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TECHNICAL SPECIFICATION

**LTE;
Technical Specifications and Technical Reports for an Evolved
Packet System (EPS) based 3GPP system
(3GPP TS 21.201 version 13.0.0 Release 13)**

Reference
RTS/TSGS-0021201vd00

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Foreword

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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.

1 Scope

The present document identifies the 3GPP system specifications for Release 8. The specifications and reports of this Release have a major version number 13 (i.e. 13.x.y). The listed Specifications are required to build a system based on the Evolved Packet System.

The high-level architecture of such a system is defined in 3GPP TS 23.002 [2] (figure 1b).

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 23.002: "Network architecture".

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

(Void)

3.3 Abbreviations

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

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).

Type	Number	Title	Group	For publication?
TS	21.111	USIM and IC card requirements	C6	Yes
TS	21.201	Technical Specifications and Technical Reports for an Evolved Packet System (EPS) based 3GPP system	SP	Yes
TS	21.202	Technical Specifications and Technical Reports relating to the Common IP Multimedia Subsystem (IMS)	SP	Yes
TR	21.801	Specification drafting rules	SP	No
TR	21.900	Technical Specification Group working methods	SP	Yes
TR	21.905	Vocabulary for 3GPP Specifications	SP	Yes
TS	22.003	Circuit Teleservices supported by a Public Land Mobile Network (PLMN)	S1	Yes
TS	22.004	General on supplementary services	S1	Yes
TS	22.011	Service accessibility	S1	Yes
TS	22.016	International Mobile station Equipment Identities (IMEI)	S1	Yes
TS	22.022	Personalisation of Mobile Equipment (ME); Mobile functionality specification	S1	Yes
TS	22.024	Description of Charge Advice Information (CAI)	S1	Yes
TS	22.030	Man-Machine Interface (MMI) of the User Equipment (UE)	S1	Yes
TS	22.031	3G Security; Fraud Information Gathering System (FIGS); Service description; Stage 1	S3	Yes
TS	22.032	Immediate Service Termination (IST); Service description; Stage 1	S3	Yes
TS	22.038	(U)SIM Application Toolkit (USAT); Service description; Stage 1	S1	Yes
TS	22.041	Operator Determined Barring (ODB)	S1	Yes
TS	22.042	Network Identity and TimeZone (NITZ); Service description; Stage 1	S1	Yes
TS	22.057	Mobile Execution Environment (MExE); Service description; Stage 1	S1	Yes
TS	22.066	Support of Mobile Number Portability (MNP); Service description; Stage 1	S1	Yes
TS	22.071	Location Services (LCS); Service description; Stage 1	S1	Yes
TS	22.076	Noise suppression for the AMR codec; Service description; Stage 1	S4	Yes
TS	22.097	Multiple Subscriber Profile (MSP) Phase 2; 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	22.129	Service aspects; Handover requirements between UTRAN and GERAN or other radio systems	S1	Yes
TS	22.135	Multicall; Service description; Stage 1	S1	Yes
TS	22.140	Multimedia Messaging Service (MMS); Stage 1	S1	Yes
TS	22.141	Presence service; Stage 1	S1	Yes
TS	22.146	Multimedia Broadcast/Multicast Service (MBMS); 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	22.179	Mission Critical Push to Talk (MCPTT) over LTE; Stage 1	S1	Yes
TS	22.182	Customized Alerting Tones (CAT) requirements; Stage 1	S1	Yes
TS	22.226	Global Text Telephony (GTT); Stage 1	S1	Yes
TS	22.228	Service requirements for the Internet Protocol (IP) multimedia core network	S1	Yes

Type	Number	Title	Group	For publication?
		subsystem (IMS); Stage 1		
TS	22.233	Transparent end-to-end packet-switched streaming service; Stage 1	S1	Yes
TS	22.234	Requirements on 3GPP system to Wireless Local Area Network (WLAN) interworking	S1	Yes
TS	22.240	Service requirements for 3GPP Generic User Profile (GUP); Stage 1	S1	Yes
TS	22.242	Digital Rights Management (DRM); Stage 1	S1	Yes
TS	22.243	Speech recognition framework for automated voice services; Stage 1	S1	Yes
TS	22.246	Multimedia Broadcast/Multicast Service (MBMS) user services; Stage 1	S1	Yes
TS	22.250	IP Multimedia Subsystem (IMS) Group Management; Stage 1	S1	Yes
TS	22.259	Service requirements for Personal Network Management (PNM); Stage 1	S1	Yes
TS	22.278	Service requirements for the Evolved Packet System (EPS)	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
TS	22.346	Isolated Evolved Universal Terrestrial Radio Access Network (E-UTRAN) operation for public safety; Stage 1	S1	Yes
TS	22.368	Service requirements for Machine-Type Communications (MTC); Stage 1	S1	Yes
TS	22.468	Group Communication System Enablers for LTE (GCSE_LTE)	S1	Yes
TS	22.519	Business communication requirements	S1	Yes
TR	22.806	Study on application-specific congestion control for data communication	S1	No
TR	22.807	Study on enhancements for infrastructure-based data communication between devices	S1	No
TR	22.808	Study on Flexible Mobile Service Steering (FMSS)	S1	No
TR	22.810	Study of enhanced call information presentation	S1	No
TR	22.828	Study on co-ordinated Packet data network GateWay (PGW) Change for Selected IP Traffic Offload (CSIPTO)	S1	No
TR	22.852	Study on Radio Access Network (RAN) sharing enhancements	S1	No
TR	22.853	Study on Service Exposure and Enablement Support (SEES) requirements	S1	No
TR	22.897	Study on isolated Evolved Universal Terrestrial Radio Access Network (E-UTRAN) operation for public safety	S1	No
TR	22.898	Study on User Control Over Spoofed Calls	S1	No
TR	22.903	Study on Videotelephony teleservice	S1	Yes
TR	22.906	Study on IMS based peer-to-peer content distribution services	S1	Yes
TR	22.908	Study on Paging Permission with Access Control (PPAC)	S1	Yes
TR	22.912	Study into network selection requirements for non-3GPP access	S1	Yes
TR	22.934	Feasibility study on 3GPP system to Wireless Local Area Network (WLAN) interworking	S1	Yes
TR	22.935	Feasibility study on Location Services (LCS) for Wireless Local Area Network (WLAN) interworking	S1	Yes
TR	22.936	Multi-system terminals	S1	Yes
TR	22.937	Requirements for service continuity between mobile and Wireless Local Area Network (WLAN) networks	S1	Yes
TR	22.940	IP Multimedia Subsystem (IMS) messaging	S1	Yes
TR	22.942	Study on Value Added Services (VAS) for Short Message Service (SMS)	S1	Yes
TR	22.944	Report on service requirements for UE functionality split	S1	Yes
TR	22.948	Study of requirements of IP-Multimedia Subsystem (IMS) convergent multimedia conferencing	S1	Yes
TR	22.949	Study on a generalized privacy capability	S1	Yes
TR	22.950	Priority service feasibility study	S1	Yes
TR	22.951	Service aspects and requirements for network sharing	S1	Yes
TR	22.952	Priority service guide	S1	Yes
TR	22.953	Multimedia priority service feasibility study	S1	Yes
TR	22.967	Transferring of emergency call data	S1	Yes

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Type	Number	Title	Group	For publication?
TR	22.968	Study for requirements for a Public Warning System (PWS) service	S1	Yes
TR	22.973	IMS Multimedia Telephony service; and supplementary services	S1	Yes
TR	22.977	Feasibility study for speech-enabled services	S1	Yes
TR	22.978	All-IP network (AIPN) feasibility study	S1	Yes
TR	22.979	Feasibility study on combined Circuit Switched (CS) calls and IP Multimedia Subsystem (IMS) sessions	S1	Yes
TR	22.980	Network composition feasibility study	S1	Yes
TR	22.982	Study of Customised Alerting Tone (CAT) requirements	S1	Yes
TR	22.983	Services alignment and migration	S1	Yes
TR	22.987	Study of haptic services requirements	S1	Yes
TR	22.988	Study on alternatives to E.164 for Machine-Type Communications (MTC)	S1	Yes
TS	23.002	Network architecture	S2	Yes
TS	23.007	Restoration procedures	C4	Yes
TS	23.008	Organization of subscriber data	C4	Yes
TS	23.012	Location management procedures	C4	Yes
TS	23.018	Basic call handling; Technical realization	C4	Yes
TS	23.038	Alphabets and language-specific information	C1	Yes
TS	23.042	Compression algorithm for text messaging services	C1	Yes
TS	23.107	Quality of Service (QoS) concept and architecture	S2	Yes
TS	23.110	Universal Mobile Telecommunications System (UMTS) access stratum; Services and functions	S2	Yes
TS	23.119	Gateway Location Register (GLR); Stage 2	C4	Yes
TS	23.122	Non-Access-Stratum (NAS) functions related to Mobile Station (MS) in idle mode	C1	Yes
TS	23.135	Multicall supplementary service; Stage 2	C4	Yes
TS	23.139	3GPP system - fixed broadband access network interworking; Stage 2	S2	Yes
TS	23.141	Presence service; Architecture and functional description	S2	Yes
TS	23.142	Value-added Services for SMS (VAS4SMS); Interface and signalling flow	C4	Yes
TS	23.153	Out of band transcoder control; Stage 2	C4	Yes
TS	23.161	Network-Based IP Flow Mobility (NBIFOM); Stage 2	S2	Yes
TS	23.167	IP Multimedia Subsystem (IMS) emergency sessions	S2	Yes
TS	23.179	Functional architecture and information flows to support mission critical communication services; Stage 2	S6	Yes
TS	23.203	Policy and charging control architecture	S2	Yes
TS	23.204	Support of Short Message Service (SMS) over generic 3GPP Internet Protocol (IP) access; Stage 2	S2	Yes
TS	23.205	Bearer-independent circuit-switched core network; Stage 2	C4	Yes
TS	23.207	End-to-end Quality of Service (QoS) concept and architecture	S2	Yes
TS	23.216	Single Radio Voice Call Continuity (SRVCC); Stage 2	S2	Yes
TS	23.218	IP Multimedia (IM) session handling; IM call model; Stage 2	C1	Yes
TS	23.221	Architectural requirements	S2	Yes
TS	23.226	Global text telephony (GTT); Stage 2	S2	Yes
TS	23.228	IP Multimedia Subsystem (IMS); Stage 2	S2	Yes
TS	23.234	3GPP system to Wireless Local Area Network (WLAN) interworking; System description	S2	Yes
TS	23.236	Intra-domain connection of Radio Access Network (RAN) nodes to multiple Core Network (CN) nodes	S2	Yes
TS	23.237	IP Multimedia Subsystem (IMS) Service Continuity; Stage 2	S2	Yes
TS	23.240	3GPP Generic User Profile (GUP); Architecture (Stage 2)	S2	Yes
TS	23.246	Multimedia Broadcast/Multicast Service (MBMS); Architecture and functional description	S2	Yes
TS	23.251	Network sharing; Architecture and functional description	S2	Yes
TS	23.259	Personal Network Management (PNM); Procedures and information flows; Stage 2	C1	Yes

Type	Number	Title	Group	For publication?
TS	23.261	IP flow mobility and seamless Wireless Local Area Network (WLAN) offload; Stage 2	S2	Yes
TS	23.271	Functional stage 2 description of Location Services (LCS)	S2	Yes
TS	23.272	Circuit Switched (CS) fallback in Evolved Packet System (EPS); Stage 2	S2	Yes
TS	23.279	Combining Circuit Switched (CS) and IP Multimedia Subsystem (IMS) services; Stage 2	S2	Yes
TS	23.292	IP Multimedia Subsystem (IMS) centralized services; Stage 2	S2	Yes
TS	23.303	Proximity-based services (ProSe); Stage 2	S2	Yes
TS	23.327	Mobility between 3GPP-Wireless Local Area Network (WLAN) interworking and 3GPP systems	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	23.335	User Data Convergence (UDC); Technical realization and information flows; Stage 2	C4	Yes
TS	23.380	IMS Restoration Procedures	C4	Yes
TS	23.401	General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access	S2	Yes
TS	23.402	Architecture enhancements for non-3GPP accesses	S2	Yes
TS	23.468	Group Communication System Enablers for LTE (GCSE_LTE); Stage 2	S2	Yes
TS	23.682	Architecture enhancements to facilitate communications with packet data networks and applications	S2	Yes
TR	23.704	Study on Circuit Switched (CS) / Packet Switched (PS) coordination in shared network; Stage 2	S2	No
TR	23.705	Study on system enhancements for user plane congestion management	S2	No
TR	23.706	Study on enhancements to Web Real Time Communication (WebRTC) access to IP Multimedia Subsystem (IMS); Stage 2	S2	No
TR	23.707	Architecture enhancements for dedicated core networks; Stage 2	S2	No
TR	23.708	Architecture enhancements for service capability exposure	S2	No
TR	23.709	Study on optimizations to support high latency communications; Stage 2	S2	No
TR	23.712	Study on warning status reporting	C1	No
TR	23.713	Study on extended architecture support for proximity-based services	S2	No
TR	23.717	Enabling Transcoder Free Operation During SRVCC (PS to CS)	S2	No
TR	23.718	Architecture enhancement for flexible mobile service steering	S2	No
TR	23.720	Study on architecture enhancements for Cellular Internet of Things	S2	No
TR	23.741	Study on enhancements to Multimedia Broadcast/Multicast Service (MBMS) for LTE	S2	No
TR	23.769	Group based enhancements	S2	No
TR	23.770	Study on system impacts of extended Discontinuous Reception (DRX) cycle for power consumption optimization	S2	No
TR	23.771	Study on system impacts of IP Multimedia Subsystem (IMS) emergency sessions over Wireless Local Area Network (WLAN)	S2	No
TR	23.772	Enhanced Circuit Switched (CS) fallback	S2	Yes
TR	23.779	Study on application architecture to support Mission Critical Push To Talk over LTE (MCPTT) services	S6	No
TR	23.789	Monitoring Enhancements	S2	No
TR	23.797	Study on architecture enhancements to support isolated Evolved Universal Terrestrial Radio Access Network (E-UTRAN) operation for public safety	S2	No
TR	23.858	Usage Monitoring Control PCC Enhancement	S2	No
TR	23.903	Redial solution for voice-video switching	S2	Yes
TR	23.919	Direct tunnel deployment guideline	S2	Yes
TR	23.975	IPv6 migration guidelines	S2	Yes
TR	23.976	Push architecture	S2	Yes
TR	23.979	3GPP enablers for Open Mobile Alliance (OMA); Push-to-talk over Cellular (PoC)	S2	Yes

Type	Number	Title	Group	For publication?
		services; Stage 2		
TR	23.981	Interworking aspects and migration scenarios for IPv4-based IP Multimedia Subsystem (IMS) implementations	S2	Yes
TS	24.002	GSM - UMTS Public Land Mobile Network (PLMN) Access Reference Configuration	C1	Yes
TS	24.007	Mobile radio interface signalling layer 3; General Aspects	C1	Yes
TS	24.008	Mobile radio interface Layer 3 specification; Core network protocols; Stage 3	C1	Yes
TS	24.010	Mobile radio interface layer 3; Supplementary services specification; General aspects	C4	Yes
TS	24.011	Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface	C1	Yes
TS	24.030	Location Services (LCS); Supplementary service operations; Stage 3	C4	Yes
TS	24.103	Telepresence using the IP Multimedia (IM) Core Network (CN) Subsystem (IMS); Stage 3	C1	Yes
TS	24.105	Application specific Congestion control for Data Communication (ACDC) Management Object (MO)	C1	Yes
TS	24.109	Bootstrapping interface (Ub) and network application function interface (Ua); Protocol details	C1	Yes
TS	24.135	Multicall supplementary service; Stage 3	C4	Yes
TS	24.139	3GPP system - fixed broadband access network interworking; Stage 3	C1	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	24.161	Network-Based IP Flow Mobility (NBIFOM); Stage 3	C1	Yes
TS	24.166	3GPP IP Multimedia Subsystem (IMS) conferencing Management Object (MO)	C1	Yes
TS	24.167	3GPP IMS Management Object (MO); Stage 3	C1	Yes
TS	24.171	Control Plane Location Services (LCS) procedures in the Evolved Packet System (EPS)	C4	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	24.183	IP Multimedia Subsystem (IMS) Customized Ringing Signal (CRS); Protocol specification	C1	Yes
TS	24.216	Communication Continuity Management Object (MO)	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	24.237	IP Multimedia (IM) Core Network (CN) subsystem IP Multimedia Subsystem (IMS) service continuity; 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	24.244	Wireless LAN control plane protocol for trusted WLAN access to EPC; Stage 3	C1	Yes
TS	24.247	Messaging service using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3	C1	Yes
TS	24.259	Personal Network Management (PNM); Stage 3	C1	Yes
TS	24.279	Combining Circuit Switched (CS) and IP Multimedia Subsystem (IMS) services; Stage 3	C1	Yes
TS	24.285	Allowed Closed Subscriber Group (CSG) list; Management Object (MO)	C1	Yes
TS	24.286	IP Multimedia (IM) Core Network (CN) subsystem Centralized Services (ICS); Management Object (MO)	C1	Yes
TS	24.292	IP Multimedia (IM) Core Network (CN) subsystem Centralized Services (ICS); Stage 3	C1	Yes
TS	24.294	IP Multimedia Subsystem (IMS) Centralized Services (ICS) protocol via I1 interface	C1	Yes