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**Digital cellular telecommunications system (Phase 2+) (GSM);  
Universal Mobile Telecommunications System (UMTS);  
LTE;  
5G;  
Diameter applications;  
3GPP specific codes and identifiers  
(3GPP TS 29.230 version 18.6.0 Release 18)**



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# Foreword

This Technical Specification has been produced by the 3rd 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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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

In the present document, modal verbs have the following meanings:

- shall** indicates a mandatory requirement to do something
- shall not** indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

- should** indicates a recommendation to do something
- should not** indicates a recommendation not to do something
- may** indicates permission to do something
- need not** indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

- 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

In addition:

**is** (or any other verb in the indicative mood) indicates a statement of fact

**is not** (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

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# 1 Scope

The present document lists the 3GPP specific Diameter protocol codes, including the AVP codes and Experimental result codes.

This document lists also the application identifiers assigned to 3GPP specific Diameter applications by IANA and the Diameter command code range which is assigned to 3GPP by IANA.

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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, 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 TS 29.228: "IP Multimedia (IM) Subsystem Cx and Dx interfaces; Signalling flows and message contents".
- [2] 3GPP TS 29.229: "Cx and Dx interfaces based on the Diameter protocol; Protocol details".
- [3] 3GPP TS 29.328: "IP Multimedia (IM) Subsystem Sh interface; Signalling flows and message contents".
- [4] 3GPP TS 29.329: "Sh Interface based on the Diameter protocol; Protocol details".
- [5] 3GPP TS 32.299: "Telecommunication management; Charging management; Diameter charging applications".
- [6] 3GPP TS 29.234, Release 11: "3GPP system to Wireless Local Area Network (WLAN) interworking; Stage 3".
- [7] 3GPP TS 29.109: "Generic Authentication Architecture (GAA); Zh and Zn Interfaces based on the Diameter protocol; Stage 3".
- [8] 3GPP TS 29.209, Release 6: "Policy control over Gq interface".
- [9] IETF RFC 3588: "Diameter Base Protocol".
- [10] IETF RFC 3589: "Diameter Command Codes for Third Generation Partnership Project (3GPP) Release 5".
- [11] IANA's Enterprise-Numbers: <http://www.iana.org/assignments/enterprise-numbers>
- [12] IANA's AAA parameters register: <ftp://ftp.iana.org/assignments/aaa-parameters/>
- [13] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting packet based services and Packet Data Networks (PDN)".
- [14] 3GPP TS 32.296: "Telecommunication management; Charging management; Online Charging System (OCS): Applications and interfaces".
- [15] 3GPP TS 29.210, Release 6: "Charging rule provisioning over Gx interface".
- [16] 3GPP TS 29.140, Release 6: "Multimedia Messaging Service (MMS); MM10 interface based on Diameter protocol; Stage 3".

- [17] 3GPP TS 29.211, Release 6: "Rx Interface and Rx/Gx signalling flows".
- [18] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point".
- [19] 3GPP TS 29.212: "Policy and Charging Control (PCC);Reference points".
- [20] 3GPP TS 29.273: "Evolved Packet System (EPS); 3GPP EPS AAA interfaces".
- [21] 3GPP TS 29.272: "Evolved Packet System (EPS); Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol".
- [22] 3GPP TS 29.215: "Policy and Charging Control (PCC) over S9 reference point; Stage 3".
- [23] IETF RFC 5516: "Diameter Command Code Registration for Third Generation Partnership Project (3GPP) Evolved Packet System (EPS)".
- [24] 3GPP TS 29.172: "Location Services (LCS); Evolved Packet Core (EPC) LCS Protocol (ELP) between the Gateway Mobile Location Centre (GMLC) and the Mobile Management Entity (MME); SLg interface".
- [25] 3GPP TS 29.173: "Location Services (LCS); Diameter-based SLh interface for Control Plane LCS".
- [26] 3GPP TS 29.219: "Policy and Charging Control: Spending Limit Reporting over Sy reference point".
- [27] 3GPP TS 29.368: "Tsp interface protocol between the MTC Interworking Function (MTC-IWF) and Service Capability Server (SCS)".
- [28] 3GPP TS 29.336: "Home Subscriber Server (HSS) diameter interfaces for interworking with packet data networks and applications".
- [29] 3GPP TS 29.337: "Diameter-based T4 interface for communications with packet data networks and applications".
- [30] 3GPP TS 29.338: "Diameter based protocols to support SMS capable MMEs".
- [31] 3GPP TS 29.468: "Group Communication System Enablers for LTE (GCSE\_LTE)".
- [32] 3GPP TS 29.343: "Proximity-services (ProSe) function to ProSe application server aspects (PC2)".
- [33] 3GPP TS 29.344: "Proximity-services (ProSe) Function to Home Subscriber Server (HSS) aspects".
- [34] 3GPP TS 29.345: "Inter-Proximity-services (ProSe) function signalling aspects; Stage 3".
- [35] 3GPP TS 29.217: "Policy and Charging Control over Np reference point".
- [36] 3GPP TS 29.128: "Diameter based T6a/T6b interface between the MME/SGSN and the SCEF".
- [37] 3GPP TS 29.153: "Service exposure functionality between SCEF and RCAF reference point".
- [38] 3GPP TS 29.154: "Service capability exposure functionality over Nt Reference point".
- [39] 3GPP TS 29.283: "Diameter Data Management applications".
- [40] 3GPP TS 29.388: "V2X Control Function to V2X Control Function to Home Subscriber Server (HSS) aspects (V4)".
- [41] 3GPP TS 29.389: "Inter-V2X Control Function Signalling aspects (V6)".
- [42] 3GPP TS 29.561: "Interworking between 5G Network and external Data Networks; Stage 3".
- [43] 3GPP TS 29.330: " IP Multimedia Subsystem (IMS); Sc Interface based on the Diameter protocol".



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# 3 Definitions and abbreviations

## 3.1 Definitions

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

**3GPP specific:** A definition which is used in conjunction with the 3GPP's vendor identifier.

## 3.2 Abbreviations

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

|      |                                     |
|------|-------------------------------------|
| AVP  | Attribute-Value-Pair                |
| CR   | Change Request                      |
| IANA | Internet Assigned Numbers Authority |
| IETF | Internet Engineering Task Force     |
| LS   | Liaison Statement                   |

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# 4 Application identifiers

The Diameter applications are identified with the application identifiers as specified in the RFC 3588 [9]. There are two kind of applications: IETF standards track applications and vendor specific applications. All application identifiers are assigned by IANA [12]. This chapter lists the application identifiers assigned by IANA to all 3GPP Diameter applications.

The application identifiers are transferred in Diameter command's header in the Application-ID field.

## 4.1 3GPP specific application identifiers

The 3GPP specific application identifiers allocated by IANA are listed in the following table.

**Table 4.1: 3GPP specific application identifiers**

| Application identifier | Application                   | 3GPP TS                   |
|------------------------|-------------------------------|---------------------------|
| 16777216               | 3GPP Cx/Px                    | 29.228 [1] and 29.229 [2] |
| 16777217               | 3GPP Sh/Ph                    | 29.328 [3] and 29.329 [4] |
| 16777218               | 3GPP Re                       | 32.296 [14]               |
| 16777219               | 3GPP Wx                       | 29.234 [6]                |
| 16777220               | 3GPP Zn                       | 29.109 [7]                |
| 16777221               | 3GPP Zh                       | 29.109 [7]                |
| 16777222               | 3GPP Gq                       | 29.209 [8]                |
| 16777223               | 3GPP Gmb                      | 29.061 [13]               |
| 16777224               | 3GPP Gx                       | 29.210 [15]               |
| 16777225               | 3GPP Gx over Gy               | 29.210 [15]               |
| 16777226               | 3GPP MM10                     | 29.140 [16]               |
| 16777229               | 3GPP Rx                       | 29.211 [17]               |
| 16777230               | 3GPP Pr                       | 29.234 [6]                |
| 16777236               | 3GPP Rx                       | 29.214 [18]               |
| 16777238               | 3GPP Gx                       | 29.212 [19]               |
| 16777250               | 3GPP STa                      | 29.273 [20]               |
| 16777251               | 3GPP S6a                      | 29.272 [21]               |
| 16777252               | 3GPP S13/S13'                 | 29.272 [21]               |
| 16777255               | 3GPP SLg                      | 29.172 [24]               |
| 16777264               | 3GPP SWm                      | 29.273 [20]               |
| 16777265               | 3GPP SWx                      | 29.273 [20]               |
| 16777266               | 3GPP Gxx                      | 29.212 [19]               |
| 16777267               | 3GPP S9                       | 29.215 [22]               |
| 16777268               | 3GPP Zpn                      | 29.109 [7]                |
| 16777272               | 3GPP S6b                      | 29.273 [20]               |
| 16777291               | 3GPP SLh                      | 29.173 [25]               |
| 16777292               | 3GPP SGmb                     | 29.061 [13]               |
| 16777302               | 3GPP Sy                       | 29.219 [26]               |
| 16777303               | 3GPP Sd                       | 29.212 [19]               |
| 16777308               | 3GPP S7a                      | 29.272 [21]               |
| 16777309               | 3GPP Tsp                      | 29.368 [27]               |
| 16777310               | 3GPP S6m                      | 29.336 [28]               |
| 16777311               | 3GPP T4                       | 29.337 [29]               |
| 16777312               | 3GPP S6c                      | 29.338 [30]               |
| 16777313               | 3GPP SGd                      | 29.338 [30]               |
| 16777318               | 3GPP S15                      | 29.212 [19]               |
| 16777319               | 3GPP S9a                      | 29.215 [22]               |
| 16777320               | 3GPP S9a*                     | 29.215 [22]               |
| 16777335               | 3GPP MB2-C                    | 29.468 [31]               |
| 16777336               | 3GPP PC4a                     | 29.344 [33]               |
| 16777337               | 3GPP PC2                      | 29.343 [32]               |
| 16777340               | 3GPP PC6/PC7                  | 29.345 [34]               |
| 16777342               | 3GPP Np                       | 29.217 [35]               |
| 16777345               | 3GPP S6t                      | 29.336 [28]               |
| 16777346               | 3GPP T6a/T6b                  | 29.128 [36]               |
| 16777347               | 3GPP Ns                       | 29.153 [37]               |
| 16777348               | 3GPP Nt                       | 29.154 [38]               |
| 16777349               | 3GPP St                       | 29.212 [19]               |
| 16777350               | 3GPP PC2                      | 29.343 [32]               |
| 16777351               | 3GPP Diameter Data Management | 29.283 [39]               |
| 16777355               | 3GPP V4                       | 29.388 [40]               |
| 16777356               | 3GPP V6                       | 29.389 [41]               |
| 16777358               | 3GPP Nta                      | 29.154 [38]               |
| 16777363               | 3GPP Sc                       | 29.330 [43]               |

## 5 Command codes

The command codes are used for communicating the command associated with the Diameter message. The command code is carried in the Diameter header's Command-Code field. The command codes can be divided into standard command codes allocated by IANA and experimental command codes for testing purposes only.

### 5.1 Command codes allocated for 3GPP

Based on the IETF RFC 3589 [10] the IANA has allocated a standard command code range 300 - 313 for 3GPP. The command codes are presented in the following table.

**Table 5.1/1: Command code values allocated for 3GPP**

| Command code value | Command name                             |                                | Abbreviation | Specified in 3GPP TS |             |
|--------------------|------------------------------------------|--------------------------------|--------------|----------------------|-------------|
| 300                | User-Authorization-Request/-Answer       |                                | UAR/UAA      | 29.229 [2]           |             |
| 301                | Server-Assignment-Request/-Answer        |                                | SAR/SAA      |                      |             |
| 302                | Location-Info-Request/-Answer            |                                | LIR/LIA      |                      |             |
| 303                | Multimedia-Auth-Request/-Answer          |                                | MAR/MAA      |                      |             |
| 304                | Registration-Termination-Request/-Answer |                                | RTR/RTA      |                      |             |
| 305                | Push-Profile-Request/-Answer             |                                | PPR/PPA      | 29.329 [4]           |             |
| 306                | User-Data-Request/-Answer                |                                | UDR/UDA      |                      |             |
| 307                | Profile-Update-Request/-Answer           |                                | PUR/PUA      |                      |             |
| 308                | Subscribe-Notifications-Request/-Answer  |                                | SNR/SNA      |                      |             |
| 309                | Push-Notification-Request/-Answer        |                                | PNR/PNA      |                      |             |
| 310                | Boostrapping-Info-Request/Answer         |                                | BIR/BIA      | 29.109 [7]           |             |
|                    | 311                                      | Message-Process-Request/Answer |              | MPR/MPA              | 29.140 [16] |
|                    | 312                                      | GBAPush-Info-Request/Answer    |              | GPR/GPI              | 29.109 [7]  |

**Editor's Note:** The following command codes have been allocated to 3GPP, but they have not been used yet.

**Table 5.1/2: Command codes allocated for 3GPP**

| Command code value | Command name | Abbreviation | Specified in 3GPP TS |
|--------------------|--------------|--------------|----------------------|
| 313                |              |              |                      |

As defined in the IETF RFC 5516 [23], IANA has allocated the following command code values for the S6a/S6d interface application and S13/S13' interface application.

**Table 5.1/3: SAE related Standard Command code values allocated for 3GPP**

| Command code value | Command name                              | Abbreviation | Specified in 3GPP TS |
|--------------------|-------------------------------------------|--------------|----------------------|
| 316                | Update-Location-Request/Answer            | ULR/ULA      | 29.272 [21]          |
| 317                | Cancel-Location-Request/Answer            | CLR/CLA      |                      |
| 318                | Authentication-Information-Request/Answer | AIR/AIA      |                      |
| 319                | Insert Subscriber Data-Request/Answer     | IDR/IDA      |                      |
| 320                | Delete-Subscriber-Data-Request/Answer     | DSR/DSA      |                      |
| 321                | Purge-UE-Request/Answer                   | PUR/PUA      |                      |
| 322                | Reset-Request/Answer                      | RSR/RSA      |                      |
| 323                | Notify-Request/Answer                     | NOR/NOA      |                      |
| 324                | ME-Identity-Check-Request/Answer          | ECR/ECA      |                      |

Besides the standard command code values allocated for 3GPP, IANA has allocated the following vendor-specific command code values for 3GPP vendor-specific Diameter applications:

Table 5.1/4: Vendor-specific command codes allocated for 3GPP

| Command code value | Command name                                      | Abbreviation | Specified in 3GPP TS |
|--------------------|---------------------------------------------------|--------------|----------------------|
| 8388620            | Provide-Location-Request/Answer                   | PLR/PLA      | 29.172 [24]          |
| 8388621            | Location-Report-Request/Answer                    | LRR/LRA      |                      |
| 8388622            | LCS-Routing-Info-Request/Answer                   | RIR/RIA      | 29.173 [25]          |
| 8388635            | Spending-Limit-Request/Answer                     | SLR/SLA      | 29.219 [26]          |
| 8388636            | Spending-Status-Notification-Request/Answer       | SNR/SNA      |                      |
| 8388637            | TDF-Session-Request/Answer                        | TSR/TSA      | 29.212 [19]          |
| 8388731            | TSSF-Notification-Request/Answer                  | TNR/TNA      |                      |
| 8388638            | Update-VCSG-Location-Request/Answer               | UVR/UVA      | 29.272 [21]          |
| 8388642            | Cancel-VCSG-Location-Request/Answer               | CVR/CVA      |                      |
| 8388639            | Device-Action-Request/Answer                      | DAR/DAA      | 29.368 [27]          |
| 8388640            | Device-Notification-Request/Answer                | DNR/DNA      |                      |
| 8388641            | Subscriber-Information-Request/Answer             | SIR/SIA      | 29.336 [28]          |
| 8388718            | Configuration-Information-Request/Answer          | CIR/CIA      | 29.336 [28]          |
| 8388719            | Reporting-Information-Request/Answer              | RIR/RIA      |                      |
| 8388726            | NIDD-Information-Request/Answer                   | NIR/NIA      |                      |
| 8388643            | Device-Trigger-Request/Answer                     | DTR/DTA      | 29.337 [29]          |
| 8388644            | Delivery-Report-Request/Answer                    | DRR/DRA      |                      |
| 8388645            | MO-Forward-Short-Message Request/Answer           | OFR/OFA      | 29.338 [30]          |
| 8388646            | MT-Forward-Short-Message Request/Answer           | TFR/TFA      |                      |
| 8388647            | Send-Routing-Info-for-SM-Request/Answer           | SRR/SRA      |                      |
| 8388648            | Alert-Service-Centre-Request/Answer               | ALR/ALA      |                      |
| 8388649            | Report-SM-Delivery-Status-Request/Answer          | RDR/RDA      |                      |
| 8388656            | Trigger-Establishment-Request/Answer              | TER/TEA      | 29.215 [30]          |
| 8388662            | GCS-Action-Request/Answer                         | GAR/GAA      | 29.468 [31]          |
| 8388663            | GCS-Notification-Request/Answer                   | GNR/GNA      |                      |
| 8388664            | ProSe-Subscriber-Information-Request/Answer       | PIR/PIA      | 29.344 [33]          |
| 8388665            | Update-ProSe-Subscriber-Data-Request/Answer       | UPR/UPA      |                      |
| 8388666            | ProSe-Notify-Request/Answer                       | PNR/PNA      |                      |
| 8388713            | ProSe-Initial-Location-Information-Request/Answer | PSR/PSA      |                      |
| 8388668            | ProSe-Authorization-Request/Answer                | PAR/PAA      | 29.345 [34]          |
| 8388669            | ProSe-Discovery-Request/Answer                    | PDR/PDA      |                      |
| 8388670            | ProSe-Match-Request/Answer                        | PMR/PMA      |                      |

|         |                                                 |         |             |
|---------|-------------------------------------------------|---------|-------------|
| 8388671 | ProSe-Match-Report-Info-Request/Answer          | PIR/PIA |             |
| 8388672 | ProSe-Proximity-Request/Answer                  | PRR/PRA |             |
| 8388673 | ProSe-Location-Update-Request/Answer            | PLR/PLA |             |
| 8388674 | ProSe-Alert-Request/Answer                      | ALR/ALA |             |
| 8388675 | ProSe-Cancellation-Request/Answer               | RPR/RPA |             |
| 8388676 | ProXimity-Action-Request/Answer                 | PXR/PXA | 29.343 [32] |
| 8388727 | ProXimity-Application-Request/Answer            | XAR/XAA |             |
| 8388720 | Non-Aggregated-RUCI-Report-Request/Answer       | NRR/NRA | 29.217 [35] |
| 8388721 | Aggregated-RUCI-Report-Request/Answer           | ARR/ARA |             |
| 8388722 | Modify-Uecontext-Request/Answer                 | MUR/MUA |             |
| 8388724 | Network-Status-Request/Answer                   | NSR/NSA | 29.153 [37] |
| 8388725 | Network-Status-Continuous-Report-Request/Answer | NCR/NCA |             |
| 8388723 | Background-Data-Transfer-Request/Answer         | BTR/BTA | 29.154 [38] |
| 8388728 | Data-Pull-Request/Answer                        | DPR/DPA | 29.283 [39] |
| 8388729 | Data-Update-Request/Answer                      | DUR/DUA |             |
| 8388730 | Notification-Data-Request/Answer                | NDR/NDA |             |
| 8388732 | Connection-Management-Request/Answer            | CMR/CMA | 29.128 [36] |
| 8388733 | MO-Data-Request/Answer                          | ODR/ODA |             |
| 8388734 | MT-Data-Request/Answer                          | TDR/TDA |             |
| 8388735 | Event-Configuration-Request/Answer              | ECR/ECA | 29.154 [38] |
| 8388736 | Event-Reporting-Request/Answer                  | ERR/ERA |             |

## 6 Vendor identifier

The vendor identifier (also known as Enterprise number) indicates the vendor specific attributes, result codes and application identifiers in Diameter commands. The vendor identifier is used in the Vendor-ID field of the AVP header and in the Vendor-Id AVP. The Vendor-Id AVP is used to identify the vendor in the Vendor-Specific-Application-Id and Experimental-Result-Code grouped AVPs.

### 6.1 3GPP's vendor identifier

The IANA has allocated a vendor identifier value 10415 for 3GPP [11].

## 7 Attribute-Value-Pair codes

The AVP codes are used together with the vendor identifier to identify each attribute uniquely. There are multiple AVP namespaces. The IETF IANA namespace, that is, the AVPs with vendor identifier zero or without vendor identifier, is controlled by IANA. Each vendor controls the AVP codes within their AVP namespaces.

## 7.1 3GPP specific AVP codes

The 3GPP specific AVPs have the Vendor-Specific bit ('V' bit) set in the AVP header and they carry the 3GPP's vendor identifier in the Vendor-ID field of the AVP header. The 3GPP specific AVP codes are presented in the following table.

**Table 7.1: 3GPP specific AVP codes**

| AVP Code                                                                                                                                                                                     | Attribute Name                           | Data Type        | Specified in the 3GPP TS                    |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|---------------------------------------------|--|
| 100                                                                                                                                                                                          | 3GPP-WLAN-APN-Id                         | OctetString      | 29.234 [6]                                  |  |
| 101                                                                                                                                                                                          | 3GPP-WLAN-QoS-Filter-Rule                | UTF8String       |                                             |  |
| 102                                                                                                                                                                                          | 3GPP-WLAN-QoS-Filter-Support             | OctetString      |                                             |  |
| Note: The AVP codes from 1 to 255 are reserved for backwards compatibility with 3GPP RADIUS Vendor Specific Attributes (See 3GPP TS 29.061 [13], 3GPP TS 29.561 [42] and 3GPP TS 29.234 [6]) |                                          |                  |                                             |  |
| Note: The AVP codes from 256 to 299 are reserved for future use.                                                                                                                             |                                          |                  |                                             |  |
| 300                                                                                                                                                                                          | Authentication-Method                    | Enumerated       | 29.234 [6]                                  |  |
| 301                                                                                                                                                                                          | Authentication-Information-SIM           | OctetString      |                                             |  |
| 302                                                                                                                                                                                          | Authorization -Information-SIM           | OctetString      |                                             |  |
| 303                                                                                                                                                                                          | WLAN-User-Data                           | Grouped          |                                             |  |
| 304                                                                                                                                                                                          | Charging-Data                            | Grouped          |                                             |  |
| 305                                                                                                                                                                                          | WLAN-Access                              | Enumerated       |                                             |  |
| 306                                                                                                                                                                                          | WLAN- 3GPP-IP-Access                     | Enumerated       |                                             |  |
| 307                                                                                                                                                                                          | APN-Authorized                           | Grouped          |                                             |  |
| 308                                                                                                                                                                                          | APN-Id                                   |                  |                                             |  |
| 309                                                                                                                                                                                          | APN-Barring-Type                         | Enumerated       |                                             |  |
| 310                                                                                                                                                                                          | WLAN-Direct-IP-Access                    | Enumerated       |                                             |  |
| 311                                                                                                                                                                                          | Session-Request-Type                     | Enumerated       |                                             |  |
| 312                                                                                                                                                                                          | Routing-Policy                           | IPFilterRule     |                                             |  |
| 313                                                                                                                                                                                          | Max-Requested-Bandwidth                  | OctetString      |                                             |  |
| 314                                                                                                                                                                                          | Charging-Characteristics                 | Integer          |                                             |  |
| 315                                                                                                                                                                                          | Charging-Nodes                           | Grouped          |                                             |  |
| 316                                                                                                                                                                                          | Primary-OCS-Charging-Function-Name       | DiameterIdentity |                                             |  |
| 317                                                                                                                                                                                          | Secondary-OCS-Charging-Function-Name     | DiameterIdentity |                                             |  |
| 318                                                                                                                                                                                          | 3GPP-AAA-Server-Name                     | DiameterIdentity |                                             |  |
| 319                                                                                                                                                                                          | Maximum-Number-Accesses                  | Unsigned32       |                                             |  |
| Note 1: The AVP codes from 320 to 399 are reserved for TS 29.234                                                                                                                             |                                          |                  |                                             |  |
| Note 2: The 3GPP-AAA-Server-Name definition is moved to TS 29.273 starting from Rel-12.                                                                                                      |                                          |                  |                                             |  |
| 400                                                                                                                                                                                          | GBA-UserSecSettings                      | OctetString      | 29.109 [7]                                  |  |
| 401                                                                                                                                                                                          | Transaction-Identifier                   | OctetString      |                                             |  |
| 402                                                                                                                                                                                          | NAF-Hostname                             | OctetString      |                                             |  |
| 403                                                                                                                                                                                          | GAA-Service-Identifier                   | OctetString      |                                             |  |
| 404                                                                                                                                                                                          | Key-ExpiryTime                           | Time             |                                             |  |
| 405                                                                                                                                                                                          | ME-Key-Material                          | OctetString      |                                             |  |
| 406                                                                                                                                                                                          | UICC-Key-Material                        | OctetString      |                                             |  |
| 407                                                                                                                                                                                          | GBA U-Awareness-Indicator                | Enumerated       |                                             |  |
| 408                                                                                                                                                                                          | BootstrapInfoCreationTime                | Time             |                                             |  |
| 409                                                                                                                                                                                          | GUSS-Timestamp                           | Time             |                                             |  |
| 410                                                                                                                                                                                          | GBA-Type                                 | Enumerated       |                                             |  |
| 411                                                                                                                                                                                          | UE-Id                                    | OctetString      |                                             |  |
| 412                                                                                                                                                                                          | UE-Id-Type                               | Enumerated       |                                             |  |
| 413                                                                                                                                                                                          | UICC-App-Label                           | OctetString      |                                             |  |
| 414                                                                                                                                                                                          | UICC-ME                                  | Enumerated       |                                             |  |
| 415                                                                                                                                                                                          | Requested-Key-Lifetime                   | Time             |                                             |  |
| 416                                                                                                                                                                                          | Private-Identity-Request                 | Enumerated       |                                             |  |
| 417                                                                                                                                                                                          | GBA-Push-Info                            | OctetString      |                                             |  |
| 418                                                                                                                                                                                          | NAF-SA-Identifier                        | OctetString      |                                             |  |
| 419                                                                                                                                                                                          | Security-Feature-Request                 | OctetString      |                                             |  |
| 420                                                                                                                                                                                          | Security-Feature-Response                | OctetString      |                                             |  |
| 421                                                                                                                                                                                          | SHA-256-Indication                       | Enumerated       |                                             |  |
| Note: The AVP codes from 422 to 499 are reserved for TS 29.109                                                                                                                               |                                          |                  |                                             |  |
| 500                                                                                                                                                                                          | Abort-Cause                              | Enumerated       | 29.209 [8],<br>29.211 [17] ,<br>29.214 [18] |  |
| 501                                                                                                                                                                                          | Access-Network-Charging-Address          | Address          |                                             |  |
| 502                                                                                                                                                                                          | Access-Network-Charging-Identifier       | Grouped          |                                             |  |
| 503                                                                                                                                                                                          | Access-Network-Charging-Identifier-Value | OctetString      |                                             |  |
| 504                                                                                                                                                                                          | AF-Application-Identifier                | OctetString      |                                             |  |
| 505                                                                                                                                                                                          | AF-Charging-Identifier                   | OctetString      |                                             |  |
| 506                                                                                                                                                                                          | Authorization-Token                      | OctetString      |                                             |  |
| 507                                                                                                                                                                                          | Flow-Description                         | IPFilterRule     |                                             |  |
| 508                                                                                                                                                                                          | Flow-Grouping                            | Grouped          |                                             |  |
| 509                                                                                                                                                                                          | Flow-Number                              | Unsigned32       |                                             |  |
| 510                                                                                                                                                                                          | Flows                                    | Grouped          |                                             |  |
| 511                                                                                                                                                                                          | Flow-Status                              | Enumerated       |                                             |  |
| 512                                                                                                                                                                                          | Flow-Usage                               | Enumerated       |                                             |  |
| 513                                                                                                                                                                                          | Specific-Action                          | Enumerated       |                                             |  |



|     |                                       |             |
|-----|---------------------------------------|-------------|
| 514 | Max-Requested-Bandwidth               | Unsigned32  |
| 515 | Max-Requested-Bandwidth-DL            | Unsigned32  |
| 516 | Max-Requested-Bandwidth-UL            | Unsigned32  |
| 517 | Media-Component-Description           | Grouped     |
| 518 | Media-Component-Number                | Unsigned32  |
| 519 | Media-Sub-Component AVP               | Grouped     |
| 520 | Media-Type                            | Enumerated  |
| 521 | RR-Bandwidth                          | Unsigned32  |
| 522 | RS-Bandwidth                          | Unsigned32  |
| 523 | SIP-Forking-Indication                | Enumerated  |
| 524 | Codec-Data                            | OctetString |
| 525 | Service-URN                           | OctetString |
| 526 | Acceptable-Service-Info               | Grouped     |
| 527 | Service-Info-Status                   | Enumerated  |
| 528 | MPS-Identifier                        | OctetString |
| 529 | AF-Signalling-Protocol                | Enumerated  |
| 530 | Sponsored-Connectivity-Data           | Grouped     |
| 531 | Sponsor-Identity                      | OctetString |
| 532 | Application-Service-Provider-Identity | OctetString |
| 533 | Rx-Request-Type                       | Enumerated  |
| 534 | Min-Requested-Bandwidth-DL            | Unsigned32  |
| 535 | Min-Requested-Bandwidth-UL            | Unsigned32  |
| 536 | Required-Access-Info                  | Enumerated  |
| 537 | IP-Domain-Id                          | OctetString |
| 538 | GCS-Identifier                        | OctetString |
| 539 | Sharing-Key-DL                        | Unsigned32  |
| 540 | Sharing-Key-UL                        | Unsigned32  |
| 541 | Retry-Interval                        | Unsigned32  |
| 542 | Sponsoring-Action                     | Enumerated  |
| 543 | Max-Supported-Bandwidth-DL            | Unsigned32  |
| 544 | Max-Supported-Bandwidth-UL            | Unsigned32  |
| 545 | Min-Desired-Bandwidth-DL              | Unsigned32  |
| 546 | Min-Desired-Bandwidth-UL              | Unsigned32  |
| 547 | MCPTT-Identifier                      | OctetString |
| 548 | Service-Authorization-Info            | Unsigned32  |
| 549 | Media-Component-Status                | Unsigned32  |
| 550 | Priority-Sharing-Indicator            | Enumerated  |
| 551 | AF-Requested-Data                     | Unsigned32  |
| 552 | Content-Version                       | Unsigned64  |
| 553 | Pre-emption-Control-Info              | Unsigned32  |
| 554 | Extended-Max-Requested-BW-DL          | Unsigned32  |
| 555 | Extended-Max-Requested-BW-UL          | Unsigned32  |
| 556 | Extended-Max-Supported-BW-DL          | Unsigned32  |
| 557 | Extended-Max-Supported-BW-UL          | Unsigned32  |
| 558 | Extended-Min-Desired-BW-DL            | Unsigned32  |
| 559 | Extended-Min-Desired-BW-UL            | Unsigned32  |
| 560 | Extended-Min-Requested-BW-DL          | Unsigned32  |
| 561 | Extended-Min-Requested-BW-UL          | Unsigned32  |
| 562 | MCVideo-Identifier                    | OctetString |
| 563 | IMS-Content-Identifier                | OctetString |
| 564 | IMS-Content-Type                      | Enumerated  |
| 565 | Callee-Information                    | Grouped     |
| 566 | FLUS-Identifier                       | OctetString |
| 567 | Desired-Max-Latency                   | Float32     |
| 568 | Desired-Max-Loss                      | Float32     |
| 569 | NID                                   | OctetString |
| 570 | MA-Information                        | Grouped     |
| 571 | MA-Information-Action                 | Unsigned32  |
| 572 | 5GS-RAN-NAS-Release-Cause             | Grouped     |
| 573 | 5GMM-Cause                            | Unsigned32  |
| 574 | 5GSM-Cause                            | Unsigned32  |
| 575 | NGAP-Cause                            | Grouped     |
| 576 | NGAP-Group                            | Unsigned32  |
| 577 | NGAP-Value                            | Unsigned32  |
| 578 | Wireline-User-Location-Info           | Grouped     |

|                                                                                         |                                             |             |            |
|-----------------------------------------------------------------------------------------|---------------------------------------------|-------------|------------|
| 579                                                                                     | HFC-Node-Identifier                         | OctetString |            |
| 580                                                                                     | GLI-Identifier                              | OctetString |            |
| 581                                                                                     | Line-Type                                   | Unsigned32  |            |
| Note: The AVP codes from 582 to 599 are reserved for TS 29.209, TS 29.211 and TS 29.214 |                                             |             |            |
| 600                                                                                     | Visited-Network-Identifier                  | OctetString | 29.229 [2] |
| 601                                                                                     | Public-Identity                             | UTF8String  |            |
| 602                                                                                     | Server-Name                                 | UTF8String  |            |
| 603                                                                                     | Server-Capabilities                         | Grouped     |            |
| 604                                                                                     | Mandatory-Capability                        | Unsigned32  |            |
| 605                                                                                     | Optional-Capability                         | Unsigned32  |            |
| 606                                                                                     | User-Data                                   | OctetString |            |
| 607                                                                                     | SIP-Number-Auth-Items                       | Unsigned32  |            |
| 608                                                                                     | SIP-Authentication-Scheme                   | UTF8String  |            |
| 609                                                                                     | SIP-Authenticate                            | OctetString |            |
| 610                                                                                     | SIP-Authorization                           | OctetString |            |
| 611                                                                                     | SIP-Authentication-Context                  | OctetString |            |
| 612                                                                                     | SIP-Auth-Data-Item                          | Grouped     |            |
| 613                                                                                     | SIP-Item-Number                             | Unsigned32  |            |
| 614                                                                                     | Server-Assignment-Type                      | Enumerated  |            |
| 615                                                                                     | Deregistration-Reason                       | Grouped     |            |
| 616                                                                                     | Reason-Code                                 | Enumerated  |            |
| 617                                                                                     | Reason-Info                                 | UTF8String  |            |
| 618                                                                                     | Charging-Information                        | Grouped     |            |
| 619                                                                                     | Primary-Event-Charging-Function-Name        | DiameterURI |            |
| 620                                                                                     | Secondary-Event-Charging-Function-Name      | DiameterURI |            |
| 621                                                                                     | Primary-Charging-Collection-Function-Name   | DiameterURI |            |
| 622                                                                                     | Secondary-Charging-Collection-Function-Name | DiameterURI |            |
| 623                                                                                     | User-Authorization-Type                     | Enumerated  |            |
| 624                                                                                     | User-Data-Already-Available                 | Enumerated  |            |
| 625                                                                                     | Confidentiality-Key                         | OctetString |            |
| 626                                                                                     | Integrity-Key                               | OctetString |            |
| 627                                                                                     | User-Data-Request-Type                      | Enumerated  |            |
| 628                                                                                     | Supported-Features                          | Grouped     |            |
| 629                                                                                     | Feature-List-ID                             | Unsigned32  |            |
| 630                                                                                     | Feature-List                                | Unsigned32  |            |
| 631                                                                                     | Supported-Applications                      | Grouped     |            |
| 632                                                                                     | Associated-Identities                       | Grouped     |            |
| 633                                                                                     | Originating-Request                         | Enumerated  |            |
| 634                                                                                     | Wildcarded-Public-Identity                  | UTF8String  |            |
| 635                                                                                     | SIP-Digest-Authenticate                     | Grouped     |            |
| 636                                                                                     | Wildcarded-IMPU                             | UTF8String  |            |
| 637                                                                                     | UAR-Flags                                   | Unsigned32  |            |
| 638                                                                                     | Loose-Route-Indication                      | Enumerated  |            |
| 639                                                                                     | SCSCF-Restoration-Info                      | Grouped     |            |
| 640                                                                                     | Path                                        | OctetString |            |
| 641                                                                                     | Contact                                     | OctetString |            |
| 642                                                                                     | Subscription-Info                           | Grouped     |            |
| 643                                                                                     | Call-ID-SIP-Header                          | OctetString |            |
| 644                                                                                     | From-SIP-Header                             | OctetString |            |
| 645                                                                                     | To-SIP-Header                               | OctetString |            |
| 646                                                                                     | Record-Route                                | OctetString |            |
| 647                                                                                     | Associated-Registered-Identities            | Grouped     |            |
| 648                                                                                     | Multiple-Registration-Indication            | Enumerated  |            |
| 649                                                                                     | Restoration-Info                            | Grouped     |            |
| 650                                                                                     | Session-Priority                            | Enumerated  |            |
| 651                                                                                     | Identity-with-Emergency-Registration        | Grouped     |            |
| 652                                                                                     | Priviledged-Sender-Indication               | Enumerated  |            |
| 653                                                                                     | LIA-Flags                                   | Unsigned32  |            |
| 654                                                                                     | Initial-CSeq-Sequence-Number                | Unsigned32  |            |
| 655                                                                                     | SAR-Flags                                   | Unsigned32  |            |
| 656                                                                                     | Allowed-WAF-WWSF-Identities                 | Grouped     |            |
| 657                                                                                     | WebRTC-Authentication-Function-Name         | UTF8String  |            |
| 658                                                                                     | WebRTC-Web-Server-Function-Name             | UTF8String  |            |
| 659                                                                                     | RTR-Flags                                   | Unsigned32  |            |
| 660                                                                                     | P-CSCF-Subscription-Info                    | Grouped     |            |

|                                                                 |                                           |                  |            |  |
|-----------------------------------------------------------------|-------------------------------------------|------------------|------------|--|
| 661                                                             | Registration-Time-Out                     | Time             |            |  |
| 662                                                             | Alternate-Digest-Algorithm                | UTF8String       |            |  |
| 663                                                             | Alternate-Digest-HA1                      | UTF8String       |            |  |
| 664                                                             | Failed-PCSCF                              | Grouped          |            |  |
| 665                                                             | PCSCF-FQDN                                | DiameterIdentity |            |  |
| 666                                                             | PCSCF-IP-Address                          | Address          |            |  |
| Note: The AVP codes from 667 to 699 are reserved for TS 29.229. |                                           |                  |            |  |
| 700                                                             | User-Identity                             | Grouped          | 29.329 [4] |  |
| 701                                                             | MSISDN                                    | OctetString      |            |  |
| 702                                                             | User-Data                                 | OctetString      |            |  |
| 703                                                             | Data-Reference                            | Enumerated       |            |  |
| 704                                                             | Service-Indication                        | OctetString      |            |  |
| 705                                                             | Subs-Req-Type                             | Enumerated       |            |  |
| 706                                                             | Requested-Domain                          | Enumerated       |            |  |
| 707                                                             | Current-Location                          | Enumerated       |            |  |
| 708                                                             | Identity-Set                              | Enumerated       |            |  |
| 709                                                             | Expiry-Time                               | Time             |            |  |
| 710                                                             | Send-Data-Indication                      | Enumerated       |            |  |
| 711                                                             | DSAI-Tag                                  | OctetString      |            |  |
| 712                                                             | One-Time-Notification                     | Enumerated       |            |  |
| 713                                                             | Requested-Nodes                           | Unsigned32       |            |  |
| 714                                                             | Serving-Node-Indication                   | Enumerated       |            |  |
| 715                                                             | Repository-Data-ID                        | Grouped          |            |  |
| 716                                                             | Sequence-Number                           | Unsigned32       |            |  |
| 717                                                             | Pre-paging-Supported                      | Enumerated       |            |  |
| 718                                                             | Local-Time-Zone-Indication                | Enumerated       |            |  |
| 719                                                             | UDR-Flags                                 | Unsigned32       |            |  |
| 720                                                             | Call-Reference-Info                       | Grouped          |            |  |
| 721                                                             | Call-Reference-Number                     | OctetString      |            |  |
| 722                                                             | AS-Number                                 | OctetString      |            |  |
| Note: The AVP codes from 723 to 799 are reserved for TS 29.329. |                                           |                  |            |  |
| Note: The AVP codes from 800 to 822 are reserved for TS 32.299. |                                           |                  |            |  |
| 823                                                             | Event-Type                                | Grouped          | 32.299 [5] |  |
| 824                                                             | SIP-Method                                | UTF8String       |            |  |
| 825                                                             | Event                                     | UTF8String       |            |  |
| 826                                                             | Content-Type                              | UTF8String       |            |  |
| 827                                                             | Content-Length                            | Unsigned32       |            |  |
| 828                                                             | Content-Disposition                       | UTF8String       |            |  |
| 829                                                             | Role-of-Node                              | Enumerated       |            |  |
| 830                                                             | User-Session-Id                           | UTF8String       |            |  |
| 831                                                             | Calling-Party-Address                     | UTF8String       |            |  |
| 832                                                             | Called-Party-Address                      | UTF8String       |            |  |
| 833                                                             | Time-Stamps                               | Grouped          |            |  |
| 834                                                             | SIP-Request-Timestamp                     | Time             |            |  |
| 835                                                             | SIP-Response-Timestamp                    | Time             |            |  |
| 836                                                             | Application-Server                        | UTF8String       |            |  |
| 837                                                             | Application-provided-called-party-address | UTF8String       |            |  |
| 838                                                             | Inter-Operator-Identifier                 | Grouped          |            |  |
| 839                                                             | Originating-IOI                           | UTF8String       |            |  |
| 840                                                             | Terminating-IOI                           | UTF8String       |            |  |
| 841                                                             | IMS-Charging-Identifier                   | UTF8String       |            |  |
| 842                                                             | SDP-Session-Description                   | UTF8String       |            |  |
| 843                                                             | SDP-Media-Component                       | Grouped          |            |  |
| 844                                                             | SDP-Media-Name                            | UTF8String       |            |  |
| 845                                                             | SDP-Media-Description                     | UTF8String       |            |  |
| 846                                                             | CG-Address                                | Address          |            |  |
| 847                                                             | GGSN-Address                              | Address          |            |  |
| 848                                                             | Served-Party-IP-Address                   | Address          |            |  |
| 849                                                             | Authorized-QoS                            | UTF8String       |            |  |
| 850                                                             | Application-Server-Information            | Grouped          |            |  |
| 851                                                             | Trunk-Group-Id                            | Grouped          |            |  |
| 852                                                             | Incoming-Trunk-Group-Id                   | UTF8String       |            |  |
| 853                                                             | Outgoing-Trunk-Group-Id                   | UTF8String       |            |  |
| 854                                                             | Bearer-Service                            | OctetString      |            |  |
| 855                                                             | Service-Id                                | UTF8String       |            |  |

|     |                                         |             |                |
|-----|-----------------------------------------|-------------|----------------|
| 856 | Associated-URI                          | UTF8String  |                |
| 857 | Charged-Party                           | UTF8String  |                |
| 858 | PoC-Controlling-Address                 | UTF8String  |                |
| 859 | PoC-Group-Name                          | UTF8String  |                |
| 860 | Cause                                   | Grouped     |                |
| 861 | Cause-Code                              | Integer32   |                |
| 862 | Node-Functionality                      | Enumerated  |                |
| 863 | Service-Specific-Data                   | UTF8String  |                |
| 864 | Originator                              | Enumerated  |                |
| 865 | PS-Furnish-Charging-Information         | Grouped     |                |
| 866 | PS-Free-Format-Data                     | OctetString |                |
| 867 | PS-Append-Free-Format-Data              | Enumerated  |                |
| 868 | Time-Quota-Threshold                    | Unsigned32  |                |
| 869 | Volume-Quota-Threshold                  | Unsigned32  |                |
| 870 | Trigger-Type                            | Enumerated  |                |
| 871 | Quota-Holding-Time                      | Unsigned32  |                |
| 872 | Reporting-Reason                        | Enumerated  |                |
| 873 | Service-Information                     | Grouped     |                |
| 874 | PS-Information                          | Grouped     |                |
| 875 | Reserved                                | -           |                |
| 876 | IMS-Information                         | Grouped     |                |
| 877 | MMS-Information                         | Grouped     |                |
| 878 | LCS-Information                         | Grouped     |                |
| 879 | PoC-Information                         | Grouped     |                |
| 880 | MBMS-Information                        | Grouped     |                |
| 881 | Quota-Consumption-Time                  | Unsigned32  |                |
| 882 | Media-Initiator-Flag                    | Enumerated  |                |
| 883 | PoC-Server-Role                         | Enumerated  |                |
| 884 | PoC-Session-Type                        | Enumerated  |                |
| 885 | Number-Of-Participants                  | Unsigned32  |                |
| 886 | Originator-Address                      | Grouped     |                |
| 887 | Participants-Involved                   | UTF8String  |                |
| 888 | Expires                                 | Unsigned32  |                |
| 889 | Message-Body                            | Grouped     |                |
| 890 | Reserved                                | -           |                |
| 891 | Reserved                                | -           |                |
| 892 | Reserved                                | -           |                |
| 893 | Reserved                                | -           |                |
| 894 | Reserved                                | -           |                |
| 895 | Reserved                                | -           |                |
| 896 | Reserved                                | -           |                |
| 897 | Address-Data                            | UTF8String  |                |
| 898 | Address-Domain                          | Grouped     |                |
| 899 | Address-Type                            | Enumerated  |                |
| 900 | TMGI                                    | OctetString | 29.061<br>[13] |
| 901 | Required-MBMS-Bearer-Capabilities       | UTF8String  |                |
| 902 | MBMS-StartStop-Indication               | Enumerated  |                |
| 903 | MBMS-Service-Area                       | OctetString |                |
| 904 | MBMS-Session-Duration                   | Unsigned32  |                |
| 905 | Alternative-APN                         | UTF8String  |                |
| 906 | MBMS-Service-Type                       | Enumerated  |                |
| 907 | MBMS-2G-3G-Indicator                    | Enumerated  |                |
| 908 | MBMS-Session-Identity                   | OctetString |                |
| 909 | RAI                                     | UTF8String  |                |
| 910 | Additional-MBMS-Trace-Info              | OctetString |                |
| 911 | MBMS-Time-To-Data-Transfer              | Unsigned32  |                |
| 912 | MBMS-Session-Identity-Repetition-Number | Unsigned32  |                |
| 913 | MBMS-Required-QoS                       | UTF8String  |                |
| 914 | MBMS-Counting-Information               | Enumerated  |                |
| 915 | MBMS-User-Data-Mode-Indication          | Enumerated  |                |
| 916 | MBMS-GGSN-Address                       | UTF8String  |                |
| 917 | MBMS-GGSN-IPv6-Address                  | UTF8String  |                |
| 918 | MBMS-BMSC-SSM-IP-Address                | UTF8String  |                |
| 919 | MBMS-BMSC-SSM-IPv6-Address              | UTF8String  |                |

|                                                                |                                       |              |             |
|----------------------------------------------------------------|---------------------------------------|--------------|-------------|
| 920                                                            | MBMS-Flow-Identifier                  | OctetString  |             |
| 921                                                            | CN-IP-Multicast-Distribution          | Enumerated   |             |
| 922                                                            | MBMS-HC-Indicator                     | Enumerated   |             |
| 923                                                            | MBMS-Access-Indicator                 | Enumerated   |             |
| 924                                                            | MBMS-GW-SSM-IP-Address                | OctetString  |             |
| 925                                                            | MBMS-GW-SSM-IPv6-Address              | OctetString  |             |
| 926                                                            | MBMS-BMSC-SSM-UDP-Port                | OctetString  |             |
| 927                                                            | MBMS-GW-UDP-Port                      | OctetString  |             |
| 928                                                            | MBMS-GW-UDP-Port-Indicator            | Enumerated   |             |
| 929                                                            | MBMS-Data-Transfer-Start              | Unsigned64   |             |
| 930                                                            | MBMS-Data-Transfer-Stop               | Unsigned64   |             |
| 931                                                            | MBMS-Flags                            | Unsigned32   |             |
| 932                                                            | Restart-Counter                       | Unsigned32   |             |
| 933                                                            | Diagnostic-Info                       | Unsigned32   |             |
| 934                                                            | MBMS-Cell-List                        | OctetString  |             |
| Note: The AVP codes from 935 to 999 are reserved for TS 29.061 |                                       |              |             |
| 1000                                                           | Bearer-Usage                          | Enumerated   | 29.212 [19] |
| 1001                                                           | Charging-Rule-Install                 | Grouped      |             |
| 1002                                                           | Charging-Rule-Remove                  | Grouped      |             |
| 1003                                                           | Charging-Rule-Definition              | Grouped      |             |
| 1004                                                           | Charging-Rule-Base-Name               | UTF8String   |             |
| 1005                                                           | Charging-Rule-Name                    | OctetString  |             |
| 1006                                                           | Event-Trigger                         | Enumerated   |             |
| 1007                                                           | Metering-Method                       | Enumerated   |             |
| 1008                                                           | Offline                               | Enumerated   |             |
| 1009                                                           | Online                                | Enumerated   |             |
| 1010                                                           | Precedence                            | Unsigned32   |             |
| 1011                                                           | Reporting-Level                       | Enumerated   |             |
| 1012                                                           | TFT-Filter                            | IPFilterRule |             |
| 1013                                                           | TFT-Packet-Filter-Information         | Grouped      |             |
| 1014                                                           | ToS-Traffic-Class                     | OctetString  |             |
| 1016                                                           | QoS-Information                       | Grouped      |             |
| 1018                                                           | Charging-Rule-Report                  | Grouped      |             |
| 1019                                                           | PCC-Rule-Status                       | Enumerated   |             |
| 1020                                                           | Bearer-Identifier                     | OctetString  |             |
| 1021                                                           | Bearer-Operation                      | Enumerated   |             |
| 1022                                                           | Access-Network-Charging-Identifier-Gx | Grouped      |             |
| 1023                                                           | Bearer-Control-Mode                   | Enumerated   |             |
| 1024                                                           | Network-Request-Support               | Enumerated   |             |
| 1025                                                           | Guaranteed-Bitrate-DL                 | Unsigned32   |             |
| 1026                                                           | Guaranteed-Bitrate-UL                 | Unsigned32   |             |
| 1027                                                           | IP-CAN-Type                           | Enumerated   |             |
| 1028                                                           | QoS-Class-Identifier                  | Enumerated   |             |
| 1029                                                           | QoS-Negotiation                       | Enumerated   |             |
| 1030                                                           | QoS-Upgrade                           | Enumerated   |             |
| 1031                                                           | Rule-Failure-Code                     | Enumerated   |             |
| 1032                                                           | RAT-Type                              | Enumerated   |             |
| 1033                                                           | Event-Report-Indication               | Grouped      |             |
| 1034                                                           | Allocation-Retention-Priority         | Grouped      |             |
| 1035                                                           | CoA-IP-Address                        | Address      |             |
| 1036                                                           | Tunnel-Header-Filter                  | IPFilterRule |             |
| 1037                                                           | Tunnel-Header-Length                  | Unsigned32   |             |
| 1038                                                           | Tunnel-Information                    | Grouped      |             |
| 1039                                                           | CoA-Information                       | Grouped      |             |
| 1040                                                           | APN-Aggregate-Max-Bitrate-DL          | Unsigned32   |             |
| 1041                                                           | APN-Aggregate-Max-Bitrate-UL          | Unsigned32   |             |
| 1042                                                           | Revalidation-Time                     | Time         |             |
| 1043                                                           | Rule-Activation-Time                  | Time         |             |
| 1044                                                           | Rule-DeActivation-Time                | Time         |             |
| 1045                                                           | Session-Release-Cause                 | Enumerated   |             |
| 1046                                                           | Priority-Level                        | Unsigned32   |             |
| 1047                                                           | Pre-emption-Capability                | Enumerated   |             |
| 1048                                                           | Pre-emption-Vulnerability             | Enumerated   |             |
| 1049                                                           | Default-EPS-Bearer-QoS                | Grouped      |             |
| 1050                                                           | AN-GW-Address                         | Address      |             |

|                                                                  |                                   |                  |             |
|------------------------------------------------------------------|-----------------------------------|------------------|-------------|
| 1051                                                             | QoS-Rule-Install                  | Grouped          |             |
| 1052                                                             | QoS-Rule-Remove                   | Grouped          |             |
| 1053                                                             | QoS-Rule-Definition               | Grouped          |             |
| 1054                                                             | QoS-Rule-Name                     | OctetString      |             |
| 1055                                                             | QoS-Rule-Report                   | Grouped          |             |
| 1056                                                             | Security-Parameter-Index          | OctetString      |             |
| 1057                                                             | Flow-Label                        | OctetString      |             |
| 1058                                                             | Flow-Information                  | Grouped          |             |
| 1059                                                             | Packet-Filter-Content             | IPFilterRule     |             |
| 1060                                                             | Packet-Filter-Identifier          | OctetString      |             |
| 1061                                                             | Packet-Filter-Information         | Grouped          |             |
| 1062                                                             | Packet-Filter-Operation           | Enumerated       |             |
| 1063                                                             | Resource-Allocation-Notification  | Enumerated       |             |
| 1064                                                             | Session-Linking-Indicator         | Enumerated       |             |
| 1065                                                             | PDN-Connection-ID                 | OctetString      |             |
| 1066                                                             | Monitoring-Key                    | OctetString      |             |
| 1067                                                             | Usage-Monitoring-Information      | Grouped          |             |
| 1068                                                             | Usage-Monitoring-Level            | Enumerated       |             |
| 1069                                                             | Usage-Monitoring-Report           | Enumerated       |             |
| 1070                                                             | Usage-Monitoring-Support          | Enumerated       |             |
| 1071                                                             | CSG-Information-Reporting         | Enumerated       |             |
| 1072                                                             | Packet-Filter-Usage               | Enumerated       |             |
| 1073                                                             | Charging-Correlation-Indicator    | Enumerated       |             |
| 1074                                                             | QoS-Rule-Base-Name                | UTF8String       |             |
| 1075                                                             | Routing-Rule-Remove               | Grouped          |             |
| 1076                                                             | Routing-Rule-Definition           | Grouped          |             |
| 1077                                                             | Routing-Rule-Identifier           | OctetString      |             |
| 1078                                                             | Routing-Filter                    | Grouped          |             |
| 1079                                                             | Routing-IP-Address                | Address          |             |
| 1080                                                             | Flow-Direction                    | Enumerated       |             |
| 1081                                                             | Routing-Rule-Install              | Grouped          |             |
| 1082                                                             | Credit-Management-Status          | Unsigned32       |             |
| 1085                                                             | Redirect-Information              | Grouped          |             |
| 1086                                                             | Redirect- Support                 | Enumerated       |             |
| 1087                                                             | TDF-Information                   | Grouped          |             |
| 1088                                                             | TDF-Application-Identifier        | OctetString      |             |
| 1089                                                             | TDF-Destination-Host              | DiameterIdentity |             |
| 1090                                                             | TDF-Destination-Realm             | DiameterIdentity |             |
| 1091                                                             | TDF-IP-address                    | Address          |             |
| 1092                                                             | ADC-Rule-Install                  | Grouped          |             |
| 1093                                                             | ADC-Rule-Remove                   | Grouped          |             |
| 1094                                                             | ADC-Rule-Definition               | Grouped          |             |
| 1095                                                             | ADC-Rule-Base-Name                | UTF8String       |             |
| 1096                                                             | ADC-Rule-Name                     | OctetString      |             |
| 1097                                                             | ADC-Rule-Report                   | Grouped          |             |
| 1098                                                             | Application-Detection-Information | Grouped          |             |
| 1099                                                             | PS-to-CS-Session-Continuity       | Enumerated       |             |
| Note: The AVP codes from 1083 to 1084 are reserved for TS 29.212 |                                   |                  |             |
| 1100                                                             | Served-User-Identity              | Grouped          | 29.140 [16] |
| 1101                                                             | VASP-ID                           | UTF8Str          |             |
| 1102                                                             | VAS-ID                            | UTF8String       |             |
| 1103                                                             | Trigger-Event                     | Enumerated       |             |
| 1104                                                             | Sender-Address                    | UTF8String       |             |
| 1105                                                             | Initial-Recipient-Address         | Grouped          |             |
| 1106                                                             | Result-Recipient-Address          | Grouped          |             |
| 1107                                                             | Sequence-Number                   | Unsigned32       |             |
| 1108                                                             | Recipient-Address                 | UTF8String       |             |
| 1109                                                             | Routeing-Address                  | UTF8String       |             |
| 1110                                                             | Originating-Interface             | Enumerated       |             |
| 1111                                                             | Delivery-Report                   | Enumerated       |             |
| 1112                                                             | Read-Reply                        | Enumerated       |             |
| 1113                                                             | Sender-Visibility                 | Enumerated       |             |
| 1114                                                             | Service-Key                       | UTF8String       |             |
| 1115                                                             | Billing-Information               | UTF8String       |             |
| 1116                                                             | Status                            | Grouped          |             |

|                                                                  |                                |             |            |
|------------------------------------------------------------------|--------------------------------|-------------|------------|
| 1117                                                             | Status-Code                    | UTF8String  |            |
| 1118                                                             | Status-Text                    | UTF8String  |            |
| Note: The AVP codes from 1119 to 1199 are reserved for TS 29.140 |                                |             |            |
| 1200                                                             | Domain-Name                    | UTF8String  | 32.299 [5] |
| 1201                                                             | Recipient-Address              | Grouped     |            |
| 1202                                                             | Submission-Time                | Time        |            |
| 1203                                                             | MM-Content-Type                | Grouped     |            |
| 1204                                                             | Type-Number                    | Enumerated  |            |
| 1205                                                             | Additional-Type-Information    | UTF8String  |            |
| 1206                                                             | Content-Size                   | Unsigned32  |            |
| 1207                                                             | Additional-Content-Information | Grouped     |            |
| 1208                                                             | Addressee-Type                 | Enumerated  |            |
| 1209                                                             | Priority                       | Enumerated  |            |
| 1210                                                             | Message-ID                     | UTF8String  |            |
| 1211                                                             | Message-Type                   | Enumerated  |            |
| 1212                                                             | Message-Size                   | Unsigned32  |            |
| 1213                                                             | Message-Class                  | Grouped     |            |
| 1214                                                             | Class-Identifier               | Enumerated  |            |
| 1215                                                             | Token-Text                     | UTF8String  |            |
| 1216                                                             | Delivery-Report-Requested      | Enumerated  |            |
| 1217                                                             | Adaptations                    | Enumerated  |            |
| 1218                                                             | Applic-ID                      | UTF8String  |            |
| 1219                                                             | Aux-Applic-Info                | UTF8String  |            |
| 1220                                                             | Content-Class                  | Enumerated  |            |
| 1221                                                             | DRM-Content                    | Enumerated  |            |
| 1222                                                             | Read-Reply-Report-Requested    | Enumerated  |            |
| 1223                                                             | Reply-Applic-ID                | UTF8String  |            |
| 1224                                                             | File-Repair-Supported          | Enumerated  |            |
| 1225                                                             | MBMS-User-Service-Type         | Enumerated  |            |
| 1226                                                             | Unit-Quota-Threshold           | Unsigned32  |            |
| 1227                                                             | PDP-Address                    | Address     |            |
| 1228                                                             | SGSN-Address                   | Address     |            |
| 1229                                                             | PoC-Session-Id                 | UTF8String  |            |
| 1230                                                             | Deferred-Location-Even-Type    | UTF8String  |            |
| 1231                                                             | LCS-APN                        | UTF8String  |            |
| 1232                                                             | LCS-Client-Id                  | Grouped     |            |
| 1233                                                             | LCS-Client-Dialed-By-MS        | UTF8String  |            |
| 1234                                                             | LCS-Client-External-ID         | UTF8String  |            |
| 1235                                                             | LCS-Client-Name                | Grouped     |            |
| 1236                                                             | LCS-Data-Coding-Scheme         | UTF8String  |            |
| 1237                                                             | LCS-Format-Indicator           | Enumerated  |            |
| 1238                                                             | LCS-Name-String                | UTF8String  |            |
| 1239                                                             | LCS-Requestor-Id               | Grouped     |            |
| 1240                                                             | LCS-Requestor-Id-String        | UTF8String  |            |
| 1241                                                             | LCS-Client-Type                | Enumerated  |            |
| 1242                                                             | Location-Estimate              | OctetString |            |
| 1243                                                             | Location-Estimate-Type         | Enumerated  |            |
| 1244                                                             | Location-Type                  | Grouped     |            |
| 1245                                                             | Positioning-Data               | UTF8String  |            |
| 1246                                                             | Reserved                       | -           |            |
| 1247                                                             | PDP-Context-Type               | Enumerated  |            |
| 1248                                                             | MMBox-Storage-Requested        | Enumerated  |            |
| 1249                                                             | Service-Specific-Info          | Grouped     |            |
| 1250                                                             | Called-Asserted-Identity       | UTF8String  |            |
| 1251                                                             | Requested-Party-Address        | UTF8String  |            |
| 1252                                                             | PoC-User-Role                  | Grouped     |            |
| 1253                                                             | PoC-User-Role-IDs              | UTF8String  |            |
| 1254                                                             | PoC-User-Role-info-Units       | Enumerated  |            |
| 1255                                                             | Talk-Burst-Exchange            | Grouped     |            |
| 1256                                                             | Service-Generic-Information    | Grouped     |            |
| 1257                                                             | Service-Specific-Type          | Unsigned32  |            |
| 1258                                                             | Event-Charging-TimeStamp       | Time        |            |
| 1259                                                             | Participant-Access-Priority    | Enumerated  |            |
| 1260                                                             | Participant-Group              | Grouped     |            |
| 1261                                                             | PoC-Change-Conditions          | Enumerated  |            |

|                                                                   |                                            |             |             |
|-------------------------------------------------------------------|--------------------------------------------|-------------|-------------|
| 1262                                                              | PoC-Change-Time                            | Time        |             |
| 1263                                                              | Access-Network-Information                 | OctetString |             |
| 1264                                                              | Trigger                                    | Grouped     |             |
| 1265                                                              | Base-Time-Interval                         | Unsigned32  |             |
| 1266                                                              | Envelope                                   | Grouped     |             |
| 1267                                                              | Envelope-End-Time                          | Time        |             |
| 1268                                                              | Envelope-Reporting                         | Enumerated  |             |
| 1269                                                              | Envelope-Start-Time                        | Time        |             |
| 1270                                                              | Time-Quota-Mechanism                       | Grouped     |             |
| 1271                                                              | Time-Quota-Type                            | Enumerated  |             |
| 1272                                                              | Early-Media-Description                    | Grouped     |             |
| 1273                                                              | SDP-TimeStamps                             | Grouped     |             |
| 1274                                                              | SDP-Offer-Timestamp                        | Time        |             |
| 1275                                                              | SDP-Answer-Timestamp                       | Time        |             |
| 1276                                                              | AF-Correlation-Information                 | Grouped     |             |
| 1277                                                              | PoC-Session-Initiation-type                | Enumerated  |             |
| 1278                                                              | Offline-Charging                           | Grouped     |             |
| 1279                                                              | User-Participating-Type                    | Enumerated  |             |
| 1280                                                              | Alternate-Charged-Party-Address            | UTF8String  |             |
| 1281                                                              | IMS-Communication-Service-Identifier       | UTF8String  |             |
| 1282                                                              | Number-Of-Received-Talk-Bursts             | Unsigned32  |             |
| 1283                                                              | Number-Of-Talk-Bursts                      | Unsigned32  |             |
| 1284                                                              | Received-Talk-Burst-Time                   | Unsigned32  |             |
| 1285                                                              | Received-Talk-Burst-Volume                 | Unsigned32  |             |
| 1286                                                              | Talk-Burst-Time                            | Unsigned32  |             |
| 1287                                                              | Talk-Burst-Volume                          | Unsigned32  |             |
| 1288                                                              | Media-Initiator-Party                      | UTF8String  |             |
| Note: The AVP codes from 1289 to 1299 are reserved for TS 32.299  |                                            |             |             |
| 1300                                                              | PC5-Radio-Technology                       | Enumerated  | 32.299 [5]  |
| 1301                                                              | RAN-End-Time                               | Time        |             |
| 1302                                                              | RAN-Secondary-RAT-Usage-Report             | Grouped     |             |
| 1303                                                              | RAN-Start-Time                             | Time        |             |
| 1304                                                              | Secondary-RAT-Type                         | OctetString |             |
| 1305                                                              | Civic-Address-Information                  | UTF8String  |             |
| 1306                                                              | WLAN-Operator-Id                           | Grouped     |             |
| 1307                                                              | WLAN-Operator-Name                         | UTF8String  |             |
| 1308                                                              | WLAN-PLMN-Id                               | UTF8String  |             |
| 1309                                                              | API-Content                                | UTF8String  |             |
| 1310                                                              | API-Direction                              | Enumerated  |             |
| 1311                                                              | API-Identifier                             | OctetString |             |
| 1312                                                              | API-Invocation-Timestamp                   | Time        |             |
| 1313                                                              | API-Result-Code                            | Unsigned32  |             |
| 1314                                                              | API-Size                                   | Unsigned64  |             |
| 1315                                                              | API-Network-Service-Node                   | Enumerated  |             |
| 1316                                                              | Exposure-Function-API-Information          | Grouped     |             |
| 1317                                                              | SCEF-Address                               | Address     |             |
| 1318                                                              | TLTRI                                      | Unsigned32  |             |
| 1319                                                              | TTRI                                       | Unsigned32  |             |
| 1320                                                              | 3GPP-OC-Specific-Reduction                 | Grouped     |             |
| 1321                                                              | 3GPP-OC-Rating-Group                       | Unsigned32  |             |
| 1322                                                              | 3GPP-OC-Request-Type                       | Enumerated  |             |
| 1323                                                              | VoLTE-Information                          | Grouped     |             |
| Note: The AVP codes from 1324 to 1399 are reserved for TS 32.229. |                                            |             |             |
| 1400                                                              | Subscription-Data                          | Grouped     | 29.272 [21] |
| 1401                                                              | Terminal-Information                       | Grouped     |             |
| 1402                                                              | IMEI                                       | UTF8String  |             |
| 1403                                                              | Software-Version                           | UTF8String  |             |
| 1404                                                              | QoS-Subscribed                             | UTF8String  |             |
| 1405                                                              | ULR-Flags                                  | Unsigned32  |             |
| 1406                                                              | ULA-Flags                                  | Unsigned32  |             |
| 1407                                                              | Visited PLMN Id                            | OctetString |             |
| 1408                                                              | Requested-EUTRAN-Authentication-Info       | Grouped     |             |
| 1409                                                              | Requested-UTRAN- GERAN-Authentication-Info | Grouped     |             |
| 1410                                                              | Number-Of-Requested-Vectors                | Unsigned32  |             |
| 1411                                                              | Re-Synchronization-Info                    | OctetString |             |



|      |                                               |             |
|------|-----------------------------------------------|-------------|
| 1412 | Immediate-Response-Preferred                  | Unsigned32  |
| 1413 | Authentication-Info                           | Grouped     |
| 1414 | E-UTRAN-Vector                                | Grouped     |
| 1415 | UTRAN-Vector                                  | Grouped     |
| 1416 | GERAN-Vector                                  | Grouped     |
| 1417 | Network-Access-Mode                           | Enumerated  |
| 1418 | HPLMN-ODB                                     | Enumerated  |
| 1419 | Item-Number                                   | Unsigned32  |
| 1420 | Cancellation-Type                             | Enumerated  |
| 1421 | DSR-Flags                                     | Unsigned32  |
| 1422 | DSA-Flags                                     | Unsigned32  |
| 1423 | Context-Identifier                            | Unsigned32  |
| 1424 | Subscriber-Status                             | Enumerated  |
| 1425 | Operator-Determined-Barring                   | Unsigned32  |
| 1426 | Access-Restriction-Data                       | Unsigned32  |
| 1427 | APN-OI-Replacement                            | UTF8String  |
| 1428 | All-APN-Configurations-Included-Indicator     | Enumerated  |
| 1429 | APN-Configuration-Profile                     | Grouped     |
| 1430 | APN-Configuration                             | Grouped     |
| 1431 | EPS-Subscribed-QoS-Profile                    | Grouped     |
| 1432 | VPLMN-Dynamic-Address-Allowed                 | Enumerated  |
| 1433 | STN-SR                                        | OctetString |
| 1434 | Alert-Reason                                  | Enumerated  |
| 1435 | AMBR                                          | Grouped     |
| 1436 | CSG-Subscription-Data                         | Grouped     |
| 1437 | CSG-Id                                        | Unsigned32  |
| 1438 | PDN-GW-Allocation-Type                        | Enumerated  |
| 1439 | Expiration-Date                               | Time        |
| 1440 | RAT-Frequency-Selection-Priority-ID           | Unsigned32  |
| 1441 | IDA-Flags                                     | Unsigned32  |
| 1442 | PUA-Flags                                     | Unsigned32  |
| 1443 | NOR-Flags                                     | Unsigned32  |
| 1444 | User-Id                                       | UTF8String  |
| 1445 | Equipment-Status                              | Enumerated  |
| 1446 | Regional-Subscription-Zone-Code               | OctetString |
| 1447 | RAND                                          | OctetString |
| 1448 | XRES                                          | OctetString |
| 1449 | AUTN                                          | OctetString |
| 1450 | KASME                                         | OctetString |
| 1451 | Reserved                                      | -           |
| 1452 | Trace-Collection-Entity                       | Address     |
| 1453 | Kc                                            | OctetString |
| 1454 | SRES                                          | OctetString |
| 1455 | Reserved                                      | -           |
| 1456 | PDN-Type                                      | Enumerated  |
| 1457 | Roaming-Restricted-Due-To-Unsupported-Feature | Enumerated  |
| 1458 | Trace-Data                                    | Grouped     |
| 1459 | Trace-Reference                               | OctetString |
| 1460 | Reserved                                      | -           |
| 1461 | Reserved                                      | -           |
| 1462 | Trace-Depth                                   | Enumerated  |
| 1463 | Trace-NE-Type-List                            | OctetString |
| 1464 | Trace-Interface-List                          | OctetString |
| 1465 | Trace-Event-List                              | OctetString |
| 1466 | OMC-Id                                        | OctetString |
| 1467 | GPRS-Subscription-Data                        | Grouped     |
| 1468 | Complete-Data-List-Included-Indicator         | Enumerated  |
| 1469 | PDP-Context                                   | Grouped     |
| 1470 | PDP-Type                                      | OctetString |
| 1471 | 3GPP2-MEID                                    | OctetString |
| 1472 | Specific-APN-Info                             | Grouped     |
| 1473 | LCS-Info                                      | Grouped     |
| 1474 | GMLC-Number                                   | OctetString |
| 1475 | LCS-PrivacyException                          | Grouped     |
| 1476 | SS-Code                                       | OctetString |

|      |                                                   |                  |             |
|------|---------------------------------------------------|------------------|-------------|
| 1477 | SS-Status                                         | OctetString      |             |
| 1478 | Notification-To-UE-User                           | Enumerated       |             |
| 1479 | External-Client                                   | Grouped          |             |
| 1480 | Client-Identity                                   | OctetString      |             |
| 1481 | GMLC-Restriction                                  | Enumerated       |             |
| 1482 | PLMN-Client                                       | Enumerated       |             |
| 1483 | Service-Type                                      | Grouped          |             |
| 1484 | ServiceTypeIdentity                               | Unsigned32       |             |
| 1485 | MO-LR                                             | Grouped          |             |
| 1486 | Teleservice-List                                  | Grouped          |             |
| 1487 | TS-Code                                           | Enumerated       |             |
| 1488 | Call-Barring-Info                                 | Grouped          |             |
| 1489 | SGSN-Number                                       | OctetString      |             |
| 1490 | IDR-Flags                                         | Unsigned32       |             |
| 1491 | ICS-Indicator                                     | Enumerated       |             |
| 1492 | IMS-Voice-Over-PS-Sessions-Supported              | Enumerated       |             |
| 1493 | Homogeneous-Support-of-IMS-Voice-Over-PS-Sessions | Enumerated       |             |
| 1494 | Last-UE-Activity-Time                             | Time             |             |
| 1495 | EPS-User-State                                    | Grouped          |             |
| 1496 | EPS-Location-Information                          | Grouped          |             |
| 1497 | MME-User-State                                    | Grouped          |             |
| 1498 | SGSN-User-State                                   | Grouped          |             |
| 1499 | User-State                                        | Enumerated       |             |
| 1500 | Non-3GPP-User-Data                                | Grouped          | 29.273 [20] |
| 1501 | Non-3GPP-IP-Access                                | Enumerated       |             |
| 1502 | Non-3GPP-IP-Access-APN                            | Enumerated       |             |
| 1503 | AN-Trusted                                        | Enumerated       |             |
| 1504 | ANID                                              | UTF8String       |             |
| 1505 | Trace-Info                                        | Grouped          |             |
| 1506 | MIP-FA-RK                                         | OctetString      |             |
| 1507 | MIP-FA-RK-SPI                                     | Unsigned32       |             |
| 1508 | PPR-Flags                                         | Unsigned32       |             |
| 1509 | WLAN-Identifier                                   | Grouped          |             |
| 1510 | TWAN-Access-Info                                  | Grouped          |             |
| 1511 | Access-Authorization-Flags                        | Unsigned32       |             |
| 1512 | TWAN-Default-APN-Context-Id                       | Unsigned32       |             |
| 1513 | Reserved                                          | -                |             |
| 1514 | Reserved                                          | -                |             |
| 1515 | Reserved                                          | -                |             |
| 1516 | Full-Network-Name                                 | OctetString      |             |
| 1517 | Short-Network-Name                                | OctetString      |             |
| 1518 | AAA-Failure-Indication                            | Unsigned32       |             |
| 1519 | Transport-Access-Type                             | Enumerated       |             |
| 1520 | DER-Flags                                         | Unsigned32       |             |
| 1521 | DEA-Flags                                         | Unsigned32       |             |
| 1522 | RAR-Flags                                         | Unsigned32       |             |
| 1523 | DER-S6b-Flags                                     | Unsigned32       |             |
| 1524 | SSID                                              | UTF8String       |             |
| 1525 | HESSID                                            | UTF8String       |             |
| 1526 | Access-Network-Info                               | Grouped          |             |
| 1527 | TWAN-Connection-Mode                              | Unsigned32       |             |
| 1528 | TWAN-Connectivity-Parameters                      | Grouped          |             |
| 1529 | Connectivity-Flags                                | Unsigned32       |             |
| 1530 | TWAN-PCO                                          | OctetString      |             |
| 1531 | TWAG-CP-Address                                   | Address          |             |
| 1532 | TWAG-UP-Address                                   | UTF8String       |             |
| 1533 | TWAN-S2a-Failure-Cause                            | Unsigned32       |             |
| 1534 | SM-Back-Off-Timer                                 | Unsigned32       |             |
| 1535 | WLCP-Key                                          | OctetString      |             |
| 318  | 3GPP-AAA-Server-Name                              | DiameterIdentity |             |
| 1536 | Origination-Time-Stamp                            | Unsigned64       |             |
| 1537 | Maximum-Wait-Time                                 | Unsigned32       |             |
| 1538 | Emergency-Services                                | Unsigned32       |             |
| 1539 | AAR-Flags                                         | Unsigned32       |             |

|                                                                                                                                 |                                   |                  |                |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------|----------------|
| 1540                                                                                                                            | IMEI-Check-In-VPLMN-Result        | Unsigned32       |                |
| 1541                                                                                                                            | ERP-Authorization                 | Unsigned32       |                |
| 1542                                                                                                                            | High-Priority-Access-Info         | Unsigned32       |                |
| Note 1: The AVP codes from 1543 to 1599 are reserved for TS 29.273                                                              |                                   |                  |                |
| Note 2: The AVP 3GPP-AAA-Server-Name was originally defined in 3GPP TS 29.234 and is now defined in 3GPP TS 29.273 from Rel-12. |                                   |                  |                |
| 1600                                                                                                                            | MME-Location-Information          | Grouped          | 29.272<br>[21] |
| 1601                                                                                                                            | SGSN-Location-Information         | Grouped          |                |
| 1602                                                                                                                            | E-UTRAN-Cell-Global-Identity      | OctetString      |                |
| 1603                                                                                                                            | Tracking-Area-Identity            | OctetString      |                |
| 1604                                                                                                                            | Cell-Global-Identity              | OctetString      |                |
| 1605                                                                                                                            | Routing-Area-Identity             | OctetString      |                |
| 1606                                                                                                                            | Location-Area-Identity            | OctetString      |                |
| 1607                                                                                                                            | Service-Area-Identity             | OctetString      |                |
| 1608                                                                                                                            | Geographical-Information          | OctetString      |                |
| 1609                                                                                                                            | Geodetic-Information              | OctetString      |                |
| 1610                                                                                                                            | Current-Location-Retrieved        | Enumerated       |                |
| 1611                                                                                                                            | Age-Of-Location-Information       | Unsigned32       |                |
| 1612                                                                                                                            | Active-APN                        | Grouped          |                |
| 1613                                                                                                                            | SIPTO-Permission                  | Enumerated       |                |
| 1614                                                                                                                            | Error-Diagnostic                  | Enumerated       |                |
| 1615                                                                                                                            | UE-SRVCC-Capability               | Enumerated       |                |
| 1616                                                                                                                            | MPS-Priority                      | Unsigned32       |                |
| 1617                                                                                                                            | VPLMN-LIPA-Allowed                | Enumerated       |                |
| 1618                                                                                                                            | LIPA-Permission                   | Enumerated       |                |
| 1619                                                                                                                            | Subscribed-Periodic-RAU-TAU-Timer | Unsigned32       |                |
| 1620                                                                                                                            | Ext-PDP-Type                      | OctetString      |                |
| 1621                                                                                                                            | Ext-PDP-Address                   | Address          |                |
| 1622                                                                                                                            | MDT-Configuration                 | Grouped          |                |
| 1623                                                                                                                            | Job-Type                          | Enumerated       |                |
| 1624                                                                                                                            | Area-Scope                        | Grouped          |                |
| 1625                                                                                                                            | List-Of-Measurements              | Unsigned32       |                |
| 1626                                                                                                                            | Reporting-Trigger                 | Unsigned32       |                |
| 1627                                                                                                                            | Report-Interval                   | Enumerated       |                |
| 1628                                                                                                                            | Report-Amount                     | Enumerated       |                |
| 1629                                                                                                                            | Event-ThresholdRSRP               | Unsigned32       |                |
| 1630                                                                                                                            | Event-ThresholdRSRQ               | Unsigned32       |                |
| 1631                                                                                                                            | Logging-Interval                  | Enumerated       |                |
| 1632                                                                                                                            | Logging-Duration                  | Enumerated       |                |
| 1633                                                                                                                            | Relay-Node-Indicator              | Enumerated       |                |
| 1634                                                                                                                            | MDT-User-Consent                  | Enumerated       |                |
| 1635                                                                                                                            | PUR-Flags                         | Unsigned32       |                |
| 1636                                                                                                                            | Subscribed-VSRVCC                 | Enumerated       |                |
| 1637                                                                                                                            | Equivalent-PLMN-List              | Grouped          |                |
| 1638                                                                                                                            | CLR-Flags                         | Unsigned32       |                |
| 1639                                                                                                                            | UVR-Flags                         | Unsigned32       |                |
| 1640                                                                                                                            | UVA-Flags                         | Unsigned32       |                |
| 1641                                                                                                                            | VPLMN-CSG-Subscription-Data       | Grouped          |                |
| 1642                                                                                                                            | Time-Zone                         | UTF8String       |                |
| 1643                                                                                                                            | A-MSISDN                          | OctetString      |                |
| 1644                                                                                                                            | Reserved                          | -                |                |
| 1645                                                                                                                            | MME-Number-for-MT-SMS             | OctetString      |                |
| 1646                                                                                                                            | Reserved                          | -                |                |
| 1647                                                                                                                            | Reserved                          | -                |                |
| 1648                                                                                                                            | SMS-Register-Request              | Enumerated       |                |
| 1649                                                                                                                            | Local-Time-Zone                   | Grouped          |                |
| 1650                                                                                                                            | Daylight-Saving-Time              | Enumerated       |                |
| 1651                                                                                                                            | GMLC-Info                         | Grouped          |                |
| 1652                                                                                                                            | GMLC-Name                         | DiameterIdentity |                |
| 1653                                                                                                                            | GMLC-Realm                        | DiameterIdentity |                |
| 1654                                                                                                                            | Subscription-Data-Flags           | Unsigned32       |                |
| 1655                                                                                                                            | Measurement-Period-LTE            | Enumerated       |                |
| 1656                                                                                                                            | Measurement-Period-UMTS           | Enumerated       |                |
| 1657                                                                                                                            | Collection-Period-RRM-LTE         | Enumerated       |                |
| 1658                                                                                                                            | Collection-Period-RRM-UMTS        | Enumerated       |                |

|      |                                          |                  |
|------|------------------------------------------|------------------|
| 1659 | Positioning-Method                       | OctetString      |
| 1660 | Measurement-Quantity                     | OctetString      |
| 1661 | Event-Threshold-Event-1F                 | Integer32        |
| 1662 | Event-Threshold-Event-1I                 | Integer32        |
| 1663 | Restoration-Priority                     | Unsigned32       |
| 1664 | SGs-MME-Identity                         | UTF8String       |
| 1665 | SIPTO-Local-Network-Permission           | Unsigned32       |
| 1666 | Coupled-Node-Diameter-ID                 | DiameterIdentity |
| 1667 | WLAN-offloadability                      | Grouped          |
| 1668 | WLAN-offloadability-EUTRAN               | Unsigned32       |
| 1669 | WLAN-offloadability-UTRAN                | Unsigned32       |
| 1670 | Reset-ID                                 | OctetString      |
| 1671 | MDT-Allowed-PLMN-Id                      | OctetString      |
| 1672 | Adjacent-PLMNs                           | Grouped          |
| 1673 | Adjacent-Access-Restriction-Data         | Grouped          |
| 1674 | DL-Buffering-Suggested-Packet-Count      | Integer32        |
| 1675 | IMSI-Group-Id                            | Grouped          |
| 1676 | Group-Service-Id                         | Unsigned32       |
| 1677 | Group-PLMN-Id                            | OctetString      |
| 1678 | Local-Group-Id                           | OctetString      |
| 1679 | AIR-Flags                                | Unsigned32       |
| 1680 | UE-Usage-Type                            | Unsigned32       |
| 1681 | Non-IP-PDN-Type-Indicator                | Enumerated       |
| 1682 | Non-IP-Data-Delivery-Mechanism           | Unsigned32       |
| 1683 | Additional-Context-Identifier            | Unsigned32       |
| 1684 | SCEF-Realm                               | DiameterIdentity |
| 1685 | Subscription-Data-Deletion               | Grouped          |
| 1686 | Preferred-Data-Mode                      | Unsigned32       |
| 1687 | Emergency-Info                           | Grouped          |
| 1688 | V2X-Subscription-Data                    | Grouped          |
| 1689 | V2X-Permission                           | Unsigned32       |
| 1690 | PDN-Connection-Continuity                | Unsigned32       |
| 1691 | eDRX-Cycle-Length                        | Grouped          |
| 1692 | eDRX-Cycle-Length-Value                  | OctetString      |
| 1693 | UE-PC5-AMBR                              | Unsigned32       |
| 1694 | MBSFN-Area                               | Grouped          |
| 1695 | MBSFN-Area-ID                            | Unsigned32       |
| 1696 | Carrier-Frequency                        | Unsigned32       |
| 1697 | RDS-Indicator                            | Enumerated       |
| 1698 | Service-Gap-Time                         | Unsigned32       |
| 1699 | Aerial-UE-Subscription-Information       | Unsigned32       |
| 1700 | Broadcast-Location-Assistance-Data-Types | Unsigned64       |
| 1701 | Paging-Time-Window                       | Grouped          |
| 1702 | Operation-Mode                           | Unsigned32       |
| 1703 | Paging-Time-Window-Length                | OctetString      |
| 1704 | Core-Network-Restrictions                | Unsigned32       |
| 1705 | eDRX-Related-RAT                         | Grouped          |
| 1706 | Interworking-5GS-Indicator               | Enumerated       |
| 1707 | Ethernet-PDN-Type-Indicator              | Enumerated       |
| 1708 | Subscribed-ARPI                          | Unsigned32       |
| 1709 | IAB-Operation-Permission                 | Enumerated       |
| 1710 | V2X-Subscription-Data-Nr                 | Grouped          |
| 1711 | UE-PC5-QoS                               | Grouped          |
| 1712 | PC5-QoS-Flow                             | Grouped          |
| 1713 | 5QI                                      | Integer32        |
| 1714 | PC5-Flow-Bitrates                        | Grouped          |
| 1715 | Guaranteed-Flow-Bitrates                 | Integer32        |
| 1716 | Maximum-Flow-Bitrates                    | Integer32        |
| 1717 | PC5-Range                                | Integer32        |
| 1718 | PC5-Link-AMBR                            | Integer32        |
| 1719 | Third-Context-ID                         | Unsigned32       |
| 1720 | MDT-Configuration-NR                     | Grouped          |
| 1721 | Event-Threshold-SINR                     | Unsigned32       |
| 1722 | Collection-Period-RRM-NR                 | Enumerated       |
| 1723 | Collection-Period-M6-NR                  | Enumerated       |

|                                                                   |                                        |             |            |
|-------------------------------------------------------------------|----------------------------------------|-------------|------------|
| 1724                                                              | Collection-Period-M7-NR                | Unsigned32  |            |
| 1725                                                              | Sensor-Measurement                     | Enumerated  |            |
| 1726                                                              | NR-Cell-Global-Identity                | OctetString |            |
| 1727                                                              | Trace-Reporting-Consumer-Uri           | DiameterURI |            |
| Note: The AVP codes from 1728 to 1799 are reserved for TS 29.272. |                                        |             |            |
| 2000                                                              | SMS-Information                        | Grouped     | 32.299 [5] |
| 2001                                                              | Data-Coding-Scheme                     | Integer32   |            |
| 2002                                                              | Destination-Interface                  | Grouped     |            |
| 2003                                                              | Interface-Id                           | UTF8String  |            |
| 2004                                                              | Interface-Port                         | UTF8String  |            |
| 2005                                                              | Interface-Text                         | UTF8String  |            |
| 2006                                                              | Interface-Type                         | Enumerated  |            |
| 2007                                                              | SM-Message-Type                        | Enumerated  |            |
| 2008                                                              | Originating-SCCP-Address               | Address     |            |
| 2009                                                              | Originator-Interface                   | Grouped     |            |
| 2010                                                              | Recipient-SCCP-Address                 | Address     |            |
| 2011                                                              | Reply-Path-Requested                   | Enumerated  |            |
| 2012                                                              | SM-Discharge-Time                      | Time        |            |
| 2013                                                              | SM-Protocol-ID                         | OctetString |            |
| 2014                                                              | SM-Status                              | OctetString |            |
| 2015                                                              | SM-User-Data-Header                    | OctetString |            |
| 2016                                                              | SMS-Node                               | Enumerated  |            |
| 2017                                                              | SMSC-Address                           | Address     |            |
| 2018                                                              | Client-Address                         | Address     |            |
| 2019                                                              | Number-of-Messages-Sent                | Unsigned32  |            |
| 2020                                                              | Low-Balance-Indication                 | Enumerated  |            |
| 2021                                                              | Remaining-Balance                      | Grouped     |            |
| 2022                                                              | Refund-Information                     | OctetString |            |
| 2023                                                              | Carrier-Select-Routing-Information     | UTF8String  |            |
| 2024                                                              | Number-Portability-Routing-Information | UTF8String  |            |
| 2025                                                              | PoC-Event-Type                         | Enumerated  |            |
| 2026                                                              | Recipient-Info                         | Grouped     |            |
| 2027                                                              | Originator-Received-Address            | Grouped     |            |
| 2028                                                              | Recipient-Received-Address             | Grouped     |            |
| 2029                                                              | SM-Service-Type                        | Enumerated  |            |
| 2030                                                              | MMTel-Information                      | Grouped     |            |
| 2031                                                              | MMTel-Sservice-Type                    | Unsigned32  |            |
| 2032                                                              | Service-Mode                           | Unsigned32  |            |
| 2033                                                              | Subscriber-Role                        | Enumerated  |            |
| 2034                                                              | Number-Of-Diversions                   | Unsigned32  |            |
| 2035                                                              | Associated-Party-Address               | UTF8String  |            |
| 2036                                                              | SDP-Type                               | Enumerated  |            |
| 2037                                                              | Change-Condition                       | Integer32   |            |
| 2038                                                              | Change-Time                            | Time        |            |
| 2039                                                              | Diagnostics                            | Integer32   |            |
| 2040                                                              | Service-Data-Container                 | Grouped     |            |
| 2041                                                              | Start-Time                             | Time        |            |
| 2042                                                              | Stop-Time                              | Time        |            |
| 2043                                                              | Time-First-Usage                       | Time        |            |
| 2044                                                              | Time-Last-Usage                        | Time        |            |
| 2045                                                              | Time-Usage                             | Unsigned32  |            |
| 2046                                                              | Traffic-Data-Volumes                   | Grouped     |            |
| 2047                                                              | Serving-Node-Type                      | Enumerated  |            |
| 2048                                                              | Supplementary-Service                  | Grouped     |            |
| 2049                                                              | Participant-Action-Type                | Enumerated  |            |
| 2050                                                              | PDN-Connection-Charging-ID             | Unsigned32  |            |
| 2051                                                              | Dynamic-Address-Flag                   | Enumerated  |            |
| 2052                                                              | Accumulated-Cost                       | Grouped     |            |
| 2053                                                              | AoC-Cost-Information                   | Grouped     |            |
| 2054                                                              | AoC-Information                        | Grouped     |            |
| 2055                                                              | AoC-Request-Type                       | Enumerated  |            |
| 2056                                                              | Current-Tariff                         | Grouped     |            |
| 2057                                                              | Next-Tariff                            | Grouped     |            |
| 2058                                                              | Rate-Element                           | Grouped     |            |
| 2059                                                              | Scale-Factor                           | Grouped     |            |

|                                                                   |                                          |                  |             |
|-------------------------------------------------------------------|------------------------------------------|------------------|-------------|
| 2060                                                              | Tariff-Information                       | Grouped          |             |
| 2061                                                              | Unit-Cost                                | Grouped          |             |
| 2062                                                              | Incremental-Cost                         | Grouped          |             |
| 2063                                                              | Local-Sequence-Number                    | Unsigned32       |             |
| 2064                                                              | Node-Id                                  | UTF8String       |             |
| 2065                                                              | SGW-Change                               | Enumerated       |             |
| 2066                                                              | Charging-Characteristic-Selection-Mode   | Enumerated       |             |
| 2067                                                              | SGW-Address                              | Address          |             |
| 2068                                                              | Dynamic-Address-Flag-Extension           | Enumerated       |             |
| Note: The AVP codes from 2069 to 2099 are reserved for TS 32.299. |                                          |                  |             |
| 2100                                                              | reserved                                 | -                | 32.299 [5]  |
| 2101                                                              | Application-Server-ID                    | UTF8String       |             |
| 2102                                                              | Application-Service-Type                 | Enumerated       |             |
| 2103                                                              | Application-Session-ID                   | Unsigned32       |             |
| 2104                                                              | Delivery-Status                          | UTF8String       |             |
| 2105                                                              | reserved                                 | -                |             |
| 2106                                                              | reserved                                 | -                |             |
| 2107                                                              | reserved                                 | -                |             |
| 2108                                                              | reserved                                 | -                |             |
| 2109                                                              | reserved                                 | -                |             |
| 2110                                                              | IM-Information                           | Grouped          |             |
| 2111                                                              | Number-Of-Messages-Successfully-Exploded | Unsigned32       |             |
| 2112                                                              | Number-Of-Messages-Successfully-Sent     | Unsigned32       |             |
| 2113                                                              | Total-Number-Of-Messages-Exploded        | Unsigned32       |             |
| 2114                                                              | Total-Number-Of-Messages-Sent            | Unsigned32       |             |
| 2115                                                              | DCD-Information                          | Grouped          |             |
| 2116                                                              | Content-ID                               | UTF8String       |             |
| 2117                                                              | Content-provider-ID                      | UTF8String       |             |
| 2118                                                              | Charge-Reason-Code                       | Enumerated       |             |
| Note: The AVP codes from 2119 to 2199 are reserved for TS 32.299. |                                          |                  |             |
| 2200                                                              | Subsession-Decision-Info                 | Grouped          | 29.215 [22] |
| 2201                                                              | Subsession-Enforcement-Info              | Grouped          |             |
| 2202                                                              | Subsession-Id                            | Unsigned32       |             |
| 2203                                                              | Subsession-Operation                     | Enumerated       |             |
| 2204                                                              | Multiple-BBERF-Action                    | Enumerated       |             |
| 2205                                                              | UE-Local-IPv6-Prefix                     | OctetString      |             |
| 2206                                                              | DRA-Deployment                           | Enumerated       |             |
| 2207                                                              | PCRF-Address                             | DiameterIdentity |             |
| 2208                                                              | DRA-Binding                              | Enumerated       |             |
| Note: The AVP codes from 2209 to 2299 are reserved for TS 29.215. |                                          |                  |             |
| 2300                                                              | reserved                                 | -                | 32.299 [5]  |
| 2301                                                              | SIP-Request-Timestamp-Fraction           | Unsigned32       |             |
| 2302                                                              | SIP-Response-Timestamp-Fraction          | Unsigned32       |             |
| 2303                                                              | Online-Charging-Flag                     | Enumerated       |             |
| 2304                                                              | CUG-Information                          | OctetString      |             |
| 2305                                                              | Real-Time-Tariff-Information             | Grouped          |             |
| 2306                                                              | Tariff-XML                               | UTF8String       |             |
| 2307                                                              | MBMS GW-Address                          | Address          |             |
| 2308                                                              | IMSI-Unauthenticated-Flag                | Enumerated       |             |
| 2309                                                              | Account-Expiration                       | Time             |             |
| 2310                                                              | AoC-Format                               | Enumerated       |             |
| 2311                                                              | AoC-Service                              | Enumerated       |             |
| 2312                                                              | AoC-Service-Obligatory-Type              | Grouped          |             |
| 2313                                                              | AoC-Service-Type                         | Enumerated       |             |
| 2314                                                              | AoC-Subscription-Information             | Grouped          |             |
| 2315                                                              | Preferred-AoC-Currency                   | Unsigned32       |             |
| 2316                                                              | Reserved                                 | -                |             |
| 2317                                                              | CSG-Access-Mode                          | Enumerated       |             |
| 2318                                                              | CSG-Membership-Indication                | Enumerated       |             |
| 2319                                                              | User-CSG-Information                     | Grouped          |             |
| 2320                                                              | Outgoing-Session-Id                      | UTF8String       |             |
| 2321                                                              | Initial-IMS-Charging-Identifier          | UTF8String       |             |
| 2322                                                              | IMS-Emergency-Indicator                  | Enumerated       |             |
| 2323                                                              | MBMS-Charged-Party                       | Enumerated       |             |
| Note: The AVP codes from 2324 to 2399 are reserved for TS 32.299. |                                          |                  |             |

|                                                                   |                                     |                  |                |
|-------------------------------------------------------------------|-------------------------------------|------------------|----------------|
| 2400                                                              | LMSI                                | OctetString      | 29.173<br>[25] |
| 2401                                                              | Serving-Node                        | Grouped          |                |
| 2402                                                              | MME-Name                            | DiameterIdentity |                |
| 2403                                                              | MSC-Number                          | OctetString      |                |
| 2404                                                              | LCS-Capabilities-Sets               | Unsigned32       |                |
| 2405                                                              | GMLC-Address                        | Address          |                |
| 2406                                                              | Additional-Serving-Node             | Grouped          |                |
| 2407                                                              | PPR-Address                         | Address          |                |
| 2408                                                              | MME-Realm                           | DiameterIdentity |                |
| 2409                                                              | SGSN-Name                           | DiameterIdentity |                |
| 2410                                                              | SGSN-Realm                          | DiameterIdentity |                |
| 2411                                                              | RIA-Flags                           | Unsigned32       |                |
| Note: The AVP codes from 2412 to 2499 are reserved for TS 29.173. |                                     |                  |                |
| 2500                                                              | SLg-Location-Type                   | Enumerated       | 29.172<br>[24] |
| 2501                                                              | LCS-EPS-Client-Name                 | Grouped          |                |
| 2502                                                              | LCS-Requestor-Name                  | Grouped          |                |
| 2503                                                              | LCS-Priority                        | Unsigned32       |                |
| 2504                                                              | LCS-QoS                             | Grouped          |                |
| 2505                                                              | Horizontal-Accuracy                 | Unsigned32       |                |
| 2506                                                              | Vertical-Accuracy                   | Unsigned32       |                |
| 2507                                                              | Vertical-Requested                  | Enumerated       |                |
| 2508                                                              | Velocity-Requested                  | Enumerated       |                |
| 2509                                                              | Response-Time                       | Enumerated       |                |
| 2510                                                              | Supported-GAD-Shapes                | Unsigned32       |                |
| 2511                                                              | LCS-Codeword                        | UTF8String       |                |
| 2512                                                              | LCS-Privacy-Check                   | Enumerated       |                |
| 2513                                                              | Accuracy-Fulfilment-Indicator       | Enumerated       |                |
| 2514                                                              | Age-Of-Location-Estimate            | Unsigned32       |                |
| 2515                                                              | Velocity-Estimate                   | OctetString      |                |
| 2516                                                              | EUTRAN-Positioning-Data             | OctetString      |                |
| 2517                                                              | ECGI                                | OctetString      |                |
| 2518                                                              | Location-Event                      | Enumerated       |                |
| 2519                                                              | Pseudonym-Indicator                 | Enumerated       |                |
| 2520                                                              | LCS-Service-Type-ID                 | Unsigned32       |                |
| 2521                                                              | LCS-Privacy-Check-Non-Session       | Grouped          |                |
| 2522                                                              | LCS-Privacy-Check-Session           | Grouped          |                |
| 2523                                                              | LCS-QoS-Class                       | Enumerated       |                |
| 2524                                                              | GERAN-Positioning-Info              | Grouped          |                |
| 2525                                                              | GERAN-Positioning-Data              | OctetString      |                |
| 2526                                                              | GERAN-GANSS-Positioning-Data        | OctetString      |                |
| 2527                                                              | UTRAN-Positioning-Info              | Grouped          |                |
| 2528                                                              | UTRAN-Positioning-Data              | OctetString      |                |
| 2529                                                              | UTRAN-GANSS-Positioning-Data        | OctetString      |                |
| 2530                                                              | LRR-Flags                           | Unsigned32       |                |
| 2531                                                              | LCS-Reference-Number                | OctetString      |                |
| 2532                                                              | Deferred-Location-Type              | Unsigned32       |                |
| 2533                                                              | Area-Event-Info                     | Grouped          |                |
| 2534                                                              | Area-Definition                     | Grouped          |                |
| 2535                                                              | Area                                | Grouped          |                |
| 2536                                                              | Area-Type                           | Unsigned32       |                |
| 2537                                                              | Area-Identification                 | Grouped          |                |
| 2538                                                              | Occurrence-Info                     | Enumerated       |                |
| 2539                                                              | Interval-Time                       | Unsigned32       |                |
| 2540                                                              | Periodic-LDR-Information            | Grouped          |                |
| 2541                                                              | Reporting-Amount                    | Unsigned32       |                |
| 2542                                                              | Reporting-Interval                  | Unsigned32       |                |
| 2543                                                              | Reporting-PLMN-List                 | Grouped          |                |
| 2544                                                              | PLMN-ID-List                        | Grouped          |                |
| 2545                                                              | PLR-Flags                           | Unsigned32       |                |
| 2546                                                              | PLA-Flags                           | Unsigned32       |                |
| 2547                                                              | Deferred-MT-LR-Data                 | Grouped          |                |
| 2548                                                              | Termination-Cause                   | Unsigned32       |                |
| 2549                                                              | LRA-Flags                           | Unsigned32       |                |
| 2550                                                              | Periodic-Location-Support-Indicator | Enumerated       |                |
| 2551                                                              | Prioritized-List-Indicator          | Enumerated       |                |

|                                                                   |                                       |             |             |
|-------------------------------------------------------------------|---------------------------------------|-------------|-------------|
| 2552                                                              | ESMLC-Cell-Info                       | Grouped     |             |
| 2553                                                              | Cell-Portion-ID                       | Unsigned32  |             |
| 2554                                                              | 1xRTT-RCID                            | OctetString |             |
| 2555                                                              | Delayed-Location-Reporting-Data       | Grouped     |             |
| 2556                                                              | Civic-Address                         | UTF8String  |             |
| 2557                                                              | Barometric-Pressure                   | Unsigned32  |             |
| 2558                                                              | UTRAN-Additional-Positioning-Data     | OctetString |             |
| 2559                                                              | Motion-Event-Info                     | Grouped     |             |
| 2560                                                              | Linear-Distance                       | Unsigned32  |             |
| 2561                                                              | Maximum-Interval                      | Unsigned32  |             |
| 2562                                                              | Sampling-Interval                     | Unsigned32  |             |
| 2563                                                              | Reporting-Duration                    | Unsigned32  |             |
| 2564                                                              | Reporting-Location-Requirements       | Unsigned32  |             |
| 2565                                                              | Additional-Area                       | Grouped     |             |
| 2566                                                              | AMF-Instance-Id                       | UTF8String  |             |
| Note: The AVP codes from 2567 to 2599 are reserved for TS 29.172. |                                       |             |             |
| 2600                                                              | reserved                              | -           | 32.299 [5]  |
| 2601                                                              | IMS-Application-Reference-Identifier  | UTF8String  |             |
| 2602                                                              | Low-Priority-Indicator                | Enumerated  |             |
| 2603                                                              | IP-Realm-Default-Indicator            | Enumerated  |             |
| 2604                                                              | Local-GW-Inserted-Indicator           | Enumerated  |             |
| 2605                                                              | Transcoder-Inserted-Indicator         | Enumerated  |             |
| 2606                                                              | PDP-Address-Prefix-Length             | Unsigned32  |             |
| Note: The AVP codes from 2607 to 2699 are reserved for TS 32.299. |                                       |             |             |
| 2700                                                              | Reserved                              | -           | 32.299 [5]  |
| 2701                                                              | Transit-IOI-List                      | UTF8String  |             |
| 2702                                                              | Status-AS-Code                        | Enumerated  |             |
| 2703                                                              | NNI-Information                       | Grouped     |             |
| 2704                                                              | NNI-Type                              | Enumerated  |             |
| 2705                                                              | Neighbour-Node-Address                | Address     |             |
| 2706                                                              | Relationship-Mode                     | Enumerated  |             |
| 2707                                                              | Session-Direction                     | Enumerated  |             |
| 2708                                                              | From-Address                          | UTF8String  |             |
| 2709                                                              | Access-Transfer-Information           | Grouped     |             |
| 2710                                                              | Access-Transfer-Type                  | Enumerated  |             |
| 2711                                                              | Related-IMS-Charging-Identifier       | UTF8String  |             |
| 2712                                                              | Related-IMS-Charging-Identifier-Node  | Address     |             |
| 2713                                                              | IMS-Visited-Network-Identifier        | UTF8String  |             |
| 2714                                                              | TWAN-User-Location-Info               | Grouped     |             |
| 2715                                                              | Reserved                              | -           |             |
| 2716                                                              | BSSID                                 | UTF8String  |             |
| 2717                                                              | TAD-Identifier                        | Enumerated  |             |
| Note: The AVP codes from 2718 to 2799 are reserved for TS 32.299. |                                       |             |             |
| 2800                                                              | Reserved                              | -           | 29.212 [19] |
| 2801                                                              | ADC-Revalidation-Time                 | Time        |             |
| 2802                                                              | TDF-Application-Instance-Identifier   | OctetString |             |
| 2803                                                              | HeNB-BBF-FQDN                         | UTF8String  |             |
| 2804                                                              | HeNB-Local-IP-Address                 | Address     |             |
| 2805                                                              | UE-Local-IP-Address                   | Address     |             |
| 2806                                                              | UDP-Source-Port                       | Unsigned32  |             |
| 2807                                                              | CS-Service-Qos-Request-Identifier     | OctetString |             |
| 2808                                                              | CS-Service-QoS-Request-Operation      | Enumerated  |             |
| 2809                                                              | Mute-Notification                     | Enumerated  |             |
| 2810                                                              | Monitoring-Time                       | Time        |             |
| 2811                                                              | AN-GW-Status                          | Enumerated  |             |
| 2812                                                              | User-Location-Info-Time               | Grouped     |             |
| 2813                                                              | CS-Service-Resource-Report            | Time        |             |
| 2814                                                              | CS-Service-Resource-Failure-Cause     | Enumerated  |             |
| 2815                                                              | CS-Service-Resource-Result-Operation  | Enumerated  |             |
| 2816                                                              | Default-QoS-Information               | Grouped     |             |
| 2817                                                              | Default-QoS-Name                      | UTF8String  |             |
| 2818                                                              | Conditional-APN-Aggregate-Max-Bitrate | Grouped     |             |
| 2819                                                              | RAN-NAS-Release-Cause                 | OctetString |             |
| 2820                                                              | Presence-Reporting-Area-Elements-List | OctetString |             |
| 2821                                                              | Presence-Reporting-Area-Identifier    | OctetString |             |



|                                                                   |                                       |                  |                |
|-------------------------------------------------------------------|---------------------------------------|------------------|----------------|
| 2822                                                              | Presence-Reporting-Area-Information   | Grouped          |                |
| 2823                                                              | Presence-Reporting-Area-Status        | Unsigned32       |                |
| 2824                                                              | NetLoc-Access-Support                 | Unsigned32       |                |
| 2825                                                              | Fixed-User-Location-Info              | Grouped          |                |
| 2826                                                              | PCSCF-Restoration-Indication          | Unsigned32       |                |
| 2827                                                              | IP-CAN-Session-Charging-Scope         | Enumerated       |                |
| 2828                                                              | Monitoring-Flags                      | Unsigned32       |                |
| 2829                                                              | Default-Access                        | Enumerated       |                |
| 2830                                                              | NBIFOM-Mode                           | Enumerated       |                |
| 2831                                                              | NBIFOM-Support                        | Enumerated       |                |
| 2832                                                              | RAN-Rule-Support                      | Unsigned32       |                |
| 2833                                                              | Access-Availability-Change-Reason     | Unsigned32       |                |
| 2834                                                              | Routing-Rule-Failure-Code             | Unsigned32       |                |
| 2835                                                              | Routing-Rule-Report                   | Grouped          |                |
| 2836                                                              | Traffic-Steering-Policy-Identifier-DL | OctetString      |                |
| 2837                                                              | Traffic-Steering-Policy-Identifier-UL | OctetString      |                |
| 2838                                                              | Request-Type                          | Unsigned32       |                |
| 2839                                                              | Execution-Time                        | Time             |                |
| 2840                                                              | Conditional-Policy-Information        | Grouped          |                |
| 2841                                                              | Resource-Release-Notification         | Enumerated       |                |
| 2842                                                              | Removal-Of-Access                     | Enumerated       |                |
| 2843                                                              | TCP-Source-Port                       | Unsigned32       |                |
| 2844                                                              | Default-Bearer-Indication             | Enumerated       |                |
| 2845                                                              | PRA-Install                           | Grouped          |                |
| 2846                                                              | PRA-Remove                            | Grouped          |                |
| 2847                                                              | 3GPP-PS-Data-Off-Status               | Enumerated       |                |
| 2848                                                              | Extended-APN-AMBR-DL                  | Unsigned32       |                |
| 2849                                                              | Extended-APN-AMBR-UL                  | Unsigned32       |                |
| 2850                                                              | Extended-GBR-DL                       | Unsigned32       |                |
| 2851                                                              | Extended-GBR-UL                       | Unsigned32       |                |
| 2852                                                              | Max-PLR-DL                            | Unsigned32       |                |
| 2853                                                              | Max-PLR-UL                            | Unsigned32       |                |
| 2854                                                              | UE-Status                             | Unsigned32       |                |
| Note: The AVP codes from 2855 to 2899 are reserved for TS 29.212. |                                       |                  |                |
| 2900                                                              | reserved                              | -                | 29.219<br>[26] |
| 2901                                                              | Policy-Counter-Identifier             | Grouped          |                |
| 2902                                                              | Policy-Counter-Status                 | UTF8String       |                |
| 2903                                                              | Policy-Counter-Status-Report          | Grouped          |                |
| 2904                                                              | SL-Request-Type                       | Enumerated       |                |
| 2905                                                              | Pending-Policy-Counter-Information    | Grouped          |                |
| 2906                                                              | Pending-Policy-Counter-Change-Time    | Time             |                |
| 2907                                                              | SN-Request-Type                       | Unsigned32       |                |
| Note: The AVP codes from 2908 to 2999 are reserved for TS 29.219. |                                       |                  |                |
| 3000                                                              | reserved                              | -                | 29.368<br>[27] |
| 3001                                                              | Device-Action                         | Grouped          |                |
| 3002                                                              | Device-Notification                   | Grouped          |                |
| 3003                                                              | Trigger-Data                          | Grouped          |                |
| 3004                                                              | Payload                               | OctetString      |                |
| 3005                                                              | Action-Type                           | Enumerated       |                |
| 3006                                                              | Priority-Indication                   | Enumerated       |                |
| 3007                                                              | Reference-Number                      | Unsigned32       |                |
| 3008                                                              | Request-Status                        | Enumerated       |                |
| 3009                                                              | Delivery-Outcome                      | Enumerated       |                |
| 3010                                                              | Application-Port-Identifier           | Unsigned32       |                |
| 3011                                                              | Old-Reference-Number                  | Unsigned32       |                |
| 3012                                                              | Feature-Supported-In-Final-Target     | Unsigned32       |                |
| Note: The AVP codes from 3013 to 3099 are reserved for TS 29.368. |                                       |                  |                |
| 3100                                                              | IP-SM-GW-Number                       | OctetString      | 29.336<br>[28] |
| 3101                                                              | IP-SM-GW-Name                         | DiameterIdentity |                |
| 3102                                                              | User-Identifier                       | Grouped          |                |
| 3103                                                              | Service-ID                            | Enumerated       |                |
| 3104                                                              | SCS-Identity                          | OctetString      |                |
| 3105                                                              | Service-Parameters                    | Grouped          |                |
| 3106                                                              | T4-Parameters                         | Grouped          |                |
| 3107                                                              | Service-Data                          | Grouped          |                |

|      |                                          |                  |
|------|------------------------------------------|------------------|
| 3108 | T4-Data                                  | Grouped          |
| 3109 | HSS-Cause                                | Unsigned32       |
| 3110 | SIR-Flags                                | Unsigned32       |
| 3111 | External-Identifier                      | UTF8String       |
| 3112 | IP-SM-GW-Realm                           | DiameterIdentity |
| 3113 | AESE-Communication-Pattern               | Grouped          |
| 3114 | Communication-Pattern-Set                | Grouped          |
| 3115 | Periodic-Communication-Indicator         | Unsigned32       |
| 3116 | Communication-Duration-Time              | Unsigned32       |
| 3117 | Periodic-Time                            | Unsigned32       |
| 3118 | Scheduled-Communication-Time             | Grouped          |
| 3119 | Stationary-Indication                    | Unsigned32       |
| 3120 | AESE-Communication-Pattern-Config-Status | Grouped          |
| 3121 | AESE-Error-Report                        | Grouped          |
| 3122 | Monitoring-Event-Configuration           | Grouped          |
| 3123 | Monitoring-Event-Report                  | Grouped          |
| 3124 | SCEF-Reference-ID                        | Unsigned32       |
| 3125 | SCEF-ID                                  | DiameterIdentity |
| 3126 | SCEF-Reference-ID-for-Deletion           | Unsigned32       |
| 3127 | Monitoring-Type                          | Unsigned32       |
| 3128 | Maximum-Number-of-Reports                | Unsigned32       |
| 3129 | UE-Reachability-Configuration            | Grouped          |
| 3130 | Monitoring-Duration                      | Time             |
| 3131 | Maximum-Detection-Time                   | Unsigned32       |
| 3132 | Reachability-Type                        | Unsigned32       |
| 3133 | Maximum-Latency                          | Unsigned32       |
| 3134 | Maximum-Response-Time                    | Unsigned32       |
| 3135 | Location-Information-Configuration       | Grouped          |
| 3136 | MONTE-Location-Type                      | Unsigned32       |
| 3137 | Accuracy                                 | Unsigned32       |
| 3138 | Association-Type                         | Unsigned32       |
| 3139 | Roaming-Information                      | Unsigned32       |
| 3140 | Reachability-Information                 | Unsigned32       |
| 3141 | IMEI-Change                              | Unsigned32       |
| 3142 | Monitoring-Event-Config-Status           | Grouped          |
| 3143 | Supported-Service                        | Grouped          |
| 3144 | Supported-Monitoring-Event               | Unsigned64       |
| 3145 | CIR-Flags                                | Unsigned32       |
| 3146 | Service-Result                           | Grouped          |
| 3147 | Service-Result-Code                      | Unsigned32       |
| 3148 | Reference-ID-Validity-Time               | Time             |
| 3149 | Event-handling                           | Unsigned32       |
| 3150 | NIDD-Authorization-Request               | Grouped          |
| 3151 | NIDD-Authorization-Response              | Grouped          |
| 3152 | Service-Report                           | Grouped          |
| 3153 | Node-Type                                | Unsigned32       |
| 3154 | S6t-HSS-Cause                            | Unsigned32       |
| 3155 | Enhanced-Coverage-Restriction            | Grouped          |
| 3156 | Enhanced-Coverage-Restriction-Data       | Grouped          |
| 3157 | Restricted-PLMN-List                     | Grouped          |
| 3158 | Allowed-PLMN-List                        | Grouped          |
| 3159 | Requested-Validity-Time                  | Time             |
| 3160 | Granted-Validity-Time                    | Time             |
| 3161 | NIDD-Authorization-Update                | Grouped          |
| 3162 | Loss-Of-Connectivity-Reason              | Unsigned32       |
| 3163 | Group-Reporting-Guard-Timer              | Unsigned32       |
| 3164 | CIA-Flags                                | Unsigned32       |
| 3165 | Group-Report                             | Grouped          |
| 3166 | Group-Report-Item                        | Grouped          |
| 3167 | RIR-Flags                                | Unsigned32       |
| 3168 | Type-Of-External-Identifier              | Unsigned32       |
| 3169 | APN-Validity-Time                        | Grouped          |
| 3170 | Suggested-Network-Configuration          | Grouped          |
| 3171 | Monitoring-Event-Report-Status           | Grouped          |
| 3172 | PLMN-ID-Requested                        | Enumerated       |

|                                                                   |                                           |                  |                |
|-------------------------------------------------------------------|-------------------------------------------|------------------|----------------|
| 3173                                                              | AdditionalIdentifiers                     | Grouped          |                |
| 3174                                                              | NIR-Flags                                 | Unsigned32       |                |
| 3175                                                              | Reporting-Time-Stamp                      | Time             |                |
| 3176                                                              | Group-User-Identifier                     | Grouped          |                |
| 3177                                                              | NIA-Flags                                 | Unsigned32       |                |
| 3178                                                              | MTC-Provider-Info                         | Grouped          |                |
| 3179                                                              | MTC-Provider-ID                           | UTF8String       |                |
| 3180                                                              | PDN-Connectivity-Status-Configuration     | Grouped          |                |
| 3181                                                              | PDN-Connectivity-Status-Report            | Grouped          |                |
| 3182                                                              | PDN-Connectivity-Status-Type              | Unsigned32       |                |
| 3183                                                              | Traffic-Profile                           | Unsigned32       |                |
| 3184                                                              | Updated-Network-Configuration             | Grouped          |                |
| 3185                                                              | Battery-Indicator                         | Unsigned32       |                |
| 3186                                                              | SCEF-Reference-ID-Ext                     | Unsigned64       |                |
| 3187                                                              | SCEF-Reference-ID-for-Deletion-Ext        | Unsigned64       |                |
| 3188                                                              | Exclude-Identifiers                       | Grouped          |                |
| 3189                                                              | Include-Identifiers                       | Grouped          |                |
| Note: The AVP codes from 3190 to 3199 are reserved for TS 29.336. |                                           |                  |                |
| 3200                                                              | SM-Delivery-Outcome-T4                    | Enumerated       | 29.337<br>[29] |
| 3201                                                              | Absent-Subscriber-Diagnostic-T4           | Enumerated       |                |
| 3202                                                              | Trigger-Action                            | Unsigned32       |                |
| 3203                                                              | MTC-Error-Diagnostic                      | Unsigned32       |                |
| Note: The AVP codes from 3204 to 3299 are reserved for TS 29.337. |                                           |                  |                |
| 3300                                                              | SC-Address                                | OctetString      | 29.338<br>[30] |
| 3301                                                              | SM-RP-UI                                  | OctetString      |                |
| 3302                                                              | TFR-Flags                                 | Unsigned32       |                |
| 3303                                                              | SM-Delivery- Failure-Cause                | Grouped          |                |
| 3304                                                              | SM-Enumerated-Delivery-Failure-Cause      | Enumerated       |                |
| 3305                                                              | SM-Diagnostic-Info                        | OctetString      |                |
| 3306                                                              | SM-Delivery-Timer                         | Unsigned32       |                |
| 3307                                                              | SM-Delivery-Start-Time                    | Time             |                |
| 3308                                                              | SM-RP-MTI                                 | Enumerated       |                |
| 3309                                                              | SM-RP-SMEA                                | OctetString      |                |
| 3310                                                              | SRR-Flags                                 | Unsigned32       |                |
| 3311                                                              | SM-Delivery-Not-Intended                  | Enumerated       |                |
| 3312                                                              | MWD-Status                                | Unsigned32       |                |
| 3313                                                              | MME-Absent-User-Subscriber-Diagnostic-SM  | Unsigned32       |                |
| 3314                                                              | MSC-Absent-User-Subscriber-Diagnostic-SM  | Unsigned32       |                |
| 3315                                                              | SGSN-Absent-User-Subscriber-Diagnostic SM | Unsigned32       |                |
| 3316                                                              | SM-Delivery-Outcome                       | Grouped          |                |
| 3317                                                              | MME-SM-Delivery-Outcome                   | Grouped          |                |
| 3318                                                              | MSC-SM-Delivery-Outcome                   | Grouped          |                |
| 3319                                                              | SGSN-SM-Delivery-Outcome                  | Grouped          |                |
| 3320                                                              | IP-SM-GW-SM-Delivery-Outcome              | Grouped          |                |
| 3321                                                              | SM-Delivery-Cause                         | Enumerated       |                |
| 3322                                                              | Absent-User-Diagnostic-SM                 | Unsigned32       |                |
| 3323                                                              | RDR-Flags                                 | Unsigned32       |                |
| 3324                                                              | SMSMI-Correlation-ID                      | Unsigned32       |                |
| 3325                                                              | HSS-ID                                    | UTF8String       |                |
| 3326                                                              | Originating-SIP-URI                       | UTF8String       |                |
| 3327                                                              | Destination-SIP-URI                       | UTF8String       |                |
| 3328                                                              | OFR-Flags                                 | Unsigned32       |                |
| 3329                                                              | Maximum-UE-Availability-Time              | Time             |                |
| 3330                                                              | Maximum-Retransmission-Time               | Time             |                |
| 3331                                                              | Requested-Retransmission-Time             | Time             |                |
| 3332                                                              | SMS-GMSC-Address                          | OctetString      |                |
| 3333                                                              | SMS-GMSC-Alert-Event                      | Unsigned32       |                |
| 3334                                                              | SMSF-3GPP-Absent-User-Diagnostic-SM       | Unsigned32       |                |
| 3335                                                              | SMSF-Non-3GPP-Absent-User-Diagnostic-SM   | Unsigned32       |                |
| 3336                                                              | SMSF-3GPP-SM-Delivery-Outcome             | Grouped          |                |
| 3337                                                              | SMSF-Non-3GPP-SM-Delivery-Outcome         | Grouped          |                |
| 3338                                                              | SMSF-3GPP-Number                          | OctetString      |                |
| 3339                                                              | SMSF-Non-3GPP-Number                      | OctetString      |                |
| 3340                                                              | SMSF-3GPP-Name                            | DiameterIdentity |                |
| 3341                                                              | SMSF-Non-3GPP-Name                        | DiameterIdentity |                |

|                                                                   |                                                        |                  |            |
|-------------------------------------------------------------------|--------------------------------------------------------|------------------|------------|
| 3342                                                              | SMSF-3GPP-Realm                                        | DiameterIdentity |            |
| 3343                                                              | SMSF-Non-3GPP-Realm                                    | DiameterIdentity |            |
| 3344                                                              | SMSF-3GPP-Address                                      | Grouped          |            |
| 3345                                                              | SMSF-Non-3GPP-Address                                  | Grouped          |            |
| 3346                                                              | SMSF-3GPP-SBI-Support-Indicator                        | Enumerated       |            |
| 3347                                                              | SMSF-Non-3GPP-SBI-Support-Indicator                    | Enumerated       |            |
| 3348                                                              | IP-SM-GW-SBI-Support-Indicator                         | Enumerated       |            |
| Note: The AVP codes from 3349 to 3399 are reserved for TS 29.338. |                                                        |                  |            |
| 3400                                                              | reserved                                               | -                | 32.299 [5] |
| 3401                                                              | Reason-Header                                          | UTF8String       |            |
| 3402                                                              | Instance-Id                                            | UTF8String       |            |
| 3403                                                              | Route-Header-Received                                  | UTF8String       |            |
| 3404                                                              | Route-Header-Transmitted                               | UTF8String       |            |
| 3405                                                              | SM-Device-Trigger-Information                          | Grouped          |            |
| 3406                                                              | MTC-IWF-Address                                        | Address          |            |
| 3407                                                              | SM-Device-Trigger-Indicator                            | Enumerated       |            |
| 3408                                                              | SM-Sequence-Number                                     | Unsigned32       |            |
| 3409                                                              | SMS-Result                                             | Unsigned32       |            |
| 3410                                                              | VCS-Information                                        | Grouped          |            |
| 3411                                                              | Basic-Service-Code                                     | Grouped          |            |
| 3412                                                              | Bearer-Capability                                      | OctetString      |            |
| 3413                                                              | Teleservice                                            | OctetString      |            |
| 3414                                                              | ISUP-Location-Number                                   | OctetString      |            |
| 3415                                                              | Forwarding-Pending                                     | Enumerated       |            |
| 3416                                                              | ISUP-Release-Cause                                     | Unsigned32       |            |
| 3417                                                              | MSC-Address                                            | OctetString      |            |
| 3418                                                              | Network-Call-Reference-Number                          | OctetString      |            |
| 3419                                                              | Start-of-Charging                                      | Time             |            |
| 3420                                                              | VLR-Number                                             | OctetString      |            |
| 3421                                                              | CN-Operator-Selection-Entity                           | Enumerated       |            |
| 3422                                                              | ISUP-Cause-Diagnostics                                 | OctetString      |            |
| 3423                                                              | ISUP-Cause-Location                                    | Unsigned32       |            |
| 3424                                                              | ISUP-Cause-Value                                       | Unsigned32       |            |
| 3425                                                              | EPDG-Address                                           | Address          |            |
| 3426                                                              | Announcing-UE-HPLMN-Identifier                         | UTF8String       |            |
| 3427                                                              | Announcing-UE-VPLMN-Identifier                         | UTF8String       |            |
| 3428                                                              | Coverage-Status                                        | Enumerated       |            |
| 3429                                                              | Layer-2-Group-ID                                       | OctetString      |            |
| 3430                                                              | Monitored-PLMN-Identifier                              | UTF8String       |            |
| 3431                                                              | Monitoring-UE-HPLMN-Identifier                         | UTF8String       |            |
| 3432                                                              | Monitoring-UE-Identifier                               | UTF8String       |            |
| 3433                                                              | Monitoring-UE-VPLMN-Identifier                         | UTF8String       |            |
| 3434                                                              | ProSe-PC3-Control-Protocol-Cause                       | Integer32        |            |
| 3435                                                              | ProSe-PC3-EPC-Control-Protocol-Cause                   | Integer32        |            |
| 3436                                                              | Requested-PLMN-Identifier                              | UTF8String       |            |
| 3437                                                              | Requestor-PLMN-Identifier                              | UTF8String       |            |
| 3438                                                              | Role-Of-ProSe-Function                                 | Enumerated       |            |
| 3439                                                              | Usage-Information-Report-Sequence-Number               | Integer32        |            |
| 3440                                                              | ProSe-3rd-Party-Application-ID                         | UTF8String       |            |
| 3441                                                              | ProSe-Direct-Communication-Transmission-Data-Container | Grouped          |            |
| 3442                                                              | ProSe-Direct-Discovery-Model                           | Enumerated       |            |
| 3443                                                              | ProSe-Event-Type                                       | Enumerated       |            |
| 3444                                                              | ProSe-Function-IP-Address                              | Address          |            |
| 3445                                                              | ProSe-Functionality                                    | Enumerated       |            |
| 3446                                                              | ProSe-Group-IP-Multicast-Addresses                     | Address          |            |
| 3447                                                              | ProSe-Information                                      | Grouped          |            |
| 3448                                                              | ProSe-Range-Class                                      | Enumerated       |            |
| 3449                                                              | ProSe-Reason-For-Cancellation                          | Enumerated       |            |
| 3450                                                              | ProSe-Request-Timestamp                                | Time             |            |
| 3451                                                              | ProSe-Role-Of-UE                                       | Enumerated       |            |
| 3452                                                              | ProSe-Source-IP-Address                                | Address          |            |
| 3453                                                              | ProSe-UE-ID                                            | OctetString      |            |
| 3454                                                              | Proximity-Alert-Indication                             | Enumerated       |            |
| 3455                                                              | Proximity-Alert-Timestamp                              | Time             |            |
| 3456                                                              | Proximity-Cancellation-Timestamp                       | Time             |            |

|                                                                   |                                                     |             |                |
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| 3457                                                              | ProSe-Function-PLMN-Identifier                      | UTF8String  |                |
| 3458                                                              | Application-Specific-Data                           | OctetString |                |
| 3459                                                              | Coverage-Info                                       | Grouped     |                |
| 3460                                                              | Location-Info                                       | Grouped     |                |
| 3461                                                              | ProSe-Direct-Communication-Reception-Data-Container | Grouped     |                |
| 3462                                                              | Radio-Frequency                                     | OctetString |                |
| 3463                                                              | Radio-Parameter-Set-Info                            | Grouped     |                |
| 3464                                                              | Radio-Parameter-Set-Values                          | OctetString |                |
| 3465                                                              | Radio-Resources-Indicator                           | Integer32   |                |
| 3466                                                              | Time-First-Reception                                | Time        |                |
| 3467                                                              | Time-First-Transmission                             | Time        |                |
| 3468                                                              | Transmitter-Info                                    | Grouped     |                |
| Note: The AVP codes from 3469 to 3499 are reserved for TS 32.299. |                                                     |             |                |
| 3500                                                              | BMSC-Address                                        | Address     | 29.468<br>[31] |
| 3501                                                              | BMSC-Port                                           | Unsigned32  |                |
| 3502                                                              | MBMS-Bearer-Event                                   | Unsigned32  |                |
| 3503                                                              | MBMS-Bearer-Event-Notification                      | Grouped     |                |
| 3504                                                              | MBMS-Bearer-Request                                 | Grouped     |                |
| 3505                                                              | MBMS-Bearer-Response                                | Grouped     |                |
| 3506                                                              | MBMS-Bearer-Result                                  | Unsigned32  |                |
| 3507                                                              | MBMS-Start-Time                                     | Time        |                |
| 3508                                                              | Radio-Frequency                                     | Unsigned32  |                |
| 3509                                                              | TMGI-Allocation-Request                             | Grouped     |                |
| 3510                                                              | TMGI-Allocation-Response                            | Grouped     |                |
| 3511                                                              | TMGI-Allocation-Result                              | Unsigned32  |                |
| 3512                                                              | TMGI-Deallocation-Request                           | Grouped     |                |
| 3513                                                              | TMGI-Deallocation-Response                          | Grouped     |                |
| 3514                                                              | TMGI-Deallocation-Result                            | Unsigned32  |                |
| 3515                                                              | TMGI-Expiry                                         | Grouped     |                |
| 3516                                                              | TMGI-Number                                         | Unsigned32  |                |
| 3517                                                              | MB2U-Security                                       | Unsigned32  |                |
| 3518                                                              | Local-M1-Information                                | Grouped     |                |
| 3519                                                              | Local-MB2-U-Information                             | Grouped     |                |
| 3520                                                              | MBMS-eNB-IP-Multicast-Address                       | Address     |                |
| 3521                                                              | MBMS-eNB-IPv6-Multicast-Address                     | Address     |                |
| 3522                                                              | MBMS-GW-SSM-IP-Address                              | Address     |                |
| 3523                                                              | MBMS-GW-SSM-IPv6-Address                            | Address     |                |
| 3524                                                              | Common-Tunnel-Endpoint-Identifier                   | OctetString |                |
| 3525                                                              | FEC-Request                                         | OctetString |                |
| 3526                                                              | ROHC-Request                                        | Grouped     |                |
| 3527                                                              | ROHC-Full-Header-Periodicity                        | Float32     |                |
| 3528                                                              | ROHC-Profile                                        | Unsigned32  |                |
| 3529                                                              | Userplane-Protocol-Result                           | Grouped     |                |
| 3530                                                              | ROHC-Result                                         | Unsigned32  |                |
| 3531                                                              | FEC-Result                                          | Unsigned32  |                |
| 3532                                                              | ROHC-Max-CID                                        | Unsigned32  |                |
| 3533                                                              | MBMS-Bearer-Event-Diagnostic-Info                   | Unsigned32  |                |
| Note: The AVP codes from 3534 to 3599 are reserved for TS 29.468. |                                                     |             |                |
| 3600                                                              | Origin-App-Layer-User-Id                            | UTF8String  | 29.343<br>[32] |
| 3601                                                              | Target-App-Layer-User-Id                            | UTF8String  |                |
| 3602                                                              | ProSe-Function-ID                                   | OctetString |                |
| 3603                                                              | ProSe-Request-Type                                  | Unsigned32  |                |
| 3604                                                              | PDUID                                               | OctetString |                |
| 3605                                                              | Application-Data                                    | UTF8String  |                |
| 3606                                                              | Allowed-Suffixes-Number                             | Unsigned32  |                |
| 3607                                                              | Monitor-Target                                      | Grouped     |                |
| 3608                                                              | ProSe-Code-Suffix-Mask                              | Grouped     |                |
| 3609                                                              | Suffix-Code                                         | OctetString |                |
| 3610                                                              | Suffix-Mask                                         | OctetString |                |
| 3611                                                              | Banned-User-Target                                  | Grouped     |                |
| 3612                                                              | Metadata-Indicator                                  | Unsigned32  |                |
| Note: The AVP codes from 3613 to 3699 are reserved for TS 29.343. |                                                     |             |                |
| 3701                                                              | ProSe-Subscription-Data                             | Grouped     | 29.344<br>[33] |
| 3702                                                              | ProSe-Permission                                    | Unsigned32  |                |
| 3703                                                              | ProSe-Allowed-PLMN                                  | Grouped     |                |

|                                                                   |                                    |             |                |
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| 3704                                                              | ProSe-Direct-Allowed               | Unsigned32  |                |
| 3705                                                              | UPR-Flags                          | Unsigned32  |                |
| 3706                                                              | PNR-Flags                          | Unsigned32  |                |
| 3707                                                              | ProSe-Initial-Location-Information | Grouped     |                |
| 3708                                                              | Authorized-Discovery-Range         | Unsigned32  |                |
| Note: The AVP codes from 3709 to 3799 are reserved for TS 29.344. |                                    |             |                |
| 3800                                                              | Reserved                           |             | 29.345<br>[34] |
| 3801                                                              | App-Layer-User-Id                  | UTF8String  |                |
| 3802                                                              | Assistance-info                    | Grouped     |                |
| 3803                                                              | Assistance-Info-Validity-Timer     | Unsigned32  |                |
| 3804                                                              | Discovery-Type                     | Unsigned32  |                |
| 3805                                                              | Filter-Id                          | OctetString |                |
| 3806                                                              | MAC-Address                        | UTF8String  |                |
| 3807                                                              | Match-Report                       | Grouped     |                |
| 3808                                                              | Operating-Channel                  | Unsigned32  |                |
| 3809                                                              | P2P-Features                       | Unsigned32  |                |
| 3810                                                              | ProSe-App-Code                     | UTF8String  |                |
| 3811                                                              | ProSe-App-Id                       | UTF8String  |                |
| 3812                                                              | ProSe-App-Mask                     | UTF8String  |                |
| 3813                                                              | ProSe-Discovery-Filter             | Grouped     |                |
| 3814                                                              | PRR-Flags                          | Unsigned32  |                |
| 3815                                                              | ProSe-Validity-Timer               | Unsigned32  |                |
| 3816                                                              | Requesting-EPUID                   | UTF8String  |                |
| 3817                                                              | Targeted-EPUID                     | UTF8String  |                |
| 3818                                                              | Time-Window                        | Unsigned32  |                |
| 3819                                                              | WiFi-P2P-Assistance-Info           | Grouped     |                |
| 3820                                                              | WLAN-Assistance-Info               | Grouped     |                |
| 3821                                                              | WLAN-Link-Layer-Id                 | OctetString |                |
| 3822                                                              | WLAN-Link-Layer-Id-List            | Grouped     |                |
| 3823                                                              | Location-Update-Trigger            | Grouped     |                |
| 3824                                                              | Location-Update-Event-Type         | Unsigned32  |                |
| 3825                                                              | Change-Of-Area-Type                | Grouped     |                |
| 3826                                                              | Location-Update-Event-Trigger      | Unsigned32  |                |
| 3827                                                              | Report-Cardinality                 | Enumerated  |                |
| 3828                                                              | Minimum-Interval-Time              | Unsigned32  |                |
| 3829                                                              | Periodic-Location-Type             | Grouped     |                |
| 3830                                                              | Location-Report-Interval-Time      | Unsigned32  |                |
| 3831                                                              | Total-Number-Of-Reports            | Unsigned32  |                |
| 3832                                                              | Validity-Time-Announce             | Unsigned32  |                |
| 3833                                                              | Validity-Time-Monitor              | Unsigned32  |                |
| 3834                                                              | Validity-Time-Communication        | Unsigned32  |                |
| 3835                                                              | ProSe-App-Code-Info                | Grouped     |                |
| 3836                                                              | MIC                                | OctetString |                |
| 3837                                                              | UTC-based-Counter                  | Unsigned32  |                |
| 3838                                                              | ProSe-Match-Refresh-Timer          | Unsigned32  |                |
| 3839                                                              | ProSe-Metadata-Index-Mask          | OctetString |                |
| 3840                                                              | App-Identifier                     | Grouped     |                |
| 3841                                                              | OS-ID                              | OctetString |                |
| 3842                                                              | OS-App-ID                          | UTF8String  |                |
| 3843                                                              | Requesting-RPAUID                  | UTF8String  |                |
| 3844                                                              | Target-RPAUID                      | UTF8String  |                |
| 3845                                                              | Target-PDUID                       | OctetString |                |
| 3846                                                              | ProSe-Restricted-Code              | OctetString |                |
| 3847                                                              | ProSe-Restricted-Code-Suffix-Range | OctetString |                |
| 3848                                                              | Beginning-Suffix                   | OctetString |                |
| 3849                                                              | Ending-Suffix                      | OctetString |                |
| 3850                                                              | Discovery-Entry-ID                 | Unsigned32  |                |
| 3851                                                              | Match-Timestamp                    | Time        |                |
| 3852                                                              | PMR-Flags                          | Unsigned32  |                |
| 3853                                                              | ProSe-Application-Metadata         | UTF8String  |                |
| 3854                                                              | Discovery-Auth-Request             | Grouped     |                |
| 3855                                                              | Discovery-Auth-Response            | Grouped     |                |
| 3856                                                              | Match-Request                      | Grouped     |                |
| 3857                                                              | Match-Report-Info                  | Grouped     |                |
| 3858                                                              | Banned-RPAUID                      | UTF8String  |                |

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| 3859                                                              | Banned-PDUID                            | OctetString      |             |
| 3860                                                              | Code-Receiving-Security-Material        | Grouped          |             |
| 3861                                                              | Code-Sending-Security-Material          | Grouped          |             |
| 3862                                                              | DUSK                                    | OctetString      |             |
| 3863                                                              | DUIK                                    | OctetString      |             |
| 3864                                                              | DUCK                                    | OctetString      |             |
| 3865                                                              | MIC-Check-indicator                     | Unsigned32       |             |
| 3866                                                              | Encrypted-Bitmask                       | OctetString      |             |
| 3867                                                              | ProSe-App-Code-Suffix-Range             | OctetString      |             |
| 3868                                                              | PC5-tech                                | OctetString      |             |
| Note: The AVP codes from 3869 to 3899 are reserved for TS 29.345. |                                         |                  |             |
| 3900                                                              | Reserved                                |                  | 32.299 [5]  |
| 3901                                                              | Enhanced-Diagnostics                    | Grouped          |             |
| 3902                                                              | Inter-UE-Transfer                       | Enumerated       |             |
| 3903                                                              | TWAG-Address                            | Address          |             |
| 3904                                                              | Announcement-Information                | Grouped          |             |
| 3905                                                              | Announcement-Identifier                 | Unsigned32       |             |
| 3906                                                              | Announcement-Order                      | Unsigned32       |             |
| 3907                                                              | Variable-Part                           | Grouped          |             |
| 3908                                                              | Variable-Part-Order                     | Unsigned32       |             |
| 3909                                                              | Variable-Part-Type                      | Unsigned32       |             |
| 3910                                                              | Variable-Part-Value                     | UTF8String       |             |
| 3911                                                              | Time-Indicator                          | Unsigned32       |             |
| 3912                                                              | Quota-Indicator                         | Enumerated       |             |
| 3913                                                              | Play-Alternative                        | Enumerated       |             |
| 3914                                                              | Language                                | UTF8String       |             |
| 3915                                                              | Privacy-Indicator                       | Enumerated       |             |
| 3916                                                              | Called-Identity                         | UTF8String       |             |
| 3917                                                              | Called-Identity-Change                  | Grouped          |             |
| 3918                                                              | UWAN-User-Location-Info                 | Grouped          |             |
| 3919                                                              | Monitoring-Event-Configuration-Activity | Integer32        |             |
| 3920                                                              | Monitoring-Event-Report-Data            | Grouped          |             |
| 3921                                                              | Monitoring-Event-Information            | Grouped          |             |
| 3922                                                              | Monitoring-Event-Functionality          | Integer32        |             |
| 3923                                                              | Monitoring-Event-Report-Number          | Unsigned32       |             |
| 3924                                                              | Cellular-Network-Information            | OctetString      |             |
| 3925                                                              | Related-Change-Condition-Information    | Grouped          |             |
| 3926                                                              | Related-Trigger                         | Grouped          |             |
| 3927                                                              | CPDT-Information                        | Grouped          |             |
| 3928                                                              | NIDD-Submission                         | Grouped          |             |
| 3929                                                              | Serving-Node-Identity                   | DiameterIdentity |             |
| 3930                                                              | CP-CIoT-EPS-Optimisation-Indicator      | Enumerated       |             |
| 3931                                                              | SGi-PtP-Tunnelling-Method               | Enumerated       |             |
| 3932                                                              | UNI-PDU-CP-Only-Flag                    | Enumerated       |             |
| 3933                                                              | APN-Rate-Control                        | Grouped          |             |
| 3934                                                              | APN-Rate-Control-Downlink               | Grouped          |             |
| 3935                                                              | APN-Rate-Control-Uplink                 | Grouped          |             |
| 3936                                                              | Additional-Exception-Reports            | Enumerated       |             |
| 3937                                                              | Rate-Control-Max-Message-Size           | Unsigned32       |             |
| 3938                                                              | Rate-Control-Max-Rate                   | Unsigned32       |             |
| 3939                                                              | Rate-Control-Time-Unit                  | Unsigned32       |             |
| 3940                                                              | SCS-AS-Address                          | Grouped          |             |
| 3941                                                              | SCS-Address                             | Address          |             |
| 3942                                                              | SCS-Realm                               | DiameterIdentity |             |
| Note: The AVP codes from 3943 to 3999 are reserved for TS 32.299. |                                         |                  |             |
| 4000                                                              | Aggregated-Congestion-Info              | Grouped          | 29.217 [35] |
| 4001                                                              | Aggregated-RUCI-Report                  | Grouped          |             |
| 4002                                                              | Congestion-Level-Definition             | Grouped          |             |
| 4003                                                              | Congestion-Level-Range                  | Unsigned32       |             |
| 4004                                                              | Congestion-Level-Set-Id                 | Unsigned32       |             |
| 4005                                                              | Congestion-Level-Value                  | Unsigned32       |             |
| 4006                                                              | Congestion-Location-Id                  | Grouped          |             |
| 4007                                                              | Conditional-Restriction                 | Unsigned32       |             |
| 4008                                                              | eNodeB-Id                               | OctetString      |             |
| 4009                                                              | IMSI-List                               | OctetString      |             |

|                                                                   |                                         |                  |                |            |
|-------------------------------------------------------------------|-----------------------------------------|------------------|----------------|------------|
| 4010                                                              | RCAF-Id                                 | DiameterIdentity |                |            |
| 4011                                                              | Reporting-Restriction                   | Unsigned32       |                |            |
| 4012                                                              | RUCI-Action                             | Unsigned32       |                |            |
| 4013                                                              | Extended-eNodeB-ID                      | OctetString      |                |            |
| Note: The AVP codes from 4014 to 4099 are reserved for TS 29.217. |                                         |                  |                |            |
| 4101                                                              | Network-Congestion-Area-Report          | Grouped          | 29.153<br>[37] |            |
| 4102                                                              | Ns-Request-Type                         | Unsigned32       |                |            |
| Note: The AVP codes from 4103 to 4199 are reserved for TS 29.153. |                                         |                  |                |            |
| 4201                                                              | Network-Area-Info-List                  | OctetString      | 29.154<br>[38] |            |
| 4202                                                              | Reference-Id                            | OctetString      |                |            |
| 4203                                                              | Transfer-Request-Type                   | Unsigned32       |                |            |
| 4204                                                              | Time-Window                             | Grouped          |                |            |
| 4205                                                              | Transfer-End-Time                       | Time             |                |            |
| 4206                                                              | Transfer-Start-Time                     | Time             |                |            |
| 4207                                                              | Transfer-Policy                         | Grouped          |                |            |
| 4208                                                              | Transfer-Policy-Id                      | Unsigned32       |                |            |
| 4209                                                              | Number-Of-UEs                           | Unsigned32       |                |            |
| 4210                                                              | Access-Network-Reports                  | Grouped          |                |            |
| 4211                                                              | Event-Configuration                     | Grouped          |                |            |
| 4212                                                              | Event-Configuration-State               | Unsigned32       |                |            |
| 4213                                                              | Event-Configuration-Status              | Grouped          |                |            |
| 4214                                                              | Event-Reporting-Results                 | Unsigned32       |                |            |
| 4215                                                              | Event-Reports                           | Grouped          |                |            |
| 4216                                                              | Extended-SCEF-Reference-ID              | Unsigned64       |                |            |
| Note: The AVP codes from 4217 to 4299 are reserved for TS 29.154. |                                         |                  |                |            |
| 4300                                                              | Communication-Failure-Information       | Grouped          | 29.128<br>[36] |            |
| 4301                                                              | Cause-Type                              | Unsigned32       |                |            |
| 4302                                                              | S1AP-Cause                              | Unsigned32       |                |            |
| 4303                                                              | RANAP-Cause                             | Unsigned32       |                |            |
| 4304                                                              | GMM-Cause                               | Unsigned32       |                |            |
| 4305                                                              | SM-Cause                                | Unsigned32       |                |            |
| 4306                                                              | Number-of-UE-Per-Location-Configuration | Grouped          |                |            |
| 4307                                                              | Number-of-UE-Per-Location-Report        | Grouped          |                |            |
| 4308                                                              | UE-Count                                | Unsigned32       |                |            |
| 4309                                                              | BSSGP-Cause                             | Unsigned32       |                |            |
| 4310                                                              | Serving-PLMN-Rate-Control               | Grouped          |                |            |
| 4311                                                              | Uplink-Rate-Limit                       | Unsigned32       |                |            |
| 4312                                                              | Downlink-Rate-Limit                     | Unsigned32       |                |            |
| 4313                                                              | Extended-PCO                            | OctetString      |                |            |
| 4314                                                              | Connection-Action                       | Unsigned32       |                |            |
| 4315                                                              | Non-IP-Data                             | OctetString      |                |            |
| 4316                                                              | SCEF-Wait-Time                          | Time             |                |            |
| 4317                                                              | CMR-Flags                               | Unsigned32       |                |            |
| 4318                                                              | RRC-Cause-Counter                       | Grouped          |                |            |
| 4319                                                              | Counter-Value                           | Unsigned32       |                |            |
| 4320                                                              | RRC-Counter-Timestamp                   | Time             |                |            |
| 4321                                                              | TDA-Flags                               | Unsigned32       |                |            |
| 4322                                                              | Idle-Status-Indication                  | Grouped          |                |            |
| 4323                                                              | Idle-Status-Timestamp                   | Time             |                |            |
| 4324                                                              | Active-Time                             | Unsigned32       |                |            |
| 4325                                                              | Reachability-Cause                      | Unsigned32       |                |            |
| 4326                                                              | APN-Rate-Control-Status                 | Grouped          |                |            |
| 4327                                                              | Uplink-Number-Of-Packets-Allowed        | Unsigned32       |                |            |
| 4328                                                              | Number-Of-Additional-Exception-Reports  | Unsigned32       |                |            |
| 4329                                                              | Downlink-Number-Of-Packets-Allowed      | Unsigned32       |                |            |
| 4330                                                              | APN-Rate-Control-Status-Validity-Time   | Unsigned64       |                |            |
| Note: The AVP codes from 4331 to 4399 are reserved for TS 29.128. |                                         |                  |                |            |
| 4400                                                              | Charging-Per-IP-CAN-Session-Indicator   | Enumerated       |                | 32.299 [5] |
| 4401                                                              | Access-Network-Info-Change              | Enumerated       |                |            |
| 4402                                                              | Discoveree-UE-HPLMN-Identifier          | UTF8String       |                |            |
| 4403                                                              | Discoveree-UE-VPLMN-Identifier          | UTF8String       |                |            |
| 4404                                                              | Discoverer-UE-HPLMN-Identifier          | UTF8String       |                |            |
| 4405                                                              | Discoverer-UE-VPLMN-Identifier          | UTF8String       |                |            |
| 4406                                                              | 3GPP-PS-Data-Off-Status                 | Enumerated       |                |            |
| 4407                                                              | Unused-Quota-Timer                      | Unsigned32       |                |            |



|                                                                          |                                 |             |                |
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| 4408                                                                     | Announcing-PLMN-ID              | UTF8String  |                |
| 4409                                                                     | ProSe-UE-to-Network-Relay-UE-ID | OctetString |                |
| 4410                                                                     | ProSe-Target-Layer-2-ID         | OctetString |                |
| 4411                                                                     | Relay-IP-address                | Address     |                |
| 4412                                                                     | Target-IP-Address               | Address     |                |
| 4413                                                                     | FE-Identifier-List              | UTF8String  |                |
| Note: The AVP codes from 4414 to 4499 are reserved for TS 32.299         |                                 |             |                |
| 4500                                                                     | MCPTT-ID                        | UTF8String  | 29.283<br>[39] |
| 4501                                                                     | Data-Identification             | Grouped     |                |
| 4502                                                                     | Data-Identification-Prefix      | Unsigned32  |                |
| 4503                                                                     | Data-Identification-Flags       | Unsigned64  |                |
| 4504                                                                     | DPR-Flags                       | Unsigned32  |                |
| 4505                                                                     | DPA-Flags                       | Unsigned32  |                |
| 4506                                                                     | DUR-Flags                       | Unsigned32  |                |
| 4507                                                                     | DUA-Flags                       | Unsigned32  |                |
| 4508                                                                     | NDR-Flags                       | Unsigned32  |                |
| 4509                                                                     | NDA-Flags                       | Unsigned32  |                |
| 4510                                                                     | User-Data-Id                    | Unsigned32  |                |
| 4511                                                                     | MC-Service-User-Profile-Data    | Grouped     |                |
| 4512                                                                     | Sequence-Number                 | Unsigned32  |                |
| 4513                                                                     | MCVideo-ID                      | UTF8String  |                |
| 4514                                                                     | MC-Data-ID                      | UTF8String  |                |
| Note: The AVP codes from 4515 to 4599 are reserved for TS 29.283.        |                                 |             |                |
| 4600                                                                     | V2X-PC5-Allowed-PLMN            | Grouped     | 29.388<br>[40] |
| 4601                                                                     | V2X-Update-Flags                | Unsigned32  |                |
| 4602                                                                     | V2X-Notify-Flags                | Unsigned32  |                |
| 4603                                                                     | PLMN-Allowed-PC5-RATs           | Grouped     |                |
| 4604                                                                     | PC5-RAT-Type                    | Enumerated  |                |
| Note: The AVP codes from 4605 to 4799 are reserved for TS 29.388.        |                                 |             |                |
| 4700                                                                     | V2X-Authorization-Data          | Grouped     | 29.389<br>[41] |
| 4701                                                                     | V2X-Permission-in-VPLMN         | Unsigned32  |                |
| 4702                                                                     | V2X-Application-Server          | Grouped     |                |
| Note: The AVP codes from 4703 to 4799 are reserved for TS and TS 29.389. |                                 |             |                |
|                                                                          |                                 |             | 29.561<br>[42] |
| Note: The AVP codes from 4800 to 4999 are reserved for TS and TS 29.561. |                                 |             |                |

## 8 Experimental result codes

The Diameter answer messages must carry either Result-Code AVP or Experimental-Result AVP. The values of Result-Code AVP are controlled by IANA. The Experimental-Result AVP is a grouped AVP containing the Vendor-Id AVP and Experimental-Result-Code AVP, thus the experimental result codes are controlled in a vendor-specific manner.

### 8.1 3GPP specific result codes

The 3GPP specific result codes are always transferred in the Experimental-Result AVP, which has the Vendor-Id with value of 3GPP's vendor identifier. The 3GPP specific result codes shall follow the same classification as defined for the values of Result-Code AVP in IETF RFC 3588 [9]. That means, the result codes are grouped to following ranges:

- 1xxx (Informational)
- 2xxx (Success)
- 4xxx (Transient Failures)
- 5xxx (Permanent Failures)

#### 8.1.1 Informational

The Informational result codes shall use the values from 1001 to 1999 in the Experimental-Result-Code AVP.

Editor's note: No informational result codes have been yet defined in 3GPP.

## 8.1.2 Success

The Success result codes shall use the values from 2001 to 2999 in the Experimental-Result-Code AVP. The reserved 3GPP specific Success result codes are presented in the following table.

**Table 8.1.2: 3GPP specific Success result codes**

| Experimental Result Code                                                              | Result text                              | Specified in the TS |
|---------------------------------------------------------------------------------------|------------------------------------------|---------------------|
| 2001                                                                                  | DIAMETER_FIRST_REGISTRATION              | 29.229 [2]          |
| 2002                                                                                  | DIAMETER_SUBSEQUENT_REGISTRATION         |                     |
| 2003                                                                                  | DIAMETER_UNREGISTERED_SERVICE            |                     |
| 2004                                                                                  | DIAMETER_SUCCESS_SERVER_NAME_NOT_STORED  |                     |
| 2005                                                                                  | Deprecated value                         |                     |
| Note: The Experimental Result Codes from 2006 to 2020 are reserved for the TS 29.229. |                                          |                     |
| 2021                                                                                  | DIAMETER_PDP_CONTEXT_DELETION_INDICATION | 29.061 [13]         |
| Note: The Experimental Result Codes from 2022 to 2040 are reserved for the TS 29.061  |                                          |                     |
|                                                                                       |                                          | 29.109 [7]          |
| Note: The Experimental Result Codes from 2401 to 2420 are reserved for the TS 29.109. |                                          |                     |
| 2421                                                                                  | DIAMETER_QOS_FLOW_DELETION_INDICATION    | 29.561 [42]         |
| Note: The Experimental Result Codes from 2422 to 2440 are reserved for the TS 29.561. |                                          |                     |

## 8.1.3 Transient Failures

The Transient Failure result codes shall use the values from 4001 to 4999 in the Experimental-Result-Code AVP. The reserved 3GPP specific Transient Failure result codes are presented in the following table.

**Table 8.1.3: 3GPP specific Transient Failure result codes**

| Experimental Result Code                                                              | Result text                                   | Specified in the TS |
|---------------------------------------------------------------------------------------|-----------------------------------------------|---------------------|
| 4100                                                                                  | DIAMETER_USER_DATA_NOT_AVAILABLE              | 29.329 [4]          |
| 4101                                                                                  | DIAMETER_PRIOR_UPDATE_IN_PROGRESS             |                     |
| Note: The Experimental Result Codes from 4102 to 4120 are reserved for the TS 29.329. |                                               |                     |
| 4121                                                                                  | DIAMETER_ERROR_OUT_OF_RESOURCES               | 29.061 [13]         |
| Note: The Experimental Result Codes from 4122 to 4140 are reserved for the TS 29.061. |                                               |                     |
| 4141                                                                                  | DIAMETER_PCC_BEARER_EVENT                     | 29.212 [19]         |
| 4142                                                                                  | DIAMETER_BEARER_EVENT                         |                     |
| 4143                                                                                  | DIAMETER_AN_GW_FAILED                         |                     |
| 4144                                                                                  | DIAMETER_PENDING_TRANSACTION                  |                     |
| 4145                                                                                  | DIAMETER_UE_STATUS_SUSPEND                    |                     |
| Note: The Experimental Result Codes from 4146 to 4160 are reserved for the TS 29.212  |                                               |                     |
|                                                                                       |                                               | 32.299 [5]          |
| Note: The Experimental Result Codes from 4161 to 4180 are reserved for the TS 32.299. |                                               |                     |
| 4181                                                                                  | DIAMETER_AUTHENTICATION_DATA_UNAVAILABLE      | 29.272 [21]         |
| 4182                                                                                  | DIAMETER_ERROR_CAMEL_SUBSCRIPTION_PRESENT     |                     |
| Note: The Experimental Result Codes from 4182 to 4200 are reserved for the TS 29.272. |                                               |                     |
| 4201                                                                                  | DIAMETER_ERROR_ABSENT_USER                    | 29.173 [25]         |
| Note: The Experimental Result Codes from 4202 to 4220 are reserved for the TS 29.173. |                                               |                     |
| 4221                                                                                  | DIAMETER_ERROR_UNREACHABLE_USER               | 29.172 [24]         |
| 4222                                                                                  | DIAMETER_ERROR_SUSPENDED_USER                 |                     |
| 4223                                                                                  | DIAMETER_ERROR_DETACHED_USER                  |                     |
| 4224                                                                                  | DIAMETER_ERROR_POSITIONING_DENIED             |                     |
| 4225                                                                                  | DIAMETER_ERROR_POSITIONING_FAILED             |                     |
| 4226                                                                                  | DIAMETER_ERROR_UNKNOWN_UNREACHABLE LCS_CLIENT |                     |
| Note: The Experimental Result Codes from 4227 to 4240 are reserved for the TS 29.172. |                                               |                     |
| 4241                                                                                  | DIAMETER_ERROR_NO_AVAILABLE_POLICY_COUNTERS   | 29.219 [26]         |
| Note: The Experimental Result Codes from 4242 to 4260 are reserved for the TS 29.219. |                                               |                     |
| 4261                                                                                  | REQUESTED_SERVICE_TEMPORARILY_NOT_AUTHORIZED  | 29.214 [18]         |
| Note: The Experimental Result Codes from 4262 to 4280 are reserved for the TS 29.214. |                                               |                     |

## 8.1.4 Permanent Failures

The Permanent Failure result codes shall use the values from 5001 to 5999 in the Experimental-Result-Code AVP. The reserved 3GPP specific Permanent Failure result codes are presented in the following table.

Table 8.1.4: 3GPP specific Permanent Failure result codes

| Experimental Result Code                                                                                   | Result text                                       | Specified in the TS                         |             |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------|-------------|
| 5001                                                                                                       | DIAMETER_ERROR_USER_UNKNOWN                       | 29.229 [2]                                  |             |
| 5002                                                                                                       | DIAMETER_ERROR_IDENTITIES_DONT_MATCH              |                                             |             |
| 5003                                                                                                       | DIAMETER_ERROR_IDENTITY_NOT_REGISTERED            |                                             |             |
| 5004                                                                                                       | DIAMETER_ERROR_ROAMING_NOT_ALLOWED                |                                             |             |
| 5005                                                                                                       | DIAMETER_ERROR_IDENTITY_ALREADY_REGISTERED        |                                             |             |
| 5006                                                                                                       | DIAMETER_ERROR_AUTH_SCHEME_NOT_SUPPORTED          |                                             |             |
| 5007                                                                                                       | DIAMETER_ERROR_IN_ASSIGNMENT_TYPE                 |                                             |             |
| 5008                                                                                                       | DIAMETER_ERROR_TOO_MUCH_DATA                      |                                             |             |
| 5009                                                                                                       | DIAMETER_ERROR_NOT_SUPPORTED_USER_DATA            |                                             |             |
| 5010                                                                                                       | unassigned                                        |                                             |             |
| 5011                                                                                                       | DIAMETER_ERROR_FEATURE_UNSUPPORTED                |                                             |             |
| 5012                                                                                                       | DIAMETER_ERROR_SERVING_NODE_FEATURE_UNSUPPORTED   |                                             |             |
| Note: The Experimental Result Codes from 5013 to 5020 are reserved for the TS 29.229.                      |                                                   |                                             |             |
|                                                                                                            |                                                   | 32.299 [5]                                  |             |
| Note: The Experimental Result Codes from 5021 to 5040 are reserved for the TS 32.299.                      |                                                   |                                             |             |
| 5041                                                                                                       | DIAMETER_ERROR_USER_NO_WLAN_SUBSCRIPTION          | 29.234 [6]                                  |             |
| 5042                                                                                                       | DIAMETER_ERROR_W-APN_UNUSED_BY_USER               |                                             |             |
| 5043                                                                                                       | DIAMETER_ERROR_NO_ACCESS_INDEPENDENT_SUBSCRIPTION |                                             |             |
| 5044                                                                                                       | DIAMETER_ERROR_USER_NO_W-APN_SUBSCRIPTION         |                                             |             |
| 5045                                                                                                       | DIAMETER_ERROR_UNSUITABLE_NETWORK                 |                                             |             |
| Note: The Experimental Result Codes from 5046 to 5060 are reserved for the TS 29.234.                      |                                                   |                                             |             |
| 5061                                                                                                       | INVALID_SERVICE_INFORMATION                       | 29.209 [8],<br>29.211 [17] ,<br>29.214 [18] |             |
| 5062                                                                                                       | FILTER_RESTRICTIONS                               |                                             |             |
| 5063                                                                                                       | REQUESTED_SERVICE_NOT_AUTHORIZED                  |                                             |             |
| 5064                                                                                                       | DUPLICATED_AF_SESSION                             |                                             |             |
| 5065                                                                                                       | IP-CAN_SESSION_NOT_AVAILABLE                      |                                             |             |
| 5066                                                                                                       | UNAUTHORIZED_NON_EMERGENCY_SESSION                |                                             |             |
| 5067                                                                                                       | UNAUTHORIZED_SPONSORED_DATA_CONNECTIVITY          |                                             |             |
| 5068                                                                                                       | TEMPORARY_NETWORK_FAILURE                         |                                             |             |
| Note: The Experimental Result Codes from 5069 to 5080 are reserved for TS 29.209, TS 29.211 and TS 29.214. |                                                   |                                             |             |
| 5100                                                                                                       | DIAMETER_ERROR_USER_DATA_NOT_RECOGNIZED           | 29.329 [4]                                  |             |
| 5101                                                                                                       | DIAMETER_ERROR_OPERATION_NOT_ALLOWED              |                                             |             |
| 5102                                                                                                       | DIAMETER_ERROR_USER_DATA_CANNOT_BE_READ           |                                             |             |
| 5103                                                                                                       | DIAMETER_ERROR_USER_DATA_CANNOT_BE_MODIFIED       |                                             |             |
| 5104                                                                                                       | DIAMETER_ERROR_USER_DATA_CANNOT_BE_NOTIFIED       |                                             |             |
| 5105                                                                                                       | DIAMETER_ERROR_TRANSPARENT_DATA_OUT_OF_SYNC       |                                             |             |
| 5106                                                                                                       | DIAMETER_ERROR_SUBS_DATA_ABSENT                   |                                             |             |
| 5107                                                                                                       | DIAMETER_ERROR_NO_SUBSCRIPTION_TO_DATA            |                                             |             |
| 5108                                                                                                       | DIAMETER_ERROR_DSAI_NOT_AVAILABLE                 |                                             |             |
| Note: The Experimental Result Codes from 5109 to 5119 are reserved for the TS 29.329.                      |                                                   |                                             |             |
|                                                                                                            | 5120                                              | DIAMETER_ERROR_START_INDICATION             | 29.061 [13] |
|                                                                                                            | 5121                                              | DIAMETER_ERROR_STOP_INDICATION              |             |
|                                                                                                            | 5122                                              | DIAMETER_ERROR_UNKNOWN_MBMS_BEARER_SERVICE  |             |
|                                                                                                            | 5123                                              | DIAMETER_ERROR_SERVICE_AREA                 |             |
| Note: The Experimental Result Codes from 5124 to 5139 are reserved for the TS 29.061.                      |                                                   |                                             |             |
| 5140                                                                                                       | DIAMETER_ERROR_INITIAL_PARAMETERS                 | 29.212 [19]                                 |             |
| 5141                                                                                                       | DIAMETER_ERROR_TRIGGER_EVENT                      |                                             |             |
| 5142                                                                                                       | DIAMETER_PCC_RULE_EVENT                           |                                             |             |
| 5143                                                                                                       | DIAMETER_ERROR_BEARER_NOT_AUTHORIZED              |                                             |             |
| 5144                                                                                                       | DIAMETER_ERROR_TRAFFIC_MAPPING_INFO_REJECTED      |                                             |             |
| 5145                                                                                                       | DIAMETER_QOS_RULE_EVENT                           |                                             |             |
| 5146                                                                                                       | reserved                                          |                                             |             |
| 5147                                                                                                       | DIAMETER_ERROR_CONFLICTING_REQUEST                |                                             |             |
| 5148                                                                                                       | DIAMETER_ADC_RULE_EVENT                           |                                             |             |
| 5149                                                                                                       | DIAMETER_ERROR_NBIFOM_NOT_AUTHORIZED              |                                             |             |
| Note: The Experimental Result Codes from 5150 to 5159 are reserved for the TS 29.212.                      |                                                   |                                             |             |

|                                                                                       |                                                                                       |                                                           |             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------|
| 5401                                                                                  | DIAMETER_ERROR_ERROR_IMPI_UNKNOWN                                                     | 29.109 [7]                                                |             |
| 5402                                                                                  | DIAMETER_ERROR_NOT_AUTHORIZED                                                         |                                                           |             |
| 5403                                                                                  | DIAMETER_ERROR_TRANSACTION_IDENTIFIER_INVALID                                         |                                                           |             |
| Note: The Experimental Result Codes from 5404 to 5419 are reserved for the TS 29.109. |                                                                                       |                                                           |             |
| 5420                                                                                  | DIAMETER_ERROR_UNKNOWN_EPS_SUBSCRIPTION                                               | 29.272 [21]                                               |             |
| 5421                                                                                  | DIAMETER_ERROR_RAT_NOT_ALLOWED                                                        |                                                           |             |
| 5422                                                                                  | DIAMETER_ERROR_EQUIPMENT_UNKNOWN                                                      |                                                           |             |
| 5423                                                                                  | DIAMETER_ERROR_UNKNOWN_SERVING_NODE                                                   |                                                           |             |
| Note: The Experimental Result Codes from 5424 to 5449 are reserved for the TS 29.272. |                                                                                       |                                                           |             |
| 5450                                                                                  | DIAMETER_ERROR_USER_NO_NON_3GPP_SUBSCRIPTION                                          | 29.273 [20]                                               |             |
| 5451                                                                                  | DIAMETER_ERROR_USER_NO_APN_SUBSCRIPTION                                               |                                                           |             |
| 5452                                                                                  | DIAMETER_ERROR_RAT_TYPE_NOT_ALLOWED                                                   |                                                           |             |
| 5453                                                                                  | DIAMETER_ERROR_LATE_OVERLAPPING_REQUEST                                               |                                                           |             |
| 5454                                                                                  | DIAMETER_ERROR_TIMED_OUT_REQUEST                                                      |                                                           |             |
| 5455                                                                                  | DIAMETER_ERROR_TRUSTED_NON_3GPP_ACCESS_NOT_ALLOWED                                    |                                                           |             |
| 5456                                                                                  | DIAMETER_ERROR_UNTRUSTED_NON_3GPP_ACCESS_NOT_ALLOWED                                  |                                                           |             |
| Note: The Experimental Result Codes from 5455 to 5469 are reserved for the TS 29.273. |                                                                                       |                                                           |             |
|                                                                                       | 5470                                                                                  | DIAMETER_ERROR_SUBSESSION                                 | 29.215 [22] |
|                                                                                       | 5471                                                                                  | DIAMETER_ERROR_ONGOING_SESSION_ESTABLISHMENT              |             |
|                                                                                       | Note: The Experimental Result Codes from 5472 to 5489 are reserved for the TS 29.215. |                                                           |             |
|                                                                                       | 5490                                                                                  | DIAMETER_ERROR_UNAUTHORIZED_REQUESTING_NETWORK            | 29.173 [25] |
|                                                                                       | Note: The Experimental Result Codes from 5491 to 5509 are reserved for the TS 29.173. |                                                           |             |
|                                                                                       | 5510                                                                                  | DIAMETER_ERROR_UNAUTHORIZED_REQUESTING_ENTITY             | 29.336 [28] |
|                                                                                       | 5511                                                                                  | DIAMETER_ERROR_UNAUTHORIZED_SERVICE                       |             |
|                                                                                       | 5512                                                                                  | DIAMETER_ERROR_REQUESTED_RANGE_IS_NOT_ALLOWED             |             |
|                                                                                       | 5513                                                                                  | DIAMETER_ERROR_CONFIGURATION_EVENT_STORAGE_NOT_SUCCESSFUL |             |
|                                                                                       | 5514                                                                                  | DIAMETER_ERROR_CONFIGURATION_EVENT_NON_EXISTANT           |             |
|                                                                                       | 5515                                                                                  | DIAMETER_ERROR_SCEF_REFERENCE_ID_UNKNOWN                  |             |
|                                                                                       | 5516                                                                                  | DIAMETER_ERROR_UNAUTHORIZED_MTC_PROVIDER                  |             |
|                                                                                       | Note: The Experimental Result Codes from 5517 to 5529 are reserved for the TS 29.336. |                                                           |             |
|                                                                                       | 5530                                                                                  | DIAMETER_ERROR_INVALID_SME_ADDRESS                        | 29.337 [29] |
|                                                                                       | 5531                                                                                  | DIAMETER_ERROR_SC_CONGESTION                              |             |
|                                                                                       | 5532                                                                                  | DIAMETER_ERROR_SM_PROTOCOL                                |             |
|                                                                                       | 5533                                                                                  | DIAMETER_ERROR_TRIGGER_REPLACE_FAILURE                    |             |
|                                                                                       | 5534                                                                                  | DIAMETER_ERROR_TRIGGER_RECALL_FAILURE                     |             |
|                                                                                       | 5535                                                                                  | DIAMETER_ERROR_ORIGINAL_MESSAGE_NOT_PENDING               |             |
|                                                                                       | Note: The Experimental Result Codes from 5536 to 5549 are reserved for the TS 29.337. |                                                           |             |
|                                                                                       | 5550                                                                                  | DIAMETER_ERROR_ABSENT_USER                                | 29.338 [30] |
|                                                                                       | 5551                                                                                  | DIAMETER_ERROR_USER_BUSY_FOR_MT_SMS                       |             |
|                                                                                       | 5552                                                                                  | DIAMETER_ERROR_FACILITY_NOT_SUPPORTED                     |             |
|                                                                                       | 5553                                                                                  | DIAMETER_ERROR_ILLEGAL_USER                               |             |
|                                                                                       | 5554                                                                                  | DIAMETER_ERROR_ILLEGAL_EQUIPMENT                          |             |
|                                                                                       | 5555                                                                                  | DIAMETER_ERROR_SM_DELIVERY_FAILURE                        |             |
|                                                                                       | 5556                                                                                  | DIAMETER_ERROR_SERVICE_NOT_SUBSCRIBED                     |             |
|                                                                                       | 5557                                                                                  | DIAMETER_ERROR_SERVICE_BARRED                             |             |
|                                                                                       | 5558                                                                                  | DIAMETER_ERROR_MWD_LIST_FULL                              |             |
|                                                                                       | Note: The Experimental Result Codes from 5559 to 5569 are reserved for the TS 29.338. |                                                           |             |
|                                                                                       | 5570                                                                                  | DIAMETER_ERROR_UNKNOWN_POLICY_COUNTERS                    | 29.219 [26] |
|                                                                                       | Note: The Experimental Result Codes from 5571 to 5589 are reserved for the TS 29.219. |                                                           |             |
| 5590                                                                                  | DIAMETER_ERROR_ORIGIN_ALUID_UNKNOWN                                                   | 29.343 [32]                                               |             |
| 5591                                                                                  | DIAMETER_ERROR_TARGET_ALUID_UNKNOWN                                                   |                                                           |             |
| 5592                                                                                  | DIAMETER_ERROR_PFIID_UNKNOWN                                                          |                                                           |             |
| 5593                                                                                  | DIAMETER_ERROR_APP_REGISTER_REJECT                                                    |                                                           |             |
| 5594                                                                                  | DIAMETER_ERROR_PROSE_MAP_REQUEST_DISALLOWED                                           |                                                           |             |

|                                                                                       |                                                  |             |
|---------------------------------------------------------------------------------------|--------------------------------------------------|-------------|
| 5595                                                                                  | DIAMETER_ERROR_MAPREQUEST_REJECT                 |             |
| 5596                                                                                  | DIAMETER_ERROR_REQUESTING_RPAUID_UNKNOWN         |             |
| 5597                                                                                  | DIAMETER_ERROR_UNKNOWN_OR_INVALID_TARGET_SET     |             |
| 5598                                                                                  | DIAMETER_ERROR_MISSING_APPLICATION_DATA          |             |
| 5599                                                                                  | DIAMETER_ERROR_AUTHORIZATION_REJECT              |             |
| 5600                                                                                  | DIAMETER_ERROR_DISCOVERY_NOT_PERMITTED           |             |
| 5601                                                                                  | DIAMETER_ERROR_TARGET_RPAUID_UNKNOWN             |             |
| 5602                                                                                  | DIAMETER_ERROR_INVALID_APPLICATION_DATA          |             |
| Note: The Experimental Result Codes from 5603 to 5609 are reserved for the TS 29.343. |                                                  |             |
| 5610                                                                                  | DIAMETER_ERROR_UNKNOWN_PROSE_SUBSCRIPTION        | 29.344 [33] |
| 5611                                                                                  | DIAMETER_ERROR_PROSE_NOT_ALLOWED                 |             |
| 5612                                                                                  | DIAMETER_ERROR_UE_LOCATION_UNKNOWN               |             |
| Note: The Experimental Result Codes from 5613 to 5629 are reserved for the TS 29.344. |                                                  |             |
| 5630                                                                                  | DIAMETER_ERROR_NO_ASSOCIATED_DISCOVERY_FILTER    | 29.345 [34] |
| 5631                                                                                  | DIAMETER_ERROR_ANNOUNCING_UNAUTHORIZED_IN_PLMN   |             |
| 5632                                                                                  | DIAMETER_ERROR_INVALID_APPLICATION_CODE          |             |
| 5633                                                                                  | DIAMETER_ERROR_PROXIMITY_UNAUTHORIZED            |             |
| 5634                                                                                  | DIAMETER_ERROR_PROXIMITY_REJECTED                |             |
| 5635                                                                                  | DIAMETER_ERROR_NO_PROXIMITY_REQUEST              |             |
| 5636                                                                                  | DIAMETER_ERROR_UNAUTHORIZED_SERVICE_IN_THIS_PLMN |             |
| 5637                                                                                  | DIAMETER_ERROR_PROXIMITY_CANCELLED               |             |
| 5638                                                                                  | DIAMETER_ERROR_INVALID_TARGET_PDUID              |             |
| 5639                                                                                  | DIAMETER_ERROR_INVALID_TARGET_RPAUID             |             |
| 5640                                                                                  | DIAMETER_ERROR_NO_ASSOCIATED_RESTRICTED_CODE     |             |
| 5641                                                                                  | DIAMETER_ERROR_INVALID_DISCOVERY_TYPE            |             |
| Note: The Experimental Result Codes from 5642 to 5649 are reserved for the TS 29.345. |                                                  |             |
| 5650                                                                                  | DIAMETER_ERROR_REQUESTED_LOCATION_NOT_SERVED     | 29.128 [36] |
| 5651                                                                                  | DIAMETER_ERROR_INVALID_EPS_BEARER                |             |
| 5652                                                                                  | DIAMETER_ERROR_NIDD_CONFIGURATION_NOT_AVAILABLE  |             |
| 5653                                                                                  | DIAMETER_ERROR_USER_TEMPORARILY_UNREACHABLE      |             |
| Note: The Experimental Result Codes from 5654 to 5669 are reserved for the TS 29.128. |                                                  |             |
| 5670                                                                                  | DIAMETER_ERROR_UNKNOWN_DATA                      | 29.283 [39] |
| 5671                                                                                  | DIAMETER_ERROR_REQUIRED_KEY_NOT_PROVIDED         |             |
| Note: The Experimental Result Codes from 5672 to 5689 are reserved for the TS 29.128. |                                                  |             |
| 5690                                                                                  | DIAMETER_ERROR_UNKNOWN_V2X_SUBSCRIPTION          | 29.388 [40] |
| 5691                                                                                  | DIAMETER_ERROR_V2X_NOT_ALLOWED                   |             |
| Note: The Experimental Result Codes from 5692 to 5709 are reserved for the TS 29.388. |                                                  |             |

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## Annex A (informative): Assignment of the Diameter codes and identifiers in 3GPP

This annex defines the recommended assignment procedure of Diameter codes and identifiers within the 3GPP.

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### A.1 Application identifiers

If a working group detects it will require a new application identifier, it should contact the 3GPP TSG-CN WG 4 via a Liaison Statement. The LS shall contain the name of the Diameter application and a reference to the corresponding 3GPP TS. The 3GPP TSG-CN WG 4 will then request the application identifier from IANA. When the application identifier is received, the corresponding working group will be informed by 3GPP TSG-CN WG 4 and the table 4.1 in this specification will be updated.

According to RFC 3588 the creation of a new application should be avoided if at all possible and therefore it is recommended to use the existing application identifiers whenever possible.

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### A.2 Command codes

If a working group detects there is a need for a new command code(s) from the 3GPP's range, it should contact the 3GPP TSG-CN WG 4 via an LS. The LS shall contain the reference to the 3GPP TS, which specifies the command(s). The 3GPP TSG-CN WG 4 will inform the assigned command code(s) to the corresponding working group and the table 5.1 in this specification will be updated.

It should be noted that the standard command codes allocated for 3GPP are scarce resource and getting new ones would require IETF specification work to be done. Therefore it is recommended to use the existing command codes whenever possible.

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### A.3 AVP codes

If a working group detects a Diameter application needs new 3GPP specific AVP codes, it should contact the 3GPP TSG-CN WG 4 via an LS. The LS shall contain the name of the Diameter application and a reference to the corresponding 3GPP TS. The 3GPP TSG-CN WG 4 will allocate a range of 100 AVP codes for the application. The range will be informed to the corresponding working group and the table 7.1 will be updated in this specification to show the reserved range. The working group can use the allocated range as a working assumption when defining the actual AVPs.

When the corresponding working group has specified the AVPs, and the specification has been approved and is under CR control, it should inform the AVPs to the 3GPP TSG-CN WG 4 via an LS. The LS should list the used AVP codes in the form of the table 7.1.

If there will be defined new AVPs for a Diameter application through the CR procedure, the assigned AVP range can be used, but the 3GPP TSG-CN WG 4 should be also informed about the new AVP codes via an LS.

Re-using of the existing AVPs is recommended, but special attention should be paid on the use of enumerated AVPs. Defining new values for an enumerated AVP should be agreed case by case with the working group responsible of the particular enumerated AVP. 3GPP TSG-CN WG 4 shall be informed via an LS about the new values assigned to the enumerated AVP.

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### A.4 Result codes

If a working group detects a Diameter application needs new 3GPP specific result codes, it should contact the 3GPP TSG-CN WG 4 via an LS. The LS shall contain the name of the Diameter application and a reference to the corresponding 3GPP TS. The 3GPP TSG-CN WG 4 will allocate a range of 20 result codes from each required result code group for the application. The ranges will be informed to the corresponding working group and the tables in the



chapter 8 of this specification will be updated to show the reserved ranges. The working group can use the allocated ranges as a working assumption when defining the actual result codes.

When the corresponding working group has specified the result codes, and the specification has been approved and is under CR control, it should convey the codes to the 3GPP TSG-CN WG 4 via an LS. The LS should list the used result codes in the form of the tables in chapter 8.

If there will be defined new result codes for a Diameter application through the CR procedure, the assigned result code ranges can be used, but the 3GPP TSG-CN WG 4 should be also informed about the new result codes via an LS.

Re-using of the existing result codes is recommended.

## Annex B (informative): Change history

| Date    | TSG # | TSG Doc.  | CR   | Rev | Ca<br>t | Subject/Comment                                                                                           | New   |
|---------|-------|-----------|------|-----|---------|-----------------------------------------------------------------------------------------------------------|-------|
| 2004-06 | CN#24 | NP-040292 |      |     |         | Version 2.0.0 presented for information and approval                                                      | 6.0.0 |
| 2004-09 | CN#25 | NP-040401 | 001  |     |         | Correction of Charging application reference                                                              | 6.1.0 |
| 2004-09 | CN#25 | NP-040401 | 002  |     |         | Correction of the Application-Id code                                                                     | 6.1.0 |
| 2004-09 | CN#25 | NP-040401 | 003  |     |         | Removal of User Data Request Type AVP                                                                     | 6.1.0 |
| 2004-09 | CN#25 | NP-040412 | 004  | 1   |         | Re-numbering of 3GPP specific AVP codes.                                                                  | 6.1.0 |
| 2004-12 | CN#26 | NP-040579 | 006  |     |         | Inclusion of missing Cx AVPs                                                                              | 6.2.0 |
| 2004-12 | CN#26 | NP-040580 | 007  | 1   |         | Reservation of command code 310                                                                           | 6.2.0 |
| 2004-12 | CN#26 | NP-040579 | 009  | 1   |         | Addition of Gmb interface                                                                                 | 6.2.0 |
| 2004-12 | CN#26 | NP-040600 | 010  | 2   |         | Documenting the Reuse of the 3GPP specific application identifier of Ro for Re on the Charging Interfaces | 6.2.0 |
| 2004-12 | CN#26 | NP-040579 | 011  |     |         | Gq interface allocations                                                                                  | 6.2.0 |
| 2004-12 | CN#26 | NP-040579 | 012  |     |         | Addition of Gx interface                                                                                  | 6.2.0 |
| 2005-03 | CN#27 | NP-050047 | 040  | 1   |         | WLAN Diameter AVP and result codes                                                                        | 6.3.0 |
|         |       | NP-050039 | 043  |     |         | Allocations for Gx interface                                                                              |       |
|         |       | NP-050039 | 045  |     |         | Allocations for Gmb interface                                                                             |       |
|         |       | NP-050039 | 046  |     |         | Allocations for MMS, MM10 Interface                                                                       |       |
| 2005-06 | CT#28 | CP-050088 | 0050 |     |         | Gx interface allocation correction                                                                        | 6.4.0 |
|         |       | CP-050196 | 0051 | 1   |         | Addition of Maximum-Number-Accesses AVP                                                                   |       |
| 2005-09 | CT#29 | CP-050440 | 0052 | 1   |         | Private identities on the Cx                                                                              | 6.5.0 |
|         |       | CP-050310 | 0053 |     |         | Addition of Pr reference point to TS 29.230                                                               |       |
|         |       | CP-050310 | 0054 |     |         | Error code cleanup                                                                                        |       |
|         |       | CP-050310 | 0056 |     |         | Addition of Rx ref. point and renaming of Experimental Result Codes                                       |       |
| 2005-09 | CT#29 | CP-050317 | 0055 |     |         | Addition of GUSS timestamp AVP                                                                            | 7.0.0 |
| 2005-12 | CT#30 | CP-050624 | 0058 |     |         | Addition of GBA-Type AVP                                                                                  | 7.1.0 |
|         |       | CP-050612 | 0063 |     |         | Additional Gmb AVP Allocation                                                                             |       |
|         |       | CP-050612 | 0065 |     |         | Reservation of AVP codes for 32.299                                                                       |       |
|         |       | CP-050625 | 0066 |     |         | Management of Sh subscriptions                                                                            |       |
| 2006-03 | CT#31 | CP-060073 | 0069 |     |         | Adding data type of some of WLAN-related AVPs                                                             | 7.2.0 |
|         |       | CP-060084 | 0071 |     |         | User-Data in the response to Sh-Subs-Notif                                                                |       |
|         |       | CP-060084 | 0072 | 1   |         | New error indications for the Sh-Subs-Notif procedure                                                     |       |
| 2006-06 | CT#32 | CP-060302 | 0075 |     |         | S-CSCF reselection removal                                                                                | 7.3.0 |
| 2006-09 | CT#33 | CP-060417 | 0077 | 3   |         | New AVP Code                                                                                              | 7.4.0 |
|         |       | CP-060417 | 0080 |     |         | Errors to be sent in response to Sh-Notif                                                                 |       |
|         |       | CP-060417 | 0081 |     |         | Definition of specific Diameter codes for DSAI                                                            |       |
| 2006-12 | CT#34 | CP-060566 | 0085 | 1   |         | Optimization of handling of Wildcarded PSIs                                                               | 7.5.0 |
|         |       | CP-060562 | 0086 |     |         | Addition of Diameter Error Code for Emergency Purposes                                                    |       |
|         |       | CP-060555 | 0087 |     |         | Allocation of new AVP codes for Gmb                                                                       |       |
|         |       | CP-060555 | 0089 |     |         | AVP code allocations for Rf and Ro interfaces                                                             |       |
|         |       | CP-060566 | 0091 |     |         | Allocation of Success Result Code Range for Gi Interface                                                  |       |
| 2007-03 | CT#35 | CP-070020 | 0093 |     |         | C3 requested addition of new AVP code values to 3GPP TS 29.230                                            | 7.6.0 |
|         |       | CP-070020 | 0093 |     |         | Allocation of new AVP code for DSAI-Tag AVP                                                               |       |
|         |       | CP-070020 | 0093 |     |         | Allocation of Experimental-Result-Code AVP for Gi Interface                                               |       |
| 2007-06 | CT#36 | CP-070318 | 0096 |     |         | Diameter application ID for the Rel-7 Rx interface                                                        | 7.7.0 |
|         |       | CP-070312 | 0098 |     |         | Experimental-Result-Codes for Gmb interface                                                               |       |
|         |       | CP-070312 | 0100 |     |         | Correction of Diameter AVP code allocation                                                                |       |
| 2007-09 | CT#37 | CP-070527 | 0102 |     |         | Application ID for Gx protocol                                                                            | 7.8.0 |
| 2007-12 | CT#38 | CP-070743 | 0104 |     |         | AVP code reservation for 32.299 in Rel-7                                                                  | 7.9.0 |
|         |       |           | 0105 |     |         | Allocation of 3GPP specific AVP codes and Experimental Result Codes for Gx protocol                       |       |
| 2007-12 | CT#38 | CP-070755 | 0101 | 4   |         | AVP assignments to support SIP Digest Authentication                                                      | 8.0.0 |
|         |       |           | 0103 |     |         | AVP code reservation for 32.299 in Rel-8                                                                  |       |
| 2008-03 | CT#39 | CP-080015 | 0109 |     |         | Correction of reference to TS 29.140                                                                      | 8.1.0 |
|         |       | CP-080019 | 0111 |     |         | AVP code reservation for TS 32.299 in Rel-8                                                               |       |
|         |       | CP-080019 | 0107 |     |         | Wildcarded Public User Identities                                                                         |       |
|         |       | CP-080191 | 0112 | 1   |         | Correction on AVP code allocation reservation for TS 32.299 in Rel-7                                      |       |
|         |       | CP-080204 | 0113 | 1   |         | Correction on AVP code allocation reservation for TS 32.299                                               |       |
| 2008-06 | CT#40 | CP-080267 | 0117 | 1   |         | A new Diameter Permanent Failure Code for Gx                                                              | 8.2.0 |
| 2008-09 | CT#41 | CP-080456 | 0119 |     |         | Emergency Public User Identity Removal                                                                    | 8.3.0 |
| 2008-09 | CT#41 | CP-080460 | 0121 | 1   |         | Support of "Loose-Route" indication from HSS                                                              |       |
| 2008-09 | CT#41 | CP-080460 | 0122 | 1   |         | STaMIP Application Id                                                                                     |       |

|         |       |           |      |   |                                                                            |        |
|---------|-------|-----------|------|---|----------------------------------------------------------------------------|--------|
| 2008-09 | CT#41 | CP-080463 | 0123 |   | Cx Impacts of IMS Restoration Procedures (New AVP Codes Assignment)        |        |
| 2008-09 | CT#41 | CP-080463 | 0124 |   | New AVP Code Assignment for Forking Service Restoration                    | 8.3.0  |
| 2008-12 | CT#42 | CP-080691 | 0127 | 2 | Diameter Protocol Codes Assignments for S6a/S6d/S13                        | 8.4.0  |
| 2008-12 | CT#42 | CP-080691 | 0128 | 1 | Diameter code assignments for 3GPP TS 29.273                               | 8.4.0  |
| 2009-03 | CT#43 | CP-090044 | 0130 | 1 | Update for ReadyForSM                                                      | 8.5.0  |
| 2009-03 | CT#43 | CP-090044 | 0131 | 1 | Handling LCS Subscription Data                                             | 8.5.0  |
| 2009-03 | CT#43 | CP-090026 | 0132 |   | Update for Restoration                                                     | 8.5.0  |
| 2009-03 | CT#43 | CP-090024 | 0133 |   | Applds for Gxx and S9                                                      | 8.5.0  |
| 2009-03 | CT#43 | CP-090033 | 0134 | 2 | Appld and command code for Zpn                                             | 8.5.0  |
| 2009-03 | CT#43 | CP-090024 | 0137 | 1 | AVP codes for S9 protocol                                                  | 8.5.0  |
| 2009-03 | CT#43 | CP-090024 | 0138 | 1 | Diameter AVP Code allocation                                               | 8.5.0  |
| 2009-03 | CT#43 | CP-090024 | 0140 | 1 | Location of Permanent Failure result code range for the S9 application     | 8.5.0  |
| 2009-03 | CT#43 | CP-090024 | 0141 |   | AVPs for TS 29.273                                                         | 8.5.0  |
| 2009-03 | CT#43 | CP-090024 | 0142 | 1 | Error code allocation for authentication failure                           | 8.5.0  |
| 2009-06 | CT#44 | CP-090299 | 0129 | 4 | Update of the AVP Codes                                                    | 8.6.0  |
|         |       | CP-090299 | 0143 |   | AVP code reservation for TS 32.299                                         |        |
|         |       | CP-090299 | 0145 |   | Diameter Command Codes for S6a/S6d/S13/S13'                                |        |
|         |       |           | 0146 |   | Removal of Requesting Node Type from AIR                                   |        |
|         |       | CP-090299 | 0147 |   | S6b Application ID                                                         |        |
| 2009-09 | CT#45 | CP-090530 | 0149 |   | Allocation of Experimental-Result-Codes for S9 protocol                    | 8.7.0  |
|         |       | CP-090530 | 0152 |   | AVP code allocation for TS 29.212                                          |        |
|         |       | CP-090531 | 0150 |   | Update of the AVP type for the User-Id                                     |        |
|         |       | CP-090531 | 0153 |   | Trace Depth per session                                                    |        |
| 2009-09 | CT#45 | CP-090557 | 0148 |   | AVP code range for charging                                                | 9.0.0  |
| 2009-12 | CT#46 | CP-090800 | 0154 | 1 | ICS-Flag                                                                   | 9.1.0  |
|         |       | CP-091032 | 0156 |   | From GMLC-Address to GMLC-Number                                           |        |
|         |       |           | 0160 |   | Session-Priority AVP                                                       |        |
|         |       |           | 0163 | 2 | Introduction of SLh application related AVPs and Experimental Result codes |        |
|         |       |           | 0166 |   | Missing AVP error codes                                                    |        |
|         |       | CP-090797 | 0167 | 1 | Introduction of SLg application related AVPs and Application Identifier    |        |
| 2010-03 | CT#47 | CP-100031 | 0158 | 1 | Wildcarded Public Identity                                                 | 9.2.0  |
|         |       | CP-100034 | 0168 | 1 | Correction on AVP code allocation reservation for TS 32.299 in Rel-9       |        |
|         |       | CP-100046 | 0169 | 1 | AVP code allocation for 29.172                                             |        |
|         |       | CP-100036 | 0172 |   | GPL_U support in TS 29.109                                                 |        |
|         |       | CP-100046 | 0173 |   | Error codes in 29.172 for SLg                                              |        |
|         |       | CP-100048 | 0174 | 1 | AVPs in 29.272 for TADS support                                            |        |
|         |       | CP-100040 | 0175 |   | Error codes in 29.272 for Unknown MME                                      |        |
|         |       | CP-100236 | 0176 | 4 | EPS Subscriber State and Location Information Request                      |        |
|         |       | CP-100033 | 0180 |   | One time notification AVP allocation                                       |        |
|         |       | CP-100046 | 0181 |   | Addition of the LCS-QoS-Class attribute value                              |        |
|         |       | CP-100175 | 0182 |   | Introduction of the LCS-Capabilities-Sets AVP in SLh interface             |        |
| 2010-06 | CT#48 | CP-100263 | 0188 | 1 | AVP Codes for PCC                                                          | 9.3.0  |
|         |       |           | 0183 |   | EPS state and location retrieval                                           |        |
|         |       | CP-100287 | 0186 |   | SGmb Application ID                                                        |        |
|         |       | CP-100277 | 0190 | 1 | New APVs in S6a protocol                                                   |        |
| 2010-09 | CT#49 | CP-100463 | 0197 | 1 | Addition of Diameter codes and identifiers for the SLg and SLh interfaces  | 9.4.0  |
|         |       | CP-100464 | 0196 |   | AVP Codes Allocation for PCC                                               |        |
| 2010-09 | CT#49 | CP-100465 | 0193 | 1 | SIPTO Permission Indicator                                                 | 10.0.0 |
|         |       | CP-100466 | 0198 | 2 | Location data including only serving node address                          |        |
|         |       | CP-100466 | 0199 | 1 | AVP for Update-Eff feature                                                 |        |
| 2010-12 | CT#50 | CP-100699 | 0205 |   | Enhanced SRVCC Subscriber Data                                             | 10.1.0 |
|         |       | CP-100687 | 0201 | 1 | Allocate codes for AVPs on eMPS                                            |        |
|         |       | CP-100683 | 0200 | 1 | Allocate codes for AVPs on LIPA                                            |        |
|         |       | CP-100688 | 0206 | 1 | Periodic TAU/RAU timer in HSS subscription                                 |        |
|         |       | CP-100846 | 0203 | 1 | S6a Error Diagnostic                                                       |        |
| 2011-03 | CT#51 | CP-110051 | 0212 |   | PDP-Address correction                                                     | 10.2.0 |
|         |       | CP-110054 | 0215 |   | Essential correction on the value type of the ELP Application AVPs         |        |
|         |       | CP-110087 | 0207 | 2 | Minimization of Drive Tests (MDT)                                          |        |
|         |       | CP-110088 | 0209 | 1 | Relay Node Indicator AVPs                                                  |        |
| 2011-06 | CT#52 | CP-110349 | 0219 | 2 | Handling of RTR for Emergency Registration                                 | 10.3.0 |
|         |       | CP-110347 | 0231 | 1 | Add AVPs from QSPEC cleanup                                                |        |
|         |       | CP-110359 | 0226 |   | MIPv4 security parameters on the STa and S6b interfaces                    |        |
|         |       | CP-110380 | 0216 |   | MDT user consent                                                           |        |
|         |       | CP-110370 | 0223 |   | AVP Code Allocation for Pre-paging                                         |        |
|         |       | CP-110375 | 0227 | 1 | PUR-Flags AVP                                                              |        |
| 2011-09 | CT#53 | CP-110559 | 0236 | 1 | AVP code alignment with 29.212                                             | 10.4.0 |
|         |       | CP-110555 | 0239 | 1 | AVP code alignment with 32.299                                             |        |
|         |       | CP-110554 | 0244 | 1 | AVP code alignment with 29.214                                             |        |

|         |       |           |      |   |                                                                                   |        |
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|         |       | CP-110552 | 0249 |   | Experimental Result Code Alignment with 29.061                                    |        |
|         |       | CP-110555 | 0252 |   | Failure code and AVP code alignment with 29.212                                   |        |
|         |       | CP-110722 | 0257 | 2 | Privileged sender                                                                 |        |
| 2011-09 | CT#53 | CP-110584 | 0234 | 1 | Add vSRVCC updates to the Diameter AVP code table                                 | 11.0.0 |
|         |       | CP-110579 | 0240 |   | AVP code alignment with 32.299                                                    |        |
|         |       | CP-110555 | 0253 |   | AVP code reservation for 29.212                                                   |        |
| 2011-12 | CT#54 | CP-110812 | 0258 | 1 | SWx Restoration AVPs                                                              | 11.1.0 |
|         |       | CP-110812 | 0259 |   | Sy and Sd Application IDs                                                         |        |
|         |       | CP-110775 | 0262 |   | New AVP codes for MBMS IP unicast encapsulation                                   |        |
|         |       | CP-110775 | 0265 |   | New AVP codes for MBMS IP multicast encapsulation                                 |        |
|         |       | CP-110786 | 0271 | 1 | MME-Realm AVP code allocation                                                     |        |
|         |       | CP-110811 | 0277 |   | Equivalent PLMN CSG Subscription Request                                          |        |
|         |       | CP-110781 | 0281 | 1 | Restoration of Wildcarded-IMPU AVP                                                |        |
| 2012-03 | CT#55 | CP-120025 | 0286 | 1 | Codes Allocation for AVPs on Initial Attach                                       | 11.2.0 |
|         |       | CP-120038 | 0288 |   | New AVP codes for Absolute Time of MBMS Data Transfer over SGmb                   |        |
|         |       | CP-120038 | 0291 | 1 | Allocating Diameter AVP codes for TS 29.219 and TS 29.212                         |        |
| 2012-06 | CT#56 | CP-120240 | 0287 | 5 | Codes Allocation for AVPs on NPLI                                                 | 11.3.0 |
|         |       | CP-120238 | 0294 | 1 | Adding new Diameter AVPs to Diameter table to support Trusted WLAN Access feature |        |
|         |       | CP-120225 | 0296 | 1 | Trust Relationship Indication                                                     |        |
|         |       | CP-120251 | 0297 | 1 | Corrections to reference titles                                                   |        |
|         |       | CP-120251 | 0298 | 1 | Diameter Code Allocation for TS 29.219                                            |        |
|         |       | CP-120247 | 0300 | - | Network Name AVP codes                                                            |        |
|         |       | CP-120219 | 0304 | - | Duplicated AVP names                                                              |        |
|         |       | CP-120481 | 0289 | 3 | PS additional number allocation                                                   |        |
|         |       | CP-120473 | 0293 | 4 | SMS in MME/SGSN                                                                   |        |
| 2012-09 | CT#57 | CP-120461 | 0299 | 2 | AAA Failure Recovery AVP codes                                                    | 11.4.0 |
|         |       | CP-120474 | 0305 | - | Transport Access Type AVP for BBAI                                                |        |
|         |       | CP-120480 | 0307 | 1 | Local Time Zone                                                                   |        |
|         |       | CP-120472 | 0308 | - | Allocating Application Identifier and command code for Tsp interface              |        |
|         |       | CP-120472 | 0309 | - | Application Identifier, Command Codes and AVP range for S6m interface             |        |
|         |       | CP-120667 | 0312 | 1 | GMLC-Name                                                                         |        |
|         |       |           | 0313 | 1 | Reference list correction to align with the corrected TS 29.212 title             |        |
|         |       | CP-120731 | 0315 | 2 | T4 device triggering via IMS                                                      |        |
|         |       | CP-120731 | 0318 | 1 | Codes and Identifier Allocation for T4 Specification                              |        |
| 2012-12 | CT#58 | CP-120731 | 0324 | - | AVP Code Allocation for 29.336                                                    | 11.5.0 |
|         |       | CP-120731 | 0329 | - | Diameter AVP code value allocation in TS 29.368                                   |        |
|         |       | CP-120732 | 0319 | 2 | Application Identifier, Command Codes and AVP codes for SGd, S6c                  |        |
|         |       | CP-120716 | 0324 | 1 | AVP name modification in TS 32.299                                                |        |
|         |       | CP-120742 | 0325 | - | UE Time Zone AVP                                                                  |        |
|         |       | CP-120741 | 0328 | 1 | Use of Flag instead of Enumerated AVPs                                            |        |
|         |       | CP-120741 | 332  | - | Use of Flag instead of Enumerated AVPs                                            |        |
|         |       | CP-120743 | 330  | - | PSI direct routing with restoration procedures                                    |        |
|         |       | CP-120743 | 333  | - | EPS LocationInformation Support                                                   |        |
|         |       | CP-130026 | 0334 | 1 | Diameter error code for TS 29.219                                                 |        |
|         |       | CP-130026 | 0336 | - | MDT parameters                                                                    |        |
|         |       | CP-130156 | 0337 | 1 | New AVPs for Lgd interface                                                        |        |
| 2013-03 | CT#59 | CP-130030 | 0341 | - | Validity Time of Short Message                                                    | 11.6.0 |
| 2013-03 | CT#59 | CP-130156 | 0337 | 1 | New AVPs for Lgd interface                                                        | 12.0.0 |
| 2013-06 | CT#60 | CP-130288 | 0362 | 1 | Add new DER-S6b-flag AVP                                                          | 12.1.0 |
|         |       | CP-130298 | 0360 | - | Failure Result Codes Allocation for TS 29.219                                     |        |
|         |       | CP-130292 | 0358 | - | Diameter AVP codes for new TS 32.299 AVPs                                         |        |
|         |       | CP-130279 | 0354 | 1 | Definition of SS Status for Call Barring                                          |        |
|         |       | CP-130380 | 0363 | - | New SGs-MME-Identity AVP                                                          |        |
|         |       | CP-130291 | 0348 | 2 | New AVPs for deferred MT-LR and periodic MO-LR TTTP procedures over Lgd interface |        |
|         |       | CP-130297 | 0347 | 1 | Application Port Identifier                                                       |        |
|         |       | CP-130374 | 0345 | 1 | MTRR on Sh                                                                        |        |
|         |       | CP-130295 | 0344 | - | Restoration Priority during SGW and PGW restoration procedures                    |        |
|         |       | CP-130378 | 0349 | 1 | SIPTO permission for Local Network enhancements                                   |        |
| 2013-09 | CT#61 | CP-130454 | 0364 | 2 | New MBMS flag for eMBMS restoration                                               | 12.2.0 |
|         |       | CP-130461 | 0366 | - | AVP code reservation for TS 32.299 Rel-12                                         |        |
|         |       | CP-130460 | 0368 | - | Allocation of Diameter codes and identifiers for 29.212 and 29.215                |        |
| 2013-09 |       |           |      | - | Vendor-specific command code for Trigger-Establishment-Request/Answer corrected   | 12.2.1 |
| 2013-12 | CT#62 | CP-130624 | 0369 | - | New AVP for optimized LCS procedure for combined MME/SGSN                         | 12.3.0 |
|         |       | CP-130631 | 0370 | 1 | Adding E-SMLC provided Cell info and Cell Portion                                 |        |
|         |       | CP-130800 | 0371 | - | New AVPs for SMS for IMS UE without MSISDN in TS 29.338                           |        |
|         |       | CP-130600 | 0376 | 1 | Allocation of Diameter codes for 32.299                                           |        |
|         |       | CP-130605 | 0378 | - | Allocation of Diameter codes for 29.212                                           |        |
|         |       | CP-130639 | 0380 | - | SGSN CAMEL Subscription Indication                                                |        |

|         |       |           |      |   |                                                                                                                       |        |
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| 2014-03 | CT#63 | CP-140180 | 0381 | 2 | Protocol enhancements for the support of device replace procedure                                                     | 12.4.0 |
|         |       | CP-140035 | 0384 | - | New AVP for the support of combined MME/SGSN                                                                          |        |
|         |       | CP-140023 | 0383 | 1 | Definition of WLAN-related AVPs                                                                                       |        |
| 2014-06 | CT#64 | CP-140211 | 0385 | 1 | Protocol enhancements to indicate support of device recall and replace by SMS-SC                                      | 12.5.0 |
|         |       | CP-140251 | 0402 | 1 | AVP allocation for Error handling, MTC error diagnostic                                                               |        |
|         |       | CP-140257 | 0391 | 1 | SS-Status AVP Definition                                                                                              |        |
|         |       | CP-140252 | 0392 | - | Definition of AVPs for Network Location in TWLAN                                                                      |        |
|         |       | CP-140236 | 0399 | - | TWAN-BSSID AVP re-naming                                                                                              |        |
|         |       | CP-140247 | 0397 | - | New AVPs for Trusted WLAN access                                                                                      |        |
|         |       | CP-140231 | 0390 | 1 | Adding Codes for 29.214                                                                                               |        |
|         |       |           |      |   |                                                                                                                       |        |
| 2014-09 | CT#65 | CP-140515 | 0403 | 1 | T-GRUU restoration                                                                                                    | 12.6.0 |
|         |       | CP-140517 | 0404 | 1 | MB2-C codes                                                                                                           |        |
|         |       | CP-140505 | 0405 | 1 | New AVPs for Trusted WLAN access                                                                                      |        |
|         |       | CP-140506 | 0406 | 1 | P-CSCF Restoration indication                                                                                         |        |
|         |       | CP-140516 | 0407 | 2 | Closing TS 29.234 and reused AVP in TS 29.273                                                                         |        |
|         |       | CP-140513 | 0408 | - | Identification of the HSS                                                                                             |        |
|         |       |           |      |   | Editorial: WLAN-offloadability AVP codes added as in CR C4-141648.                                                    |        |
|         |       |           |      |   |                                                                                                                       |        |
| 2014-12 | CT#66 | CP-140785 | 0409 | 1 | New AVP for MBMS restoration                                                                                          | 12.7.0 |
|         |       |           | 0430 | - | New Diagnostic-Info AVP for MBMS restoration                                                                          |        |
|         |       |           | 0410 | 1 | WLCP key for WLCP signalling protection                                                                               |        |
|         |       |           | 0411 | - | Reset-ID                                                                                                              |        |
|         |       |           | 0416 | 1 | Code definitions for 32.299                                                                                           |        |
|         |       |           | 0428 | - | Removal of I-WLAN AVPs                                                                                                |        |
|         |       |           | 0429 | 1 | Reference correction                                                                                                  |        |
|         |       |           | 0433 | - | Code allocation for 29.212                                                                                            |        |
|         |       |           | 0418 | - | MDT PLMN List                                                                                                         |        |
|         |       |           | 0422 | 1 | Codes Allocation for PC2 Protocol                                                                                     |        |
|         |       |           | 0423 | 4 | Codes Allocation for PC4a Protoco                                                                                     |        |
|         |       |           | 0431 | 3 | Allocation of values for Application ID, Command codes, AVP codes and Experimental-Result codes used in the TS 29.345 |        |
|         |       |           | 0434 | 1 | Command Code and Error Code for ProSe Initial Location Information Retrieval                                          |        |
|         |       |           | 0425 | - | Corrections of the type of some AVPs                                                                                  |        |
|         |       |           | 0426 | 1 | OFR-Flags AVP code                                                                                                    |        |
|         |       |           | 0427 | 1 | P-CSCF Restoration mechanism new error                                                                                |        |
|         |       |           |      |   |                                                                                                                       |        |
| 2015-03 | CT#67 | CP-150015 | 0447 | - | Renaming of Location-Type AVP                                                                                         | 12.8.0 |
|         |       |           | 0437 | 1 | Location reporting in emergency 1xSRVCC                                                                               |        |
|         |       |           | 0435 | - | AVP codes for GCSE MB2-C                                                                                              |        |
|         |       |           | 0442 | 1 | New AVPs and range of transient failure result codes in TS 29.214                                                     |        |
|         |       |           | 0438 | 1 | Allocation of code for Authorized-Discovery-Range AVP (TS 29.344)                                                     |        |
|         |       |           | 0440 | 2 | Location Update Trigger                                                                                               |        |
|         |       |           | 0441 | 1 | AVP codes allocation for Validity related AVPs for TS 29.345                                                          |        |
|         |       |           | 0443 | - | Allocation of codes for the Integrity Checks. Aspect AVPs                                                             |        |
| 2015-03 | CT#67 | CP-150039 | 0439 | 1 | Diameter Application Identifier for Np protocol                                                                       | 13.0.0 |
| 2015-06 | CT#68 | CP-150257 | 0450 | 1 | AVP code allocation for Match Refresh Timer AVP in TS 29.345                                                          | 13.1.0 |
|         |       | CP-150247 | 0457 | - | Wrong CR implementation of CR 0416r1                                                                                  |        |
|         |       | CP-150249 | 0459 | 1 | AVP code allocation for 32.299                                                                                        |        |
|         |       | CP-150263 | 0452 | 1 | AVP codes for Access Restriction Data per PLMN                                                                        |        |
|         |       | CP-150372 | 0461 | - | IP-SM-GW-Realm                                                                                                        |        |
| 2015-09 | CT#69 | CP-150454 | 0462 | - | Subscription data for extended buffering at the SGW                                                                   | 13.2.0 |
|         |       | CP-150442 | 0463 | - | Overlapping transaction over S6b                                                                                      |        |
|         |       | CP-150453 | 0464 | 2 | Addition of IMSI Group Id AVP definition                                                                              |        |
|         |       | CP-150449 | 0465 | 3 | Addition of CP parameter AVP definition                                                                               |        |
|         |       | CP-150431 | 0470 | 1 | AVP codes for TS 29.212                                                                                               |        |
|         |       | CP-150456 | 0471 | 3 | AVP definition for S6t                                                                                                |        |
| 2015-12 | CT#70 | CP-150761 | 0473 | - | Addition of MBMS-Cell-List AVP                                                                                        | 13.3.0 |
|         |       | CP-150778 | 0474 | - | S6t Application ID and Command Codes                                                                                  |        |
|         |       | CP-150778 | 0474 | 1 | Bitmask to inform the SCEF of the Monitoring capabilities                                                             |        |
|         |       | CP-150778 | 0490 | 1 | AVP codes for MONTE T6a/b interface                                                                                   |        |
|         |       | CP-150778 | 0491 | 1 | Correction to SCEF-Reference-ID and SCEF-Reference-ID-For-Deletion data types                                         |        |
|         |       | CP-150778 | 0494 | 2 | Definition of AVP for deletion of all Monitoring events assigned to a subscriber (UE)                                 |        |
|         |       | CP-150778 | 0501 | 1 | Definition of AVP SCEF-ID                                                                                             |        |
|         |       | CP-150778 | 0502 | 2 | Service result per Event configuration                                                                                |        |
|         |       | CP-150770 | 0475 | 1 | Emergency PDN connection over untrusted WLAN access                                                                   |        |
|         |       | CP-150776 | 0476 | - | EPC-MT-LR and PS-MT-LR procedure for UEs transiently not reachable due to power saving                                |        |
|         |       | CP-150776 | 0497 | 1 | Mobile Terminating SMS handling for extended Idle mode DRX                                                            |        |
|         |       |           |      |   |                                                                                                                       |        |

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|---------|-------|-----------|------|---|--------------------------------------------------------------------------------------------------------------------------------|--------|
|         |       | CP-150776 | 0498 | 1 | Mobile Terminating SMS handling for extended Idle mode DRX – Additional Option                                                 |        |
|         |       | CP-150777 | 0477 | 3 | Commands and codes for Np protocol                                                                                             |        |
|         |       | CP-150772 | 0479 | 1 | Definition of ProSe-Metadata-Index-Mask                                                                                        |        |
|         |       | CP-150772 | 0489 | - | Addition of AVPs and result-codes                                                                                              |        |
|         |       | CP-150772 | 0500 | - | Addition of AVP used in match report procedure for eProSe-Ext-CT                                                               |        |
|         |       | CP-150754 | 0481 | 1 | Allowed WAF and/or WWSF Identities                                                                                             |        |
|         |       | CP-150773 | 0482 | - | Add the default access type to 3GPP specific AVP                                                                               |        |
|         |       | CP-150781 | 0484 | 1 | AVP code allocation for "UE Usage Type"                                                                                        |        |
|         |       | CP-150755 | 0486 | - | Metadata in Match-Report                                                                                                       |        |
|         |       | CP-150755 | 0488 | - | New Group AVP for ProSe direct discovery procedures                                                                            |        |
|         |       | CP-150771 | 0492 | 1 | Definition of AVP for AESE-CT                                                                                                  |        |
|         |       | CP-150771 | 0496 | 1 | Command codes and AVP range for TS 29.154 and TS 29.153                                                                        |        |
|         |       | CP-150776 | 0495 | 1 | AVP codes for Indoor Positioning support in SLg/Lgd                                                                            |        |
| 2016-03 | CT#71 | CP-160041 | 0503 | - | Application ID for St                                                                                                          | 13.4.0 |
|         |       | CP-160041 | 0506 | 1 | Correction on TS numbers                                                                                                       |        |
|         |       | CP-160041 | 0510 | - | AVPs for the Rx Diameter application                                                                                           |        |
|         |       | CP-160041 | 0514 | 2 | AVP code reservation for 32.299                                                                                                |        |
|         |       | CP-160041 | 0518 | 1 | Codes for 29.212                                                                                                               |        |
|         |       | CP-160029 | 0505 | 3 | New AVP assignment for MONTE                                                                                                   |        |
|         |       | CP-160029 | 0509 | - | Change of type of Monitoring-Duration AVP to represent an absolute time                                                        |        |
|         |       | CP-160035 | 0507 | - | Remove the default access AVP                                                                                                  |        |
|         |       | CP-160035 | 0508 | - | Specific AVP codes for NBIFOM                                                                                                  |        |
|         |       | CP-160030 | 0511 | - | Alert procedure from MME/SGSN to SMS-GMSC for MT SMS to UE using eDRX                                                          |        |
|         |       | CP-160037 | 0512 | - | ePDG retrieval of WLAN Location Information                                                                                    |        |
|         |       | CP-160033 | 0513 | 2 | Definition of AVP Authorization of NIDD                                                                                        |        |
|         |       | CP-160033 | 0520 | 2 | New PDN-Type for Cellular IoT                                                                                                  |        |
|         |       | CP-160036 | 0517 | 1 | Monitoring update and Reporting of update result                                                                               |        |
|         |       | CP-160036 | 0519 | 3 | Allocation of new Diameter Application ID and commands code for PC2 protocol                                                   |        |
| 2016-03 | CT#71 | CP-160018 | 0515 | 1 | AVP code reservation for 32.299                                                                                                | 14.0.0 |
| 2016-06 | CT#72 | CP-160236 | 0526 | 1 | Command Codes for 29.212                                                                                                       | 14.1.0 |
| 2016-06 | CT#72 | CP-160236 | 0543 | - | AVP code range 3900-3999                                                                                                       | 14.1.0 |
| 2016-06 | CT#72 | CP-160236 | 0557 | 1 | New AVPs in TS 29.214                                                                                                          | 14.1.0 |
| 2016-06 | CT#72 | CP-160236 | 0565 | - | AVP codes for 29.212                                                                                                           | 14.1.0 |
| 2016-06 | CT#72 | CP-160232 | 0528 | 2 | AVP Codes for 29.343                                                                                                           | 14.1.0 |
| 2016-06 | CT#72 | CP-160232 | 0533 | 3 | Addition of new AVPs for ProSe direct discovery security and open ProSe direct discovery with application-controlled extension | 14.1.0 |
| 2016-06 | CT#72 | CP-160232 | 0540 | - | Reserved Experimental Result Codes for TS 29.343                                                                               | 14.1.0 |
| 2016-06 | CT#72 | CP-160232 | 0549 | - | Assignment of application ID and command code for PC2 reference point                                                          | 14.1.0 |
| 2016-06 | CT#72 | CP-160228 | 0531 | - | IANA Command Code Registration                                                                                                 | 14.1.0 |
| 2016-06 | CT#72 | CP-160228 | 0541 | 1 | ClIoT new commands and Diameter error                                                                                          | 14.1.0 |
| 2016-06 | CT#72 | CP-160228 | 0550 | - | NIDD authorisation update                                                                                                      | 14.1.0 |
| 2016-06 | CT#72 | CP-160228 | 0560 | 3 | Serving PLMN Rate Control                                                                                                      | 14.1.0 |
| 2016-06 | CT#72 | CP-160228 | 0563 | - | New AVP for APN Rate Control                                                                                                   | 14.1.0 |
| 2016-06 | CT#72 | CP-160233 | 0537 | 1 | Renaming of Validity-Time AVP                                                                                                  | 14.1.0 |
| 2016-06 | CT#72 | CP-160233 | 0562 | 1 | New AVPs allocated for 29.153 and 29.154                                                                                       | 14.1.0 |
| 2016-06 | CT#72 | CP-160225 | 0545 | 3 | SCEF Realm                                                                                                                     | 14.1.0 |
| 2016-06 | CT#72 | CP-160225 | 0548 | - | Cleanup up on MONTE AVP's                                                                                                      | 14.1.0 |
| 2016-06 | CT#72 | CP-160227 | 0546 | - | IANA assigned application Id and command code values                                                                           | 14.1.0 |
| 2016-06 | CT#72 | CP-160227 | 0547 | 2 | Allocation of AVP codes and Experimental Result codes for Diameter Data Management application                                 | 14.1.0 |
| 2016-06 | CT#72 | CP-160231 | 0553 | 1 | 3GPP specific AVP for NBIFOM                                                                                                   | 14.1.0 |
| 2016-06 | CT#72 | CP-160222 | 0555 | 1 | Shared Subscription data update                                                                                                | 14.1.0 |
| 2016-09 | CT#73 | CP-160424 | 0570 | 1 | Missing AVP codes and Experimental-Result codes for T6a                                                                        | 14.2.0 |
| 2016-09 | CT#73 | CP-160424 | 0574 | 1 | Allocate of AVP Handling of Exception Reports in the Core Network                                                              | 14.2.0 |
| 2016-09 | CT#73 | CP-160419 | 0572 | 1 | AVP codes for 32.299                                                                                                           | 14.2.0 |
| 2016-09 | CT#73 | CP-160419 | 0576 | 1 | AVP code for 29.214                                                                                                            | 14.2.0 |
| 2016-09 | CT#73 | CP-160419 | 0578 | 1 | AVP code for 29.212                                                                                                            | 14.2.0 |
| 2016-09 | CT#73 | CP-160436 | 0568 | 1 | STa and SWm extensions for IMEI check                                                                                          | 14.2.0 |
| 2016-12 | CT#74 | CP-160650 | 0582 | - | AVP code alignment with 29.272                                                                                                 | 14.3.0 |
| 2016-12 | CT#74 | CP-160679 | 0579 | 1 | AVPs for Handover of Emergency PDN Connections                                                                                 | 14.3.0 |
| 2016-12 | CT#74 | CP-160678 | 0583 | 1 | New Diameter Application Code, AVP and Result Code for V2X                                                                     | 14.3.0 |
| 2016-12 | CT#74 | CP-160653 | 0585 | 1 | Renaming of Emergency-Indication AVP                                                                                           | 14.3.0 |
| 2016-12 | CT#74 | CP-160670 | 0586 | 2 | New AVPs for TS 29.214                                                                                                         | 14.3.0 |
| 2016-12 | CT#74 | CP-160660 | 0590 | - | S6t-HSS-Cause                                                                                                                  | 14.3.0 |
| 2016-12 | CT#74 | CP-160669 | 0591 | - | AVP codes for 29.468                                                                                                           | 14.3.0 |
| 2017-03 | CT#75 | CP-170039 | 0592 | 1 | Enhanced Coverage                                                                                                              | 14.4.0 |
| 2017-03 | CT#75 | CP-170039 | 0593 | 1 | Inter-RAT PDN-Continuity                                                                                                       | 14.4.0 |

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| 2017-03 | CT#75  | CP-170039 | 0595 | 1 | NIDD Authorization revocation                                 | 14.4.0 |
| 2017-03 | CT#75  | CP-170036 | 0594 | 1 | Loss Of Connectivity Reason                                   | 14.4.0 |
| 2017-03 | CT#75  | CP-170036 | 0602 | 1 | Subscription parameters for eDRX                              | 14.4.0 |
| 2017-03 | CT#75  | CP-170036 | 0607 | 1 | Support of long and short Macro eNodeB IDs                    | 14.4.0 |
| 2017-03 | CT#75  | CP-170025 | 0597 | - | AVP codes for 32.299                                          | 14.4.0 |
| 2017-03 | CT#75  | CP-170043 | 0598 | 1 | New AVP for UE-PC5-AMBR                                       | 14.4.0 |
| 2017-03 | CT#75  | CP-170043 | 0603 | 1 | Correct Diameter Result Code Allocated for V2X                | 14.4.0 |
| 2017-03 | CT#75  | CP-170049 | 0601 | 1 | AVPs for ERP in 29.273                                        | 14.4.0 |
| 2017-03 | CT#75  | CP-170052 | 0605 | - | Update of the name of MCPTT-User-Profile-Data AVP             | 14.4.0 |
| 2017-03 | CT#75  | CP-170045 | 0606 | - | Support of MCVideo and MCDATA Services                        | 14.4.0 |
| 2017-06 | CT#76  | CP-171029 | 0600 | 4 | New AVP for Group Based MONTE Event Configuration via HSS     | 14.5.0 |
| 2017-06 | CT#76  | CP-171017 | 0609 | - | New AVPs in 29.272 for MBSFN MDT                              | 14.5.0 |
| 2017-06 | CT#76  | CP-171026 | 0610 | - | AVP codes for 29.212                                          | 14.5.0 |
| 2017-06 | CT#76  | CP-171026 | 0611 | - | AVP codes for 29.214                                          | 14.5.0 |
| 2017-06 | CT#76  | CP-171030 | 0612 | 1 | AVP code allocation for 29.172 for Location Services for CioT | 14.5.0 |
| 2017-06 | CT#76  | CP-171030 | 0613 | - | Addition of APN-Validity-Time AVP                             | 14.5.0 |
| 2017-06 | CT#76  | CP-171026 | 0615 | - | AVP codes for 32.299                                          | 14.5.0 |
| 2017-09 | CT#77  | CP-172018 | 0616 | 1 | Reliable Data Service Success cause                           | 14.6.0 |
| 2017-09 | CT#77  | CP-172018 | 0617 | 1 | Reliable Data Service                                         | 14.6.0 |
| 2017-09 | CT#77  | CP-172026 | 0618 | 1 | Enhancements for NAPS                                         | 15.0.0 |
| 2017-12 | CT#78  | CP-173011 | 0625 | - | AVP codes for TS 29.219, TS 29.212 and TS 29.214              | 15.1.0 |
| 2017-12 | CT#78  | CP-173033 | 0619 | 1 | Suggested Network Configuration Request                       | 15.1.0 |
| 2017-12 | CT#78  | CP-173028 | 0620 | - | Monitoring Event Report Status                                | 15.1.0 |
| 2017-12 | CT#78  | CP-173028 | 0626 | - | AVP code for PLMN-ID-Requested in S6t                         | 15.1.0 |
| 2017-12 | CT#78  | CP-173032 | 0627 | - | New AVP for PC5-tech for WLAN based ProSe Direct Discovery    | 15.1.0 |
| 2018-03 | CT#79  | CP-180021 | 0628 | 1 | Service Gap Time AVP                                          | 15.2.0 |
| 2018-03 | CT#79  | CP-180020 | 0629 | 1 | AVP codes for 32.299                                          | 15.2.0 |
| 2018-03 | CT#79  | CP-180025 | 0630 | - | IMSI-Group-Id retrieval                                       | 15.2.0 |
| 2018-06 | CT#80  | CP-181120 | 0631 | 1 | Supported-Services and Supported-Monitoring-Events            | 15.3.0 |
| 2018-06 | CT#80  | CP-181120 | 0632 | 1 | New AVPs in TS 29.212 for eVoLP                               | 15.3.0 |
| 2018-06 | CT#80  | CP-181120 | 0633 | 1 | Reserve Diameter codes for TS 29.561                          | 15.3.0 |
| 2018-06 | CT#80  | CP-181120 | 0635 | - | Application ID for Diameter Nta                               | 15.3.0 |
| 2018-06 | CT#80  | CP-181120 | 0636 | 1 | AVP codes for TS 29.154                                       | 15.3.0 |
| 2018-06 | CT#80  | CP-181120 | 0637 | 1 | New AVP for subscription for Aerial UE in 3GPP system         | 15.3.0 |
| 2018-06 | CT#80  | CP-181120 | 0639 | 1 | AVP codes for 32.299                                          | 15.3.0 |
| 2018-06 | CT#80  | CP-181124 | 0640 | 1 | Subscription data for ciphering keys                          | 15.3.0 |
| 2018-06 | CT#80  | CP-181127 | 0634 | - | AVP code for NIR-Flags                                        | 15.3.0 |
| 2018-09 | CT#81  | CP-182080 | 0642 | - | AVP code for TS 29.214                                        | 15.4.0 |
| 2018-09 | CT#81  | CP-182073 | 0643 | - | AVP codes for TS 29.468                                       | 15.4.0 |
| 2018-09 | CT#81  | CP-182073 | 0644 | - | Update tables due to N6                                       | 15.4.0 |
| 2018-09 | CT#81  | CP-182073 | 0645 | 1 | Change of value type of Maximum Packet Loss Rate              | 15.4.0 |
| 2018-09 | CT#81  | CP-182073 | 0646 | 1 | Subscribed PTW length                                         | 15.4.0 |
| 2018-09 | CT#81  | CP-182073 | 0647 | 1 | Policy Update when UE suspends                                | 15.4.0 |
| 2018-09 | CT#81  | CP-182073 | 0648 | 1 | Command Codes for Nta Diameter Application                    | 15.4.0 |
| 2018-09 | CT#81  | CP-182084 | 0649 | - | Core Network Restrictions                                     | 15.4.0 |
| 2018-09 | CT#81  | CP-182071 | 0651 | - | DSR-Flag for eDRX-Cycle-Length                                | 15.4.0 |
| 2018-12 | CT#82  | CP-183092 | 0653 | 1 | Interworking-5GS-Indicator AVP definition                     | 15.5.0 |
| 2018-12 | CT#82  | CP-183095 | 0652 | 1 | Monitoring event report                                       | 15.5.0 |
| 2018-12 | CT#82  | CP-183102 | 0654 | - | Wrong AVP type in Access-Restriction-Data                     | 15.5.0 |
| 2018-12 | CT#82  | CP-183102 | 0655 | - | NIDD group authorization                                      | 15.5.0 |
| 2019-03 | CT#83  | CP-190036 | 0656 | 1 | New AVP for MB2                                               | 15.6.0 |
| 2019-03 | CT#83  | CP-190036 | 0657 | 1 | RTR-Flags                                                     | 15.6.0 |
| 2019-03 | CT#83  | CP-190037 | 0658 | 1 | Handling of multiple external IDs for the same UE             | 15.6.0 |
| 2019-09 | CT#85  | CP-192125 | 0662 | - | Add P-CSCF subscription info to Restoration information       | 16.0.0 |
| 2019-09 | CT#85  | CP-192122 | 0661 | 1 | Event type PDN Connectivity Status                            | 16.0.0 |
| 2019-09 | CT#85  | CP-192122 | 0664 | - | Ethernet PDN Type AVP                                         | 16.0.0 |
| 2019-09 | CT#85  | CP-192121 | 0663 | 1 | Communication pattern enhancement                             | 16.0.0 |
| 2019-12 | CT#86  | CP-193035 | 0669 | 1 | UE Status Suspend                                             | 16.1.0 |
| 2019-12 | CT#86  | CP-103038 | 0666 | 1 | New Error Code for TS 29.336                                  | 16.1.0 |
| 2019-12 | CT#86  | CP-103038 | 0671 | - | Subscribed ARPI AVP                                           | 16.1.0 |
| 2019-12 | CT#86  | CP-103038 | 0672 | - | Network Parameter Configuration Reporting AVP                 | 16.1.0 |
| 2019-12 | CT#86  | CP-103038 | 0673 | 2 | New AVP defined in TS 29.214 for Callee-Information           | 16.1.0 |
| 2019-12 | CT#86  | CP-193040 | 0667 | - | S-CSCF restoration after registration timer expiry            | 16.1.0 |
| 2019-12 | CT#86  | CP-193052 | 0665 | 1 | Battery Indication for Communication pattern enhancement      | 16.1.0 |
| 2020-03 | CT#87e | CP-200041 | 0676 | 1 | AVP codes for 32.299                                          | 16.2.0 |
| 2020-03 | CT#87e | CP-200041 | 0678 | - | New AVPs in TS 29.214                                         | 16.2.0 |
| 2020-03 | CT#87e | CP-200027 | 0677 | 3 | Addition of AVP code for IAB-Node-Information AVP             | 16.2.0 |
| 2020-03 | CT#87e | CP-200036 | 0679 | - | Subscription data for NR V2X                                  | 16.2.0 |
| 2020-03 | CT#87e | CP-200050 | 0680 | - | Reachability Cause                                            | 16.2.0 |
| 2020-06 | CT#88e | CP-201016 | 0685 | - | SMSF Address                                                  | 16.3.0 |
| 2020-06 | CT#88e | CP-201049 | 0681 | - | Authorized PLMNs and RATs for V2X                             | 16.3.0 |
| 2020-06 | CT#88e | CP-201049 | 0682 | - | Subscribed PC5 QoS Parameters for NR V2X                      | 16.3.0 |
| 2020-09 | CT#89e | CP-202094 | 0687 | 1 | AVP Codes for TS 29.214                                       | 16.4.0 |

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| 2020-12 | CT#90e | CP-203032 | 0688 | - |   | Extended Reference ID                           | 16.5.0 |
| 2021-03 | CT#90e | CP-210057 | 0689 | - |   | Default APN for Ethernet PDN types              | 16.6.0 |
| 2021-09 | CT#93e | CP-212073 | 0690 | 1 | F | APN Rate Control Status                         | 16.7.0 |
| 2021-09 | CT#93e | CP-212037 | 0691 | 1 | B | New AVP Exclude-Identifiers                     | 17.0.0 |
| 2021-12 | CT#94e | CP-213128 | 0692 | 1 | F | AVP code for TS 29.468                          | 17.1.0 |
| 2021-12 | CT#94e | CP-213110 | 0694 | 1 | B | New AVP Include-Identifiers                     | 17.1.0 |
| 2022-03 | CT#95e | CP-220052 | 0697 | 2 | B | Adding new Alternate-Digest AVPs                | 17.2.0 |
| 2022-03 | CT#95e | CP-220054 | 0695 | - | B | Failed P-CSCF AVPs                              | 17.2.0 |
| 2022-12 | CT#98e | CP-223038 | 0702 | - | F | Experimental Result Codes for TS 29.273         | 18.0.0 |
| 2023-06 | CT#100 | CP-231039 | 0703 | - | B | Add SBI support indicator AVPs for S6c          | 18.1.0 |
| 2023-09 | CT#101 | CP-232035 | 0705 | 1 | F | Add AMF-Instance-Id AVP                         | 18.2.0 |
| 2023-09 | CT#101 | CP-232055 | 0706 | - | B | AVP for MPS for WLAN                            | 18.2.0 |
| 2024-03 | CT#103 | CP-240290 | 0707 | - | B | Diameter Application Identifier for Sc protocol | 18.3.0 |
| 2024-09 | CT#105 | CP-242070 | 0710 | 1 | A | Add new AVPs for trace and MDT                  | 18.4.0 |
| 2024-12 | CT#106 | CP-243020 | 0716 | 1 |   | Remove the additional MDT-Configuration-NR      | 18.5.0 |
| 2025-06 | CT#108 |           | 0722 | 1 | A | Add SHA-256 indication                          | 18.6.0 |



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# History

| Document history |                |             |
|------------------|----------------|-------------|
| V18.3.0          | May 2024       | Publication |
| V18.4.0          | September 2024 | Publication |
| V18.5.0          | January 2025   | Publication |
| V18.6.0          | June 2025      | Publication |
|                  |                |             |