



**Universal Mobile Telecommunications System (UMTS);
LTE;
Evolved Packet System (EPS);
Mobility Management Entity (MME)
and Serving GPRS Support Node (SGSN)
related interfaces based on Diameter protocol
(3GPP TS 29.272 version 14.9.0 Release 14)**



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1 Scope

The present document describes the Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related diameter-based interfaces towards the Home Subscriber Server (HSS) or the CSG Subscriber Server (CSS), and the MME and the SGSN related diameter-based interface towards the Equipment Identity Register (EIR).

This specification defines the Diameter application for the MME-HSS, S6a reference point, for the MME-CSS, S7a reference point, for the SGSN-HSS, S6d reference point, and for the SGSN-CSS, S7d reference point. The interactions between the HSS/CSS and the MME/SGSN are specified, including the signalling flows.

This specification defines the Diameter application for the MME-EIR, S13 reference point, and for the SGSN-EIR, S13' reference point. The interactions between the MME/SGSN and the EIR are specified, including the signalling flows.

In this specification, if there is no specific indication, the following principles apply:

- "SGSN" refers to an SGSN which at least supports the S4 interface and may support Gn and Gp interfaces.
- "S4-SGSN" refers to an SGSN which supports the S4 interface and does not support Gn and Gp interfaces.
- Gn/Gp-SGSN refers to an SGSN which supports the Gn and Gp interfaces and does not support S4 interface.
- "GPRS subscription data" refers to the parameters in the HLR column in Table 5.2. in 3GPP TS 23.008 [30].
- "EPS subscription data" refers to the parameters in the HSS column in Table 5.2A-1 in 3GPP TS 23.008 [30].

The Evolved Packet System stage 2 description (architecture and functional solutions) is specified in 3GPP TS 23.401 [2] and in 3GPP TS 23.060 [12].

SGSN CAMEL Subscription Data are not supported over S6d interface.

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 TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.401: "GPRS enhancements for E-UTRAN access".
- [3] 3GPP TS 23.003: "Numbering, addressing and identification".
- [4] Void.
- [5] 3GPP TS 33.401: "3GPP System Architecture Evolution: Security Architecture".
- [6] Void".
- [7] IETF RFC 2234: "Augmented BNF for syntax specifications".
- [8] 3GPP TS 32.299: "Charging management; Diameter charging applications".
- [9] 3GPP TS 29.229: "Cx and Dx interfaces based on the Diameter protocol".
- [10] 3GPP TS 29.212: "Policy and Charging Control (PCC); Reference points".

- [11] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point".
- [12] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [13] 3GPP TS 22.016: "International Mobile station Equipment Identities (IMEI)".
- [14] IETF RFC 4960: "Stream Control Transmission Protocol".
- [15] Void
- [16] 3GPP TS 33.210: "3G Security; Network Domain Security; IP Network Layer Security"..
- [17] 3GPP TS 29.228: "IP multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and Message Elements".
- [18] 3GPP TS 33.102: "3G Security; Security Architecture".
- [19] 3GPP TS 36.413: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP)".
- [20] IETF RFC 5778: "Diameter Mobile IPv6: Support for Home Agent to Diameter Server Interaction".
- [21] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting packet based services and Packet Data Networks (PDN)".
- [22] 3GPP TS 32.298: "Charging Management; CDR parameter description".
- [23] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".
- [24] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".
- [25] 3GPP TS 29.329: "Sh Interface based on the Diameter protocol".
- [26] IETF RFC 5447: "Diameter Mobile IPv6: Support for Network Access Server to Diameter Server Interaction".
- [27] IETF RFC 4004: "Diameter Mobile IPv4 Application".
- [28] 3GPP2 A.S0022: "Interoperability Specification (IOS) for Evolved High Rate Packet Data (eHRPD) Radio Access Network Interfaces and Interworking with Enhanced Universal Terrestrial Radio Access Network (E-UTRAN)".
- [29] 3GPP TS 23.011: "Technical realization of Supplementary Services - General Aspects".
- [30] 3GPP TS 23.008: "Organization of subscriber data".
- [31] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".
- [32] IETF RFC 5516: "Diameter Command Code Registration for Third Generation Partnership Project (3GPP) Evolved Packet System (EPS)".
- [33] 3GPP TS 32.251: "Telecommunication management; Charging management; Packet Switched (PS) domain charging".
- [34] 3GPP TS 23.292: "IP Multimedia Subsystem (IMS) centralized services ".
- [35] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC)".
- [36] 3GPP TS 23.015: "Technical realization of Operator Determined Barring (ODB)".
- [37] 3GPP TS 29.173: "Diameter-based SLh interface for Control Plane LCS".
- [38] 3GPP TS 29.303: "Domain Name System Procedures; Stage 3".
- [39] 3GPP TS 29.060: "General Packet Radio Service (GPRS); GPRS Tunnelling Protocol (GTP) across the Gn and Gp Interface".