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**Digital cellular telecommunications system (Phase 2+) (GSM);  
Universal Mobile Telecommunications System (UMTS);  
LTE;  
Closed User Group (CUG) using IP Multimedia (IM)  
Core Network (CN) subsystem, Protocol Specification  
(3GPP TS 24.654 version 14.0.0 Release 14)**



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# Foreword

This Technical Specification (TS) was been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN) and originally published as ETSI TS 183 054 []. It was transferred to the 3rd Generation Partnership Project (3GPP) in December 2007. 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:

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# 1 Scope

The present document specifies the stage three Protocol Description of the Closed User Group (CUG) service, based on stage one and two of the ISDN Communication diversion supplementary services. It provides the protocol details in the IP Multimedia (IM) Core Network (CN) subsystem based on the Session Initiation Protocol (SIP) and the Session Description Protocol (SDP).

The present document is applicable to User Equipment (UE) and Application Servers (AS) which are intended to support the CUG supplementary service.

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# 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 TS 22.173: "IP Multimedia Core Network Subsystem (IMS) Multimedia Telephony Service and supplementary services, stage 1".
- [2] 3GPP TS 24.229: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
- [3] Void
- [4] Void
- [5] 3GPP TS 24.238: "Session Initiation Protocol (SIP) based user configuration; stage 3".
- [6] 3GPP TS 24.623: "Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating Supplementary Services".
- [7] IETF RFC 5621: "Message Body Handling in the Session Initiation Protocol (SIP)".

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# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 22.173 [1] and the following apply:

**basic service:** bearer or teleservice. Within the scope of SIP based networks the identification of a bearer or teleservice can be derived from the SDP used

**Closed User Group (CUG) communication:** closed user group communication is a communication which is restricted to a pre-defined group of users

**Closed User Group (CUG) member:** user who has subscribed to the CUG service and is one of the users in the group formed by a particular closed user group

**CUG index:** parameter used by the originating user to select a particular CUG when originating a communication