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TECHNICAL SPECIFICATION

Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);
LTE;
IP Multimedia Subsystem (IMS)
Application Level Gateway (IMS-ALG) -
IMS Access Gateway (IMS-AGW) interface:
Procedures descriptions
(3GPP TS 23.334 version 13.10.0 Release 13)

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1 Scope

Annex G of 3GPP TS 23.228 [2] gives out an IMS Application Level Gateway (IMS-ALG) and IMS Access Media Gateway (IMS-AGW) based reference model to support NAPT-PT, gate control and traffic policing between IP-CAN and IMS domain.

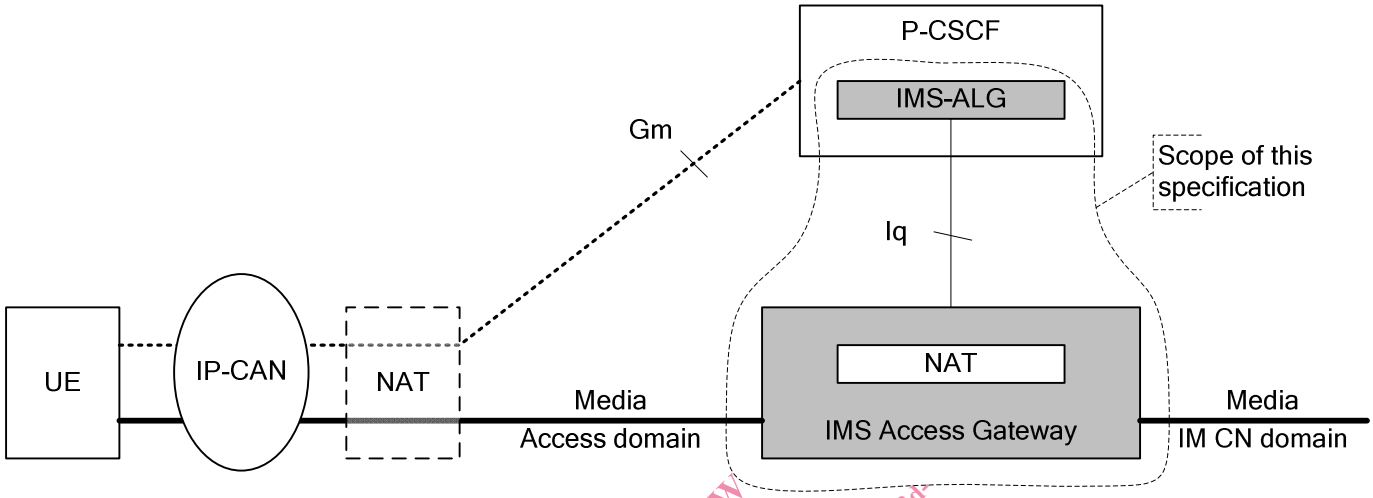

Figure 1.1: Scope of the specification

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Figure 1.1 illustrates the reference model for Iq:

- the dashed line represents the IP signalling-path with SIP (at Gm) as call/session control protocol between the UE and the P-CSCF (IMS-ALG);
- the bold, horizontal line represents the IP media-path (also known as (IP) bearer-path or (IP) data-path; the notion 'media' is used as generic term for "IP application data"); and
- the vertical line represents the Iq control-path with H.248 as gateway/policy control protocol between the IMS-ALG and the IMS-AGW (H.248 messages are transported over IP).

The Iq reference point is between the P-CSCF (IMS-ALG) and the IMS-AGW. It conveys the necessary information that is needed to allocate, modify and release (IP) transport addresses.

The present document defines the stage 2 description for the Iq reference point. The stage 2 shall cover the information flow between the P-CSCF (IMS-ALG) and IMS-AGW. The protocol used over the Iq interface is the gateway control protocol according ITU-T Recommendation H.248 (which is specified for Iq by an H.248 profile according 3GPP TS 29.334 [3]).

2 References

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

[2] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS), stage 2".

[3] 3GPP TS 29.334: "IMS Application Level Gateway (IMS-ALG) – IMS Access Gateway (IMS-AGW) Iq interface, stage 3".

[4] IETF RFC 2663: "IP Network Address Translator (NAT) Terminology and Considerations".

[5] 3GPP TS 32.260: "Telecommunication management; Charging management; IP Multimedia Subsystem (IMS) charging".

[6] IETF RFC 3556: "Session Description Protocol (SDP) Bandwidth Modifiers for RTP Control Protocol (RTCP) Bandwidth".

[7] IETF RFC 3605: "Real Time Control Protocol (RTCP) attribute in Session Description Protocol (SDP)".

[8] 3GPP TS 23.205: "Bearer independent circuit-switched core network; Stage 2".

[9] ITU-T Recommendation H.248.1 (05/2002): "Gateway Control Protocol: Version 2" including the Corrigendum1 for Version 2 (03/04).

[10] IETF RFC 2216: "Network Element Service Template".

[11] 3GPP TS 24.229: "IP Multimedia Call Control Protocol based on SIP and SDP".

[12] 3GPP TS 33.328: "IMS Media Plane Security".

[13] IETF RFC 4568: "Session Description Protocol (SDP) Security Descriptions for Media Streams".

[14] IETF RFC 3711: "The Secure Real-time Transport Protocol (SRTP)".

[15] IETF RFC 5124: "Extended Secure RTP Profile for Real-time Transport Control Protocol (RTCP)-Based Feedback (RTP/SAVPF)".

[16] IETF RFC 3168: "The Addition of Explicit Congestion Notification (ECN) to IP".

[17] IETF RFC 6679: "Explicit Congestion Notification (ECN) for RTP over UDP".

[18] 3GPP TS 23.237: "IP Multimedia subsystem (IMS) Service Continuity; Stage 2".

[19] 3GPP TS 24.237: "IP Multimedia subsystem (IMS) Service Continuity; Stage 3".

[20] 3GPP TS 29.162: "Interworking between the IM CN subsystem and IP networks".

[21] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[22] 3GPP TS 22.153: "Multimedia Priority Service".

[23] IETF RFC 5285: "A General Mechanism for RTP Header Extensions".

[24] IETF RFC 6236: "Negotiation of Generic Image Attributes in the Session Description Protocol (SDP)".

[25] IETF RFC 4975: "The Message Session Relay Protocol (MSRP)".

[26] IETF RFC 6714: "Connection Establishment for Media Anchoring (CEMA) for the Message Session Relay Protocol (MSRP)".

[27] IETF RFC 4583: "Session Description Protocol (SDP) Format for Binary Floor Control Protocol (BFCP) Streams".

[28] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

[29] IETF RFC 793: "Transmission Control Protocol – DARPA Internet Program – Protocol Specification".

[30] IETF RFC 4145: "TCP-Based Media Transport in the Session Description Protocol (SDP)".

[31] IETF RFC 4582: "The Binary Floor Control Protocol (BFCP)".

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[32] IETF RFC 6347: "Datagram Transport Layer Security Version 1.2".

[33] IETF RFC 7345: "UDP Transport Layer (UDPTL) over Datagram Transport Layer Security (DTLS)".

[34] IETF draft-schwarz-mmusic-sdp-for-gw-04: "SDP codepoints for gateway control".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

[35] GSM Association RCC.07: "Rich Communication Suite 5.1 Advanced Communications Services and Client Specification, Version 2.0, 03 May 2013".

[36] GSM Association RCC.07: "Rich Communication Suite 5.1 Advanced Communications Services and Client Specification, Version 3.0, 25 September 2013".

[37] Void.

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