ETSI TS 129 230 V14.8.0 (2018-10)

TECHNICAL SPECIFICATION

Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);
LTE;
Diameter applications;
3GPP specific codes and identifiers
(3GPP TS 29.230 version 14.8.0 Release 14)

Reference

RTS/TSGC-0429230ve80

Keywords

GSM,LTE,UMTS

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Sous-Préfecture de Grasse (06) N° 7803/88

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Contents

Foreword

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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.

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)".

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

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]

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	
306	User-Data-Request/-Answer	UDR/UDA	29.329 [4]
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 valuess 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	

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 TS 29.061 [13] and 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	
Note: The AVP codes from 421 to 499 are reserved for TS 29.109			
500	Abort-Cause	Enumerated	
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	29.209
520	Media-Type	Enumerated	[8],
521	RR-Bandwidth	Unsigned32	29.211
522	RS-Bandwidth	Unsigned32	[17] ,
523	SIP-Forking-Indication	Enumerated	29.214
524	Codec-Data	OctetString	[18]
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	Reserved	-	
555	Reserved	-	
556	Reserved	-	
557	Reserved	-	
558	Reserved	-	
559	Reserved	-	
560	Reserved	-	
561	Reserved	-	
562	MCVideo-Identifier	OctetString	
Note: The AVP codes from 563 to 599 are reserved for TS 29.209, TS 29.211 and TS 29.214			
600	Visited-Network-Identifier	OctetString	
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	29.229 [2]
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	
Note: The AVP codes from 659 to 699 are reserved for TS 29.229.			
700	User-Identity	Grouped	
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	29.329 [4]
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 to799 are reserved for TS 29.329.			
Note: The AVP codes from 800 to 822 are reserved for TS 32.299.			
823	Event-Type	Grouped	
824	SIP-Method	UTF8String	
825	Event	UTF8String	
826	Content-Type	UTF8String	
827	Content-Length	Unsigned32	
828	Content-Disposition	UTF8String	
829	Role-of-Node	Enumerated	32.299 [5]
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	OctectString	
901	Required-MBMS-Bearer-Capabilities	UTF8String	
902	MBMS-StartStop-Indication	Enumerated	
903	MBMS-Service-Area	OctectString	
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	29.061 [13]
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	Groupe	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 1399 are reserved for TS 32.299			
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	UTF8String	
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	
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	-	29.273 [20]
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	
Note 1: The AVP codes from 1542 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	
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	29.272 [21]
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	Reserved		
1699	Reserved		
1700	Reserved		
1701	Reserved		
1702	Reserved		
1703	Reserved		
1704	Reserved		
1705	eDRX-Related-RAT	Grouped	
Note: The AVP codes from 1706 to 1699 are reserved for TS 29.272.			
2000	SMS-Information	Grouped	
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	32.299 [5]
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	-	
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	-	32.299
2109	reserved	-	[5]
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 [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 [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	
Note: The AVP codes from 2566 to 2599 are reserved for TS 29.172.			
2600	reserved	-	
2601	IMS-Application-Reference-Identifier	UTF8String	
2602	Low-Priority-Indicator	Enumerated	
2603	IP-Realm-Default-Indicator	Enumerated	32.299 [5]
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	-	
2701	Transit-IOI-List	UTF8String	
2702	Status-AS-Code	Enumerated	32.299 [5]
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	-	
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	29.212
2824	NetLoc-Access-Support	Unsigned32	[19]
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	
Note: The AVP codes from 2848 to 2899 are reserved for TS 29.212.			
2900	reserved	-	29.219
2901	Policy-Counter-Identifier	Grouped	[26]

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	
Note: The AVP codes from 2907 to 2999 are reserved for TS 29.219.			
3000	reserved	-	
3001	Device-Action	Grouped	
3002	Device-Notification	Grouped	
3003	Trigger-Data	Grouped	
3004	Payload	OctetString	
3005	Action-Type	Enumerated	29.368 [27]
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	
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	29.336 [28]
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-Masks	Grouped	
3144	Supported-Monitoring-Event-Mask	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-Monitoring-Event-Report	Grouped	
3166	Group-Monitoring-Event-Report-Item	Grouped	
3167	RIR-Flags	Unsigned32	
3168	Type-Of-External-Identifier	Unsigned32	
3169	APN-Validity-Time	Grouped	
Note: The AVP codes from 3170 to 3199 are reserved for TS 29.336.			
3200	SM-Delivery-Outcome-T4	Enumerated	
3201	Absent-Subscriber-Diagnostic-T4	Enumerated	29.337
3202	Trigger-Action	Unsigned32	[29]
3203	MTC-Error-Diagnostic	Unsigned32	
Note: The AVP codes from 3204 to 3299 are reserved for TS 29.337.			
3300	SC-Address	OctetString	
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	29.338
3317	MME-SM-Delivery-Outcome	Grouped	[30]
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	

	Note: The AVP codes from 3334 to 3399 are reserved for TS 29.338.		
3400	reserved	-	
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	32.299
3432	Monitoring-UE-Identifier	UTF8String	[5]
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	
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	
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	29.468
3513	TMGI-Deallocation-Response	Grouped	[31]
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	
Note: The AVP codes from 3525 to 3599 are reserved for TS 29.468.			
3600	Origin-App-Layer-User-Id	UTF8String	
3601	Target-App-Layer-User-Id	UTF8String	
3602	ProSe-Function-ID	OctetString	
3603	ProSe-Request-Type	Unsigned32	
3604	PDUID	OctetString	
3605	Application-Data	UTF8String	29.343
3606	Allowed-Suffixes-Number	Unsigned32	[32]
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	
3702	ProSe-Permission	Unsigned32	
3703	ProSe-Allowed-PLMN	Grouped	
3704	ProSe-Direct-Allowed	Unsigned32	29.344
3705	UPR-Flags	Unsigned32	[33]
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		
3801	App-Layer-User-Id	UTF8String	
3802	Assistance-info	Grouped	
3803	Assistance-Info-Validity-Timer	Unsigned32	
3804	Discovery-Type	Unsigned32	29.345
3805	Filter-Id	OctetString	[34]
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	
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	
Note: The AVP codes from 3868 to 3899 are reserved for TS 29.345.			
3900	Reserved		
3901	Enhanced-Diagnostics	Grouped	
3902	Inter-UE-Transfer	Enumerated	32.299
3903	TWAG-Address	Address	[5]
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	
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	29.217
4007	Conditional-Restriction	Unsigned32	[35]
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
4102	Ns-Request-Type	Unsigned32	[37]
Note: The AVP codes from 4103 to 4199 are reserved for TS 29.153.			
4201	Network-Area-Info-List	OctetString	
4202	Reference-Id	OctetString	
4203	Transfer-Request-Type	Unsigned32	
4204	Time-Window	Grouped	
4205	Transfer-End-Time	Time	29.154
4206	Transfer-Start-Time	Time	[38]
4207	Transfer-Policy	Grouped	
4208	Transfer-Policy-Id	Unsigned32	
4209	Number-Of-UEs	Unsigned32	

Note: The AVP codes from 4210 to 4299 are reserved for TS 29.154.		
4300	Communication-Failure-Information	Grouped	29.128 [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	Reserved	-	
4323	Reserved	-	
4324	Reserved	-	
Note: The AVP codes from 4325 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	
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 [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 [40]
4601	V2X-Update-Flags	Unsigned32	
4602	V2X-Notify-Flags	Unsigned32	
Note: The AVP codes from 4603 to 4799 are reserved for TS 29.388.		
4700	V2X-Authorization-Data	Grouped	29.389 [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.

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	
2002	DIAMETER_SUBSEQUENT_REGISTRATION	
2003	DIAMETER_UNREGISTERED_SERVICE	29.229 [2]
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.		

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	
Note: The Experimental Result Codes from 4145 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], 29.211 [17] , 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_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	
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	
Note: The Experimental Result Codes from 5516 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_PFID_UNKNOWN	
5593	DIAMETER_ERROR_APP_REGISTER_REJECT	
5594	DIAMETER_ERROR_PROSE_MAP_REQUEST_DISALLOWED	
5595	DIAMETER_ERROR_MAP_REQUEST_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_UNKNKOWN_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.		

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.

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.

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.

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.

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	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		AppIds for Gxx and S9	8.5.0
2009-03	CT#43	CP-090033	0134	2	AppId 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 Subcsriber 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	
		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	Priviledged 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	
2012-09	CT#57	CP-120481	0289	3	PS additional number allocation	11.4.0
		CP-120473	0293	4	SMS in MME/SGSN	
		CP-120461	0299	2	AAA Failure Recovery AVP codes	
		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	
2012-12	CT#58	CP-120731	0315	2	T4 device triggering via IMS	11.5.0
		CP-120731	0318	1	Codes and Identifier Allocation for T4 Specification	
		CP-120731	0324	-	AVP Code Allocation for 29.336	
		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	
2013-03	CT#59	CP-130026	0334	1	Diameter error code for TS 29.219	11.6.0
		CP-130026	0336	-	MDT parameters	
2013-03	CT#59	CP-130156	0337	1	New AVPs for Lgd interface	12.0.0
		CP-130030	0341	-	Validity Time of Short Message	
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	
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 definiton 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	
		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
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		CP-160037	0512	-	ePDG retrieval of WLAN Location Information	
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		CP-160036	0517	1	Monitoring update and Reporting of update result	
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2017-03	CT#75	CP-170052	0605	-	Update of the name of MCPTT-User-Profile-Data AVP	14.4.0
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2017-06	CT#76	CP-171029	0600	4	New AVP for Group Based MONTE Event Configuration via HSS	14.5.0
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History

Document history		
V14.4.0	May 2017	Publication
V14.5.0	July 2017	Publication
V14.6.0	October 2017	Publication
V14.7.0	January 2018	Publication
V14.8.0	October 2018	Publication