Diameter Dictionaries and Attribute Definitions

This chapter presents information on Diameter dictionary types and attribute definitions.

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- Diameter Dictionaries, page 12
- Diameter AVP Definitions, page 15

Diameter Attributes

Diameter Attribute Value Pairs (AVPs) carry specific authentication, accounting, authorization, routing and security information as well as configuration details for the request and reply.

Some AVPs may be listed more than once. The effect of such an AVP is specific, and is specified in each case by the AVP description.

Each AVP of type OctetString must be padded to align on a 32-bit boundary, while other AVP types align naturally. A number of zero-valued bytes are added to the end of the AVP Data field till a word boundary is reached. The length of the padding is not reflected in the AVP Length field.

AVP Header

The AVP header contains the following three fields that require IANA namespace management.

- AVP Code
- Vendor-ID
- Flags
The fields in the AVP header MUST be sent in network byte order. The format of the header is:

**Figure 1: AVP Header**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVP Code</td>
<td>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.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| AVP Flags   | 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. 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. 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:  
  - 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.  
  - 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. 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. 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. 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. Unless otherwise noted, AVPs will have the following default AVP Flags field settings: The 'M' bit MUST be set. The 'V' bit MUST NOT be set. |
| AVP Length  | 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 SHOULD be rejected. |
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

<table>
<thead>
<tr>
<th>AVP Data Format</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>OctetString</td>
<td>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.</td>
</tr>
<tr>
<td>Integer32</td>
<td>32 bit signed value, in network byte order. The AVP Length field MUST be set to 12 (16 if the 'V' bit is enabled).</td>
</tr>
<tr>
<td>Integer64</td>
<td>64 bit signed value, in network byte order. The AVP Length field MUST be set to 16 (20 if the 'V' bit is enabled).</td>
</tr>
<tr>
<td>Unsigned32</td>
<td>32 bit unsigned value, in network byte order. The AVP Length field MUST be set to 12 (16 if the 'V' bit is enabled).</td>
</tr>
<tr>
<td>Unsigned64</td>
<td>64 bit unsigned value, in network byte order. The AVP Length field MUST be set to 16 (20 if the 'V' bit is enabled).</td>
</tr>
<tr>
<td>Float32</td>
<td>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).</td>
</tr>
</tbody>
</table>
Meaning
AVP Data Format | Meaning
---|---
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 represent the AddressType, which contains an Address Family defined in IANAADFM. 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 0xffffffff. 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

"asas://" FQDN [ port ] [ transport ] [ protocol ]

**Table 3: DiameterURI Field Description**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FQDN</td>
<td>Fully Qualified Host Name</td>
</tr>
<tr>
<td>port</td>
<td>One of the ports used to listen for incoming connections. If absent, the default Diameter port (3868) is assumed.</td>
</tr>
<tr>
<td>transport</td>
<td>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.</td>
</tr>
</tbody>
</table>
This field denotes AAA protocol. If absent, the default AAA protocol is diameter.
The AAA protocol could be diameter, radius, or tacacs+.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>protocol</td>
<td>This field denotes AAA protocol. If absent, the default AAA protocol is diameter. The AAA protocol could be diameter, radius, or tacacs+.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| action | This field can be set to one of the following:  
  • permit – Allow packets that match the rule.  
  • deny – Drop packets that match the rule. |
| 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. |
| src and dst | `<address/mask> [ports]`
  The `<address/mask>` may be specified as:
  - ipno — An IPv4 or IPv6 number in dotted-quad or canonical IPv6 form. Only this exact IP number will match the rule.
  - 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"  
  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.  
  With the TCP, UDP and SCTP protocols, optional ports may be specified as:  
  `{port/port-port},[ports{,...}]`
  The '-' notation specifies a range of ports (including boundaries).  
  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. |
The different options are as follows:

- **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.

- **ipoptions spec** — Match if the IP header contains the comma separated list of options specified in `spec`. The supported IP options are: ssrr (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 '!'.

- **tcpoptions spec** — Match if the TCP header contains the comma separated list of options specified in `spec`. 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 '!'.

- **established** — TCP packets only. Match packets that have the RST or ACK bits set.

- **setup** — TCP packets only. Match packets that have the SYN bit set but no ACK bit.

- **tcpflags spec** — TCP packets only. Match if the TCP header contains the comma separated list of flags specified in `spec`. 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.

- **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. The supported ICMP types are: echo reply (0), destination unreachable (3), source quench (4), 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).

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**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:

\[ \text{action dir proto from src to dst [options]} \]

### Table 5: QoSFilterRule Field Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>This field can be set to one of the following:</td>
</tr>
<tr>
<td></td>
<td>• tag — Mark packet with a specific DSCP [DIFFSERV]. The DSCP option MUST be included.</td>
</tr>
<tr>
<td></td>
<td>• meter — Meter traffic. The metering options MUST be included.</td>
</tr>
<tr>
<td>dir</td>
<td>The format is as described under IPFilterRule.</td>
</tr>
<tr>
<td>proto</td>
<td>The format is as described under IPFilterRule.</td>
</tr>
<tr>
<td>src and dst</td>
<td>The format is as described under IPFilterRule.</td>
</tr>
<tr>
<td>options</td>
<td>The following options are available in addition to the ones described under IPFilterRule:</td>
</tr>
<tr>
<td></td>
<td>• DSCP (&lt;color&gt;) — Color values as defined in [DIFFSERV]. Exact matching of DSCP values is required (no masks or ranges).</td>
</tr>
<tr>
<td></td>
<td>• metering (&lt;rate&gt; &lt;color_&lt;under&gt; &lt;color_&lt;over&gt;) — 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 color_&lt;over&gt; codepoint, while traffic under the rate is marked with the color_&lt;under&gt; codepoint. The color_&lt;under&gt; and color_&lt;over&gt; options contain the drop preferences, and MUST conform to the recommended codepoint keywords described in [DIFFSERVAF] (e.g. AF13). The metering option also supports the strict limit on traffic required by Expedited Forwarding, as defined in [DIFFSERVEF]. The color_&lt;over&gt; option may contain the keyword &quot;drop&quot; to prevent forwarding of traffic that exceeds the rate parameter.</td>
</tr>
</tbody>
</table>
**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> fe19da5802ac607a5b86cb4d5d03f3014ab9ef1ad0b67111ff3b90a057fe29620bf3585fd2dd9fcc38ce32f6cc2208c6163cc00f8e4258a2e1a888
Futuristic-Acct-Record = <binary> fe19da5802ac607a5b86cb4d5d03f3014ab9ef1ad0b67111ff3b90a057fe29620bf3585fd2dd9fcc38ce32f6cc2208c6163cc00f8e4258a2e1a888
```

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, IPSG product(s).

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

```
configure
c  ontex <context_name>
    ims-auth-service <ims_auth_service_name>
    policy-control
d 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-custom2 | dpca-custom20 | dpca-custom21 | dpca-custom22 |
  dpca-custom23 | dpca-custom24 | dpca-custom25 | dpca-custom26 | dpca-custom27 | dpca-custom28 |
  dpca-custom29 | dpca-custom3 | dpca-custom30 | dpca-custom31 | dpca-custom32 | dpca-custom33 |
  dynamic-load | gx-wimax-standard | gxa-3gpp2-standard |
  gxc-standard | pdsn-ty | r8-gx-standard | std-pdsn-ty | ty-plus | ty-standard }
end
```

<table>
<thead>
<tr>
<th>Dictionary</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Specifies standard attributes for the Rel 6 Gx interface.</td>
</tr>
<tr>
<td>dpca-custom1...dpca-customn</td>
<td>Custom-defined dictionaries.</td>
</tr>
<tr>
<td>dynamic load</td>
<td>Specifies the dynamically loaded Diameter dictionary attributes.</td>
</tr>
<tr>
<td>gx-wimax-standard</td>
<td>Specifies standard Gx WiMAX Standard attributes.</td>
</tr>
<tr>
<td>gxa-3gpp2-standard</td>
<td>Specifies standard Gxa 3GPP2 Standard attributes.</td>
</tr>
<tr>
<td>gxc-standard</td>
<td>Specifies Gxc Standard attributes.</td>
</tr>
<tr>
<td>pdsn-ty</td>
<td>Specifies the standard attributes for the PDSN Ty interface.</td>
</tr>
<tr>
<td>r8-gx-standard</td>
<td>Specifies standard R8 Gx attributes.</td>
</tr>
<tr>
<td>std-pdsn-ty</td>
<td>Specifies standard attributes for the Ty interface.</td>
</tr>
<tr>
<td>ty-plus</td>
<td>Specifies customer-specific enhanced attributes for the Ty interface.</td>
</tr>
<tr>
<td>ty-standard</td>
<td>Specifies standard Ty attributes.</td>
</tr>
</tbody>
</table>
For information on custom-defined dictionaries, contact your Cisco account representative.

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**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
  end
```

<table>
<thead>
<tr>
<th>Dictionary</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dcca-custom1 ... dcca-customn</td>
<td>Custom-defined dictionaries.</td>
</tr>
<tr>
<td>standard</td>
<td>Specifies standard attributes for the Gy interface.</td>
</tr>
<tr>
<td>dynamic load</td>
<td>Specifies the dynamically loaded Diameter dictionary attributes.</td>
</tr>
</tbody>
</table>

---

**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>
    csf 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
```

For information on custom-defined dictionaries, contact your Cisco account representative.
<table>
<thead>
<tr>
<th>Dictionary</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dynamic load</td>
<td>Specifies the dynamically loaded Diameter dictionary attributes.</td>
</tr>
<tr>
<td>gq-custom</td>
<td>Specifies customized attributes for the 3GPP Gq interface.</td>
</tr>
<tr>
<td>gq-standard</td>
<td>Specifies standard attributes for the 3GPP Gq interface.</td>
</tr>
<tr>
<td>rq-custom</td>
<td>Custom-defined dictionary.</td>
</tr>
<tr>
<td>rx-rel8</td>
<td>Rel. 8 Rx dictionary.</td>
</tr>
<tr>
<td>rx-standard</td>
<td>Specifies standard attributes for the 3GPP Rx interface.</td>
</tr>
<tr>
<td>tx-standard</td>
<td>Specifies the standard attributes for the 3GPP2 Tx interface.</td>
</tr>
<tr>
<td>rx-custom01...rx-custom05</td>
<td>Custom-defined dictionaries.</td>
</tr>
</tbody>
</table>

**Note**

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

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**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-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-custom20 | aaa-custom2 | aaa-custom3 | aaa-custom4 | aaa-custom5 | aaa-custom6 |
   aaa-custom7 | aaa-custom8 | aaa-custom9 | dynamic-load | nasreq }
```

<table>
<thead>
<tr>
<th>Dictionary</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>aaa-custom1...aaa-custom8, aaa-custom10...aaa-customn</td>
<td>Custom-defined dictionaries.</td>
</tr>
<tr>
<td>aaa-custom9</td>
<td>Specifies standard attributes for the STa interface.</td>
</tr>
<tr>
<td>nasreq</td>
<td>Specifies the NASREQ attributes defined by RFC 4005.</td>
</tr>
</tbody>
</table>
Description Dictionary

<table>
<thead>
<tr>
<th>Dictionary</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rf-plus</td>
<td>Specifies customer-specific enhanced attributes for the Rf interface.</td>
</tr>
<tr>
<td>dynamic load</td>
<td>Specifies the dynamically loaded Diameter dictionary attributes.</td>
</tr>
</tbody>
</table>

**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.
3GPP-GGSN-MCC-MNC
This AVP contains MCC-MNC of the network that the GGSN belongs to.
Vendor ID 10415
VSA Type 7
AVP Type OCTETSTRING
AVP Flag M

3GPP-GPRS-QoS-Negotiated-Profile
This AVP contains QoS profile applied by GGSN.
Vendor ID 10415
VSA Type 9
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 5
AVP Type UTF8STRING
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.
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 ]
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

Vendor ID 10415
VSA Type 1643
AVP Type OCTETSTRING
AVP Flag N/A

AAA-Failure-Indication

Vendor ID 10415
VSA Type 1518
AVP Type UINT32
AVP Flag N/A

AAR-Flags

Vendor ID 10415
VSA Type 1539
AVP Type UINT32
AVP Flag N/A

ACL-Name

Vendor ID 9
VSA Type 131145
AVP Type OCTETSTRING
AVP Flag M

ACL-Number

Vendor ID 9
VSA Type 131144
AVP Type UINT32
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):
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

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 ]

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
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_APNCONFIGURATIONSINCLUDED_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 ]
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
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
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**

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**

Vendor ID 9  
VSA Type 131098  
AVP Type ENUM  
Supported enumerated value(s):  
0 DISABLE_APPEND_URL
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.
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
BSSID

VSA Type 4309
AVP Type UINT32
AVP Flag M

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
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 ]
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):  
[ BONDING_INPUT_LIST ]  
[ BONDING_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 UINT64
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_IDLED_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):
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 ]
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 ]
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

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

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

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

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

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

Vendor ID 9
VSA Type 131241
AVP Type GROUPED
Supported group value(s):
[ CISCO_QOS_PROFILE_NAME ]
AVP Flag M

Cisco-QoS-Profile-Install

Vendor ID 9
VSA Type 131238
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
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 ]
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 ]
[ S1AP_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
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 ]
[ 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**

**Vendor ID** 9
**VSA Type** 131099
**AVP Type** OCTETSTRING
**AVP Flag** M

**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
Contact

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

Vendor ID 10415
VSA Type 4314
AVP Type UINT32
AVP Flag M

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 ]
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 ]
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

Vendor ID 9
VSA Type 131134
AVP Type UINT32
AVP Flag N/A

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

Vendor ID 9
VSA Type 131184
AVP Type GROUPED
Supported group value(s):
[ CONTENT_NAME ]
AVP Flag M

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_TARGETENCOUNTERED
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
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
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

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 ]
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

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-Passsthrough-Quota

Vendor ID 9

VSA Type 131208

AVP Type UINT32

AVP Flag N/A

Dual-Reauthorization-Threshold

Vendor ID 9

VSA Type 131209

AVP Type UINT32

AVP Flag N/A

Duration

Vendor ID 9

VSA Type 131157
**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
- **AVP Flag**: M

Supported enumerated value(s):
- 0 STATIC
- 1 DYNAMIC

**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
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** Enumerated

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
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-GRA NTED
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_CANT_BE_READ
5103 DIAMETER_ERROR_USER_DATA_CANT_BE_MODIFIED
5104 DIAMETER_ERROR_USER_DATA_CANT_BE_NOTIFIED
5106 DIAMETER_ERROR_SUBS_DATA_ABSENT
5107 DIAMETER_ERROR_NO_SUBSCRIPTION_TO_DATA
5108 DIAMETER_ERROR_DSAL_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

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
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 ]
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 IPFILTERNRULE
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 ]
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
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):
[ ITEMNUMBER ]
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

**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

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

Vendor ID 9
VSA Type 131217
AVP Type GROUPED
Supported group value(s):
[ HEADER_GROUP_DEFINITION ]
AVP Flag M

Header-Group-Name

Vendor ID 9
VSA Type 131215
AVP Type UTF8STRING
AVP Flag M

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):
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

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

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**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-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):
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
**KC-Key**

This AVP contains the Ciphering 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_SENSITIVE  
2 NOT_CASE_SENSITIVE  
**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
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):
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**

Vendor ID 9  
VSA Type 131159  
AVP Type UINT32  
AVP Flag N/A

**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
- **AVP Flag**: M

*Supported enumerated value(s): none*

**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**

- **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_HANOVER
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 of 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
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
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-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):

[ SERVICE_TYPE_IDENTITY ]
[ 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

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
Max-Burst-Size

Max-Burst-Size
Vendor ID 9
VSA Type 131174
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

Vendor ID 9  
VSA Type 131115  
AVP Type UINT32  
AVP Flag N/A

### 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
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

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

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_UER_PER_LOCATION_CONFIGURATION]  
AVP Flag M

**Monitoring-Event-Report**

Monitoring-Event-Report  
*Vendor ID* 10415
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 ]
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 IPFILTRRULE
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.
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
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
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

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
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
OC-Feature-Vector

Vendor ID 10415
VSA Type 622
AVP Type UINT64
AVP Flag M

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

Vendor ID 10415
VSA Type 627
AVP Type UINT32
AVP Flag M

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

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

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

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

**Origionation-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):
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-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.
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.

Override-Max-Requested-Bandwidth-DL

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

Override-Max-Requested-Bandwidth-UL

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

Override-Nexthop-Address

This attribute indicates the override next hop address in dotted decimal format.
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 QCI s 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
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
### Owner-Id

<table>
<thead>
<tr>
<th>AVP Flag</th>
<th>N/A</th>
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</table>

### Owner-Name

<table>
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<th>AVP Flag</th>
<th>M</th>
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### PC-Digest-Algorithm

<table>
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### PC-Digest-Auth-Param

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### PC-Digest-Domain

<table>
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<th>AVP Flag</th>
<th>M</th>
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</table>
PC-Digest-HA1

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.
PS-Furnish-Charging-Information

This grouped AVP contains online charging session specific information.

Vendor ID 10415
VSA Type 866
AVP Type OCTETSTRING
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 ]
[ PS_FREE_FORMAT_DATA ]
[ PS_APPEND_FREE_FORMAT_DATA ]
AVP Flag M
[ 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):
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 IPFILLERRULE
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 ]
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

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

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

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

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_PRIVILEDGED_SENDER
1 PRIVILEDGED_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

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.
**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.
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-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 ]
[ GUARANTEED_BITRATE_UL ]
[ GUARANTEED_BITRATE_DL ]
[ BEARER_IDENTIFIER ]
[ ALLOCATION_RETENTION_PRIORITY ]
[ APN_AGGREGATE_MAX_BITRATE_UL ]
[ APN_AGGREGATE_MAX_BITRATE_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
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
**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-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

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

Reachability-Type

Vendor ID 10415
VSA Type 3132
AVP Type UINT32
AVP Flag M

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
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
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

Requested-Access-Info

Vendor ID 10415
VSA Type 536
AVP Type ENUM

Supported enumerated value(s):
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.
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 IPFILLERRULE
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_AVP
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
**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 IPFILTERNRULE
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-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

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-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 ]
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

**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.
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 513
AVP Type OCTETSTRING
AVP Flag N/A

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 502
AVP Type UINT32
AVP Flag M

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
Supports 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-Code
This AVP contains the supplementary service codes that are to be deleted from the subscription.
Vendor ID 10415
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

Sector-Id

The identifier of sector that MS exists.

Vendor ID 0
VSA Type 10002
AVP Type UINT32
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
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-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 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 ]
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 ]

AVP Flag M
[ 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 ]
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

Vendor ID 9
VSA Type 131162
AVP Type UINT32
AVP Flag N/A

Service-Remove

Vendor ID 9
VSA Type 131186
AVP Type GROUPED
Supported group value(s):
[ SERVICE_NAME ]
AVP Flag M

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

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-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

ServiceTypIdentity

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

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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

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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**

Vendor ID 10415  
VSA Type 531  
AVP Type UTF8STRING  
AVP Flag N/A

**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
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
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-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 SERVICE_GRANTED
- 1 OPERATOR_DETERMINED_BARRING

**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]
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
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):
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**: 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

### TFT-Filter

This AVP contains the flow filter for one Traffic Flow Template (TFT) packet filter.

**Vendor ID** 10415  
**VSA Type** 1012  
**AVP Type** IPFILTERNRULE  
**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 CRF.

**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

<table>
<thead>
<tr>
<th>Vendor ID</th>
<th>29168</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSA Type</td>
<td>1004</td>
</tr>
<tr>
<td>AVP Type</td>
<td>UINT32</td>
</tr>
<tr>
<td>AVP Flag</td>
<td>N/A</td>
</tr>
</tbody>
</table>

TMO-Virtual-Gi-ID

<table>
<thead>
<tr>
<th>Vendor ID</th>
<th>29168</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSA Type</td>
<td>120</td>
</tr>
<tr>
<td>AVP Type</td>
<td>UINT32</td>
</tr>
<tr>
<td>AVP Flag</td>
<td>N/A</td>
</tr>
</tbody>
</table>

TS-Code

This AVP contains the code identifying a single teleservice, a group of teleservices, or all teleservices.

<table>
<thead>
<tr>
<th>Vendor ID</th>
<th>10415</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSA Type</td>
<td>1487</td>
</tr>
<tr>
<td>AVP Type</td>
<td>OCTETSTRING</td>
</tr>
<tr>
<td>AVP Flag</td>
<td>M</td>
</tr>
</tbody>
</table>

TWAN-Identifier

<table>
<thead>
<tr>
<th>Vendor ID</th>
<th>10415</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSA Type</td>
<td>29</td>
</tr>
<tr>
<td>AVP Type</td>
<td>OCTETSTRING</td>
</tr>
<tr>
<td>AVP Flag</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Vendor ID</th>
<th>10415</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSA Type</td>
<td>2714</td>
</tr>
</tbody>
</table>
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
Teleservice-List

This AVP contains the service codes for the short message related teleservice for a subscriber.

Vendor ID 10415
VSA Type 2306
AVP Type UTF8STRING
AVP Flag M

Terminal-Information

This AVP contains the information about the user's mobile equipment.

Vendor ID 10415
VSA Type 1486
AVP Type GROUPED
Supported group value(s):
[ TS_CODE ]
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**

<table>
<thead>
<tr>
<th>Terminate-Bearer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor ID</td>
</tr>
<tr>
<td>VSA Type</td>
</tr>
<tr>
<td>AVP Type</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Vendor ID</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSA Type</td>
<td>840</td>
</tr>
<tr>
<td>AVP Type</td>
<td>UTF8STRING</td>
</tr>
<tr>
<td>AVP Flag</td>
<td>M</td>
</tr>
</tbody>
</table>

**Termination-Cause**

This AVP indicates the reason why a session was terminated on the access device.

<table>
<thead>
<tr>
<th>Vendor ID</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSA Type</td>
<td>295</td>
</tr>
<tr>
<td>AVP Type</td>
<td>ENUM</td>
</tr>
</tbody>
</table>

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
**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

**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

**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.
**UTRAN-Vector**

This AVP contains Authentication Information for UTRAN.

**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

**UWAN-User-Location-Info**

**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
[ 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_IDENTIFIER ]
[ 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
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
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
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

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**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

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**Virtual-Online**

Virtual-Online

**Vendor ID** 9

**VSA Type** 131210

**AVP Type** ENUM

Supported enumerated value(s):

0  DISABLED

1  ENABLED

**AVP Flag** M

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**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

Vendor ID 9
VSA Type 131080
AVP Type UINT32
AVP Flag N/A

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

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 ]
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
This AVP contains the XRES (Expected Response USIM).

Vendor ID 10415
VSA Type 1448
AVP Type OCTETSTRING
AVP Flag M