



*Table 1: AVP Header Details*

Field	Description
AVP Code	The AVP Code, combined with the Vendor-ID field, identifies the attribute uniquely. AVP numbers 1 through 255 are reserved for backward compatibility with RADIUS, without setting the Vendor-ID field. AVP numbers 256 and above are used for Diameter, which are allocated by IANA.

Field	Description
AVP Flags	

Field	Description
	<p>The AVP Flags field informs the receiver how each attribute must be handled. The 'r' (reserved) bits are unused and SHOULD be set to 0. Note that subsequent Diameter applications may define additional bits within the AVP Header, and an unrecognized bit SHOULD be considered an error. The 'P' bit indicates the need for encryption for end-to-end security.</p> <p>The 'M' Bit, known as the Mandatory bit, indicates whether support of the AVP is required. If an AVP with the 'M' bit set is received by a Diameter client, server, proxy, or translation agent and either the AVP or its value is unrecognized, the message MUST be rejected. Diameter Relay and redirect agents MUST NOT reject messages with unrecognized AVPs.</p> <p>The 'M' bit MUST be set according to the rules defined for the AVP containing it. In order to preserve interoperability, a Diameter implementation MUST be able to exclude from a Diameter message any Mandatory AVP which is neither defined in the base Diameter protocol nor in any of the Diameter Application specifications governing the message in which it appears. It may do this in one of the following ways:</p> <ul style="list-style-type: none"> <li>• If a message is rejected because it contains a Mandatory AVP which is neither defined in the base Diameter standard nor in any of the Diameter Application specifications governing the message in which it appears, the implementation may resend the message without the AVP, possibly inserting additional standard AVPs instead.</li> <li>• A configuration option may be provided on a system wide, per peer, or per realm basis that would allow/prevent particular Mandatory AVPs to be sent. Thus an administrator could change the configuration to avoid interoperability problems.</li> </ul> <p>Diameter implementations are required to support all Mandatory AVPs which are allowed by the message's formal syntax and defined either in the base Diameter standard or in one of the Diameter Application specifications governing the message.</p> <p>AVPs with the 'M' bit cleared are informational only and a receiver that receives a message with such an AVP that is not supported, or whose value is not supported, MAY simply ignore the AVP.</p>

Field	Description
	<p>The 'V' bit, known as the Vendor-Specific bit, indicates whether the optional Vendor-ID field is present in the AVP header. When set the AVP Code belongs to the specific vendor code address space.</p> <p>Unless otherwise noted, AVPs will have the following default AVP Flags field settings:</p> <p>The 'M' bit <b>MUST</b> be set. The 'V' bit <b>MUST NOT</b> be set.</p>
AVP Length	<p>The AVP Length field is three octets, and indicates the number of octets in this AVP including the AVP Code, AVP Length, AVP Flags, Vendor-ID field (if present) and the AVP data. If a message is received with an invalid attribute length, the message <b>SHOULD</b> be rejected.</p>
Vendor-ID	<p>This field is optional.</p> <p>The Vendor-ID field is present if the 'V' bit is set in the AVP Flags field. The optional four-octet Vendor-ID field contains the IANA assigned "SMI Network Management Private Enterprise Codes" value, encoded in network byte order. Any vendor wishing to implement a vendor-specific Diameter AVP <b>MUST</b> use their own Vendor-ID along with their privately managed AVP address space, guaranteeing that they will not collide with any other vendor's vendor-specific AVP(s), nor with future IETF applications.</p> <p>A vendor ID value of zero (0) corresponds to the IETF adopted AVP values, as managed by the IANA. Since the absence of the vendor ID field implies that the AVP in question is not vendor specific, implementations <b>MUST NOT</b> use the zero (0) vendor ID.</p>

## Basic AVP Data Formats

The Data field is zero or more octets and contains information specific to the attribute. The format and length of the Data field is determined by the AVP Code and AVP Length fields. The format of the Data field **MUST** be one of the following base data types or a data type derived from the base data types.

Table 2: Basic AVP Formats

AVP Data Format	Meaning
OctetString	The data contains arbitrary data of variable length. Unless otherwise noted, the AVP Length field MUST be set to at least 8 (12 if the 'V' bit is enabled). AVP Values of this type that are not a multiple of four-octets in length is followed by the necessary padding so that the next AVP (if any) will start on a 32-bit boundary.
Integer32	32 bit signed value, in network byte order. The AVP Length field MUST be set to 12 (16 if the 'V' bit is enabled).
Integer64	64 bit signed value, in network byte order. The AVP Length field MUST be set to 16 (20 if the 'V' bit is enabled).
Unsigned32	32 bit unsigned value, in network byte order. The AVP Length field MUST be set to 12 (16 if the 'V' bit is enabled).
Unsigned64	64 bit unsigned value, in network byte order. The AVP Length field MUST be set to 16 (20 if the 'V' bit is enabled).
Float32	This represents floating point values of single precision. The 32-bit value is transmitted in network byte order. The AVP Length field MUST be set to 12 (16 if the 'V' bit is enabled).
Float64	This represents floating point values of double precision. The 64-bit value is transmitted in network byte order. The AVP Length field MUST be set to 16 (20 if the 'V' bit is enabled).
Grouped	The Data field is specified as a sequence of AVPs. Each of these AVPs follows - in the order in which they are specified - including their headers and padding. The AVP Length field is set to 8 (12 if the 'V' bit is enabled) plus the total length of all included AVPs, including their headers and padding. Thus the AVP length field of an AVP of type Grouped is always a multiple of 4.

## Derived AVP Data Formats

In addition to using the Basic AVP Data Formats, applications may define data formats derived from the Basic AVP Data Formats. An application that defines new AVP Derived Data Formats MUST include them in a

section entitled "AVP Derived Data Formats", using the same format as the definitions below. Each new definition must be either defined or listed with a reference to the RFC that defines the format.

The below AVP Derived Data Formats are commonly used by applications.

## Address

The Address format is derived from the OctetString AVP Base Format. It is a discriminated union, representing, for example a 32-bit (IPv4) or 128-bit (IPv6) address, most significant octet first. The first two octets of the Address

AVP represents the AddressType, which contains an Address Family defined in IANAADFAM. The AddressType is used to discriminate the content and format of the remaining octets.

## Time

The Time format is derived from the OctetString AVP Base Format. The string MUST contain four octets, in the same format as the first four bytes are in the NTP timestamp format.

This represents the number of seconds since 0h on 1 January 1900 with respect to the Coordinated Universal Time (UTC).

On 6h 28m 16s UTC, 7 February 2036 the time value will overflow. SNTP describes a procedure to extend the time to 2104. This procedure MUST be supported by all DIAMETER nodes.

## UTF8String

The UTF8String format is derived from the OctetString AVP Base Format. This is a human readable string represented using the ISO/IEC IS 10646-1 character set, encoded as an OctetString using the UTF-8 [UFT8] transformation format described in RFC 2279.

Since additional code points are added by amendments to the 10646 standard from time to time, implementations MUST be prepared to encounter any code point from 0x00000001 to 0x7fffffff. Byte sequences that do not correspond to the valid encoding of a code point into UTF-8 charset or are outside this range are prohibited.

The use of control codes SHOULD be avoided. When it is necessary to represent a new line, the control code sequence CR LF SHOULD be used.

The use of leading or trailing white space SHOULD be avoided.

For code points not directly supported by user interface hardware or software, an alternative means of entry and display, such as hexadecimal, MAY be provided.

For information encoded in 7-bit US-ASCII, the UTF-8 charset is identical to the US-ASCII charset.

UTF-8 may require multiple bytes to represent a single character / code point; thus the length of an UTF8String in octets may be different from the number of characters encoded.

Note that the AVP Length field of an UTF8String is measured in octets, not characters.

## DiameterIdentity

The DiameterIdentity (DIAMIDENT) format is derived from the OctetString AVP Base Format.

DiameterIdentity = FQDN

DiameterIdentity value is used to uniquely identify a Diameter node for purposes of duplicate connection and routing loop detection.

The contents of the string MUST be the FQDN of the Diameter node. If multiple Diameter nodes run on the same host, each Diameter node MUST be assigned a unique DiameterIdentity. If a Diameter node can be identified by several FQDNs, a single FQDN should be picked at startup, and used as the only DiameterIdentity for that node, whatever the connection it is sent on.

## DiameterURI

The DiameterURI (DIAMURI) MUST follow the Uniform Resource Identifiers (URI) syntax [URI] rules specified below:

```
"aaa://" FQDN [ port ] [ transport ] [ protocol ]
```

– or –

```
"aaas://" FQDN [ port ] [ transport ] [ protocol ]
```

**Table 3: DiameterURI Field Description**

Field	Description
FQDN	Fully Qualified Host Name
port	One of the ports used to listen for incoming connections. If absent, the default Diameter port (3868) is assumed.
transport	One of the transport protocols used to listen for incoming connections. If absent, the default SCTP protocol is assumed. UDP MUST NOT be used when the aaa-protocol field is set to diameter.  The transport protocol could be tcp, sctp, or udp.
protocol	This field denotes AAA protocol. If absent, the default AAA protocol is diameter.  The AAA protocol could be diameter, radius, or tacacs+.

The following are examples of valid Diameter host identities:

```
aaa://host.example.com;transport=tcp
aaa://host.example.com:6666;transport=tcp
aaa://host.example.com;protocol=diameter
aaa://host.example.com:6666;protocol=diameter
aaa://host.example.com:6666;transport=tcp;protocol=diameter
aaa://host.example.com:1813;transport=udp;protocol=radius
```

## Enumerated

Enumerated is derived from the Integer32 AVP Base Format. The definition contains a list of valid values and their interpretation and is described in the Diameter application introducing the AVP.

## IPFilterRule

The IPFilterRule format is derived from the OctetString AVP Base Format. It uses the ASCII charset. Packets may be filtered based on the following information that is associated with it:



- Direction (in or out)
- Source and destination IP address (possibly masked)
- Protocol
- Source and destination port (lists or ranges)
- TCP flags
- IP fragment flag
- IP options
- ICMP types

Rules for the appropriate direction are evaluated in order, with the first matched rule terminating the evaluation. Each packet is evaluated once. If no rule matches, the packet is dropped if the last rule evaluated was a permit, and passed if the last rule was a deny.

IPFilterRule filters MUST follow the format:

```
action dir proto from src to dst [options]
```

**Table 4: IPFilterRule Field Description**

Field	Description
action	This field can be set to one of the following: <ul style="list-style-type: none"> <li>• permit – Allow packets that match the rule.</li> <li>• deny – Drop packets that match the rule.</li> </ul>
dir	"in" is from the terminal and "out" is to the terminal.
proto	An IP protocol specified by number. The "ip" keyword means any protocol will match.

Field	Description
src and dst	<p data-bbox="922 296 1175 321">&lt;address/mask&gt; [ports]</p> <p data-bbox="922 342 1369 367">The &lt;address/mask&gt; may be specified as:</p> <p data-bbox="922 388 1482 478">ipno — An IPv4 or IPv6 number in dotted-quad or canonical IPv6 form. Only this exact IP number will match the rule.</p> <p data-bbox="922 499 1482 905">ipno/bits — An IP number as above with a mask width of the form 1.2.3.4/24. In this case, all IP numbers from 1.2.3.0 to 1.2.3.255 will match. The bit width MUST be valid for the IP version and the IP number MUST NOT have bits set beyond the mask. For a match to occur, the same IP version must be present in the packet that was used in describing the IP address. To test for a particular IP version, the bits part can be set to zero. The keyword "any" is 0.0.0.0/0 or the IPv6 equivalent. The keyword "assigned" is the address or set of addresses assigned to the terminal. For IPv4, a typical first rule is often "deny in ip! assigned"</p> <p data-bbox="922 926 1482 1052">The sense of the match can be inverted by preceding an address with the not modifier (!), causing all other addresses to be matched instead. This does not affect the selection of port numbers.</p> <p data-bbox="922 1073 1458 1131">With the TCP, UDP and SCTP protocols, optional ports may be specified as:</p> <p data-bbox="922 1152 1304 1178"><code>{port/port-port}[,ports[,...]]</code></p> <p data-bbox="922 1199 1474 1257">The '-' notation specifies a range of ports (including boundaries).</p> <p data-bbox="922 1278 1482 1404">Fragmented packets that have a non-zero offset (i.e., not the first fragment) will never match a rule that has one or more port specifications. See the frag option for details on matching fragmented packets.</p>

Field	Description
options	

Field	Description
	<p>The different options are as follows:</p> <ul style="list-style-type: none"> <li>• frag — Match if the packet is a fragment and this is not the first fragment of the datagram. frag may not be used in conjunction with either tcpflags or TCP/UDP port specifications.</li> <li>• ipoptions spec — Match if the IP header contains the comma separated list of options specified in spec.</li> </ul> <p>The supported IP options are: srr (strict source route), lsrr (loose source route), rr (record packet route) and ts (timestamp). The absence of a particular option may be denoted with a '!'. </p> <ul style="list-style-type: none"> <li>• tcptoptions spec — Match if the TCP header contains the comma separated list of options specified in spec.</li> </ul> <p>The supported TCP options are: mss (maximum segment size), window (tcp window advertisement), sack (selective ack), ts (rfc1323 timestamp) and cc (rfc1644 t/tcp connection count). The absence of a particular option may be denoted with a '!'. </p> <ul style="list-style-type: none"> <li>• established — TCP packets only. Match packets that have the RST or ACK bits set.</li> <li>• setup — TCP packets only. Match packets that have the SYN bit set but no ACK bit.</li> <li>• tcpflags spec — TCP packets only. Match if the TCP header contains the comma separated list of flags specified in spec.</li> </ul> <p>The supported TCP flags are: fin, syn, rst, psh, ack and urg. The absence of a particular flag may be denoted with a '!'. A rule that contains a tcpflags specification can never match a fragmented packet that has a non-zero offset. See the frag option for details on matching fragmented packets.</p> <ul style="list-style-type: none"> <li>• icmptypes types — ICMP packets only. Match if the ICMP type is in the list types. The list may be specified as any combination of ranges or individual types separated by commas. Both the numeric values and the symbolic values listed below can be used.</li> </ul> <p>The supported ICMP types are: echo reply (0), destination unreachable (3), source quench (4),</p>

Field	Description
	redirect (5), echo request (8), router advertisement (9), router solicitation (10), time-to-live exceeded (11), IP header bad (12), timestamp request (13), timestamp reply (14), information request (15), information reply (16), address mask request (17) and address mask reply (18).

## QoSFilterRule

The QoSFilterRule format is derived from the OctetString AVP Base Format. It uses the ASCII charset. Packets may be marked or metered based on the following information that is associated with it:

- Direction (in or out)
- Source and destination IP address (possibly masked)
- Protocol
- Source and destination port (lists or ranges)
- DSCP values (no mask or range)

Rules for the appropriate direction are evaluated in order, with the first matched rule terminating the evaluation. Each packet is evaluated once. If no rule matches, the packet is treated as best effort. An access device that is unable to interpret or apply a QoS rule SHOULD NOT terminate the session

QoSFilterRule filters MUST follow the format:

```
action dir proto from src to dst [options]
```

**Table 5: QoSFilterRule Field Description**

Field	Description
action	This field can be set to one of the following: <ul style="list-style-type: none"> <li>• tag — Mark packet with a specific DSCP [DIFFSERV]. The DSCP option MUST be included.</li> <li>• meter — Meter traffic. The metering options MUST be included.</li> </ul>
dir	The format is as described under IPFilterRule.
proto	The format is as described under IPFilterRule.
src and dst	The format is as described under IPFilterRule.

Field	Description
options	<p>The following options are available in addition to the ones described under IPFilterRule:</p> <ul style="list-style-type: none"> <li>• DSCP <i>&lt;color&gt;</i> — Color values as defined in [DIFFSERV]. Exact matching of DSCP values is required (no masks or ranges).</li> <li>• metering <i>&lt;rate&gt;</i> <i>&lt;color_under&gt;</i> <i>&lt;color_over&gt;</i> — The metering option provides Assured Forwarding, as defined in [DIFFSERVAF], and MUST be present if the action is set to meter. The rate option is the throughput, in bits per second, which is used by the access device to mark packets. Traffic above the rate is marked with the <i>color_over</i> codepoint, while traffic under the rate is marked with the <i>color_under</i> codepoint. The <i>color_under</i> and <i>color_over</i> options contain the drop preferences, and MUST conform to the recommended codepoint keywords described in [DIFFSERVAF] (e.g. AF13).</li> </ul> <p>The metering option also supports the strict limit on traffic required by Expedited Forwarding, as defined in [DIFFSERVEF]. The <i>color_over</i> option may contain the keyword "drop" to prevent forwarding of traffic that exceeds the rate parameter.</p>

## Grouped AVP Values

The Diameter protocol allows AVP values of type 'Grouped.' This implies that the Data field is actually a sequence of AVPs. It is possible to include an AVP with a Grouped type within a Grouped type, that is, to nest them. AVPs within an AVP of type Grouped have the same padding requirements as non-Grouped AVPs.

The AVP Code numbering space of all AVPs included in a Grouped AVP is the same as for non-grouped AVPs. Further, if any of the AVPs encapsulated within a Grouped AVP has the 'M' (mandatory) bit set, the Grouped AVP itself MUST also include the 'M' bit set.

Every Grouped AVP defined MUST include a corresponding grammar, using ABNF (with modifications), as defined below.

```
grouped-avp-def = name "::=" avp
name-fmt = ALPHA *(ALPHA / DIGIT / "-")
name = name-fmt
avp = header [ *fixed] [ *required] [ *optional] [ *fixed]
header = "<" "AVP-Header:" avpcode [vendor] ">"
avpcode = 1*DIGIT
vendor = 1*DIGIT
```

Where, name = the name of an AVP, defined in the base or extended Diameter specifications.

avp code = The AVP Code assigned to the Grouped AVP.

vendor = The Vendor-ID assigned to the Grouped AVP. If absent, the default value of zero is used.

The Example-AVP (AVP Code 999999) is of type Grouped and is used to clarify how Grouped AVP values work. The Grouped Data field has the following ABNF grammar:

```
Example-AVP ::= < AVP Header: 999999 >
                { Origin-Host }
                1*{ Session-Id }
                *[ AVP ]
```

An Example-AVP with Grouped Data follows. The Origin-Host AVP is required.

In this case, Origin-Host = "example.com".

One or more Session-IDs must follow. Here there are two:

```
Session-Id = "grump.example.com:33041;23432;893;0AF3B81"
```

```
Session-Id = "grump.example.com:33054;23561;2358;0AF3B82"
```

Optional AVPs included are:

```
Recovery-Policy = <binary> 2163bc1d0ad82371f6bc09484133c3f09ad74a0dd5346d54195a7cf0b35
2cabc881839a4fdcfbc1769e2677a4c1fb499284c5f70b48f58503a45c5
c2d6943f82d5930f2b7c1da640f476f0e9c9572a50db8ea6e51e1c2c7bd
f8bb43dc995144b8dbe297ac739493946803e1cee3e15d9b765008a1b2a
cf4ac777c80041d72c01e691cf751dbf86e85f509f3988e5875dc905119
26841f00f0e29a6d1ddc1a842289d440268681e052b30fb638045f7779c
1d873c784f054f688f5001559ecff64865ef975f3e60d2fd7966b8c7f92
Futuristic-Acct-Record = <binary> fe19da5802acd98b07a5b86cb4d5d03f0314ab9ef1ad0b67111ff3b90a0
57fe29620bf3585fd2dd9fcc38ce62f6cc208c6163c008f4258d1bc88b8
17694a74ccad3ec69269461b14b2e7a4c111fb239e33714da207983f58c
41d018d56fe938f3cbf089aac12a912a2f0d1923a9390e5f789cb2e5067 d3427475e49968f841
```

The data for the optional AVPs is represented in hexadecimal since the format of these AVPs is neither known at the time of definition of the Example-AVP group, nor (likely) at the time when the example instance of this AVP is interpreted - except by Diameter implementations which support the same set of AVPs. Also note that AVPs may be present in the Grouped AVP value which the receiver cannot interpret (here, the Recover-Policy and Futuristic-Acct-Record AVPs).

## Diameter Dictionaries

This section presents information on Diameter dictionary types.

### DPCA

The Diameter Policy Control Application (DPCA) dictionaries are used by the PDSN, GGSN, HA, IPSP product(s).

To configure the Diameter dictionary for Policy Control Configuration, use the following configuration:

**configure**

```
context <context_name>
```

```
ims-auth-service <ims_auth_service_name>
```

```
policy-control
```

```
diameter dictionary { Standard | dpca-custom1 |
```

```
dpca-custom10 | dpca-custom11 | dpca-custom12 | dpca-custom13 |
```

```
dpca-custom14 | dpca-custom15 | dpca-custom16 | dpca-custom17 |
```

```
dpca-custom18 | dpca-custom19 | dpca-custom20 |
```

```

dpca-custom21 | dpcacustom22 | dpca-custom23 | dpca-custom24 |
dpca-custom25 | dpca-custom26 | dpca-custom27 | dpca-custom28 |
dpca-custom29 | dpca-custom3 | dpca-custom30 | dpca-custom4 | dpca-custom5
 | dpca-custom6 | dpca-custom7 | dpca-custom8 | dpca-custom9 | dynamic-load
 | gx-wimax-standard | gxa-3gpp2-standard | gxc-standard | pdsn-ty |
r8-gx-standard | std-pdsn-ty | ty-plus | ty-standard }
end

```

Dictionary	Description
Standard	Specifies standard attributes for the Rel 6 Gx interface.
dpca-custom1...dpca-custom <i>n</i>	Custom-defined dictionaries.
dynamic load	Specifies the dynamically loaded Diameter dictionary attributes.
gx-wimax-standard	Specifies standard Gx WiMAX Standard attributes.
gxa-3gpp2-standard	Specifies standard Gxa 3GPP2 Standard attributes.
gxc-standard	Specifies Gxc Standard attributes.
pdsn-ty	Specifies the standard attributes for the PDSN Ty interface.
r8-gx-standard	Specifies standard R8 Gx attributes.
std-pdsn-ty	Specifies standard attributes for the Ty interface.
ty-plus	Specifies customer-specific enhanced attributes for the Ty interface.
ty-standard	Specifies standard Ty attributes.



**Note** For information on custom-defined dictionaries, contact your Cisco account representative.

## DCCA

The Diameter Credit Control Application (DCCA) dictionaries are used by the GGSN and IPSG product(s). To configure the DCCA dictionary for Active Charging service, use the following configuration:

```

configure
  active-charging service <acs_service_name>
    credit-control
      diameter dictionary { dcca-custom1 | dcca-custom10 |
dcca-custom11 | dcca-custom12 | dcca-custom13 | dcca-custom14 |
dcca-custom15 | dcca-custom16 | dcca-custom17 | dcca-custom18 |
dcca-custom19 | dcca-custom2 | dcca-custom20 | dcca-custom21 |
dcca-custom22 | dcca-custom23 | dcca-custom24 | dcca-custom25 |
dcca-custom26 | dcca-custom27 | dcca-custom28 | dcca-custom29 |

```



```

dcca-custom3 | dcca-custom30 | dcca-custom4 | dcca-custom5 | dcca-custom6
| dcca-custom7 | dcca-custom8 | dcca-custom9 | dynamic-load | standard
}

      end

```

Dictionary	Description
dcca-custom1 ... dcca-custom <i>n</i>	Custom-defined dictionaries.
standard	Specifies standard attributes for the Gy interface.
dynamic load	Specifies the dynamically loaded Diameter dictionary attributes.



**Note** For information on custom-defined dictionaries, contact your Cisco account representative.

## CSCF

The Diameter Policy Control dictionaries for Call Session Control Function (CSCF) Diameter Policy External Control Application (DPECA) service are used by the SCM P-CSCF product.

In Star OS 8.1 and later releases, to configure the Diameter Policy Control dictionary, use the following configuration:

```

configure
  context <context_name>
    cscf service <cscf_service_name>
      proxy-cscf
        diameter policy-control { dictionary { dynamic-load
| gq-custom | gq-standard | rq-custom | rx-custom01 | rx-custom02 |
rx-custom03 | rx-custom04 | rx-custom05 | rx-rel8 | rx-standard |
tx-standard }
      end

```

Dictionary	Description
dynamic load	Specifies the dynamically loaded Diameter dictionary attributes.
gq-custom	Specifies customized attributes for the 3GPP Gq interface.
gq-standard	Specifies standard attributes for the 3GPP Gq interface.
rq-custom	Custom-defined dictionary.
rx-rel8	Rel. 8 Rx dictionary.
rx-standard	Specifies standard attributes for the 3GPP Rx interface.

Dictionary	Description
tx-standard	Specifies the standard attributes for the 3GPP2 Tx interface.
rx-custom01...rx-custom05	Custom-defined dictionaries.



**Note** For information on custom-defined dictionaries, contact your Cisco account representative.

## Diameter AAA

The Diameter Authentication, Authorization, and Accounting (AAA) dictionaries are used by the S-CSCF and AIMS product(s).

To specify the AAA dictionary to be used when Diameter is being used for accounting, in the AAA Server Group Configuration Mode or in the Context Configuration Mode, use the following command:

```
diameter accounting dictionary { aaa-custom1 | aaa-custom10 | aaa-custom2
| aaa-custom3 | aaa-custom4 | aaa-custom5 | aaa-custom6 | aaa-custom7 |
aaa-custom8 | aaa-custom9 | dynamic-load | nasreq | rf-plus }
```

To specify the AAA dictionary to be used when Diameter is being used for authentication, in the AAA Server Group Configuration Mode or in the Context Configuration Mode, use the following command:

```
diameter authentication dictionary { aaa-custom1 | aaa-custom10 |
aaa-custom11 | aaa-custom12 | aaa-custom13 | aaa-custom14 | aaa-custom15
| aaa-custom16 | aaa-custom17 | aaa-custom18 | aaa-custom19 | aaa-custom2
| aaa-custom20 | aaa-custom3 | aaa-custom4 | aaa-custom5 | aaa-custom6
| aaa-custom7 | aaa-custom8 | aaa-custom9 | dynamic-load | nasreq }
```

Dictionary	Description
aaa-custom1... aaa-custom8, aaa-custom10 ... aaa-customn	Custom-defined dictionaries.
aaa-custom9	Specifies standard attributes for the STa interface.
nasreq	Specifies the NASREQ attributes defined by RFC 4005.
rf-plus	Specifies customer-specific enhanced attributes for the Rf interface.
dynamic load	Specifies the dynamically loaded Diameter dictionary attributes.



**Note** For information on custom-defined dictionaries, contact your Cisco account representative.

# Diameter AVP Definitions

This section presents Diameter attribute definitions.

## 3GPP-AAA-Server-Name

3GPP-AAA-Server-Name

**Vendor ID** 10415

**VSA Type** 318

**AVP Type** DIAMURI

**AVP Flag** M

## 3GPP-CAMEL-Charging-Info

This AVP contains the Customized Application for Mobile Enhanced Logic (CAMEL) charging information.

**Vendor ID** 10415

**VSA Type** 24

**AVP Type** UTF8STRING

**AVP Flag** N/A

## 3GPP-CF-IPv6-Address

3GPP-CF-IPv6-Address

**Vendor ID** 10415

**VSA Type** 14

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-CG-Address

This AVP contains address of the Charging Gateway.

**Vendor ID** 10415

**VSA Type** 4

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-Called-Station-Id

This AVP contains the Layer 2 addresses that the user contacted in the request.

**Vendor ID** 10415

**VSA Type** 30

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## 3GPP-Charging-Characteristics

This AVP contains the charging characteristics for this PDP context received in the Create PDP Context Request Message.

**Vendor ID** 10415

**VSA Type** 13

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-Charging-Id

This AVP contains the Charging ID for this PDP context (this together with the GGSN-Address constitutes a unique identifier for the PDP context).

**Vendor ID** 10415

**VSA Type** 2

**AVP Type** UINT32

**AVP Flag** M

## 3GPP-GGSN-Address

This AVP contains the IP address of the GGSN used by the GTP control plane for context establishment. It is the same as the GGSN IP address used in the G-CDRs.

**Vendor ID** 10415

**VSA Type** 7

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-GGSN-MCC-MNC

This AVP contains MCC-MNC of the network that the GGSN belongs to.

**Vendor ID** 10415

**VSA Type** 9

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-GPRS-QoS-Negotiated-Profile

This AVP contains QoS profile applied by GGSN.

**Vendor ID** 10415

**VSA Type** 5

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-IMEISV

This AVP contains International Mobile Equipment ID (IMEI) and its Software Version (SV).

**Vendor ID** 10415

**VSA Type** 20

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-IMSI

This AVP contains an IMSI of the user.

**Vendor ID** 10415

**VSA Type** 1

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-IMSI-MCC-MNC

This AVP contains MCC and MNC extracted from the user's IMSI (first 5 or 6 digits, as applicable from the presented IMSI).

**Vendor ID** 10415

**VSA Type** 8

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-MS-TimeZone

This AVP contains the Mobile Station Time Zone.

**Vendor ID** 10415

**VSA Type** 23

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-NSAPI

This AVP contains a particular PDP context for the associated PDN and MSISDN/IMSI from creation to deletion.

**Vendor ID** 10415

**VSA Type** 10

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-PDP-Type

This AVP contains type of the PDP context.

**Vendor ID** 10415

**VSA Type** 3

**AVP Type** ENUM

Supported enumerated value(s):

0 IPv4

1 PPP

2 IPv6

3 IPv4v6

**AVP Flag** M

## 3GPP-Quota-Consumption-Time

This AVP contains the idle traffic threshold time, in seconds.

**Vendor ID** 10415

**VSA Type** 881

**AVP Type** UINT32

**AVP Flag** M

## 3GPP-Quota-Holding-Time

This AVP contains the quota holding time, in seconds. The client starts the quota holding timer when quota consumption ceases. This is always when traffic ceases, i.e. the timer is re-started at the end of each packet. The Credit Control Client deems a quota to have expired when no traffic associated with the quota is observed for the value indicated by this AVP.

**Vendor ID** 10415

**VSA Type** 871

**AVP Type** UINT32

**AVP Flag** M

## 3GPP-RAT-Type

This AVP indicates which Radio Access Technology (RAT) is currently serving the UE.

**Vendor ID** 10415

**VSA Type** 21

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-RAT-Type-Enum

This AVP contains type of Radio Access Technology (RAT).

**Vendor ID** 10415

**VSA Type** 21

**AVP Type** ENUM

Supported enumerated value(s):

1 UTRAN

2 GERAN

3 WLAN

4 GAN

5 HSPA

6 EUTRAN

7 VIRTUAL

8 NB-IOT

102 3GPP2\_eHRPD

33 CDMA\_1XRTT

59 CDMA\_EVDO

64 CDMA\_EVDO\_REVA

**AVP Flag** M

## 3GPP-Reporting-Reason

This AVP contains the reason for usage reporting for one or more types of quota for a particular category.

**Vendor ID** 10415

**VSA Type** 872

**AVP Type** ENUM

Supported enumerated value(s):

0 THRESHOLD

1 QHT

2 FINAL

3 QUOTA\_EXHAUSTED

4 VALIDITY\_TIME

5 OTHER\_QUOTA\_TYPE

6 RATING\_CONDITION\_CHANGE

7 FORCED\_REAUTHORIZATION

**AVP Flag** M

## 3GPP-SGSN-Address

This AVP contains the address of the SGSN used by the GTP control plane for the handling of control messages. It may be used to identify the PLMN to which the user is attached.

**Vendor ID** 10415

**VSA Type** 6

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-SGSN-IPv6-Address

This AVP contains the IPv6 address of the SGSN used by the GTP control plane for the handling of control messages. It may be used to identify the PLMN to which the user is attached.

**Vendor ID** 10415

**VSA Type** 15

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-SGSN-MCC-MNC

This AVP contains the MCC-MNC of the network the SGSN belongs to.

**Vendor ID** 10415

**VSA Type** 18

**AVP Type** UTF8STRING

**AVP Flag** M



## 3GPP-Selection-Mode

This AVP contains the selection mode for this PDP context received in the Create PDP Context Request Message.

**Vendor ID** 10415

**VSA Type** 12

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-Session-Stop-Indicator

This AVP indicates to the AAA server that the last PDP context of a session is released and that the PDP session has been terminated.

**Vendor ID** 10415

**VSA Type** 11

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-Time-Quota-Threshold

This AVP contains the time quota threshold value, in seconds.

**Vendor ID** 10415

**VSA Type** 868

**AVP Type** UINT32

**AVP Flag** M

## 3GPP-Trigger-Type

This AVP contains information about type of trigger, for example, CHANGE\_IN\_SGSN\_IP\_ADDRESS, CHANGE\_IN\_QOS, etc. for activation of the associated action.

**Vendor ID** 10415

**VSA Type** 870

**AVP Type** ENUM

Supported enumerated value(s):

1 CHANGE\_IN\_SGSN\_IP\_ADDRESS

2 CHANGEINQOS\_ANY

3 CHANGEINLOCATION\_ANY

4 CHANGEINRAT

5 CHANGEINTIMEZONE

10 CHANGEINQOS\_TRAFFIC\_CLASS  
 11 CHANGEINQOS\_RELIABILITY\_CLASS  
 12 CHANGEINQOS\_DELAY\_CLASS  
 13 CHANGEINQOS\_PEAK\_THROUGHPUT  
 14 CHANGEINQOS\_PRECEDENCE\_CLASS  
 15 CHANGEINQOS\_MEAN\_THROUGHPUT  
 16 CHANGEINQOS\_MAXIMUM\_BIT\_RATE\_FOR\_UPLINK  
 17 CHANGEINQOS\_MAXIMUM\_BIT\_RATE\_FOR\_DOWNLINK  
 18 CHANGEINQOS\_RESIDUAL\_BER  
 19 CHANGEINQOS\_SDU\_ERROR\_RATIO  
 20 CHANGEINQOS\_TRANSFER\_DELAY  
 21 CHANGEINQOS\_TRAFFIC\_HANDLING\_PRIORITY  
 22 CHANGEINQOS\_GUARANTEED\_BIT\_RATE\_FOR\_UPLINK  
 23 CHANGEINQOS\_GUARANTEED\_BIT\_RATE\_FOR\_DOWNLINK  
 30 CHANGEINLOCATION\_MCC  
 31 CHANGEINLOCATION\_MNC  
 32 CHANGEINLOCATION\_RAC  
 33 CHANGEINLOCATION\_LAC  
 34 CHANGEINLOCATION\_CellId  
 61 CHANGE\_IN\_SERVING\_NODE  
**AVP Flag M**

## 3GPP-Unit-Quota-Threshold

This AVP contains the unit quota threshold value, in service specific units.

**Vendor ID** 10415

**VSA Type** 1226

**AVP Type** UINT32

**AVP Flag M**

## 3GPP-User-Data

This AVP contains the user data required to give service to a user.

**Vendor ID** 10415

**VSA Type** 606

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP-User-Location-Info

This AVP contains information about the user's current geographical location.

**Vendor ID** 10415

**VSA Type** 22

**AVP Type** UTF8STRING

**AVP Flag** M

## 3GPP-Volume-Quota-Threshold

This AVP contains the volume quota threshold value, in octets.

**Vendor ID** 10415

**VSA Type** 869

**AVP Type** UINT32

**AVP Flag** M

## 3GPP-WLAN-APN-Id

This AVP contains the W-APN for which the user will have services available.

**Vendor ID** 10415

**VSA Type** 11003

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP2-Allowed-Persistent-TFTS

Maximum allowed persistent TFTs.

**Vendor ID** 5535

**VSA Type** 6083

**AVP Type** UINT32

**AVP Flag** M

## 3GPP2-BSID

This AVP indicates the BSID of where the UE is currently located (for example, Cell-Id, SID, NID).

**Vendor ID** 5535

**VSA Type** 9010

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP2-Correlation-Id

This AVP contains correlation ID in 3GPP2 networks.

**Vendor ID** 5535

**VSA Type** 6071

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP2-Information

3GPP2-Information

**Vendor ID** 5535

**VSA Type** 6077

**AVP Type** GROUPED

Supported group value(s):

[ SUBSCRIBER\_PRIORITY ]

[ AUTH\_PROFILE\_ID\_FORWARD ]

[ AUTH\_PROFILE\_ID\_REVERSE ]

[ AUTH\_PROFILE\_ID\_BI\_DIRECTION ]

**AVP Flag** M

## 3GPP2-Inter-User-Priority

This AVP indicates the inter-user priority that may be assigned to a user's packet flow on the main service connection/main link flow.

**Vendor ID** 5535

**VSA Type** 139

**AVP Type** UINT32

**AVP Flag** M

## 3GPP2-MEID

This AVP contains the International Mobile Equipment Identity.

**Vendor ID** 10415

**VSA Type** 1471

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP2-Max-Auth-Aggr-BW-BET

This AVP contains the maximum allowed bandwidth for best effort link.

**Vendor ID** 5535

**VSA Type** 130

**AVP Type** UINT32

**AVP Flag** M

## 3GPP2-Max-Inst-Per-Service-Option

This AVP indicates the maximum service option instances.

**Vendor ID** 5535

**VSA Type** 6082

**AVP Type** UINT32

**AVP Flag** M

## 3GPP2-Max-Per-Flow-Priority-User

This AVP contains the per flow priority for the user.

**Vendor ID** 5535

**VSA Type** 6088

**AVP Type** UINT32

**AVP Flag** M

## 3GPP2-Max-Svc-Inst-Link-Flow-Total

This AVP contains the maximum allowed link flows per service instance.

**Vendor ID** 5535

**VSA Type** 6084

**AVP Type** UINT32

**AVP Flag** M

## 3GPP2-RAT-Type

3GPP2-RAT-Type

**Vendor ID** 5535

**VSA Type** 1001

**AVP Type** ENUM

Supported enumerated value(s):

0 3G1X

1 HRPD

2 WLAN

**AVP Flag** M

## 3GPP2-RP-Session-ID

3GPP2-RP-Session-ID

**Vendor ID** 5535

**VSA Type** 6074

**AVP Type** OCTETSTRING

**AVP Flag** M

## 3GPP2-Service-Option

This AVP specifies the authorized packet data service option number.

**Vendor ID** 5535

**VSA Type** 16

**AVP Type** UINT32

**AVP Flag** M

## 3GPP2-Service-Option-Profile

This AVP specifies the authorized packet data service options and the maximum number of simultaneous service connections (for cdma2000 1x) or the total maximum number of simultaneous link flows (for HRPD). For cdma2000 1x, it also specifies the authorized maximum number of simultaneous service connections of the given service option number (n). This AVP may appear in a RADIUS Access-Accept message.

**Vendor ID** 5535

**VSA Type** 74

**AVP Type** GROUPED

Supported group value(s):

[ 3GPP2\_SERVICE\_OPTION ]

[ 3GPP2\_MAX\_INST\_PER\_SERVICE\_OPTION ]

**AVP Flag** M

## 3GPP2-Serving-PCF

This AVP specifies the IP address of the serving PCF, that is, the PCF in the serving RAN.

**Vendor ID** 5535

**VSA Type** 6073

**AVP Type** ADDRESS

**AVP Flag** M

## 3GPP2-User-Zone

This AVP indicates the Tiered Services user zone.

**Vendor ID** 5535

**VSA Type** 6075

**AVP Type** OCTETSTRING

**AVP Flag** M

## A-MSISDN

A-MSISDN

**Vendor ID** 10415

**VSA Type** 1643

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## AAA-Failure-Indication

AAA-Failure-Indication

**Vendor ID** 10415

**VSA Type** 1518

**AVP Type** UINT32

**AVP Flag** N/A

## AAR-Flags

AAR-Flags

**Vendor ID** 10415

**VSA Type** 1539

**AVP Type** UINT32

**AVP Flag** N/A

## Absent-User-Diagnostic-SM

Absent-User-Diagnostic-SM

**Vendor ID** 10415

**VSA Type** 3322

**AVP Type** UINT32

**AVP Flag** M

## ACL-Name

ACL-Name

**Vendor ID** 9

**VSA Type** 131145

**AVP Type** OCTETSTRING

**AVP Flag** M

## ACL-Number

ACL-Number

**Vendor ID** 9

**VSA Type** 131144

**AVP Type** UINT32

**AVP Flag** N/A

## AF-Application-Identifier

This AVP contains information that identifies particular service that the Application Function (AF) service session belongs to.

**Vendor ID** 10415

**VSA Type** 504

**AVP Type** OCTETSTRING

**AVP Flag** M

## AF-Charging-Identifier

This AVP contains the Application Function (AF) charging identifier that may be used in charging correlation.

**Vendor ID** 10415

**VSA Type** 505

**AVP Type** OCTETSTRING



**AVP Flag M**

## AF-Correlation-Information

This grouped AVP contains the AF Charging Identifier (ICID for IMS) and associated flow identifiers generated by the AF and received by GGSN over Rx/Gx.

**Vendor ID** 10415

**VSA Type** 1276

**AVP Type** GROUPED

Supported group value(s):

[ AF\_CHARGING\_IDENTIFIER ]

[ FLOWS ]

**AVP Flag M**

## AF-Signalling-Protocol

AF-Signalling-Protocol

**Vendor ID** 10415

**VSA Type** 529

**AVP Type** ENUM

Supported enumerated value(s):

0 NO\_INFORMATION

1 SIP

**AVP Flag** N/A

## AGW-IP-Address

This AVP contains the IPv4 address of the Access Gateway (AGW) in IPv4 decimal notation format.

**Vendor ID** 5535

**VSA Type** 1003

**AVP Type** OCTETSTRING

**AVP Flag** M

## AGW-IPv6-Address

This AVP contains the IPv6 address of the Access Gateway (AGW) in IPv6 colon notation format.

**Vendor ID** 5535

**VSA Type** 1004

**AVP Type** OCTETSTRING

**AVP Flag** M

## AGW-MCC-MNC

This AVP contains the Mobile Country Code (MCC) and Mobile Network Code (MNC) of the AGW.

**Vendor ID** 5535

**VSA Type** 1002

**AVP Type** OCTETSTRING

**AVP Flag** M

## AIR-Flags

These flags are used by the MME or SGSN to retrieve the UE Usage Type information from the HSS during ATTACH and TAU procedures.

**Vendor ID** 10415

**VSA Type** 1679

**AVP Type** UINT32

**AVP Flag** M

## AMBR

This AVP contains the UE Aggregate Maximum Bit Rate (AMBR) of the user. This will be present only if the non-3GPP access network is trusted. The Rf interface supports AMBR reporting for non-guaranteed bit rate (non-GBR) bearers in the Traffic-Data-Volumes (TDV) Grouped AVP.

**Vendor ID** 10415

**VSA Type** 1435

**AVP Type** GROUPED

Supported group value(s):

[ MAX\_REQUESTED\_BANDWIDTH\_UL ]

[ MAX\_REQUESTED\_BANDWIDTH\_DL ]

[ EXTENDED-MAX-REQUESTED-BW-UL ]

[ EXTENDED-MAX-REQUESTED-BW-DL ]

**AVP Flag** M

## AN-GW-Address

This AVP contains address of the Access Network Gateway.

**Vendor ID** 10415

**VSA Type** 1050  
**AVP Type** ADDRESS  
**AVP Flag** N/A

## AN-GW-Status

This AVP indicates status of the Access Network Gateway. This is used to inform PCRF that S-GW is down.

**Vendor ID** 10415  
**VSA Type** 2811  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 AN\_GW\_FAILED  
**AVP Flag** N/A

## AN-Trusted

This AVP contains the 3GPP AAA Server's decision on handling the non-3GPP access network trusted or non-trusted.

**Vendor ID** 10415  
**VSA Type** 1503  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 TRUSTED  
1 UNTRUSTED  
**AVP Flag** M

## ANID

This AVP contains the Access Network Identifier (ANID) used for key derivation at the HSS.

**Vendor ID** 10415  
**VSA Type** 1504  
**AVP Type** UTF8STRING  
**AVP Flag** M

## APN-Aggregate-Max-Bitrate-DL

This AVP contains the maximum aggregate bit rate in bits per seconds for the downlink direction across all non-GBR bearers related with the same APN.

**Vendor ID** 10415

**VSA Type** 1040

**AVP Type** UINT32

**AVP Flag** M

## APN-Aggregate-Max-Bitrate-UL

This AVP contains the maximum aggregate bit rate in bits per seconds for the uplink direction across all non-GBR bearers related with the same APN.

**Vendor ID** 10415

**VSA Type** 1041

**AVP Type** UINT32

**AVP Flag** M

## APN-Authorized

APN-Authorized

**Vendor ID** 10415

**VSA Type** 6090

**AVP Type** GROUPED

Supported group value(s):

[ CONTEXT\_IDENTIFIER ]

[ CALLED\_STATION\_ID ]

[ APN\_BARRING\_TYPE ]

[ FRAMED\_IP\_ADDRESS ]

[ FRAMED\_IPV6\_PREFIX ]

[ MIP6\_AGENT\_INFO ]

[ PDN\_GW\_ALLOCATION\_TYPE ]

[ VPLMN\_DYNAMIC\_ADDRESS\_ALLOWED ]

[ EPS\_SUBSCRIBED\_QOS\_PROFILE ]

**AVP Flag** M

## APN-Barring-Type

Allows operator to disable all APNs for a subscriber at one time.

**Vendor ID** 10415

**VSA Type** 6091

**AVP Type** ENUM

Supported enumerated value(s):

0 NON\_3GPP\_APNS\_ENABLE

1 NON\_3GPP\_APNS\_DISABLE

**AVP Flag** M

## APN-Configuration

This AVP contains information related to the user's subscribed APN configurations.

**Vendor ID** 10415

**VSA Type** 1430

**AVP Type** GROUPED

Supported group value(s):

[ CONTEXT\_IDENTIFIER ]

[ PDN\_TYPE ]

[ SERVICE\_SELECTION ]

[ EPS\_SUBSCRIBED\_QOS\_PROFILE ]

[ VPLMN\_DYNAMIC\_ADDRESS\_ALLOWED ]

[ MIP6\_AGENT\_INFO ]

[ VISITED\_NETWORK\_IDENTIFIER ]

[ PDN\_GW\_ALLOCATION\_TYPE ]

[ 3GPP\_CHARGING\_CHARACTERISTICS ]

[ AMBR ]

[ SERVED\_PARTY\_IP\_ADDRESS ]

[ SPECIFIC\_APN\_INFO ]

[ APN\_OI\_REPLACEMENT ]

[ RESTORATION\_PRIORITY ]

**AVP Flag** M

## APN-Configuration-Profile

This AVP contains information related to the user's subscribed APN configurations for EPS.

**Vendor ID** 10415

**VSA Type** 1429

**AVP Type** GROUPED

Supported group value(s):

[ CONTEXT\_IDENTIFIER ]

[ ALL\_APN\_CONFIGURATIONS\_INCLUDED\_INDICATOR ]

[ APN\_CONFIGURATION ]

**AVP Flag** M

## APN-OI-Replacement

This AVP contains the domain name to replace the APN OI when constructing the PDN GW FQDN upon which to perform a DNS resolution.

**Vendor ID** 10415

**VSA Type** 1427

**AVP Type** UTF8STRING

**AVP Flag** M

## ARP

This AVP contains Allocation and Retention Priority (ARP) for the corresponding APN configuration.

**Vendor ID** 10415

**VSA Type** 6039

**AVP Type** UINT32

**AVP Flag** M

## AUTN

This AVP contains the Authentication Token AUTN (EAP Authentication Vector).

**Vendor ID** 10415

**VSA Type** 1449

**AVP Type** OCTETSTRING

**AVP Flag** M

## Abort-Cause

This AVP contains the cause of a session abort request, or of an RAR indicating a PDP context release.

**Vendor ID** 10415

**VSA Type** 500

**AVP Type** ENUM

Supported enumerated value(s):

0 BEARER\_RELEASED

1 INSUFFICIENT\_SERVER\_RESOURCES

2 INSUFFICIENT\_BEARER\_RESOURCES  
4 SPONSORED\_DATA\_CONNECTIVITY\_DISALLOWED  
AVP Flag M

## Acceptable-Service-Info

This AVP contains the maximum bandwidth for an AF session and/or for specific media components that will be authorized by the PCRF.

**Vendor ID** 10415

**VSA Type** 526

**AVP Type** GROUPED

Supported group value(s):

[ MEDIA\_COMPONENT\_DESCRIPTION ]

[ MAX\_REQUESTED\_BANDWIDTH\_DL ]

[ MAX\_REQUESTED\_BANDWIDTH\_UL ]

**AVP Flag** M

## Access-Network-Charging-Address

This AVP contains the IP address of the network entity within the access network performing charging (for example, the GGSN IP address).

**Vendor ID** 10415

**VSA Type** 501

**AVP Type** ADDRESS

**AVP Flag** M

## Access-Network-Charging-Identifier

This AVP contains a charging identifier (for example, GCID) within the "Access-Network-Charging-Identifier-Value" AVP along with information about the flows transported within the corresponding bearer within the Flows AVP.

**Vendor ID** 10415

**VSA Type** 502

**AVP Type** GROUPED

Supported group value(s):

[ ACCESS\_NETWORK\_CHARGING\_IDENTIFIER\_VALUE ]

[ FLOWS ]

**AVP Flag** M

## Access-Network-Charging-Identifier-Gx

The PCRF may use this information for charging correlation towards the AF.

**Vendor ID** 10415

**VSA Type** 1022

**AVP Type** GROUPED

Supported group value(s):

[ ACCESS\_NETWORK\_CHARGING\_IDENTIFIER\_VALUE ]

[ CHARGING\_RULE\_BASE\_NAME ]

[ CHARGING\_RULE\_NAME ]

**AVP Flag** M

## Access-Network-Charging-Identifier-Ty

This AVP contains a charging identifier generated by the AGW within the "Access-Network-Charging-Identifier-Value" AVP and the related PCC rule name(s) within the "Charging-Rule-Name" AVP(s). The PCRF may use this information for charging correlation towards the AF.

**Vendor ID** 10415

**VSA Type** 1022

**AVP Type** GROUPED

Supported group value(s):

[ ACCESS\_NETWORK\_CHARGING\_IDENTIFIER\_VALUE ]

[ CHARGING\_RULE\_BASE\_NAME ]

[ CHARGING\_RULE\_NAME ]

**AVP Flag** M

## Access-Network-Charging-Identifier-Value

This AVP contains a charging identifier. For example, GCID.

**Vendor ID** 10415

**VSA Type** 503

**AVP Type** OCTETSTRING

**AVP Flag** M

## Access-Network-Charging-Physical-Access-Id

This AVP contains the identifier for the physical device the user is connected for charging.

**Vendor ID** 8164



**VSA Type** 1472

**AVP Type** GROUPED

Supported group value(s):

[ ACCESS\_NETWORK\_CHARGING\_PHYSICAL\_ACCESS\_ID\_VALUE ]

[ ACCESS\_NETWORK\_CHARGING\_PHYSICAL\_ACCESS\_ID\_REALM ]

**AVP Flag** M

## Access-Network-Charging-Physical-Access-Id-Realm

This AVP contains the domain of the physical device the user is connected for charging.

**Vendor ID** 8164

**VSA Type** 1474

**AVP Type** OCTETSTRING

**AVP Flag** M

## Access-Network-Charging-Physical-Access-Id-Value

This AVP contains the identifier of the physical device the user is connected for charging.

**Vendor ID** 8164

**VSA Type** 1473

**AVP Type** OCTETSTRING

**AVP Flag** M

## Access-Network-Info

Access-Network-Info

**Vendor ID** 10415

**VSA Type** 1526

**AVP Type** GROUPED

Supported group value(s):

[ SSID ]

[ BSSID ]

[ LOCATION\_INFORMATION\_RADIUS ]

[ LOCATION\_DATA ]

[ OPERATOR\_NAME ]

[ LOGICAL\_ACCESS\_ID ]

**AVP Flag** N/A

## Access-Network-Information

This AVP contains access network information, such as the information included in the SIP "P-header P-Access-Network-Information".

**Vendor ID** 0

**VSA Type** 1263

**AVP Type** OCTETSTRING

**AVP Flag** M

## Access-Network-Physical-Access-Id

This AVP contains an identifier that represents the topological segment hosting the AT within the serving IP-CAN.

**Vendor ID** 5535

**VSA Type** 1472

**AVP Type** GROUPED

Supported group value(s):

[ ACCESS\_NETWORK\_PHYSICAL\_ACCESS\_ID\_VALUE ]

[ ACCESS\_NETWORK\_PHYSICAL\_ACCESS\_ID\_REALM ]

**AVP Flag** M

## Access-Network-Physical-Access-Id-Realm

Access-Network-Physical-Access-Id-Realm

**Vendor ID** 5535

**VSA Type** 1474

**AVP Type** OCTETSTRING

**AVP Flag** M

## Access-Network-Physical-Access-Id-Value

Access-Network-Physical-Access-Id-Value

**Vendor ID** 5535

**VSA Type** 1473

**AVP Type** OCTETSTRING

**AVP Flag** M

## Access-Network-Type

This AVP contains the type of access network over which IP connectivity is provided to the user equipment.

**Vendor ID** 0

**VSA Type** 306

**AVP Type** GROUPED

Supported group value(s): none

**AVP Flag** M

## Access-Restriction-Data

This AVP contains a bit mask indicating the services of a subscriber, that are barred by the operator.

**Vendor ID** 10415

**VSA Type** 1426

**AVP Type** UINT32

**AVP Flag** M

## Account-Expiration

Account-Expiration

**Vendor ID** 10415

**VSA Type** 2309

**AVP Type** TIME

**AVP Flag** M

## Accounting

Accounting

**Vendor ID** 9

**VSA Type** 131126

**AVP Type** GROUPED

Supported group value(s):

[ ACCOUNTING\_CUSTOMER\_STRING ]

**AVP Flag** M

## Accounting-Customer-String

Accounting-Customer-String

**Vendor ID** 9

**VSA Type** 131127

**AVP Type** OCTETSTRING

**AVP Flag** M

## Accounting-EAP-Auth-Method

This AVP indicates the EAP method(s) used to authenticate the user.

**Vendor ID** 0

**VSA Type** 465

**AVP Type** UINT64

**AVP Flag** N/A

## Accounting-Input-Octets

This AVP contains the number of octets in IP packets received from the user.

**Vendor ID** 0

**VSA Type** 363

**AVP Type** UINT64

**AVP Flag** M

## Accounting-Input-Packets

This AVP contains the number of IP packets received from the user.

**Vendor ID** 0

**VSA Type** 365

**AVP Type** UINT64

**AVP Flag** M

## Accounting-Output-Octets

This AVP contains the number of octets in IP packets sent to the user.

**Vendor ID** 0

**VSA Type** 364

**AVP Type** UINT64

**AVP Flag** M

## Accounting-Output-Packets

This AVP contains the number of IP packets sent to the user.

**Vendor ID** 0

**VSA Type** 366

**AVP Type** UINT64

**AVP Flag** M

## Accounting-PCC-R3-P-Capability

This AVP indicates the accounting capabilities in a CCR that are supported by the sender. CCA will not include this AVP.

**Vendor ID** 24757

**VSA Type** 403

**AVP Type** ENUM

Supported enumerated value(s):

0 Online

1 Offline

2 Online\_and\_Offline

**AVP Flag** M

## Accounting-Record-Number

This AVP contains this record within one session.

**Vendor ID** 0

**VSA Type** 485

**AVP Type** UINT32

**AVP Flag** M

## Accounting-Record-Type

This AVP contains the type of accounting record being sent.

**Vendor ID** 0

**VSA Type** 480

**AVP Type** ENUM

Supported enumerated value(s):

1 EVENT\_RECORD

2 START\_RECORD

3 INTERIM\_RECORD

4 STOP\_RECORD

AVP Flag M

## Accounting-Sub-Session-Id

This AVP contains the accounting sub-session identifier.

Vendor ID 0

VSA Type 287

AVP Type UINT64

AVP Flag M

## Acct-Application-Id

Advertise support of the Accounting portion of an application.

Vendor ID 0

VSA Type 259

AVP Type UINT32

AVP Flag M

## Acct-Interim-Interval

This AVP is sent from the Diameter Home Authorization Server to the Diameter client.

Vendor ID 0

VSA Type 85

AVP Type UINT32

AVP Flag M

## Acct-Multi-Session-Id

Link multiple related accounting sessions.

Vendor ID 0

VSA Type 50

AVP Type UTF8STRING

AVP Flag M

## Acct-Realtime-Required

This AVP is used to decide the action to be performed when sending of accounting records to the accounting server has been temporarily prevented due to network problem.

Vendor ID 0

**VSA Type** 483

**AVP Type** ENUM

Supported enumerated value(s):

1 DELIVER\_AND\_GRANT

2 GRANT\_AND\_STORE

3 GRANT\_AND\_LOSE

**AVP Flag** M

## Acct-Session-Id

This AVP is only used when RADIUS/Diameter translation occurs. This AVP contains the contents of the RADIUS "Acct-Session-Id" attribute.

**Vendor ID** 0

**VSA Type** 44

**AVP Type** OCTETSTRING

**AVP Flag** M

## Acct-Session-Time

This AVP indicates the length of the current session, in seconds. This AVP MUST be included in all Accounting-Request messages and MAY be present in the corresponding Accounting-Answer messages as well.

**Vendor ID** 10415

**VSA Type** 46

**AVP Type** UINT32

**AVP Flag** M

## Accuracy

Accuracy

**Vendor ID** 10415

**VSA Type** 3137

**AVP Type** UINT32

**AVP Flag** M

## Accuracy-Fulfilment-Indicator

Accuracy-Fulfilment-Indicator

**Vendor ID** 10415

**VSA Type** 2513

**AVP Type** ENUM

Supported enumerated value(s):

0 REQUESTED\_ACCURACY\_FULFILLED

1 REQUESTED\_ACCURACY\_NOT\_FULFILLED

**AVP Flag** M

## Active-APN

This AVP indicates the active APN.

**Vendor ID** 10415

**VSA Type** 1612

**AVP Type** GROUPED

Supported group value(s):

[ CONTEXT\_IDENTIFIER ]

[ SERVICE\_SELECTION ]

[ MIP6\_AGENT\_INFO ]

[ VISITED\_NETWORK\_IDENTIFIER ]

[ SPECIFIC\_APN\_INFO ]

**AVP Flag** M

## Additional-Context-Identifier

Additional-Context-Identifier

**Vendor ID** 10415

**VSA Type** 1683

**AVP Type** UINT32

**AVP Flag** N/A

## Additional-MBMS-Trace-Info

This AVP contains additional information such as Trace-Reference, Triggering Events in BMSC, List of Interfaces in BMSC, Trace Activity Control, etc.

**Vendor ID** 10415

**VSA Type** 910

**AVP Type** OCTETSTRING

**AVP Flag** M



## Address-Realm

This AVP contains the realm that the user belongs to.

**Vendor ID** 0

**VSA Type** 1005

**AVP Type** OCTETSTRING

**AVP Flag** M

## Advice-Of-Charge

Advice-Of-Charge

**Vendor ID** 9

**VSA Type** 131097

**AVP Type** GROUPED

Supported group value(s):

[ APPEND\_URL ]

[ CONFIRM\_TOKEN ]

**AVP Flag** M

## Age-Of-Location-Estimate

This AVP indicates how long ago the location estimate was obtained, in minutes.

**Vendor ID** 10415

**VSA Type** 2514

**AVP Type** UINT32

**AVP Flag** M

## Age-Of-Location-Information

Age-Of-Location-Information

**Vendor ID** 10415

**VSA Type** 1611

**AVP Type** UINT32

**AVP Flag** N/A

## Aggr-Prefix-Len

Aggr-Prefix-Len

**Vendor ID** 9

**VSA Type** 131262

**AVP Type** UINT32

**AVP Flag** N/A

## Alert-Reason

This AVP indicates that the mobile subscriber is present or the MS has available memory.

**Vendor ID** 10415

**VSA Type** 1434

**AVP Type** ENUM

Supported enumerated value(s):

0 UE\_PRESENT

1 UE\_MEMORY\_AVAILABLE

**AVP Flag** M

## All-APN-Configurations-Included-Indicator

This AVP indicates addition/modification/deletion of APN configuration for MME/SGSN service.

**Vendor ID** 10415

**VSA Type** 1428

**AVP Type** ENUM

Supported enumerated value(s):

0 ALL\_APN\_CONFIGURATIONS\_INCLUDED

1 MODIFIED\_ADDED\_APN\_CONFIGURATIONS\_INCLUDED

**AVP Flag** M

## Allocation-Retention-Priority

Allocation-Retention-Priority

**Vendor ID** 10415

**VSA Type** 1034

**AVP Type** GROUPED

Supported group value(s):

[ PRIORITY\_LEVEL ]

[ PRE\_EMPTION\_CAPABILITY ]

[ PRE\_EMPTION\_VULNERABILITY ]

**AVP Flag** M

## Alternative-APN

This AVP contains the value of a new APN. BM-SC only includes it if the UE must use a different APN for the MBMS PDP Context from the one used in the Join message.

**Vendor ID** 10415

**VSA Type** 905

**AVP Type** UTF8STRING

**AVP Flag** M

## Anchor-Data-Path-Address

This AVP contains the IP address of the serving SFA and is included in the CCR message.

**Vendor ID** 24757

**VSA Type** 401

**AVP Type** OCTETSTRING

**AVP Flag** M

## Append-URL

Append-URL

**Vendor ID** 9

**VSA Type** 131098

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE\_APPEND\_URL

1 ENABLE\_APPEND\_URL

**AVP Flag** M

## Application-Detection-Information

This AVP is used to report once the start/stop of the application traffic, defined by TDF-Application-Identifier, has been detected, in case PCRF has subscribed for APPLICATION\_START/APPLICATION\_STOP Event-Triggers, unless a request to mute such a notification (Mute-Notification AVP) is part of the corresponding Charging-Rule-Definition AVP to the PCEF.

**Vendor ID** 10415

**VSA Type** 1098

**AVP Type** GROUPED

Supported group value(s):

[ TDF\_APPLICATION\_IDENTIFIER ]

[ TDF\_APPLICATION\_INSTANCE\_IDENTIFIER ]

[ FLOW\_INFORMATION ]

**AVP Flag** N/A

## Application-Provided-Called-Party-Address

This AVP holds the called party number (SIP URL, E.164), if it is determined by an application server.

**Vendor ID** 10415

**VSA Type** 837

**AVP Type** UTF8STRING

**AVP Flag** M

## Application-Server

This AVP contains the SIP URL(s) of the AS(s) addressed during the session.

**Vendor ID** 10415

**VSA Type** 836

**AVP Type** UTF8STRING

**AVP Flag** M

## Application-Server-Information

This AVP contains the list of application servers visited on the ISC interface.

**Vendor ID** 10415

**VSA Type** 850

**AVP Type** GROUPED

Supported group value(s):

[ APPLICATION\_SERVER ]

[ APPLICATION\_PROVIDED\_CALLED\_PARTY\_ADDRESS ]

**AVP Flag** M

## Application-Service-Provider-Identity

Application-Service-Provider-Identity

**Vendor ID** 0

**VSA Type** 532

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Associated-Identities

This AVP contains the private user identities associated to an IMS subscription.

**Vendor ID** 10415

**VSA Type** 632

**AVP Type** GROUPED

Supported group value(s):

[ USER\_NAME ]

**AVP Flag** M

## Associated-Registered-Identities

This AVP contains the Private User Identities registered with the Public User Identity received in the request command.

**Vendor ID** 10415

**VSA Type** 647

**AVP Type** GROUPED

Supported group value(s):

[ USER\_NAME ]

**AVP Flag** N/A

## Associated-URI

This AVP contains a non-barred public user identity (SIP URI or TEL URI) associated to the the public user identity under registration.

**Vendor ID** 10415

**VSA Type** 856

**AVP Type** UTF8STRING

**AVP Flag** M

## Attribute-String

Attribute-String

**Vendor ID** 9

**VSA Type** 131092

**AVP Type** UTF8STRING

**AVP Flag** M

## Auth-Application-Id

This AVP contains the Diameter supported authorization application ID.

**Vendor ID** 0

**VSA Type** 258

**AVP Type** UINT32

**AVP Flag** M

## Auth-Grace-Period

This AVP contains the number of seconds the Diameter server will wait following the expiration of the Authorization-Lifetime AVP before cleaning up resources for the session.

**Vendor ID** 0

**VSA Type** 276

**AVP Type** UINT32

**AVP Flag** M

## Auth-Profile-Id-Bi-Direction

3GPP2 Auth-Profile-Id-Bi-Direction

**Vendor ID** 5535

**VSA Type** 6081

**AVP Type** UINT32

**AVP Flag** M

## Auth-Profile-Id-Forward

3GPP2 Auth-Profile-Id-Forward

**Vendor ID** 5535

**VSA Type** 6079

**AVP Type** UINT32

**AVP Flag** M

## Auth-Profile-Id-Reverse

3GPP2 Auth-Profile-Id-Reverse

**Vendor ID** 5535

**VSA Type** 6080

**AVP Type** UINT32

**AVP Flag** M

## Auth-Request-Type

This AVP contains the authorization request type to inform the peers whether a user is to be authenticated only, authorized only, or both.

**Vendor ID** 0

**VSA Type** 274

**AVP Type** ENUM

Supported enumerated value(s):

1 AUTHENTICATE\_ONLY

2 AUTHORIZE\_ONLY

3 AUTHORIZE\_AUTHENTICATE

**AVP Flag** M

## Auth-Session-State

This AVP indicates whether state is maintained for a particular session.

**Vendor ID** 0

**VSA Type** 277

**AVP Type** ENUM

Supported enumerated value(s):

0 STATE\_MAINTAINED

1 NO\_STATE\_MAINTAINED

**AVP Flag** M

## Authentication-Info

This AVP contains the Authentication Vectors.

**Vendor ID** 10415

**VSA Type** 6016

**AVP Type** GROUPED

Supported group value(s):

[ EPS\_VECTOR ]

[ UMTS\_VECTOR ]

[ GERAN\_VECTOR ]

**AVP Flag** M

## Authorised-QoS

This AVP contains the authorized QoS.

**Vendor ID** 0

**VSA Type** 849

**AVP Type** UTF8STRING

**AVP Flag** M

## Authorization-Lifetime

This AVP contains the maximum number of seconds of service to be provided to the user before the user is to be re-authenticated and/or re-authorized.

**Vendor ID** 0

**VSA Type** 291

**AVP Type** UINT32

**AVP Flag** M

## Authorization-Token

This AVP contains the authorization token defined in RFC 3520.

**Vendor ID** 10415

**VSA Type** 506

**AVP Type** OCTETSTRING

**AVP Flag** M

## Authorized-QoS

This AVP carries the authorized QoS from the E-PDF to the IPC/GGSN.

**Vendor ID** 10415

**VSA Type** 1016

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_CLASS ]

[ MAX\_REQUESTED\_BANDWIDTH\_UL ]

[ MAX\_REQUESTED\_BANDWIDTH\_DL ]

**AVP Flag** M



## BCID

This AVP contains the PacketCable 1.5 Billing Correlation ID as generated for a SIP session. This value is copied from the BCID field in the P-DCS-LAES header.

**Vendor ID** 4491

**VSA Type** 200

**AVP Type** UTF8STRING

**AVP Flag** M

## BSID

BSID

**Vendor ID** 0

**VSA Type** 10003

**AVP Type** OCTETSTRING

**AVP Flag** M

## BSSGP-Cause

BSSGP-Cause

**Vendor ID** 10415

**VSA Type** 4309

**AVP Type** UINT32

**AVP Flag** M

## BSSID

BSSID

**Vendor ID** 10415

**VSA Type** 2716

**AVP Type** UTF8STRING

**AVP Flag** M

## Bearer-Control-Mode

This AVP indicates the preferred Bearer Control Mode.

**Vendor ID** 10415

**VSA Type** 1023

**AVP Type** ENUM

Supported enumerated value(s):

0 UE\_ONLY  
1 RESERVED  
2 UE\_NW  
**AVP Flag M**

## Bearer-Identifier

This AVP indicates the bearer to which the information belongs.

**Vendor ID** 10415  
**VSA Type** 1020  
**AVP Type** OCTETSTRING  
**AVP Flag M**

## Bearer-Operation

This AVP indicates the bearer event that causes the request for PCC rules.

**Vendor ID** 10415  
**VSA Type** 1021  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 TERMINATION  
1 ESTABLISHMENT  
2 MODIFICATION  
**AVP Flag M**

## Bearer-Service

This AVP holds the used bearer service for the application, for example, PSTN leg in the case of voice.

**Vendor ID** 10415  
**VSA Type** 854  
**AVP Type** OCTETSTRING  
**AVP Flag M**

## Bearer-Usage

This AVP indicates how the bearer is being used, for example, whether it is used as a dedicated IMS signaling context or not.

**Vendor ID** 10415

**VSA Type** 1000

**AVP Type** ENUM

Supported enumerated value(s):

0 GENERAL

1 IMS\_SIGNALLING

2 DEDICATED

**AVP Flag** M

## Billing-Plan-Definition

Billing-Plan-Definition

**Vendor ID** 9

**VSA Type** 131079

**AVP Type** GROUPED

Supported group value(s):

[ BILLING\_PLAN\_NAME ]

[ ONLINE ]

[ OFFLINE ]

[ VIRTUAL\_ONLINE ]

[ USER\_IDLE\_TIMER ]

[ USER\_IDLE\_POD ]

[ USER\_DEFAULT ]

[ CISCO\_QOS\_PROFILE\_UPLINK ]

[ CISCO\_QOS\_PROFILE\_DOWNLINK ]

[ SERVICE\_INFO ]

**AVP Flag** M

## Billing-Plan-Install

Billing-Plan-Install

**Vendor ID** 9

**VSA Type** 131187

**AVP Type** GROUPED

Supported group value(s):

[ BILLING\_PLAN\_DEFINITION ]

AVP Flag M

## Billing-Plan-Name

Billing-Plan-Name

Vendor ID 9

VSA Type 131140

AVP Type OCTETSTRING

AVP Flag M

## Billing-Plan-Remove

Billing-Plan-Remove

Vendor ID 9

VSA Type 131188

AVP Type GROUPED

Supported group value(s):

[ BILLING\_PLAN\_NAME ]

AVP Flag M

## Billing-Policy-Definition

Billing-Policy-Definition

Vendor ID 9

VSA Type 131074

AVP Type GROUPED

Supported group value(s):

[ BILLING\_POLICY\_NAME ]

[ POLICY\_MAP\_NAME ]

[ CLASS\_MAP\_NAME ]

[ HEADER\_GROUP\_NAME ]

[ ACCOUNTING ]

AVP Flag M

## Billing-Policy-Install

Billing-Policy-Install

Vendor ID 9

**VSA Type** 131181  
**AVP Type** GROUPED  
Supported group value(s):  
[ BILLING\_POLICY\_DEFINITION ]  
**AVP Flag** M

## Billing-Policy-Name

Billing-Policy-Name  
**Vendor ID** 9  
**VSA Type** 131088  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Billing-Policy-Remove

Billing-Policy-Remove  
**Vendor ID** 9  
**VSA Type** 131182  
**AVP Type** GROUPED  
Supported group value(s):  
[ BILLING\_POLICY\_NAME ]  
**AVP Flag** M

## Binding-Information

This AVP contains binding information required for NA(P)T, hosted NA(P)T, and NA(P)T-PT control.  
**Vendor ID** 13019  
**VSA Type** 450  
**AVP Type** GROUPED  
Supported group value(s):  
[ BINDING\_INPUT\_LIST ]  
[ BINDING\_OUTPUT\_LIST ]  
**AVP Flag** N/A

## Binding-Input-List

This AVP contains a list of transport addresses for which a binding is requested.

**Vendor ID** 13019

**VSA Type** 451

**AVP Type** GROUPED

Supported group value(s):

[ V6\_TRANSPORT\_ADDRESS ]

[ V4\_TRANSPORT\_ADDRESS ]

**AVP Flag** N/A

## Binding-Output-List

This AVP contains a list of transport addresses which is the result of the binding operation performed by the transport plane functions.

**Vendor ID** 13019

**VSA Type** 452

**AVP Type** GROUPED

Supported group value(s):

[ V6\_TRANSPORT\_ADDRESS ]

[ V4\_TRANSPORT\_ADDRESS ]

**AVP Flag** N/A

## CC-Correlation-Id

Correlates credit control requests generated for different components of the service.

**Vendor ID** 0

**VSA Type** 411

**AVP Type** OCTETSTRING

**AVP Flag** M

## CC-Input-Octets

This AVP contains the number of requested, granted, or used octets that can be/have been received from the end user.

**Vendor ID** 0

**VSA Type** 412

**AVP Type** UIN64

**AVP Flag** M

## CC-Money

This AVP indicates the monetary amount in the given currency.

**Vendor ID** 0

**VSA Type** 413

**AVP Type** GROUPED

Supported group value(s):

[ UNIT\_VALUE ]

[ CURRENCY\_CODE ]

**AVP Flag** M

## CC-Output-Octets

This AVP contains the number of requested, granted, or used octets that can be/have been sent to the end user.

**Vendor ID** 0

**VSA Type** 414

**AVP Type** UINT64

**AVP Flag** M

## CC-Request-Number

This AVP contains the number of Credit Control request for mapping requests and answers.

**Vendor ID** 0

**VSA Type** 415

**AVP Type** UINT32

**AVP Flag** M

## CC-Request-Type

This AVP contains the type of credit-control Request/Answer message.

**Vendor ID** 0

**VSA Type** 416

**AVP Type** ENUM

Supported enumerated value(s):

1 INITIAL\_REQUEST

2 UPDATE\_REQUEST

3 TERMINATION\_REQUEST

4 EVENT\_REQUEST

**AVP Flag** M

## CC-Service-Specific-Units

This AVP contains the number of service-specific units (for example, number of events, points) given in a selected service.

**Vendor ID** 0

**VSA Type** 417

**AVP Type** UINT64

**AVP Flag** M

## CC-Session-Failover

This AVP contains information as to whether moving the credit-control message stream to a backup server during an ongoing credit-control session is supported.

**Vendor ID** 0

**VSA Type** 418

**AVP Type** ENUM

Supported enumerated value(s):

0 FAILOVER\_NOT\_SUPPORTED

1 FAILOVER\_SUPPORTED

**AVP Flag** M

## CC-Sub-Session-Id

This AVP contains the credit-control sub-session identifier.

**Vendor ID** 0

**VSA Type** 419

**AVP Type** UINT64

**AVP Flag** M

## CC-Time

This AVP contains the length of the requested, granted, or used time, in seconds.

**Vendor ID** 0

**VSA Type** 420

**AVP Type** UINT32

**AVP Flag** M



## CC-Total-Octets

This AVP contains the total number of requested, granted, or used octets regardless of the direction.

**Vendor ID** 0

**VSA Type** 421

**AVP Type** UINT64

**AVP Flag** M

## CC-Unit-Type

This AVP contains the type of units.

**Vendor ID** 0

**VSA Type** 454

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## CDR-Generation-Delay

CDR-Generation-Delay

**Vendor ID** 9

**VSA Type** 131131

**AVP Type** UINT32

**AVP Flag** N/A

## CDR-Time-Threshold

CDR-Time-Threshold

**Vendor ID** 9

**VSA Type** 131096

**AVP Type** UINT32

**AVP Flag** N/A

## CDR-Volume-Threshold

CDR-Volume-Threshold

**Vendor ID** 9

**VSA Type** 131095

**AVP Type** UINT32

**AVP Flag** N/A

## CG-Address

This AVP contains IP address of the Charging Gateway.

**Vendor ID** 10415

**VSA Type** 846

**AVP Type** ADDRESS

**AVP Flag** M

## CHAP-Auth

CHAP-Authentication

**Vendor ID** 10415

**VSA Type** 402

**AVP Type** GROUPED

Supported group value(s):

[ CHAP\_IDENT ]

[ CHAP\_RESPONSE ]

**AVP Flag** M

## CHAP-Challenge

CHAP-Challenge

**Vendor ID** 10415

**VSA Type** 60

**AVP Type** OCTETSTRING

**AVP Flag** M

## CHAP-Ident

CHAP-Identifier

**Vendor ID** 10415

**VSA Type** 404

**AVP Type** OCTETSTRING

**AVP Flag** M

## CHAP-Response

CHAP-Response  
**Vendor ID** 10415  
**VSA Type** 405  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## CIPA

CIPA  
**Vendor ID** 7898  
**VSA Type** 2005  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## CLR-Flags

CLR-Flags  
**Vendor ID** 10415  
**VSA Type** 1638  
**AVP Type** UINT32  
**AVP Flag** N/A

## CMR-Flags

CMR-Flags  
**Vendor ID** 10415  
**VSA Type** 4317  
**AVP Type** UINT32  
**AVP Flag** M

## CN-IP-Multicast-Distribution

CN-IP-Multicast-Distribution  
**Vendor ID** 10415  
**VSA Type** 921  
**AVP Type** ENUM  
Supported enumerated value(s): none

**AVP Flag** M

## CSG-Access-Mode

This AVP contains the mode in which the CSG cell user is accessing to, operates.

**Vendor ID** 10415

**VSA Type** 2317

**AVP Type** ENUM

Supported enumerated value(s):

0 CLOSED\_MODE

1 HYBRID\_MODE

**AVP Flag** M

## CSG-Id

This AVP contains Closed Subscriber Group Identity used to identify Closed Subscriber Group within a PLMN.

**Vendor ID** 10415

**VSA Type** 1437

**AVP Type** UINT32

**AVP Flag** M

## CSG-Membership-Indication

This AVP indicates the UE is a member of the accessing CSG cell, if the access mode is Hybrid, as described in TS 29.060, and in TS 29.274. If this indication is not present, this means the UE is a not member of the CSG cell for hybrid access mode.

**Vendor ID** 10415

**VSA Type** 2318

**AVP Type** ENUM

Supported enumerated value(s):

0 NOT\_CSG\_MEMBER

1 CSG\_MEMBER

**AVP Flag** M

## CSG-Subscription-Data

This AVP contains the CSG-Id and optionally an associated expiration date.

**Vendor ID** 10415

**VSA Type** 1436  
**AVP Type** GROUPED  
Supported group value(s):  
[ CSG\_ID ]  
[ EXPIRATION\_DATE ]  
**AVP Flag** M

## Call-Barring-Info-List

This AVP contains the service codes for the short message related call barring services for a subscriber.

**Vendor ID** 10415  
**VSA Type** 1488  
**AVP Type** GROUPED  
Supported group value(s):  
[ SS\_CODE ]  
**AVP Flag** M

## Call-ID-SIP-Header

This AVP contains the information in the Call-ID header.

**Vendor ID** 10415  
**VSA Type** 643  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## Callback-Id

This AVP contains the name of a place to be called, to be interpreted by the NAS.

**Vendor ID** 0  
**VSA Type** 20  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Callback-Number

This AVP contains a dialing string to be used for callback.

**Vendor ID** 0  
**VSA Type** 19

**AVP Type** UTF8STRING

**AVP Flag** M

## Called-Asserted-Identity

This AVP contains the address (Public User ID: SIP URI, E.164, etc.) of the finally asserted called party.

**Vendor ID** 10415

**VSA Type** 1250

**AVP Type** UTF8STRING

**AVP Flag** M

## Called-Party-Address

This AVP contains the address of the party to whom a session is established.

**Vendor ID** 10415

**VSA Type** 832

**AVP Type** UTF8STRING

**AVP Flag** M

## Called-Station-Id

This AVP contains the Layer 2 addresses the user contacted in the request.

**Vendor ID** 0

**VSA Type** 30

**AVP Type** OCTETSTRING

**AVP Flag** M

## Calling-Party-Address

This AVP contains the address of the party initiating a session.

**Vendor ID** 10415

**VSA Type** 831

**AVP Type** UTF8STRING

**AVP Flag** M

## Calling-Station-Id

This AVP enables the NAS to send the ASCII string describing the Layer 2 address from which the user connected in the request.

**Vendor ID** 0  
**VSA Type** 31  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Cancellation-Type

This AVP indicates the type of cancellation.

**Vendor ID** 10415  
**VSA Type** 1420  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 MME\_UPDATE\_PROCEDURE  
1 SGSN\_UPDATE\_PROCEDURE  
2 SUBSCRIPTION\_WITHDRAWAL  
3 UPDATE\_PROCEDURE\_IWF  
**AVP Flag** M

## Carrier-Select-Routing-Information

This AVP contains information on carrier selection performed by S-CSCF/AS.

**Vendor ID** 10415  
**VSA Type** 2023  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Cause

Cause  
**Vendor ID** 10415  
**VSA Type** 860  
**AVP Type** GROUPED  
Supported group value(s):  
[ CAUSE\_CODE ]  
[ NODE\_FUNCTIONALITY ]  
**AVP Flag** M

## Cause-Code

This AVP contains the cause code value from IMS node. It is used in Accounting-Request[stop] and/or Accounting-Request[event] messages.

**Vendor ID** 0

**VSA Type** 861

**AVP Type** INT32

**AVP Flag** M

## Cause-Type

Cause-Type

**Vendor ID** 10415

**VSA Type** 4301

**AVP Type** UINT32

**AVP Flag** M

## Cell-Global-Identity

This AVP contains the Cell Global Identification of the user.

**Vendor ID** 10415

**VSA Type** 1604

**AVP Type** OCTETSTRING

**AVP Flag** M

## Change-Condition

This AVP indicates the change in charging condition.

**Vendor ID** 10415

**VSA Type** 2037

**AVP Type** ENUM

Supported enumerated value(s):

0 NORMAL\_RELEASE

1 ABNORMAL\_RELEASE

2 QOS\_CHANGE

3 VOLUME\_LIMIT

4 TIME\_LIMIT

5 SERVING\_NODE\_CHANGE



6 SERVING\_NODE\_PLMN\_CHANGE  
7 USER\_LOCATION\_CHANGE  
8 RAT\_CHANGE  
9 UE\_TIME\_ZONE\_CHANGE  
10 TARIFF\_TIME\_CHANGE  
11 SERVICE\_IDLE\_OUT  
12 SERVICE\_SPECIFIC\_UNIT\_LIMIT  
13 MAX\_NUMBER\_OF\_CHARGING\_CONDITIONS  
14 MANAGEMENT\_INTERVENTION  
AVP Flag M

## Change-Time

This AVP contains the time in UTC format when the volume counts associated to the service data container is closed and reported due to Charging condition change.

**Vendor ID** 10415  
**VSA Type** 2038  
**AVP Type** TIME  
**AVP Flag** M

## Charged-Party

Charged-Party  
**Vendor ID** 10415  
**VSA Type** 857  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Charging-Action-Definition

Charging-Action-Definition  
**Vendor ID** 9  
**VSA Type** 132014  
**AVP Type** GROUPED  
Supported group value(s):  
[ CHARGING\_ACTION\_NAME ]  
[ QOS\_INFORMATION ]

[ FLOW\_STATUS ]  
[ REDIRECT\_SERVER ]  
**AVP Flag** N/A

## Charging-Action-Install

Charging-Action-Install  
**Vendor ID** 9  
**VSA Type** 132012  
**AVP Type** GROUPED  
Supported group value(s):  
[ CHARGING\_ACTION\_DEFINITION ]  
**AVP Flag** N/A

## Charging-Action-Name

Charging-Action-Name  
**Vendor ID** 9  
**VSA Type** 132015  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## Charging-Action-Remove

Charging-Action-Remove  
**Vendor ID** 9  
**VSA Type** 132013  
**AVP Type** GROUPED  
Supported group value(s):  
[ CHARGING\_ACTION\_NAME ]  
**AVP Flag** N/A

## Charging-Characteristics

This AVP contains the charging mode to be applied.  
**Vendor ID** 10415  
**VSA Type** 11006  
**AVP Type** UINT32

**AVP Flag** M

## Charging-Characteristics-Selection-Mode

Charging-Characteristics-Selection-Mode

**Vendor ID** 10415

**VSA Type** 2066

**AVP Type** ENUM

Supported enumerated value(s):

0 SERVING-NODE-SUPPLIED

1 SUBSCRIPTION-SPECIFIC

2 APN-SPECIFIC

3 HOME-DEFAULT

4 ROAMING-DEFAULT

5 VISITING-DEFAULT

**AVP Flag** M

## Charging-Correlation-Indicator

Charging-Correlation-Indicator

**Vendor ID** 10415

**VSA Type** 1073

**AVP Type** ENUM

Supported enumerated value(s):

0 CHARGING\_IDENTIFIER\_REQUIRED

**AVP Flag** M

## Charging-Data

This AVP contains addresses of the charging functions.

**Vendor ID** 10415

**VSA Type** 11005

**AVP Type** GROUPED

Supported group value(s):

[ CHARGING\_CHARACTERISTICS ]

**AVP Flag** M

## Charging-Information

This AVP contains the addresses of the charging functions in the grouped AVPs.

**Vendor ID** 10415

**VSA Type** 618

**AVP Type** GROUPED

Supported group value(s):

[ PRIMARY\_EVENT\_CHARGING\_FUNCTION\_NAME ]

[ SECONDARY\_EVENT\_CHARGING\_FUNCTION\_NAME ]

[ PRIMARY\_CHARGING\_COLLECTION\_FUNCTION\_NAME ]

[ SECONDARY\_CHARGING\_COLLECTION\_FUNCTION\_NAME ]

**AVP Flag** M

## Charging-Rule-Base-Name

This AVP indicates the name of a pre-defined group of charging rules residing at the TPF.

**Vendor ID** 10415

**VSA Type** 1004

**AVP Type** UTF8STRING

**AVP Flag** M

## Charging-Rule-Definition

This AVP contains the charging rule for a service flow sent by the CRF to the TPF.

**Vendor ID** 10415

**VSA Type** 1003

**AVP Type** GROUPED

Supported group value(s):

[ CHARGING\_RULE\_NAME ]

[ SERVICE\_IDENTIFIER ]

[ RATING\_GROUP ]

[ FLOW\_DESCRIPTION ]

[ REPORTING\_LEVEL ]

[ ONLINE ]

[ OFFLINE ]

[ FLOW\_STATUS ]

[ QOS\_INFORMATION ]

[ METERING\_METHOD ]  
[ PRECEDENCE ]  
[ AF\_CHARGING\_IDENTIFIER ]  
[ MUTE\_NOTIFICATION ]  
[ TDF\_APPLICATION\_IDENTIFIER ]  
[ REDIRECT\_INFORMATION ]  
[ FLOWS ]  
**AVP Flag M**

## Charging-Rule-Event

Charging-Rule-Event

**Vendor ID 9**

**VSA Type 131124**

**AVP Type GROUPED**

Supported group value(s):

[ CHARGING\_RULE\_NAME ]  
[ CHARGING\_RULE\_TRIGGER\_TYPE ]  
[ CISCO\_VOLUME\_USAGE ]  
[ CISCO\_TIME\_USAGE ]  
[ CISCO\_REPORT\_USAGE ]

**AVP Flag M**

## Charging-Rule-Event-Trigger

Charging-Rule-Event-Trigger

**Vendor ID 9**

**VSA Type 131139**

**AVP Type GROUPED**

Supported group value(s):

[ CHARGING\_RULE\_TRIGGER\_TYPE ]  
[ VOLUME\_THRESHOLD ]  
[ TIME\_THRESHOLD ]  
[ CISCO\_REPORT\_USAGE ]  
[ VOLUME\_THRESHOLD\_64 ]

**AVP Flag M**

## Charging-Rule-Install

Used to activate, install, or modify Charging/Firewall rules from the Policy server. Charging/Firewall ruledefs for a subscriber can be dynamically activated from gx server. If the incoming rule fails to match in the charging ruledefs of a rulebase, then there will be a lookup with the Firewall ruledefs of the rulebase.

**Vendor ID** 10415

**VSA Type** 1001

**AVP Type** GROUPED

Supported group value(s):

[ CHARGING\_RULE\_DEFINITION ]

[ CHARGING\_RULE\_NAME ]

[ CHARGING\_RULE\_BASE\_NAME ]

[ BEARER\_IDENTIFIER ]

[ RULE\_ACTIVATION\_TIME ]

[ RULE\_DEACTIVATION\_TIME ]

[ RESOURCE\_ALLOCATION\_NOTIFICATION ]

**AVP Flag** M

## Charging-Rule-Name

This AVP contains the charging rule name provided by the CRF. It uniquely identifies a charging rule for a bearer.

**Vendor ID** 10415

**VSA Type** 1005

**AVP Type** OCTETSTRING

**AVP Flag** M

## Charging-Rule-Name-LI

Charging rule name for LI-Indicator-Gx.

**Vendor ID** 10415

**VSA Type** 1005

**AVP Type** OCTETSTRING

**AVP Flag** M

## Charging-Rule-Remove

This AVP contains the deactivated or removed Charging/Firewall rules from the Policy server. Charging/Firewall ruledefs for a subscriber can be dynamically deactivated from gx server. If the incoming

rule fails to match in the charging ruledefs of a rulebase, then there will be a lookup with the Firewall ruledefs of the rulebase.

**Vendor ID** 10415

**VSA Type** 1002

**AVP Type** GROUPED

Supported group value(s):

[ CHARGING\_RULE\_NAME ]

[ CHARGING\_RULE\_BASE\_NAME ]

[ REQUIRED\_ACCESS\_INFO ]

**AVP Flag** M

## Charging-Rule-Report

This AVP is used to report the status of a Policy and Charging Control (PCC) rule for installation successful/removal. It is a reference for a specific PCC rule at the AGW that has been successfully installed, modified or removed because of trigger from the MS. The PCC-Rule-Status AVP indicates the action being performed on the PCC rule. Multiple instances of Charging-Rule-Report AVPs shall be used in the case it is required to report different PCCRule-Status values for different groups of rules within the same Diameter command.

**Vendor ID** 10415

**VSA Type** 1018

**AVP Type** GROUPED

Supported group value(s):

[ CHARGING\_RULE\_NAME ]

[ CHARGING\_RULE\_BASE\_NAME ]

[ PCC\_RULE\_STATUS ]

[ RULE\_FAILURE\_CODE ]

[ FINAL\_UNIT\_INDICATION ]

[ RAN\_NAS\_RELEASE\_CAUSE ]

**AVP Flag** M

## Charging-Rule-Trigger-Type

Charging-Rule-Trigger-Type

**Vendor ID** 9

**VSA Type** 131123

**AVP Type** ENUM

Supported enumerated value(s):

0 NO\_TRIGGERS  
 1 VOL\_THRESHOLD  
 2 TIME\_THRESHOLD  
 3 SVC\_FLOW\_DETECT  
 4 CHRG\_RULE\_REMOVE  
**AVP Flag M**

## Check-Balance-Result

This AVP contains the result of the balance check. Applicable only when requested-Action AVP indicates CHECK\_BALANCE.

**Vendor ID 0**

**VSA Type 422**

**AVP Type ENUM**

Supported enumerated value(s):

0 ENOUGH\_CREDIT  
 1 NO\_CREDIT

**AVP Flag M**

## Cisco-Answer-Charging-Rule-Usage

Cisco-Answer-Charging-Rule-Usage

**Vendor ID 9**

**VSA Type 131254**

**AVP Type GROUPED**

Supported group value(s):

[ CHARGING\_RULE\_NAME ]  
 [ CISCO\_REQUEST\_USAGE\_TYPE ]  
 [ CISCO\_VOLUME\_USAGE ]  
 [ CISCO\_TIME\_USAGE ]

**AVP Flag M**

## Cisco-Answer-Service-Group-Usage

Cisco-Answer-Service-Group-Usage

**Vendor ID 9**

**VSA Type 131255**



**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_GROUP\_NAME ]

[ CISCO\_REQUEST\_USAGE\_TYPE ]

[ CISCO\_VOLUME\_USAGE ]

[ CISCO\_TIME\_USAGE ]

**AVP Flag** M

## Cisco-Answer-User-Usage

Cisco-Answer-User-Usage

**Vendor ID** 9**VSA Type** 131250**AVP Type** GROUPED

Supported group value(s):

[ CISCO\_REQUEST\_USAGE\_TYPE ]

[ CISCO\_VOLUME\_USAGE ]

[ CISCO\_TIME\_USAGE ]

**AVP Flag** M

## Cisco-CC-Failure-Type

This attribute indicates the OCS failure reasons to the PCRF.

**Vendor ID** 9**VSA Type** 132077**AVP Type** UINT32**AVP Flag** M

## Cisco-Charging-Rule-Definition

Cisco-Charging-Rule-Definition

**Vendor ID** 9**VSA Type** 131072**AVP Type** GROUPED

Supported group value(s):

[ CHARGING\_RULE\_NAME ]

[ SERVICE\_NAME ]

[ RATING\_GROUP ]  
 [ CISCO\_FLOW\_DESCRIPTION ]  
 [ CISCO\_FLOW\_STATUS ]  
 [ QOS\_INFORMATION ]  
 [ ONLINE ]  
 [ OFFLINE ]  
 [ PRECEDENCE ]  
 [ AF\_CHARGING\_IDENTIFIER ]  
 [ CHARGING\_RULE\_EVENT\_TRIGGER ]  
 [ REDIRECT\_SERVER ]  
 [ MONITORING\_KEY ]  
**AVP Flag M**

## Cisco-Event

Cisco-Event

**Vendor ID 9**

**VSA Type 131195**

**AVP Type GROUPED**

Supported group value(s):

[ CISCO\_EVENT\_TRIGGER\_TYPE ]  
 [ TCP\_SYN ]  
 [ CISCO\_VOLUME\_USAGE ]  
 [ CISCO\_TIME\_USAGE ]  
 [ CISCO\_REPORT\_USAGE ]  
 [ CISCO\_USER\_AGENT ]  
 [ CISCO\_CC\_FAILURE\_TYPE ]

**AVP Flag M**

## Cisco-Event-Trigger

Cisco-Event-Trigger

**Vendor ID 9**

**VSA Type 131193**

**AVP Type GROUPED**

Supported group value(s):

[ CISCO\_EVENT\_TRIGGER\_TYPE ]  
[ VOLUME\_THRESHOLD ]  
[ TIME\_THRESHOLD ]  
[ CISCO\_REPORT\_USAGE ]  
[ VOLUME\_THRESHOLD\_64 ]  
**AVP Flag** M

## Cisco-Event-Trigger-Type

Cisco-Event-Trigger-Type

**Vendor ID** 9

**VSA Type** 131192

**AVP Type** ENUM

Supported enumerated value(s):

0 NO\_CISCO\_EVENT\_TRIGGERS  
1 TCP\_SYN\_DETECTION  
2 VOL\_THRESHOLD  
3 TIME\_THRESHOLD  
4 USER\_AGENT\_DETECTION  
5 CREDIT\_CONTROL\_FAILURE

**AVP Flag** M

## Cisco-Flow-Description

Cisco-Flow-Description

**Vendor ID** 9

**VSA Type** 131160

**AVP Type** GROUPED

Supported group value(s):

[ CONTENT\_NAME ]  
[ PRECEDENCE ]  
[ FLOW\_DESCRIPTION ]  
[ FLOW\_INFORMATION ]

**AVP Flag** M

## Cisco-Flow-Status

Cisco-Flow-Status

**Vendor ID** 9

**VSA Type** 131169

**AVP Type** ENUM

Supported enumerated value(s):

0 FORWARD

1 BLOCK

2 REDIRECT

**AVP Flag** M

## Cisco-QoS

Cisco-QoS

**Vendor ID** 9

**VSA Type** 131170

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RATE\_LIMIT\_UL ]

[ QOS\_RATE\_LIMIT\_DL ]

**AVP Flag** M

## Cisco-QoS-Profile

Cisco-QoS-Profile

**Vendor ID** 9

**VSA Type** 131237

**AVP Type** GROUPED

Supported group value(s):

[ CISCO\_QOS\_PROFILE\_NAME ]

[ QOS\_RATE\_LIMIT ]

**AVP Flag** M

## Cisco-QoS-Profile-Downlink

Cisco-QoS-Profile-Downlink

**Vendor ID** 9

**VSA Type** 131241  
**AVP Type** GROUPED  
Supported group value(s):  
[ CISCO\_QOS\_PROFILE\_NAME ]  
**AVP Flag** M

## Cisco-QoS-Profile-Install

Cisco-QoS-Profile-Install  
**Vendor ID** 9  
**VSA Type** 131238  
**AVP Type** GROUPED  
Supported group value(s):  
[ CISCO\_QOS\_PROFILE ]  
**AVP Flag** M

## Cisco-QoS-Profile-Name

Cisco-QoS-Profile-Name  
**Vendor ID** 9  
**VSA Type** 131229  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Cisco-QoS-Profile-Remove

Cisco-QoS-Profile-Remove  
**Vendor ID** 9  
**VSA Type** 131239  
**AVP Type** GROUPED  
Supported group value(s):  
[ CISCO\_QOS\_PROFILE\_NAME ]  
**AVP Flag** M

## Cisco-QoS-Profile-Uplink

Cisco-QoS-Profile-Uplink  
**Vendor ID** 9

**VSA Type** 131240

**AVP Type** GROUPED

Supported group value(s):

[ CISCO\_QOS\_PROFILE\_NAME ]

**AVP Flag** M

## Cisco-Quota-Consumption-Time

Cisco-Quota-Consumption-Time

**Vendor ID** 9

**VSA Type** 131213

**AVP Type** UINT32

**AVP Flag** N/A

## Cisco-Report-Usage

Cisco-Report-Usage

**Vendor ID** 9

**VSA Type** 131248

**AVP Type** ENUM

Supported group value(s):

[ EVENT\_TRIGGER ]

**AVP Flag** M

## Cisco-Request-Charging-Rule-Usage

Cisco-Request-Charging-Rule-Usage

**Vendor ID** 9

**VSA Type** 131252

**AVP Type** GROUPED

Supported group value(s):

[ CHARGING\_RULE\_NAME ]

[ CISCO\_REQUEST\_USAGE\_TYPE ]

**AVP Flag** M

## Cisco-Request-Service-Group-Usage

Cisco-Request-Service-Group-Usage

**Vendor ID** 9

**VSA Type** 131253

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_GROUP\_NAME ]

[ CISCO\_REQUEST\_USAGE\_TYPE ]

**AVP Flag** M

## Cisco-Request-Usage-Type

Cisco-Request-Usage-Type

**Vendor ID** 9

**VSA Type** 131251

**AVP Type** ENUM

Supported enumerated value(s):

0 VOL\_USAGE

1 TIME\_USAGE

**AVP Flag** M

## Cisco-Time-Usage

Cisco-Time-Usage

**Vendor ID** 9

**VSA Type** 131156

**AVP Type** GROUPED

Supported group value(s):

[ DURATION ]

[ FIRST\_PACKET\_TIMESTAMP ]

[ LAST\_PACKET\_TIMESTAMP ]

**AVP Flag** M

## Cisco-User-Agent

Cisco-User-Agent

**Vendor ID** 9

**VSA Type** 131256

**AVP Type** UTF8STRING

AVP Flag M

## Cisco-User-Location

Cisco-User-Location

**Vendor ID** 9

**VSA Type** 132000

**AVP Type** GROUPED

Supported group value(s):

[ AN\_GW\_ADDRESS ]

[ 3GPP\_SGSN\_MCC\_MNC ]

[ 3GPP\_SGSN\_ADDRESS ]

[ 3GPP\_SGSN\_IPV6\_ADDRESS ]

[ RAI ]

[ 3GPP\_USER\_LOCATION\_INFO ]

**AVP Flag** N/A

## Cisco-Volume-Usage

Cisco-Volume-Usage

**Vendor ID** 9

**VSA Type** 131155

**AVP Type** UINT64

**AVP Flag** N/A

## Civic-Addr

Civic-Addr

**Vendor ID** 9

**VSA Type** 132068

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Civic-Location

This AVP contains location information.

**Vendor ID** 13019

**VSA Type** 355



**AVP Type** OCTETSTRING

**AVP Flag** M

## Class

This AVP is used by Diameter servers to return state information to the access device.

**Vendor ID** 0

**VSA Type** 25

**AVP Type** OCTETSTRING

**AVP Flag** M

## Class-Map-Name

Class-Map-Name

**Vendor ID** 9

**VSA Type** 131214

**AVP Type** UTF8STRING

**AVP Flag** M

## Client-Group-Id

Client-Group-Id

**Vendor ID** 9

**VSA Type** 131143

**AVP Type** GROUPED

Supported group value(s):

[ ACL\_NUMBER ]

[ ACL\_NAME ]

**AVP Flag** M

## Client-Identity

This AVP contains the ISDN number of the external client.

**Vendor ID** 10415

**VSA Type** 1480

**AVP Type** OCTETSTRING

**AVP Flag** M

## CoA-IP-Address

This AVP contains care-of-address for DSMIP6 access.

**Vendor ID** 10415

**VSA Type** 1035

**AVP Type** ADDRESS

**AVP Flag** M

## CoA-Information

This AVP contains care-of-address and the tunnel information related to the care of address.

**Vendor ID** 10415

**VSA Type** 1039

**AVP Type** GROUPED

Supported group value(s):

[ TUNNEL\_INFORMATION ]

[ COA\_IP\_ADDRESS ]

**AVP Flag** M

## Codec-Data

This AVP contains CODEC-related information known at the AF.

**Vendor ID** 10415

**VSA Type** 524

**AVP Type** OCTETSTRING

**AVP Flag** M

## Communication-Failure-Information

Communication-Failure-Information

**Vendor ID** 10415

**VSA Type** 4300

**AVP Type** GROUPED

Supported group value(s):

[ CAUSE\_TYPE ]

[ SIAP\_CAUSE ]

[ RANAP\_CAUSE ]

[ BSSGP\_CAUSE ]

[ GMM\_CAUSE ]

[ SM\_CAUSE ]

**AVP Flag** M

## Complete-Data-List-Included-Indicator

This AVP indicates addition/modification/deletion of PDP-Contexts at MME/SGSN.

**Vendor ID** 10415

**VSA Type** 1468

**AVP Type** ENUM

Supported enumerated value(s):

0 ALL\_PDP\_CONTEXTS\_INCLUDED

1 MODIFIED\_ADDED\_PDP\_CONTEXTS\_INCLUDED

**AVP Flag** M

## Conditional-APN-Aggregate-Max-Bitrate

Conditional-APN-Aggregate-Max-Bitrate

**Vendor ID** 10415

**VSA Type** 2818

**AVP Type** GROUPED

Supported group value(s):

[ APN\_AGGREGATE\_MAX\_BITRATE\_UL ]

[ APN\_AGGREGATE\_MAX\_BITRATE\_DL ]

[ EXTENDED-APN-AMBR-UL ]

[ EXTENDED-APN-AMBR-DL ]

[ IP\_CAN\_TYPE ]

[ RAT\_TYPE ]

**AVP Flag** N/A

## Conditional-Policy-Information

Conditional-Policy-Information

**Vendor ID** 10415

**VSA Type** 2840

**AVP Type** GROUPED

Supported group value(s):

[ EXECUTION\_TIME ]  
[ DEFAULT\_EPS\_BEARER\_QOS ]  
[ APN\_AGGREGATE\_MAX\_BITRATE\_UL ]  
[ APN\_AGGREGATE\_MAX\_BITRATE\_DL ]  
[ CONDITIONAL\_APN\_AGGREGATE\_MAX\_BITRATE ]  
**AVP Flag** N/A

## Confidentiality-Key

This AVP contains the Confidentiality Key (CK).

**Vendor ID** 10415

**VSA Type** 625

**AVP Type** OCTETSTRING

**AVP Flag** M

## Configuration-Token

This AVP is sent by a Diameter Server to a Diameter Proxy Agent or Translation Agent in an AA-Answer command to indicate a type of user profile to be used.

**Vendor ID** 0

**VSA Type** 78

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Confirm-Token

Confirm-Token

**Vendor ID** 9

**VSA Type** 131099

**AVP Type** OCTETSTRING

**AVP Flag** M

## Confirm-Token-V

Confirm-Token-V

**Vendor ID** 9

**VSA Type** 131117

**AVP Type** OCTETSTRING

**AVP Flag** M

## Connect-Info

This AVP is sent in the AA-Request message or ACR STOP message.

**Vendor ID** 0

**VSA Type** 77

**AVP Type** UTF8STRING

**AVP Flag** M

## Connection-Action

Connection-Action

**Vendor ID** 10415

**VSA Type** 4314

**AVP Type** UINT32

**AVP Flag** M

## Contact

This AVP contains the contact addresses and parameters in the Contact header.

**Vendor ID** 10415

**VSA Type** 641

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Content-Definition

Content-Definition

**Vendor ID** 9

**VSA Type** 131073

**AVP Type** GROUPED

Supported group value(s):

[ CONTENT\_NAME ]

[ CONTENT\_FLOW\_DESCRIPTION ]

[ CONTENT\_SCOPE ]

[ CONTENT\_IDLE\_TIMER ]

[ NEXTHOP ]

[ L7\_PARSE\_PROTOCOL\_TYPE ]  
 [ L7\_PARSE\_LENGTH ]  
 [ BILLING\_POLICY\_NAME ]  
 [ REPLICATE\_SESSION ]  
 [ INTERMEDIATE\_CDR\_THRESHOLD ]  
 [ CDR\_GENERATION\_DELAY ]  
 [ CONTENT\_PENDING\_TIMER ]  
 [ OPERATION\_STATUS ]  
 [ SUBSCRIBER\_IP\_SOURCE ]  
 [ FLOW\_STATUS\_POLICY\_MISMATCH ]  
 [ RELATIVE\_URL ]  
 [ CONTROL\_URL ]  
 [ DOMAIN\_GROUP\_NAME ]  
 [ MINING ]  
 [ NEXTHOP\_MEDIA ]  
 [ NEXTHOP\_OVERRIDE ]  
**AVP Flag M**

## Content-Disposition

This AVP indicates how the message body or a message body part is to be interpreted (for example, session, render).

**Vendor ID** 10415

**VSA Type** 828

**AVP Type** UTF8STRING

**AVP Flag M**

## Content-Flow-Description

Content-Flow-Description

**Vendor ID** 9

**VSA Type** 131141

**AVP Type** GROUPED

Supported group value(s):

[ CONTENT\_FLOW\_FILTER ]  
 [ VRF\_NAME ]  
 [ VLAN\_ID ]

**AVP Flag** M

## Content-Flow-Filter

Content-Flow-Filter

**Vendor ID** 9

**VSA Type** 131142

**AVP Type** GROUPED

Supported group value(s):

[ CLIENT\_GROUP\_ID ]

[ DESTINATION\_IP\_ADDRESS ]

[ DESTINATION\_MASK ]

[ PROTOCOL\_ID ]

[ START\_OF\_PORT\_RANGE ]

[ END\_OF\_PORT\_RANGE ]

**AVP Flag** M

## Content-Idle-Timer

Content-Idle-Timer

**Vendor ID** 9

**VSA Type** 131082

**AVP Type** UINT32

**AVP Flag** N/A

## Content-Install

Content-Install

**Vendor ID** 9

**VSA Type** 131183

**AVP Type** GROUPED

Supported group value(s):

[ CONTENT\_DEFINITION ]

**AVP Flag** M

## Content-Length

This AVP contains the size of the message body.

**Vendor ID** 10415  
**VSA Type** 827  
**AVP Type** UINT32  
**AVP Flag** M

## Content-Name

Content-Name  
**Vendor ID** 9  
**VSA Type** 131151  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Content-Pending-Timer

Content-Pending-Timer  
**Vendor ID** 9  
**VSA Type** 131134  
**AVP Type** UINT32  
**AVP Flag** N/A

## Content-Policy-Map

Content-Policy-Map  
**Vendor ID** 9  
**VSA Type** 131077  
**AVP Type** GROUPED  
Supported group value(s):  
[ CONTENT\_NAME ]  
[ BILLING\_POLICY\_NAME ]  
[ WEIGHT ]  
**AVP Flag** M

## Content-Remove

Content-Remove  
**Vendor ID** 9  
**VSA Type** 131184



**AVP Type** GROUPED

Supported group value(s):

[ CONTENT\_NAME ]

**AVP Flag** M

## Content-Scope

Content-Scope

**Vendor ID** 9

**VSA Type** 131163

**AVP Type** ENUM

Supported enumerated value(s):

0 GLOBAL

1 USER

**AVP Flag** M

## Content-Type

This AVP contains the media type (for example, application/sdp, text/html) of the message-body.

**Vendor ID** 10415

**VSA Type** 826

**AVP Type** UTF8STRING

**AVP Flag** M

## Context-Identifier

Context-Identifier

**Vendor ID** 10415

**VSA Type** 1423

**AVP Type** UINT32

**AVP Flag** M

## Control-URL

Control-URL

**Vendor ID** 9

**VSA Type** 131197

**AVP Type** GROUPED

Supported group value(s):

[ INTERLEAVED ]

**AVP Flag** M

## Correlate-Reason

This AVP contains the reason the Correlate message was sent.

**Vendor ID** 4491

**VSA Type** 202

**AVP Type** ENUM

Supported enumerated value(s):

0 UNKNOWN

1 B2BUA

2 INITIAL\_SIP\_MESSAGE

3 ADDITIONAL\_TARGET\_ENCOUNTERED

4 HAND\_OFF\_OCCURED

5 ORIGINATION\_FROM\_APP\_SERVER

6 BCID

**AVP Flag** M

## Cost-Information

This AVP contains cost information of service transferred by the credit-control client to the end user.

**Vendor ID** 0

**VSA Type** 423

**AVP Type** GROUPED

Supported group value(s):

[ UNIT\_VALUE ]

[ CURRENCY\_CODE ]

[ COST\_UNIT ]

**AVP Flag** M

## Cost-Unit

This AVP contains the applicable unit to the Cost-Information when the service cost is a cost per unit, can be minutes, hours, days and kilobytes.

**Vendor ID** 0

**VSA Type** 424  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Credit-Control

This AVP is included in AA requests when the service element has credit-control application.

**Vendor ID** 0  
**VSA Type** 426  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 CREDIT\_AUTHORIZATION  
1 RE\_AUTHORIZATION  
**AVP Flag** M

## Credit-Control-Failure-Handling

The credit-control client uses this information to handle the credit control server failure.

**Vendor ID** 0  
**VSA Type** 427  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 TERMINATE  
1 CONTINUE  
2 RETRY\_AND\_TERMINATE  
**AVP Flag** M

## Cumulative-Acct-Input-Octets

This AVP represents the cumulative number of input octets. This attribute is included in the Service-Data-Container AVP and sent only in ACR-Interim and ACR-Stop messages to track the cumulative data usage per Rating Group (RG).

**Vendor ID** 9  
**VSA Type** 132044  
**AVP Type** UINT64  
**AVP Flag** N/A

## Cumulative-Acct-Output-Octets

This AVP represents the cumulative number of output octets. This attribute is included in the Service-Data-Container AVP and sent only in ACR-Interim and ACR-Stop messages to track the cumulative data usage per Rating Group (RG).

**Vendor ID** 9

**VSA Type** 132045

**AVP Type** UINT64

**AVP Flag** N/A

## Currency-Code

This AVP contains currency in which the values of AVPs containing monetary units were given.

**Vendor ID** 0

**VSA Type** 425

**AVP Type** UINT32

**AVP Flag** M

## Current-Location

This AVP indicates whether an active location retrieval has to be initiated or not.

**Vendor ID** 0

**VSA Type** 707

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Current-Location-Retrieved

Current-Location-Retrieved

**Vendor ID** 10415

**VSA Type** 1610

**AVP Type** ENUM

Supported enumerated value(s):

0 ACTIVE-LOCATION-RETRIEVAL

**AVP Flag** M

## Custom-Mute-Notification

Custom-Mute-Notification

**Vendor ID** 9

**VSA Type** 132056

**AVP Type** ENUM

Supported enumerated value(s):

0 MUTE\_APPLICATION\_START

1 UNMUTE\_APPLICATION\_START

**AVP Flag** N/A

## Customer-Id

This AVP contains customer identifier; used in header enrichment scenarios.

**Vendor ID** 8164

**VSA Type** 1146

**AVP Type** UTF8STRING

**AVP Flag** M

## DEA-Flags

DEA-Flags

**Vendor ID** 10415

**VSA Type** 1521

**AVP Type** UINT32

**AVP Flag** M

## DER-Flags

DER-Flags

**Vendor ID** 10415

**VSA Type** 1520

**AVP Type** UINT32

**AVP Flag** M

## DIR

DIR

**Vendor ID** 0

**VSA Type** 11000

**AVP Type** OCTETSTRING

**AVP Flag** M

## DL-Buffering-Suggested-Packet-Count

DL-Buffering-Suggested-Packet-Count

**Vendor ID** 10415

**VSA Type** 1674

**AVP Type** INT32

**AVP Flag** N/A

## DRMP

DRMP

**Vendor ID** 0

**VSA Type** 301

**AVP Type** ENUM

Supported enumerated value(s):

0 PRIORITY\_0

1 PRIORITY\_1

2 PRIORITY\_2

3 PRIORITY\_3

4 PRIORITY\_4

5 PRIORITY\_5

6 PRIORITY\_6

7 PRIORITY\_7

8 PRIORITY\_8

9 PRIORITY\_9

10 PRIORITY\_10

11 PRIORITY\_11

12 PRIORITY\_12

13 PRIORITY\_13

14 PRIORITY\_14

15 PRIORITY\_15

**AVP Flag** N/A

## DSA-Flags

This AVP contains a bit mask.

**Vendor ID** 10415

**VSA Type** 1422

**AVP Type** UINT32

**AVP Flag** M

## DSCP

DSCP

**Vendor ID** 9

**VSA Type** 131178

**AVP Type** UINT32

**AVP Flag** N/A

## DSR-Application-Invoked

DSR-Application-Invoked

**Vendor ID** 323

**VSA Type** 2468

**AVP Type** ENUM

Supported enumerated value(s):

3 RBAR

4 FABR

5 CPA

6 P-DRA

**AVP Flag** M

## DSR-Flags

This AVP contains a bit mask.

**Vendor ID** 10415

**VSA Type** 1421

**AVP Type** UINT32

**AVP Flag** M

## Data-Reference

This AVP contains the type of the requested used data in the operation UDR and SNR.

**Vendor ID** 0

**VSA Type** 703

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Default-EPS-Bearer-QoS

This AVP contains the QoS information for the EPS default bearer.

**Vendor ID** 10415

**VSA Type** 1049

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_CLASS\_IDENTIFIER ]

[ ALLOCATION\_RETENTION\_PRIORITY ]

**AVP Flag** M

## Delegated-IP-Install

Delegated-IP-Install

**Vendor ID** 9

**VSA Type** 131259

**AVP Type** GROUPED

Supported group value(s):

[ DELEGATED\_IPV4\_DEFINITION ]

[ DELEGATED\_IPV6\_DEFINITION ]

**AVP Flag** M

## Delegated-IPv4-Definition

Delegated-IPv4-Definition

**Vendor ID** 9

**VSA Type** 131260

**AVP Type** GROUPED

Supported group value(s):



[ FRAMED\_IP\_ADDRESS ]  
[ FRAMED\_IP\_NETMASK ]  
[ AGGR\_PREFIX\_LEN ]  
**AVP Flag M**

## Delegated-IPv6-Definition

Delegated-IPv6-Definition  
**Vendor ID 9**  
**VSA Type 131261**  
**AVP Type GROUPED**  
Supported group value(s):  
[ DELEGATED\_IPV6\_PREFIX ]  
[ AGGR\_PREFIX\_LEN ]  
**AVP Flag M**

## Delegated-IPv6-Prefix

Delegated-IPv6-Prefix  
**Vendor ID 0**  
**VSA Type 123**  
**AVP Type OCTETSTRING**  
**AVP Flag M**

## Deregistration-Reason

This AVP contains the reason for a de-registration operation.  
**Vendor ID 10415**  
**VSA Type 615**  
**AVP Type GROUPED**  
Supported group value(s):  
[ REASON\_CODE ]  
[ REASON\_INFO ]  
**AVP Flag M**

## Destination-Host

This AVP contains the destination endpoint of the message. This AVP is present in all request messages.

**Vendor ID** 0  
**VSA Type** 293  
**AVP Type** DIAMIDENT  
**AVP Flag** M

## Destination-IP-Address

Destination-IP-Address  
**Vendor ID** 9  
**VSA Type** 131146  
**AVP Type** ADDRESS  
**AVP Flag** M

## Destination-Mask

Destination-Mask  
**Vendor ID** 9  
**VSA Type** 131147  
**AVP Type** ADDRESS  
**AVP Flag** M

## Destination-PGW

Destination-PGW  
**Vendor ID** 9  
**VSA Type** 2300  
**AVP Type** UTF8STRING  
**AVP Flag** N/A

## Destination-Realm

This AVP contains the realm the message is to be routed to. It is present in all request messages sent from DCCA.

**Vendor ID** 0  
**VSA Type** 283  
**AVP Type** DIAMIDENT  
**AVP Flag** M

## Destination-SIP-URI

Destination-SIP-URI

**Vendor ID** 10415

**VSA Type** 3327

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Diagnostics

This AVP contains a more detailed cause value for sending Accounting-Request from PCN node.

**Vendor ID** 10415

**VSA Type** 2039

**AVP Type** ENUM

Supported enumerated value(s):

0 UNSPECIFIED

1 SESSION\_TIMEOUT

2 RESOURCE\_LIMITATION

3 ADMIN\_DISCONNECT

4 IDLE\_TIMEOUT

5 PCRF\_UNREACHABLE

6 AAA\_UNREACHABLE

7 AAA\_INITIATED\_SESSION\_TERMINATION

8 REAUTHENTICATION\_FAILED

9 PCRF\_INITIATED\_SESSION\_TERMINATION

10 PCRF\_INITIATED\_FLOW\_TERMINATION

11 PCRF\_ACCOUNTING\_PARAMETERS\_CHANGED

12 PMIP\_INITIATED\_SESSION\_TERMINATION

13 PPP\_INITIATED\_SESSION\_TERMINATION

14 GTP\_INITIATED\_SESSION\_TERMINATION

15 PMIP\_REVOCATION

16 HANDOVER\_ERROR

17 PMIP\_LIFETIME\_EXPIRED

**AVP Flag** M

## Dialog-Id

This AVP contains the SIP dialog identifier in the form: Call-ID=x;FTag=y;TTag=z, where x is the value of the SIP Call-ID header, y is the contents of the From header tag, and z is the contents of the To header tag. If the To header tag value is not present in the SIP message then TTag field MUST not be present in the AVP.

**Vendor ID** 4491

**VSA Type** 203

**AVP Type** UTF8STRING

**AVP Flag** M

## Digest-Algorithm

This AVP contains the algorithm parameter that influences the HTTP Digest calculation.

**Vendor ID** 0

**VSA Type** 111

**AVP Type** OCTETSTRING

**AVP Flag** M

## Digest-Auth-Param

This AVP is a placeholder for future extensions and corresponds to the "auth-param" parameter defined in section 3.2.1 of [RFC2617].

**Vendor ID** 0

**VSA Type** 117

**AVP Type** OCTETSTRING

**AVP Flag** M

## Digest-Domain

This AVP contains a single URI that defines a protection space component.

**Vendor ID** 0

**VSA Type** 119

**AVP Type** OCTETSTRING

**AVP Flag** M

## Digest-HA1

This AVP contains the hexadecimal representation of H(A1) as described in RFC2617.

**Vendor ID** 0

**VSA Type** 121

**AVP Type** OCTETSTRING

**AVP Flag** M

## Digest-QoP

This AVP contains the Quality of Protection (QoP) parameter that influences the HTTP Digest calculation.

**Vendor ID** 0

**VSA Type** 110

**AVP Type** OCTETSTRING

**AVP Flag** M

## Digest-Realm

This AVP describes a protection space component of the RADIUS server.

**Vendor ID** 0

**VSA Type** 104

**AVP Type** OCTETSTRING

**AVP Flag** M

## Direct-Debiting-Failure-Handling

This AVP contains the action to handle the failure of request message to the credit control server with DIRECT\_DEBITING attribute.

**Vendor ID** 0

**VSA Type** 428

**AVP Type** ENUM

Supported enumerated value(s):

0 TERMINATE\_OR\_BUFFER

1 CONTINUE

**AVP Flag** M

## Direct-Message

This AVP indicates if the reported message is exchanged directly between the IAP and the intercept target.

**Vendor ID** 4491

**VSA Type** 211

**AVP Type** ENUM

Supported enumerated value(s):

0 FALSE

1 TRUE

**AVP Flag** M

## Direction

This AVP indicates whether the reported message was sent "to" or "from" the intercept target.

**Vendor ID** 4491

**VSA Type** 210

**AVP Type** ENUM

Supported enumerated value(s):

0 UNDEFINED

1 TO\_TARGET

2 FROM\_TARGET

**AVP Flag** M

## Disable-Override-Control

This AVP is used to disable Override Control (OC) completely or per parameter basis.

**Vendor ID** 9

**VSA Type** 132053

**AVP Type** GROUPED

Supported group value(s):

[ OVERRIDE\_CONTROL\_NAME ]

[ DISABLE\_OVERRIDE\_CONTROL\_PARAMETER ]

**AVP Flag** N/A

## Disable-Override-Control-Parameter

This AVP specifies the Override Control parameter to be disabled. This AVP may be included more than once if multiple parameters need to be disabled.

**Vendor ID** 9

**VSA Type** 132057

**AVP Type** ENUM

Supported enumerated value(s):

0 OVERRIDE\_SERVICE\_IDENTIFIER

1 OVERRIDE\_RATING\_GROUP

2 OVERRIDE\_ONLINE  
3 OVERRIDE\_OFFLINE  
4 OVERRIDE\_MAX\_REQUESTED\_BANDWIDTH\_UL  
5 OVERRIDE\_MAX\_REQUESTED\_BANDWIDTH\_DL  
6 OVERRIDE\_GUARANTEED\_BITRATE\_UL  
7 OVERRIDE\_GUARANTEED\_BITRATE\_DL  
8 OVERRIDE\_PRIORITY\_LEVEL  
9 OVERRIDE\_PRE\_EMPTION\_CAPABILITY  
10 OVERRIDE\_PRE\_EMPTION\_VULNERABILITY  
11 OVERRIDE\_QOS\_CLASS\_IDENTIFIER  
12 OVERRIDE\_NEXTHOP\_ADDRESS  
13 OVERRIDE\_VLAN\_ID  
14 OVERRIDE\_TOS\_VALUE\_STANDARD\_UL  
15 OVERRIDE\_TOS\_VALUE\_STANDARD\_DL  
16 OVERRIDE\_TOS\_VALUE\_CUSTOM\_UL  
17 OVERRIDE\_TOS\_VALUE\_CUSTOM\_DL  
**AVP Flag** N/A

## Disconnect-Cause

This AVP contains the cause of disconnection with peer.

**Vendor ID** 0

**VSA Type** 273

**AVP Type** ENUM

Supported enumerated value(s):

0 REBOOTING

1 BUSY

2 DO\_NOT\_WANT\_TO\_TALK\_TO\_YOU

**AVP Flag** M

## Domain-Group-Activation

Domain-Group-Activation

**Vendor ID** 9

**VSA Type** 131206

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag M**

## Domain-Group-Clear

Domain-Group-Clear

**Vendor ID 9**

**VSA Type 131235**

**AVP Type ENUM**

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag M**

## Domain-Group-Definition

Domain-Group-Definition

**Vendor ID 9**

**VSA Type 131203**

**AVP Type GROUPED**

Supported group value(s):

[ DOMAIN\_GROUP\_NAME ]

[ PRIORITY ]

[ MATCH\_STRING ]

**AVP Flag M**

## Domain-Group-Install

Domain-Group-Install

**Vendor ID 9**

**VSA Type 131204**

**AVP Type GROUPED**

Supported group value(s):

[ DOMAIN\_GROUP\_DEFINITION ]

**AVP Flag M**



## Domain-Group-Name

Domain-Group-Name

**Vendor ID** 9

**VSA Type** 131202

**AVP Type** OCTETSTRING

**AVP Flag** M

## Domain-Group-Remove

Domain-Group-Remove

**Vendor ID** 9

**VSA Type** 131205

**AVP Type** GROUPED

Supported group value(s):

[ DOMAIN\_GROUP\_NAME ]

**AVP Flag** M

## Downlink-Rate-Limit

Downlink-Rate-Limit

**Vendor ID** 10415

**VSA Type** 4312

**AVP Type** UINT32

**AVP Flag** M

## Dual-Billing-Basis

Dual-Billing-Basis

**Vendor ID** 9

**VSA Type** 131207

**AVP Type** ENUM

Supported enumerated value(s):

0 INVALID

1 EVENT

2 IP\_BYTE

3 TCP\_BYTE

4 DURATION

5 DURATION\_CONNECT  
 6 DURATION\_TRANSACTION  
**AVP Flag** M

## Dual-Passthrough-Quota

Dual-Passthrough-Quota  
**Vendor ID** 9  
**VSA Type** 131208  
**AVP Type** UINT32  
**AVP Flag** N/A

## Dual-Reauthorization-Threshold

Dual-Reauthorization-Threshold  
**Vendor ID** 9  
**VSA Type** 131209  
**AVP Type** UINT32  
**AVP Flag** N/A

## Duration

Duration  
**Vendor ID** 9  
**VSA Type** 131157  
**AVP Type** UINT32  
**AVP Flag** N/A

## Dynamic-Address-Flag

This AVP indicates whether the PDP context/PDN address is statically or dynamically allocated. If not present, then it is statically allocated.

**Vendor ID** 10415  
**VSA Type** 2051  
**AVP Type** ENUM

Supported enumerated value(s):

0 STATIC  
 1 DYNAMIC

**AVP Flag** M

## EAP-Key-Name

This AVP contains an opaque key identifier (name) generated by the EAP method.

**Vendor ID** 0

**VSA Type** 102

**AVP Type** OCTETSTRING

**AVP Flag** M

## EAP-Master-Session-Key

This AVP contains keying material for protecting the communications between the user and the NAS.

**Vendor ID** 0

**VSA Type** 464

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## EAP-Payload

This AVP is used to encapsulate the actual EAP packet that is being exchanged between the EAP client and the home Diameter server.

**Vendor ID** 0

**VSA Type** 462

**AVP Type** OCTETSTRING

**AVP Flag** M

## EAP-Reissued-Payload

Sent in DEA for a non-fatal error, and encapsulates the previous EAP Request sent by the server.

**Vendor ID** 0

**VSA Type** 463

**AVP Type** OCTETSTRING

**AVP Flag** M

## ECGI

This attribute indicates the E-UTRAN Cell Global Identifier. It is coded according to 3GPP TS 29.274, clause 8.21.5.

**Vendor ID** 10415

**VSA Type** 2517

**AVP Type** OCTETSTRING

**AVP Flag** M

## EPS-Location-Information

EPS-Location-Information

**Vendor ID** 10415

**VSA Type** 1496

**AVP Type** GROUPED

Supported group value(s):

[ MME\_LOCATION\_INFORMATION ]

[ SGSN\_LOCATION\_INFORMATION ]

**AVP Flag** M

## EPS-Subscribed-QoS-Profile

This AVP contains the bearer-level QoS parameters associated to the default bearer for an APN.

**Vendor ID** 10415

**VSA Type** 1431

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_CLASS\_IDENTIFIER ]

[ ALLOCATION\_RETENTION\_PRIORITY ]

**AVP Flag** M

## EPS-User-State

EPS-User-State

**Vendor ID** 10415

**VSA Type** 1495

**AVP Type** GROUPED

Supported group value(s):

[ MME\_USER\_STATE ]

[ SGSN\_USER\_STATE ]

**AVP Flag** M

## EPS-Vector

This AVP contains Authentication Information for EPS.

**Vendor ID** 10415

**VSA Type** 6017

**AVP Type** GROUPED

Supported group value(s):

[ ITEM\_NUMBER ]

[ RAND ]

[ XRES ]

[ AUTN ]

[ KASME ]

**AVP Flag** M

## ESN

ESN

**Vendor ID** 10415

**VSA Type** 6109

**AVP Type** OCTETSTRING

**AVP Flag** M

## EUTRAN-Cell-Global-Identity

This AVP contains E-UTRAN cell global identity of the user.

**Vendor ID** 10415

**VSA Type** 1602

**AVP Type** OCTETSTRING

**AVP Flag** M

## EUTRAN-Positioning-Data

This attribute contains the encoded content of the "Positioning-Data" Information Element as defined in 3GPP TS 29.171.

**Vendor ID** 10415

**VSA Type** 2516

**AVP Type** OCTETSTRING

**AVP Flag** M

## EUTRAN-Vector

EUTRAN-Vector

**Vendor ID** 10415

**VSA Type** 1414

**AVP Type** GROUPED

Supported group value(s):

[ ITEM\_NUMBER ]

[ RAND ]

[ XRES ]

[ AUTN ]

[ KASME ]

**AVP Flag** M

## Early-Media-Description

This AVP contains the SDP session, media parameters, and timestamps related to media components set to active according to SDP signalling exchanged during a SIP session establishment before the final successful or unsuccessful SIP answer to the initial SIP INVITE message is received.

**Vendor ID** 10415

**VSA Type** 1272

**AVP Type** GROUPED

Supported group value(s):

[ SDP\_TIMESTAMPS ]

[ SDP\_MEDIA\_COMPONENT ]

[ SDP\_SESSION\_DESCRIPTION ]

**AVP Flag** M

## Element-ID

This AVP contains the PacketCable IAP sending an intercept message to the DF.

**Vendor ID** 4491

**VSA Type** 212

**AVP Type** UTF8STRING

**AVP Flag** M

## Element-Type

This AVP contains the type of node where the intercept message was generated.

**Vendor ID** 4491

**VSA Type** 213

**AVP Type** ENUM

Supported enumerated value(s):

0 S\_CSCF

1 P\_CSCF

2 I\_CSCF

3 MRFC

4 MGCF

5 BGCF

6 AS

7 UE

**AVP Flag** M

## Emergency-Indication

Emergency-Indication

**Vendor ID** 10415

**VSA Type** 1538

**AVP Type** UINT32

**AVP Flag** N/A

## End-of-Port-range

End-of-Port-range

**Vendor ID** 9

**VSA Type** 131150

**AVP Type** UINT32

**AVP Flag** N/A

## Equipment-Status

This AVP contains the status of the mobile equipment.

**Vendor ID** 10415

**VSA Type** 1445

**AVP Type** ENUM

Supported enumerated value(s):

0 WHITELISTED

1 BLACKLISTED

2 GREYLISTED

**AVP Flag** M

## Error-Diagnostic

Error-Diagnostic

**Vendor ID** 10415

**VSA Type** 1614

**AVP Type** ENUM

Supported enumerated value(s):

0 GPRS\_DATA\_SUBSCRIBED

1 NO\_GPRS\_DATA\_SUBSCRIBED

**AVP Flag** M

## Error-Message

Human Readable Error Message.

**Vendor ID** 0

**VSA Type** 281

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Error-Reporting-Host

This AVP contains the identity of the Diameter host that sent the Result Code AVP to a value other than 2001.

**Vendor ID** 0

**VSA Type** 294

**AVP Type** DIAMIDENT

**AVP Flag** M

## Event

This AVP contains the content of the "Event" header used in SUBSCRIBE and NOTIFY messages.

**Vendor ID** 10415



**VSA Type** 825

**AVP Type** UTF8STRING

**AVP Flag** M

## Event-Message-Type

This AVP contains the type of surveillance message.

**Vendor ID** 4491

**VSA Type** 214

**AVP Type** ENUM

Supported enumerated value(s):

0 REPORT

1 CORRELATE

2 CARRIER\_INFO

**AVP Flag** M

## Event-Report-Indication

This AVP specifies which type of changes will trigger an event report from the PCRF. This AVP is used to report an event coming from BBERF/PCEF and also to provide information about some event-triggers to the PCRF.

**Vendor ID** 10415

**VSA Type** 1033

**AVP Type** GROUPED

Supported group value(s):

[ EVENT\_TRIGGER ]

[ RAT\_TYPE ]

[ QOS\_INFORMATION ]

[ RAI ]

[ 3GPP\_USER\_LOCATION\_INFO ]

[ TRACE\_DATA ]

[ TRACE\_REFERENCE ]

[ 3GPP2\_BSID ]

[ 3GPP\_MS\_TIMEZONE ]

[ 3GPP\_SGSN\_ADDRESS ]

[ 3GPP\_SGSN\_IPV6\_ADDRESS ]

**AVP Flag** M

## Event-Timestamp

This AVP contains the time the event was reported.

**Vendor ID** 0

**VSA Type** 55

**AVP Type** TIME

**AVP Flag** M

## Event-Trigger

This AVP indicates an event that shall cause a re-request of charging rules.

**Vendor ID** 10415

**VSA Type** 1006

**AVP Type** ENUM

Supported enumerated value(s):

0 SGSN\_CHANGE

1 QOS\_CHANGE

2 RAT\_CHANGE

3 TFT\_CHANGE

4 PLMN\_CHANGE

5 LOSS\_OF\_FLOW

6 RECOVERY\_OF\_FLOW

7 IP\_CAN\_CHANGE

8 GW\_PCEF\_MALFUNCTION

9 RESOURCES\_LIMITATION

10 MAX\_NR\_BEARERS\_REACHED

11 QOS\_CHANGE\_EXCEEDING\_AUTHORIZATION

12 RAI\_CHANGE

13 USER\_LOCATION\_CHANGE

14 NO\_EVENT\_TRIGGERS

15 OUT\_OF\_CREDIT

16 REALLOCATION\_OF\_CREDIT

17 REVALIDATION\_TIMEOUT

18 UE\_IP\_ADDRESS\_ALLOCATE

19 UE\_IP\_ADDRESS\_RELEASE

20 DEFAULT\_EPS\_BEARER\_QOS\_CHANGE

21 AN\_GW\_CHANGE  
22 SUCCESSFUL\_RESOURCE\_ALLOCATION  
23 RESOURCE\_MODIFICATION\_REQUEST  
24 PGW\_TRACE\_CONTROL  
25 UE\_TIME\_ZONE\_CHANGE  
26 TAI\_CHANGE  
27 ECGI\_CHANGE  
28 CHARGING\_CORRELATION\_EXCHANGE  
29 APN\_AMBR\_MODIFICATION\_FAILURE  
33 USAGE\_REPORT  
34 DEFAULT\_EPS\_BEARER\_QOS\_MODIFICATION\_FAILURE  
39 APPLICATION\_START  
40 APPLICATION\_STOP  
44 SERVICE\_FLOW\_DETECTION  
45 ACCESS\_NETWORK\_INFO\_REPORT  
2000 PRESERVATION\_CHANGED  
2001 REACTIVATION\_CHANGED  
1000 TFT\_DELETED  
1001 LOSS\_OF\_BEARER  
1002 RECOVERY\_OF\_BEARER  
1003 POLICY\_ENFORCEMENT\_FAILED  
2003 TETHERING\_FLOW\_DETECTED  
10001 SESSION\_RECOVERY  
10002 SESSION\_SYNC  
**AVP Flag M**

## Event-Type

This AVP contains information about the type of chargeable telecommunication service/event for which the accounting-request message is generated.

**Vendor ID** 10415

**VSA Type** 823

**AVP Type** GROUPED

Supported group value(s):

[ SIP\_METHOD ]

[ EVENT ]

[ EXPIRES ]

**AVP Flag** M

## Execution-Time

Execution-Time

**Vendor ID** 9

**VSA Type** 132025

**AVP Type** TIME

**AVP Flag** N/A

## Experimental-Result

This AVP contains the Result code of SUCCESS or FAILURE. The exact value is specific to Vendor-Id.

**Vendor ID** 0

**VSA Type** 297

**AVP Type** GROUPED

Supported group value(s):

[ VENDOR\_ID ]

[ EXPERIMENTAL\_RESULT\_CODE ]

**AVP Flag** M

## Experimental-Result-Code

This AVP contains vendor-specific result codes to indicate temporary or permanent failures.

**Vendor ID** 0

**VSA Type** 298

**AVP Type** ENUM

Supported enumerated value(s):

1001 DIAMETER\_MULTI\_ROUND\_AUTH

2001 DIAMETER\_SUCCESS

2002 DIAMETER\_LIMITED\_SUCCESS

2021 DIAMETER\_PDP\_CONTEXT\_DELETION\_INDICATION

2003 DIAMETER\_UNREGISTERED\_SERVICE

2004 DIAMETER\_SUCCESS\_NOT\_SUPPORTED\_USER\_DATA

2005 DIAMETER\_SUCCESS\_SERVER\_NAME\_NOT\_STORED

3001 DIAMETER\_COMMAND\_UNSUPPORTED

3002 DIAMETER\_UNABLE\_TO\_DELIVER  
3003 DIAMETER\_REALM\_NOT\_SERVED  
3004 DIAMETER\_TOO\_BUSY  
3005 DIAMETER\_LOOP\_DETECTED  
3006 DIAMETER\_REDIRECT\_INDICATION  
3007 DIAMETER\_APPLICATION\_UNSUPPORTED  
3008 DIAMETER\_INVALID\_HDR\_BITS  
3009 DIAMETER\_INVALID\_AVP\_BITS  
3010 DIAMETER\_UNKNOWN\_PEER  
4001 DIAMETER\_AUTHENTICATION\_REJECTED  
4002 DIAMETER\_OUT\_OF\_SPACE  
4003 ELECTION\_LOST  
4010 DIAMETER\_END\_USER\_SERVICE\_DENIED  
4011 DIAMETER\_CREDIT\_CONTROL\_NOT\_APPLICABLE  
4012 DIAMETER\_CREDIT\_LIMIT\_REACHED  
4041 INSUFFICIENT-RESOURCES  
4043 COMMIT-FAILURE  
4044 REFRESH-FAILURE  
4045 QOS-PROFILE-FAILURE  
4046 ACCESS-PROFILE-FAILURE  
4047 PRIORITY-NOT-GRANTED  
4100 DIAMETER\_USER\_DATA\_NOT\_AVAILABLE  
4101 DIAMETER\_PRIOR\_UPDATE\_IN\_PROGRESS  
4121 DIAMETER\_ERROR\_OUT\_OF\_RESOURCES  
4141 DIAMETER\_PCC\_BEARER\_EVENT  
4142 DIAMETER\_BEARER\_EVENT  
4143 DIAMETER\_AN\_GW\_FAILED  
4144 DIAMETER\_PENDING\_TRANSACTION  
4181 AUTHENTICATION\_DATA\_UNAVAILABLE  
4196 DIAMETER\_REQUESTED\_SESSION\_NOT\_FOUND  
4197 DIAMETER\_SESSION\_RECOVERY\_REQUESTED  
4199 DIAMETER\_PCRF\_TOO\_BUSY  
5001 DIAMETER\_AVP\_UNSUPPORTED  
5002 DIAMETER\_UNKNOWN\_SESSION\_ID

5003 DIAMETER\_AUTHORIZATION\_REJECTED  
5004 DIAMETER\_INVALID\_AVP\_VALUE  
5005 DIAMETER\_MISSING\_AVP  
5006 DIAMETER\_RESOURCES\_EXCEEDED  
5007 DIAMETER\_CONTRADICTING\_AVPS  
5008 DIAMETER\_AVP\_NOT\_ALLOWED  
5009 DIAMETER\_AVP\_OCCURS\_TOO\_MANY\_TIMES  
5010 DIAMETER\_NO\_COMMON\_APPLICATION  
5011 DIAMETER\_UNSUPPORTED\_VERSION  
5012 DIAMETER\_UNABLE\_TO\_COMPLY  
5013 DIAMETER\_INVALID\_BIT\_IN\_HEADER  
5014 DIAMETER\_INVALID\_AVP\_LENGTH  
5015 DIAMETER\_INVALID\_MESSAGE\_LENGTH  
5016 DIAMETER\_INVALID\_AVP\_BIT\_COMBO  
5017 DIAMETER\_NO\_COMMON\_SECURITY  
5021 BINDING-FAILURE  
5030 DIAMETER\_USER\_UNKNOWN  
5031 DIAMETER\_RATING\_FAILED  
5041 MODIFICATION-FAILURE  
5061 INVALID\_SERVICE\_INFORMATION  
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  
5100 DIAMETER\_ERROR\_USER\_DATA\_NOT\_RECOGNIZED  
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  
5106 DIAMETER\_ERROR\_SUBS\_DATA\_ABSENT  
5107 DIAMETER\_ERROR\_NO\_SUBSCRIPTION\_TO\_DATA  
5108 DIAMETER\_ERROR\_DSAI\_NOT\_AVAILABLE

5120 DIAMETER\_ERROR\_START\_INDICATION  
5121 DIAMETER\_ERROR\_STOP\_INDICATION  
5122 DIAMETER\_ERROR\_UNKNOWN\_MBMS\_BEARER\_SERVICE  
5123 DIAMETER\_ERROR\_SERVICE\_AREA  
5140 DIAMETER\_ERROR\_INITIAL\_PARAMETERS  
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  
5147 DIAMETER\_ERROR\_CONFLICTING\_REQUEST  
5199 DIAMETER\_NEWER\_SESSION\_DETECTED  
5420 ERROR\_UNKNOWN\_EPS\_SUBSCRIPTION  
5421 ERROR\_RAT\_NOT\_ALLOWED  
5402 ERROR\_ROAMING\_NOT\_ALLOWED  
5422 ERROR\_EQUIPMENT\_UNKNOWN  
5198 DIAMETER\_OVERLOAD\_RETRY\_NOT\_ALLOWED\_TO\_ANY  
5999 DIAMETER\_GX\_APN\_CHANGE  
5510 DIAMETER\_ERROR\_UNAUTHORIZED\_REQUESTING\_ENTITY  
5511 DIAMETER\_ERROR\_UNAUTHORIZED\_SERVICE  
5513 DIAMETER\_ERROR\_CONFIGURATION\_EVENT\_STORAGE\_NOT\_SUCCESSFUL  
5514 DIAMETER\_ERROR\_CONFIGURATION\_EVENT\_NON\_EXISTANT  
5650 DIAMETER\_ERROR\_REQUESTED\_LOCATION\_NOT\_SERVED  
5651 DIAMETER\_ERROR\_INVALID\_EPS\_BEARER  
5998 DIAMETER\_ERROR\_NIDD\_CONFIGURATION\_NOT\_AVAILABLE  
5997 DIAMETER\_ERROR\_SCEF\_REFERENCE\_ID\_UNKNOWN  
5653 DIAMETER\_ERROR\_USER\_TEMPORARILY\_UNREACHABLE  
4221 DIAMETER\_ERROR\_UNREACHABLE\_USER  
**AVP Flag M**

## Expiration-Date

This AVP contains information on when the subscription to the CSG-Id expires.

**Vendor ID** 10415

**VSA Type** 1439

**AVP Type** TIME

**AVP Flag** M

## Expires

This AVP contains the content of the "Expires" header.

**Vendor ID** 10415

**VSA Type** 888

**AVP Type** UINT32

**AVP Flag** M

## Exponent

This AVP contains the exponent value to be applied for the Value-Digit AVP within the Unit-Value AVP.

**Vendor ID** 0

**VSA Type** 429

**AVP Type** INT32

**AVP Flag** M

## Extended-APN-AMBR-DL

Extended-APN-AMBR-DL

**Vendor ID** 10415

**VSA Type** 2848

**AVP Type** UINT32

**AVP Flag** M

## Extended-APN-AMBR-UL

Extended-APN-AMBR-UL

**Vendor ID** 10415

**VSA Type** 2849

**AVP Type** UINT32

**AVP Flag** M

## Extended-Max-Requested-BW-DL

Extended-Max-Requested-BW-DL

**Vendor ID** 10415



**VSA Type** 554

**AVP Type** UINT32

**AVP Flag** M

## Extended-Max-Requested-BW-UL

Extended-Max-Requested-BW-DL

**Vendor ID** 10415

**VSA Type** 555

**AVP Type** UINT32

**AVP Flag** M

## Extended-GBR-DL

Extended-GBR-DL

**Vendor ID** 10415

**VSA Type** 2850

**AVP Type** UINT32

**AVP Flag** M

## Extended-GBR-UL

Extended-GBR-UL

**Vendor ID** 10415

**VSA Type** 2851

**AVP Type** UINT32

**AVP Flag** M

## Ext-PDP-Address

Ext-PDP-Address

**Vendor ID** 10415

**VSA Type** 1621

**AVP Type** ADDRESS

**AVP Flag** M

## Ext-PDP-Type

Ext-PDP-Type

**Vendor ID** 10415  
**VSA Type** 1620  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Extended-PCO

Extended-PCO  
**Vendor ID** 10415  
**VSA Type** 4313  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Extended-QoS-Filter-Rule

This AVP identifies one or more traffic flows together with a set of QoS parameters that should be applied to the flow(s) by the Resource Management Function.

**Vendor ID** 0  
**VSA Type** 6066  
**AVP Type** UINT32  
**AVP Flag** M

## External-Client

This AVP contains the identities of the external clients that are allowed to locate a target UE for a MT-LR.

**Vendor ID** 10415  
**VSA Type** 1479  
**AVP Type** GROUPED  
Supported group value(s):  
[ CLIENT\_IDENTITY ]  
[ GMLC\_RESTRICTION ]  
[ NOTIFICATION\_TO\_UE\_USER ]  
**AVP Flag** M

## External-Identifier

External-Identifier  
**Vendor ID** 10415

**VSA Type** 3111  
**AVP Type** UTF8STRING  
**AVP Flag** M

## FID

This AVP contains the Flow Correlation ID.

**Vendor ID** 10415  
**VSA Type** 7003  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Failed-AVP

This AVP contains the missing and/or unsupported AVPs that caused the failure.

**Vendor ID** 0  
**VSA Type** 279  
**AVP Type** GROUPED  
Supported group value(s): none  
**AVP Flag** M

## Failed-Preload-Obj-Name

Failed-Preload-Obj-Name  
**Vendor ID** 9  
**VSA Type** 131191  
**AVP Type** ENUM  
Supported group value(s):  
[ POLICY\_PRELOAD\_ERROR\_CODE ]  
[ POLICY\_MAP\_NAME ]  
[ BILLING\_POLICY\_NAME ]  
[ CONTENT\_NAME ]  
[ SERVICE\_NAME ]  
[ BILLING\_PLAN\_NAME ]  
**AVP Flag** M

## Failed-Preload-Object

Failed-Preload-Object

**Vendor ID** 9

**VSA Type** 131152

**AVP Type** GROUPED

Supported group value(s):

[ POLICY\_PRELOAD\_OBJECT\_TYPE ]

[ FAILED\_PRELOAD\_OBJ\_NAME ]

**AVP Flag** M

## Feature-List

This AVP contains a bit mask indicating the supported features of an application.

**Vendor ID** 10415

**VSA Type** 630

**AVP Type** UINT32

**AVP Flag** M

## Feature-List-ID

This AVP contains the identity of the featured list.

**Vendor ID** 10415

**VSA Type** 629

**AVP Type** UINT32

**AVP Flag** M

## Feature-List-ID-Resp

This AVP contains the identity of the featured list.

**Vendor ID** 10415

**VSA Type** 629

**AVP Type** UINT32

**AVP Flag** N/A

## Feature-List-Resp

This AVP contains a bit mask indicating the supported features of an application.

**Vendor ID** 10415

**VSA Type** 630  
**AVP Type** UINT32  
**AVP Flag** N/A

## Filter-Id

This AVP contains the name of the filter list for the user.

**Vendor ID** 0  
**VSA Type** 11  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Filter-Rule

Filter-Rule  
**Vendor ID** 0  
**VSA Type** 509  
**AVP Type** UINT32  
**AVP Flag** M

## Final-Unit-Action

This AVP defines the behavior of the service element when the user's account cannot cover the cost of the service.

**Vendor ID** 0  
**VSA Type** 449  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 TERMINATE  
1 REDIRECT  
2 RESTRICT\_ACCESS  
**AVP Flag** M

## Final-Unit-Indication

This AVP indicates that the Granted-Service-Unit AVP in the Credit-Control-Answer, or in the AA answer, contains the final units for the service.

**Vendor ID** 0  
**VSA Type** 430

**AVP Type** GROUPED

Supported group value(s):

[ FINAL\_UNIT\_ACTION ]

[ RESTRICTION\_FILTER\_RULE ]

[ FILTER\_ID ]

[ REDIRECT\_SERVER ]

**AVP Flag** M

## Firmware-Revision

Support for Vendor Specific Applications.

**Vendor ID** 0

**VSA Type** 267

**AVP Type** UINT32

**AVP Flag** N/A

## First-Packet-Timestamp

First-Packet-Timestamp

**Vendor ID** 9

**VSA Type** 131158

**AVP Type** UINT32

**AVP Flag** N/A

## Flow-Description

This AVP contains the service flow filter parameters for a charging rule.

**Vendor ID** 10415

**VSA Type** 507

**AVP Type** IPFILTERRULE

**AVP Flag** M

## Flow-Description-Info

This grouped AVP is used within the Flow-Info AVP to identify a flow and associated precedence value from the AGW to the PCRF.

**Vendor ID** 5535

**VSA Type** 1022

**AVP Type** GROUPED

Supported group value(s):

[ FLOW\_DESCRIPTION ]

[ PRECEDENCE ]

**AVP Flag** M

## Flow-Direction

This AVP indicates the direction/directions that a filter is applicable, downlink only, uplink only or both down- and uplink (bidirectional).

**Vendor ID** 10415

**VSA Type** 1080

**AVP Type** ENUM

Supported enumerated value(s):

0 UNSPECIFIED

1 DOWNLINK

2 UPLINK

3 BIDIRECTIONAL

**AVP Flag** M

## Flow-Grouping

This AVP indicates that no other IP Flows shall be transported together with the listed IP Flows in the same PDP context(s).

**Vendor ID** 10415

**VSA Type** 508

**AVP Type** GROUPED

Supported group value(s):

[ FLOWS ]

**AVP Flag** M

## Flow-Identifier

This AVP contains the identifier of the IP flow(s) of a given Flow-Info to which specific information refers.

**Vendor ID** 5535

**VSA Type** 1008

**AVP Type** OCTETSTRING

**AVP Flag** M

## Flow-Info

This AVP contains the customized information of the IP flow(s). This is a unique identifier within the context of an IP-CAN session for the IP flow(s) given within the same Flow-Info AVP. The flow identifier is selected by AGW. The Flow-Description AVP(s) describe the flow using an IPFilterRule. If two Flow-Description AVPs are included, one shall represent the uplink and the other the downlink.

**Vendor ID** 5535

**VSA Type** 1007

**AVP Type** GROUPED

Supported group value(s):

[ FLOW\_IDENTIFIER ]

[ FLOW\_DESCRIPTION\_INFO ]

[ REQUESTED\_QOS ]

[ GRANTED\_QOS ]

[ FLOW\_STATUS ]

**AVP Flag** M

## Flow-Information

This AVP contains the information from a single IP flow packet filter including the flow description.

**Vendor ID** 10415

**VSA Type** 1058

**AVP Type** GROUPED

Supported group value(s):

[ FLOW\_DESCRIPTION ]

[ PACKET\_FILTER\_IDENTIFIER ]

[ TOS\_TRAFFIC\_CLASS ]

[ SECURITY\_PARAMETER\_INDEX ]

[ FLOW\_LABEL ]

[ FLOW\_DIRECTION ]

**AVP Flag** M

## Flow-Label

This AVP contains the IPv6 flow label header field.

**Vendor ID** 10415

**VSA Type** 1057

**AVP Type** OCTETSTRING



**AVP Flag** M

## Flow-Number

This AVP contains the ordinal number of the IP flow(s).

**Vendor ID** 10415

**VSA Type** 509

**AVP Type** UINT32

**AVP Flag** M

## Flow-Operation

This AVP indicates the IP-CAN flow event that causes a request for PCC rules.

**Vendor ID** 5535

**VSA Type** 1006

**AVP Type** ENUM

Supported enumerated value(s):

0 TERMINATION

1 ESTABLISHMENT

2 MODIFICATION

**AVP Flag** M

## Flow-Status

This AVP indicates whether the IP flow(s) are enabled or disabled.

**Vendor ID** 10415

**VSA Type** 511

**AVP Type** ENUM

Supported enumerated value(s):

0 ENABLED-UPLINK

1 ENABLED-DOWNLINK

2 ENABLED

3 DISABLED

4 REMOVED

5 TERMINATE

**AVP Flag** M

## Flow-Status-Policy-Mismatch

Flow-Status-Policy-Mismatch

**Vendor ID** 9

**VSA Type** 131164

**AVP Type** ENUM

Supported enumerated value(s):

0 FORWARD

1 BLOCK

**AVP Flag** M

## Flow-Usage

This AVP contains information about the usage of IP Flows.

**Vendor ID** 10415

**VSA Type** 512

**AVP Type** ENUM

Supported enumerated value(s):

0 NO\_INFORMATION

1 RTCP

2 AF\_SIGNALLING

**AVP Flag** M

## Flows

This AVP contains the flow identifiers of the IP flows related to a charging rule as provided by the Application Function (AF).

**Vendor ID** 10415

**VSA Type** 510

**AVP Type** GROUPED

Supported group value(s):

[ MEDIA\_COMPONENT\_NUMBER ]

[ FLOW\_NUMBER ]

**AVP Flag** M

## Framed-Appletalk-Link

This AVP contains the AppleTalk network number that should be used for the serial link to the user, which is another AppleTalk router.

**Vendor ID** 0

**VSA Type** 37

**AVP Type** UINT32

**AVP Flag** M

## Framed-Appletalk-Network

This AVP contains the AppleTalk Network number that the NAS should probe to allocate an AppleTalk node for the user.

**Vendor ID** 0

**VSA Type** 38

**AVP Type** UINT32

**AVP Flag** M

## Framed-Appletalk-Zone

This AVP contains the AppleTalk Default Zone to be used for the user.

**Vendor ID** 0

**VSA Type** 39

**AVP Type** OCTETSTRING

**AVP Flag** M

## Framed-Compression

This AVP contains the compression protocol to be used for the link.

**Vendor ID** 0

**VSA Type** 13

**AVP Type** ENUM

Supported enumerated value(s):

0 None

1 VJ\_TCP-IP\_header\_compression

2 IPX-header-compression

3 Stac-LZS-compression

**AVP Flag** M

## Framed-IP-Address

This AVP contains an IPv4 address of the type specified in the attribute value to be configured for the user.

**Vendor ID** 0

**VSA Type** 8

**AVP Type** OCTETSTRING

**AVP Flag** M

## Framed-IP-Netmask

This AVP contains the four octets of the IPv4 netmask to be configured for the user when the user is a router to a network.

**Vendor ID** 0

**VSA Type** 9

**AVP Type** OCTETSTRING

**AVP Flag** M

## Framed-IPX-Network

This AVP contains the IPX network number to be configured for the user.

**Vendor ID** 0

**VSA Type** 23

**AVP Type** UINT32

**AVP Flag** M

## Framed-IPv6-Pool

This AVP contains the name of an assigned pool that must be used to assign an IPv6 prefix for the user.

**Vendor ID** 0

**VSA Type** 100

**AVP Type** OCTETSTRING

**AVP Flag** M

## Framed-IPv6-Prefix

This AVP contains the IPv6 prefix to be configured for the user. One or more AVPs MAY be used in authorization requests as a hint to the server that a specific IPv6 prefixes are desired.

**Vendor ID** 0

**VSA Type** 97

**AVP Type** OCTETSTRING

**AVP Flag** M

## Framed-IPv6-Route

This AVP contains the ASCII routing information to be configured for the user on the NAS.

**Vendor ID** 0

**VSA Type** 99

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Framed-Interface-Id

This AVP contains the IPv6 interface identifier to be configured for the user.

**Vendor ID** 0

**VSA Type** 96

**AVP Type** UINT64

**AVP Flag** M

## Framed-MTU

This AVP contains the Maximum Transmission Unit (MTU) to be configured for the user, when it is not negotiated by some other means (such as PPP).

**Vendor ID** 0

**VSA Type** 12

**AVP Type** UINT32

**AVP Flag** M

## Framed-Pool

This AVP contains the name of an assigned address pool that should be used to assign an address for the user.

**Vendor ID** 0

**VSA Type** 88

**AVP Type** OCTETSTRING

**AVP Flag** M

## Framed-Protocol

This AVP contains the framing to be used for framed access.

**Vendor ID** 0

**VSA Type** 7

**AVP Type** ENUM

Supported enumerated value(s):

1 PPP

2 SLIP

3 AppleTalk-Remote-Access-Protocol\_ARAP

4 Gandalf-proprietary-SingleLink\_MultiLink-protocol

5 Xylogics-proprietary\_IPX-SLIP

6 X75-Synchronous

**AVP Flag** M

## Framed-Route

This AVP contains the ASCII routing information to be configured for the user on the NAS.

**Vendor ID** 0

**VSA Type** 22

**AVP Type** UTF8STRING

**AVP Flag** M

## Framed-Routing

This AVP contains the routing method for the user when the user is a router to a network.

**Vendor ID** 0

**VSA Type** 10

**AVP Type** ENUM

Supported enumerated value(s):

0 None

1 Send-routing-packets

2 Listen-for-routing-packets

3 Send-and-Listen

**AVP Flag** M

## From-SIP-Header

This AVP contains the information in the "From" header

**Vendor ID** 10415

**VSA Type** 644  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## G-S-U-Pool-Identifier

Specifies the credit pool from which credit is drawn for this unit type.

**Vendor ID** 0  
**VSA Type** 453  
**AVP Type** UINT32  
**AVP Flag** M

## G-S-U-Pool-Reference

This AVP contains a reference to a credit pool, a unit-type and a multiplier (using the Unit-Value AVP). It is used within Granted-Service-Units AVP to indicate that credit Service-Units AVP to indicate that credit of a particular type is pooled.

**Vendor ID** 0  
**VSA Type** 457  
**AVP Type** GROUPED  
Supported group value(s):  
[ G\_S\_U\_POOL\_IDENTIFIER ]  
[ CC\_UNIT\_TYPE ]  
[ UNIT\_VALUE ]  
**AVP Flag** M

## GERAN-Vector

This AVP contains Authentication Information for GERAN.

**Vendor ID** 10415  
**VSA Type** 6019  
**AVP Type** GROUPED  
Supported group value(s):  
[ ITEM\_NUMBER ]  
[ RAND ]  
[ SRES ]  
[ KC\_KEY ]  
**AVP Flag** M

## GGSN-Address

This AVP contains IP address of the GGSN used by the GTP control plane for context establishment. It is the same as the IP-address of the GGSN that generated the GPRS Charging ID used in the GCDRs.

**Vendor ID** 10415

**VSA Type** 847

**AVP Type** ADDRESS

**AVP Flag** M

## GMLC-Address

This AVP contains the IPv4 or IPv6 address of the V-GMLC associated with the serving node.

**Vendor ID** 10415

**VSA Type** 1474

**AVP Type** OCTETSTRING

**AVP Flag** M

## GMLC-Number

This AVP contains the ISDN number of the GMLC.

**Vendor ID** 10415

**VSA Type** 1474

**AVP Type** OCTETSTRING

**AVP Flag** M

## GMLC-Restriction

This attribute contains GMLC Restriction List.

**Vendor ID** 10415

**VSA Type** 1481

**AVP Type** ENUM

Supported enumerated value(s):

0 GMLC\_LIST

1 HOME\_COUNTRY

**AVP Flag** M

## GMM-Cause

GMM-Cause



**Vendor ID** 10415  
**VSA Type** 4304  
**AVP Type** UINT32  
**AVP Flag** M

## GPRS-Subscription-Data

This AVP contains the information related to the user profile relevant for GPRS.

**Vendor ID** 10415  
**VSA Type** 1467  
**AVP Type** GROUPED  
Supported group value(s):  
[ COMPLETE\_DATA\_LIST\_INCLUDED\_INDICATOR ]  
[ PDP\_CONTEXT ]  
**AVP Flag** M

## Geodetic-Information

This AVP provides geodetic location information of the user.

**Vendor ID** 10415  
**VSA Type** 1609  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Geographical-Information

This AVP contains geographical location information of the user.

**Vendor ID** 10415  
**VSA Type** 1608  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Geospatial-Location

This AVP contains location information using the Location Configuration Information (LCI) format.

**Vendor ID** 13019  
**VSA Type** 356  
**AVP Type** OCTETSTRING

AVP Flag M

## Globally-Unique-Address

This AVP contains the UE's address.

**Vendor ID** 13019

**VSA Type** 300

**AVP Type** GROUPED

Supported group value(s):

[ FRAMED\_IP\_ADDRESS ]

[ ADDRESS\_REALM ]

AVP Flag M

## Granted-QoS

It is used within the Flow-Info AVP to indicate the QoS granted to the UE for a particular IP flow in the high rate packet data radio access network.

**Vendor ID** 5535

**VSA Type** 1011

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_CLASS ]

[ MIN\_BANDWIDTH\_UL ]

[ MIN\_BANDWIDTH\_DL ]

AVP Flag M

## Granted-Service-Unit

This AVP contains the amount of units that the Diameter credit-control client can provide to the end user until the service must be released or the new Credit-Control-Request must be sent.

**Vendor ID** 0

**VSA Type** 431

**AVP Type** GROUPED

Supported group value(s):

[ TARIFF\_TIME\_CHANGE ]

[ TARIFF\_CHANGE\_USAGE ]

[ CC\_TIME ]

[ CC\_MONEY ]

[ CC\_TOTAL\_OCTETS ]  
[ CC\_INPUT\_OCTETS ]  
[ CC\_OUTPUT\_OCTETS ]  
[ CC\_SERVICE\_SPECIFIC\_UNITS ]  
**AVP Flag** M

## Guaranteed-Bitrate-DL

This AVP contains the guaranteed bit rate allowed for the downlink direction.

**Vendor ID** 10415  
**VSA Type** 1025  
**AVP Type** UINT32  
**AVP Flag** M

## Guaranteed-Bitrate-UL

This AVP contains the guaranteed bit rate allowed for the uplink direction.

**Vendor ID** 10415  
**VSA Type** 1026  
**AVP Type** UINT32  
**AVP Flag** M

## Hash-Value

Hash-Value  
**Vendor ID** 9  
**VSA Type** 132080  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## HPLMN-ODB

This AVP contains a bit mask indicating the HPLMN specific services of a subscriber that are barred by the operator.

**Vendor ID** 10415  
**VSA Type** 1418  
**AVP Type** UINT32  
**AVP Flag** M

## Header-Class

Header-Class

**Vendor ID** 9

**VSA Type** 131223

**AVP Type** ENUM

Supported group value(s):

[ HEADER\_CLASS\_NAME ]

[ HEADER\_CLASS\_MODE ]

**AVP Flag** M

## Header-Class-Mode

Header-Class-Mode

**Vendor ID** 9

**VSA Type** 131222

**AVP Type** ENUM

Supported enumerated value(s):

0 EXCLUDE

1 INCLUDE

**AVP Flag** M

## Header-Class-Name

Header-Class-Name

**Vendor ID** 9

**VSA Type** 131221

**AVP Type** UTF8STRING

**AVP Flag** M

## Header-Field-Name

Header-Field-Name

**Vendor ID** 9

**VSA Type** 131220

**AVP Type** UTF8STRING

**AVP Flag** M

## Header-Group-Definition

Header-Group-Definition

**Vendor ID** 9

**VSA Type** 131216

**AVP Type** GROUPED

Supported group value(s):

[ HEADER\_GROUP\_NAME ]

[ HEADER\_INSERT\_NAME ]

**AVP Flag** M

## Header-Group-Install

Header-Group-Install

**Vendor ID** 9

**VSA Type** 131217

**AVP Type** GROUPED

Supported group value(s):

[ HEADER\_GROUP\_DEFINITION ]

**AVP Flag** M

## Header-Group-Name

Header-Group-Name

**Vendor ID** 9

**VSA Type** 131215

**AVP Type** UTF8STRING

**AVP Flag** M

## Header-Group-Remove

Header-Group-Remove

**Vendor ID** 9

**VSA Type** 131218

**AVP Type** GROUPED

Supported group value(s):

[ HEADER\_GROUP\_NAME ]

**AVP Flag** M

## Header-Insert-Definition

Header-Insert-Definition

**Vendor ID** 9

**VSA Type** 131231

**AVP Type** GROUPED

Supported group value(s):

[ HEADER\_INSERT\_NAME ]

[ HEADER\_FIELD\_NAME ]

[ HEADER\_CLASS ]

[ HEADER\_ITEM\_CONTAINER ]

**AVP Flag** M

## Header-Insert-Install

Header-Insert-Install

**Vendor ID** 9

**VSA Type** 131232

**AVP Type** GROUPED

Supported group value(s):

[ HEADER\_INSERT\_DEFINITION ]

**AVP Flag** M

## Header-Insert-Name

Header-Insert-Name

**Vendor ID** 9

**VSA Type** 131219

**AVP Type** UTF8STRING

**AVP Flag** M

## Header-Insert-Remove

Header-Insert-Remove

**Vendor ID** 9

**VSA Type** 131233

**AVP Type** GROUPED

Supported group value(s):

[ HEADER\_INSERT\_NAME ]

**AVP Flag** M

## Header-Item

Header-Item

**Vendor ID** 9

**VSA Type** 131228

**AVP Type** ENUM

Supported enumerated value(s):

0 TIMESTAMP

1 QUOTA\_SERVER

**AVP Flag** M

## Header-Item-Container

Header-Item-Container

**Vendor ID** 9

**VSA Type** 131230

**AVP Type** GROUPED

Supported group value(s):

[ HEADER\_ITEM\_ENCRYPTION ]

[ HEADER\_ITEM ]

[ HEADER\_ITEM\_STRING ]

[ HEADER\_ITEM\_RADIUS ]

**AVP Flag** M

## Header-Item-Encryption

Header-Item-Encryption

**Vendor ID** 9

**VSA Type** 131242

**AVP Type** ENUM

Supported enumerated value(s):

0 UNENCRYPTED

1 ENCRYPTED

**AVP Flag** M

## Header-Item-Radius

Header-Item-Radius

**Vendor ID** 9

**VSA Type** 131227

**AVP Type** GROUPED

Supported group value(s):

[ RADIUS\_ATTRIBUTE\_TYPE ]

[ RADIUS\_VSA\_VENDOR\_ID ]

[ RADIUS\_VSA\_SUBATTRIBUTE\_TYPE ]

**AVP Flag** M

## Header-Item-String

Header-Item-String

**Vendor ID** 9

**VSA Type** 131229

**AVP Type** UTF8STRING

**AVP Flag** M

## Home-Agent

This AVP contains the HA IPv4 address that the MS requests or the HA IPv4 address that the H-AAA assigns.

**Vendor ID** 5535

**VSA Type** 3

**AVP Type** ADDRESS

**AVP Flag** M

## Homogeneous-Support-of-IMS-Voice-Over-PS-Sessions

Homogeneous-Support-of-IMS-Voice-Over-PS-Sessions

**Vendor ID** 10415

**VSA Type** 1493

**AVP Type** ENUM

Supported enumerated value(s):

0 NOT\_SUPPORTED

1 SUPPORTED

**AVP Flag** M



## Horizontal-Accuracy

This AVP is of type Unsigned32. Bits 6-0 correspond to Uncertainty Code defined in 3GPP TS 23.032. The horizontal location error should be less than the error indicated by the uncertainty code with 67% confidence. Bits 7 to 31 can be ignored.

**Vendor ID** 10415

**VSA Type** 2505

**AVP Type** UINT32

**AVP Flag** M

## Host-IP-Address

This AVP contains IP address of the mobile station.

**Vendor ID** 0

**VSA Type** 257

**AVP Type** ADDRESS

**AVP Flag** M

## HSS-ID

HSS-ID

**Vendor ID** 10415

**VSA Type** 3325

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## ICS-Indicator

ICS-Indicator

**Vendor ID** 10415

**VSA Type** 1491

**AVP Type** ENUM

Supported enumerated value(s):

0 FALSE

1 TRUE

**AVP Flag** M

## IDA-Flags

The IDA-Flags AVP contains a bit mask.

**Vendor ID** 10415

**VSA Type** 1441

**AVP Type** UINT32

**AVP Flag** M

## IDR-Flags

This AVP contains a bit mask.

**Vendor ID** 10415

**VSA Type** 1490

**AVP Type** UINT32

**AVP Flag** M

## IMEI

This AVP contains the International Mobile Equipment Identity (IMEI).

**Vendor ID** 10415

**VSA Type** 6003

**AVP Type** UTF8STRING

**AVP Flag** M

## IMS-Charging-Identifier

This AVP contains the IMS Charging Identifier (ICID) as generated by an IMS node for a SIP session.

**Vendor ID** 10415

**VSA Type** 841

**AVP Type** UTF8STRING

**AVP Flag** M

## IMS-Communication-Service-Identifier

This AVP contains the IMS Communication Service Identifier (ICSI) as contained in the P-Asserted-Service header of a SIP request to identify an IMS Communication Service as defined in TS 24.229.

**Vendor ID** 10415

**VSA Type** 1281

**AVP Type** UTF8STRING

**AVP Flag M**

## IMS-Information

This grouped AVP allows the transmission of additional IMS service specific information elements.

**Vendor ID** 10415

**VSA Type** 876

**AVP Type** GROUPED

Supported group value(s):

[ EVENT\_TYPE ]

[ ROLE\_OF\_NODE ]

[ NODE\_FUNCTIONALITY ]

[ USER\_SESSION\_ID ]

[ CALLING\_PARTY\_ADDRESS ]

[ CALLED\_PARTY\_ADDRESS ]

[ CALLED\_ASSERTED\_IDENTITY ]

[ ASSOCIATED\_URI ]

[ TIME\_STAMPS ]

[ APPLICATION\_SERVER\_INFORMATION ]

[ INTER\_OPERATOR\_IDENTIFIER ]

[ IMS\_CHARGING\_IDENTIFIER ]

[ IMS\_COMMUNICATION\_SERVICE\_IDENTIFIER ]

[ ONLINE\_CHARGING\_FLAG ]

[ SDP\_SESSION\_DESCRIPTION ]

[ SDP\_MEDIA\_COMPONENT ]

[ MESSAGE\_BODY ]

[ CAUSE\_CODE ]

[ ACCESS\_NETWORK\_INFORMATION ]

[ EARLY\_MEDIA\_DESCRIPTION ]

[ REAL\_TIME\_TARIFF\_INFORMATION ]

**AVP Flag M**

## IMS-Voice-Over-PS-Sessions-Supported

IMS-Voice-Over-PS-Sessions-Supported

**Vendor ID** 10415

**VSA Type** 1492

**AVP Type** ENUM

Supported enumerated value(s):

0 NOT\_SUPPORTED

1 SUPPORTED

**AVP Flag** M

## IMSI-Unauthenticated-Flag

This AVP indicates whether or not the served IMSI is authenticated.

**Vendor ID** 10415

**VSA Type** 2308

**AVP Type** ENUM

Supported enumerated value(s):

0 AUTHENTICATED

1 UNAUTHENTICATED

**AVP Flag** M

## IP-CAN-Type

This AVP indicate the type of Connectivity Access Network in which the user is connected.

**Vendor ID** 10415

**VSA Type** 1027

**AVP Type** ENUM

Supported enumerated value(s):

0 3GPP-GPRS

1 DOCSIS

2 xDSL

3 WiMAX

4 3GPP2

5 3GPP-EPS

6 NON-3GPP-EPS

**AVP Flag** M

## IP-MMS

IP mobility selector.

**Vendor ID** 10415  
**VSA Type** 6076  
**AVP Type** UINT32  
**AVP Flag** M

## IP-Realm-Default-Indication

IP-Realm-Default-Indication  
**Vendor ID** 10415  
**VSA Type** 2603  
**AVP Type** ENUM  
Supported enumerated value(s): none  
**AVP Flag** M

## IP-SM-GW-SM-Delivery-Outcome

IP-SM-GW-SM-Delivery-Outcome  
**Vendor ID** 10415  
**VSA Type** 3320  
**AVP Type** GROUPED  
Supported group value(s):  
[ SM\_DELIVERY\_CAUSE ]  
[ ABSENT\_USER\_DIAGNOSTIC\_SM ]  
**AVP Flag** M

## IP-Version-Authorized

This AVP indicates whether the MS is authorized for using IPv4 and/or IPv6.  
**Vendor ID** 5535  
**VSA Type** 11  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 IPv4\_or\_IPv6  
1 IPv4\_ONLY  
2 IPv6\_ONLY  
**AVP Flag** M

## Identity-Set

This AVP contains the requested set of IMS Public identities.

**Vendor ID** 0

**VSA Type** 708

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** N/A

## Identity-with-Emergency-Registration

Identity-with-Emergency-Registration

**Vendor ID** 10415

**VSA Type** 651

**AVP Type** GROUPED

Supported group value(s):

[ USER\_NAME ]

[ PUBLIC\_IDENTITY ]

[ RESTORATION\_INFO ]

**AVP Flag** N/A

## Idle-Timeout

Sets the maximum number of consecutive seconds of idle connection allowable to the user before termination of the session or before a prompt is issued.

**Vendor ID** 0

**VSA Type** 28

**AVP Type** UINT32

**AVP Flag** M

## Immediate-Response-Preferred

This AVP indicates which type of AV is requested for immediate use in the MME/SGSN.

**Vendor ID** 10415

**VSA Type** 6015

**AVP Type** UINT32

**AVP Flag** M

## Inband-Security-Id

Advertise support of the Security portion of the application.

**Vendor ID** 0

**VSA Type** 299

**AVP Type** ENUM

Supported enumerated value(s):

0 NO\_INBAND\_SECURITY

1 TLS

**AVP Flag** M

## Incoming-Trunk-Group-ID

This AVP contains the incoming PSTN leg.

**Vendor ID** 0

**VSA Type** 852

**AVP Type** UTF8STRING

**AVP Flag** M

## Initial-IMS-Charging-Identifier

Initial-IMS-Charging-Identifier

**Vendor ID** 10415

**VSA Type** 2321

**AVP Type** UTF8STRING

**AVP Flag** M

## Initial-Timeout

Initial-Timeout

**Vendor ID** 9

**VSA Type** 131107

**AVP Type** UINT32

**AVP Flag** N/A

## Integrity-Key

This AVP contains the Integrity Key (IK).

**Vendor ID** 10415

**VSA Type** 626

**AVP Type** OCTETSTRING

**AVP Flag** M

## Inter-Operator-Identifier

This AVP contains the identification of the network neighbors (originating and terminating) as exchanged via SIP signalling. The Inter-Operator-Identifier AVP contains the CIC code present in the Carrier-info message.

**Vendor ID** 10415

**VSA Type** 838

**AVP Type** GROUPED

Supported group value(s):

[ ORIGINATING\_IOI ]

[ TERMINATING\_IOI ]

**AVP Flag** M

## Interleaved

Interleaved

**Vendor ID** 9

**VSA Type** 131196

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag** M

## Intermediate-CDR-Threshold

Intermediate-CDR-Threshold

**Vendor ID** 9

**VSA Type** 131130

**AVP Type** GROUPED

Supported group value(s):

[ CDR\_VOLUME\_THRESHOLD ]

[ CDR\_TIME\_THRESHOLD ]

**AVP Flag** M



## Item-Number

If more than one EPS Vector is included within one Authentication-Info AVP, the Item-Number AVP is present within each EPS Vector.

**Vendor ID** 10415

**VSA Type** 1419

**AVP Type** UINT32

**AVP Flag** M

## KASME

This AVP contains the KASME (EAP Authentication Vector).

**Vendor ID** 10415

**VSA Type** 1450

**AVP Type** OCTETSTRING

**AVP Flag** M

## KC-Key

This AVP contains the Cipherring Key.

**Vendor ID** 10415

**VSA Type** 1453

**AVP Type** OCTETSTRING

**AVP Flag** M

## L7-Application-Description

This AVP carries L7 information with the L7 dynamic rule. This L7 filter is used by rule matching logic.

**Vendor ID** 9

**VSA Type** 132058

**AVP Type** GROUPED

Supported group value(s):

[ L7\_PROTOCOL\_NAME ]

[ L7\_FIELD ]

[ L7\_OPERATOR ]

[ L7\_VALUE ]

[ L7\_CASE\_SENSITIVITY ]

[ L7\_CONTENT\_FILTERING\_STATE ]

**AVP Flag** N/A

## L7-Case-Sensitivity

This AVP indicates if the L7-Value field has to be compared with or without case-sensitivity.

**Vendor ID** 9

**VSA Type** 132063

**AVP Type** ENUM

Supported enumerated value(s):

1 CASE\_SENSTIVE

2 NOT\_CASE\_SENSTIVE

**AVP Flag** N/A

## L7-Content-Filtering-State

This attribute carries information about Content Filtering status (CF state) of L7 rules. This attribute indicates whether or not the ICAP functionality is enabled or disabled for L7 charging rule definition received for installation from PCRF. Based on this attribute value, the traffic matching to the dynamic rule is sent to ICAP server.

**Vendor ID** 9

**VSA Type** 132067

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE\_CF

1 ENABLE\_CF

**AVP Flag** N/A

## L7-Field

This AVP specifies the name of field to be matched from the protocol.

**Vendor ID** 9

**VSA Type** 132060

**AVP Type** ENUM

Supported enumerated value(s):

1 URL

2 ANY-MATCH

**AVP Flag** N/A

## L7-Operator

This AVP specifies the operator to be used for matching the values.

**Vendor ID** 9

**VSA Type** 132061

**AVP Type** ENUM

Supported enumerated value(s):

1 EQUALS

2 STARTS\_WITH

3 ENDS\_WITH

4 CONTAINS

5 NOT\_EQUALS

6 NOT\_START\_WITH

7 NOT\_END\_WITH

8 NOT\_CONTAINS

**AVP Flag** N/A

## L7-Parse-Length

L7-Parse-Length

**Vendor ID** 9

**VSA Type** 131128

**AVP Type** UINT32

**AVP Flag** N/A

## L7-Parse-Protocol-Type

L7-Parse-Protocol-Type

**Vendor ID** 9

**VSA Type** 131085

**AVP Type** ENUM

Supported enumerated value(s):

0 HTTP

1 IMAP

2 OTHER

3 POP3

4 RTSP

5 SMTP  
8 SIP  
9 FTP  
10 NBAR  
11 DNS  
12 HTTP-INSERT  
**AVP Flag** M

## L7-Protocol-Name

This AVP specifies the protocol name for the application. This is an enumerated value received from PCRF.

**Vendor ID** 9

**VSA Type** 132059

**AVP Type** ENUM

Supported enumerated value(s):

1 HTTP

**AVP Flag** N/A

## L7-Value

This AVP mentions the value that is to be compared with the one received in the user packet. This is a string with length of 256 characters.

**Vendor ID** 9

**VSA Type** 132062

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## LCS-Capabilities-Sets

LCS-Capabilities-Sets

**Vendor ID** 10415

**VSA Type** 2404

**AVP Type** UINT32

**AVP Flag** M

## LCS-Client-Type

LCS-Client-Type

**Vendor ID** 10415

**VSA Type** 1241

**AVP Type** ENUM

Supported enumerated value(s):

0 EMERGENCY\_SERVICES

1 VALUE\_ADDED\_SERVICES

2 PLMN\_OPERATOR\_SERVICES

3 LAWFUL\_INTERCEPT\_SERVICES

**AVP Flag** M

## LCS-Codeword

This AVP indicates the potential codeword string to send in a notification message to the UE.

**Vendor ID** 10415

**VSA Type** 2511

**AVP Type** UTF8STRING

**AVP Flag** M

## LCS-EPS-Client-Name

LCS-EPS-Client-Name

**Vendor ID** 10415

**VSA Type** 2501

**AVP Type** GROUPED

Supported group value(s):

[ LCS\_NAME\_STRING ]

[ LCS\_FORMAT\_INDICATOR ]

**AVP Flag** M

## LCS-Format-Indicator

This AVP contains the format of the LCS Client name.

**Vendor ID** 10415

**VSA Type** 1237

**AVP Type** ENUM

Supported enumerated value(s):

0 LOGICAL\_NAME

1 EMAIL\_ADDRESS  
2 MSISDN  
3 URL  
4 SIP\_URL  
**AVP Flag** M

## LCS-Info

This AVP contains LCS related information for a subscriber.

**Vendor ID** 10415

**VSA Type** 1473

**AVP Type** GROUPED

Supported group value(s):

[ GMLC\_ADDRESS ]

[ LCS\_PRIVACYEXCEPTION ]

[ MO\_LR ]

**AVP Flag** M

## LCS-Name-String

This AVP contains the LCS Client name.

**Vendor ID** 10415

**VSA Type** 1238

**AVP Type** UTF8STRING

**AVP Flag** M

## LCS-Priority

This AVP indicates the priority of the location request. The value 0 indicates the highest priority, and the value 1 indicates normal priority. All other values are treated as 1 (normal priority).

**Vendor ID** 10415

**VSA Type** 2503

**AVP Type** UINT32

**AVP Flag** M

## LCS-Privacy-Check

LCS-Privacy-Check

**Vendor ID** 10415

**VSA Type** 2512

**AVP Type** ENUM

Supported enumerated value(s):

0 ALLOWED\_WITHOUT\_NOTIFICATION

1 ALLOWED\_WITH\_NOTIFICATION

2 ALLOWED\_IF\_NO\_RESPONSE

3 RESTRICTED\_IF\_NO\_RESPONSE

4 NOT\_ALLOWED

**AVP Flag** M

## LCS-Privacy-Check-Non-Session

LCS-Privacy-Check-Non-Session

**Vendor ID** 10415

**VSA Type** 2521

**AVP Type** GROUPED

Supported group value(s):

[ LCS\_PRIVACY\_CHECK ]

**AVP Flag** M

## LCS-Privacy-Check-Session

LCS-Privacy-Check-Session

**Vendor ID** 10415

**VSA Type** 2522

**AVP Type** GROUPED

Supported group value(s):

[ LCS\_PRIVACY\_CHECK ]

**AVP Flag** M

## LCS-PrivacyException

This AVP contains the classes of LCS Client that are allowed to locate any target UE.

**Vendor ID** 10415

**VSA Type** 1475

**AVP Type** GROUPED

Supported group value(s):

[ SS\_CODE ]

[ SS\_STATUS ]

[ NOTIFICATION\_TO\_UE\_USER ]

[ EXTERNAL\_CLIENT ]

[ PLMN\_CLIENT ]

[ SERVICE\_TYPE ]

**AVP Flag** M

## LCS-QoS

LCS-QoS

**Vendor ID** 10415

**VSA Type** 2504

**AVP Type** GROUPED

Supported group value(s):

[ LCS\_QOS\_CLASS ]

[ HORIZONTAL\_ACCURACY ]

[ VERTICAL\_ACCURACY ]

[ VERTICAL\_REQUESTED ]

[ RESPONSE\_TIME ]

**AVP Flag** M

## LCS-QoS-Class

LCS-QoS-Class

**Vendor ID** 10415

**VSA Type** 2523

**AVP Type** ENUM

Supported enumerated value(s):

0 ASSURED

**AVP Flag** M

## LCS-Requestor-Id-String

LCS-Requestor-Id-String

**Vendor ID** 10415



**VSA Type** 1240  
**AVP Type** UTF8STRING  
**AVP Flag** M

## LCS-Requestor-Name

LCS-Requestor-Name  
**Vendor ID** 10415  
**VSA Type** 2502  
**AVP Type** GROUPED  
Supported group value(s):  
[ LCS\_REQUESTOR\_ID\_STRING ]  
[ LCS\_FORMAT\_INDICATOR ]  
**AVP Flag** M

## LCS-Service-Type-ID

This AVP specifies the identifier associated to one of the Service Types for which the LCS client is allowed to locate the particular UE.

**Vendor ID** 10415  
**VSA Type** 2520  
**AVP Type** UINT32  
**AVP Flag** M

## LI-Information

This AVP holds all the other surveillance AVPs.

**Vendor ID** 4491  
**VSA Type** 218  
**AVP Type** GROUPED  
Supported group value(s):  
[ EVENT\_MESSAGE\_TYPE ]  
[ ELEMENT\_TYPE ]  
[ ELEMENT\_ID ]  
[ TAP\_ID ]  
[ SIP\_MESSAGE ]  
[ DIRECT\_MESSAGE ]

[ DIRECTION ]  
[ DIALOG\_ID ]  
[ NEW\_DIALOG\_ID ]  
[ CORRELATE\_REASON ]  
[ BCID ]  
**AVP Flag** M

## LIPA-Permission

LIPA-Permission  
**Vendor ID** 10415  
**VSA Type** 1618  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 LIPA-PROHIBITED  
1 LIPA-ONLY  
2 LIPA-CONDITIONAL  
**AVP Flag** M

## Last-Packet-Timestamp

Last-Packet-Timestamp  
**Vendor ID** 9  
**VSA Type** 131159  
**AVP Type** UINT32  
**AVP Flag** N/A

## Last-UE-Activity-Time

Last-UE-Activity-Time  
**Vendor ID** 10415  
**VSA Type** 1494  
**AVP Type** TIME  
**AVP Flag** M

## Latching-Indication

This AVP contains the latching indication.

**Vendor ID** 13019  
**VSA Type** 457  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 LATCH  
1 RELATCH  
**AVP Flag** N/A

## Line-Identifier

This AVP contains a fixed broadband access line identifier associated with the user.

**Vendor ID** 13019  
**VSA Type** 500  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Local-GW-Inserted-Indication

Local-GW-Inserted-Indication  
**Vendor ID** 10415  
**VSA Type** 2604  
**AVP Type** ENUM  
Supported enumerated value(s): none  
**AVP Flag** M

## Local-Sequence-Number

This AVP contains the service data container sequence number; incremented by 1 for each service data container closed.

**Vendor ID** 10415  
**VSA Type** 2063  
**AVP Type** UINT32  
**AVP Flag** M

## Location-Area-Identity

This AVP contains the location area identification of the user.

**Vendor ID** 10415

**VSA Type** 1606

**AVP Type** OCTETSTRING

**AVP Flag** M

## Location-Data

Location-Data

**Vendor ID** 0

**VSA Type** 128

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Location-Estimate

Location-Estimate

**Vendor ID** 10415

**VSA Type** 1242

**AVP Type** OCTETSTRING

**AVP Flag** M

## Location-Event

Location-Event

**Vendor ID** 10415

**VSA Type** 2518

**AVP Type** ENUM

Supported enumerated value(s):

0 EMERGENCY\_CALL\_ORIGINATION

1 EMERGENCY\_CALL\_RELEASE

2 MO\_LR

3 EMERGENCY\_CALL\_HANDBOVER

**AVP Flag** M

## Location-Information

This AVP contains the location information (or a pointer to such information) in a form that is suitable for the requesting application.

**Vendor ID** 13019

**VSA Type** 350

**AVP Type** GROUPED

Supported group value(s):

[ LINE\_IDENTIFIER ]

[ CIVIC\_LOCATION ]

[ GEOSPATIAL\_LOCATION ]

**AVP Flag** M

## Location-Information-Configuration

Location-Information-Configuration

**Vendor ID** 10415

**VSA Type** 3135

**AVP Type** GROUPED

Supported group value(s):

[ MONTE\_LOCATION\_TYPE ]

[ ACCURACY ]

**AVP Flag** M

## Location-Information-Radius

Location-Information-Radius

**Vendor ID** 0

**VSA Type** 127

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Location-Type

Location-Type

**Vendor ID** 10415

**VSA Type** 2500

**AVP Type** ENUM

Supported enumerated value(s):

0 CURRENT\_LOCATION

1 CURRENT\_OR\_LAST\_KNOWN\_LOCATION

2 INITIAL\_LOCATION

3 RESERVED  
5 NOTIFICATION\_VERIFICATION\_ONLY  
**AVP Flag** M

## Logical-Access-Id

This AVP contains the identity of the logical access where the user equipment is connected.

**Vendor ID** 0  
**VSA Type** 302  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Loose-Route-Indication

This AVP indicates to the S-CSCF whether or not the loose route mechanism is required to serve the registered Public User Identities.

**Vendor ID** 10415  
**VSA Type** 638  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 LOOSE\_ROUTE\_NOT\_REQUIRED  
1 LOOSE\_ROUTE\_REQUIRED  
**AVP Flag** N/A

## MBMS-2G-3G-Indicator

This AVP indicates whether the MBMS bearer service will be delivered in 2G only, 3G only or both coverage areas.

**Vendor ID** 10415  
**VSA Type** 907  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 2G  
1 3G  
2 2G\_AND\_3G  
**AVP Flag** M

## MBMS-Access-Indicator

MBMS-Access-Indicator

**Vendor ID** 10415

**VSA Type** 923

**AVP Type** ENUM

Supported enumerated value(s):

0 UTRAN

1 E-UTRAN

2 UTRAN-AND-E-UTRAN

**AVP Flag** M

## MBMS-BMSC-SSM-IP-Address

This AVP contains the IPv4 address of BMSC for Source Specific Multicasting.

**Vendor ID** 10415

**VSA Type** 918

**AVP Type** UTF8STRING

**AVP Flag** M

## MBMS-BMSC-SSM-IPv6-Address

This AVP contains the IPv6 address of BMSC for Source Specific Multicasting.

**Vendor ID** 10415

**VSA Type** 919

**AVP Type** UTF8STRING

**AVP Flag** M

## MBMS-BMSC-SSM-UDP-Port

MBMS-BMSC-SSM-UDP-Port

**Vendor ID** 10415

**VSA Type** 926

**AVP Type** OCTETSTRING

**AVP Flag** M

## MBMS-Counting-Information

This AVP contains explicit information about whether the MBMS Counting procedures are applicable for the MBMS Service that is about to start.

**Vendor ID** 10415

**VSA Type** 914

**AVP Type** ENUM

Supported enumerated value(s):

0 COUNTING\_NOT\_APPLICABLE

1 COUNTING\_APPLICABLE

**AVP Flag** M

## MBMS-Data-Transfer-Start

MBMS-Data-Transfer-Start

**Vendor ID** 10415

**VSA Type** 929

**AVP Type** UINT64

**AVP Flag** M

## MBMS-Data-Transfer-Stop

MBMS-Data-Transfer-Stop

**Vendor ID** 10415

**VSA Type** 930

**AVP Type** UINT64

**AVP Flag** M

## MBMS-Flags

MBMS-Flags

**Vendor ID** 10415

**VSA Type** 931

**AVP Type** UINT32

**AVP Flag** M

## MBMS-Flow-Identifier

MBMS-Flow-Identifier



**Vendor ID** 10415  
**VSA Type** 920  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## MBMS-GGSN-Address

This AVP contains the IPv4 address of GGSN for user plane data.

**Vendor ID** 10415  
**VSA Type** 916  
**AVP Type** UTF8STRING  
**AVP Flag** M

## MBMS-GGSN-IPv6-Address

This AVP contains the IPv6 address of GGSN for user plane data.

**Vendor ID** 10415  
**VSA Type** 917  
**AVP Type** UTF8STRING  
**AVP Flag** M

## MBMS-GW-SSM-IP-Address

MBMS-GW-SSM-IP-Address

**Vendor ID** 10415  
**VSA Type** 924  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## MBMS-GW-SSM-IPv6-Address

MBMS-GW-SSM-IPv6-Address

**Vendor ID** 10415  
**VSA Type** 925  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## MBMS-GW-UDP-Port

MBMS-GW-UDP-Port

**Vendor ID** 10415

**VSA Type** 927

**AVP Type** OCTETSTRING

**AVP Flag** M

## MBMS-GW-UDP-Port-Indicator

MBMS-GW-UDP-Port-Indicator

**Vendor ID** 10415

**VSA Type** 928

**AVP Type** ENUM

Supported enumerated value(s):

1 UDP-PORT-REQUIRED

**AVP Flag** M

## MBMS-HC-Indicator

MBMS-HC-Indicator

**Vendor ID** 10415

**VSA Type** 922

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## MBMS-Required-QoS

This AVP indicates the Quality of Service required for the MBMS bearer service.

**Vendor ID** 10415

**VSA Type** 913

**AVP Type** UTF8STRING

**AVP Flag** M

## MBMS-Service-Area

This AVP indicates the area over which the MBMS bearer service has to be distributed.

**Vendor ID** 10415

**VSA Type** 903

**AVP Type** OCTETSTRING

**AVP Flag** M

## MBMS-Service-Type

This AVP contains explicit information about the type of service that the BM-SC Start Procedure is about to start.

**Vendor ID** 10415

**VSA Type** 906

**AVP Type** ENUM

Supported enumerated value(s):

0 MULTICAST

1 BROADCAST

**AVP Flag** M

## MBMS-Session-Duration

This AVP indicates the estimated session duration, if available.

**Vendor ID** 10415

**VSA Type** 904

**AVP Type** OCTETSTRING

**AVP Flag** M

## MBMS-Session-Identity

This AVP identifies a transmission of a specific MBMS session along with TMGI.

**Vendor ID** 10415

**VSA Type** 908

**AVP Type** OCTETSTRING

**AVP Flag** M

## MBMS-Session-Repetition-number

This AVP contains the session identity repetition number of the MBMS transmission session on the Gmb interface.

**Vendor ID** 10415

**VSA Type** 912

**AVP Type** OCTETSTRING

AVP Flag M

## MBMS-StartStop-Indication

This AVP indicates whether it is session start or stop procedure.

**Vendor ID** 10415

**VSA Type** 902

**AVP Type** ENUM

Supported enumerated value(s):

0 START

1 STOP

2 UPDATE

AVP Flag M

## MBMS-Time-To-Data-Transfer

This AVP indicates the expected time between reception of the MBMS Session Start and the commencement of the MBMS Data flow.

**Vendor ID** 10415

**VSA Type** 911

**AVP Type** OCTETSTRING

AVP Flag M

## MBMS-User-Data-Mode-Indication

This AVP indicates whether the sending entity supports unicast or multicast mode of operation.

**Vendor ID** 10415

**VSA Type** 915

**AVP Type** ENUM

Supported enumerated value(s):

0 UNICAST

1 MULTICAST\_AND\_UNICAST

AVP Flag M

## MBR-Burst-Size-DL

MBR-Burst-Size-DL

**Vendor ID** 9

**VSA Type** 132010  
**AVP Type** UINT32  
**AVP Flag** N/A

## MBR-Burst-Size-UL

MBR-Burst-Size-UL  
**Vendor ID** 9  
**VSA Type** 132009  
**AVP Type** UINT32  
**AVP Flag** N/A

## MBR-Limit-Conform-Action-DL

MBR-Limit-Conform-Action-DL  
**Vendor ID** 9  
**VSA Type** 132007  
**AVP Type** GROUPED  
Supported group value(s):  
[ RATE\_LIMIT\_ACTION ]  
[ DSCP ]  
**AVP Flag** N/A

## MBR-Limit-Conform-Action-UL

MBR-Limit-Conform-Action-UL  
**Vendor ID** 9  
**VSA Type** 132005  
**AVP Type** GROUPED  
Supported group value(s):  
[ RATE\_LIMIT\_ACTION ]  
[ DSCP ]  
**AVP Flag** N/A

## MBR-Limit-Exceed-Action-DL

MBR-Limit-Exceed-Action-DL  
**Vendor ID** 9

**VSA Type** 132008

**AVP Type** GROUPED

Supported group value(s):

[ RATE\_LIMIT\_ACTION ]

[ DSCP ]

**AVP Flag** N/A

## MBR-Limit-Exceed-Action-UL

MBR-Limit-Exceed-Action-UL

**Vendor ID** 9

**VSA Type** 132006

**AVP Type** GROUPED

Supported group value(s):

[ RATE\_LIMIT\_ACTION ]

[ DSCP ]

**AVP Flag** N/A

## MEID

This AVP contains the International Mobile Equipment Identity.

**Vendor ID** 10415

**VSA Type** 6110

**AVP Type** OCTETSTRING

**AVP Flag** M

## MIP-Feature-Vector

Is added with flag values set by the Foreign Agent or by the AAAF owned by the same administrative domain as the Foreign Agent. The Foreign Agent should include MIP-Feature-Vector AVP within the AMR message it sends to the AAAF.

**Vendor ID** 10415

**VSA Type** 337

**AVP Type** UINT32

**AVP Flag** M

## MIP-Home-Agent-Address-IETF

This AVP contains the IPv6 or IPv4 address of the MIPv6 HA.

**Vendor ID** 0  
**VSA Type** 334  
**AVP Type** ADDRESS  
**AVP Flag** M

## MIP-Home-Agent-Host

This AVP contains the identity of the assigned MIPv6 HA.

**Vendor ID** 0  
**VSA Type** 348  
**AVP Type** GROUPED  
Supported group value(s):  
[ DESTINATION\_REALM ]  
[ DESTINATION\_HOST ]  
**AVP Flag** M

## MIP-Mobile-Node-Address

This AVP contains the HA assigned IPv6 or IPv4 home address of the mobile node.

**Vendor ID** 10415  
**VSA Type** 333  
**AVP Type** ADDRESS  
**AVP Flag** M

## MIP6-Agent-Info

This AVP contains necessary information to assign a HA to the MN. It can be an IP address or Fully Qualified Domain Name (FQDN).

**Vendor ID** 0  
**VSA Type** 486  
**AVP Type** GROUPED  
Supported group value(s):  
[ MIP\_HOME\_AGENT\_ADDRESS\_IETF ]  
[ MIP\_HOME\_AGENT\_HOST ]  
[ MIP6\_HOME\_LINK\_PREFIX ]  
**AVP Flag** M

## MIP6-Feature-Vector

This AVP contains the subset of the MIPv6 features supported.

**Vendor ID** 0

**VSA Type** 6062

**AVP Type** UINT64

**AVP Flag** M

## MIP6-Home-Link-Prefix

This AVP contains the Mobile IPv6 home network prefix information in a network byte order.

**Vendor ID** 0

**VSA Type** 125

**AVP Type** OCTETSTRING

**AVP Flag** M

## MME-Location-Information

This AVP contains the location information of the MME user.

**Vendor ID** 10415

**VSA Type** 1600

**AVP Type** GROUPED

Supported group value(s):

[ EUTRAN\_CELL\_GLOBAL\_IDENTITY ]

[ TRACKING\_AREA\_IDENTITY ]

[ GEOGRAPHICAL\_INFORMATION ]

[ GEODETIC\_INFORMATION ]

[ CURRENT\_LOCATION\_RETRIEVED ]

[ AGE\_OF\_LOCATION\_INFORMATION ]

**AVP Flag** M

## MME-Name

MME-Name

**Vendor ID** 10415

**VSA Type** 2402

**AVP Type** DIAMURI

**AVP Flag** M



## MME-Number-For-MT-SMS

MME-Number-For-MT-SMS

**Vendor ID** 10415

**VSA Type** 1645

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## MME-SM-Delivery-Outcome

MME-SM-Delivery-Outcome

**Vendor ID** 10415

**VSA Type** 3317

**AVP Type** GROUPED

Supported group value(s):

[ SM\_DELIVERY\_CAUSE ]

[ ABSENT\_USER\_DIAGNOSTIC\_SM ]

**AVP Flag** M

## MME-Realm

MME-Realm

**Vendor ID** 10415

**VSA Type** 2408

**AVP Type** DIAMURI

**AVP Flag** M

## MME-Service-Type

MME-Service-Type

**Vendor ID** 10415

**VSA Type** 1483

**AVP Type** GROUPED

Supported group value(s):

[ SERVICETYPEIDENTITY ]

[ GMLC\_RESTRICTION ]

[ NOTIFICATION\_TO\_UE\_USER ]

**AVP Flag** M

## MME-User-State

This AVP contains the location information of the MME user.

**Vendor ID** 10415

**VSA Type** 1497

**AVP Type** GROUPED

Supported group value(s):

[ USER\_STATE ]

**AVP Flag** M

## MO-LR

This AVP contains the classes of Mobile Originating Location Request (MO-LR) for which a subscription exists for a particular MS.

**Vendor ID** 10415

**VSA Type** 1485

**AVP Type** GROUPED

Supported group value(s):

[ SS\_CODE ]

[ SS\_STATUS ]

**AVP Flag** M

## MONTE-Location-Type

MONTE-Location-Type

**Vendor ID** 10415

**VSA Type** 3136

**AVP Type** UINT32

**AVP Flag** M

## MPS-Identifier

MPS-Identifier

**Vendor ID** 10415

**VSA Type** 528

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## MPS-Priority

MPS-Priority  
**Vendor ID** 10415  
**VSA Type** 1616  
**AVP Type** UINT32  
**AVP Flag** N/A

## MSC-Number

MSC-Number  
**Vendor ID** 10415  
**VSA Type** 2403  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## MSC-SM-Delivery-Outcome

MSC-SM-Delivery-Outcome  
**Vendor ID** 10415  
**VSA Type** 3318  
**AVP Type** GROUPED  
Supported group value(s):  
[ SM\_DELIVERY\_CAUSE ]  
[ ABSENT\_USER\_DIAGNOSTIC\_SM ]  
**AVP Flag** M

## MSISDN

This AVP contains an MSISDN, in international number format as described in ITU-T.  
**Vendor ID** 0  
**VSA Type** 701  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## MVNO-Reseller-Id

This AVP contains the Reseller ID. This attribute is included in Gx messages like CCA-I/CCA-U and RAR messages, and also included in Gy messages like CCR-I/U/T.

**Vendor ID** 9  
**VSA Type** 131507  
**AVP Type** UTF8STRING  
**AVP Flag** N/A

## MVNO-Sub-Class-Id

This AVP contains the Sub-Class-Id. This AVP is included in Gx messages like CCA-I/CCA-U and RAR messages, and also included in Gy messages like CCR-I/U/T.

**Vendor ID** 9  
**VSA Type** 131508  
**AVP Type** UTF8STRING  
**AVP Flag** N/A

## Mandatory-Capability

This AVP contains single determined mandatory capability of an S-CSCF.

**Vendor ID** 10415  
**VSA Type** 604  
**AVP Type** UINT32  
**AVP Flag** M

## Match-String

Match-String  
**Vendor ID** 9  
**VSA Type** 131091  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Max-Bandwidth

Max-Bandwidth  
**Vendor ID** 9  
**VSA Type** 131174  
**AVP Type** UINT32  
**AVP Flag** N/A

## Max-Burst-Size

Max-Burst-Size

**Vendor ID** 9

**VSA Type** 131190

**AVP Type** UINT32

**AVP Flag** N/A

## Max-Requested-Bandwidth

This AVP contains the maximum subscriber requested bandwidth.

**Vendor ID** 10415

**VSA Type** 313

**AVP Type** OCTETSTRING

**AVP Flag** M

## Max-Requested-Bandwidth-DL

This AVP indicates the maximum requested bandwidth in bits per second for a downlink IP flow.

**Vendor ID** 10415

**VSA Type** 515

**AVP Type** UINT32

**AVP Flag** M

## Max-Requested-Bandwidth-UL

This AVP indicates the maximum requested bandwidth in bits per second for an uplink IP flow.

**Vendor ID** 10415

**VSA Type** 516

**AVP Type** UINT32

**AVP Flag** M

## Max-Wait-Time

This AVP indicates the validity of the request message. It is a 4-byte value that is encoded as milliseconds and is an offset from the Origin Timestamp.

**Vendor ID** 9

**VSA Type** 132051

**AVP Type** UINT32

AVP Flag N/A

## Maximum-Latency

Maximum-Latency

Vendor ID 10415

VSA Type 3133

AVP Type UINT32

AVP Flag M

## Maximum-Number-of-Reports

Maximum-Number-of-Reports

Vendor ID 10415

VSA Type 3128

AVP Type UINT32

AVP Flag M

## Maximum-Response-Time

Maximum-Response-Time

Vendor ID 10415

VSA Type 3134

AVP Type UINT32

AVP Flag M

## Maximum-Retransmission-Time

Maximum-Retransmission-Time

Vendor ID 10415

VSA Type 3330

AVP Type TIME

AVP Flag N/A

## Maximum-Timeout

Maximum-Timeout

Vendor ID 9

VSA Type 131108

**AVP Type** UINT32

**AVP Flag** N/A

## Maximum-UE-Availability-Time

Maximum-UE-Availability-Time

**Vendor ID** 10415

**VSA Type** 3329

**AVP Type** TIME

**AVP Flag** N/A

## Media-Component-Description

This AVP contains service information for a single media component within an Application Function (AF) session.

**Vendor ID** 10415

**VSA Type** 517

**AVP Type** GROUPED

Supported group value(s):

[ MEDIA\_COMPONENT\_NUMBER ]

[ MEDIA\_SUB\_COMPONENT ]

[ AF\_APPLICATION\_IDENTIFIER ]

[ MEDIA\_TYPE ]

[ MAX\_REQUESTED\_BANDWIDTH\_UL ]

[ MAX\_REQUESTED\_BANDWIDTH\_DL ]

[ FLOW\_STATUS ]

[ RS\_BANDWIDTH ]

[ RR\_BANDWIDTH ]

**AVP Flag** M

## Media-Component-Number

This AVP contains the ordinal number of the media component.

**Vendor ID** 10415

**VSA Type** 518

**AVP Type** UINT32

**AVP Flag** M

## Media-Initiator-Flag

This AVP indicates which party has requested the session modification.

**Vendor ID** 10415

**VSA Type** 882

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Media-Initiator-Party

This AVP enumerated in IMS charging, holds the address (SIP URI or TEL URI) of the party (Public User ID or Public Service ID) who initiates the media action, like adding/removing, connecting/disconnecting the media.

**Vendor ID** 10415

**VSA Type** 1288

**AVP Type** UTF8STRING

**AVP Flag** M

## Media-Sub-Component

The requested QoS and filters for the set of IP flows identified by their common Flow-Identifier.

**Vendor ID** 10415

**VSA Type** 519

**AVP Type** GROUPED

Supported group value(s):

[ FLOW\_NUMBER ]

[ FLOW\_DESCRIPTION ]

[ FLOW\_STATUS ]

[ FLOW\_USAGE ]

[ MAX\_REQUESTED\_BANDWIDTH\_UL ]

[ MAX\_REQUESTED\_BANDWIDTH\_DL ]

**AVP Flag** M

## Media-Type

This AVP indicates the type of media in the same way as the SDP media types with the same names like AUDIO, VIDEO.

**Vendor ID** 10415



**VSA Type** 520

**AVP Type** ENUM

Supported enumerated value(s):

0 AUDIO

1 VIDEO

2 DATA

3 APPLICATION

4 CONTROL

5 TEXT

6 MESSAGE

**AVP Flag** M

## Message-Body

This grouped AVP contains information about the message bodies including user-to-user data.

**Vendor ID** 10415

**VSA Type** 889

**AVP Type** GROUPED

Supported group value(s):

[ CONTENT\_TYPE ]

[ CONTENT\_LENGTH ]

[ CONTENT\_DISPOSITION ]

[ ORIGINATOR ]

**AVP Flag** M

## Meter-Exclude

Meter-Exclude

**Vendor ID** 9

**VSA Type** 131110

**AVP Type** ENUM

Supported enumerated value(s):

0 MMS\_WAP

1 RTSP\_PAUSE

2 SERVICE\_IDLE

3 NETWORK\_INIT\_SIP

AVP Flag M

## Meter-Include-Imap

Meter-Include-Imap

**Vendor ID** 9

**VSA Type** 131111

**AVP Type** ENUM

Supported enumerated value(s):

0 BODY\_AND\_HEADER

1 BODY\_ONLY

2 BODY\_AND\_OTHER

AVP Flag M

## Meter-Increment

Meter-Increment

**Vendor ID** 9

**VSA Type** 131113

**AVP Type** UINT32

AVP Flag N/A

## Meter-Initial

Meter-Initial

**Vendor ID** 9

**VSA Type** 131114

**AVP Type** UINT32

AVP Flag N/A

## Meter-Minimum

Meter-Minimum

**Vendor ID** 9

**VSA Type** 131115

**AVP Type** UINT32

AVP Flag N/A

## Metering-Granularity

Metering-Granularity

**Vendor ID** 9

**VSA Type** 131112

**AVP Type** GROUPED

Supported group value(s):

[ METER\_INCREMENT ]

[ METER\_INITIAL ]

[ METER\_MINIMUM ]

**AVP Flag** M

## Metering-Method

This AVP indicates what parameters will be metered for offline charging.

**Vendor ID** 10415

**VSA Type** 1007

**AVP Type** ENUM

Supported enumerated value(s):

0 DURATION

1 VOLUME

2 DURATION\_VOLUME

**AVP Flag** M

## Min-Bandwidth-DL

This AVP contains the requested/granted data rate information, in bits per second, for the mobile in the downlink direction for the associated IP flow.

**Vendor ID** 5535

**VSA Type** 1012

**AVP Type** UINT32

**AVP Flag** M

## Min-Bandwidth-UL

This AVP contains the requested/granted data rate information, in bits per second, for the mobile in the uplink direction for the associated IP flow.

**Vendor ID** 5535

**VSA Type** 1013  
**AVP Type** UINT32  
**AVP Flag** M

## Mining

Mining  
**Vendor ID** 9  
**VSA Type** 131199  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 DISABLED  
1 ENABLED  
**AVP Flag** M

## Mobile-Node-Identifier

This AVP contains MN-NAI identifying the user in EPS network.  
**Vendor ID** 0  
**VSA Type** 89  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Monitoring-Duration

Monitoring-Duration  
**Vendor ID** 10415  
**VSA Type** 3130  
**AVP Type** TIME  
**AVP Flag** M

## Monitoring-Event-Config-Status

Monitoring-Event-Config-Status  
**Vendor ID** 10415  
**VSA Type** 3142  
**AVP Type** GROUPED  
Supported group value(s):

[ SERVICE\_REPORT ]  
[ SCEF\_REFERENCE\_ID ]  
[ SCEF\_ID ]  
**AVP Flag** M

## Monitoring-Event-Configuration

Monitoring-Event-Configuration

**Vendor ID** 10415

**VSA Type** 3122

**AVP Type** GROUPED

Supported group value(s):

[ SCEF\_REFERENCE\_ID ]  
[ SCEF\_ID ]  
[ MONITORING\_TYPE ]  
[ SCEF\_REFERENCE\_ID\_FOR\_DELETION ]  
[ MAXIMUM\_NUMBER\_OF\_REPORTS ]  
[ MONITORING\_DURATION ]  
[ CHARGED\_PARTY ]  
[ UE\_REACHABILITY\_CONFIGURATION ]  
[ LOCATION\_INFORMATION\_CONFIGURATION ]  
[ NUMBER\_OF\_UE\_PER\_LOCATION\_CONFIGURATION ]

**AVP Flag** M

## Monitoring-Event-Report

Monitoring-Event-Report

**Vendor ID** 10415

**VSA Type** 3123

**AVP Type** GROUPED

Supported group value(s):

[ SCEF\_REFERENCE\_ID ]  
[ SCEF\_ID ]  
[ MONITORING\_TYPE ]  
[ REACHABILITY\_INFORMATION ]  
[ EPS\_LOCATION\_INFORMATION ]

[ COMMUNICATION\_FAILURE\_INFORMATION ]

[ NUMBER\_OF\_UE\_PER\_LOCATION\_REPORT ]

**AVP Flag** M

## Monitoring-Key

This AVP serves as an identifier to a usage monitoring control instance. This AVP is used for usage monitoring control purposes.

**Vendor ID** 10415

**VSA Type** 1066

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Monitoring-Type

Monitoring-Type

**Vendor ID** 10415

**VSA Type** 3127

**AVP Type** UINT32

**AVP Flag** M

## Multi-Round-Time-Out

Present in application-specific authorization answer messages whose Result-Code AVP is set to "DIAMETER\_MULTI\_ROUND\_AUTH".

**Vendor ID** 0

**VSA Type** 272

**AVP Type** UINT32

**AVP Flag** N/A

## Multiple-Auth-Profile

This AVP indicates Multiple Authentication requirements for a particular user.

**Vendor ID** 5535

**VSA Type** 30

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Multiple-Auth-Support

This AVP indicates the support of the Multiple Authentication at the SRNC and AGW.

**Vendor ID** 5535

**VSA Type** 29

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Multiple-Registration-Indication

This AVP indicates to the HSS whether or not the request is related to a multiple registration.

**Vendor ID** 10415

**VSA Type** 648

**AVP Type** ENUM

Supported enumerated value(s):

0 NOT\_MULTIPLE\_REGISTRATION

1 MULTIPLE\_REGISTRATION

**AVP Flag** N/A

## Multiple-Services-Credit-Control

This grouped AVP contains the AVPs related to the independent credit-control of multiple services feature.

**Vendor ID** 0

**VSA Type** 456

**AVP Type** GROUPED

Supported group value(s):

[ REQUESTED\_SERVICE\_UNIT ]

[ GRANTED\_SERVICE\_UNIT ]

[ USED\_SERVICE\_UNIT ]

[ TARIFF\_CHANGE\_USAGE ]

[ SERVICE\_IDENTIFIER ]

[ RATING\_GROUP ]

[ G\_S\_U\_POOL\_REFERENCE ]

[ VALIDITY\_TIME ]

[ RESULT\_CODE ]

[ FINAL\_UNIT\_INDICATION ]

AVP Flag M

## Multiple-Services-Indicator

This AVP indicates support for independent credit-control of multiple services within the session.

**Vendor ID** 0

**VSA Type** 455

**AVP Type** ENUM

Supported enumerated value(s):

0 MULTIPLE\_SERVICES\_NOT\_SUPPORTED

1 MULTIPLE\_SERVICES\_SUPPORTED

AVP Flag M

## Mute-Notification

This AVP is used to mute the notification to the PCRF of the detected application's start/stop for the specific ADC/PCC rule from PCEF.

**Vendor ID** 10415

**VSA Type** 2809

**AVP Type** ENUM

Supported enumerated value(s):

0 MUTE\_REQUIRED

AVP Flag N/A

## NAS-Filter-Rule

This AVP contains filter rules that need to be configured on the NAS for the user.

**Vendor ID** 0

**VSA Type** 400

**AVP Type** IPFILTERRULE

AVP Flag M

## NAS-IP-Address

This AVP contains the IP address of the NAS providing service to the user.

**Vendor ID** 0

**VSA Type** 4

**AVP Type** OCTETSTRING



**AVP Flag** M

## NAS-IPv6-Address

This AVP contains the IPv6 address of the NAS providing service to the user.

**Vendor ID** 0

**VSA Type** 95

**AVP Type** OCTETSTRING

**AVP Flag** M

## NAS-Identifier

This AVP contains identity of the NAS providing service to the user.

**Vendor ID** 0

**VSA Type** 32

**AVP Type** UTF8STRING

**AVP Flag** M

## NAS-Port

This AVP contains the physical or virtual port number of the NAS which is authenticating the user.

**Vendor ID** 0

**VSA Type** 5

**AVP Type** UINT32

**AVP Flag** M

## NAS-Port-Id

This AVP contains ASCII text identifying the port of the NAS authenticating the user.

**Vendor ID** 0

**VSA Type** 87

**AVP Type** UTF8STRING

**AVP Flag** M

## NAS-Port-Type

This AVP contains the type of the port on which the NAS is authenticating the user.

**Vendor ID** 0

**VSA Type** 61

**AVP Type** ENUM

Supported enumerated value(s):

- 0 Async
- 1 Sync
- 2 ISDN\_Sync
- 3 ISDN\_Async\_V120
- 4 ISDN\_Async\_V110
- 5 Virtual
- 6 PIAFS
- 7 HDLC\_Clear\_Channel
- 8 X25
- 9 X75
- 10 G3\_Fax
- 12 ADSL-CAP-AsymmetricDSL\_Carrierless-Amplitude-Phase-Modulation
- 13 ADSL-DMT-AsymmetricDSL-Discrete-Multi-Tone
- 14 IDSL-ISDN-Digital-Subscriber-Line
- 15 Ethernet
- 16 xDSL-Digital-Subscriber-Line-of-unknown-type
- 17 Cable
- 18 Wireless-Other
- 19 Wireless-IEEE802\_11
- 20 Token-Ring\_RAD802\_1X
- 21 FDDI\_RAD802\_1X
- 22 Wireless-CDMA2000
- 23 Wireless-UMTS
- 24 Wireless-1X-EV
- 25 IAPP\_IEEE-802\_11f

**AVP Flag** M

## NOR-Flags

The NOR-Flags AVP contains a bit mask.

**Vendor ID** 10415**VSA Type** 1443**AVP Type** UINT32

**AVP Flag** M

## NetLoc-Access-Support

NetLoc-Access-Support

**Vendor ID** 10415

**VSA Type** 2824

**AVP Type** ENUM

Supported enumerated value(s):

0 NETLOC\_ACCESS\_NOT\_SUPPORTED

**AVP Flag** N/A

## Network-Access-Mode

This AVP indicates whether the subscriber is registered to get access to the CS, PS network, or to both networks.

**Vendor ID** 10415

**VSA Type** 1417

**AVP Type** ENUM

Supported enumerated value(s):

0 PACKET\_AND\_CIRCUIT

1 ONLY\_CIRCUIT

2 ONLY\_PACKET

**AVP Flag** M

## Network-Element-Type

Network-Element-Type

**Vendor ID** 10415

**VSA Type** 1461

**AVP Type** ENUM

Supported enumerated value(s):

0 MME

1 SGSN

2 Serving-GW

3 PDN-GW

4 eNodeB

5 RNC

**AVP Flag** M

## Network-Request-Support

This AVP indicates the UE and network support of the network requested bearer control mode.

**Vendor ID** 10415

**VSA Type** 1024

**AVP Type** ENUM

Supported enumerated value(s):

0 NETWORK\_REQUEST\_NOT\_SUPPORTED

1 NETWORK\_REQUEST\_SUPPORTED

**AVP Flag** M

## New-Dialog-Id

This AVP contains the SIP dialog identifier in the form: Call-ID=x;FTag=y;TTag=z, where x is the value of the SIP Call-ID header, y is the contents of the From header tag, and z is the contents of the To header tag. If the To header tag value is not present in the SIP message then TTag field **MUST** not be present in the AVP.

**Vendor ID** 4491

**VSA Type** 219

**AVP Type** UTF8STRING

**AVP Flag** M

## Nexthop

Nexthop

**Vendor ID** 9

**VSA Type** 131137

**AVP Type** ADDRESS

**AVP Flag** M

## Nexthop-Downlink

Nexthop-Downlink

**Vendor ID** 9

**VSA Type** 131084

**AVP Type** ADDRESS

**AVP Flag** M

## NextHop-Media

NextHop-Media

**Vendor ID** 9

**VSA Type** 131211

**AVP Type** ADDRESS

**AVP Flag** M

## NextHop-Override

NextHop-Override

**Vendor ID** 9

**VSA Type** 131212

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag** M

## NextHop-Uplink

NextHop-Uplink

**Vendor ID** 9

**VSA Type** 131083

**AVP Type** ADDRESS

**AVP Flag** M

## Node-Functionality

This AVP includes the functionality identifier of the node where the cause code was generated.

**Vendor ID** 0

**VSA Type** 862

**AVP Type** ENUM

Supported enumerated value(s):

0 S-CSCF

1 P-CSCF

2 I-CSCF

**AVP Flag** M

## Node-Id

This AVP contains the operator configurable identifier string for the node that had generated the ACR.

**Vendor ID** 10415

**VSA Type** 2064

**AVP Type** UTF8STRING

**AVP Flag** M

## Node-Type

Node-Type

**Vendor ID** 10415

**VSA Type** 3162

**AVP Type** UINT32

**AVP Flag** M

## Non-IP-Data

Non-IP-Data

**Vendor ID** 10415

**VSA Type** 4315

**AVP Type** OCTETSTRING

**AVP Flag** M

## Non-IP-Data-Delivery-Mechanism

Non-IP-Data-Delivery-Mechanism

**Vendor ID** 10415

**VSA Type** 1682

**AVP Type** ENUM

Supported enumerated value(s):

0 SGI-BASED-DATA-DELIVERY

1 SCEF-BASED-DATA-DELIVERY

**AVP Flag** N/A

## Non-IP-PDN-Type-Indicator

Non-IP-PDN-Type-Indicator

**Vendor ID** 10415

**VSA Type** 1681

**AVP Type** ENUM

Supported enumerated value(s):

0 FALSE

1 TRUE

**AVP Flag** N/A

## Nortel-Data-Reference

This AVP indicates the type of the Nortel-specific user data requested or updated in the UDR and PUR operation.

**Vendor ID** 0

**VSA Type** 301

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Notification-To-UE-User

Notification-To-UE-User

**Vendor ID** 10415

**VSA Type** 1478

**AVP Type** ENUM

Supported enumerated value(s):

0 NOTIFY\_LOCATION\_ALLOWED

1 NOTIFYANDVERIFY\_ALLOWED\_IF\_NO\_RESPONSE

2 NOTIFYANDVERIFY\_NOT\_ALLOWED\_IF\_NO\_RESPONSE

3 LOCATION\_NOT\_ALLOWED

**AVP Flag** M

## Number-Of-Requested-Vectors

This AVP contains the number of AVs the MME is prepared to receive.

**Vendor ID** 10415

**VSA Type** 6013

**AVP Type** UINT32

**AVP Flag** M

## Number-Of-UE-Per-Location-Configuration

Number-Of-UE-Per-Location-Configuration

**Vendor ID** 10415

**VSA Type** 4306

**AVP Type** GROUPED

Supported group value(s):

[ EPS\_LOCATION\_INFORMATION ]

**AVP Flag** M

## Number-Of-UE-Per-Location-Report

Number-Of-UE-Per-Location-Report

**Vendor ID** 10415

**VSA Type** 4307

**AVP Type** GROUPED

Supported group value(s):

[ EPS\_LOCATION\_INFORMATION ]

[ UE\_COUNT ]

**AVP Flag** M

## Number-Portability-Routing-Information

This AVP contains information on routing number received by S-CSCF during number portability look-up (ENUM/DNS).

**Vendor ID** 10415

**VSA Type** 2024

**AVP Type** UTF8STRING

**AVP Flag** M

## OC-Feature-Vector

OC-Feature-Vector

**Vendor ID** 10415

**VSA Type** 622

**AVP Type** UINT64

**AVP Flag** M



## OC-OLR

OC-OLR

**Vendor ID** 10415

**VSA Type** 623

**AVP Type** GROUPED

Supported group value(s):

[ OC\_SEQUENCE\_NUMBER ]

[ OC\_REPORT\_TYPE ]

[ OC\_REDUCTION\_PERCENTAGE ]

[ OC\_VALIDITY\_DURATION ]

**AVP Flag** M

## OC-Reduction-Percentage

OC-Reduction-Percentage

**Vendor ID** 10415

**VSA Type** 627

**AVP Type** UINT32

**AVP Flag** M

## OC-Report-Type

OC-Report-Type

**Vendor ID** 10415

**VSA Type** 626

**AVP Type** ENUM

Supported enumerated value(s):

0 HOST-REPORT

1 REALM-REPORT

**AVP Flag** M

## OC-Sequence-Number

OC-Sequence-Number

**Vendor ID** 10415

**VSA Type** 624

**AVP Type** UINT64

AVP Flag M

## OC-Supported-Features

OC-Supported-Features

**Vendor ID** 10415

**VSA Type** 621

**AVP Type** GROUPED

Supported group value(s):

[ OC\_FEATURE\_VECTOR ]

AVP Flag M

## OC-Validity-Duration

OC-Validity-Duration

**Vendor ID** 10415

**VSA Type** 625

**AVP Type** UINT32

AVP Flag M

## OMC-Id

OMC-Id

**Vendor ID** 10415

**VSA Type** 1466

**AVP Type** OCTETSTRING

AVP Flag M

## Offline

Defines whether the offline charging interface from the TPF for the associated charging rule shall be enabled.

**Vendor ID** 10415

**VSA Type** 1008

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE\_OFFLINE

1 ENABLE\_OFFLINE

AVP Flag M

## OFR-Flags

OFR-Flags  
**Vendor ID** 10415  
**VSA Type** 3328  
**AVP Type** UINT32  
**AVP Flag** N/A

## Online

Defines whether the online charging interface from the TPF for the associated charging rule shall be enabled.

**Vendor ID** 10415  
**VSA Type** 1009  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 DISABLE\_ONLINE  
1 ENABLE\_ONLINE  
**AVP Flag** M

## Online-Billing-Basis

Online-Billing-Basis  
**Vendor ID** 9  
**VSA Type** 131093  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 INVALID  
1 EVENT  
2 IP\_BYTE  
3 TCP\_BYTE  
4 DURATION  
5 DURATION\_OF\_CONNECTION  
6 DURATION\_OF\_TRANSACTION  
**AVP Flag** M

## Online-Charging-Flag

Online-Charging-Flag

**Vendor ID** 10415  
**VSA Type** 2303  
**AVP Type** ENUM  
Supported enumerated value(s): none  
**AVP Flag** M

## Online-Passthrough-Quota

Online-Passthrough-Quota  
**Vendor ID** 9  
**VSA Type** 131104  
**AVP Type** UINT32  
**AVP Flag** N/A

## Online-Reauthorization-Threshold

Online-Reauthorization-Threshold  
**Vendor ID** 9  
**VSA Type** 131105  
**AVP Type** UINT32  
**AVP Flag** N/A

## Online-Reauthorization-Timeout

Online-Reauthorization-Timeout  
**Vendor ID** 9  
**VSA Type** 131106  
**AVP Type** GROUPED  
Supported group value(s):  
[ INITIAL\_TIMEOUT ]  
[ MAXIMUM\_TIMEOUT ]  
**AVP Flag** M

## Operation-Status

Operation-Status  
**Vendor ID** 9  
**VSA Type** 131135

**AVP Type** ENUM

Supported enumerated value(s):

0 OUT\_OF\_SERVICE

1 IN\_SERVICE

**AVP Flag** M

## Operator-Determined-Barring

This AVP contains a bit mask indicating the services of a subscriber that are barred by the operator.

**Vendor ID** 10415

**VSA Type** 1425

**AVP Type** UINT32

**AVP Flag** M

## Operator-Name

Operator-Name

**Vendor ID** 0

**VSA Type** 126

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Optional-Capability

This AVP contains single determined optional capability of an S-CSCF.

**Vendor ID** 10415

**VSA Type** 605

**AVP Type** UINT32

**AVP Flag** M

## Origin-Host

This AVP indicates the endpoint that originated the Diameter message.

**Vendor ID** 0

**VSA Type** 264

**AVP Type** DIAMIDENT

**AVP Flag** M

## Origin-Realm

This AVP indicates the realm of the originator of any Diameter message, and is present in all messages.

**Vendor ID** 0

**VSA Type** 296

**AVP Type** DIAMIDENT

**AVP Flag** M

## Origin-State-Id

The Origin-State-Id AVP is a monotonically increasing value that is advanced whenever a Diameter entity restarts with loss of previous state, for example upon reboot. Origin-State-Id MAY be included in any Diameter message, including CER.

**Vendor ID** 0

**VSA Type** 278

**AVP Type** UINT32

**AVP Flag** M

## Originating-IOI

This AVP holds the Inter Operator Identifier (IOI) for the originating network as generated by the S-CSCF in the home network of the originating end user.

**Vendor ID** 0

**VSA Type** 839

**AVP Type** UTF8STRING

**AVP Flag** M

## Originating-Line-Info

Sent by the NAS system to convey information about the origin of the call from an SS7 system.

**Vendor ID** 0

**VSA Type** 94

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Originating-Request

This AVP indicates that the request is related to an AS originating SIP request in the Location-Information-Request operation.

**Vendor ID** 10415

**VSA Type** 633

**AVP Type** ENUM

Supported enumerated value(s):

0 ORIGINATING

**AVP Flag** M

## Originating-SIP-URI

Originating-SIP-URI

**Vendor ID** 10415

**VSA Type** 3326

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Origination-TimeStamp

This AVP indicates the time (NTP synced) when the request message is sent to AAA Server from ePDG/MME. It is an 8-byte value that is encoded as the number of milliseconds elapsed since NTP time.

**Vendor ID** 9

**VSA Type** 132050

**AVP Type** UINT64

**AVP Flag** N/A

## Originator

This AVP indicates the originating party of the message body.

**Vendor ID** 10415

**VSA Type** 864

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Outgoing-Trunk-Group-ID

This AVP identifies the outgoing PSTN leg.

**Vendor ID** 0

**VSA Type** 853

**AVP Type** UTF8STRING

AVP Flag M

## Override-Allocation-Retention-Priority

This AVP is of type grouped and is used to override the pre-configured value of ARP.

**Vendor ID** 9

**VSA Type** 132036

**AVP Type** GROUPED

Supported group value(s):

[ OVERRIDE\_PRIORITY\_LEVEL ]

[ OVERRIDE\_PRE\_EMPTION\_CAPABILITY ]

[ OVERRIDE\_PRE\_EMPTION\_VULNERABILITY ]

**AVP Flag** N/A

## Override-Charging-Action-Exclude-Rule

This AVP defines the rule name for which override-control will not be applied. This AVP may be included more than once if more than one rule needs to be excluded.

**Vendor ID** 9

**VSA Type** 132021

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Override-Charging-Action-Name

This AVP specifies the charging action name that has to be overridden.

**Vendor ID** 9

**VSA Type** 132020

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Override-Charging-Action-Parameters

This AVP is used to override pre-configured values of a charging action. If Override-Rule-Name is not present, all rules (static and predefined) configured with the specified charging action are effected. The overriding parameters will not be applied for all rules specified by Exclude-Rule AVP.

**Vendor ID** 9

**VSA Type** 132019

**AVP Type** GROUPED



Supported group value(s):

[ EXECUTION\_TIME ]  
[ OVERRIDE\_CONTROL\_PENDING\_QUEUE\_ACTION ]  
[ OVERRIDE\_CHARGING\_ACTION\_NAME ]  
[ OVERRIDE\_CHARGING\_ACTION\_EXCLUDE\_RULE ]  
[ OVERRIDE\_CHARGING\_PARAMETERS ]  
[ OVERRIDE\_POLICY\_PARAMETERS ]

**AVP Flag** N/A

## Override-Charging-Parameters

This AVP is used to override the charging parameters configured at P-GW for a rule (static/predefined) or for a charging action. If Override-Rule-Name AVP is present, these parameters apply only to that rule(s). Else, all rules (static and predefined) configured with the specified charging action are effected.

**Vendor ID** 9

**VSA Type** 132022

**AVP Type** GROUPED

Supported group value(s):

[ OVERRIDE\_SERVICE\_IDENTIFIER ]  
[ OVERRIDE\_RATING\_GROUP ]  
[ OVERRIDE\_ONLINE ]  
[ OVERRIDE\_OFFLINE ]

**AVP Flag** N/A

## Override-Content-Filtering-State

This attribute carries information about Content Filtering status (CF state) of rules or charging-action. This AVP is used for overriding the content-filtering status of static and predefined rules. This attribute is included in the Override-Control grouped AVP.

**Vendor ID** 9

**VSA Type** 132028

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE\_CF  
1 ENABLE\_CF

**AVP Flag** N/A

## Override-Control

This AVP is used to enable the PCRF to override charging and policy parameters for a specified set of rules or charging actions. This AVP may be present more than once if override at rule level and charging action level are to be sent in the same message.

**Vendor ID** 9

**VSA Type** 132017

**AVP Type** GROUPED

Supported group value(s):

[ OVERRIDE\_CONTROL\_NAME ]

[ OVERRIDE\_RULE\_NAME ]

[ OVERRIDE\_CHARGING\_ACTION\_PARAMETERS ]

**AVP Flag** N/A

## Override-Control-Merge-Wildcard

Override-Control-Merge-Wildcard

**Vendor ID** 9

**VSA Type** 132079

**AVP Type** ENUM

Supported enumerated value(s):

0 TRUE

**AVP Flag** N/A

## Override-Control-Name

This AVP specifies the name of the Override-Control. This AVP may be included more than once if multiple overrides need to be disabled.

**Vendor ID** 9

**VSA Type** 132052

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Override-Control-Pending-Queue-Action

Override-Control-Pending-Queue-Action

**Vendor ID** 9

**VSA Type** 132078

**AVP Type** ENUM

Supported enumerated value(s):

0 FLUSH

1 RETAIN

**AVP Flag** N/A

## Override-Guaranteed-Bitrate-DL

This AVP defines the guaranteed bit rate allowed for downlink direction. This AVP will be included only for rules on dedicated bearers.

**Vendor ID** 9

**VSA Type** 132035

**AVP Type** UINT32

**AVP Flag** N/A

## Override-Guaranteed-Bitrate-UL

This AVP defines the guaranteed bit rate allowed for uplink direction. This AVP will be included only for rules on dedicated bearers.

**Vendor ID** 9

**VSA Type** 132034

**AVP Type** UINT32

**AVP Flag** N/A

## Override-Max-Requested-Bandwidth-DL

This AVP defines the maximum bit rate allowed for the downlink direction.

**Vendor ID** 9

**VSA Type** 132033

**AVP Type** UINT32

**AVP Flag** N/A

## Override-Max-Requested-Bandwidth-UL

This AVP defines the maximum bit rate allowed for the uplink direction.

**Vendor ID** 9

**VSA Type** 132032

**AVP Type** UINT32

**AVP Flag** N/A

## Override-NextHop-Address

This attribute indicates the override next hop address in dotted decimal format.

**Vendor ID** 9

**VSA Type** 132054

**AVP Type** ADDRESS

**AVP Flag** N/A

## Override-Offline

This AVP is used to override the Offline flag configured in the charging action specified by Charging-Action-Name.

**Vendor ID** 9

**VSA Type** 132027

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE\_OFFLINE

1 ENABLE\_OFFLINE

**AVP Flag** N/A

## Override-Online

This AVP is used to override the Online flag configured in the charging action specified by Charging-Action-Name.

**Vendor ID** 9

**VSA Type** 132026

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE\_ONLINE

1 ENABLE\_ONLINE

**AVP Flag** N/A

## Override-Policy-Parameters

This AVP is used to override the Policy parameters configured at P-GW for a rule (static/predefined) or for a charging action. If Override-Rule-Name AVP is present, these parameters apply only to that rule(s). Else, all rules (static and predefined) configured with the specified charging action are effected.

**Vendor ID** 9

**VSA Type** 132029

**AVP Type** GROUPED

Supported group value(s):

[ OVERRIDE\_QOS\_INFORMATION ]

[ OVERRIDE\_NEXTHOP\_ADDRESS ]

[ OVERRIDE\_TOS\_VALUE ]

[ OVERRIDE\_CONTENT\_FILTERING\_STATE ]

**AVP Flag** N/A

## Override-Pre-Emption-Capability

Override-Pre-Emption-Capability

**Vendor ID** 9

**VSA Type** 132038

**AVP Type** ENUM

Supported enumerated value(s):

0 PRE-EMPTION\_CAPABILITY\_ENABLED

1 PRE-EMPTION\_CAPABILITY\_DISABLED

**AVP Flag** N/A

## Override-Pre-Emption-Vulnerability

Override-Pre-Emption-Vulnerability

**Vendor ID** 9

**VSA Type** 132039

**AVP Type** ENUM

Supported enumerated value(s):

0 PRE-EMPTION\_VULNERABILITY\_ENABLED

1 PRE-EMPTION\_VULNERABILITY\_DISABLED

**AVP Flag** N/A

## Override-Priority-Level

Override-Priority-Level

**Vendor ID** 9

**VSA Type** 132037

**AVP Type** UINT32

**AVP Flag** N/A

## Override-QoS-Class-Identifier

This AVP denotes the value of Override QoS Class Identifier. The allowed values for the nine standard QCIs are defined in 3GPP TS 23.203 specification.

**Vendor ID** 9

**VSA Type** 132031

**AVP Type** ENUM

Supported enumerated value(s):

1 TRAFFIC\_CLASS\_A

2 TRAFFIC\_CLASS\_B

3 TRAFFIC\_CLASS\_C

4 TRAFFIC\_CLASS\_D

5 TRAFFIC\_CLASS\_E

6 TRAFFIC\_CLASS\_F

7 TRAFFIC\_CLASS\_G

8 TRAFFIC\_CLASS\_H

9 TRAFFIC\_CLASS\_I

**AVP Flag** N/A

## Override-QoS-Information

This AVP is used to override QoS-Information for a predefined rule or charging action. These values are ignored (if present) while applying override values to a static rule.

**Vendor ID** 9

**VSA Type** 132030

**AVP Type** GROUPED

Supported group value(s):

[ OVERRIDE\_MAX\_REQUESTED\_BANDWIDTH\_UL ]

[ OVERRIDE\_MAX\_REQUESTED\_BANDWIDTH\_DL ]

[ OVERRIDE\_GUARANTEED\_BITRATE\_UL ]

[ OVERRIDE\_GUARANTEED\_BITRATE\_DL ]

[ OVERRIDE\_ALLOCATION\_RETENTION\_PRIORITY ]

[ OVERRIDE\_QOS\_CLASS\_IDENTIFIER ]

**AVP Flag** N/A

## Override-Rating-Group

This AVP is used to override the value of Rating group configured in the charging action specified by Charging-Action-Name.

**Vendor ID** 9

**VSA Type** 132024

**AVP Type** UINT32

**AVP Flag** N/A

## Override-Rule-Name

Specifies the name of the rule (predefined or static) for which override values are sent. This AVP may be included more than once if the override values apply for multiple rules. Charging-Action-Name and Exclude-Rule AVPs should not be sent and will be ignored if this AVP is present.

**Vendor ID** 9

**VSA Type** 132018

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Override-Service-Identifier

This AVP is used to override the value of Service Identifier configured in the charging action.

**Vendor ID** 9

**VSA Type** 132023

**AVP Type** UINT32

**AVP Flag** N/A

## Override-Tos-Direction

This AVP indicates the Override Type of Service (ToS) direction. Value 0 indicates Uplink direction, 1 denotes Downlink direction, 2 denotes both Uplink and Downlink. If AVP is not present it denotes both Uplink and Downlink.

**Vendor ID** 9

**VSA Type** 132047

**AVP Type** ENUM

Supported enumerated value(s):

0 UPLINK\_DIRECTION

1 DOWNLINK\_DIRECTION

2 BIDIRECTIONAL

**AVP Flag** N/A

## Override-Tos-Value

This AVP is of type grouped and is used to override IP ToS value. This AVP may be included more than once if different ToS value needs to be overridden for uplink and downlink direction.

**Vendor ID** 9

**VSA Type** 132046

**AVP Type** GROUPED

Supported group value(s):

[ OVERRIDE\_TOS\_DIRECTION ]

[ OVERRIDE\_TOS\_VALUE\_STANDARD ]

[ OVERRIDE\_TOS\_VALUE\_CUSTOM ]

**AVP Flag** N/A

## Override-Tos-Value-Custom

This AVP specifies the custom ToS value. Customized value can be a decimal from 0 to 63. This AVP will be present only when Override-Tos-Value-standard is not provided.

**Vendor ID** 9

**VSA Type** 132049

**AVP Type** UINT32

**AVP Flag** N/A

## Override-Tos-Value-Standard

This AVP specifies the standard ToS value. Valid standard value can be af11 or af12 or af13 or af21 or af22 or af23 or af31 or af32 or af33 or af41 or af42 or af43 or be or ef, since these are the only standard ToS values configured through CLI as per RFC 2597. This AVP will be present only if Override-Tos-Value-Custom AVP is not present.

**Vendor ID** 9

**VSA Type** 132048

**AVP Type** ENUM

Supported enumerated value(s):

0 be

10 af11

12 af12

14 af13

18 af21



20 af22

22 af23

26 af31

28 af32

30 af33

34 af41

36 af42

38 af43

46 ef

**AVP Flag** N/A

## Owner-Id

Owner-Id

**Vendor ID** 9

**VSA Type** 131102

**AVP Type** OCTETSTRING

**AVP Flag** M

## Owner-Name

Owner-Name

**Vendor ID** 9

**VSA Type** 131103

**AVP Type** OCTETSTRING

**AVP Flag** M

## PC-Digest-Algorithm

PC-Digest-Algorithm

**Vendor ID** 4491

**VSA Type** 204

**AVP Type** OCTETSTRING

**AVP Flag** M

## PC-Digest-Auth-Param

PC-Digest-Auth-Param

**Vendor ID** 4491

**VSA Type** 205

**AVP Type** OCTETSTRING

**AVP Flag** M

## PC-Digest-Domain

PC-Digest-Domain

**Vendor ID** 4491

**VSA Type** 206

**AVP Type** OCTETSTRING

**AVP Flag** M

## PC-Digest-HA1

PC-Digest-HA1

**Vendor ID** 4491

**VSA Type** 207

**AVP Type** OCTETSTRING

**AVP Flag** M

## PC-Digest-QoP

PC-Digest-QoP

**Vendor ID** 4491

**VSA Type** 208

**AVP Type** OCTETSTRING

**AVP Flag** M

## PC-Digest-Realm

PC-Digest-Realm

**Vendor ID** 4491

**VSA Type** 209

**AVP Type** OCTETSTRING

**AVP Flag** M

## PC-SIP-Digest-Authenticate

PC-SIP-Digest-Authenticate

**Vendor ID** 4491

**VSA Type** 228

**AVP Type** GROUPED

Supported group value(s):

[ PC\_DIGEST\_REALM ]

[ PC\_DIGEST\_DOMAIN ]

[ PC\_DIGEST\_ALGORITHM ]

[ PC\_DIGEST\_QOP ]

[ PC\_DIGEST\_HA1 ]

[ PC\_DIGEST\_AUTH\_PARAM ]

**AVP Flag** M

## PCC-Rule-Status

This AVP contains the status of a Policy and Charging Control (PCC) Rule.

**Vendor ID** 10415

**VSA Type** 1019

**AVP Type** ENUM

Supported enumerated value(s):

0 ACTIVE

1 INACTIVE

2 TEMPORARILY\_INACTIVE

10 ACTIVE\_WITHOUT\_CREDIT\_CONTROL

**AVP Flag** M

## PCRF-Correlation-Id

PCRF-Correlation-Id

**Vendor ID** 9

**VSA Type** 132043

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## PCSCF-Restoration-Indication

This AVP indicates to the PCEF that a P-CSCF Restoration is requested.

**Vendor ID** 10415

**VSA Type** 2826

**AVP Type** UINT32

**AVP Flag** N/A

## PDFID

This value matches all records from the same packet data flow.

**Vendor ID** 24757

**VSA Type** 26

**AVP Type** OCTETSTRING

**AVP Flag** M

## PDG-Address

This AVP contains IP address of the PDG.

**Vendor ID** 10415

**VSA Type** 895

**AVP Type** ADDRESS

**AVP Flag** M

## PDG-Charging-Id

This AVP contains the charging identifier generated by the PDG for the tunnel. Charging identifier is generated at tunnel establishment and transferred to 3GPP AAA Server.

**Vendor ID** 10415

**VSA Type** 896

**AVP Type** UINT32

**AVP Flag** M

## PDN-Connection-Charging-Id

PDN-Connection-Charging-Id

**Vendor ID** 10415

**VSA Type** 2050

**AVP Type** UINT32

**AVP Flag** M

## PDN-Connection-ID

This AVP contains the charging identifier to identify different records belonging to same PDN connection.

**Vendor ID** 10415

**VSA Type** 2050

**AVP Type** UINT32

**AVP Flag** M

## PDN-GW-Address

IP address of the PDN GW and this IP address shall be used as the PDN GW IP address.

**Vendor ID** 10415

**VSA Type** 6041

**AVP Type** ADDRESS

**AVP Flag** M

## PDN-GW-Allocation-Type

PDN-GW-Allocation-Type

**Vendor ID** 10415

**VSA Type** 1438

**AVP Type** ENUM

Supported enumerated value(s):

0 STATIC

1 DYNAMIC

**AVP Flag** M

## PDN-GW-Identity

PDN-GW-Identity

**Vendor ID** 10415

**VSA Type** 6044

**AVP Type** GROUPED

Supported group value(s):

[ PDN\_GW\_ADDRESS ]

[ PDN\_GW\_NAME ]

**AVP Flag** M

## PDN-GW-Name

FQDN which is used to derive the PDN GW IP address using Domain Name Service function.

**Vendor ID** 10415

**VSA Type** 6042

**AVP Type** UTF8STRING

**AVP Flag** M

## PDN-Type

This AVP indicates the address type of PDN. It can be IPv4,IPv6 or both.

**Vendor ID** 10415

**VSA Type** 1456

**AVP Type** ENUM

Supported enumerated value(s):

0 IPv4

1 IPv6

2 IPv4v6

**AVP Flag** M

## PDP-Address

This AVP contains IP address associated with the IP CAN bearer session (PDP context / PDN connection).

**Vendor ID** 10415

**VSA Type** 1227

**AVP Type** ADDRESS

**AVP Flag** M

## PDP-Context

This AVP contains the list of PDP contexts to which a user has subscribed.

**Vendor ID** 10415

**VSA Type** 1469

**AVP Type** GROUPED

Supported group value(s):

[ CONTEXT\_IDENTIFIER ]

[ PDP\_TYPE ]  
[ QOS\_SUBSCRIBED ]  
[ VPLMN\_DYNAMIC\_ADDRESS\_ALLOWED ]  
[ SERVICE\_SELECTION ]  
[ 3GPP\_CHARGING\_CHARACTERISTICS ]  
**AVP Flag** M

## PDP-Context-Type

This AVP contains the type of a PDP Context.

**Vendor ID** 10415

**VSA Type** 1247

**AVP Type** ENUM

Supported enumerated value(s):

0 PRIMARY

1 SECONDARY

**AVP Flag** M

## PDP-Session-Operation

This value is used to report in an indication of bearer termination that this indication refers to the last PDP context within a PDP session. It is only applicable for GPRS.

**Vendor ID** 10415

**VSA Type** 1015

**AVP Type** ENUM

Supported enumerated value(s):

0 PDP-SESSION-TERMINATION

**AVP Flag** M

## PDP-Type

This AVP indicates the type of protocol that is used by MS.

**Vendor ID** 10415

**VSA Type** 1470

**AVP Type** OCTETSTRING

**AVP Flag** M

## PGW-Type

Type of P-GW of current flow.

**Vendor ID** 10415

**VSA Type** 7002

**AVP Type** UINT32

**AVP Flag** M

## PLMN-Client

PLMN-Client

**Vendor ID** 10415

**VSA Type** 1482

**AVP Type** ENUM

Supported enumerated value(s):

0 BROADCAST\_SERVICE

1 O\_AND\_M\_HPLMN

2 O\_AND\_M\_VPLMN

3 ANONYMOUS\_LOCATION

4 TARGET\_UE\_SUBSCRIBED\_SERVICE

**AVP Flag** M

## PMIP6-MAG-Address

This AVP contains IP address of MAG.

**Vendor ID** 10415

**VSA Type** 6070

**AVP Type** ADDRESS

**AVP Flag** M

## PS-Append-Free-Format-Data

This AVP indicates if the information sent in the PS-Free-Format-Data AVP must be appended to the PS-free-format-data stored for the online-session.

**Vendor ID** 10415

**VSA Type** 867

**AVP Type** ENUM

Supported enumerated value(s):



0 APPEND  
1 OVERWRITE  
**AVP Flag** M

## PS-Free-Format-Data

This AVP holds online charging session specific data.

**Vendor ID** 10415  
**VSA Type** 866  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## PS-Furnish-Charging-Information

This grouped AVP contains online charging session specific information.

**Vendor ID** 10415  
**VSA Type** 865  
**AVP Type** GROUPED  
Supported group value(s):  
[ 3GPP\_CHARGING\_ID ]  
[ PS\_FREE\_FORMAT\_DATA ]  
[ PS\_APPEND\_FREE\_FORMAT\_DATA ]  
**AVP Flag** M

## PS-Information

This AVP enables the transmission of additional PS service specific information elements.

**Vendor ID** 10415  
**VSA Type** 874  
**AVP Type** GROUPED  
Supported group value(s):  
[ 3GPP\_CHARGING\_ID ]  
[ 3GPP\_PDP\_TYPE ]  
[ PDP\_ADDRESS ]  
[ 3GPP\_GPRS\_QOS\_NEGOTIATED\_PROFILE ]  
[ 3GPP\_SGSN\_ADDRESS ]  
[ 3GPP\_GGSN\_ADDRESS ]

[ 3GPP\_CG\_ADDRESS ]  
 [ 3GPP\_IMSI\_MCC\_MNC ]  
 [ 3GPP\_GGSN\_MCC\_MNC ]  
 [ 3GPP\_NSAPI ]  
 [ CALLED\_STATION\_ID ]  
 [ 3GPP\_SESSION\_STOP\_INDICATOR ]  
 [ 3GPP\_SELECTION\_MODE ]  
 [ 3GPP\_CHARGING\_CHARACTERISTICS ]  
 [ 3GPP\_SGSN\_MCC\_MNC ]  
 [ 3GPP\_RAT\_TYPE ]  
 [ PDP\_CONTEXT\_TYPE ]  
**AVP Flag M**

## PSCID

This AVP contains the P-GW Session Correlation ID.

**Vendor ID** 10415

**VSA Type** 1450

**AVP Type** OCTETSTRING

**AVP Flag M**

## PUA-Flags

The PUA-Flags AVP contains a bit mask.

**Vendor ID** 10415

**VSA Type** 1442

**AVP Type** UINT32

**AVP Flag M**

## PUR-Flags

PUR-Flags

**Vendor ID** 10415

**VSA Type** 1635

**AVP Type** UINT32

**AVP Flag N/A**

## Packet-Data-Flow-Info

This AVP is unique within the context of an IP-CAN session for the IP flow(s) given within the same Packet-Data-Flow-Info AVP.

**Vendor ID** 24757

**VSA Type** 405

**AVP Type** GROUPED

Supported group value(s):

[ PDFID ]

[ PRECEDENCE ]

[ FLOW\_DESCRIPTION ]

[ WIMAX\_QOS\_INFORMATION ]

**AVP Flag** M

## Packet-Filter-Content

This AVP contains the content of the packet filter as requested by the UE and required by the PCRF to create the PCC rules.

**Vendor ID** 10415

**VSA Type** 1059

**AVP Type** IPFILTERRULE

**AVP Flag** M

## Packet-Filter-Identifier

This AVP indicates identity of the packet filter. The packet filter identifier is assigned by the PCRF and within the scope of the PCRF is unique per UE.

**Vendor ID** 10415

**VSA Type** 1060

**AVP Type** OCTETSTRING

**AVP Flag** M

## Packet-Filter-Information

This AVP contains the information from a single packet filter sent from the PCEF to the PCRF.

**Vendor ID** 10415

**VSA Type** 1061

**AVP Type** GROUPED

Supported group value(s):

[ PACKET\_FILTER\_IDENTIFIER ]  
 [ PRECEDENCE ]  
 [ PACKET\_FILTER\_CONTENT ]  
 [ TOS\_TRAFFIC\_CLASS ]  
 [ SECURITY\_PARAMETER\_INDEX ]  
 [ FLOW\_LABEL ]  
 [ FLOW\_DIRECTION ]  
**AVP Flag M**

## Packet-Filter-Operation

This AVP indicates a UE initiated resource operation that causes a request for PCC rules.

**Vendor ID** 10415

**VSA Type** 1062

**AVP Type** ENUM

Supported enumerated value(s):

0 DELETION

1 ADDITION

2 MODIFICATION

**AVP Flag M**

## Packet-Interval

This AVP indicates the packetization time in millisecond which should be used to calculate the polling or grant interval.

**Vendor ID** 24757

**VSA Type** 414

**AVP Type** UINT32

**AVP Flag M**

## Packet-Size

This AVP indicates the length in bytes of the IP Packet including the IP-header in case of IP-flows where packets have a fixed size.

**Vendor ID** 24757

**VSA Type** 415

**AVP Type** UINT32

**AVP Flag M**

## Paging-Group-Id

Paging-Group-Id  
**Vendor ID** 0  
**VSA Type** 10001  
**AVP Type** UINT32  
**AVP Flag** M

## Path

This AVP contains a comma separated list of SIP proxies in the Path header.  
**Vendor ID** 10415  
**VSA Type** 640  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## Physical-Access-Id

This AVP contains the identity of the physical access where the user equipment is connected.  
**Vendor ID** 0  
**VSA Type** 313  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Policy-Map-Definition

Policy-Map-Definition  
**Vendor ID** 9  
**VSA Type** 131075  
**AVP Type** GROUPED  
Supported group value(s):  
[ POLICY\_MAP\_NAME ]  
[ POLICY\_MAP\_TYPE ]  
[ POLICY\_MAP\_REPLACE ]  
[ POLICY\_MAP\_MATCH\_REMOVE ]  
[ POLICY\_MAP\_MATCH\_INSTALL ]  
**AVP Flag** M

## Policy-Map-Install

Policy-Map-Install

**Vendor ID** 9

**VSA Type** 131179

**AVP Type** GROUPED

Supported group value(s):

[ POLICY\_MAP\_DEFINITION ]

**AVP Flag** M

## Policy-Map-Match

Policy-Map-Match

**Vendor ID** 9

**VSA Type** 131090

**AVP Type** GROUPED

Supported group value(s):

[ MATCH\_STRING ]

[ ATTRIBUTE\_STRING ]

**AVP Flag** M

## Policy-Map-Match-Install

Policy-Map-Match-Install

**Vendor ID** 9

**VSA Type** 131166

**AVP Type** GROUPED

Supported group value(s):

[ POLICY\_MAP\_MATCH ]

**AVP Flag** M

## Policy-Map-Match-Remove

Policy-Map-Match-Remove

**Vendor ID** 9

**VSA Type** 131167

**AVP Type** GROUPED

Supported group value(s):

[ POLICY\_MAP\_MATCH ]

**AVP Flag** M

## Policy-Map-Name

Policy-Map-Name

**Vendor ID** 9

**VSA Type** 131089

**AVP Type** OCTETSTRING

**AVP Flag** M

## Policy-Map-Remove

Policy-Map-Remove

**Vendor ID** 9

**VSA Type** 131180

**AVP Type** GROUPED

Supported group value(s):

[ POLICY\_MAP\_NAME ]

**AVP Flag** M

## Policy-Map-Replace

Policy-Map-Replace

**Vendor ID** 9

**VSA Type** 131168

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag** M

## Policy-Map-Type

Policy-Map-Type

**Vendor ID** 9

**VSA Type** 131165

**AVP Type** ENUM

Supported enumerated value(s):

- 0 URL\_MAP
  - 1 HEADER\_MAP
  - 2 METHOD\_MAP
  - 3 ATTRIBUTE\_MAP
- AVP Flag M**

## Policy-Preload-Error-Code

Policy-Preload-Error-Code

**Vendor ID 9**

**VSA Type 131189**

**AVP Type ENUM**

Supported enumerated value(s):

- 0 INCONSISTENT\_PRELOAD\_DATA
- 1 MANDATORY\_AVP\_MISSING
- 2 FAILURE\_TO\_ENFORCE
- 3 WRONG\_ORDER
- 4 CONFLICT\_WITH\_STATIC\_CONFIG

**AVP Flag M**

## Policy-Preload-Object-Type

Policy-Preload-Object-Type

**Vendor ID 9**

**VSA Type 131121**

**AVP Type ENUM**

Supported enumerated value(s):

- 0 POLICY\_MAP
- 1 BILLING\_POLICY
- 2 CONTENT
- 3 SERVICE
- 4 BILLING\_PLAN
- 5 DOMAIN\_GROUP
- 6 HEADER\_INSERT
- 7 HEADER\_GROUP



8 QOS\_PROFILE

AVP Flag M

## Policy-Preload-Req-Type

Policy-Preload-Req-Type

Vendor ID 9

VSA Type 131120

AVP Type ENUM

Supported enumerated value(s):

0 POLICY\_PRELOAD\_REQ

1 POLICY\_PRELOAD\_RESP

2 POLICY\_PRELOAD\_PUSH

3 POLICY\_PRELOAD\_PUSH\_ACK

AVP Flag M

## Port-Limit

Sets the maximum number of ports the NAS provides to the user.

Vendor ID 0

VSA Type 62

AVP Type UINT32

AVP Flag M

## Port-Number

Port-Number

Vendor ID 13091

VSA Type 455

AVP Type UINT32

AVP Flag N/A

## PRA-Install

Used to provision a list of new or updated Presence Reporting Area(s) for an IP-CAN session

Vendor ID 10415

VSA Type 2845

AVP Type GROUPED

**AVP Flag** N/A

## PRA-Remove

Used to stop the reporting of a list of Presence Reporting Area(s) for an IP-CAN session.

**Vendor ID** 10415

**VSA Type** 2846

**AVP Type** GROUPED

**AVP Flag** N/A

## Pre-emption-Capability

This AVP indicates whether a service data flow can get resources that were already assigned to another service data flow with a lower priority level.

**Vendor ID** 10415

**VSA Type** 1047

**AVP Type** ENUM

Supported enumerated value(s):

0 PRE-EMPTION\_CAPABILITY\_ENABLED

1 PRE-EMPTION\_CAPABILITY\_DISABLED

**AVP Flag** M

## Pre-emption-Vulnerability

This AVP indicates whether a service data flow can lose the resources assigned to it in order to admit a service data flow with higher priority level.

**Vendor ID** 10415

**VSA Type** 1048

**AVP Type** ENUM

Supported enumerated value(s):

0 PRE-EMPTION\_VULNERABILITY\_ENABLED

1 PRE-EMPTION\_VULNERABILITY\_DISABLED

**AVP Flag** M

## Precedence

Defines the precedence of a charging rule in case of overlapping charging rules.

**Vendor ID** 10415

**VSA Type** 1010

**AVP Type** UINT32

**AVP Flag** M

## Preload-Completion-Status

Preload-Completion-Status

**Vendor ID** 9

**VSA Type** 131122

**AVP Type** ENUM

Supported enumerated value(s):

0 ONGOING

1 COMPLETE

**AVP Flag** M

## Presence-Reporting-Area-Elements-List

This AVP contains, for a UE-dedicated presence area, the elements of the Presence Reporting Area. For a core network pre-configured presence reporting area, the element list shall not be present. When the presence area is UE-dedicated, the PCRF may acquire the presence reporting area information from the SPR.

**Vendor ID** 10415

**VSA Type** 2820

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Presence-Reporting-Area-Identifier

This AVP defines a unique identifier for presence reporting area or presence reporting area set.

**Vendor ID** 10415

**VSA Type** 2821

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Presence-Reporting-Area-Information

This AVP contains the information which describes a Presence Reporting Area.

**Vendor ID** 10415

**VSA Type** 2822

**AVP Type** GROUPED

Supported group value(s):

[ PRESENCE\_REPORTING\_AREA\_IDENTIFIER ]  
[ PRESENCE\_REPORTING\_AREA\_STATUS ]  
[ PRESENCE\_REPORTING\_AREA\_ELEMENTS\_LIST ]  
**AVP Flag** N/A

## Presence-Reporting-Area-Status

This AVP indicates the status of UE for presence reporting area or the status of the presence reporting area.

**Vendor ID** 10415

**VSA Type** 2823

**AVP Type** UINT32

**AVP Flag** N/A

## Primary-Charging-Collection-Function-Name

Defines the address of the primary offline charging system for the bearer.

**Vendor ID** 10415

**VSA Type** 621

**AVP Type** DIAMURI

**AVP Flag** M

## Primary-Event-Charging-Function-Name

This AVP specifies the address or name of the primary online charging system server for the bearer.

**Vendor ID** 10415

**VSA Type** 619

**AVP Type** DIAMURI

**AVP Flag** M

## Priority

Priority

**Vendor ID** 9

**VSA Type** 131201

**AVP Type** UINT32

**AVP Flag** N/A

## Priority-Level

This AVP is used to decide whether a bearer establishment or modification request can be accepted or needs to be rejected in case of resource limitations.

**Vendor ID** 10415

**VSA Type** 1046

**AVP Type** UINT32

**AVP Flag** M

## Priviledged-Sender-Indication

Priviledged-Sender-Indication

**Vendor ID** 10415

**VSA Type** 652

**AVP Type** ENUM

Supported enumerated value(s):

0 NOT\_PRIVILEGED\_SENDER

1 PRIVILEGED\_SENDER

**AVP Flag** N/A

## Product-Name

This AVP contains the vendor assigned name for the product.

**Vendor ID** 0

**VSA Type** 269

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Profile-Name

Profile-Name.

**Vendor ID** 9

**VSA Type** 132090

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Protocol-ID

Protocol-ID

**Vendor ID** 9  
**VSA Type** 131148  
**AVP Type** UINT32  
**AVP Flag** N/A

## Proxy-Host

This AVP contains the identity of the host that added the Proxy-Info AVP.

**Vendor ID** 0  
**VSA Type** 280  
**AVP Type** DIAMIDENT  
**AVP Flag** M

## Proxy-Info

The Proxy-Info AVP allows stateless agents to add local state to a Diameter request.

**Vendor ID** 0  
**VSA Type** 284  
**AVP Type** GROUPED  
Supported group value(s):  
[ PROXY\_HOST ]  
[ PROXY\_STATE ]  
**AVP Flag** M

## Proxy-State

The Proxy-State AVP contains state local information, and MUST be treated as opaque data.

**Vendor ID** 0  
**VSA Type** 33  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Pseudonym-Indicator

This ABP indicates whether or not a pseudonym is requested.

**Vendor ID** 10415  
**VSA Type** 2519  
**AVP Type** ENUM

Supported enumerated value(s):

0 PSEUDONYM\_NOT\_REQUESTED

1 PSEUDONYM\_REQUESTED

**AVP Flag** M

## Public-Identity

This AVP contains the public identity of a user in the IMS.

**Vendor ID** 10415

**VSA Type** 601

**AVP Type** UTF8STRING

**AVP Flag** M

## QoS-Capability

QoS-Capability

**Vendor ID** 0

**VSA Type** 6063

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_PROFILE\_TEMPLATE ]

[ VENDOR\_SPECIFIC\_QOS\_PROFILE\_TEMPLATE ]

**AVP Flag** M

## QoS-Class

This AVP contains the authorized traffic class for the PDP context.

**Vendor ID** 10415

**VSA Type** 1017

**AVP Type** ENUM

Supported enumerated value(s):

0 Traffic\_Class\_A

1 Traffic\_Class\_B

2 Traffic\_Class\_C

3 Traffic\_Class\_D

4 Traffic\_Class\_E

5 Traffic\_Class\_F

**AVP Flag** M

## QoS-Class-Identifier

Identifies a set of IP-CAN specific QoS parameters that define the authorized QoS.

**Vendor ID** 10415

**VSA Type** 1028

**AVP Type** ENUM

Supported enumerated value(s):

1 TRAFFIC\_CLASS\_A

2 TRAFFIC\_CLASS\_B

3 TRAFFIC\_CLASS\_C

4 TRAFFIC\_CLASS\_D

5 TRAFFIC\_CLASS\_E

6 TRAFFIC\_CLASS\_F

7 TRAFFIC\_CLASS\_G

8 TRAFFIC\_CLASS\_H

9 TRAFFIC\_CLASS\_I

**AVP Flag** M

## QoS-Group-Rule-Definition

QoS-Group-Rule-Definition

**Vendor ID** 9

**VSA Type** 132003

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_GROUP\_RULE\_NAME ]

[ QOS\_INFORMATION ]

[ FLOW\_STATUS ]

[ REDIRECT\_SERVER ]

[ MONITORING\_KEY ]

[ PRECEDENCE ]

**AVP Flag** N/A



## QoS-Group-Rule-Install

QoS-Group-Rule-Install

**Vendor ID** 9

**VSA Type** 132001

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_GROUP\_RULE\_DEFINITION ]

**AVP Flag** N/A

## QoS-Group-Rule-Name

QoS-Group-Rule-Name

**Vendor ID** 9

**VSA Type** 132004

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## QoS-Group-Rule-Remove

QoS-Group-Rule-Remove

**Vendor ID** 9

**VSA Type** 132002

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_GROUP\_RULE\_NAME ]

**AVP Flag** N/A

## QoS-Information

This AVP contains the QoS information for an IP-CAN bearer or PCC rule.

**Vendor ID** 10415

**VSA Type** 1016

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_CLASS\_IDENTIFIER ]

[ MAX\_REQUESTED\_BANDWIDTH\_UL ]

[ MAX\_REQUESTED\_BANDWIDTH\_DL ]

[ EXTENDED-MAX-REQUESTED-BW-UL ]  
 [ EXTENDED-MAX-REQUESTED-BW-DL ]  
 [ GUARANTEED\_BITRATE\_UL ]  
 [ GUARANTEED\_BITRATE\_DL ]  
 [ EXTENDED-GBR-UL ]  
 [ EXTENDED-GBR-DL ]  
 [ BEARER\_IDENTIFIER ]  
 [ ALLOCATION\_RETENTION\_PRIORITY ]  
 [ APN\_AGGREGATE\_MAX\_BITRATE\_UL ]  
 [ APN\_AGGREGATE\_MAX\_BITRATE\_DL ]  
 [ EXTENDED-APN-AMBR-UL ]  
 [ EXTENDED-APN-AMBR-DL ]

**AVP Flag** M

## QoS-Level

QoS-Level

**Vendor ID** 9

**VSA Type** 132011

**AVP Type** ENUM

Supported enumerated value(s):

1 SUBSCRIBER\_LEVEL

**AVP Flag** N/A

## QoS-Negotiation

This AVP indicates QoS negotiation capability. I.e., if the PCRF is allowed to negotiate the QoS.

**Vendor ID** 10415

**VSA Type** 1029

**AVP Type** ENUM

Supported enumerated value(s):

0 NO\_QoS\_NEGOTIATION

1 QoS\_NEGOTIATION\_SUPPORTED

**AVP Flag** M

## QoS-Profile-Template

This AVP contains the list of supported Quality of Service profile templates.

**Vendor ID** 0

**VSA Type** 6067

**AVP Type** UINT32

**AVP Flag** M

## QoS-Rate-Limit

QoS-Rate-Limit

**Vendor ID** 9

**VSA Type** 131173

**AVP Type** GROUPED

Supported group value(s):

[ MAX\_BANDWIDTH ]

[ MAX\_BURST\_SIZE ]

[ RATE\_LIMIT\_CONFORM\_ACTION ]

[ RATE\_LIMIT\_EXCEED\_ACTION ]

**AVP Flag** M

## QoS-Rate-Limit-DL

QoS-Rate-Limit-DL

**Vendor ID** 9

**VSA Type** 131172

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RATE\_LIMIT ]

**AVP Flag** M

## QoS-Rate-Limit-UL

QoS-Rate-Limit-UL

**Vendor ID** 9

**VSA Type** 131171

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RATE\_LIMIT ]

**AVP Flag** M

## QoS-Resource-Request

Resource requested by UE to PCRF.

**Vendor ID** 10415

**VSA Type** 6106

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RESOURCE\_IDENTIFIER ]

[ QOS\_RESOURCE\_OPERATION ]

[ TFT\_PACKET\_FILTER\_INFORMATION ]

[ QOS\_INFORMATION ]

**AVP Flag** M

## QoS-Resources

This AVP provides the description of the Quality of Service resources for policing traffic flows.

**Vendor ID** 0

**VSA Type** 6065

**AVP Type** GROUPED

Supported group value(s):

[ EXTENDED\_QOS\_FILTER\_RULE ]

**AVP Flag** M

## QoS-Rule-Base-Name

This AVP indicates the name of a predefined group of charging rules residing at the TPF.

**Vendor ID** 10415

**VSA Type** 1074

**AVP Type** UTF8STRING

**AVP Flag** M

## QoS-Rule-Definition

This AVP contains the QoS rule for a service flow sent by PCRF to the BBERF.

**Vendor ID** 10415

**VSA Type** 1053

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RULE\_NAME ]

[ FLOW\_INFORMATION ]

[ FLOW\_DESCRIPTION ]

[ QOS\_INFORMATION ]

[ PRECEDENCE ]

**AVP Flag** M

## QoS-Rule-Install

This AVP contains the QoS rules that need to be installed.

**Vendor ID** 10415

**VSA Type** 1051

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RULE\_DEFINITION ]

[ QOS\_RULE\_NAME ]

[ QOS\_RULE\_BASE\_NAME ]

[ TUNNEL\_INFORMATION ]

[ ACCESS\_NETWORK\_CHARGING\_IDENTIFIER\_VALUE ]

[ RESOURCE\_ALLOCATION\_NOTIFICATION ]

[ RULE\_ACTIVATION\_TIME ]

[ RULE\_DEACTIVATION\_TIME ]

**AVP Flag** M

## QoS-Rule-Name

For QoS rules provided by the CRF it uniquely identifies a charging rule for a bearer.

**Vendor ID** 10415

**VSA Type** 1054

**AVP Type** OCTETSTRING

**AVP Flag** M

## QoS-Rule-Remove

Used to remove QoS rules from a Gateway Control Session.

**Vendor ID** 10415

**VSA Type** 1052

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RULE\_NAME ]

[ QOS\_RULE\_BASE\_NAME ]

**AVP Flag** M

## QoS-Rule-Report

Report the status of QoS rules.

**Vendor ID** 10415

**VSA Type** 1055

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_RULE\_NAME ]

[ QOS\_RULE\_BASE\_NAME ]

[ PCC\_RULE\_STATUS ]

[ RULE\_FAILURE\_CODE ]

**AVP Flag** M

## QoS-Subscribed

This AVP indicates the quality of service subscribed for a certain service.

**Vendor ID** 10415

**VSA Type** 1404

**AVP Type** OCTETSTRING

**AVP Flag** M

## QoS-Upgrade

This AVP indicates whether SGSN supports upgrade of QoS by GGSN.

**Vendor ID** 10415

**VSA Type** 1030

**AVP Type** ENUM

Supported enumerated value(s):

0 QoS\_UPGRADE\_NOT\_SUPPORTED

1 QoS\_UPGRADE\_SUPPORTED

**AVP Flag** M

## RACS-Contact-Point

Identifies the RACS element to which resource reservation requests should be sent.

**Vendor ID** 0

**VSA Type** 351

**AVP Type** DIAMIDENT

**AVP Flag** M

## RAI

This AVP contains the Routing Area Identity of the SGSN where the UE is registered.

**Vendor ID** 10415

**VSA Type** 909

**AVP Type** UTF8STRING

**AVP Flag** M

## RAN-End-Timestamp

It holds the time in UTC format of the volume container reported was collected, the end time of the reported usage.

**Vendor ID** 10415

**VSA Type** 1301

**AVP Type** TIME

**AVP Flag** N/A

## RAN-Secondary-RAT-Usage-Report

It contains the volume count as reported by the RAN for the secondary RAT including the time of the report.

**Vendor ID** 10415

**VSA Type** 1302

**AVP Type** GROUPED

Supported group value(s):

[ SECONDARY\_RAT\_TYPE ]

[ RAN\_START\_TIMESTAMP ]  
[ RAN\_END\_TIMESTAMP ]  
[ ACCOUNTING\_INPUT\_OCTETS ]  
[ ACCOUNTING\_OUTPUT\_OCTETS ]  
**AVP Flag** N/A

## RAN-Start-Timestamp

It holds the time in UTC format of the volume container reported was collected, the start time of the reported usage.

**Vendor ID** 10415  
**VSA Type** 1303  
**AVP Type** TIME  
**AVP Flag** N/A

## RAN-NAS-Release-Cause

RAN-NAS-Release-Cause  
**Vendor ID** 10415  
**VSA Type** 2819  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## RANAP-Cause

RANAP-Cause  
**Vendor ID** 10415  
**VSA Type** 4303  
**AVP Type** UINT32  
**AVP Flag** M

## RAND

This AVP contains the RAND (EAP Authentication Vector).

**Vendor ID** 10415  
**VSA Type** 1447  
**AVP Type** OCTETSTRING  
**AVP Flag** M



## RAR-Flags

This AVP contains the bit 1 set to indicate that the AAA server requests the execution of HSS-based P-CSCF restoration procedures for WLAN.

**Vendor ID** 10415

**VSA Type** 1522

**AVP Type** UINT32

**AVP Flag** N/A

## RAS-Id

This AVP contains the RAS identifier.

**Vendor ID** 0

**VSA Type** 10000

**AVP Type** UINT32

**AVP Flag** M

## RAT-Frequency-Selection-Priority

This AVP contains the RAT frequency selection priority.

**Vendor ID** 10415

**VSA Type** 1440

**AVP Type** UINT32

**AVP Flag** M

## RAT-Type

This AVP contains value of the Radio Access Technology which is currently serving the UE.

**Vendor ID** 10415

**VSA Type** 1032

**AVP Type** ENUM

Supported enumerated value(s):

0 WLAN

1 VIRTUAL

1000 UTRAN

1001 GERAN

1002 GAN

1003 HSPA\_EVOLUTION

1004 EUTRAN  
1005 NB-IoT  
2000 CDMA2000\_1X  
2001 HRPD  
2002 UMB  
2003 EHRPD  
**AVP Flag M**

## RR-Bandwidth

This AVP indicates the maximum required bandwidth in bits per second for RTCP receiver reports within the session component.

**Vendor ID** 10415  
**VSA Type** 521  
**AVP Type** UINT32  
**AVP Flag M**

## RS-Bandwidth

This AVP indicates the maximum required bandwidth in bits per second for RTCP sender reports within the session component.

**Vendor ID** 10415  
**VSA Type** 522  
**AVP Type** UINT32  
**AVP Flag M**

## Radius-Attribute-Type

Radius-Attribute-Type  
**Vendor ID** 9  
**VSA Type** 131224  
**AVP Type** UINT32  
**AVP Flag** N/A

## Radius-Vsa-Subattribute-Type

Radius-Vsa-Subattribute-Type  
**Vendor ID** 9  
**VSA Type** 131226

**AVP Type** UINT32

**AVP Flag** N/A

## Radius-Vsa-Vendor-Id

Radius-Vsa-Vendor-Id

**Vendor ID** 9

**VSA Type** 131225

**AVP Type** UINT32

**AVP Flag** N/A

## Rate-Limit-Action

Rate-Limit-Action

**Vendor ID** 9

**VSA Type** 131177

**AVP Type** ENUM

Supported enumerated value(s):

0 FORWARD

1 DROP

2 MARK\_DSCP

**AVP Flag** M

## Rate-Limit-Conform-Action

Rate-Limit-Conform-Action

**Vendor ID** 9

**VSA Type** 131175

**AVP Type** GROUPED

Supported group value(s):

[ RATE\_LIMIT\_ACTION ]

[ DSCP ]

**AVP Flag** M

## Rate-Limit-Exceed-Action

Rate-Limit-Exceed-Action

**Vendor ID** 9

**VSA Type** 131176

**AVP Type** GROUPED

Supported group value(s):

[ RATE\_LIMIT\_ACTION ]

[ DSCP ]

**AVP Flag** M

## Rating-Group

Identifier of a rating group for service. It contains the charging key (defined in 3GPP TS 23.125). Each quota allocated to a Diameter CC session has a unique Rating Group value as specified in RFC 4006.

**Vendor ID** 0

**VSA Type** 432

**AVP Type** UINT32

**AVP Flag** M

## Re-Auth-Request-Type

Specifies the re-authorization request type and included in application-specific authorization answers to inform the client of the action expected upon expiration of the Authorization-Lifetime.

**Vendor ID** 0

**VSA Type** 285

**AVP Type** ENUM

Supported enumerated value(s):

0 AUTHORIZE\_ONLY

1 AUTHORIZE\_AUTHENTICATE

**AVP Flag** M

## Re-Synchronization-Info

This AVP contains the concatenation of RAND and AUTS.

**Vendor ID** 10415

**VSA Type** 6014

**AVP Type** UINT32

**AVP Flag** M

## Reachability-Information

Reachability-Information

**Vendor ID** 10415  
**VSA Type** 3140  
**AVP Type** UINT32  
**AVP Flag** M

## Reachability-Type

Reachability-Type  
**Vendor ID** 10415  
**VSA Type** 3132  
**AVP Type** UINT32  
**AVP Flag** M

## Real-Time-Tariff-Information

Real-Time-Tariff-Information  
**Vendor ID** 10415  
**VSA Type** 2305  
**AVP Type** GROUPED  
Supported group value(s):  
[ TARIFF\_XML ]  
**AVP Flag** M

## Reason-Code

This AVP contains the reason for the network initiated de-registration.  
**Vendor ID** 10415  
**VSA Type** 616  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 PERMANENT\_TERMINATION  
1 NEW\_SERVER\_ASSIGNED  
2 SERVER\_CHANGE  
3 REMOVE\_S-CSCF  
**AVP Flag** M

## Reason-Info

This AVP contains textual information to inform the user about the reason for a de-registration.

**Vendor ID** 10415

**VSA Type** 617

**AVP Type** UTF8STRING

**AVP Flag** M

## Record-Route

This AVP contains a comma separated list of Record Route header(s).

**Vendor ID** 10415

**VSA Type** 646

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Redirect-Address-Type

This AVP contains the address type of the address given in the Redirect-Server-Address AVP.

**Vendor ID** 0

**VSA Type** 433

**AVP Type** ENUM

Supported enumerated value(s):

0 IPv4-Address

1 IPv6-Address

2 URL

3 SIP-URI

**AVP Flag** M

## Redirect-Host

This AVP contains the alternate routing details to which the request need to be redirected to.

**Vendor ID** 0

**VSA Type** 292

**AVP Type** OCTETSTRING

**AVP Flag** M

## Redirect-Host-Usage

This AVP contains information on how the routing entry resulting from the Redirect-Host is to be used.

**Vendor ID** 0

**VSA Type** 261

**AVP Type** ENUM

Supported enumerated value(s):

0 DONT\_CACHE

1 ALL\_SESSION

2 ALL\_REALM

3 REALM\_AND\_APPLICATION

4 ALL\_APPLICATION

5 ALL\_HOST

6 ALL\_USER

**AVP Flag** M

## Redirect-Information

This AVP contains the address information of the redirect server to which the detected application traffic is sent.

**Vendor ID** 10415

**VSA Type** 1085

**AVP Type** GROUPED

Supported group value(s):

[ REDIRECT\_SUPPORT ]

[ REDIRECT\_ADDRESS\_TYPE ]

[ REDIRECT\_SERVER\_ADDRESS ]

**AVP Flag** N/A

## Redirect-Max-Cache-Time

This AVP indicates the maximum duration in seconds the peer and route table entries, created as a result of the Redirect-Host, will be cached.

**Vendor ID** 0

**VSA Type** 262

**AVP Type** UINT32

**AVP Flag** M

## Redirect-Server

This AVP contains the address information of the redirect server (for example,, HTTP redirect server, SIP Server) with which the end user is to be connected when redirected as account cannot cover the service cost.

**Vendor ID** 0

**VSA Type** 434

**AVP Type** GROUPED

Supported group value(s):

[ REDIRECT\_ADDRESS\_TYPE ]

[ REDIRECT\_SERVER\_ADDRESS ]

**AVP Flag** M

## Redirect-Server-Address

This AVP contains address of the redirect server.

**Vendor ID** 0

**VSA Type** 435

**AVP Type** UTF8STRING

**AVP Flag** M

## Redirect-Support

This AVP indicates whether redirection is disabled or enabled for an ADC rule. If the redirection is enabled, the Traffic Detection Function (TDF) will redirect the detected application's traffic to the redirect address provided through Redirect-Information AVP.

**Vendor ID** 10415

**VSA Type** 1086

**AVP Type** ENUM

Supported enumerated value(s):

0 REDIRECTION\_DISABLED

1 REDIRECTION\_ENABLED

**AVP Flag** N/A

## Refund-Policy

Refund-Policy

**Vendor ID** 9

**VSA Type** 131109

**AVP Type** OCTETSTRING



AVP Flag M

## Regional-Subscription-Zone-Code

Regional-Subscription-Zone-Code. Up to 10 zone codes are used to define the tracking areas into which the subscriber is allowed or not allowed to roam.

**Vendor ID** 10415

**VSA Type** 1446

**AVP Type** OCTETSTRING

AVP Flag M

## Relative-URL

Relative-URL

**Vendor ID** 9

**VSA Type** 131198

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

AVP Flag M

## Replicate-Session

Replicate-Session

**Vendor ID** 9

**VSA Type** 131132

**AVP Type** UINT32

AVP Flag N/A

## Replicate-Session-Delay

Replicate-Session-Delay

**Vendor ID** 9

**VSA Type** 131133

**AVP Type** UINT32

AVP Flag N/A

## Reply-Message

This AVP contains text that may be displayed to the user.

**Vendor ID** 0

**VSA Type** 18

**AVP Type** UTF8STRING

**AVP Flag** M

## Reporting-Level

Defines on what level the TPF reports the usage for the related charging rule.

**Vendor ID** 10415

**VSA Type** 1011

**AVP Type** ENUM

Supported enumerated value(s):

0 SERVICE\_IDENTIFIER\_LEVEL

1 RATING\_GROUP\_LEVEL

2 SPONSORED\_CONNECTIVITY\_LEVEL

**AVP Flag** M

## Requested-Action

The action requested when the CC\_Request\_Type is EVENT\_REQUEST.

**Vendor ID** 0

**VSA Type** 436

**AVP Type** ENUM

Supported enumerated value(s):

0 DIRECT\_DEBITING

1 REFUND\_ACCOUNT

2 CHECK\_BALANCE

3 PRICE\_ENQUIRY

4 LOCATION\_UPDATE

**AVP Flag** M

## Requested-Domain

This AVP indicates the access domain for which certain data are requested.

**Vendor ID** 0

**VSA Type** 706

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Requested-EUTRAN-Authentication-Info

This AVP contains the EU Tran authentication information.

**Vendor ID** 10415

**VSA Type** 6010

**AVP Type** GROUPED

Supported group value(s):

[ NUMBER\_OF\_REQUESTED\_VECTORS ]

[ IMMEDIATE\_RESPONSE\_PREFERRED ]

[ RE\_SYNCHRONIZATION\_INFO ]

**AVP Flag** M

## Requested-GERAN-Authentication-Info

This AVP contains GE RAN authentication information.

**Vendor ID** 10415

**VSA Type** 6012

**AVP Type** GROUPED

Supported group value(s):

[ NUMBER\_OF\_REQUESTED\_VECTORS ]

[ IMMEDIATE\_RESPONSE\_PREFERRED ]

[ RE\_SYNCHRONIZATION\_INFO ]

**AVP Flag** M

## Requested-Information

This AVP provides the list of items requested by the AF.

**Vendor ID** 13019

**VSA Type** 353

**AVP Type** ENUM

Supported enumerated value(s):

0 NASS-USER-ID

1 LOCATION-INFORMATION  
 2 RACS-CONTACT-POINT  
 3 ACCESS-NETWORK-TYPE  
 4 TERMINAL-TYPE  
 5 LOGICAL-ACCESS-ID  
 6 PHYSICAL-ACCESS-ID  
 7 ACCESS-NETWORK-TYPE-RESERVED  
 8 INITIAL-GATE-SETTING-RESERVED  
 9 QOS-PROFILE-RESERVED  
 10 IP-CONNECTIVITY-STATUS-RESERVED  
**AVP Flag** M

## Requested-Party-Address

In IMS it holds the address (SIP URI or TEL URI) of the party (Public User ID or Public Service ID) to whom the SIP transaction was originally posted.

**Vendor ID** 10415

**VSA Type** 1251

**AVP Type** UTF8STRING

**AVP Flag** M

## Requested-QoS

It is used within the Flow-Info AVP to indicate the QoS requested by the UE for a particular IP flow in the high rate packet data radio access network.

**Vendor ID** 5535

**VSA Type** 1010

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_CLASS ]

[ MIN\_BANDWIDTH\_UL ]

[ MIN\_BANDWIDTH\_DL ]

**AVP Flag** M

## Requested-Retransmission-Time

Requested-Retransmission-Time

**Vendor ID** 10415

**VSA Type** 3331

**AVP Type** TIME

**AVP Flag** N/A

## Requested-Service-Unit

Amount of requested units specified by the Diameter credit-control client.

**Vendor ID** 0

**VSA Type** 437

**AVP Type** GROUPED

Supported group value(s):

[ TARIFF\_TIME\_CHANGE ]

[ TARIFF\_CHANGE\_USAGE ]

[ CC\_TIME ]

[ CC\_MONEY ]

[ CC\_TOTAL\_OCTETS ]

[ CC\_INPUT\_OCTETS ]

[ CC\_OUTPUT\_OCTETS ]

[ CC\_SERVICE\_SPECIFIC\_UNITS ]

**AVP Flag** M

## Requested-UTRAN-Authentication-Info

This AVP contains the UTRAN authentication information.

**Vendor ID** 10415

**VSA Type** 6011

**AVP Type** GROUPED

Supported group value(s):

[ NUMBER\_OF\_REQUESTED\_VECTORS ]

[ IMMEDIATE\_RESPONSE\_PREFERRED ]

[ RE\_SYNCHRONIZATION\_INFO ]

**AVP Flag** M

## Requested-UTRAN-GERAN-Authentication-Info

This AVP contains the information related to the authentication requests for UTRAN or GERAN.

**Vendor ID** 10415

**VSA Type** 1409

**AVP Type** GROUPED

Supported group value(s):

[ NUMBER\_OF\_REQUESTED\_VECTORS ]

[ IMMEDIATE\_RESPONSE\_PREFERRED ]

[ RE\_SYNCHRONIZATION\_INFO ]

**AVP Flag** M

## Requesting-Node-Type

Requesting-Node-Type

**Vendor ID** 10415

**VSA Type** 1455

**AVP Type** ENUM

Supported enumerated value(s):

0 MME

1 SGSN

2 MME\_SGSN

**AVP Flag** M

## Required-Access-Info

Required-Access-Info

**Vendor ID** 10415

**VSA Type** 536

**AVP Type** ENUM

Supported enumerated value(s):

0 USER\_LOCATION

1 MS\_TIME\_ZONE

**AVP Flag** N/A

## Required-MBMS-Bearer-Capabilities

This AVP contains the minimum bearer capabilities the UE needs to support.

**Vendor ID** 10415

**VSA Type** 901

**AVP Type** UTF8STRING

**AVP Flag** M

## Reservation-Class

This AVP contains an integer used as an index pointing to the traffic characteristic of the flow.

**Vendor ID** 13019

**VSA Type** 456

**AVP Type** UINT32

**AVP Flag** N/A

## Reservation-Priority

Used by the PCRF to guarantee service for an application session of a higher relative priority.

**Vendor ID** 13019

**VSA Type** 458

**AVP Type** ENUM

Supported enumerated value(s):

0 DEFAULT

1 PRIORITY-ONE

2 PRIORITY-TWO

3 PRIORITY-THREE

4 PRIORITY-FOUR

5 PRIORITY-FIVE

6 PRIORITY-SIX

7 PRIORITY-SEVEN

**AVP Flag** N/A

## Resource-Allocation-Notification

Defines whether the rules included within the Charging-Rule-Install/QoS-Rule-Install AVP need be notified.

**Vendor ID** 10415

**VSA Type** 1063

**AVP Type** ENUM

Supported enumerated value(s):

0 ENABLE\_NOTIFICATION

**AVP Flag** M

## Response-Time

Response-Time

**Vendor ID** 10415

**VSA Type** 2509

**AVP Type** ENUM

Supported enumerated value(s):

0 LOW\_DELAY

1 DELAY\_TOLERANT

**AVP Flag** M

## Restoration-Info

This AVP contains the information related to a specific registration.

**Vendor ID** 10415

**VSA Type** 649

**AVP Type** GROUPED

Supported group value(s):

[ PATH ]

[ CONTACT ]

[ SUBSCRIPTION\_INFO ]

**AVP Flag** N/A

## Restoration-Priority

This attribute specifies the relative priority of the user when restoring PDN connections affected by an S-GW or P-GW failure/restart.

**Vendor ID** 10415

**VSA Type** 1663

**AVP Type** UINT32

**AVP Flag** N/A

## Restriction-Filter-Rule

Provides filter rules for services that are to remain accessible even if there are no more service units granted.

**Vendor ID** 0

**VSA Type** 438

**AVP Type** IPFILTERRULE



**AVP Flag M**

## Result-Code

This AVP indicates whether a particular request was completed successfully or whether an error occurred.

**Vendor ID 0**

**VSA Type 268**

**AVP Type ENUM**

Supported enumerated value(s):

1001 DIAMETER\_MULTI\_ROUND\_AUTH

2001 DIAMETER\_SUCCESS

2002 DIAMETER\_LIMITED\_SUCCESS

3001 DIAMETER\_COMMAND\_UNSUPPORTED

3002 DIAMETER\_UNABLE\_TO\_DELIVER

3003 DIAMETER\_REALM\_NOT\_SERVED

3004 DIAMETER\_TOO\_BUSY

3005 DIAMETER\_LOOP\_DETECTED

3006 DIAMETER\_REDIRECT\_INDICATION

3007 DIAMETER\_APPLICATION\_UNSUPPORTED

3008 DIAMETER\_INVALID\_HDR\_BITS

3009 DIAMETER\_INVALID\_AVP\_BITS

3010 DIAMETER\_UNKNOWN\_PEER

4001 DIAMETER\_AUTHENTICATION\_REJECTED

4002 DIAMETER\_OUT\_OF\_SPACE

4003 ELECTION\_LOST

4010 DIAMETER\_END\_USER\_SERVICE\_DENIED

4011 DIAMETER\_CREDIT\_CONTROL\_NOT\_APPLICABLE

4012 DIAMETER\_CREDIT\_LIMIT\_REACHED

4212 DIAMETER\_BALANCE\_IS\_ZERO

5001 DIAMETER\_AVP\_UNSUPPORTED

5002 DIAMETER\_UNKNOWN\_SESSION\_ID

5003 DIAMETER\_AUTHORIZATION\_REJECTED

5004 DIAMETER\_INVALID\_AVP\_VALUE

5005 DIAMETER\_MISSING\_AVP

5006 DIAMETER\_RESOURCES\_EXCEEDED

5007 DIAMETER\_CONTRADICTING\_AVPS  
 5008 DIAMETER\_AVP\_NOT\_ALLOWED  
 5009 DIAMETER\_AVP\_OCCURS\_TOO\_MANY\_TIMES  
 5010 DIAMETER\_NO\_COMMON\_APPLICATION  
 5011 DIAMETER\_UNSUPPORTED\_VERSION  
 5012 DIAMETER\_UNABLE\_TO\_COMPLY  
 5013 DIAMETER\_INVALID\_BIT\_IN\_HEADER  
 5014 DIAMETER\_INVALID\_AVP\_LENGTH  
 5015 DIAMETER\_INVALID\_MESSAGE\_LENGTH  
 5016 DIAMETER\_INVALID\_AVP\_BIT\_COMBO  
 5017 DIAMETER\_NO\_COMMON\_SECURITY  
 5030 DIAMETER\_USER\_UNKNOWN  
 5031 DIAMETER\_RATING\_FAILED

**AVP Flag** M

## Revalidation-Time

This AVP contains the value indicating the NTP time before which the PCEF will have to re-request PCC rules.

**Vendor ID** 10415

**VSA Type** 1042

**AVP Type** TIME

**AVP Flag** M

## Roaming-Restricted-Due-To-Unsupported-Feature

This AVP indicates that roaming is restricted due to unsupported feature.

**Vendor ID** 10415

**VSA Type** 1457

**AVP Type** ENUM

Supported enumerated value(s):

0 ROAMING\_RESTRICTED\_DUE\_TO\_UNSUPPORTED\_FEATURE

**AVP Flag** M

## Role-Of-Node

This AVP specifies the role of the AS/CSCF.

**Vendor ID** 10415  
**VSA Type** 829  
**AVP Type** ENUM  
Supported enumerated value(s): none  
**AVP Flag** M

## Route-Record

The value added to this AVP same as the one received in the Origin-Host of the Capabilities Exchange message.

**Vendor ID** 0  
**VSA Type** 282  
**AVP Type** DIAMIDENT  
**AVP Flag** M

## Routing-Area-Identity

This AVP contains the routing area identifier of the user.

**Vendor ID** 10415  
**VSA Type** 1605  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## Routing-Policy

This AVP is used to describe a single IP flow.

**Vendor ID** 10415  
**VSA Type** 312  
**AVP Type** IPFILTERRULE  
**AVP Flag** M

## Rule-Action

This AVP indicates the action to be taken when the rule condition occurred for the call.

**Vendor ID** 9  
**VSA Type** 132066  
**AVP Type** ENUM  
Supported enumerated value(s):  
1 ALLOWED

**AVP Flag** N/A

## Rule-Activation-Time

This AVP contains the value indicating the NTP time at which the PCC rule has to be enforced.

**Vendor ID** 10415

**VSA Type** 1043

**AVP Type** TIME

**AVP Flag** M

## Rule-Condition

This AVP indicates the condition with the action that has to be applied for the call.

**Vendor ID** 9

**VSA Type** 132065

**AVP Type** ENUM

Supported enumerated value(s):

1 OUT\_OF\_CREDIT

**AVP Flag** N/A

## Rule-Condition-Action

This AVP specifies the special action to be taken by PCEF when the dynamic rule is matched and conditions are met. This is part of Charging-Rule-Definition AVP and can be received in CCA-I/CCA-U/RAR.

**Vendor ID** 9

**VSA Type** 132064

**AVP Type** GROUPED

Supported group value(s):

[ RULE\_CONDITION ]

[ RULE\_ACTION ]

**AVP Flag** N/A

## Rule-Deactivation-Time

This AVP contains the value indicating the NTP time at which the PCEF has to stop enforcing the PCC rule.

**Vendor ID** 10415

**VSA Type** 1044

**AVP Type** TIME

**AVP Flag** M

## Rule-Failure-Code

This AVP contains the rule failure code.

**Vendor ID** 10415

**VSA Type** 1031

**AVP Type** ENUM

Supported enumerated value(s):

- 1 UNKNOWN\_RULE\_NAME
- 2 RATING\_GROUP\_ERROR
- 3 SERVICE\_IDENTIFIER\_ERROR
- 4 GW/PCEF\_MALFUNCTION
- 5 RESOURCES\_LIMITATION
- 6 MAX\_NR\_BEARERS\_REACHED
- 7 UNKNOWN\_BEARER\_ID
- 8 MISSING\_BEARER\_ID
- 9 MISSING\_FLOW\_DESCRIPTION
- 10 RESOURCE\_ALLOCATION\_FAILURE
- 11 UNSUCCESSFUL\_QOS\_VALIDATION
- 12 INCORRECT\_FLOW\_INFORMATION
- 13 PS\_TO\_CS\_HANDOVER
- 14 TDF\_APPLICATION\_IDENTIFIER\_ERROR
- 15 NO\_BEARER\_BOUND
- 17 AN\_GW\_FAILED
- 18 MISSING\_REDIRECT\_SERVER\_ADDRESS

**AVP Flag** M

## Rule-Reason-Code

This AVP contains the rule reason code.

**Vendor ID** 5535

**VSA Type** 814

**AVP Type** ENUM

Supported enumerated value(s):

- 0 UNKNOWN\_FLOW\_IDENTIFIER

1 UNKNOWN\_RULE\_NAME  
2 RATING\_GROUP\_ERROR  
3 SERVICE\_IDENTIFIER\_ERROR  
4 AGW\_MALFUNCTION  
5 RESOURCES\_LIMITATION  
**AVP Flag** M

## S1AP-Cause

S1AP-Cause  
**Vendor ID** 10415  
**VSA Type** 4302  
**AVP Type** UINT32  
**AVP Flag** M

## SC-Address

SC-Address  
**Vendor ID** 10415  
**VSA Type** 3300  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## SCEF-ID

SCEF-ID  
**Vendor ID** 10415  
**VSA Type** 3125  
**AVP Type** DIAMIDENT  
**AVP Flag** M

## SCEF-Realm

SCEF-Realm  
**Vendor ID** 10415  
**VSA Type** 1684  
**AVP Type** DIAMIDENT  
**AVP Flag** N/A

## SCEF-Reference-ID

SCEF-Reference-ID

**Vendor ID** 10415

**VSA Type** 3124

**AVP Type** UINT32

**AVP Flag** M

## SCEF-Reference-ID-for-Deletion

SCEF-Reference-ID-for-Deletion

**Vendor ID** 10415

**VSA Type** 3126

**AVP Type** UINT32

**AVP Flag** M

## SCEF-Wait-Time

SCEF-Wait-Time

**Vendor ID** 10415

**VSA Type** 4316

**AVP Type** TIME

**AVP Flag** M

## SCSCF-Restoration-Info

This AVP contains the information required for an S-CSCF to handle the requests for a user.

**Vendor ID** 10415

**VSA Type** 639

**AVP Type** GROUPED

Supported group value(s):

[ USER\_NAME ]

[ RESTORATION\_INFO ]

[ SIP\_AUTHENTICATION\_SCHEME ]

**AVP Flag** N/A

## SD-Action

SD-Action

**Vendor ID** 9**VSA Type** 132042**AVP Type** ENUM

Supported enumerated value(s):

0 QUERY

1 QUERY\_AND\_RECOVER

**AVP Flag** N/A

## SDP-Answer-Timestamp

This AVP specifies the time in UTC format of the response to the SDP offer.

**Vendor ID** 0**VSA Type** 1275**AVP Type** TIME**AVP Flag** M

## SDP-Media-Component

This AVP contains the interface representing the SDP-Media-Component grouped AVP type.

**Vendor ID** 10415**VSA Type** 843**AVP Type** GROUPED

Supported group value(s):

[ SDP\_MEDIA\_NAME ]

[ SDP\_MEDIA\_DESCRIPTION ]

[ MEDIA\_INITIATOR\_FLAG ]

[ AUTHORISED\_QOS ]

[ 3GPP\_CHARGING\_ID ]

**AVP Flag** M

## SDP-Media-Description

This AVP contains the content of an attribute-line" (i=, c=, b=, k=, a=) related to a media component. The attributes are specifying the media described in the SDP-Media-Name AVP.

**Vendor ID** 10415**VSA Type** 845**AVP Type** UTF8STRING



**AVP Flag** M

## SDP-Media-Name

This AVP holds the content of a "m=" line in the SDP data.

**Vendor ID** 10415

**VSA Type** 844

**AVP Type** UTF8STRING

**AVP Flag** M

## SDP-Offer-Timestamp

This AVP specifies the time in UTC format of the SDP offer.

**Vendor ID** 0

**VSA Type** 1274

**AVP Type** TIME

**AVP Flag** M

## SDP-Session-Description

This AVP holds the content of an "attribute-line" (i=, c=, b=, k=, a=) related to a session.

**Vendor ID** 10415

**VSA Type** 842

**AVP Type** UTF8STRING

**AVP Flag** M

## SDP-TimeStamps

This AVP specifies the time of the SDP offer and the SDP answer.

**Vendor ID** 0

**VSA Type** 1273

**AVP Type** GROUPED

Supported group value(s):

[ SDP\_OFFER\_TIMESTAMP ]

[ SDP\_ANSWER\_TIMESTAMP ]

**AVP Flag** M

## SDP-Type

This AVP indicates whether the SDP media component is of type SDP offer or SDP answer.

**Vendor ID** 10415

**VSA Type** 2036

**AVP Type** ENUM

Supported enumerated value(s):

0 SDP\_OFFER

1 SDP\_ANSWER

**AVP Flag** M

## SGSN-Address

This AVP contains the IP address of the SGSN that was used during a report.

**Vendor ID** 10415

**VSA Type** 1228

**AVP Type** ADDRESS

**AVP Flag** M

## SGSN-Location-Information

This AVP contains the location information of the SGSN user.

**Vendor ID** 10415

**VSA Type** 1601

**AVP Type** GROUPED

Supported group value(s):

[ CELL\_GLOBAL\_IDENTITY ]

[ LOCATION\_AREA\_IDENTITY ]

[ SERVICE\_AREA\_IDENTITY ]

[ ROUTING\_AREA\_IDENTITY ]

[ GEOGRAPHICAL\_INFORMATION ]

[ GEODETIC\_INFORMATION ]

[ CURRENT\_LOCATION\_RETRIEVED ]

[ AGE\_OF\_LOCATION\_INFORMATION ]

**AVP Flag** M

## SGSN-Number

This AVP contains the ISDN number of the SGSN.

**Vendor ID** 10415

**VSA Type** 1489

**AVP Type** OCTETSTRING

**AVP Flag** M

## SGSN-SM-Delivery-Outcome

SGSN-SM-Delivery-Outcome

**Vendor ID** 10415

**VSA Type** 3319

**AVP Type** GROUPED

Supported group value(s):

[ SM\_DELIVERY\_CAUSE ]

[ ABSENT\_USER\_DIAGNOSTIC\_SM ]

**AVP Flag** M

## SGSN-User-State

This AVP indicates the current state of the SGSN user.

**Vendor ID** 10415

**VSA Type** 1498

**AVP Type** GROUPED

Supported group value(s):

[ USER\_STATE ]

**AVP Flag** M

## SGW-Change

This AVP indicates that this is the first Accounting Request (ACR) due to S-GW change.

**Vendor ID** 10415

**VSA Type** 2065

**AVP Type** ENUM

Supported enumerated value(s):

0 ACR\_START\_NOT\_DUE\_TO\_SGW\_CHANGE

1 ACR\_START\_DUE\_TO\_SGW\_CHANGE

**AVP Flag** M

## SGW-Type

This AVP specifies the type of SGW of current flow.

**Vendor ID** 10415

**VSA Type** 7001

**AVP Type** UINT32

**AVP Flag** M

## SIP-AOR

SIP-AOR

**Vendor ID** 0

**VSA Type** 122

**AVP Type** UTF8STRING

**AVP Flag** M

## SIP-Auth-Data-Item

This AVP contains the authentication and/or authorization information for the Diameter client.

**Vendor ID** 10415

**VSA Type** 612

**AVP Type** GROUPED

Supported group value(s):

[ SIP\_ITEM\_NUMBER ]

[ SIP\_AUTHENTICATION\_SCHEME ]

[ SIP\_AUTHENTICATE ]

[ SIP\_DIGEST\_AUTHENTICATE ]

[ SIP\_AUTHORIZATION ]

[ SIP\_AUTHENTICATION\_CONTEXT ]

[ CONFIDENTIALITY\_KEY ]

[ INTEGRITY\_KEY ]

[ LINE\_IDENTIFIER ]

**AVP Flag** M

## SIP-Authenticate

This AVP contains specific parts of the data portion of the WWW-Authenticate or Proxy-Authenticate SIP headers that are to be present in a SIP response.

**Vendor ID** 10415

**VSA Type** 609

**AVP Type** OCTETSTRING

**AVP Flag** M

## SIP-Authentication-Context

This AVP contains authentication-related information relevant for performing the authentication but that is not part of the SIP authentication headers.

**Vendor ID** 10415

**VSA Type** 611

**AVP Type** OCTETSTRING

**AVP Flag** M

## SIP-Authentication-Scheme

This AVP contains the authentication scheme used in the authentication of SIP messages.

**Vendor ID** 10415

**VSA Type** 608

**AVP Type** UTF8STRING

**AVP Flag** M

## SIP-Authorization

This AVP contains specific parts of the data portion of the Authorization or Proxy-Authorization SIP headers suitable for inclusion in a SIP request.

**Vendor ID** 10415

**VSA Type** 610

**AVP Type** OCTETSTRING

**AVP Flag** M

## SIP-Digest-Authenticate

This AVP contains a reconstruction of either the SIP WWW-Authenticate or Proxy-Authentication header fields specified in IETF RFC 2617.

**Vendor ID** 10415

**VSA Type** 635

**AVP Type** GROUPED

Supported group value(s):

[ DIGEST\_REALM ]

[ DIGEST\_DOMAIN ]

[ DIGEST\_ALGORITHM ]

[ DIGEST\_QOP ]

[ DIGEST\_HA1 ]

[ DIGEST\_AUTH\_PARAM ]

**AVP Flag** M

## SIP-Forking-Indication

This AVP indicates if several SIP dialogues are related to one Diameter session.

**Vendor ID** 10415

**VSA Type** 523

**AVP Type** ENUM

Supported enumerated value(s):

0 SINGLE\_DIALOGUE

1 SEVERAL\_DIALOGUES

**AVP Flag** M

## SIP-Item-Number

This AVP contains the order number of the SIP-Auth-Data-Item AVP.

**Vendor ID** 10415

**VSA Type** 613

**AVP Type** UINT32

**AVP Flag** M

## SIP-Message

This AVP hold the entire SIP message or messages received by the IAP.

**Vendor ID** 4491

**VSA Type** 229

**AVP Type** OCTETSTRING

**AVP Flag** M

## SIP-Method

This AVP holds the name of the SIP Method (INVITE, UPDATE, etc.) causing an accounting request to be sent to the AAA.

**Vendor ID** 10415

**VSA Type** 824

**AVP Type** UTF8STRING

**AVP Flag** M

## SIP-Number-Auth-Items

This AVP contains the number of authentication vectors asked/provided.

**Vendor ID** 10415

**VSA Type** 607

**AVP Type** UINT32

**AVP Flag** M

## SIP-Request-Timestamp

This AVP holds the time in UTC format of the initial SIP request (for example, Invite).

**Vendor ID** 0

**VSA Type** 834

**AVP Type** TIME

**AVP Flag** M

## SIP-Request-Timestamp-Fraction

SIP-Request-Timestamp-Fraction

**Vendor ID** 0

**VSA Type** 2301

**AVP Type** UINT32

**AVP Flag** M

## SIP-Response-Timestamp

This AVP holds the time in UTC format of the response to the initial SIP request (for example, 200 OK).

**Vendor ID** 0

**VSA Type** 835

**AVP Type** TIME

AVP Flag M

## SIP-Response-Timestamp-Fraction

SIP-Response-Timestamp-Fraction

**Vendor ID** 0

**VSA Type** 2302

**AVP Type** UINT32

AVP Flag M

## SIPTO-Permission

SIPTO-Permission

**Vendor ID** 10415

**VSA Type** 1613

**AVP Type** ENUM

Supported enumerated value(s):

0 SIPTO\_ALLOWED

1 SIPTO\_NOTALLOWED

AVP Flag M

## SM-Cause

SM-Cause

**Vendor ID** 10415

**VSA Type** 4305

**AVP Type** UINT32

AVP Flag M

## SM-Delivery-Cause

SM-Delivery-Cause

**Vendor ID** 10415

**VSA Type** 3321

**AVP Type** ENUM

Supported enumerated value(s):

0 UE\_MEMORY\_CAPACITY\_EXCEEDED

1 ABSENT\_USER



2 SUCCESSFUL\_TRANSFER

**AVP Flag** M

## SM-Delivery-Failure-Cause

SM-Delivery-Failure-Cause

**Vendor ID** 10415

**VSA Type** 3303

**AVP Type** GROUPED

Supported group value(s):

[ SM\_ENUMERATED\_DELIVERY\_FAILURE\_CAUSE ]

[ SM\_DIAGNOSTIC\_INFO ]

**AVP Flag** M

## SM-Delivery-Outcome

SM-Delivery-Outcome

**Vendor ID** 10415

**VSA Type** 3316

**AVP Type** GROUPED

Supported group value(s):

[ SM\_DELIVERY\_CAUSE ]

[ ABSENT\_USER\_DIAGNOSTIC\_SM ]

**AVP Flag** M

## SM-Delivery-Start-Time

SM-Delivery-Start-Time

**Vendor ID** 10415

**VSA Type** 3307

**AVP Type** TIME

**AVP Flag** M

## SM-Delivery-Timer

SM-Delivery-Timer

**Vendor ID** 10415

**VSA Type** 3306

**AVP Type** UINT32

**AVP Flag** M

## SM-Diagnostic-Info

SM-Diagnostic-Info

**Vendor ID** 10415

**VSA Type** 3305

**AVP Type** OCTETSTRING

**AVP Flag** M

## SM-Enumerated-Delivery-Failure-Cause

SM-Enumerated-Delivery-Failure-Cause

**Vendor ID** 10415

**VSA Type** 3304

**AVP Type** ENUM

Supported enumerated value(s):

0 MEMORY\_CAPACITY\_EXCEEDED

1 EQUIPMENT\_PROTOCOL\_ERROR

2 EQUIPMENT\_NOT\_SM-EQUIPPED

3 UNKNOWN\_SERVICE\_CENTRE

4 SC-CONGESTION

5 INVALID\_SME-ADDRESS

6 USER\_NOT\_SC-USER

**AVP Flag** M

## SM-RP-UI

SM-RP-UI

**Vendor ID** 10415

**VSA Type** 3301

**AVP Type** OCTETSTRING

**AVP Flag** M

## SMS-GMSC-Address

SMS-GMSC-Address

**Vendor ID** 10415  
**VSA Type** 3332  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## SMS-GMSC-Alert-Event

SMS-GMSC-Alert-Event  
**Vendor ID** 10415  
**VSA Type** 3333  
**AVP Type** UINT32  
**AVP Flag** N/A

## SMS-Register-Request

SMS-Register-Request  
**Vendor ID** 10415  
**VSA Type** 1648  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 SMS\_REGISTRATION\_REQUIRED  
1 SMS\_REGISTRATION\_NOT\_PREFERRED  
2 NO\_PREFERENCE  
**AVP Flag** N/A

## SMSMI-Correlation-ID

SMSMI-Correlation-ID  
**Vendor ID** 10415  
**VSA Type** 3324  
**AVP Type** GROUPED  
Supported group value(s):  
[ HSS\_ID ]  
[ ORIGINATING\_SIP\_URI ]  
[ DESTINATION\_SIP\_URI ]  
**AVP Flag** N/A

## SN-Absolute-Validity-Time

This AVP contains the validity time of the granted service units.

**Vendor ID** 8164

**VSA Type** 505

**AVP Type** TIME

**AVP Flag** N/A

## SN-Bandwidth-Control

This AVP contains the value to control bandwidth usage.

**Vendor ID** 8164

**VSA Type** 512

**AVP Type** ENUM

Supported enumerated value(s):

0 HIGH

1 LOW

**AVP Flag** M

## SN-CF-Policy-ID

SN-CF-Policy-ID

**Vendor ID** 8164

**VSA Type** 529

**AVP Type** UINT32

**AVP Flag** M

## SN-Charging-Collection-Function-Name

SN-Charging-Collection-Function-Name

**Vendor ID** 8164

**VSA Type** 530

**AVP Type** UTF8STRING

**AVP Flag** N/A

## SN-Charging-Id

This AVP contains the charging identifier.

**Vendor ID** 8164

**VSA Type** 525  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## SN-Fast-Reauth-Username

This AVP is used for fast re-authentication of subscriber.

**Vendor ID** 8164  
**VSA Type** 11010  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## SN-Firewall-Policy

This AVP contains the name of the Firewall policy to be enabled.

**Vendor ID** 8164  
**VSA Type** 515  
**AVP Type** UTF8STRING  
**AVP Flag** N/A

## SN-Monitoring-Key

It is an identifier to a usage monitoring control instance.

**Vendor ID** 8164  
**VSA Type** 518  
**AVP Type** UINT32  
**AVP Flag** N/A

## SN-Phase0-PSAPName

This AVP contains name of the County to be used for a subscriber.

**Vendor ID** 8164  
**VSA Type** 523  
**AVP Type** UTF8STRING  
**AVP Flag** N/A

## SN-Pseudonym-Username

This AVP is used for reauthentication of subscriber.

**Vendor ID** 8164

**VSA Type** 11011

**AVP Type** OCTETSTRING

**AVP Flag** M

## SN-Remaining-Service-Unit

SN-Remaining-Service-Unit

**Vendor ID** 8164

**VSA Type** 526

**AVP Type** GROUPED

Supported group value(s):

[ TARIFF\_CHANGE\_USAGE ]

[ CC\_TIME ]

[ CC\_TOTAL\_OCTETS ]

[ CC\_INPUT\_OCTETS ]

[ CC\_OUTPUT\_OCTETS ]

[ CC\_SERVICE\_SPECIFIC\_UNITS ]

[ 3GPP\_REPORTING\_REASON ]

**AVP Flag** N/A

## SN-Rulebase-Id

SN-Rulebase-Id

**Vendor ID** 8164

**VSA Type** 528

**AVP Type** UTF8STRING

**AVP Flag** M

## SN-Service-Flow-Detection

This AVP defines whether the PCEF should notify the PCRF when it detects traffic matching rules included within Charging-Rule-Install AVP.

**Vendor ID** 8164

**VSA Type** 520

**AVP Type** ENUM

Supported enumerated value(s):

0 ENABLE\_DETECTION

**AVP Flag** N/A

## SN-Service-Start-Timestamp

SN-Service-Start-Timestamp

**Vendor ID** 8164

**VSA Type** 527

**AVP Type** TIME

**AVP Flag** N/A

## SN-Time-Quota-Threshold

This AVP contains a quota threshold for time in percent value. This is vendor specific AVP.

**Vendor ID** 8164

**VSA Type** 503

**AVP Type** UINT32

**AVP Flag** M

## SN-Total-Used-Service-Unit

This is a vendor-specific AVP. This AVP contains the total consumed service units.

**Vendor ID** 8164

**VSA Type** 504

**AVP Type** GROUPED

Supported group value(s):

[ TARIFF\_CHANGE\_USAGE ]

[ CC\_TIME ]

[ CC\_TOTAL\_OCTETS ]

[ CC\_INPUT\_OCTETS ]

[ CC\_OUTPUT\_OCTETS ]

[ CC\_SERVICE\_SPECIFIC\_UNITS ]

[ 3GPP\_REPORTING\_REASON ]

**AVP Flag** N/A

## SN-Traffic-Policy

This AVP contains name of the Traffic Policing Policy.

**Vendor ID** 8164

**VSA Type** 514

**AVP Type** UTF8STRING

**AVP Flag** N/A

## SN-Transparent-Data

This is a vendor-specific AVP. This AVP contains current PDP session information. This AVP provides information obtained from the RADIUS server during Access-Accept that can be put into vendor-specific extension towards the CGF and Prepaid server for billing purposes. This AVP is optional in the Access-Accept message.

**Vendor ID** 8164

**VSA Type** 513

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## SN-Unit-Quota-Threshold

This is a vendor-specific AVP. This AVP contains quota threshold for service specific units of quota in the CLCI-C in percent value.

**Vendor ID** 8164

**VSA Type** 502

**AVP Type** UINT32

**AVP Flag** M

## SN-Usage-Monitoring

This AVP is used by PCRF to indicate if usage-monitoring and reporting is enabled or disabled.

**Vendor ID** 8164

**VSA Type** 521

**AVP Type** ENUM

Supported enumerated value(s):

0 USAGE\_MONITORING\_DISABLED

1 USAGE\_MONITORING\_ENABLED

**AVP Flag** N/A

## SN-Usage-Monitoring-Control

This AVP is used for provisioning and reporting of usage information.



**Vendor ID** 8164

**VSA Type** 517

**AVP Type** GROUPED

Supported group value(s):

[ SN\_MONITORING\_KEY ]

[ SN\_USAGE\_MONITORING ]

[ SN\_USAGE\_VOLUME ]

**AVP Flag** N/A

## SN-Usage-Volume

This AVP indicates total uplink and downlink usage volume in octets.

**Vendor ID** 8164

**VSA Type** 519

**AVP Type** UINT64

**AVP Flag** N/A

## SN-Volume-Quota-Threshold

This AVP contains a volume threshold value in percentage value.

**Vendor ID** 8164

**VSA Type** 501

**AVP Type** UINT32

**AVP Flag** M

## SN1-IPv6-Primary-DNS

SN1-IPv6-Primary-DNS

**Vendor ID** 8164

**VSA Type** 101

**AVP Type** ADDRESS

**AVP Flag** M

## SN1-IPv6-Secondary-DNS

SN1-IPv6-Secondary-DNS

**Vendor ID** 8164

**VSA Type** 102

**AVP Type** ADDRESS

**AVP Flag** M

## SN1-Primary-DNS-Server

SN1-Primary-DNS-Server

**Vendor ID** 8164

**VSA Type** 5

**AVP Type** ADDRESS

**AVP Flag** M

## SN1-Rulebase

SN1-Rulebase

**Vendor ID** 8164

**VSA Type** 250

**AVP Type** UTF8STRING

**AVP Flag** M

## SN1-Secondary-DNS-Server

SN1-Secondary-DNS-Server

**Vendor ID** 8164

**VSA Type** 6

**AVP Type** ADDRESS

**AVP Flag** M

## SN1-VPN-Name

SN1-VPN-Name

**Vendor ID** 8164

**VSA Type** 2

**AVP Type** UTF8STRING

**AVP Flag** M

## SRES

This AVP contains the SRES.

**Vendor ID** 10415

**VSA Type** 1454  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## SS-Action

SS-Action  
**Vendor ID** 9  
**VSA Type** 132072  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 QUERY  
1 QUERY\_AND\_RECOVER  
**AVP Flag** N/A

## SS-Code

This AVP contains the supplementary service codes that are to be deleted from the subscription.  
**Vendor ID** 10415  
**VSA Type** 1476  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## SS-Status

This AVP refers to the state information of individual supplementary services as defined in 3GPP TS 23.011.  
**Vendor ID** 10415  
**VSA Type** 1477  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## SSID

SSID  
**Vendor ID** 10415  
**VSA Type** 1524  
**AVP Type** UTF8STRING  
**AVP Flag** N/A

## STN-SR

This AVP contains the session transfer number for SRVCC.

**Vendor ID** 10415

**VSA Type** 1433

**AVP Type** UTF8STRING

**AVP Flag** M

## Secondary-Charging-Collection-Function-Name

Defines the address of the secondary offline charging system for the bearer.

**Vendor ID** 10415

**VSA Type** 622

**AVP Type** DIAMURI

**AVP Flag** M

## Secondary-Event-Charging-Function-Name

Defines the address of the secondary online charging system for the bearer.

**Vendor ID** 10415

**VSA Type** 620

**AVP Type** DIAMURI

**AVP Flag** M

## Secondary-RAT-Type

It holds the value of Secondary RAT Type, as provided by the RAN.

**Vendor ID** 10415

**VSA Type** 1304

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Sector-Id

The identifier of sector that MS exists.

**Vendor ID** 0

**VSA Type** 10002

**AVP Type** UIN32

**AVP Flag** M

## Security-Parameter-Index

This AVP contains the security parameter index of the IPSec packet.

**Vendor ID** 10415

**VSA Type** 1056

**AVP Type** OCTETSTRING

**AVP Flag** M

## Send-Data-Indication

This AVP indicates that sender requests user data in SNR.

**Vendor ID** 0

**VSA Type** 710

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Served-Party-IP-Address

This AVP holds the IP address of either the calling or called party, depending on whether the P-CSCF is in touch with the calling or the called party. This AVP is only provided by the P-CSCF and S-CSCF.

**Vendor ID** 10415

**VSA Type** 848

**AVP Type** ADDRESS

**AVP Flag** M

## Server-Assignment-Type

This AVP contains the type of server update being performed in a Server-Assignment-Request operation.

**Vendor ID** 10415

**VSA Type** 614

**AVP Type** ENUM

Supported enumerated value(s):

0 NO\_ASSIGNMENT

1 REGISTRATION

2 RE\_REGISTRATION

3 UNREGISTERED\_USER

4 TIMEOUT\_DEREGISTRATION

5 USER\_DEREGISTRATION  
 6 TIMEOUT\_DEREGISTRATION\_STORE\_SERVER\_NAME  
 7 USER\_DEREGISTRATION\_STORE\_SERVER\_NAME  
 8 ADMINISTRATIVE\_DEREGISTRATION  
 9 AUTHENTICATION\_FAILURE  
 10 AUTHENTICATION\_TIMEOUT  
 11 DEREGISTRATION\_TOO\_MUCH\_DATA

**AVP Flag** M

## Server-Capabilities

This grouped AVP contains information/capabilities of an S-CSCF server.

**Vendor ID** 10415

**VSA Type** 603

**AVP Type** GROUPED

Supported group value(s):

[ MANDATORY\_CAPABILITY ]

[ OPTIONAL\_CAPABILITY ]

[ SERVER\_NAME ]

**AVP Flag** M

## Server-Name

This AVP contains a SIP-URL used to identify a SIP server.

**Vendor ID** 10415

**VSA Type** 602

**AVP Type** UTF8STRING

**AVP Flag** M

## Service-Feature-Rule-Definition

Service-Feature.

**Vendor ID** 9

**VSA Type** 132087

**AVP Type** GROUPED

Supported group value(s):

[ TRIGGER\_ACTION\_NAME ]

[ SERVICE\_FEATURE\_RULE\_STATUS ]

[ PROFILE\_NAME ]

**AVP Flag** N/A

## Service-Feature-Rule-Install

Service-Feature-Rule-Install.

**Vendor ID** 9

**VSA Type** 132086

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_FEATURE\_RULE\_DEFINITION ]

**AVP Flag** N/A

## Service-Feature-Rule-Remove

Service-Feature-Rule-Remove.

**Vendor ID** 9

**VSA Type** 132091

**AVP Type** GROUPED

Supported group value(s):

[ TRIGGER\_ACTION\_NAME ]

**AVP Flag** N/A

## Service-Feature-Rule-Status

Service-Feature-Rule-Status

**Vendor ID** 9

**VSA Type** 132089

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE

1 ENABLE

**AVP Flag** N/A

## Service-Feature-Status

Service-Feature-Status

**Vendor ID** 9**VSA Type** 132085**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLE

1 ENABLE

**AVP Flag** N/A

## Service-Feature-Type

Service-Feature-Type

**Vendor ID** 9**VSA Type** 132084**AVP Type** ENUM

Supported enumerated value(s):

0 INVALID

1 CUSP

2 CUTO

3 UIDH

**AVP Flag** N/A

## Service-Feature

Service-Feature.

**Vendor ID** 9**VSA Type** 132083**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_FEATURE\_TYPE ]

[ SERVICE\_FEATURE\_STATUS ]

[ SERVICE\_FEATURE\_RULE\_INSTALL ]

[ SERVICE\_FEATURE\_RULE\_REMOVE ]

**AVP Flag** N/A

## Service-Activation

Service-Activation



**Vendor ID** 9

**VSA Type** 131094

**AVP Type** ENUM

Supported enumerated value(s):

0 USER\_PROFILE

1 AUTOMATIC

**AVP Flag** M

## Service-Area-Identity

This AVP contains the service area identifier of the user.

**Vendor ID** 10415

**VSA Type** 1607

**AVP Type** OCTETSTRING

**AVP Flag** M

## Service-CDR-Threshold

Service-CDR-Threshold

**Vendor ID** 9

**VSA Type** 131129

**AVP Type** GROUPED

Supported group value(s):

[ CDR\_VOLUME\_THRESHOLD ]

[ CDR\_TIME\_THRESHOLD ]

**AVP Flag** M

## Service-Class

This AVP contains the service class requested by the AF.

**Vendor ID** 13019

**VSA Type** 459

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Service-Class-Type

Service-Class-Type

**Vendor ID** 9

**VSA Type** 131100

**AVP Type** UINT32

**AVP Flag** N/A

## Service-Context-Id

This AVP contains a unique identifier of the Diameter Credit Control service specific document that applies to the request. This is an identifier allocated by the service provider/operator, by the service element manufacturer or by a standardization body and MUST uniquely identify a given Diameter Credit Control service specific document. For offline charging, this identifies the service specific document ('middle tier' TS) on which associated CDRs should be based. The format of the Service-Context-Id is:  
 "extensions".MNC.MCC."Release"."service-context" "@" "domain"

**Vendor ID** 0

**VSA Type** 461

**AVP Type** UTF8STRING

**AVP Flag** M

## Service-Data-Container

This AVP enables the transmission of the container to be reported for Flow-based Charging. On encountering change on charging condition, this container identifies the volume count (separated for uplink and downlink), elapsed time or number of events, per service data flow identified per rating group or combination of the rating group and service id within an IP-CAN bearer.

**Vendor ID** 10415

**VSA Type** 2040

**AVP Type** GROUPED

Supported group value(s):

[ AF\_CORRELATION\_INFORMATION ]

[ CHARGING\_RULE\_BASE\_NAME ]

[ ACCOUNTING\_INPUT\_OCTETS ]

[ ACCOUNTING\_OUTPUT\_OCTETS ]

[ ACCOUNTING\_INPUT\_PACKETS ]

[ ACCOUNTING\_OUTPUT\_PACKETS ]

[ LOCAL\_SEQUENCE\_NUMBER ]

[ QOS\_INFORMATION ]

[ RATING\_GROUP ]

[ CHANGE\_TIME ]

[ SERVICE\_IDENTIFIER ]

[ SERVICE\_SPECIFIC\_INFO ]  
[ SGSN\_ADDRESS ]  
[ TIME\_FIRST\_USAGE ]  
[ TIME\_LAST\_USAGE ]  
[ TIME\_USAGE ]  
[ CHANGE\_CONDITION ]  
[ 3GPP\_USER\_LOCATION\_INFO ]  
[ FLOW\_DESCRIPTION ]  
[ CHARGING\_RULE\_NAME ]  
[ FIRST\_PACKET\_DIRECTION ]  
[ 3GPP2\_BSID ]  
**AVP Flag M**

## Service-Definition

Service-Definition

**Vendor ID 9**

**VSA Type 131076**

**AVP Type GROUPED**

Supported group value(s):

[ SERVICE\_NAME ]  
[ ONLINE\_BILLING\_BASIS ]  
[ DUAL\_BILLING\_BASIS ]  
[ SERVICE\_REPORTING\_LEVEL ]  
[ SERVICE\_CDR\_THRESHOLD ]  
[ SERVICE\_ACTIVATION ]  
[ ADVICE\_OF\_CHARGE ]  
[ SERVICE\_CLASS\_TYPE ]  
[ SERVICE\_IDLE\_TIME ]  
[ OWNER\_ID ]  
[ OWNER\_NAME ]  
[ ONLINE\_PASSTHROUGH\_QUOTA ]  
[ DUAL\_PASSTHROUGH\_QUOTA ]  
[ ONLINE\_REAUTHORIZATION\_THRESHOLD ]  
[ DUAL\_REAUTHORIZATION\_THRESHOLD ]

[ ONLINE\_REAUTHORIZATION\_TIMEOUT ]  
 [ REFUND\_POLICY ]  
 [ METER\_EXCLUDE ]  
 [ METER\_INCLUDE\_IMAP ]  
 [ METERING\_GRANULARITY ]  
 [ VERIFY ]  
 [ CISCO\_QUOTA\_CONSUMPTION\_TIME ]  
 [ SERVICE\_RATING\_GROUP ]  
 [ CISCO\_QOS\_PROFILE\_UPLINK ]  
 [ CISCO\_QOS\_PROFILE\_DOWNLINK ]  
 [ HEADER\_GROUP\_NAME ]  
 [ CONTENT\_POLICY\_MAP ]  
 [ SERVICE\_LIFE\_TIME ]

**AVP Flag M**

## Service-Group-Definition

Service-Group-Definition

**Vendor ID 9**

**VSA Type 131244**

**AVP Type GROUPED**

Supported group value(s):

[ SERVICE\_GROUP\_NAME ]  
 [ CISCO\_EVENT\_TRIGGER ]  
 [ CISCO\_QOS ]  
 [ CISCO\_FLOW\_STATUS ]  
 [ REDIRECT\_SERVER ]

**AVP Flag M**

## Service-Group-Event

Service-Group-Event

**Vendor ID 9**

**VSA Type 131247**

**AVP Type GROUPED**

Supported group value(s):

[ SERVICE\_GROUP\_NAME ]

[ CISCO\_EVENT ]

**AVP Flag** M

## Service-Group-Install

Service-Group-Install

**Vendor ID** 9

**VSA Type** 131245

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_GROUP\_DEFINITION ]

**AVP Flag** M

## Service-Group-Name

Service-Group-Name

**Vendor ID** 9

**VSA Type** 131243

**AVP Type** OCTETSTRING

**AVP Flag** M

## Service-Group-Remove

Service-Group-Remove

**Vendor ID** 9

**VSA Type** 131246

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_GROUP\_NAME ]

**AVP Flag** M

## Service-Identifier

Specifies the identity of the service or service component the service data flow in a charging rule relates to.

**Vendor ID** 0

**VSA Type** 439

**AVP Type** UINT32

AVP Flag M

## Service-Idle-Time

Service-Idle-Time

**Vendor ID** 9

**VSA Type** 131101

**AVP Type** UINT32

**AVP Flag** N/A

## Service-Indication

This AVP contains the Service Indication that identifies a service in AS.

**Vendor ID** 0

**VSA Type** 704

**AVP Type** OCTETSTRING

**AVP Flag** M

## Service-Info

Service-Info

**Vendor ID** 9

**VSA Type** 131078

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_NAME ]

[ ONLINE ]

[ VIRTUAL\_ONLINE ]

**AVP Flag** M

## Service-Info-Status

This AVP indicates the status of the service information that the AF is providing to the PCRF.

**Vendor ID** 10415

**VSA Type** 527

**AVP Type** ENUM

Supported enumerated value(s):

0 FINAL\_SERVICE\_INFORMATION

1 PRELIMINARY\_SERVICE\_INFORMATION

**AVP Flag** M

## Service-Information

The purpose of this AVP is to allow the transmission of additional 3GPP service-specific information elements.

**Vendor ID** 10415

**VSA Type** 873

**AVP Type** GROUPED

Supported group value(s):

[ IMS\_INFORMATION ]

**AVP Flag** M

## Service-Install

Service-Install

**Vendor ID** 9

**VSA Type** 131185

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_DEFINITION ]

**AVP Flag** M

## Service-Life-Time

Service-Life-Time

**Vendor ID** 9

**VSA Type** 131257

**AVP Type** UINT32

**AVP Flag** N/A

## Service-Name

Service-Name

**Vendor ID** 9

**VSA Type** 131087

**AVP Type** OCTETSTRING

**AVP Flag** M

## Service-Parameter-Info

Service-specific information used for rating.

**Vendor ID** 0

**VSA Type** 440

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_PARAMETER\_TYPE ]

[ SERVICE\_PARAMETER\_VALUE ]

**AVP Flag** M

## Service-Parameter-Type

Service event specific parameter (for example, end-user location or service name).

**Vendor ID** 0

**VSA Type** 441

**AVP Type** UINT32

**AVP Flag** M

## Service-Parameter-Value

Value of the service parameter type.

**Vendor ID** 0

**VSA Type** 442

**AVP Type** OCTETSTRING

**AVP Flag** M

## Service-Rating-Group

Service-Rating-Group

**Vendor ID** 9

**VSA Type** 131162

**AVP Type** UINT32

**AVP Flag** N/A

## Service-Remove

Service-Remove

**Vendor ID** 9



**VSA Type** 131186  
**AVP Type** GROUPED  
Supported group value(s):  
[ SERVICE\_NAME ]  
**AVP Flag** M

## Service-Report

Service-Report  
**Vendor ID** 10415  
**VSA Type** 3161  
**AVP Type** GROUPED  
Supported group value(s):  
[ SERVICE\_RESULT ]  
[ NODE\_TYPE ]  
**AVP Flag** M

## Service-Reporting-Level

Service-Reporting-Level  
**Vendor ID** 9  
**VSA Type** 131125  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 TRANSACTION  
1 SERVICE  
**AVP Flag** M

## Service-Result

Service-Result  
**Vendor ID** 10415  
**VSA Type** 3146  
**AVP Type** GROUPED  
Supported group value(s):  
[ VENDOR\_ID ]  
[ SERVICE\_RESULT\_CODE ]

AVP Flag M

## Service-Result-Code

Service-Result-Code

**Vendor ID** 10415

**VSA Type** 3147

**AVP Type** UINT32

AVP Flag M

## Service-Selection

This AVP contains the name of the service or the external network with which the mobility service should be associated.

**Vendor ID** 0

**VSA Type** 493

**AVP Type** OCTETSTRING

AVP Flag M

## Service-Specific-Data

This AVP holds service specific data if and as provided by an Application Server.

**Vendor ID** 0

**VSA Type** 1249

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_SPECIFIC\_TYPE ]

[ SERVICE\_SPECIFIC\_VALUE ]

AVP Flag M

## Service-Specific-Info

This AVP holds service specific data if and as provided by an Application Server or a PCEF only for pre-defined PCC rules.

**Vendor ID** 10415

**VSA Type** 1249

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_SPECIFIC\_DATA ]

[ SERVICE\_SPECIFIC\_TYPE ]

**AVP Flag** M

## Service-Specific-Type

This AVP holds the type of the Service-Specific-Data.

**Vendor ID** 0

**VSA Type** 1248

**AVP Type** UINT32

**AVP Flag** M

## Service-Specific-Value

This AVP holds service specific value.

**Vendor ID** 0

**VSA Type** 863

**AVP Type** UTF8STRING

**AVP Flag** M

## Service-Status

Service-Status

**Vendor ID** 9

**VSA Type** 131086

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_NAME ]

[ CISCO\_FLOW\_STATUS ]

[ SERVICE\_RATING\_GROUP ]

[ CISCO\_QOS ]

[ REDIRECT\_SERVER ]

[ SERVICE\_GROUP\_NAME ]

**AVP Flag** M

## Service-Type

This AVP contains the type of service the user has requested or the type of service to be provided.

**Vendor ID** 0

**VSA Type 6****AVP Type ENUM**

Supported enumerated value(s):

- 1 Login
- 2 Framed
- 3 Callback-Login
- 4 Callback-Framed
- 5 Outbound
- 6 Administrative
- 7 NAS-Prompt
- 8 Authenticate-Only
- 9 Callback-NAS-Prompt
- 10 Call-Check
- 11 Callback-Administrative
- 12 Voice
- 13 Fax
- 14 Modem-Relay
- 15 IAPP-Register\_IEEE-802\_11f
- 16 IAPP-AP-Check\_IEEE-802\_11f
- 17 Authorize-Only-RADDynAuth

**AVP Flag M**

## Service-URN

This AVP indicates that an AF session is used for emergency traffic. It contains values of the service URN including sub-services, as registered at IANA.

**Vendor ID 10415**

**VSA Type 525**

**AVP Type OCTETSTRING**

**AVP Flag M**

## Services

Services

**Vendor ID 9**

**VSA Type 132082**

**AVP Type GROUPED**

Supported group value(s):

[ SERVICE\_FEATURE ]

**AVP Flag** N/A

## ServiceTypeIdentity

This AVP contains the LCS service type identity.

**Vendor ID** 10415

**VSA Type** 1484

**AVP Type** UINT32

**AVP Flag** M

## Serving-Node

This AVP contains information about the network node serving the targeted user.

**Vendor ID** 10415

**VSA Type** 2401

**AVP Type** GROUPED

Supported group value(s):

[ SGSN\_NUMBER ]

[ MME\_NAME ]

[ MME\_REALM ]

[ MSC\_NUMBER ]

[ 3GPP\_AAA\_SERVER\_NAME ]

[ LCS\_CAPABILITIES\_SETS ]

**AVP Flag** M

## Serving-Node-Type

This AVP contains type of the Serving Node.

**Vendor ID** 10415

**VSA Type** 2047

**AVP Type** ENUM

Supported enumerated value(s):

0 SGSN

1 PMIPSGW

2 GTPSGW

3 ePDG  
4 hSGW  
5 MME  
6 TWAN  
**AVP Flag** M

## Serving-PLMN-Rate-Control

Serving-PLMN-Rate-Control  
**Vendor ID** 10415  
**VSA Type** 4310  
**AVP Type** GROUPED  
Supported group value(s):  
[ UPLINK\_RATE\_LIMIT ]  
[ DOWNLINK\_RATE\_LIMIT ]  
**AVP Flag** M

## Session-Bundle-Id

Used to identify the group of sessions to which session of the AA-Answer belongs.  
**Vendor ID** 13019  
**VSA Type** 400  
**AVP Type** UINT32  
**AVP Flag** M

## Session-Id

Specifies the specific session with an identifier.  
**Vendor ID** 0  
**VSA Type** 263  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Session-Linking-Indicator

This AVP indicates whether the session linking between the Gateway Control Session and the Gx session must be deferred.  
**Vendor ID** 10415

**VSA Type** 1064

**AVP Type** ENUM

Supported enumerated value(s):

0 SESSION\_LINKING\_IMMEDIATE

1 SESSION\_LINKING\_DEFERRED

**AVP Flag** M

## Session-Priority

This AVP indicates to the HSS or accounting server the session's priority. PRIORITY-0 is the highest priority.

**Vendor ID** 10415

**VSA Type** 650

**AVP Type** ENUM

Supported enumerated value(s):

0 PRIORITY-0

1 PRIORITY-1

2 PRIORITY-2

3 PRIORITY-3

4 PRIORITY-4

**AVP Flag** N/A

## Session-Release-Cause

This AVP contains the release cause of the IP-CAN session.

**Vendor ID** 10415

**VSA Type** 1045

**AVP Type** ENUM

Supported enumerated value(s):

0 UNSPECIFIED\_REASON

1 UE\_SUBSCRIPTION\_REASON

2 INSUFFICIENT\_SERVER\_RESOURCES

**AVP Flag** M

## Session-Request-Type

This AVP indicates the action that the PDG is asking to the 3GPP AAA server to perform.

**Vendor ID** 10415

**VSA Type** 311

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Session-Start-Indicator

This AVP contains the SFR Session Start Indication. Flags Primary PDP Context. Value is always 0xFF".

**Vendor ID** 8164

**VSA Type** 522

**AVP Type** OCTETSTRING

**AVP Flag** M

## Session-Sync-Requested

Session-Sync-Requested

**Vendor ID** 9

**VSA Type** 132041

**AVP Type** ENUM

Supported enumerated value(s):

1 STATE\_INFORMATION\_REQUIRED

**AVP Flag** N/A

## Session-Timeout

This AVP contains the maximum number of seconds of service to be provided to the user before termination of the session.

**Vendor ID** 0

**VSA Type** 27

**AVP Type** UINT32

**AVP Flag** M

## Software-Version

This AVP contains the Software Version of the International Mobile Equipment Identity.

**Vendor ID** 10415

**VSA Type** 6004

**AVP Type** UTF8STRING



**AVP Flag** M

## Specific-APN-Info

This AVP contains the APN which is not present in the subscription context but the UE is authorized to connect to and the identity of the registered PDN-GW.

**Vendor ID** 10415

**VSA Type** 1472

**AVP Type** GROUPED

Supported group value(s):

[ SERVICE\_SELECTION ]

[ MIP6\_AGENT\_INFO ]

[ VISITED\_NETWORK\_IDENTIFIER ]

**AVP Flag** M

## Specific-Action

Within an E-PDF initiated Re-Authorization Request; the Specific-Action AVP determines the type of the action.

**Vendor ID** 10415

**VSA Type** 513

**AVP Type** ENUM

Supported enumerated value(s):

1 CHARGING\_CORRELATION\_EXCHANGE

2 INDICATION\_OF\_LOSS\_OF\_BEARER

3 INDICATION\_OF\_RECOVERY\_OF\_BEARER

4 INDICATION\_OF\_RELEASE\_OF\_BEARER

5 INDICATION\_OF\_ESTABLISHMENT\_OF\_BEARER

6 IP\_CAN\_CHANGE

**AVP Flag** M

## Sponsor-Identity

Sponsor-Identity

**Vendor ID** 10415

**VSA Type** 531

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Sponsored-Connectivity-Data

Sponsored-Connectivity-Data

**Vendor ID** 10415

**VSA Type** 530

**AVP Type** GROUPED

Supported group value(s):

[ SPONSOR\_IDENTITY ]

[ APPLICATION\_SERVICE\_PROVIDER\_IDENTITY ]

[ GRANTED\_SERVICE\_UNIT ]

[ USED\_SERVICE\_UNIT ]

**AVP Flag** N/A

## Starent-Subscriber-Permission

This AVP is used to control the Network Mobility (NEMO) permission on a per Enterprise/PDN connection basis.

**Vendor ID** 8164

**VSA Type** 20

**AVP Type** ENUM

Supported enumerated value(s):

0 None

1 Simple-IP

2 Mobile-IP

3 Simple-IP-Mobile-IP

4 HA-Mobile-IP

5 Simple-IP-HA-Mobile-IP

6 Mobile-IP-HA-Mobile-IP

7 SIP-MIP-HA-MIP

8 GGSN-PDP-TYPE-IP

16 GGSN-PDP-TYPE-PPP

32 Network-Mobility

38 FA-HA-NEMO

64 PMIPv6

127 All

**AVP Flag** M

## Start-Time

This AVP contains a time-stamp (in UTC format) which represents the start of a service flow at the BM.

**Vendor ID** 10415

**VSA Type** 2041

**AVP Type** TIME

**AVP Flag** M

## Start-of-Port-Range

Start-of-Port-Range

**Vendor ID** 9

**VSA Type** 131149

**AVP Type** UINT32

**AVP Flag** N/A

## State

Sent by Diameter server to the NAS in an AA Response command that contains either a Result-Code of "DIAMETER\_MULTI\_ROUND\_AUTH" or a "Termination-Action" AVP with the value of "AA-REQUEST".

**Vendor ID** 0

**VSA Type** 24

**AVP Type** OCTETSTRING

**AVP Flag** M

## Stop-Time

This AVP contains a time-stamp (in UTC format) which represents the termination of a service flow at the BM. This AVP is only included in an accounting request with Accounting-Record-Type indicating STOP\_RECORD.

**Vendor ID** 10415

**VSA Type** 2042

**AVP Type** TIME

**AVP Flag** M

## Subs-Req-Type

This AVP indicates the type of subscription to notifications request in SNR.Subs-Req-Type.

**Vendor ID** 0

**VSA Type** 705

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Subscribed-Periodic-RAU-TAU-Timer

Subscribed-Periodic-RAU-TAU-Timer

**Vendor ID** 10415

**VSA Type** 1619

**AVP Type** UINT32

**AVP Flag** N/A

## Subscriber-IP-Source

Subscriber-IP-Source

**Vendor ID** 9

**VSA Type** 131136

**AVP Type** ENUM

Supported enumerated value(s):

0 DEFAULT

1 HTTP\_X\_FORWARDED\_FOR

**AVP Flag** M

## Subscriber-Priority

Subscriber-Priority

**Vendor ID** 5535

**VSA Type** 6078

**AVP Type** GROUPED

Supported group value(s):

[ 3GPP2\_MAX\_AUTH\_AGGR\_BW\_BET ]

[ 3GPP2\_MAX\_PER\_FLOW\_PRIORITY\_USER ]

[ 3GPP2\_INTER\_USER\_PRIORITY ]

[ 3GPP2\_ALLOWED\_PERSISTENT\_TFTS ]

[ 3GPP2\_MAX\_SVC\_INST\_LINK\_FLOW\_TOTAL ]

[ 3GPP2\_SERVICE\_OPTION\_PROFILE ]

**AVP Flag** M

## Subscriber-Profile

Subscriber-Profile

**Vendor ID** 9

**VSA Type** 132081

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Subscriber-Status

This AVP indicates if the service is barred or granted.

**Vendor ID** 10415

**VSA Type** 1424

**AVP Type** ENUM

Supported enumerated value(s):

0 SERVICEGRANTED

1 OPERATORDETERMINEDBARRING

**AVP Flag** M

## Subscription-Data

This AVP contains the information related to the user profile relevant for EPS and GERAN/UTRAN.

**Vendor ID** 10415

**VSA Type** 6001

**AVP Type** GROUPED

Supported group value(s):

[ SUBSCRIBER\_STATUS ]

[ MSISDN ]

[ STN\_SR ]

[ ICS\_INDICATOR ]

[ NETWORK\_ACCESS\_MODE ]

[ OPERATOR\_DETERMINED\_BARRING ]

[ HPLMN\_ODB ]

[ REGIONAL\_SUBSCRIPTION\_ZONE\_CODE ]

[ ACCESS\_RESTRICTION\_DATA ]

[ APN\_OI\_REPLACEMENT ]

[ 3GPP\_CHARGING\_CHARACTERISTICS ]

[ AMBR ]  
 [ APN\_CONFIGURATION\_PROFILE ]  
 [ RAT\_FREQUENCY\_SELECTION\_PRIORITY ]  
 [ SUBSCRIBED\_PERIODIC\_RAU\_TAU\_TIMER ]  
 [ DL\_BUFFERING\_SUGGESTED\_PACKET\_COUNT ]  
**AVP Flag** M

## Subscription-Id

Identifier for the end-users subscription (IMSI, MSISDN, etc.).

**Vendor ID** 0  
**VSA Type** 443  
**AVP Type** GROUPED  
 Supported group value(s):  
 [ SUBSCRIPTION\_ID\_TYPE ]  
 [ SUBSCRIPTION\_ID\_DATA ]  
**AVP Flag** M

## Subscription-Id-Data

Used to identify the end user information.

**Vendor ID** 0  
**VSA Type** 444  
**AVP Type** UTF8STRING  
**AVP Flag** M

## Subscription-Id-Type

Determines the type of identifier carried by the Subscription-Id AVP.

**Vendor ID** 0  
**VSA Type** 450  
**AVP Type** ENUM  
 Supported enumerated value(s):  
 0 END\_USER\_E164  
 1 END\_USER\_IMSI  
 2 END\_USER\_SIP\_URI  
 3 END\_USER\_NAI

4 END\_USER\_PRIVATE  
AVP Flag M

## Subscription-Info

This AVP contains the UE's subscription information.

**Vendor ID** 10415

**VSA Type** 642

**AVP Type** GROUPED

Supported group value(s):

[ CALL\_ID\_SIP\_HEADER ]

[ FROM\_SIP\_HEADER ]

[ TO\_SIP\_HEADER ]

[ RECORD\_ROUTE ]

[ CONTACT ]

**AVP Flag** N/A

## Supported-Applications

This AVP contains supported application identifiers of a Diameter node.

**Vendor ID** 10415

**VSA Type** 631

**AVP Type** GROUPED

Supported group value(s):

[ AUTH\_APPLICATION\_ID ]

[ ACCT\_APPLICATION\_ID ]

[ VENDOR\_SPECIFIC\_APPLICATION\_ID ]

**AVP Flag** M

## Supported-Features

This AVP informs the destination host about the features supported by the origin host.

**Vendor ID** 10415

**VSA Type** 628

**AVP Type** GROUPED

Supported group value(s):

[ VENDOR\_ID ]

[ FEATURE\_LIST\_ID ]

[ FEATURE\_LIST ]

**AVP Flag** M

## Supported-Features-Resp

This AVP contains a list of supported features of the origin host (Answer message without M bit set).

**Vendor ID** 10415

**VSA Type** 628

**AVP Type** GROUPED

Supported group value(s):

[ VENDOR\_ID\_RESP ]

[ FEATURE\_LIST\_ID\_RESP ]

[ FEATURE\_LIST\_RESP ]

**AVP Flag** N/A

## Supported-Features-without-M-bit

Supported-Features-without-M-bit

**Vendor ID** 10415

**VSA Type** 628

**AVP Type** GROUPED

Supported group value(s):

[ VENDOR\_ID ]

[ FEATURE\_LIST\_ID ]

[ FEATURE\_LIST ]

**AVP Flag** N/A

## Supported-GAD-Shapes

This AVP contains a bitmask. A node shall mark in the BIT STRING all shapes defined in 3GPP TS 23.032. Bits 6-0 indicate the supported shapes defined in 3GPP TS 23.032. Bits 7 to 31 can be ignored.

**Vendor ID** 10415

**VSA Type** 2510

**AVP Type** UINT32

**AVP Flag** M



## Supported-RAT-Type

This AVP contains one of E-UTRAN, UTRAN, GERAN, GAN, I-HSPA-EVOLUTION.

**Vendor ID** 10415

**VSA Type** 6005

**AVP Type** UTF8STRING

**AVP Flag** M

## Supported-Vendor-Id

Specifies the vendor ID other than the device vendor.

**Vendor ID** 0

**VSA Type** 265

**AVP Type** UINT32

**AVP Flag** M

## TCP-SYN

TCP-SYN

**Vendor ID** 9

**VSA Type** 131194

**AVP Type** UTF8STRING

**AVP Flag** M

## TDF-Application-Identifier

It references the application detection filter (e.g. its value may represent an application such as a list of URLs, etc.) which the PCC rule for Application Detection and Control in the PCEF applies. The TDF-Application-Identifier AVP also references the application in the reporting to the PCRF.

**Vendor ID** 10415

**VSA Type** 1088

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## TDF-Application-Instance-Identifier

This AVP will be dynamically assigned by the PCEF supporting ADC feature in order to allow correlation of application Start and Stop events to the specific service data flow description, if service data flow descriptions are deducible and will be reported from the PCEF to the PCRF when the flow description is deducible along with the corresponding Event Trigger.

**Vendor ID** 10415  
**VSA Type** 2802  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## TFR-Flags

TFR-Flags  
**Vendor ID** 10415  
**VSA Type** 3302  
**AVP Type** UINT32  
**AVP Flag** M

## TFT-Filter

This AVP contains the flow filter for one Traffic Flow Template (TFT) packet filter.

**Vendor ID** 10415  
**VSA Type** 1012  
**AVP Type** IPFILTERRULE  
**AVP Flag** M

## TFT-Packet-Filter-Information

This AVP contains the information from a single TFT packet filter including the evaluation precedence, the filter and the Type-of-Service/Traffic Class sent from the TPF to the CRE.

**Vendor ID** 10415  
**VSA Type** 1013  
**AVP Type** GROUPED  
Supported group value(s):  
[ PRECEDENCE ]  
[ TFT\_FILTER ]  
[ TOS\_TRAFFIC\_CLASS ]  
[ FLOW\_DIRECTION ]  
**AVP Flag** M

## TMGI

This AVP contains the Temporary Mobile Group Identity (TMGI) allocated to a particular MBMS bearer service.

**Vendor ID** 10415  
**VSA Type** 900  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## TMO-Clientless-Optimisation-Rule

TMO-Clientless-Optimisation-Rule  
**Vendor ID** 29168  
**VSA Type** 1004  
**AVP Type** UINT32  
**AVP Flag** N/A

## TMO-Virtual-Gi-ID

TMO-Virtual-Gi-ID  
**Vendor ID** 29168  
**VSA Type** 120  
**AVP Type** UINT32  
**AVP Flag** N/A

## TS-Code

This AVP contains the code identifying a single teleservice, a group of teleservices, or all teleservices.

**Vendor ID** 10415  
**VSA Type** 1487  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## TWAN-Identifier

TWAN-Identifier  
**Vendor ID** 10415  
**VSA Type** 29  
**AVP Type** OCTETSTRING  
**AVP Flag** N/A

## TWAN-User-Location-Info

This AVP indicates the UE location in a Trusted WLAN Access Network (TWAN). This grouped AVP contains BSSID and SSID of the access point.

**Vendor ID** 10415

**VSA Type** 2714

**AVP Type** GROUPED

Supported group value(s):

[ SSID ]

[ BSSID ]

**AVP Flag** M

## Tap-Id

This AVP holds the Tap ID as provisioned by the DF.

**Vendor ID** 4491

**VSA Type** 231

**AVP Type** UTF8STRING

**AVP Flag** M

## Tariff-Change-Usage

Defines whether units are used before or after a tariff change.

**Vendor ID** 0

**VSA Type** 452

**AVP Type** ENUM

Supported enumerated value(s):

0 UNIT\_BEFORE\_TARIFF\_CHANGE

1 UNIT\_AFTER\_TARIFF\_CHANGE

2 UNIT\_INDETERMINATE

**AVP Flag** M

## Tariff-Time-Change

It is sent from the server to the client and includes the time in seconds since January 1, 1900, 00:00 UTC, when the tariff of the service is changed.

**Vendor ID** 0

**VSA Type** 451

**AVP Type** TIME

**AVP Flag** M

## Tariff-XML

Tariff-XML

**Vendor ID** 10415

**VSA Type** 2306

**AVP Type** UTF8STRING

**AVP Flag** M

## Teleservice-List

This AVP contains the service codes for the short message related teleservice for a subscriber.

**Vendor ID** 10415

**VSA Type** 1486

**AVP Type** GROUPED

Supported group value(s):

[ TS\_CODE ]

**AVP Flag** M

## Terminal-Information

This AVP contains the information about the user's mobile equipment.

**Vendor ID** 10415

**VSA Type** 6002

**AVP Type** GROUPED

Supported group value(s):

[ ESN ]

[ MEID ]

[ IMEI ]

[ SOFTWARE\_VERSION ]

**AVP Flag** M

## Terminal-Type

This AVP contains a value of the User Class DHCP Option.

**Vendor ID** 13019

**VSA Type** 352

**AVP Type** OCTETSTRING

**AVP Flag** M

## Terminate-Bearer

Terminate-Bearer

**Vendor ID** 10415

**VSA Type** 131161

**AVP Type** GROUPED

Supported group value(s):

[ BEARER\_IDENTIFIER ]

**AVP Flag** M

## Terminating-IOI

This AVP holds the Inter Operator Identifier for the originating network as generated by the S-CSCF in the home network of the terminating end user.

**Vendor ID** 0

**VSA Type** 840

**AVP Type** UTF8STRING

**AVP Flag** M

## Termination-Cause

This AVP indicates the reason why a session was terminated on the access device.

**Vendor ID** 0

**VSA Type** 295

**AVP Type** ENUM

Supported enumerated value(s):

1 DIAMETER\_LOGOUT

2 DIAMETER\_SERVICE\_NOT\_PROVIDED

3 DIAMETER\_BAD\_ANSWER

4 DIAMETER\_ADMINISTRATIVE

5 DIAMETER\_LINK\_BROKEN

6 DIAMETER\_AUTH\_EXPIRED

7 DIAMETER\_USER\_MOVED

8 DIAMETER\_SESSION\_TIMEOUT

**AVP Flag** M

## Time-First-Usage

This AVP specifies the time in UTC format for the first IP packet to be transmitted and mapped to the current service data container.

**Vendor ID** 10415

**VSA Type** 2043

**AVP Type** TIME

**AVP Flag** M

## Time-Last-Usage

This AVP specifies the time in UTC format for the last IP packet to be transmitted and mapped to the current service data container.

**Vendor ID** 10415

**VSA Type** 2044

**AVP Type** TIME

**AVP Flag** M

## Time-Stamps

This grouped AVP holds the time of the initial SIP request and the time of the response to the initial SIP Request.

**Vendor ID** 0

**VSA Type** 833

**AVP Type** GROUPED

Supported group value(s):

[ SIP\_REQUEST\_TIMESTAMP ]

[ SIP\_RESPONSE\_TIMESTAMP ]

[ SIP\_REQUEST\_TIMESTAMP\_FRACTION ]

[ SIP\_RESPONSE\_TIMESTAMP\_FRACTION ]

**AVP Flag** M

## Time-Threshold

Time-Threshold

**Vendor ID** 9

**VSA Type** 131081

**AVP Type** UINT32

**AVP Flag** N/A

## Time-Usage

This AVP indicates the length of the current flow in seconds.

**Vendor ID** 10415

**VSA Type** 2045

**AVP Type** UINT32

**AVP Flag** M

## To-SIP-Header

This AVP contains the information in the To header.

**Vendor ID** 10415

**VSA Type** 645

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## ToS-Traffic-Class

This AVP contains the Type-of-Service/Traffic-Class of a TFT packet filter.

**Vendor ID** 10415

**VSA Type** 1014

**AVP Type** OCTETSTRING

**AVP Flag** M

## Trace-Collection-Entity

This AVP contains the IPv4 or IPv6 address of the Trace Collection Entity.

**Vendor ID** 10415

**VSA Type** 1452

**AVP Type** ADDRESS

**AVP Flag** M

## Trace-Data

This AVP contains the information related to trace function.



**Vendor ID** 10415

**VSA Type** 1458

**AVP Type** GROUPED

Supported group value(s):

[ TRACE\_REFERENCE ]

[ TRACE\_DEPTH\_LIST ]

[ TRACE\_NE\_TYPE\_LIST ]

[ TRACE\_INTERFACE\_LIST ]

[ TRACE\_EVENT\_LIST ]

[ OMC\_ID ]

[ TRACE\_COLLECTION\_ENTITY ]

**AVP Flag** M

## Trace-Depth

This AVP indicates whether entire signaling messages or just some IEs need to be recorded.

**Vendor ID** 10415

**VSA Type** 1462

**AVP Type** ENUM

Supported enumerated value(s):

0 Minimum

1 Medium

2 Maximum

3 MinimumWithoutVendorSpecificExtension

4 MediumWithoutVendorSpecificExtension

5 MaximumWithoutVendorSpecificExtension

**AVP Flag** M

## Trace-Depth-List

This AVP contains the list of Trade Depths per NE Type.

**Vendor ID** 10415

**VSA Type** 1460

**AVP Type** GROUPED

Supported group value(s):

[ TRACE\_DEPTH\_PER\_NE\_TYPE ]

AVP Flag M

## Trace-Depth-Per-NE-Type

This AVP contains the Network-Element-Type that is involved in a session trace, and the corresponding depth of trace for the specified Network-Element-Type.

**Vendor ID** 10415

**VSA Type** 1451

**AVP Type** GROUPED

Supported group value(s):

[ NETWORK\_ELEMENT\_TYPE ]

[ TRACE\_DEPTH ]

AVP Flag M

## Trace-Event-List

Trace-Event-List

**Vendor ID** 10415

**VSA Type** 1465

**AVP Type** OCTETSTRING

AVP Flag M

## Trace-Interface-List

Trace-Interface-List

**Vendor ID** 10415

**VSA Type** 1464

**AVP Type** OCTETSTRING

AVP Flag M

## Trace-NE-Type-List

This AVP contains the concatenation of MCC MNC.

**Vendor ID** 10415

**VSA Type** 1463

**AVP Type** OCTETSTRING

AVP Flag M

## Trace-Reference

This AVP contains the concatenation of MCC MNC.

**Vendor ID** 10415

**VSA Type** 1459

**AVP Type** OCTETSTRING

**AVP Flag** M

## Tracking-Area-Identity

This AVP contains the tracking area identifier of the user.

**Vendor ID** 10415

**VSA Type** 1603

**AVP Type** OCTETSTRING

**AVP Flag** M

## Traffic-Data-Volumes

This AVP is used to allow the transmission of the IPCAN bearer container on encountering change on charging condition for this IP-CAN bearer. The Rf interface supports AMBR reporting for non-guaranteed bit rate (non-GBR) bearers in a TDV AVP group.

**Vendor ID** 10415

**VSA Type** 2046

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_INFORMATION ]

[ ACCOUNTING\_INPUT\_OCTETS ]

[ ACCOUNTING\_INPUT\_PACKETS ]

[ ACCOUNTING\_OUTPUT\_OCTETS ]

[ ACCOUNTING\_OUTPUT\_PACKETS ]

[ CHANGE\_CONDITION ]

[ CHANGE\_TIME ]

[ 3GPP\_USER\_LOCATION\_INFO ]

**AVP Flag** M

## Transcoder-Inserted-Indication

Transcoder-Inserted-Indication

**Vendor ID** 10415

**VSA Type** 2605

**AVP Type** ENUM

Supported enumerated value(s): none

**AVP Flag** M

## Transport-Class

This AVP contains an integer used as an index pointing to a class of transport services to be applied.

**Vendor ID** 13019

**VSA Type** 311

**AVP Type** UINT32

**AVP Flag** N/A

## Trigger-Action-Name

Trigger-Action-Name

**Vendor ID** 9

**VSA Type** 132088

**AVP Type** OCTETSTRING

**AVP Flag** N/A

## Trunk-Group-ID

This grouped AVP identifies the incoming and outgoing PSTN legs.

**Vendor ID** 10415

**VSA Type** 851

**AVP Type** GROUPED

Supported group value(s):

[ INCOMING\_TRUNK\_GROUP\_ID ]

[ OUTGOING\_TRUNK\_GROUP\_ID ]

**AVP Flag** M

## Tunnel-Assignment-Id

Used to indicate to the tunnel initiator the particular tunnel to which a session is to be assigned.

**Vendor ID** 0

**VSA Type** 82

**AVP Type** OCTETSTRING

**AVP Flag** M

## Tunnel-Client-Auth-Id

Specifies the name used by the tunnel initiator during the authentication phase of tunnel establishment.

**Vendor ID** 0

**VSA Type** 90

**AVP Type** UTF8STRING

**AVP Flag** M

## Tunnel-Client-Endpoint

This AVP contains the address of the initiator end of the tunnel.

**Vendor ID** 0

**VSA Type** 66

**AVP Type** UTF8STRING

**AVP Flag** M

## Tunnel-Header-Filter

Tunnel-Header-Filter

**Vendor ID** 10415

**VSA Type** 1036

**AVP Type** IPFILTERRULE

**AVP Flag** M

## Tunnel-Header-Length

This AVP indicates the length of the tunnel header in octets.

**Vendor ID** 10415

**VSA Type** 1037

**AVP Type** UINT32

**AVP Flag** M

## Tunnel-Information

This AVP contains the tunnel (outer) header information from a single IP flow.

**Vendor ID** 10415

**VSA Type** 1038

**AVP Type** GROUPED

Supported group value(s):

[ TUNNEL\_HEADER\_LENGTH ]

[ TUNNEL\_HEADER\_FILTER ]

**AVP Flag** M

## Tunnel-Medium-Type

This AVP contains the transport medium to use when creating a tunnel for protocols (such as L2TP) that can operate over multiple transports.

**Vendor ID** 0

**VSA Type** 65

**AVP Type** ENUM

Supported enumerated value(s):

1 IPv4\_IPversion4

2 IPv6\_IPversion6

3 NSAP

4 HDLC-8-bit\_multidrop

5 BBN-1822

6 802-includes-all-802-media-plus-Ethernet-canonical\_format

7 E163\_POTS

8 E164\_SMDS\_Frame-Relay\_ATM

9 F69\_Telex

10 X121\_X25\_Frame-Relay

11 IPX

12 Appletalk

13 Decnet\_IV

14 Banyan\_Vines

15 E164-with-NSAP-format-subaddress

**AVP Flag** M

## Tunnel-Password

This AVP contains a password to be used to authenticate to a remote server.

**Vendor ID** 0

**VSA Type** 69

**AVP Type** OCTETSTRING

**AVP Flag** M

## Tunnel-Preference

Used to identify the relative preference assigned to each tunnel when more than one set of tunneling AVPs is returned within separate Grouped-AVPs.

**Vendor ID** 0

**VSA Type** 83

**AVP Type** UINT32

**AVP Flag** M

## Tunnel-Private-Group-Id

This AVP contains the group ID for a particular tunneled session.

**Vendor ID** 0

**VSA Type** 81

**AVP Type** OCTETSTRING

**AVP Flag** M

## Tunnel-Server-Auth-Id

This AVP contains the name used by the tunnel terminator during the authentication phase of tunnel establishment.

**Vendor ID** 0

**VSA Type** 91

**AVP Type** UTF8STRING

**AVP Flag** M

## Tunnel-Server-Endpoint

This AVP contains the address of the server end of the tunnel.

**Vendor ID** 0

**VSA Type** 67

**AVP Type** UTF8STRING

**AVP Flag** M

## Tunnel-Type

This AVP contains the tunneling protocol(s) to be used (in the case of a tunnel initiator) or in use (in the case of a tunnel terminator).

**Vendor ID** 0

**VSA Type** 64

**AVP Type** ENUM

Supported enumerated value(s):

- 1 Point-to-Point\_Tunneling\_Protocol-PPTP
- 2 Layer-Two-Forwarding\_L2F
- 3 Layer-Two-Tunneling\_Protocol-L2TP
- 4 Ascend-Tunnel-Management-Protocol-ATMP
- 5 Virtual-Tunneling-Protocol-VTP
- 6 IP-Authentication-Header-in-the-Tunnel-mode\_AH
- 7 IP-in-IP\_Encapsulation\_IP-IP
- 8 Minimal\_IP-in-IP\_Encapsulation\_MIN-IP-IP
- 9 IP\_Encapsulating\_Security\_Payload\_in\_the\_Tunnel-mode\_ESP
- 10 Generic\_Route\_Encapsulation\_GRE
- 11 Bay\_Dial\_Virtual\_Services-DVS
- 12 IP-in-IP-Tunneling
- 13 Virtual-LANs-VLAN

**AVP Flag** M

## Tunneling

Used to describe a compulsory tunnel service.

**Vendor ID** 0

**VSA Type** 401

**AVP Type** GROUPED

Supported group value(s):

- [ TUNNEL\_TYPE ]
- [ TUNNEL\_MEDIUM\_TYPE ]
- [ TUNNEL\_CLIENT\_ENDPOINT ]
- [ TUNNEL\_SERVER\_ENDPOINT ]
- [ TUNNEL\_PREFERENCE ]
- [ TUNNEL\_CLIENT\_AUTH\_ID ]



[ TUNNEL\_SERVER\_AUTH\_ID ]  
[ TUNNEL\_ASSIGNMENT\_ID ]  
[ TUNNEL\_PASSWORD ]  
[ TUNNEL\_PRIVATE\_GROUP\_ID ]  
**AVP Flag M**

## UAR-Flags

This AVP contains a bit mask, if the bit 0 is set, it indicates that the request corresponds to an IMS Emergency Registration.

**Vendor ID 0**

**VSA Type 637**

**AVP Type UINT32**

**AVP Flag M**

## UDP-Source-Port

This AVP contains the UDP source port number. This AVP is included on S2b interface if NAT is detected and UE Local IP Address is present for Fixed Broadband access network.

**Vendor ID 10415**

**VSA Type 2806**

**AVP Type UINT32**

**AVP Flag N/A**

## UE-Count

UE-Count

**Vendor ID 10415**

**VSA Type 4308**

**AVP Type UINT32**

**AVP Flag M**

## UE-Local-IP-Address

UE-Local-IP-Address

**Vendor ID 10415**

**VSA Type 2805**

**AVP Type ADDRESS**

**AVP Flag N/A**

## UE-Reachability-Configuration

UE-Reachability-Configuration

**Vendor ID** 10415

**VSA Type** 3129

**AVP Type** GROUPED

Supported group value(s):

[ REACHABILITY\_TYPE ]

[ MAXIMUM\_LATENCY ]

[ MAXIMUM\_RESPONSE\_TIME ]

**AVP Flag** M

## UE-SRVCC-Capability

UE-SRVCC-Capability

**Vendor ID** 10415

**VSA Type** 1615

**AVP Type** ENUM

Supported enumerated value(s):

0 UE-SRVCC-NOT-SUPPORTED

1 UE-SRVCC-SUPPORTED

**AVP Flag** M

## UE-Usage-Type

This AVP is a subscription information parameter that is stored in the HSS, used by the serving network to select the Dedicated Core Network (DCN) that must serve the UE. Multiple UE Usage Types can be served by the same DCN.




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**Note** A single UE subscription can be associated only with a single UE Usage Type, which describes its characteristics and functions.

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**Vendor ID** 10415

**VSA Type** 1680

**AVP Type** UINT32

**AVP Flag** M

## ULA-Flags

The ULR-Flags AVP is of type Unsigned32 and it contains a bit mask.

**Vendor ID** 10415

**VSA Type** 6007

**AVP Type** UINT32

**AVP Flag** M

## ULR-Flags

The ULR-Flags AVP is of type Unsigned32 and it contains a bit mask.

**Vendor ID** 10415

**VSA Type** 6006

**AVP Type** UINT32

**AVP Flag** M

## UMTS-Vector

This AVP contains Authentication Information for UMTS.

**Vendor ID** 10415

**VSA Type** 6018

**AVP Type** GROUPED

Supported group value(s):

[ ITEM\_NUMBER ]

[ RAND ]

[ XRES ]

[ AUTN ]

[ CONFIDENTIALITY\_KEY ]

[ INTEGRITY\_KEY ]

**AVP Flag** M

## UTRAN-Vector

This AVP contains Authentication Information for UTRAN.

**Vendor ID** 10415

**VSA Type** 1415

**AVP Type** GROUPED

Supported group value(s):

[ ITEM\_NUMBER ]  
 [ RAND ]  
 [ XRES ]  
 [ AUTN ]  
 [ CONFIDENTIALITY\_KEY ]  
 [ INTEGRITY\_KEY ]  
**AVP Flag M**

## UWAN-User-Location-Info

UWAN-User-Location-Info

**Vendor ID** 10415

**VSA Type** 3918

**AVP Type** GROUPED

Supported group value(s):

[ UE\_LOCAL\_IP\_ADDRESS ]

[ UDP\_SOURCE\_PORT ]

[ SSID ]

[ BSSID ]

**AVP Flag M**

## Unit-Value

This AVP contains cost estimate (type of money) of the service.

**Vendor ID** 0

**VSA Type** 445

**AVP Type** GROUPED

Supported group value(s):

[ VALUE\_DIGITS ]

[ EXPONENT ]

**AVP Flag M**

## Uplink-Rate-Limit

Uplink-Rate-Limit

**Vendor ID** 10415

**VSA Type** 4311

**AVP Type** UINT32

**AVP Flag** M

## Usage-Monitoring-Information

This AVP contains the usage monitoring control information.

**Vendor ID** 10415

**VSA Type** 1067

**AVP Type** GROUPED

Supported group value(s):

[ MONITORING\_KEY ]

[ GRANTED\_SERVICE\_UNIT ]

[ USED\_SERVICE\_UNIT ]

[ USAGE\_MONITORING\_LEVEL ]

[ USAGE\_MONITORING\_REPORT ]

[ USAGE\_MONITORING\_SUPPORT ]

**AVP Flag** N/A

## Usage-Monitoring-Level

This AVP is used by the PCRF to indicate whether the usage monitoring instance applies to the IP-CAN session or to one or more PCC rules.

**Vendor ID** 10415

**VSA Type** 1068

**AVP Type** ENUM

Supported enumerated value(s):

0 SESSION\_LEVEL

1 PCC\_RULE\_LEVEL

**AVP Flag** N/A

## Usage-Monitoring-Report

This AVP is used by the PCRF to indicate that accumulated usage is to be reported by the PCEF regardless of whether a usage threshold is reached for certain usage monitoring key.

**Vendor ID** 10415

**VSA Type** 1069

**AVP Type** ENUM

Supported enumerated value(s):

0 USAGE\_MONITORING\_REPORT\_REQUIRED

**AVP Flag** N/A

## Usage-Monitoring-Support

This AVP is used by the PCRF to indicate whether usage monitoring should be disabled for certain Monitoring Key.

**Vendor ID** 10415

**VSA Type** 1070

**AVP Type** ENUM

Supported enumerated value(s):

0 USAGE\_MONITORING\_DISABLED

**AVP Flag** N/A

## Used-Service-Unit

The used service unit measured from the point when service is active.

**Vendor ID** 0

**VSA Type** 446

**AVP Type** GROUPED

Supported group value(s):

[ TARIFF\_TIME\_CHANGE ]

[ TARIFF\_CHANGE\_USAGE ]

[ CC\_TIME ]

[ CC\_MONEY ]

[ CC\_TOTAL\_OCTETS ]

[ CC\_INPUT\_OCTETS ]

[ CC\_OUTPUT\_OCTETS ]

[ CC\_SERVICE\_SPECIFIC\_UNITS ]

**AVP Flag** M

## User-Authorization-Type

This AVP contains the type of user authorization being performed in a User Authorization operation.

**Vendor ID** 10415

**VSA Type** 623

**AVP Type** ENUM

Supported enumerated value(s):

0 REGISTRATION

1 DE\_REGISTRATION

2 REGISTRATION\_AND\_CAPABILITIES

**AVP Flag** M

## User-CSG-Information

User-CSG-Information

**Vendor ID** 10415

**VSA Type** 2319

**AVP Type** GROUPED

Supported group value(s):

[ CSG\_ID ]

[ CSG\_ACCESS\_MODE ]

[ CSG\_MEMBERSHIP\_INDICATION ]

**AVP Flag** M

## User-Data

This AVP contains the user data requested in the PUR and SNR operations and the data to be modified in the UPR operations.

**Vendor ID** 0

**VSA Type** 702

**AVP Type** OCTETSTRING

**AVP Flag** M

## User-Data-Already-Available

This AVP indicates whether S-CSCF is already storing the user data or not.

**Vendor ID** 10415

**VSA Type** 624

**AVP Type** ENUM

Supported enumerated value(s):

0 USER\_DATA\_NOT\_AVAILABLE

1 USER\_DATA\_ALREADY\_AVAILABLE

**AVP Flag** M

## User-Default

User-Default

**Vendor ID** 9

**VSA Type** 131200

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag** M

## User-Equipment-Info

This AVP indicates the identification and capabilities of the terminal.

**Vendor ID** 0

**VSA Type** 458

**AVP Type** GROUPED

Supported group value(s):

[ USER\_EQUIPMENT\_INFO\_TYPE ]

[ USER\_EQUIPMENT\_INFO\_VALUE ]

**AVP Flag** M

## User-Equipment-Info-Type

Defines the type of information present in User-Equipment-Info-Value AVP.

**Vendor ID** 0

**VSA Type** 459

**AVP Type** ENUM

Supported enumerated value(s):

0 IMEISV

1 MAC

2 EUI64

3 MODIFIED\_EUI64

4 ESN

5 MEID

**AVP Flag** M



## User-Equipment-Info-Value

Defines the type of identifier used.

**Vendor ID** 0

**VSA Type** 460

**AVP Type** OCTETSTRING

**AVP Flag** M

## User-Id

User-Id

**Vendor ID** 10415

**VSA Type** 1444

**AVP Type** UTF8STRING

**AVP Flag** M

## User-Identifier

User-Identifier

**Vendor ID** 10415

**VSA Type** 3102

**AVP Type** GROUPED

Supported group value(s):

[ USER\_NAME ]

**AVP Flag** M

## User-Identity

This grouped AVP contains either a Public-Identity AVP or an MSISDN AVP.

**Vendor ID** 10415

**VSA Type** 700

**AVP Type** GROUPED

Supported group value(s):

[ PUBLIC\_IDENTITY ]

[ MSISDN ]

**AVP Flag** M

## User-Idle-Pod

User-Idle-Pod

**Vendor ID** 9

**VSA Type** 131234

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag** M

## User-Idle-Timer

User-Idle-Timer

**Vendor ID** 9

**VSA Type** 131119

**AVP Type** UINT32

**AVP Flag** N/A

## User-Location-Info-Time

User-Location-Info-Time

**Vendor ID** 10415

**VSA Type** 2812

**AVP Type** UINT32

**AVP Flag** N/A

## User-Name

This AVP contains identification of the service user in a format consistent with the Network Access Identifier (NAI) specification.

**Vendor ID** 0

**VSA Type** 1

**AVP Type** UTF8STRING

**AVP Flag** M

## User-Password

This AVP indicates PAP for multiauth in PDG.

**Vendor ID** 0  
**VSA Type** 2  
**AVP Type** OCTETSTRING  
**AVP Flag** M

## User-Session-Id

This AVP holds the session identifier.

**Vendor ID** 10415  
**VSA Type** 830  
**AVP Type** UTF8STRING  
**AVP Flag** M

## User-State

User-State  
**Vendor ID** 10415  
**VSA Type** 1499  
**AVP Type** ENUM  
Supported enumerated value(s):  
0 DETACHED  
1 ATTACHED\_NOT\_REACHABLE\_FOR\_PAGING  
2 ATTACHED\_REACHABLE\_FOR\_PAGING  
3 CONNECTED\_NOT\_REACHABLE\_FOR\_PAGING  
4 CONNECTED\_REACHABLE\_FOR\_PAGING  
5 NETWORK\_DETERMINED\_NOT\_REACHABLE  
**AVP Flag** M

## V4-Transport-Address

This AVP contains a single IPv4 address and a single port number.

**Vendor ID** 13019  
**VSA Type** 454  
**AVP Type** GROUPED  
Supported group value(s):  
[ FRAMED\_IP\_ADDRESS ]  
[ PORT\_NUMBER ]

**AVP Flag** N/A

## V6-Transport-Address

This AVP contains a single IPv6 address and a single port number.

**Vendor ID** 13019

**VSA Type** 453

**AVP Type** GROUPED

Supported group value(s):

[ FRAMED\_IPV6\_PREFIX ]

[ PORT\_NUMBER ]

**AVP Flag** N/A

## VLAN-Id

VLAN-Id

**Vendor ID** 9

**VSA Type** 131154

**AVP Type** UINT32

**AVP Flag** N/A

## VPLMN-Dynamic-Address-Allowed

This AVP indicates whether for this APN, the UE is allowed to use the PDN GW in the domain of the HPLMN only, or additionally, the PDN GW in the domain of the VPLMN.

**Vendor ID** 10415

**VSA Type** 1432

**AVP Type** ENUM

Supported enumerated value(s):

0 NOTALLOWED

1 ALLOWED

**AVP Flag** M

## VRF-Name

VRF-Name

**Vendor ID** 9

**VSA Type** 131153

**AVP Type** OCTETSTRING

**AVP Flag** M

## Validity-Time

Validity time of the granted service units. Measurement starts upon receipt of the Credit-Control-Answer Message containing this AVP.

**Vendor ID** 0

**VSA Type** 448

**AVP Type** UINT32

**AVP Flag** M

## Value-Digits

This AVP contains the significant digits of the number. If decimal values are needed to present the units, the scaling **MUST** be indicated with the related Exponent AVP.

**Vendor ID** 0

**VSA Type** 447

**AVP Type** INT64

**AVP Flag** M

## Velocity-Estimate

This attribute is composed of 4 or more octets with an internal structure defined according to 3GPP TS 23.032.

**Vendor ID** 10415

**VSA Type** 2515

**AVP Type** OCTETSTRING

**AVP Flag** M

## Velocity-Requested

Velocity-Requested

**Vendor ID** 10415

**VSA Type** 2508

**AVP Type** ENUM

Supported enumerated value(s):

0 VELOCITY\_IS\_NOT\_REQUESTED

1 VELOCITY\_IS\_REQUESTED

**AVP Flag** M

## Vendor-Id

Unique Identifier of the Vendor and contains the IANA "SMI Network Management Private Enterprise Codes" value assigned to the vendor of the Diameter application.

**Vendor ID** 0

**VSA Type** 266

**AVP Type** UINT32

**AVP Flag** M

## Vendor-Id-Resp

Unique identifier of the vendor.

**Vendor ID** 10415

**VSA Type** 266

**AVP Type** UINT32

**AVP Flag** N/A

## Vendor-Specific-Application-Id

Specifies the Vendor Specific Application ID and is used to advertise support of a vendor-specific Diameter Application.

**Vendor ID** 0

**VSA Type** 260

**AVP Type** GROUPED

Supported group value(s):

[ VENDOR\_ID ]

[ AUTH\_APPLICATION\_ID ]

[ ACCT\_APPLICATION\_ID ]

**AVP Flag** M

## Vendor-Specific-QoS-Profile-Template

This AVP defines the namespace of the QoS profile (indicated in the Vendor-ID AVP) followed by the specific value for the profile.

**Vendor ID** 0

**VSA Type** 6064

**AVP Type** GROUPED

Supported group value(s):

[ VENDOR\_ID ]

[ QOS\_PROFILE\_TEMPLATE ]

**AVP Flag** M

## Verify

Verify

**Vendor ID** 9

**VSA Type** 131116

**AVP Type** GROUPED

Supported group value(s):

[ CONFIRM\_TOKEN ]

**AVP Flag** M

## Vertical-Accuracy

This AVP is of type Unsigned32. Bits 6-0 correspond to Uncertainty Code defined in 3GPP TS 23.032. The vertical location error should be less than the error indicated by the uncertainty code with 67% confidence. Bits 7 to 31 are ignored.

**Vendor ID** 10415

**VSA Type** 2506

**AVP Type** ENUM

Supported enumerated value(s):

1 VERTICAL\_COORDINATE\_IS\_REQUESTED

**AVP Flag** M

## Vertical-Requested

Vertical-Requested

**Vendor ID** 10415

**VSA Type** 2507

**AVP Type** ENUM

Supported enumerated value(s):

1 VERTICAL\_COORDINATE\_IS\_REQUESTED

**AVP Flag** M

## Virtual-Online

Virtual-Online

**Vendor ID** 9

**VSA Type** 131210

**AVP Type** ENUM

Supported enumerated value(s):

0 DISABLED

1 ENABLED

**AVP Flag** M

## Visited-Network-Identifier

This AVP contains an identifier that helps the home network to identify the visited network (for example, the visited network domain name).

**Vendor ID** 10415

**VSA Type** 600

**AVP Type** OCTETSTRING

**AVP Flag** M

## Visited-PLMN-Id

This AVP contains the concatenation of MCC and MNC.

**Vendor ID** 10415

**VSA Type** 6008

**AVP Type** UTF8STRING

**AVP Flag** M

## Volume-Threshold

Volume-Threshold

**Vendor ID** 9

**VSA Type** 131080

**AVP Type** UINT32

**AVP Flag** N/A

## Volume-Threshold-64

Volume-Threshold-64

**Vendor ID** 9

**VSA Type** 131258

**AVP Type** UINT32



**AVP Flag** N/A

## WLAN-Session-Id

This AVP contains the WLAN Session ID that is used to correlate PDG and WLAN AN charging data.

**Vendor ID** 0

**VSA Type** 11009

**AVP Type** UINT32

**AVP Flag** M

## Weight

Weight

**Vendor ID** 9

**VSA Type** 131118

**AVP Type** UINT32

**AVP Flag** N/A

## WiMAX-A-PCEF-Address

This AVP indicates the IP address of the A-PCEF to the PDF.

**Vendor ID** 24757

**VSA Type** 411

**AVP Type** ADDRESS

**AVP Flag** M

## WiMAX-PCC-R3-P-Capability

This AVP contains in a CCR message the WiMAX capabilities supported by the ASN. In a CCA it identifies the options selected by the PCRF.

**Vendor ID** 24757

**VSA Type** 404

**AVP Type** GROUPED

Supported group value(s):

[ WIMAX\_RELEASE ]

[ ACCOUNTING\_PCC\_R3\_P\_CAPABILITY ]

**AVP Flag** M

## WiMAX-QoS-Information

This AVP contains the WiMAX QoS information for ASN GW.

**Vendor ID** 24757

**VSA Type** 407

**AVP Type** GROUPED

Supported group value(s):

[ QOS\_CLASS\_IDENTIFIER ]

[ MAX\_REQUESTED\_BANDWIDTH\_UL ]

[ MAX\_REQUESTED\_BANDWIDTH\_DL ]

[ GUARANTEED\_BITRATE\_UL ]

[ GUARANTEED\_BITRATE\_DL ]

[ PACKET\_INTERVAL ]

[ PACKET\_SIZE ]

**AVP Flag** M

## WiMAX-Release

This AVP indicates a WiMAX release formatted as major/minor.

**Vendor ID** 24757

**VSA Type** 301

**AVP Type** OCTETSTRING

**AVP Flag** M

## Wildcarded-IMPU

This AVP contains a wild-carded Public User Identity stored in the HSS.

**Vendor ID** 10415

**VSA Type** 636

**AVP Type** UTF8STRING

**AVP Flag** N/A

## Wildcarded-PSI

This AVP contains a wild-carded PSI stored in the HSS.

**Vendor ID** 10415

**VSA Type** 634

**AVP Type** UTF8STRING

**AVP Flag** M

## Wildcarded-Public-Identity

This AVP contains a Wildcarded PSI or Wildcarded Public User Identity stored in the HSS.

**Vendor ID** 10415

**VSA Type** 634

**AVP Type** UTF8STRING

**AVP Flag** N/A

## XRES

This AVP contains the XRES (Expected Response USIM).

**Vendor ID** 10415

**VSA Type** 1448

**AVP Type** OCTETSTRING

**AVP Flag** M

