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TECHNICAL SPECIFICATION

Universal Mobile Telecommunications System (UMTS);
LTE;
Internet Protocol (IP) multimedia call control protocol based on
Session Initiation Protocol (SIP)
and Session Description Protocol (SDP);
User Equipment (UE) conformance specification;
Part 2: Implementation Conformance Statement (ICS)
specification
(3GPP TS 34.229-2 version 15.1.0 Release 15)

Reference

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Contents

Foreword

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

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Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called an Implementation Conformance Statement (ICS).

The present document is 2rd part of a multi-part conformance test specification for UE and is *valid for 3GPP Release 5*. The specification contains the UE IMS CC capability and the applicability of the UE IMS CC conformance test cases.

3GPP TS 34.229-1 [5]: Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification.

3GPP TS 34.229-2 (the present document): "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification" - current document.

3GPP TS 34.229-3 [6]: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATS)".

Note: For conformance testing of the UTRAN requirements refer to 3GPP TS 34.123 Parts 1 to 3 [2] [3] [4].

1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 3rd Generation User Equipment (UE) supporting the Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP), in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [8] and ETS 300 406 [9].

The present document also specifies a recommended applicability statement for the test cases included in TS 34.229-1 [5]. These applicability statements are based on the features implemented in the UE.

The present document is valid for UE implemented according to 3GPP releases starting from Release 5 up to the Release indicated on the cover page of the present document.

Also, it is generally assumed that an IMS capable UE is compliant to GSMA PRD IR.92 [83] and GSMA PRD IR.94 [75];any update of requirements in these GSMA PRD documents, which are relevant to the present document will be handled on a case by case basis, with due consideration given for grace period to be granted for the UE to comply to any updated requirements.

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 unless the context in which the reference is made suggests a different Release is relevant (information on the applicable release in a particular context can be found in e.g. test case title, description or applicability, message description or content).

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

[2]   3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[3]   3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[4]   3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATS)".

[5]   3GPP TS 34.229-1: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[6]   3GPP TS 34.229-3: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATS)".

[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]   ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[10]   3GPP TS 24.229: "IP Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".

[11]   Void.

[12]   3GPP TS 33.203: "Access security for IP-based services".

[13]   3GPP TS 23.221: "Architectural requirements".

[14]   Void.

[15]   RFC 3261: "SIP: Session Initiation Protocol".

[16]   Void.

[17]   3GPP TS 24.247: "Messaging using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3".

[18]   3GPP TR 23.981: "Interworking aspects and migration scenarios for IPv4-based IP Multimedia Subsystem (IMS) implementations".

[19]   3GPP TS 24.147: "Conferencing using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3".

[20]   Void.

[21]   Void.

[22]   Void.

[23]   Void.

[24]   Void.

[25]   Void.

[26]   RFC 3312: "Integration of Resource Management and Session Initiation Protocol (SIP)".

[27]   RFC 3262: "Reliability of provisional responses in Session Initiation Protocol (SIP)".

[28]   Void.

[29]   Void.

[30]   Void.

[31]   Void.

[32]   Void.

[33]   Void.

[34]   Void.

[35]   Void.

[36]   Void.

[37]   Void.

[38]   Void.

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[40]   Void.

[41]   Void.

[42]   Void.

[43] Void.

[44] Void.

[45] Void.

[46] Void.

[47] Void.

[48] Void.

[49] Void.

[50] Void.

[51] Void.

[52] Void.

[53] Void.

[54] Void.

[55] 3GPP TS 24.173: "IMS Multimedia Telephony Communication Service and supplementary services; stage 3".

[56] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[57] Void.

[58] Void.

[59] Void.

[60] Void.

[61] Void.

[62] Void.

[63] 3GPP TS 33.222: "Generic Authentication Architecture (GAA); Access to network application functions using Hypertext Transfer Protocol over Transport Layer Security (HTTPS)".

[64] 3GPP TS 24.109: "Bootstrapping interface (Ub) and network application function interface (Ua); Protocol details".

[65] RFC 2617; "HTTP Authentication: Basic and Digest Access Authentication".

[66] 3GPP TS 24.341: "Support of SMS over IP networks; Stage 3".

[67] Void.

[68] 3GPP TS 24.604: "Communication Diversion (CDIV) using IP Multimedia (IM)".

[69] 3GPP TS 24.615: "Communication Waiting (CW) using IP Multimedia (IM) Core Network (CN) subsystem".

[70] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception".

[71] 3GPP TR 21.904: "UE capability requirements".

[72] Void.

[73] 3GPP TS 36.523-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS)proforma specification".

[74]   3GPP2 C.S0005-E: "Upper Layer (Layer 3) Signalling Standard for cdma2000 Spread Spectrum Systems".

[75]   GSMA PRD IR.94: "IMS Profile for Conversational Video Service".

[76]   3GPP TS 23.167: "IP Multimedia Subsystem (IMS) emergency sessions".

[77]   3GPP TS 24.237: "IP Multimedia Subsystem (IMS) Service Continuity; Stage 3".

[78]   3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".

[79]   3GPP TS 36.509: "Special conformance testing functions for User Equipment (UE)".

[80]   Void.

[81]   3GPP TS 24.623: "Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating Supplementary Services".

[82]   3GPP TS 33.220: "Generic Authentication Architecture (GAA); Generic Bootstrapping Architecture".

[83]   GSMA PRD IR.92: "IMS Profile for Voice and SMS".

[84]   GSMA PRD IR.51: "IMS Profile for Voice, Video and SMS over Wi-Fi".

[85]   3GPP TS 24.238: "Session Initiation Protocol (SIP) based user configuration; Stage3".

[86]   IETF RFC 4028 (April 2005): "Session Timers in the Session Initiation Protocol (SIP)".

[87]   GSMA PRD NG.108: "IMS Profile for Voice and SMS for UE category M1".[88]   IETF RFC 8147 (May 2017): "Next-Generation Pan-European eCall".

[88]   FFS

[89]   GSMA PRD NG.102: "IMS Profile for Converged IP Communications".

[90]   3GPP TS 24.390: " Unstructured Supplementary Service Data (USSD) using IP Multimedia (IM) Core Network (CN) subsystem IMS; Stage 3"

[91]   3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone"

[92]   3GPP TS 38.101-2: "NR; User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone"

[93]   3GPP TS 38.508-2: "5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma specification".

[94]   3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)"

3   Definitions and abbreviations

3.1   Definitions

For the purposes of the present document, the following terms and definitions apply, in addition to those in TR 21.905 [1]:

- terms defined in the relevant 3GPP core specifications (see normative references);

- terms defined in ISO/IEC 9646-1 [7] and in ISO/IEC 9646-7 [8].

In particular, the following terms defined in ISO/IEC 9646-1 [7] apply:

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented
The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

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

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 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 TR 21.905 [1].

    ICS   Implementation Conformance Statement
    SCS   System Conformance Statement
    UEUT   User Equipment Under Test

4 Recommended test case applicability

The applicability of each individual test is identified in the table 1. 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 1 have the following meaning:

Clause

The clause column indicates the clause number in TS 34.229-1 [5] that contains the test body.

Title

The title column describes the name of the test.

Release

The release column indicates the earliest release from which each testcase is applicable, except if otherwise stated of an individual test case.

    NOTE: For the IMS Emergency Service test cases, the 3GPP Release of UTRAN and GERAN is independent of that indicated in the release column.

Applicability

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 an 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.

Comments

This column contains a verbal description of the condition included in the applicability column.

Table 1: Applicability of tests

Clause	Title	Release	Applicability	Comments
PDP Context Activation				
6.2	General Purpose PDP Context Establishment (UE Requests for a Dedicated PDP Context)	Rel-8	C04	UE capable of being configured to initiate Dedicated PDP Context
6.3	Dedicated PDP Context Establishment	Rel-8	C04	UE capable of being configured to initiate Dedicated PDP Context
P-CSCF Discovery				
7.1	P-CSCF Discovery via PDP Context	Rel-8	C05	UE capable of being configured to initiate P-CSCF Discovery via PCO
7.2	P-CSCF Discovery via DHCP - IPv4	Rel-8	C06	UE supports IPv4 and capable of being configured to initiate P-CSCF Discovery via DHCPv4
7.3	P-CSCF Discovery via DHCP - IPv4 (UE Requests P-CSCF discovery via PCO)	Rel-8	C07	UE supports IPv4, supports P-CSCF Discovery via PCO and DHCPv4 and capable of being configured to initiate P-CSCF Discovery via PCO
7.4	P-CSCF Discovery by DHCP - IPv6	Rel-8	C08	UE capable of being configured to initiate P-CSCF Discovery via DHCPv6
7.5	P-CSCF Discovery by DHCP-IPv6 (UE Requests P-CSCF discovery by PCO)	Rel-8	C09	UE supports P-CSCF Discovery via PCO and DHCPv6 and capable of being configured to initiate P-CSCF Discovery via PCO
7.6	P-CSCF Discovery by DHCP - IPv6 (UE does not Request P-CSCF discovery by PCO, SS includes P-CSCF Address(es) in PCO)	Rel-8	C10	UE supports P-CSCF Discovery via PCO and DHCPv6 and capable of being configured to initiate P-CSCF Discovery via DHCPv6
7.7	Void			
7.8	Void			
7.9	Void			
Registration				
8.1	Initial registration	Rel-8	C17	UE supports IMS security and E-UTRA and not UE category M1
8.2	User Initiated Re-Registration	Rel-8	C17	UE supports IMS security and E-UTRA and not UE category M1
8.3	Mobile Initiated Deregistration	Rel-8	C80	UE supports IMS security and IMS deregistration and E-UTRA and not UE category M1
8.4	Invalid Behaviour - 423 Interval Too Brief	Rel-8	C17	UE supports IMS security and E-UTRA and not UE category M1
8.5	Void			
8.6	Void			
8.7	Void			
8.8	Void			
8.9	Void			
8.10	Initial registration using GIBA	Rel-8	C18	UE supports GIBA only and E-UTRA and not UE category M1
8.11	Initial registration using IMS AKA and GIBA against a network with GIBA support only	Rel-8	C19	UE supports IMS security and GIBA and E-UTRA and not UE category M1
8.12	User initiated re-registration using GIBA	Rel-8	C18	UE supports GIBA only and E-UTRA and not UE category M1
8.13	User initiated de-registration using GIBA	Rel-8	C18	UE supports GIBA only and E-UTRA and not UE category M1
8.14	Initial registration for three implicit registration sets	Rel-8	C85	UE supports IMS security and Multiple IMPU and E-UTRA and not UE category M1
8.15	Refresh for ISIM parameters	Rel-10	C17	UE supports IMS security and E-UTRA and not UE category M1
8.16	User initiated re-registration- 423 Interval Too Brief	Rel-9	C17	UE supports IMS security and E-UTRA and not UE category M1
Authentication				
9.1	Invalid Behaviour - MAC Parameter Invalid	Rel-8	C17	UE supports IMS security and E-UTRA and not UE category M1
9.2	Invalid Behaviour - SQN out of range	Rel-8	C17	UE supports IMS security and E-UTRA and not UE category M1
Subscription				
10.1	Invalid Behaviour - 503 Service Unavailable	Rel-8	C151	E-UTRA and not UE category M1
Notification				
11.1	Network-initiated deregistration	Rel-8	C151	E-UTRA and not UE category M1
11.2	Network initiated re-authentication	Rel-8	C17	UE supports IMS security and E-UTRA and not UE category M1
Call Control				
12.1	Void			