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Interworking between the IP Multimedia (IM) Core Network (CN) subsystem and Circuit Switched (CS) networks
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Contents

Foreword

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1 Scope

The present document specifies the principles of interworking between the 3GPP IM CN subsystem and BICC/ISUP based legacy CS networks, in order to support IM basic voice, data and multimedia calls.

The present document addresses the areas of control and user plane interworking between the IM CN subsystem and CS networks through the network functions, which include the MGCF and IM-MGW. For the specification of control plane interworking, areas such as the interworking between SIP and BICC or ISUP are detailed in terms of the processes and protocol mappings required for the support of both IM originated and terminated voice and multimedia calls.

Other areas addressed encompass the transport protocol and signalling issues for negotiation and mapping of bearer capabilities and QoS information.

The present document specifies the interworking between 3GPP profile of SIP (as detailed according to TS 24.229 [9]) and BICC or ISUP, as specified in ITU-T Recommendations Q.1902.1 to Q.1902.6 [30] and ITU-T Q761 to Q764 [4] respectively.

The present document also specifies the interworking between circuit switched multimedia telephony service, as described in TS 26.110 [78] TS 26.111 [79], and ITU-T Recommendation H.324 [81] and packet switched multimedia services, as described in TS 26.235 [80] and TS 26.236 [32], in particular and the interworking between the 3GPP profile of SIP and the inband control protocols for multimedia communication as specified in ITU-T Recommendations H.245 [82] and H.324 Annex K [81].

The present document addresses two interworking scenarios with respect to the properties of the CS network:

- The CS network does not use any 3GPP specific additions.
- The CS network uses 3GPP specific additions.

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.
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[1] ITU-T Recommendation G.711 (11/88): "Pulse Code Modulation (PCM) of voice frequencies".

[2] ITU-T Recommendation H.248.1 (05/02): "Gateway control protocol: Version 2".

[3] ITU-T Recommendation Q.701 (03/93), Q.702 (11/88), Q.703 (07/96), Q.704 (07/96), Q.705 (03/93), Q.706 (03/93), Q.707 (11/88), Q.708 (03/99), Q.709 (03/93): "Functional description of the message transfer part (MTP) of Signalling System No. 7".

[4] ITU-T Recommendations Q.761to Q.764 (12/99): "Specifications of Signalling System No.7 ISDN User Part (ISUP)".

[5] Void.

[6] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[7] Void.

[8] 3GPP TS 24.228: "Signalling flows for the IP multimedia call control based on SIP and SDP".