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TECHNICAL REPORT

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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00   Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

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Contents

Foreword

This Technical Report has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document provides a summary of the Release 14 Features and other significant Work Items for which a summary has been agreed to be provided.

There is one clause per Feature. Each clauses begins with a table providing references that can be used to get further information, as described in clause 4. This table is then followed by a summary of what the feature does and how it does it.

The summaries are based inputs from the Rapporteur, provided as tdoc number to the plenary. The tdoc number where the original version of the summary can be found is provided in the first sentence of each clause.

1 Scope

The present document provides a summary of each Feature or, whenever needed, of each significant Work Item, introduced in Release 14.

The information provided in the present document is limited to an overview of each feature, explaining, in about a page, its purpose and the main lines of its behaviour.

The next step to retrieve more information on a given feature is to consult the 3GPP Ultimate web site, as explained in Clause 4.

This document presents the "initial state" of the Features introduced in Release 14, i.e. as they are by the time of publication of this document. It is however important to note that each Feature is subject to be later modified or enhanced, over several years, by the means of Change Requests (CRs) associated to the Feature or to "TEI" (Technical Enhancements and Improvements). It is therefore recommended to retrieve all the CRs which relate to the given Feature, as explained in Clause 4, to further outline a feature at a given time.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

Note: Due to the specificity of the present document, consisting in a collection of independent summaries, the references are given at the end of each clause rather than in this clause.

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1]. Abbreviations specific to a given clause are provided in the clause they appear.

Rel 3GPP Release

4 Process to get further information

4.1 Introduction

Since the present document is limited to provide an overview of each Feature, this chapter explains how to get additional information, in particular how to retrieve all the Specifications (TSs) and Reports (TRs) as well as all the CRs which relate to a given Work Item.

The Unique Identifier (UID) is the key to get additional information on a given Work Item. It can be found in the table located just below the clause's header. The table has the following format:

Table 4.1-1: table format

Unique Identifier (UID)	Name	Acronym	Outline Level (1=Feature, 2=Building Block, 3=Work Task)	Responsible Working Group	Work Item Description

For readability reasons, the table headers are omitted in the continuation of the present document.

For instance, for the "Mission Critical Push to Talk over LTE Realignment", the table has to be understood as:

Table 4.1-2: Example of table at the introduction of each Feature

Unique Identifier (UID)	Name	Acronym	Outline Level	Responsible Working Group	Work Item Description
700029	**Mission Critical Push to Talk over LTE Realignment**	MCImp-MCPTTR	2	S1	SP-150821

Thus, the UID for this Work Item is 700029.

Two methods are now possible to retrieve more information on a given feature: the "Step by step method" and the "Direct method". The "direct method" is faster but implies to know the hierarchical structure of the Work Items. The "step by step method" is slower but is easier to use, in particular when the hierarchical structure is unknown.

For instance, for retrieving all the CRs that relate to "Enhancements for Mission Critical Push To Talk", the search has to be done on UID 740022 but also potentially on its children Work Items (UID 720056, 740023 and 740024).

Table 4.1-3: Example of a hierarchical structure and its consequences on the search procedure

740022	Enhancements for Mission Critical Push To Talk	MCImp-eMCPTT		SP-160490
720056	Stage 2 of Enhancements for Mission Critical Push To Talk	MCImp-eMCPTT	S6	SP-160490
740023	Stage 3 of Enhancements for Mission Critical Push To Talk	MCImp-eMCPTT-CT	CT	CP-160824
740024	CT1 aspects of Enhancements for Mission Critical Push To Talk	MCImp-eMCPTT-CT	C1	CP-160824

These two methods are described in the following clauses.

4.2 Direct method

The links below lead to the pages containing respectively all the Specifications and all the Change Requests (CRs) linked to a given Feature:

https://portal.3gpp.org/Specifications.aspx?q=1&WiUid=[UID]

https://portal.3gpp.org/ChangeRequests.aspx?q=1&workitem=[UID]

where "[UID]" has to be preplaced by the UID value.

Using the example provided in the table 4.1-3, the specification linked to "Stage 2 of Enhancements for Mission Critical Push To Talk" can be found in:

https://portal.3gpp.org/Specifications.aspx?q=1&WiUid=720056

And all the related Change Requests are listed in:

https://portal.3gpp.org/ChangeRequests.aspx?q=1&workitem=720056

4.3 Step by step method

This method is to be used when the hierarchical structure is not known or when the "direct method" above does not show the expected results.

In this case, the 3GPP Ultimate web site has to be used:

https://portal.3gpp.org

As a preliminary step, it is essential that the "Customized Selection" is set to "All TSGs" (otherwise, a filter would be applied).

Figure 4.3-1: Selecting "All TSGs" in "Customized Selection" as to remove any potential filter on the Search

Then select the "Work Plan" tab (upper red arrow in the figure below).

Figure 4.3-2: Using the 3GU Portal to retrieve more information on a given Feature

Then the search might be performed by either typing the Acronym (as shown by the left red arrow on the figure above, using the example "MCPTT"), or by the name or UID (right box) then by clicking on the "Search" button. Watch the "Granularity (Level)" field, which is a filter to return only the Items which level is specified here.

In the results, the icon depicting some binoculars has to be hit (lower right red arrow on the figure above).

This will lead to the page shown in the figure below:

Figure 4.3-3: Window resulting from a "Search"

On this window, the "Related" tab has to be clicked, as pointed by the red arrow in the figure above. This will lead to the window depicted in the figure below.

Figure 4.3-4: "Related" tab in a Work Item search, with links to all related Specifications and Change Requests

The two links pointed by the red arrows in the figure above lead to the pages containing respectively all the Specifications and all the Change Requests (CRs) linked to this Feature.

5 Rel-14 Executive Summary

Release 14 focuses on the following Features:

-   Improvements of the Mission Critical (MC) aspects, in particular by introducing Video and Data MC services.

-   Introducing Vehicle-to-Everything (V2X) communications, in particular Vehicle-to-Vehicle (V2V).

-   Improvements of the Cellular Internet of Things (CIoT) aspects, with 2G, 3G and 4G support of Machine-Type of Communications (MTC).

-   Improvements of the radio interface, in particular by enhancing the aspects related to coordination with WLAN and unlicensed spectrum.

-   A set of uncorrelated improvements, e.g. on Voice over LTE (VoLTE), IMS, Location reporting.

The continuation of the present document provides an exhaustive view of all the items specified in Release 14 by 3GPP.

6 Mission Critical related items

6.1 Mission Critical Improvements general aspects

700027	Mission Critical Improvements	MCImp

This is an "umbrella" Feature, which is a mere grouping of all its constituent Building Blocks, described in the following clauses.

For readability purposes, the two following clauses on Re-organizing the MCPTT Stage 1 and Stage 2 documents are presented here although they were actually developed under the respective Work Items "Mission Critical Push to Talk over LTE Realignment" (described in 6.2) and Common functional architecture to support mission critical services (described in 6.6).

6.1.1 Re-organizing the MCPTT Stage 1 documents

In Release 13, there was a single Stage 1 Technical Specification related to MCPTT, i.e. TS 22.179 ("Mission Critical Push to Talk (MCPTT) over LTE; Stage 1").

In Release 14, three new TSs were introduced to cover dedicated MCPTT topics: TS 22.281 for MCPTT Video (MCVideo); TS 22.282 for MCPTT Data (MCData), and TS 22.280 ("Mission Critical Services Common Requirements").

The text in TS 22.179 Rel-13 was "redistributed", and some new text was added, to 22.179 Rel-14 and to the newly created 22.280, 22.281 and 22.282 as follows:

- requirements specific to MCPTT Video were moved to TS 22.281.

- requirements specific to MCPTT Data were moved to TS 22.282.

- requirements specific to MCPTT "basic service" (i.e. Voice) remained to the Rel-14 version of TS 22.179.

- requirements common to different mission critical services were moved to TS 22.280.

Each requirement that was moved out of 22.179 Rel-13 was voided in the Rel-14 version of TS 22.179 (also known as "the realignment version"), with an informative annex created at the end TS 22.179 Rel-14 documenting the location of the originating TS 22.179 requirement in the other TSs.

6.1.2 Re-organizing the MCPTT Stage 2 documents

As seen in clause above, in Release 14, the stage 1 MCPTT documentation is arranged to be: stage 1 requirements are specified for MCVideo in TS 22.281, for MCData in TS 22.282, for MC common requirements in TS 22.280 and for some enhancements to MCPTT in TS 22.179.

Similarly, for Stage 2, and as part of the work for the MCImp-MC_ARCH work item, the following structure of Stage 2 documentation was adopted:

1) The common functional architecture to support mission critical services including the common services for identity management, configuration management, key management and group management are specified in TS 23.280;

2) The MCPTT service architecture is based on the common functional architecture and is specified in TS 23.379;

3) The MCVideo service architecture is based on the common functional architecture and is specified in TS 23.281; and

4) The MCData service architecture is based on the common functional architecture and is specified in TS 23.282.

It can be noted that, contrarily to Stage 1, where a same TS number (i.e. TS 22.179) was reused between Rel-13 and Rel-14 to handle the basic -voice only- MCPTT service, the Stage 2 documentation took a different approach: the MCPTT functional architecture and information flows are covered in TS 23.179 for Rel-13 and, from Release 14 onwards, a new Specification was created, namely TS 23.379.