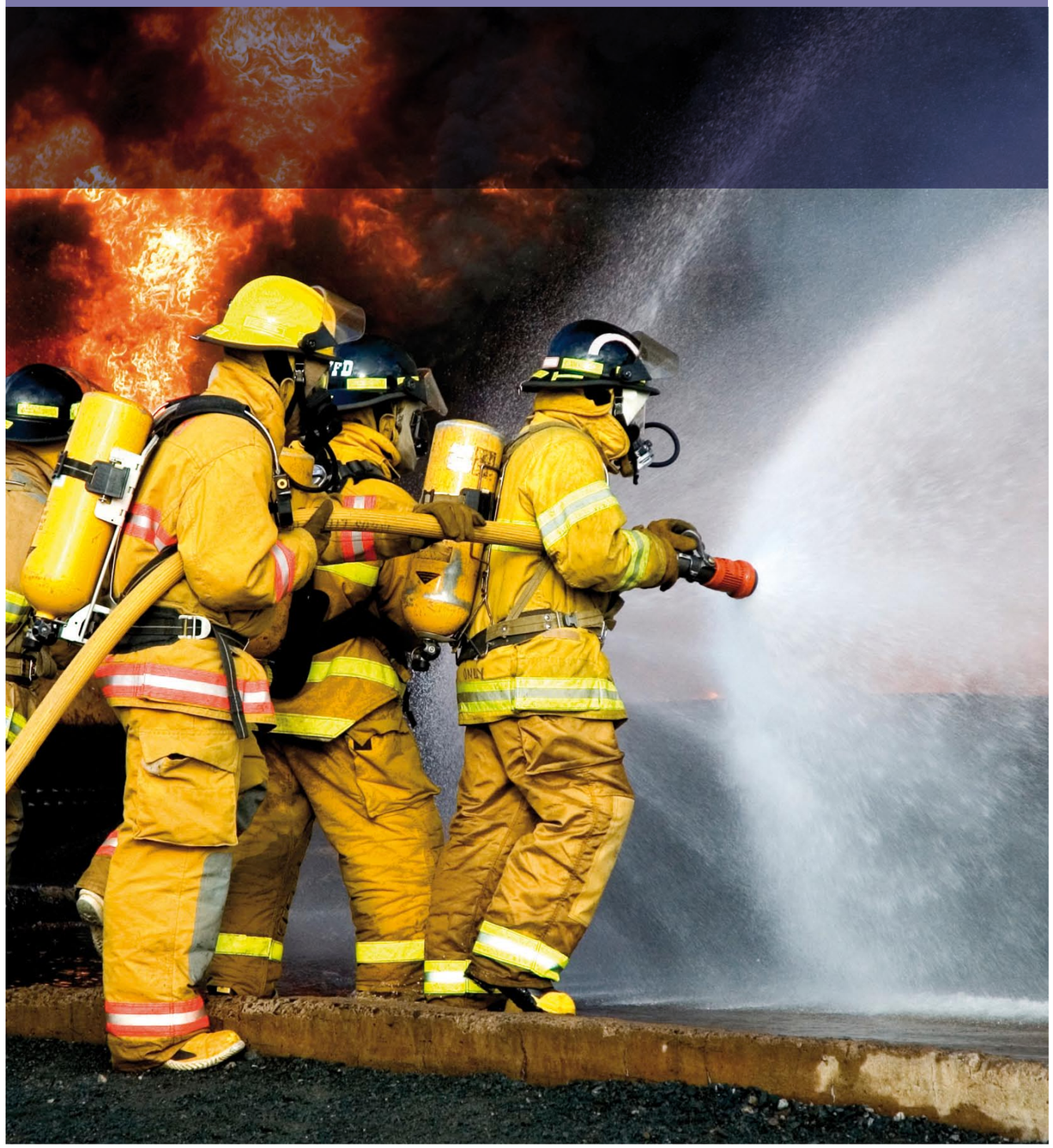
IN THE EVENT OF

A guide to Mission Critical networks for interoperable, secure, resilient, and efficient communications for public safety users

"No man, woman or child should lose his or her life because public safety officials cannot talk to one another." [1]

— THE PUBLIC SAFETY WIRELESS NETWORK PROGRAM

[1] Public Safety and Wireless Communications Interoperability: Critical Issues Facing Public Safety Communications, available at www.pswn.gov



1.0 FOREWORD

Mission Critical Communications

The term "Mission Critical Communications" defines the technologies and services applied by emergency organisations (e.g. fire, police, and paramedics) to ensure robust and secure communications.

A true lifeline

Mission Critical networks are specifically designed for the unique requirements of public safety users. The dedicated networks, separate to public systems, are about peace of mind: the assurance that, day-to-day, officers connect instantly with their colleagues across a widely available, highly secure (voice and data sessions are encrypted to protect officers' identity and operational integrity), fail-safe, and efficient infrastructure.

And if crises occur, from natural disasters to an attack on a major city, the systems provide continuous communications; communications complemented by the delivery of real-time information to officers managing incident response (such as the location of personnel) and the provision of real time intelligence through advanced applications to field officers.

Such capabilities deliver the vital intelligence and operational support to orchestrate an effective and immediate response; a critical requirement when speed of reaction protects lives – be it the lives of citizens or those protecting them.

True interoperability

In the case of some recent high-profile crisis situations in Europe, emergency response is acknowledged to have been hampered by the inability of individual services to communicate with one another. This oversight is resolved by Mission Critical networks which deliver true interoperability and dedicated capacity. So, a single critical network can accommodate all emergency services who communicate securely across their own partitioned areas of the system. And should an unexpected problem arise, these services can be connected to support instant collaboration between services locally, nationally and even internationally. Such real-time cooperation optimizes the deployment, interaction, and ongoing control of the entire range of field resources that are able to work as one; ensuring that routine or crisis situations are resolved with utmost professionalism.

Mission Critical data: enhancing operations

Mission Critical networks are increasingly being installed across the globe. The technology is evolving too to enable a more intuitive range of communication services. Furthermore, an enhanced set of progressive productivity-enhancing applications are putting more detailed up-to-the minute intelligence in the hands of officers wherever they need it. This combination of voice and information – serviced over the same terminal – arms personnel with the pre-emptive knowledge to plan their response when approaching incidents.

This paper reviews the latest developments to Mission Critical networks. Touching on international standards for the technology, it moves on to analyze in greater detail the key requirements of public safety organizations spanning systems interoperability, service availability, and the evolving range of data applications. The analysis is colored with insights into the most recent and interesting worldwide applications of the technology. The paper concludes by examining the reasons why more public safety organizations are turning to the ultimate communications system in Mission Critical networks.

"Fortunately, our country has never had a national emergency. However, our citizens expect us to have the very best response plans in place to deal with any sort of major incident, if it ever happened. The police, as well as fire and ambulance planners, have learnt from the experiences of other countries that have been less fortunate and we will be implementing a robust communication network that is designed to be shared by all emergency service networks. The community will benefit through a more efficient and faster response service and the Government will be secure in the knowledge that an effective communication system will be able to handle any eventuality."

- ASSISTANT COMMISSIONER D.G. PILLAY, SOUTH AFRICA POLICE SERVICE

Contents

2.0. MISSION CRITICAL NETWORKS: KEY DEMANDS

The pressing need to create reliable, cost-effective, secure, and efficient systems to optimize the activities of public safety organizations catalyzed moves over a decade ago to create standards for Mission Critical networks. The development of specifications has been a truly cooperative effort. It involves industry bodies, regulators, application developers, and equipment vendors. But most of all, companies such as Motorola listened intently to the expectations of end users.

Motorola's Dimetra IP TETRA solutions are the product of this dialogue and are widely acknowledged to be the solutions of choice for public safety users across the world. Examples of some of these innovative Mission Critical networks are analyzed in the sections that follow. The reference sites are used to explain how the technology addresses the core requirements of public safety users including interoperability, service availability, and data applications.

Interoperability

Interoperability is a word applied with increasing frequency within public safety circles. According to the US Public Safety Wireless Network Program[1] it allows "public safety personnel in different agencies or jurisdictions to communicate with each other on demand and in real time."

Motorola is taking this one step further. We believe true interoperability not only enables instant communications among multiple organisations and services but also offers more coordination, regardless of the network type or the individual emergency service involved. True interoperability ensures seamless access to voice and data intelligence when and where it's needed; so users can communicate as a team with the touch of a button and a coordinated response will happen in seconds, not hours, not minutes.

Pivotal to ensuring the interoperability of Mission Critical networks are common specifications; standards that cover both radio frequencies and the range of equipment applied in networks from core infrastructure to the handsets and terminals deployed in the field.

Standards deliver interoperability

At the start of the 1990s, Motorola was part of a grouping of companies that outlined the user and technical requirements for a European Mission Critical network standard. It put forward its recommendations to the European Telecommunications Standards Institute (ETSI). ETSI subsequently undertook to promote the cause of the proposed Trans-European Trunked Radio Access system among European governments. With growing interest in the technology outside the region, it was renamed TErrestrial Trunked RAdio (TETRA). And in 1995, ETSI published the first TETRA standards to meet the demanding expectations of Professional Mobile Radio (PMR) users.

[1] Public Safety and Wireless Communications Interoperability: Critical Issues Facing Public Safety Communications, available at www.pswn.gov

10 Years of Tetra

The first TETRA network was constructed by Motorola at Oslo's Gardemoen Airport in 1997. With 1,076 major TETRA installations worldwide and a million users in 88 countries (including private networks operating in separate frequencies), the technology is recognised as the primary global standard for Mission Critical communications.

Cross service and nationwide interoperability

As the standard became reality, TETRA radio frequencies were harmonized and protected for use by public safety agencies by the European Conference of Postal and Telecommunications Administrations: the association of European Union (EU) member government departments that oversees Europe's telecommunications regulation. With spectrum in place, the TETRA Association was founded in 1994. Among its duties are product testing and certification; processes that validate both the quality and interoperability of all approved TETRA equipment. Motorola plays a prominent role in specifying the compatibility tests and ensures that all of its products are validated through the Associations interoperability process (IOP).

The TETRA standard is designed to provide extensive capacity. This ensures that all public safety agencies can be accommodated on a single network. And, even if they use different TETRA radios and terminals, teams from fire, police, and ambulance authorities can communicate with one another. Furthermore, with the ability to extend coverage nationwide, TETRA ensures that services are united on a network that enables officers in one region to communicate with their colleagues based in separate jurisdictions.

These strengths were key in the decision of the UK, Netherlands and many other nations to select a TETRA network.

Airwave: supreme interoperability

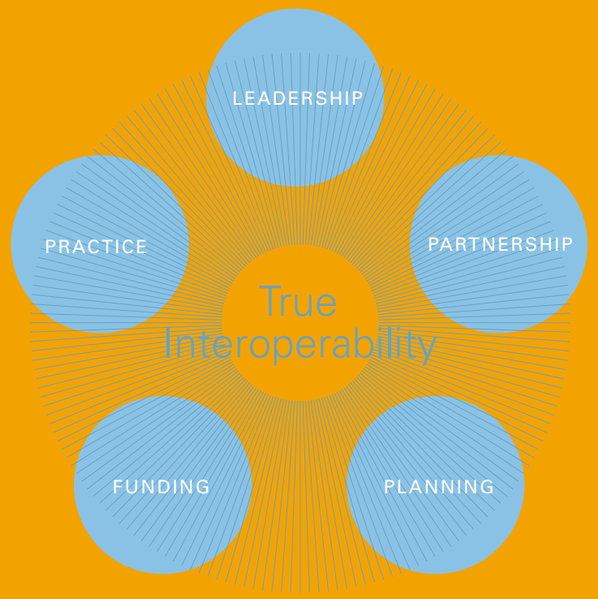
The UK's Airwave is the best known Mission Critical network in the world. It's driven by Motorola's Dimetra IP TETRA system (specified by many new nationwide installations in Europe). The infrastructure provides exceptional resilience due to its "self-healing" capabilities: Designed for military use, key components are replicated within the network to remove single points of failure to provision true Mission Critical performance.

Airwave demonstrates the interoperability, capacity and coverage strengths of TETRA. It connects all 54 police forces that previously used different radio systems. National fire and rescue and ambulance organizations are also switching to Airwave. They'll join over 200 public services agencies using the service including emergency planners, the Prison Service, the Immigration Service and CCTV teams.

From national to international

There are instances of course where it's important that public safety teams can communicate cross-border. This objective was underlined in the EU by the Schengen Agreement; this defined the need to combat drugs related crime and improve suspect pursuit across countries. And it was the catalyst for the trials of TETRA inter system connectivity that took place across Belgium, Germany, and the Netherlands[2]. Findings from the research directed the creation of specifications for an Inter Systems Interface (ISI).

The ISI is now a core component of the TETRA standard with field testing under way . It's important to recognize that the ISI provides only the specifications to deliver cross-border connections. Being interoperable is also about changing processes and culture and determining how independent organizations become interlinked – perhaps the biggest challenge. In fact, to be really effective, technical competence must be backed by strong leadership, partnership, planning, funding, and practice:



[2] Final report of the Three Country Pilot, available at www.3countrypilot.com

Leadership

Strong leadership is critical to delivering successful cross-border systems. Difficult decisions may need to be made along the way. For example, to ensure absolute optimum performance it may be necessary for one country's emergency services to enhance or replace their existing terminals. There will also need to be agreement about the primary objectives of the project; discussions that will determine the profile of the network delivered. Also, operating protocols will need to be established and enforced which are likely to differ from the procedures used by individual countries.

Partnership

Partnership is intrinsically linked to the need for strong leadership. To ensure the delivery of a successful project, it's necessary to create a close-knit team involving officials from all involved services, agree funding and business models, select the right technology solutions, and manage the cultural change required when merging working practices.

Planning

Due diligence will provide a solid foundation on which to build effective cross-border systems. During the consultation process it's important to research widely to determine best practices, engage end users to understand fully the requirements of field teams (discussions that will facilitate the adoption of standard policies and procedures), and actively prepare for migration to new technology and operations.

Funding

To gather funding support from the countries and agencies involved, detailed financial plans must be presented. These should highlight how splitting investment will ensure that stakeholders enjoy economies of scale and that ongoing overheads can be reduced by consolidating communications, planning, and operations functions.

Practice

Clichéd but true: "Practice makes perfect." And once up and running, regular drills are essential to ensure that when crisis strikes operational plans smoothly coordinate an effective response. The plans should be periodically assessed to ensure that all the stakeholders are ready to spring into action.

Although true interoperability is a key operational requirement, individual services do not have to give up autonomy when sharing a network. Critical networks can be securely partitioned to give private communications to a number of individual organisations for routine operations – each service has its own Virtual Private Network (VPN). When interoperability is required at a major incident, the network is instantly reconfigured to enable all the services to intercommunicate across a single cohesive system but without compromising their normal operating communication protocols.

"Here, in the Netherlands, we have planned for our public safety organisations to be able to talk together on a single network. For major incidents especially, this is critical. Sharing a digital network means that each emergency service will have its own virtual network so they don't need to worry about privacy. But, when they need to, more than one service can talk together to decide the best way to coordinate their response."

Rob Brons, Commander in Chief, The Hague Fire brigade, and National Commander, USAR.NL, for The Netherlands

As well as interoperability, continuous availability – the assurance that systems will work whatever the circumstances – is a base requirement for public safety organisations.

Experience breeds competence

It's of pivotal importance to select the right technology vendor to create cross-border systems. But alongside technical knowledge, it's essential to select a company or consortium with a track record in building and operating complex TETRA networks. Such experience builds competence; the awareness of problems that may arise and how these can be solved. Motorola has built or is constructing nationwide systems in the UK, Korea, Iceland, Portugal, Lithuania, Austria and other countries across the world. Motorola is also rolling out a cross-border solution for Slovenia and Albania (the former Yugoslavia) that will coordinate operations between up to 52,000 public safety users from different agencies in the countries. The knowledge derived from such systems complements the company's broad capabilities in areas such as services, handset design, and custom applications; skills which ensure that as well as delivering the network it can provide the consultancy and guidance around leadership, partnership, planning, finance, and test drills that will deliver the expected returns when introducing pan-national TETRA networks.

Olympic performance in Athens

Emergency planners recognised that public networks in Athens would be congested with call traffic during the Olympics of 2004. To ensure the safety of the event, and prepare for any possible crisis, the organising committee turned to a consortium of companies to deliver TETRA coverage. The system's based on Motorola's Dimetra IP network and serviced the communications needs of over 22,000 officers and personnel from Greek public safety organisations, including police, intelligence agencies, fire brigade, ambulance services, and the coast guard, without incident. During the event the system smoothly catered for 2.3 million group calls, 230,000 private calls and 104,000 phone calls. It's still in use today providing secure, reliable services to public safety officers in the city.

3.0 MISSION CRITICAL NETWORKS: ALWAYS AVAILABLE

Unlike commercial carrier systems, designed for the general public's use, Critical networks are created specifically for public safety situations. They're an "always available" lifeline for responders providing up-to-date information at all times.

In many crisis situations, commercial services simply do not cope; when disaster hits, the public reaches for cellular phones – resulting in the overload of networks which often fall over completely. Examples are well documented in research carried out by the independent consultancy, Mason Communications[3], of situations where commercial networks failed at times of crisis while public safety networks continued service. Public safety users simply cannot afford to be without communications, especially during a crisis.

[3] Analysis in 'The ability of Public Mobile Communications to support mission events for the Emergency Services' Mason Communications Ltd., available www.tetramou.com/catalogue

Being "always available" makes the difference in a crisis

With a Critical network, police, fire, ambulance, and other response organisations can count on calls going through. While other solutions, such as public communications networks can be used for planned events, they cannot be relied on to be effective in an emergency situation.

Mission Critical networks provide assurance that day to day, communications take place over secure, mission critical networks; systems that provide a range of operational advantages to deliver continuous service in the most critical circumstances.

Security of communications

The security of message content is of course vital: Operational activities may be severely compromised if voice or data messages can be intercepted. Unlike analog networks, scanning the transmission channels of Mission Critical networks produces no intelligible messages; thus ensuring an individual's privacy and safety.

One of the reasons that Dimetra IP is so widely deployed throughout the world is its application of "Class 3" encryption – the toughest level of defense available at the TETRA air interface. For additional peace of mind, it also has an overlay option that applies end-to-end encryption – from the terminals and handsets to base stations – through the application of advanced Air Interface Encryption techniques. These measures deliver the strongest levels of protection available – ensuring the privacy of conversations and, just as importantly, the secure transmission of sensitive data – especially important for sensitive police and security operations.

Network access

A potential security loophole in networks – devices – is also addressed. Authentication at the connection between device and network controls traffic to ensure transmissions are from approved users.

Moreover, if a terminal is misplaced or stolen on the Dimetra IP network it can be immediately disabled. Clearly, this is a central requirement for the emergency services.

Supporting major incidents

When emergency strikes, Dimetra IP can link individual emergency services on one system to respond to major incidents. As well as supplying immediate voice and data to personnel, it supports the efficient allocation of field resources by automatically tailoring talk groups to match the needs of public safety teams as they tackle different phases of the operation.

Fast call set-up

Typically, Critical networks enable voice and data calls to be set up instantly. With Dimetra IP, users have the facility to establish a voice call nationwide in less than 300 milliseconds.

Extensive voice services

As well as virtually instantaneous connections, the Dimetra IP network offers an extended range of voice capabilities. A critical feature is call quality and capability. Even at times of high call volumes, TETRA applies innovative capacity management features to support rapid call set-up – across many users and over large areas.

Call clarity is also exceptional thanks to digital technology and special coding algorithms that screen out background noise – ensuring that users can be heard, even against raucous backgrounds. In addition, group calls can be activated at the touch of a button so that commanders connect instantly with officers in the field.

Complementary to the increasing range of voice services are the growing portfolio of data applications; capabilities that are enhancing the ability of officers in the field – and those directing them – to respond to situations quickly and efficiently.

Airwave: 1.5 million calls in five days

An excellent example of the resilience of Mission Critical systems is provided by Airwave. During the July 2007 London bombings the network came into its own. At the time, the G8 Summit was taking place in Edinburgh, Scotland, and many of London's police officers were seconded to protect the event. When the incident occurred, officers in Edinburgh could immediately liaise over their TETRA radios with their colleagues in London to provide advice and agree on the personnel to be sent to the capital. A critical strength of Dimetra IP is its capability to spring immediately from managing day-to-day call volumes to handling thousands of simultaneous calls. And between 2am on July 4 and 2am on July 9, it provided instant connectivity (measured in milliseconds) for over 1.5 million person-to-person and group conversations, with users operating a variety of handsets and terminals.

4.0. MISSION CRITICAL DATA: THE POWER OF PRE-EMPTIVE INTELLIGENCE

What's Mission Critical data?

Mission Critical data is intelligence delivered over dedicated, secure, reliable, IP-based networks; the information is delivered quickly with speeds that support a rich range of applications. The intelligence can be shared by all responders who benefit from its collective value whether they're based in the control room or the field.

Recent technical breakthroughs have converged to extend the range of data services available to first-response teams. These include important enhancements to network efficiency, such as the ability to prioritise users or to dynamically allocate and share data channels, and the introduction of multi-slot packet data (increasing data capacity and throughput), greater interest in developing TETRA applications from third party developers, and the availability of new multifunction radios and terminals. Indeed, of all the improvements carried out to the TETRA standard within the last 10 years, improvements to data services are perhaps the most exciting development.

The benefits that these advances offer to public safety agencies are discussed below.

Location services

Managing resources and identifying incident locations are critical demands for response efficiency and office safety. Motorola's terminals and devices are all available with Global Positioning System (GPS) capabilities.

The essence of efficient dispatch relies on making instant decisions. And Motorola ensures that organisations have the intelligence on hand to make effective operational calls by providing the knowledge and applications to translate GPS data into meaningful operations analysis. The data provides an overview of the skills of available officers and pinpoint the location of all deployed resources so controllers can rapidly assess, task, and deploy the most appropriate personnel at any time in an incident.

GPS is playing a life-saving role too. Radios are "armed" with an emergency button so that officers – whose location is immediately apparent – can request support. This safeguard builds the confidence of field personnel who can approach situations with the peace of mind that assistance is close to hand.

Forewarned is forearmed

Dispatch teams can supply vital Mission Critical data to personnel wherever and whenever it's needed; to police officers in their vehicles, to paramedics on their way to an emergency, and to firefighters in trucks or at the scene of an incident. Armed with an understanding of the situation they're about to face, Mission Critical networks are ensuring that officers are better prepared to detect, prevent, or respond to emergencies.

"The use of mobile data has given us the opportunity to not only improve officer visibility to the public on the streets, but while they're out there they use their time more efficiently."

PHILIP CRAWLEY, MAJOR PROJECTS SUPPORT OFFICER, LANCASHIRE CONSTABULARY

Improving casualty care in Zagreb

The Emergency Medical Center Zagreb (EMCZ), Croatia, is enhancing its ability to respond to emergencies through the application of location services. Its fleet of 70 ambulances is equipped with GPS systems that enable the vehicles to be tracked and consequently more effectively deployed. On receiving a call, EMCZ's doctors determine the nature of the incident and enter their assessments into an application that's accessed by the dispatch team. Analysing this feedback and cross-referencing it with the position of paramedics, dispatchers can make informed and rapid decisions about which response unit can reach the emergency first. The system accelerates response times and ensures the efficient application of resources for an organisation that manages 150,000 emergency calls a year. The system is based on Motorola's Dimetra IP TETRA network.

Advanced field applications

The quality of intelligence and operational support available to officers is advancing in line with new and enhanced applications. Highlights include:

Biometric systems: The availability of remote biometric systems allows officers to capture the fingerprints of a suspect using TETRA devices during routine operations – such as a traffic stop – and immediately verify the person's identity against the remote database. The details are captured and checked in a matter of seconds. And with TETRA, all transactions are highly secure. The facility saves time (officers don't need to spend hours transporting a person to a police station for identity checks) and puts more information in the hands of officers.

Database interrogation: Similarly, officers can wirelessly interrogate virtually any database to request and receive information at the point of decision in the field. Highlights of the capabilities being delivered by Motorola's Dimetra IP system include: license plate checks that alert a police officer if the suspect is known to carry a gun or if the vehicle has been reported stolen; the facility for firefighters on their way to an incident to use databases to confirm if there are hazardous materials stored on a site they're approaching; and the ability for paramedics to send critical information about a casualty's vital signs to a hospital consultant or search databases to help identify an unconscious and anonymous victim of a road traffic accident.

Reporting: By applying TETRA's two-way data communication channel, officers can also manage administration remotely and immediately make vital information available to colleagues.

Specialist software applications are optimizing the presentation of information fields on user devices. These are complemented by more intuitive methods to simplify data entry including drop-down menus, writing tablets, and innovative compact keyboards. These features are designed to make it simple to manage day-to-day administration tasks and, in times of crisis, ensure that information is captured quickly and easily on the fly. Applications that run across Dimetra IP networks can be customized to a high degree to guarantee compliance with audit requirements. Moreover, thanks to the IP compatibility, it's easy to connect to field systems with other applications and corporate databases. All audit demands are automatically managed by the application and require minimal input from officers; they therefore benefit fully from the time-saving potential of field-based reporting. As a result, more time is spent on operational duties.

Media: Motorola's Dimetra IP networks provide the highest levels of support for TETRA networks; sufficient to support rich content in reports and enquiries including high resolution images. The scope of uses for visuals in public safety environments is virtually limitless. Firefighters often use the facility to request support in identifying hazardous material signs when attending industrial fires and to visually record the progress of fires or emergencies.

Police officers looking for a suspect for a street robbery are able to receive real-time pictures of the individual from security cameras and the technology can also be used to quickly disseminate images of missing persons into the field. Paramedics are also beginning to use pictures to send images of a casualty's injury to remote specialists to seek treatment advice.

The world's first TETRA PDA - a multitalented partner

Motorola recently introduced the first TETRA PDA which provides the most flexible range of connectivity available. It also furnishes access to an extensive collection of applications that can be tailored to the needs of individual companies. It was designed in association with police and other users and has been extensively trialed across the Airwave network. Here, it's proving to be a productive crime fighting aid, for example by enabling officers to remotely access criminal intelligence databases (such as the Police National Computer), issue penalty notices, and submit crime reports. Users also benefit from rapid information transfer delivered by the MTC100 TETRA PDA through the use of TETRA multi-slot packet data.

5.0 WHY MISSION CRITICAL NETWORKS?

Across the world Mission Critical networks are increasingly being installed by governments and public safety authorities. There are several reasons for this. Firstly, legislators and indeed the general public are becoming more aware of the need to build systems that in times of crisis stay live to ensure that an effective response can be mounted. Unfortunately, there are numerous incidents that prove, when the chips are down, publicly available communications networks simply cannot cope with the call volumes required[3]. Motorola's Dimetra IP TETRA networks however, supported by a full range of redundancy solutions, are able to ensure maximum possible availability. For example, with solutions like local site trunking, sites can remain operational even if the link back to the network is broken.

Then there are day-to-day operational considerations. Mission Critical networks were designed for public safety use. So, alongside reliability, they provide a range of applications that are dedicated to fighting crime and enhancing services, be it the capabilities of paramedics to treat victims or firefighters to know what they're going into. And if a major crisis strikes, the capabilities of professionals from a multitude of agencies can be brought together as one to respond to the problem.

There's also security to consider. Sure, networks like Motorola's Dimetra IP can connect officers with other higher speed systems such as wireless broadband and 4G cellular systems. These public networks can be used to provide higher-speed coverage. But in reality, most officers know that the vast majority of the voice and data traffic they generate has to be impregnable. High security is necessary to abide by data protection legislation and ensure that operations are not compromised. And, where no compromise communications are required only Mission Critical networks will do.

To these operational concerns must be added more favorable economics. Thanks to the integration of IP technology which provides lower cost systems to build and connect networks, it's becoming more cost-effective to construct and maintain coverage. For example, Motorola's Dimetra IP is highly scalable; so capacity can be added in step with demand without major re-engineering of the infrastructure. New business models are also easing cost considerations. Government agencies are increasingly moving toward an owner-operator model. In this scenario, the operator or consortia selected to manage the network finances part of its build, recouping the investment through the provision of critical communications to public safety organizations. And of course individual emergency services can share the costs of access.

The unique technical strengths of systems like Dimetra IP, coupled with more favorable business models, ensure that, for an increasing number of governments and agencies, the case for building critical communications networks has changed. It has moved from the compelling to the unequivocal.

[3] Analysis in 'The ability of Public Mobile Communications to support mission events for the Emergency Services' Mason Communications Ltd., available www.tetramou.com/catalogue

"Motorola's world-class system is a significant technology upgrade for the police; the new and proven wireless communications system brings to us the many advantages of the latest in digital technology. Not only will it increase the police communications and dispatching capacity, it will also help the police to operate more efficiently and caters to our future needs."

GU YONGHE, DEPUTY CHIEF, SHANGHAI POLICE, CHINA

6.0 WHY MOTOROLA ?

Motorola's Dimetra IP network is recognised as the system of choice for public safety Mission Critical communications.

The company has installed over 300 TETRA networks worldwide and is responsible for well over a quarter of the world's TETRA systems. On the emergency frontline through to day-to-day operations, Motorola is one of the most trusted brands in the provision of Mission Critical networks. A significant factor in the high level of confidence placed in Motorola stems from the company's customised process for testing and fully optimising networks before they are installed. Its integration center in Berlin, Germany, enables engineers to thoroughly test and demonstrate the equipment to the customer before it is shipped to the field and installed. This compresses the installation cycle while the customer has the benefit of knowing that their network has been tested as an integrated solution and not as separate modules.

Alongside experience, Motorola has the financial capability to advise on financial planning and investment possibilities, systems integration, and the choice of partners to produce specialist dedicated software and hardware tailored to the exact needs of each network. Moreover, the company commits to working with its customers post-installation to regularly evaluate reliability, redundancy, security, and network management to ensure optimal performance.

With a Motorola Mission Critical Solution, public safety organisations can do what they do best: serve and protect the public.

For more information please contact your local Motorola Authorised Dealer or Distributor

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