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**Universal Mobile Telecommunications System (UMTS);  
LTE;  
Policy and Charging Control (PCC);  
Reference points  
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# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

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x the first digit:

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# 1 Scope

The present document provides the stage 3 specification of the Gx, Gxx and Sd reference points for the present release. The functional requirements and the stage 2 specifications of the Gx, Gxx and Sd reference points are contained in 3GPP TS 23.203 [7]. The Gx reference point lies between the Policy and Charging Rule Function and the Policy and Charging Enforcement Function. The Gxx reference point lies between the Policy and Charging Rule Function and the Bearer Binding and Event Reporting Function. The Sd reference point lies between the Policy and Charging Rule Function and the Traffic Detection Function.

Whenever it is possible the present document specifies the requirements for the protocol by reference to specifications produced by the IETF within the scope of Diameter. Where this is not possible, extensions to Diameter are defined within the present document.

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# 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 and/or edition number or version number) 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 29.210: "Charging Rule Provisioning over Gx Interface".
- [3] Void.
- [4] Void.
- [5] IETF RFC 3588: "Diameter Base Protocol".
- [6] Void.
- [7] 3GPP TS 23.203: "Policy Control and Charging architecture".
- [8] 3GPP TS 29.213: "Policy and charging control signalling flows and Quality of Service (QoS) parameter mapping".
- [9] IETF RFC 4006: "Diameter Credit Control Application".
- [10] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point".
- [11] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting packet based services and Packet Data Networks (PDN)".
- [12] IETF RFC 4005: "Diameter Network Access Server Application".
- [13] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification".
- [14] 3GPP TS 29.229: "Cx and Dx interfaces based on Diameter protocol; Protocol details".
- [15] IETF RFC 3162: "Radius and Ipv6".
- [16] 3GPP TS 32.295: "Telecommunication management; Charging management; Charging Data Record (CDR) transfer".