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Contribution to 3GPP SA#65 Edinburgh 15th September 2014

From – TETRA and Critical Communications Association (TCCA)

Status – Market Representation Partner

Subject – Critical Communications Priorities

Agenda Item – 5

Background

This document provides an input from the TCCA to the SA#65 plenary meeting to be held in Edinburgh 15-17 September 2014. It takes account of the discussion and conclusions reached during the joint workshop (3GPP/OMA/ETSI) held in Montreal 26-27 August.

TCCA wishes to remind participants in SA#65 of the original user requirements for Critical Communications broadband services. These were to utilise LTE primarily to carry high speed data as an enhancement to the existing voice networks currently enjoyed by many organisations throughout the world; whether these are based on TETRA, Tetrapol or P25 technologies.
The initiatives for Mission Critical Mobile Broadband (MC BB) were based on the operational requirements for mission critical mobile data services: the LEWP-RCEG[1] Matrix details a wide variety of data applications, which is further described in the ETSI URS "ETSI TR 102 021-1". The TCCA Critical Communications Broadband Group (CCBG) was set up for Mission Critical data over a MC BB network, CEPT-FM-PT49 was specifically setup for PPDR Broadband frequencies based on the need for MC data applications etc.

Please refer to the Annex for a more detailed explanation.

Mission Critical services standardisation

TCCA recognises that there are some user organisations that have a more urgent need for voice services to be carried over LTE networks and we have fully supported the recent addition of the MCPTT Work Item. The three SDOs of 3GPP, ETSI-TCCE and OMA held a workshop in Montreal to consider the most appropriate process for developing the necessary standards to describe MCPTT.

The recommendation of that workshop was that a dedicated specialized group be created to undertake the MCPTT and some other items. TCCA strongly supports that recommendation – actually we consider it a necessity.

[1] LEWP/RCEG European Law Enforcement Working Party / Radio Communications Expert Group

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We believe that the PPDR and other Critical Communications user requirements are quite different from those of the consumer market, particularly with respect to group based communications. We are convinced therefore that:

- a specialised dedicated group with expertise in these requirements would be more efficient at completing the standardisation work.
- sharing real time data within groups will improve operational efficiency for Critical Communications users and we anticipate an increasing demand as users experience the benefits of broadband data
- defining such new requirements will need participation from the PPDR user community who may not easily fit into the wider 3GPP structure
- the expertise of OMA and ETSI-TCCE will be more productive in a dedicated group than spread around the existing working group structure
- that embedding this group in the 3GPP structure will ensure a close linkage with other 3GPP working groups and ensures that Mission Critical functionality becomes embedded in the core LTE standard. This is considered vital by the Critical Communications community to ensure that their needs remain part of the overall LTE ecosystem.

Conclusion

LTE based communications are considered a vital platform for future Critical Communications solutions and TCCA is pleased to have the opportunity of providing input to the 3GPP process. TCCA asks 3GPP SA to take account of the following key points:

1. TCCA recognises the desire of some user organisations to utilise LTE infrastructure to carry Mission Critical voice and we fully support the MCPTT Work Item.
2. TCCA fully supports the recommendation of the Montreal workshop to establish a dedicated specialized group to concentrate on the development of the MCPTT standard. The work of this group should include an agreed set of Mission Critical data services, including video, as stated in the output slides from the Montreal workshop.
3. The initial driver for the Critical Communications standards work for LTE is based on the expressed user requirement for Broadband data and we urge 3GPP management not to lose sight of this fundamental requirement. We therefore ask 3GPP-SA and its working groups to find a way to undertake the standardisation necessary for data applications as urgently as possible.

TCCA and the Critical Communications user community will be represented at meeting #65 and look forward to expanding on the above points as necessary.

Phil Godfrey
Chairman - TCCA

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Appendix A

Critical Communications users throughout the world use PMR/LMR networks to provide voice services for a variety of user applications. Originally based on analogue radio, many networks have now been upgraded to use digital technologies such as TETRA, Tetrapol and P25 to carry voice services but with significantly increased functionality. This increased functionality has enabled users to significantly improved the efficiency and effectiveness of staff when dealing with minor and major incidents as well as every day communications. These modern digital narrowband technologies now offer some data capabilities that have enabled users to adopt applications that increase the efficiency and safety of mobile staff still further. A wide variety of such applications are now in use.

These new capabilities, currently based on relatively low data rates, have stimulated the demand for extending the use of data to enable services such as video transmission, intranet and internet access, file transfers and messaging services to further enhance the efficiency and safety of personnel in the field. Existing technologies such as TETRA, Tetrapol and P25 are unable to provide the data rates that are required to facilitate these services. As a result, Critical Communications users are looking to more modern technologies to provide the requisite bearers so that high bandwidth services can be made available.

TCCA created the Broadband Group (CCBG), and ESTI TC-TCCE (formerly TC-TETRA) took on the task of enhancing TETRA services that could make use of Broadband data rates. This resulted in proposals to 3GPP to add additional capability to LTE (GCSE, ProSE etc.) to make broadband applications a reality.

TCCA, in cooperation with the Law Enforcement Working Party of the European Union, undertook a detailed requirements capture exercise to establish the real needs of PPDR users and the priorities of the different applications. The output of this exercise was passed to ETSI-TCCE who further developed the requirements as part of a new Broadband project (published as ETSI TR 102 021-1). A comprehensive table of requirements was included which detailed the applications that users have elaborated. This table also includes an analysis of priorities which showed that video services are the most important and urgent requirements.

Some of these video services are based on a fundamental requirement to pass video clips to multiple UEs simultaneously. This resulted in the need for Group Services to be included in LTE. This requirement was further tested when a joint CCBG /LEWP survey across European Public Safety organisations found that Situational Awareness and Video were key drivers in the move to Critical Broadband.

It is the clearly stated need for broadband data services that have stimulated the request to 3GPP more than two years ago to undertake the necessary work to add group based functionality (GCSE) and device to device capability (ProSe) into the core standard. It was the expectation that these enablers would facilitate the development of applications that would provide the end user with the PMR/LMR style functionality that they demand.

Since that time, some user organisations have subsequently concluded that, if a critical communications broadband network was in place, they might use this network to carry Mission Critical voice services; thus avoiding the need for duplicate networks to carry voice and data. As a result of this, a new work item in 3GPP was created to add MCPTT. Whilst TCCA fully supports this long term vision it should be remembered that the vast majority of users can continue to use the

existing voice networks until critical broadband networks can be demonstrated to have the coverage, capacity and reliability necessary to carry Mission Critical voice services.

Within Europe, many Public Safety organisations have TETRA networks that are quite new. Two users, Netherlands and Belgium, have declared that they will replace their first generation TETRA networks with new networks, also based on TETRA, whilst using commercial LTE to provide data services. Germany and Norway are in the process of finalising their TETRA networks, which means they will be operational for 15-20 years. Indeed Belgium has already developed a MVNO arrangement to provide non-mission critical data services to its users. Similarly, in the USA many Project 25 based networks have only recently been deployed and many are in the pipeline.