

ETSI TS 129 334 V14.7.0 (2024-04)



**Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);**

LTE;

IMS Application Level Gateway (IMS-ALG)

– IMS Access Gateway (IMS-AGW);

Iq Interface;

Stage 3

(3GPP TS 29.334 version 14.7.0 Release 14)



Reference

RTS/TSGC-0429334ve70

Keywords

GSM,LTE,UMTS

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- need not** indicates permission not to do something

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- can** indicates that something is possible
- cannot** indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

- will** indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document
- will not** indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document
- might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

might not indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

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1 Scope

The present document describes the protocol to be used on the IMS Application Level Gateway (ALG) – IMS Access Gateway (IMS-AGW) interface. The basis for this protocol is the H.248 protocol as specified in ITU-T. The IMS architecture is described in 3GPP TS 23.228 [2]. The underlying reference model and stage 2 information is described in Annex G of 3GPP TS 23.228 [2] and in 3GPP TS 23.334 [23].

This specification describes the application of H.248 on the Iq interface (see Figure 1). Required extensions use the H.248 standard extension mechanism. In addition certain aspects of the base protocol H.248 are not needed for this interface and thus excluded by this profile.

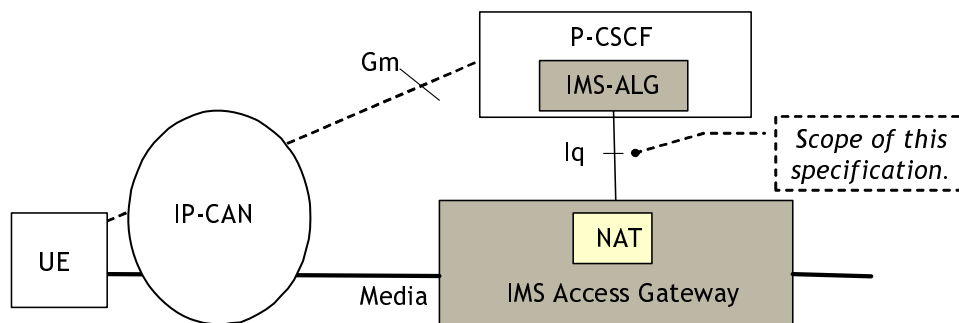


Figure 1: Reference model for IMS access

The reference model for the IMS-ALG and the IMS-AGW supporting the ATCF/ATGW function is shown in Figure 1a below.

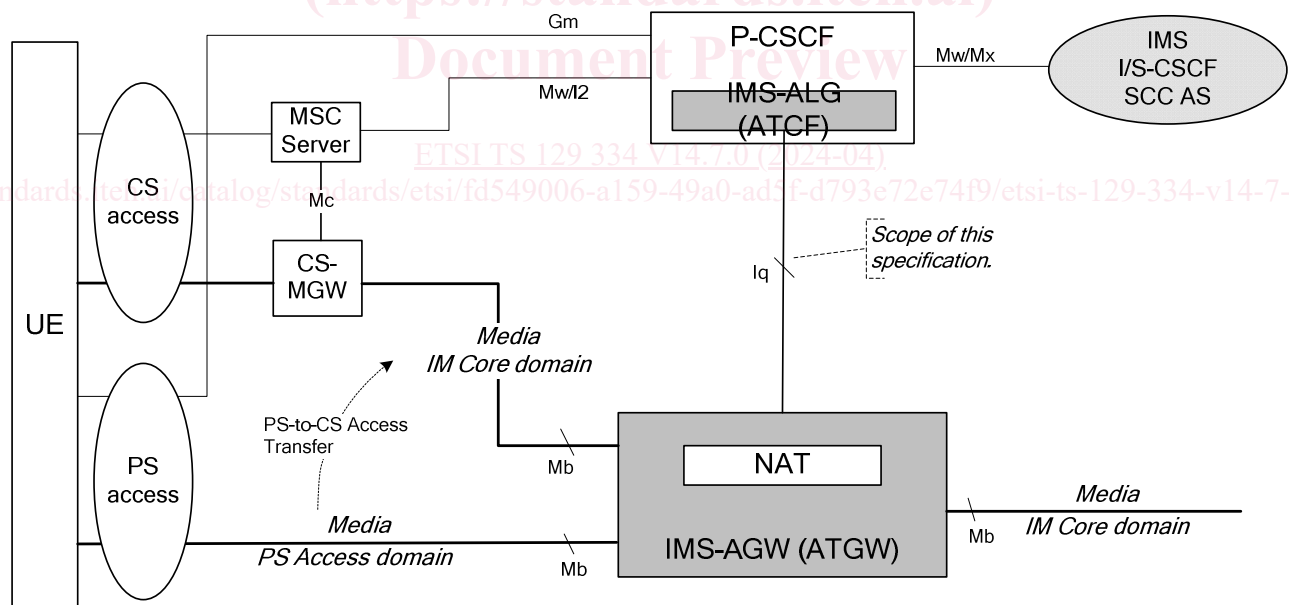


Figure 1a: Reference model for IMS-ALG/IMS-AGW with ATCF/ATGW function

See 3GPP TS 23.237 [38] clause 5.2 for a comprehensive description of the reference model.

The reference model for the P-CSCF enhanced for WebRTC (eP-CSCF) and the IMS-AGW enhanced for WebRTC (eIMS-AGW) to support WebRTC client access to IMS is shown in Figure 1b as below, see 3GPP TS 23.228 [2] Annex U for a comprehensive description of the reference model.

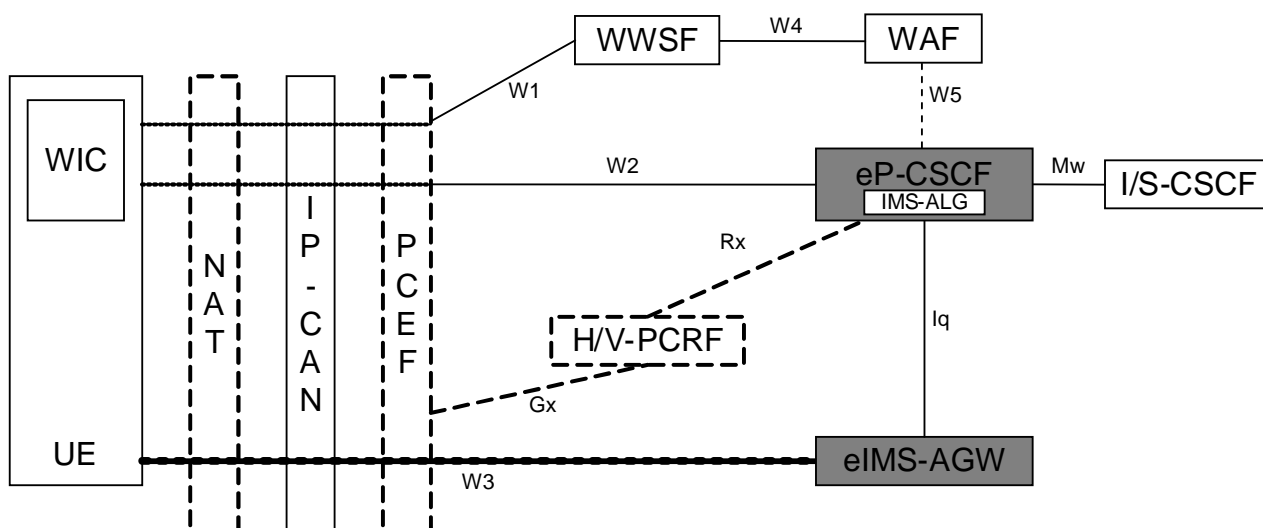


Figure 1b: Reference Architecture for eP-CSCF/eIMS-AGW supporting WebRTC access to IMS

NOTE: The presence of dashed elements in the figure depends on the configuration. PCC functional elements are present only for EPC access with QoS. The corresponding PCC elements for fixed access are also optionally supported but not shown. The NAT in figure 1b is meant for non-cellular access to IMS.

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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- [2] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".
- [3] ETSI TS 183 018 V3.5.1 (2009-07): "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Resource and Admission Control: H.248 Profile Version 3 for controlling Border Gateway Functions (BGF) in the Resource and Admission Control Subsystem (RACS); Protocol specification".
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- [5] ITU-T Recommendation H.248.57 (10/2014): "Gateway control protocol: RTP Control Protocol Package".
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- [24] ITU-T Recommendation H.248.40 (01/2007): "Gateway control protocol: Application Data Inactivity Detection package".
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- [26] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia telephony; Media handling and interaction".
- [27] 3GPP TS 33.210: "Technical Specification Group Services and System Aspects;3G Security; Network Domain Security; IP Network Layer Security".
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- [36] Void
- [37] Void
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- [49] ITU-T Recommendation H.248.92 (10/2014): "Gateway control protocol: Stream endpoint interlinkage package".
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- [79] IETF RFC 7728: "RTP Stream Pause and Resume".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

Address: term used for "network address" (IP address)

End-to-access edge security: media protection extending between an IMS UE and the first IMS core network node in the media path without being terminated by any intermediary node.

Port: term used for "transport port" (L4 port).

Transcoding: transcoding in general is the translation from one type of encoded media format to another different media format, e.g. G.711 A-law to μ -law or vice versa, G.729 to AMR with 4.75 rate.

NOTE 1: The definition of "transcoding" is according clause 3.10 of ITU-T Recommendation V.152 [23].

NOTE 2: Transcoding belongs to the category of "media aware" IP-to-IP interworking.

Transparent Forwarding: media gateway packet forwarding behaviour with the characteristic of Lx-PDU integrity. This is a unidirectional characteristic of an Lx-PDU flow.

NOTE 3: The definition is according clause 3.2.10 of ITU-T Recommendation H.248.88 [71].

NOTE 4: The semantic covers both traffic directions when applied on H.248 Streams (due to their inherent characteristic of bidirectionality).

Transport Address: term used for the combination of a *Network Address* and a *Transport Port*.

For the purposes of the present document, the following terms and definitions as defined in 3GPP TS 23.334 [23] apply:

ICE lite

Full ICE.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

Iq Interface between the IMS Application Level Gateway (ALG) (IMS-ALG) and the IMS Access Gateway (IMS-AGW)

3.3 Abbreviations

For the purposes of the present document, the abbreviations defined in 3GPP TR 21.905 [1] apply, with the following additions. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

ABNF	Augmented Backus-Naur Form
ATCF	Access Transfer Control Function
ATGW	Access Transfer Gateway
B-ALG	Bearer Level Application-Level Gateway
BFCP	Binary Floor Control Protocol
CCM	Codec Control Messages
CVO	Coordination of Video Orientation
DSCP	Differentiated Service Code Point
e2ae	End-to-Access-Edge (security model)
ECN	Explicit Congestion Notification
eIMS-AGW	IMS Access Gateway enhanced for WebRTC
eP-CSCF	P-CSCF enhanced for WebRTC
FECC	Far End Camera Control
FIR	Full Intra Request
GTT	Global Text Telephony
ICE	Interactive Connectivity Establishment
IMS-AGW	IMS Access Gateway
IMS-ALG	IMS Application Level Gateway
IP	Internet Protocol
LD	Local Descriptor (H.248 protocol element)
MG	Media Gateway
MGC	Media Gateway Controller
MPS	Multimedia Priority Service