MOTOROLA SOLUTIONS APPROACH TO UNIFYING TETRA AND LTE FOR PUBLIC SAFETY COMMUNICATIONS

Public safety agencies are increasingly reliant on data applications that use text, image and video to improve safety, efficiency and effectiveness in the field. To assure mission-critical operations, both data and voice communications must be supported by a reliable, secure communications infrastructure.

In light of increased broadband data need and economic pressures, public safety network operators must be able to build on their existing technology investments as they introduce higher speed network technologies. Public safety operators also need assurances that newly integrated communication systems are cost-effective and able to keep pace with changes in technology standards.

Our next generation mission-critical communications platform unifies TETRA/TEDS and LTE technologies, enabling public safety operators to augment existing mission critical voice and data services with cutting edge technologies and applications that can transform the way agencies respond to incidents, improve their efficiency and enhance the safety of frontline personnel.

WHY TETRA PRIVATE MOBILE RADIO?
TETRA is unsurpassed in its support for mission critical voice services demanded by the public safety community. Even with the emergence of new broadband technologies, it will take sometime before the necessary mission critical voice services are standardized and become widely adopted.

WHY LTE PUBLIC SAFETY BROADBAND?
Broadband networks will provide public safety agencies with access to advanced, cutting edge technologies and applications to improve their efficiency and emergency response capabilities. LTE is the world's most advanced wireless broadband technology and is standardized through the 3rd Generation Partnership Project (3GPP). LTE benefits from a rich ecosystem of technology suppliers and the promise of scale economies. As a result of these benefits, LTE has been selected for the future of public safety broadband.

WHY PRIVATE NETWORKS?
A tenet of public safety communications is guaranteed network access for critical users. This means public safety networks must provide extensive geographical coverage, guarantee access even under heavy traffic loading conditions and eliminate single points of failure. These operational requirements run counter to the profit-making objectives of commercial networks, and as a result public safety communications depend on private, dedicated networks.

WHY UNIFY TETRA AND LTE?
By unifying TETRA and LTE technologies, public safety operators can combine mission-critical voice features with multimedia services, to enable unprecedented use cases such as multimedia talk groups and collaboration tools as well as unified operations and management. These new capabilities will in turn transform the way agencies respond to incidents, improve their efficiency through streamlined workflows, and enhance the safety of frontline personnel as a result of better situational awareness.

HOW DO WE GET THERE?
Our voice of the customer research has highlighted that public safety operators need a broadband evolution solution that builds upon their existing TETRA investments. We have aligned our development accordingly and enabled a 2-step migration process to a unified TETRA/TEDS and private LTE network.

The migration process addresses 4 key areas: applications, core network, base station network and end user devices. The starting point for the migration is Dimetra System Release 8 core network, which provides an LTE-ready platform to allow a simple upgrade for broadband functionality when the time is right.

KEY FACTS

LAY THE FOUNDATION WITH DIMETRA SYSTEM RELEASE 8
The unified solution builds on the Dimetra System Release 8 TEDS-enabled platform, through which operators can deploy an all-IP, 3GPP standards-based LTE-ready network to optimize future CAPEX investments in LTE technology, even as the standard evolves.

DELIVER UNIFIED NETWORK MANAGEMENT
The solution allows unified network management to simplify operations – this is supported through a single portal that provides an integrated view into the performance of the TETRA/TEDS and LTE communication systems.

HARNESS OPEN STANDARDS AND OPEN-MARKET INNOVATIONS
The solution is standards-based to harness open-market innovation and ensure efficient evolution. It will enable economies of scale and support future evolutions of the 3GPP LTE standard – the de facto standard for wireless broadband.

ENSURE UNIFIED NETWORK SECURITY
The use of a common end-to-end encryption using the Motorola CryptR and the Key Management Facility, both for TETRA and LTE devices, directly addresses the confidentiality and integrity risks that these networks face. It allows a centralized and shared security management system.

ENABLE UNPRECEDENTED USE CASES THROUGH UNIFIED APPLICATION SERVICES
Through a common services framework, the solution will support advanced applications such as real time information sharing and multimedia command and control. This means that dispatchers can proactively target crime hotspots by sharing annotated maps in real-time to guide police officers towards new patrol areas. Or, that dispatchers can additionally push video clips or images of suspects to TETRA talkgroup participants or individual police officers through the multimedia group feature.

BENEFIT FROM A COMPREHENSIVE DEVICE PORTFOLIO
A wide range of specialized, standards-based end user devices will be available, including LTE devices that support a myriad of use cases. These include LTE USB and rugged vehicle data modems; rugged LTE smartphones; and a comprehensive range of TETRA portable and mobile radios.

INTEROPERATE WITH PUBLIC CARRIERS TO SUPPLEMENT BROADBAND COVERAGE
Thanks to its standards-based interfaces, our unified system can interoperate with public carrier networks. This gives public safety operators greater flexibility to rapidly expand broadband coverage and supplement capacity for data applications that are not mission-critical.

MOTOROLA SOLUTIONS PUBLIC SAFETY LEADERSHIP

80 YEARS PROUDLY SERVING PUBLIC SAFETY

$1 BILLION R&D FOCUSED ON GOVERNMENT, PUBLIC SAFETY AND ENTERPRISE OPERATIONS

25,000 PUBLIC SAFETY NETWORKS DEPLOYED AND INTEGRATED

21 COUNTRY-WIDE SYSTEMS IN EUROPE, LATIN AMERICA, THE CARIBBEAN, AND ASIA PACIFIC

200 GOVERNMENT AND ENTERPRISE NETWORKS MANAGED AROUND THE WORLD

MOTOROLA PUBLIC SAFETY LTE MILESTONES

JULY 2012	**FIRST** PTCRB approval achieved for the VML700 LTE Vehicle Modem and the UM1000 LTE USB Modem.
MAY 2012	**FIRST** use of a Public Safety LTE network at the 2012 NATO Summit in Chicago.
FEBRUARY 2012	**FIRST** LTE broadband handheld for Public Safety, the LEX 700.
NOVEMBER 2011	**FIRST** commercially available, ship-ready Public Safety LTE solution.
NOVEMBER 2010	**FIRST** Public Safety LTE device receiving live broadband video.
AUGUST 2010	**FIRST** demonstration of Public Safety LTE prioritization and control.

MOTOROLA PUBLIC SAFETY LTE TRANSFORMING PUBLIC SAFETY WITH BROADBAND INNOVATIONS

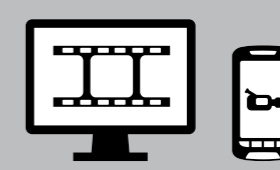|			
	UNIFIED PUBLIC SAFETY ARCHITECTURE		PUBLIC SAFETY GRADE DEVICES
	SECURE MOBILE ENVIRONMENT		PRIVATE AND PUBLIC INTEROPERABILITY
	MULTIMEDIA GROUP COMMUNICATION		PUBLIC SAFETY OPTIMIZED VIDEO
	DYNAMIC PRIORITIZATION AND CONTROL		UNIFIED OPERATIONS AND MANAGEMENT

WORLD'S LARGEST TETRA SUPPLIER

SINCE 2000…

WE'VE SUPPLIED TETRA SYSTEMS TO OVER 110 COUNTRIES

OVER 640 TETRA SYSTEMS SHIPPED WORLDWIDE

250 TETRA SYSTEMS FOR GOVERNMENTS, PUBLIC SAFETY, PUBLIC SERVICES AND MILITARY

25 NATIONWIDE SYSTEMS

OVER 2 MILLION RADIOS

A CLEAR PATH FORWARD

ENGINEERED GROUND-UP TO DRIVE DOWN OWNERSHIP COSTS

FUTURE-PROOF TETRA ARCHITECTURE

MOST COMPREHENSIVE NEXT GEN PUBLIC SAFETY PLAN

MTS4L TETRA/LTE CABINET

This dual technology cabinet combines TETRA/TEDS and LTE technologies into a single cabinet. Flexible deployment options allow an operator to deploy a TETRA/TEDS network which is ready for the addition of an LTE eNode B with the minimum of disruption to TETRA service. This allows the operator to time and scale the overlay of LTE service to meet their unique operational needs. The cabinet is also available in an Earthquake Region 4 version.

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