3GPP TS 21.202 V10.3.1 (2014-06)

Technical Specification

3rd Generation Partnership Project;

Technical Specification Group Services and System Aspects;

Technical Specifications and Technical Reports relating to the  
 Common IP Multimedia Subsystem (IMS)

(Release 10)

 

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Keywords

UMTS, LTE, Packet Mode, Architecture, IP, IMS

***3GPP***

Postal address

3GPP support office address

650 Route des Lucioles - Sophia Antipolis

Valbonne - FRANCE

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

Internet

http://www.3gpp.org

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# 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.

# 1 Scope

The present document identifies the 3GPP Technical Specifications and Technical Reports specifically relating to the Common IP Multimedia Subsystem (IMS) maintained by 3GPP. Standards organizations adopting the Common IP Multimedia Subsystem (IMS) might not need to use all listed specifications.

# 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 TR 21.900: "Technical specification group working methods"

# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] apply.

## 3.2 Symbols

(None)

## 3.3 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].

NGN Next Generation Network

R1 Release 1

R2 Release 2

TISPAN Telecommunications and Internet converged Services and Protocols for Advanced Networks

# 4 General

The numbering scheme for specifications is described in 3GPP TR 21.900 [2].

# 5 Specifications and Reports

NOTE 1: The "for publication?" column of the table below indicates whether or not the documents are intended for adoption by the partner Standards Development Organizations as their own publications. Those marked "no" are internal working documents of the 3GPP TSGs.

NOTE 2: "Type" indicates Technical Specification (TS) or Technical Report (TR).

The table below contains all Common IMS specs pertaining to Release 10.

| **Type** | **Number** | **Title** | **Group** | **For publication?** |
| --- | --- | --- | --- | --- |
| TS | 21.111 | USIM and IC card requirements | C6 | Yes |
| TR | 21.905 | Vocabulary for 3GPP Specifications | SP | Yes |
| TS | 22.030 | Man-Machine Interface (MMI) of the User Equipment (UE) | S1 | Yes |
| TS | 22.041 | Operator Determined Barring (ODB) | S1 | Yes |
| TS | 22.071 | Location Services (LCS); Service description; Stage 1 | S1 | Yes |
| TS | 22.101 | Service aspects; Service principles | S1 | Yes |
| TS | 22.105 | Services and service capabilities | S1 | Yes |
| TS | 22.115 | Service aspects; Charging and billing | S1 | Yes |
| TS | 22.140 | Multimedia Messaging Service (MMS); Stage 1 | S1 | Yes |
| TS | 22.141 | Presence service; Stage 1 | S1 | Yes |
| TS | 22.153 | Multimedia priority service | S1 | Yes |
| TS | 22.173 | IP Multimedia Core Network Subsystem (IMS) Multimedia Telephony Service and supplementary services; Stage 1 | S1 | Yes |
| TS | 22.174 | Push Service; Service aspects; Stage 1 | S1 | Yes |
| TS | 22.182 | Customized Alerting Tones (CAT) requirements; Stage 1 | S1 | Yes |
| TS | 22.183 | Customized Ringing Signal (CRS) requirements; Stage 1 | S1 | Yes |
| TS | 22.228 | Service requirements for the Internet Protocol (IP) multimedia core network subsystem (IMS); Stage 1 | S1 | Yes |
| TS | 22.250 | IP Multimedia Subsystem (IMS) Group Management; Stage 1 | S1 | Yes |
| TS | 22.279 | Combined Circuit Switched (CS) and IP Multimedia Subsystem (IMS) sessions; Stage 1 | S1 | Yes |
| TS | 22.340 | IP Multimedia Subsystem (IMS) messaging; Stage 1 | S1 | Yes |
| TR | 22.979 | Feasibility study on combined Circuit Switched (CS) calls and IP Multimedia Subsystem (IMS) sessions | S1 | Yes |
| TS | 23.141 | Presence service; Architecture and functional description | S2 | Yes |
| TS | 23.167 | IP Multimedia Subsystem (IMS) emergency sessions | S2 | Yes |
| TS | 23.204 | Support of Short Message Service (SMS) over generic 3GPP Internet Protocol (IP) access; Stage 2 | S2 | Yes |
| TS | 23.218 | IP Multimedia (IM) session handling; IM call model; Stage 2 | C1 | Yes |
| TS | 23.228 | IP Multimedia Subsystem (IMS); Stage 2 | S2 | Yes |
| TS | 23.333 | Multimedia Resource Function Controller (MRFC) - Multimedia Resource Function Processor (MRFP) Mp interface: Procedures descriptions | C4 | Yes |
| TS | 23.334 | IP Multimedia Subsystem (IMS) Application Level Gateway (IMS-ALG) – IMS Access Gateway (IMS-AGW) interface: Procedures descriptions | C4 | Yes |
| TS | 24.141 | Presence service using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3 | C1 | Yes |
| TS | 24.147 | Conferencing using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3 | C1 | Yes |
| TS | 24.173 | IMS Multimedia telephony communication service and supplementary services; Stage 3 | C1 | Yes |
| TS | 24.182 | IP Multimedia Subsystem (IMS) Customized Alerting Tones (CAT); Protocol specification | C1 | Yes |
| TS | 24.229 | IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 | C1 | Yes |
| TS | 24.238 | Session Initiation Protocol (SIP) based user configuration; Stage 3 | C1 | Yes |
| TS | 24.239 | Flexible Alerting (FA) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.247 | Messaging service using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3 | C1 | Yes |
| TS | 24.341 | Support of SMS over IP networks; Stage 3 | C1 | Yes |
| TS | 24.604 | Communication Diversion (CDIV) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.605 | Conference (CONF) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.606 | Message Waiting Indication (MWI) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.607 | Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.608 | Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.610 | Communication HOLD (HOLD) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.611 | Anonymous Communication Rejection (ACR) and Communication Barring (CB) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.615 | Communication Waiting (CW) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol Specification | C1 | Yes |
| TS | 24.616 | Malicious Communication Identification (MCID) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.628 | Common Basic Communication procedures using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.629 | Explicit Communication Transfer (ECT) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.642 | Completion of Communications to Busy Subscriber (CCBS) and Completion of Communications by No Reply (CCNR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | C1 | Yes |
| TS | 24.647 | Advice Of Charge (AOC) using IP Multimedia (IM) Core Network (CN) subsystem | C1 | Yes |
| TS | 24.654 | Closed User Group (CUG) using IP Multimedia (IM) Core Network (CN) subsystem, Protocol Specification | C1 | Yes |
| TR | 24.930 | Signalling flows for the session setup in the IP Multimedia core network Subsystem (IMS) based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 | C1 | Yes |
| TS | 29.162 | Interworking between the IM CN subsystem and IP networks | C3 | Yes |
| TS | 29.163 | Interworking between the IP Multimedia (IM) Core Network (CN) subsystem and Circuit Switched (CS) networks | C3 | Yes |
| TS | 29.165 | Inter-IMS Network to Network Interface (NNI) | C3 | Yes |
| TS | 29.212 | Policy and Charging Control (PCC) over Gx/Sd reference point | C3 | Yes |
| TS | 29.213 | Policy and charging control signalling flows and Quality of Service (QoS) parameter mapping | C3 | Yes |
| TS | 29.214 | Policy and charging control over Rx reference point | C3 | Yes |
| TS | 29.215 | Policy and Charging Control (PCC) over S9 reference point; Stage 3 | C3 | Yes |
| TS | 29.228 | IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents | C4 | Yes |
| TS | 29.229 | Cx and Dx interfaces based on the Diameter protocol; Protocol details | C4 | Yes |
| TS | 29.232 | Media Gateway Controller (MGC) - Media Gateway (MGW) interface; Stage 3 | C4 | Yes |
| TS | 29.238 | Interconnection Border Control Functions (IBCF) - Transition Gateway (TrGW) interface, Ix interface; Stage 3 | C4 | Yes |
| TS | 29.292 | Interworking between the IP Multimedia (IM) Core Network (CN) subsystem (IMS) and MSC Server for IMS Centralized Services (ICS) | C3 | Yes |
| TS | 29.311 | Service Level Interworking (SLI) for messaging services | C3 | Yes |
| TS | 29.328 | IP Multimedia (IM) Subsystem Sh interface; Signalling flows and message contents | C4 | Yes |
| TS | 29.329 | Sh interface based on the Diameter protocol; Protocol details | C4 | Yes |
| TS | 29.333 | Multimedia Resource Function Controller (MRFC) - Multimedia Resource Function Processor (MRFP) Mp interface; Stage 3 | C4 | Yes |
| TS | 29.334 | IMS Application Level Gateway (IMS-ALG) - IMS Access Gateway (IMS-AGW); Iq Interface; Stage 3 | C4 | Yes |
| TS | 29.658 | SIP Transfer of IP Multimedia Service Tariff Information; Protocol specification | C3 | Yes |
| TS | 31.101 | UICC-terminal interface; Physical and logical characteristics | C6 | Yes |
| TS | 31.103 | Characteristics of the IP Multimedia Services Identity Module (ISIM) application | C6 | Yes |
| TS | 31.115 | Secured packet structure for (Universal) Subscriber Identity Module (U)SIM Toolkit applications | C6 | Yes |
| TS | 31.116 | Remote APDU Structure for (U)SIM Toolkit applications | C6 | Yes |
| TS | 31.133 | IP Multimedia Services Identity Module (ISIM) Application Programming Interface (API); ISIM API for Java Card™ | C6 | Yes |
| TS | 32.240 | Telecommunication management; Charging management; Charging architecture and principles | S5 | Yes |
| TS | 32.260 | Telecommunication management; Charging management; IP Multimedia Subsystem (IMS) charging | S5 | Yes |
| TS | 32.299 | Telecommunication management; Charging management; Diameter charging applications | S5 | Yes |
| TS | 33.141 | Presence service; Security | S3 | Yes |
| TS | 33.203 | 3G security; Access security for IP-based services | S3 | Yes |
| TS | 33.210 | 3G security; Network Domain Security (NDS); IP network layer security | S3 | Yes |

Tables are based on query " 2003-09-03\_CmnIMS\_specs\_list\_rel-x\_\_21-202" in the [3GPP Specifications Status database](http://www.3gpp.org/ftp/Information/Databases/Spec_Status/3GPP-Spec-Status.zip).

Annex A (informative):  
(void)

Annex M (informative):   
IMS related Specifications and Reports in 3GPP2

The table below shows the 3GPP2 publications relating to core functions of the IP Multimedia Subsystem (IMS) used by the 3GPP2. Also shown in the table is the mapping between the replaced 3GPP2 MMD specifications and the corresponding 3GPP IMS specifications which replace them and the final revision of the document that was published by 3GPP2.

|  |  |  |  |
| --- | --- | --- | --- |
| **3GPP2 Document Number and Revision** | **3GPP2 Document Title** | **3GPP Rel-8 TS/TR** | **3GPP WG** |
| X.S0013-000-B v1.0 | Overview | TS 23.002  TS 23.228 | S2 |
| X.S0013-002-B v1.0 | IP Multimedia Subsystem – Stage 2 | TS 23.228  TS 23.002 | S2  S2 |
| X.S0013-003-B v1.0 | IP Multimedia Session Handling; IP Multimedia Call Model – Stage 2 | TS 23.218 | C1 |
| X.S0013-004-B v1.0 | IP Multimedia Call Control Protocol Based on SIP and SDP - Stage 3 | TS 24.229 | C1 |
| X.S0013-005-B v1.0 | IP Multimedia Subsystem Cx Interface Signaling flows and Message Contents | TS 29.228 | C4 |
| X.S0013-006-B v1.0 | Cx Interface Based on the Diameter Protocol; Protocol Details | TS 29.229 | C4 |
| X.S0013-007-A v1.0 | IP Multimedia Subsystem - Charging Architecture | TS 32.240  TS 32.260 | S5  S5 |
| X.S0013-008-A v1.0 | IP Multimedia Subsystem - Offline Accounting Information Flows and Protocol | TS 32.260  TS 32.299 | S5  S5 |
| X.S0013-009-0 v1.0 | IMS/MMD Call Flow Examples | TR 24.930 | C1 |
| X.S0013-010-B v1.0 | IP Multimedia Subsystem Sh interface; Signaling flows and message contents – Stage 2 | TS 29.328 | C4 |
| X.S0013-011-B v1.0 | Sh Interface based on Diameter Protocols Protocol Details – Stage 3 | TS 29.329 | C4 |
| X.S0013-012-0 v1.0 | Service Based Bearer Control – Stage 2 | TS 23.203 | S2 |
| X.S0013-013-0 v1.0 | Service Based Bearer Control – Tx Interface Stage 3 | TS 29.213  TS 29.214 | C3  C3 |
| X.S0013-014-0 v1.0 | Service Based Bearer Control – Ty Interface Stage 3 | TS 29.212  TS 29.215 | C3  C3 |
| X.S0013-016-0 v1.0 | Messaging Service Using the IP Multimedia Subsystem | TS 24.247 | C1 |
| X.S0027-000-A v1.0 | Presence Overview | No 3GPP equivalent |  |
| X.S0027-001-0 v1.0 | Presence Service: Architecture and Functional Description | TS 23.141 | S2 |
| X.S0027-002-0 v1.0 | Presence Security | TS 33.141 | S3 |
| X.S0027-003-0 v1.0 | Presence Stage 3 | TS 24.141 | C1 |
| X.S0027-004-0 v1.0 | Network Presence | No 3GPP equivalent |  |
| X.S0029-0 v1.0 | Conferencing Using the IP Multimedia (IM) Core Network (CN) Subsystem | TS 24.147 | C1 |
| X.S0049-0 v1.0 | All-IP Network Emergency Call Support | TS 23.167  TS 24.229 | S2  C1 |
| X.S0055-0 v1.0 | MMD Supplementary Services | TS 24.173  TS 24.182  TS 24.238  TS 24.239  TS 24.604  TS 24.605  TS 24.606  TS 24.607  TS 24.608  TS 24.610  TS 24.611  TS 24.615  TS 24.628  TS 24.629 | C1  C1  C1  C1  C1  C1  C1  C1  C1  C1  C1  C1  C1  C1 |
| S.S0086-B v2.0 | IMS Security Framework | TS 33.203  TS 33.210 | S3  S3 |
| S.R0058 | IP Multimedia Domain – System Requirements | TS 22.228 | S1 |
| S.R0062 | Presence for Wireless Systems – Stage 1 Requirements | TS 22.141 | S1 |
| S.R0125 | VoIP Supplementary Services Feature Description | TS 22.173 | S1 |
| X.R0052-0 | All-IP System – MMD Roaming Technical Report | No 3GPP equivalent |  |
| X.S0042 | Voice Call Continuity between IMS and Circuit Switched Systems | TS 23.206  TS 24.206 | S2  C1 |
| C.S0069 | ISIM Application on UICC for cdma2000 Spread Spectrun Systems | TS 31.103 | C6 |

Annex C (informative):  
Change history

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | |
| **Date** | **TSG #** | **TSG Doc.** | **CR** | **Rev** | **Subject/Comment** | **Old** | **New** |
| 2008-05 |  |  |  |  | First draft based on SA1 request to SP-38, refined at SP-39. Spec list based on Specification Manager's whim. |  | 0.0.0 |
| 2008-12 |  |  |  |  | Update based on continuing evolution of Release 8 specs | 0.0.0 | 0.1.0 |
| 2008-12 | SP-42 | SP-080724 |  |  | Incorporation of comments from TSG CT:  removal of §5.1 (substituted by two examples in annex A);  indication in list of specs of those which do not progress beyond NGN R2 applicability. | 0.1.0 | 0.2.0 |
| 2009-01 |  |  |  |  | Update to specs list table resulting from further feedback; Correction to URL of TISPAN spec mapping following revamp of 3GPP web site | 0.2.0 | 0.3.0 |
| 2009-03 | CP-43 | CP-090103 |  |  | Presentationfor information | 0.3.0 | 1.0.0 |
| 2009-03 | SP-43 | SP-090035 |  |  | Presentation to TSG for approval | 1.0.0 | 1.1.0 |
| 2009-03 | SP-43 |  |  |  | Approved | 1.1.0 | 8.0.0 |
| 2009-05 | SP-44 | SP-090463 | 2 | 2 | Annex mapping 3GPP2 specs to 3GPP common IMS specs | 8.0.0 | 8.1.0 |
| SP-090464 | 3 |  | Revise scope |
| 2009-06 | SP-46 | SP-090695 | 4 | 1 | Correction to list of specifications | 8.1.0 | 8.2.0 |
| 2010-03 | SP-47 | SP-100012 | 5 |  | Update list of specs | 8.2.0 | 8.3.0 |
| 6 |  | Update list of specs | 8.3.0 | 9.0.0 |
| 7 |  | Removal of information only relevant for earlier Release |
| 2010-12 | SP-50 | SP-100871 | 8 | 1 | Clarification of scope to indicate use of complete set of TSs/TRs is not obligatory in all IMS implementations | 9.0.0 | 9.1.0 |
| 2011-03 | SP-51 |  |  |  | Automatic upgrade on Release freeze | 9.1.0 | 10.0.0 |
| 2011-06 | SP-52 | SP-110298 | 11 |  | Correction to list of specifications | 10.0.0 | 10.1.0 |
| 2012-03 | SP-55 | SP-120114 | 14 | 1 | Changes to list of Specs: common IMS | 10.1.0 | 10.2.0 |
| 2013-03 | SP-59 | SP-130155 | 15 |  | Update to list of specs | 10.2.0 | 10.3.0 |
| 2014-06 |  |  |  |  | Minor editorial | 10.30. | 10.3.1 |