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Contents

Foreword

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1 Scope

The present document specifies the Packet Forwarding Control Protocol (PFCP) used on the interface between the control plane and the user plane function in a split SGW, PGW and TDF architecture in EPC.

The architecture reference model and stage 2 information are specified in 3GPP TS 23.214 [2].

PFCP shall be used over the Sxa, Sxb, Sxc and the combined Sxa/Sxb reference points.

PFCP shall also be used over the Sxa' and Sxb' reference points specified in 3GPP TS 33.107 [20]. In the rest of this specification, no difference is made between Sxa and Sxa', or between Sxb and Sxb'. The Sxa' and Sxb' reference points reuse the protocol specified for the Sxa and Sxb reference points, but comply in addition with the security requirements specified in clause 8 of 3GPP 33.107 [20].

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 23.214: "Architecture enhancements for control and user plane separation of EPC nodes; Stage 2".

[3] 3GPP TS 29.281: "General Packet Radio System (GPRS) Tunnelling Protocol User Plane (GTPv1-U)".

[4] IETF RFC 768: "User Datagram Protocol".

[5] IETF RFC 791: "Internet Protocol".

[6] IETF RFC 2460: "Internet Protocol, Version 6 (IPv6) Specification".

[7] 3GPP TS 23.203: "Policy and charging control architecture; Stage 2".

[8] 3GPP TS 29.212: "Policy and Charging Control (PCC); Reference points".

[9] 3GPP TS 29.274: "3GPP Evolved Packet System. Evolved GPRS Tunnelling Protocol for EPS (GTPv2)".

[10] 3GPP TS 36.413: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP)".

[11] 3GPP TS 29.213: "Policy and Charging Control signalling flows and Quality of Service (QoS) parameter mapping".

[12] IETF RFC 5905: "Network Time Protocol Version 4: Protocol and Algorithms Specification".

[13] IETF RFC 2474: "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".

[14] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".

[15] 3GPP TS 22.153: "Multimedia Priority Service".

[16] IETF RFC 4006: "Diameter Credit Control Application".

[17] 3GPP TS 32.251: "Telecommunication management; Charging management; Packet Switched (PS) domain charging".

[18] 3GPP TS 32.299: "Telecommunication management; Charging management; Diameter charging application".

[19] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[20] 3GPP TS 33.107: "3G security; Lawful interception architecture and functions".

[21] 3GPP TS 29.251: "Gw and Gwn reference points for sponsored data connectivity".

[22] IETF RFC 2474, "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".

[23] IETF RFC 7230: "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing".

[24] 3GPP TS 23.007: "Restoration procedures".

[25] 3GPP TS 29.303: "Domain Name System Procedures; Stage 3"

[26] IETF RFC 5905: "Network Time Protocol Version 4: Protocol and Algorithms Specification".

[27] IETF RFC 1035: "Domain Names - Implementation and Specification".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

Match Field: a field of the Packet Detection Information of a Packet Detection Rule against which a packet is attempted to be matched.

Matching: comparing the set of header fields of a packet to the match fields of the Packet Detection Information of a Packet Detection Rule.

3.2 Abbreviations

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

ADC	Application Detection and Control
BAR	Buffering Action Rule
CP	Control Plane
DDoS	Distributed Denial of Service
DSCP	Differentiated Services Code Point
eMPS	enhanced Multimedia Priority Service
FAR	Forwarding Action Rule
F-SEID	Fully Qualified SEID
F-TEID	Fully Qualified TEID
IP	Internet Protocol