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TECHNICAL SPECIFICATION

LTE;
Mission Critical (MC) services over LTE;
Part 4: Test Applicability and Implementation
Conformance Statement (ICS) proforma specification
(3GPP TS 36.579-4 version 14.2.0 Release 14)

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Contents

Foreword

This Technical Specification 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.

The present document is part 1 of a multi-part deliverable covering conformance test specification for Mission Critical Services over LTE consisting of:

3GPP TS 36.579-1 [2]: "Mission Critical (MC) services over LTE protocol conformance testing; Part 1: Common test environment"

3GPP TS 36.579-2 [3]: "Mission Critical (MC) services over LTE conformance testing; Part 2: Mission Critical Push To Talk (MCPTT) User Equipment (UE) Protocol conformance specification"

3GPP TS 36.579-3 [4]: "Mission Critical (MC) services over LTE conformance testing; Part 3: Mission Critical Push To Talk (MCPTT) Server Application test specification"

3GPP TS 36.579-4: "Mission Critical (MC) services over LTE conformance testing; Part 4: Test Applicability and Implementation Conformance Statement (ICS) proforma specification" (the present document)

3GPP TS 36.579-5 [5]: "Mission Critical (MC) services over LTE conformance testing; Part 5: Abstract test suite (ATS)"

3GPP TS 36.579-6 [11]: "Mission Critical (MC) services over LTE; Part 6: Mission Critical Video (MCVideo) User Equipment (UE) Protocol conformance specification".

3GPP TS 36.579-7 [12]: "Mission Critical (MC) services over LTE; Part 7: Mission Critical Data (MCData) User Equipment (UE) Protocol conformance specification".

1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for testing Client or Server implementations for compliance to the Mission Critical Services over LTE protocol requirements defined by 3GPP, and in accordance with the relevant guidance given in ISO/IEC 9646-1 [7] and ISO/IEC 9646-7 [8].

The present document specifies the recommended applicability statement for the test cases included in 3GPP TS 36.579-2 [3] and 3GPP TS 36.579-3 [4], as well as, TS 36.579-6 [3] and 3GPP TS 36.579-7 [4]. These applicability statements are based on the features implemented in the Client or the Server respectively.

The present document is valid for Mission Critical Services Servers and Clients implemented according to 3GPP releases starting from Release 13 up to the Release indicated on the cover page of the present document.

The present document is valid for Mission Critical Video (MCVideo) and Mission Critical Data (MCData) Clients implemented according to 3GPP releases starting from Release 14 up to the Release indicated on the cover page of the present document.

The present document does not specify applicability or ICS for protocol conformance testing for the EPS (LTE) bearers which carry the Mission Critical Services data sent or received by the Client and/or the Server. These are defined in TS 36.523-2 [6].

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".

[2]   3GPP TS 36.579-1: "Mission Critical (MC) services over LTE; Part 1: Common test environment".

[3]   3GPP TS 36.579-2: "Mission Critical (MC) services over LTE; Part 2: Mission Critical Push To Talk (MCPTT) User Equipment (UE) Protocol conformance specification".

[4]   3GPP TS 36.579-3: "Mission Critical (MC) services over LTE; Part 3: Mission Critical Push To Talk (MCPTT) Server Application test specification".

[5]   3GPP TS 36.579-5: "Mission Critical (MC) services over LTE; Part 5: Abstract test suite (ATS)".

[6]   3GPP TS 36.523-2: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[7]   ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[8]   ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[9]   3GPP TS 23.179: "Functional architecture and information flows to support mission critical communication services; Stage 2".

[10]   3GPP TS 23.401: "3GPP System Architecture Evolution; GPRS enhancements for E-UTRAN access".

[11] 3GPP TS 36.579-6: "Mission Critical (MC) services over LTE; Part 6: Mission Critical Video (MCVideo) User Equipment (UE) Protocol conformance specification".

[12] 3GPP TS 36.579-7: "Mission Critical (MC) services over LTE; Part 7: Mission Critical Data (MCData) User Equipment (UE) Protocol conformance specification".

[13] 3GPP TS 23.379: "Functional architecture and information flows to support Mission Critical Push To Talk (MCPTT); Stage 2".

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].

In addition for the purposes of the present document, the following terms, definitions, symbols and abbreviations apply:

- such given in ISO/IEC 9646-1 [7] and ISO/IEC 9646-7 [8].

NOTE: Some terms and abbreviations defined in [7] and [8] are explicitly included below with small modification to reflect the terminology used in 3GPP.

Implementation Conformance Statement (ICS): A statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented.

ICS proforma: A document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS.

Implementation eXtra Information for Testing (IXIT): A statement made by a supplier or implementer of an UEUT which contains or references all of the information (in addition to that given in the ICS) related to the UEUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the UEUT.

IXIT proforma: A document, in the form of a questionnaire, which when completed for an UEUT becomes an IXIT.

Protocol Implementation Conformance Statement (PICS): An ICS for an implementation or system claimed to conform to a given protocol specification.

Protocol Implementation eXtra Information for Testing (PIXIT): An IXIT related to testing for conformance to a given protocol specification.

static conformance review: A review of the extent to which the static conformance requirements are claimed to be supported by the UEUT, by comparing the answers in the ICS(s) with the static conformance requirements expressed in the relevant specification(s).

3.2 Symbols

Void

3.3 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].

CUT	Client Under Test
FFS	For Further Study
ICS	Implementation Conformance Statement
IUT	Implementation Under Test

IXIT	Implementation eXtra Information for Testing
MC	Mission Critical
MCData	Mission Critical Data
MCPTT	Mission Critical Push To Talk
MCVideo	Mission Critical Video
SCS	System Conformance Statement
SS	System Simulator
SUT	Server Under Test
TC	Test Case

4 Recommended Test Case Applicability

The applicability of each individual test is identified in Table 4-1 (MCPTT Client), Table 4-2 (MCPTT Server), Table 4-3 (MCVideo Client), Table 4-4 (MCData Client). This is just a recommendation based on the purpose for which the test case was written.

The applicability of every test is formally expressed by the use of Boolean expression that are based on parameters (ICS) included in annex A of the present document.

Additional information related to the Test Case (TC), e.g. affecting its dynamic behaviour or its execution may be provided as well

The columns in Table 4-1, Table 4-2, Table 4-3, Table 4-4 have the following meaning:

Clause

The clause column indicates the clause number in TS 36.579-2 [3] or TS 36.579-3 [4] or TS 36.579-6 [11] or TS 36.579-7 [12] respectively which contains the test body.

Title

The title column describes the name of the test and contains the clause title of the clause in TS 36.579-2 [3] or TS 36.579-3 [4] or TS 36.579-6 [11] or TS 36.579-7 [12] respectively which contains the test body.

Release

The release column indicates the earliest release from which the test case is applicable. In some specific cases it may indicate the release(s) for which the TC is **only** applicable.

Note: Some exceptions to this interpretation may be indicated in Notes in column 'Number of TC Executions'.

Applicability - Condition

The following notations are used for the applicability column:

R   recommended - the test case is recommended

O   optional – the test case is optional

N/A   not applicable - in the given context, the test case is not recommended.

Ci   conditional - the test is recommended ("R") or not ("N/A") depending on the support of other items. "i" is an integer identifying a unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." is used to avoid ambiguities.

NOTE: The conditions are defined in Table 4-1a (MCPTT Client), Table 4-2a (MCPTT Server), Table 4-3a (MCVideo Client), Table 4-4a (MCData Client) respectively. To avoid ambiguity for the MCPTT Server testing conditions the notation of CCi is used.

Applicability - Comments

This column contains a verbal description of the condition.

Additional Information - Specific ICS

This column contains the mnemonics of ICS(s) affecting the dynamic behaviour of the TC.

NOTE: ICS items specified in other test specifications can be referred, to avoid redundant definitions.

Additional Information - Specific IXIT

This column contains the mnemonics of IXIT(s) affecting the dynamic behaviour of the TC. IXITs are defined in TS 36.579-5 [6]

Additional Information - Number of TC Executions

This column contains, wherever applicable, the recommended for certification purposes number of TC executions. It may contain also other information e.g. exceptions to the release applicable to the test. Clarifying notes when available are listed in dedicated tables with table numbers having the suffics "b" e.g. Table 4-1b (MCPTT Client).

Table 4-1: Applicability of MCPTT Client tests and additional information for testing

Clause	TC Title	Release	Applicability		Additional Information		
			Condition	Comment	Specific ICS	Specific IXIT	Number of TC Executions
5	**MCPTT Client Configuration**						
5.1	MCPTT / Configuration / Authentication / User Authorisation / UE Configuration / User Profile / Key Generation	Rel-13	C01	IUT is MCPTT Client			
5.2	MCPTT / Configuration / Group Creation / Group Regroup Creation / Group Regroup Teardown	Rel-13	C01	IUT is MCPTT Client			
5.3	MCPTT / Configuration / Group Affiliation / Remote change / De-affiliation / Home MCPTT system	Rel-13	C01	IUT is MCPTT Client			
5.4	MCPTT / Configuration / Pre-established Session Establishment / Pre-established Session Modification / Pre-established Session Release	Rel-13	C01	IUT is MCPTT Client			
6	**On-network operation**						
6.1	**Group Calls - same MCPTT system Group Calls**						
6.1.1	**Pre-arranged Group Call**						
6.1.1.1	MCPTT / On-network / On-demand Pre-arranged Group Call / Automatic Commencement Mode / Floor Control / Upgrade to Emergency Group Call / Cancel Emergency State / Upgrade to Imminent Peril Group Call / Cancel Imminent Peril State / Client Originated (CO)	Rel-13	C01	IUT is MCPTT Client			
6.1.1.2	MCPTT / On-network / On-demand Pre-arranged Group Call / Automatic Commencement Mode / Floor Control / Upgrade to Emergency Group Call / Cancel Emergency State / Upgrade to Imminent Peril Group Call / Cancel Imminent Peril State / Client Terminated (CT)	Rel-13	C01	IUT is MCPTT Client			
6.1.1.3	MCPTT / On-network / On-demand Pre-arranged Group Call / Manual Commencement Mode / Client Originated (CO)	Rel-13	C01	IUT is MCPTT Client			
6.1.1.4	MCPTT / On-network / On-demand Pre-arranged Group Call / Manual Commencement Mode / Client Terminated (CT)	Rel-13	C01	IUT is MCPTT Client			
6.1.1.5	MCPTT / On-network / Pre-arranged Group Call using pre-established session / Client originated Pre-established Session Release with associated MCPTT session / Client Originated (CO)	Rel-13	C01	IUT is MCPTT Client			
6.1.1.6	MCPTT / On-network / Pre-arranged Group Call using pre-established session / Automatic Commencement Mode / Server originated Pre-established Session Release with associated MCPTT session / Client Terminated (CT)	Rel-13	C01	IUT is MCPTT Client			

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