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Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IMS - based PSTN/ISDN Emulation; Stage 3 specification

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Foreword

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1 Scope

The present document defines call control protocols and procedures for use in the IMS-based PSTN/ISDN Emulation subsystem based on the Media Gateway Control Protocol (MEGACO), the Session Initiation Protocol (SIP), and the associated Session Description Protocol (SDP).

NOTE: The present document relies on the architectural framework defined in TS 182 012 [3] for IMS-based PES Emulation and may need to be updated once the open issues identified in the present document are resolved.

The present document is applicable to:

- the interface between the User Equipment (UE) and the Call Session Control Function (CSCF);
- the interface between the Access Gateway Control Function (AGCF) and the Media Gateway Function (MGF);
- the interface between the Access Gateway Control Function (AGCF) and the Call Session Control Function (CSCF);
- the interface between the CSCF and any other CSCF;
- the interface between the CSCF and an Application Server (AS);
- the interface between the CSCF and the Media Gateway Control Function (MGCF);
- the interface between the S-CSCF and the Multimedia Resource Function Controller (MRFC);
- the interface between the CSCF and the Breakout Gateway Control Function (BGCF);
- the interface between the BGCF and the MGCF;
- the interface between the BGCF and any other BGCF;
- the interface between the CSCF and an external Multimedia IP network;
- the interface between the CSCF and the IBCF.

2 References

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2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ETSI ES 282 001: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Functional Architecture".
- [2] ETSI TS 182 006: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IP Multimedia Subsystem (IMS); Stage 2 description [3GPP TS 23.506 Release 8, modified]".
- [3] ETSI TS 182 012: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IMS-based PSTN/ISDN Emulation Sub-system (PES); Functional architecture".
- [4] ETSI ES 283 003: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IP Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP) Stage 3 [3GPP TS 24.229 [Release 7], modified]".
- [5] ETSI ES 283 002: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); H.248 Profile for controlling Access and Residential Gateways".
- [6] ETSI TS 183 028: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Common Basic Communication procedures; Protocol specification".
- [7] ETSI TS 183 047: TISPAN NGN "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN IMS Supplementary Services; Advice of Charge (AoC)".
- [8] ETSI TS 183 010: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Signalling Control Protocol; Communication HOLD (HOLD) PSTN/ISDN simulation services; Protocol specification".
- [9] ETSI TS 183 004: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Communication Diversion (CDIV); Protocol specification".
- [10] ETSI ES 200 659-3: "Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 3: Data link message and parameter codings".
- [11] ETSI EG 201 973-2: "Access and Terminals (AT); Public Switched Telephone Network; Support of legacy terminals by Broadband IP networks and equipment; Part 2: Analogue PSTN terminals".
- [12] ETSI ETS 300 738: "Human Factors (HF); Minimum Man-Machine Interface (MMI) to public network based supplementary services".
- [13] ITU-T Recommendation H.248.23: "Gateway control protocol: Enhanced Alerting packages".
- [14] ITU-T Recommendation H.248.26: "Gateway control protocol: Enhanced analog lines packages".
- [15] IETF draft-ietf-sipping-config-framework-15: "A Framework for Session Initiation Protocol User Agent Profile Delivery".
- [16] IETF RFC 4240: "Basic Network Media Services with SIP".
- [17] IETF RFC 4733: "RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals".
- [18] IETF RFC 3842: "A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)".

- [19] IETF RFC 3966: "The tel URI for Telephone Numbers".
- [20] ETSI EN 383 001: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control (BICC) Protocol or ISDN User Part (ISUP) [ITU-T Recommendation Q.1912.5, modified]".
- [21] IETF RFC 2805: "Media Gateway Control Protocol Architecture and Requirements".
- [22] ITU-T Recommendation H.248.1: "Gateway control protocol".
- [23] ITU-T Recommendation G.711: "Pulse code modulation (PCM) of voice frequencies".
- [24] IETF RFC 3323: "A Privacy Mechanism for the Session Initiation Protocol (SIP)".
- [25] IETF RFC 3325: "Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks".
- [26] ETSI TS 183 006: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Message Waiting Indication (MWI): Protocol specification".
- [27] ETSI TS 183 011: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Anonymous Communication Rejection (ACR) and Communication Barring (CB); Protocol specification".
- [28] ETSI ES 282 010: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Charging management [Endorsement of 3GPP TS 32.240 Release 7, 3GPP TS 32.260 Release 7, 3GPP TS 32.297 Release 7, 3GPP TS 32.298 Release 7 and 3GPP TS 32.299 Release 7, modified]".
- [29] ITU-T Recommendation Q.763: "Signalling System No. 7 - ISDN User Part formats and codes".
- [30] ITU-T Recommendation Q.764: "Signalling System No. 7 - ISDN User Part signalling procedures".
- [31] ITU-T Recommendation Q.1980.1: "The Narrowband Signalling Syntax (NSS) - Syntax definition".
- [32] ETSI ES 283 027: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Endorsement of the SIP-ISUP Interworking between the IP Multimedia (IM) Core Network (CN) subsystem and Circuit Switched (CS) networks [3GPP TS 29.163 (Release 7), modified]".
- [33] ETSI TS 183 023: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating NGN PSTN/ISDN Simulation Services".
- [34] ETSI EN 300 356 (all parts): "Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); ISDN User Part (ISUP) version 4 for the international interface".
- [35] ITU-T Recommendation Q.735.3: "Multi-level precedence and preemption".
- [36] ITU-T Recommendation Q.735.6: "Global Virtual Network Service (GVNS)".
- [37] ITU-T Recommendation Q.736.3: "Reverse charging (REV)".
- [38] IETF RFC 3261: "SIP: Session Initiation Protocol".
- [39] ETSI EN 301 798: "Services and Protocols for Advanced Networks (SPAN); Anonymous Call Rejection (ACR) Supplementary Service; Service description".
- [40] ETSI TS 183 036: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); ISDN/SIP interworking; Protocol specification".