RADIUS Dictionaries and Attribute Definitions

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

RADIUS Dictionaries

This section presents information on RADIUS dictionary types.

Dictionary Types

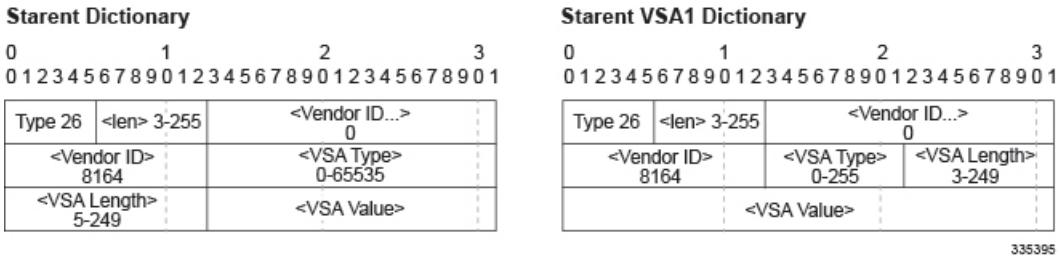
The CLI command to specify the RADIUS dictionary is:

radius dictionary [3gpp | 3gpp2 | 3gpp2-835 | custom *XX* **| standard | starent | starent-835 | starent-vsa1 | starent-vsa1-835]**

Keyword	Description
custom*XX*	These dictionaries can be customized. Customization information can be obtained by contacting your local service representative. *XX* is the integer value of the custom dictionary. **Note** RADIUS dictionary custom23 should be used in conjunction with Enhanced Charging Service (ECS).
standard	This dictionary consists only of the attributes specified in RFC 2865, RFC 2866, and RFC 2869. It also supports 3GPP release 4 and 3GPP Release 5 - extended QoS format.
3gpp	This dictionary consists not only of all of the attributes in the standard dictionary, but also all of the attributes specified in 3GPP 32.015.

Keyword	Description
3gpp2	This dictionary consists of all of the attributes in the standard dictionary, and all of the attributes specified in IS-835-A.
3gpp2-835	This dictionary consists of all of the attributes in the standard dictionary, and all of the attributes specified in IS-835.
starent-vsa1	This dictionary consists of the 3GPP2 dictionary, and includes the vendor-specific attributes (VSAs) as well. The VSAs in this dictionary support a one-byte wide VSA Type field in order to support certain RADIUS applications. The one-byte limit allows support for only 256 VSAs (0 - 255) as shown in the following figure. This is the default dictionary. **Note** In 12.0 and later releases, no new RADIUS/Diameter attributes can be added to the **starent-vsa1** dictionary. If there are any new attributes to be added, these can be added to the **starent** dictionary.
starent-vsa1-835	This dictionary consists of the 3GPP2-835 dictionary, and includes the vendor-specific attributes (VSAs) as well. The VSAs in this dictionary support a one-byte wide VSA Type field in order to support certain RADIUS applications. The one-byte limit allows support for only 256 VSAs (0 - 255) as shown in the following figure.
starent	This dictionary consists of all of the attributes in the starent-vsa1 dictionary and incorporates additional VSAs by using a two-byte VSA Type field as shown in the following figure. This dictionary is the master-set of all of the attributes in all of the dictionaries supported by the system.
starent-835	This dictionary consists of all of the attributes in the starent-vsa1-835 dictionary and incorporates additional VSAs by using a two-byte VSA Type field. This dictionary is the master-set of all of the attributes in all of the -835 dictionaries supported by the system.

Figure 1: Difference in VSA Value Lengths per Dictionary



Note Customer-specific attributes are not documented in this reference. For information on customer-specific attributes, contact your Cisco account representative.

Note The length documented for each attribute is the length of the attribute's Value field (data portion) and not length of the attribute (Type + Length + Value fields).

RADIUS Attribute Notes

This section contains notes that apply to groups of attributes that have been included in support of specific features and/or functionality.

RFC 2868 Tunneling Attributes

Tunnel attributes may be tagged, which means the leading byte in the value field may be used to group attributes together. This is used to return a number of different tunnel configurations that are available to the subscriber. The tagged group with the highest tunnel preference (the lowest value of the Tunnel-Preference attribute) has precedence over other tunnel configurations.

Tags can be a value from 1 through 31. Any value outside of this range for the leading byte means the attribute is not tagged, and the leading byte is then interpreted as part of the attribute value. Integer attributes that are tagged are three bytes in length (the leading byte is ignored), but are four bytes in length when not tagged (the leading byte is incorporated).

If Tunnel attributes appear more than once in the RADIUS Accept-Accept but are not tagged, then the system treats the attributes as having an implicit tag. The first instance of the attribute has a tag value of 32, the second instance has a tag value of 33, etc.

RADIUS AVP Definitions

This section presents RADIUS attribute definitions.

Important RADIUS attributes received by the system from the RADIUS server always take precedence over local-subscriber attributes and parameters configured on the system.

3GPP2-835-Release-Indicator

3GPP2 835 Standard Release Indicator, reason/cause for session release.

Syntax Enumerated Integer. Supports the following value(s):

- Unknown = 0
- PPP-Timeout = 1
- Handoff = 2
- PPP-Termination = 3
- Mobile-IP-Registration-Failure = 4
- Active-To-Dormant = 5

Length 4

Type 26

Vendor ID 5535

VSA Type 24

3GPP2-Acct-Session-Time

The total amount of time spent in the Active state, in seconds. This attribute has the same type as Acct-Session-Time, and thus conforms to IS-835.

Syntax Unsigned Integer

Length 4

Type 46

Vendor ID N/A

VSA Type N/A

3GPP2-Active-Time-Corrected

3GPP2 Active session time value.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 49

3GPP2-Active-Time

The total period of time spent in the Active state, in seconds.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 49

3GPP2-Airlink-Record-Type

This attribute indicates the most recent type of Airlink Record to be received for this subscriber's connection.

Syntax Enumerated Integer. Supports the following value(s):

- Connection-Setup = 1
- Active-Start = 2
- Active-Stop = 3
- SDB = 4 BCMCS-Connection-Setup = 5
- BCMCS-Active-Start = 6
- BCMCS-Active-Stop = 7

Length 4

Type 26

Vendor ID 5535

VSA Type 40

3GPP2-Airlink-Sequence-Number

This represents the sequence number of an Airlink Record and is incremented (modulo 256) by the PCF for each Airlink Record. The sequence number is unique for a given RP Session ID, PCF ID, and MSID.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 42

3GPP2-Air-QOS

This attribute identifies airlink QOS associated with the user data. The least significant 4 bits hold the QOS priority as defined in C.S0001-A in the subscriber profile.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 39

3GPP2-Allowed-Diffserv

This attribute specifies if the user is able to mark packets with AF and/or EF. The Max Class specifies that the user may mark packets with a Class Selector Code Point that is less then or equal to Max Class.

Type 26

Vendor ID 5535

VSA Type 73

Syntax Compound. Contains the following sub-attribute(s).

Flags

Allowed DSCP flag.

Syntax Enumerated Integer. Supports the following value(s):

- Allow_AF_EF_Exp = 0xE000
- Allow_AF_EF = 0xC000
- Allow_AF_Exp = 0xA000
- Allow_EF_Exp = 0x6000
- Allow_AF = 0x8000
- Allow_EF = 0x4000
- Allow_Exp = 0x2000
- Allow_None = 0x0

Length 2

Type 1

Max-Class

Allowed max dscp.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0x0
- AF11 = 0x2800
- AF12 = 0x3000
- AF13 = 0x3800
- AF21 = 0x4800
- AF22 = 0x5000
- AF23 = 0x5800
- AF31 = 0x6800
- AF32 = 0x7000
- AF33 = 0x7800
- AF41 = 0x8800
- AF42 = 0x9000
- AF43 = 0x9800
- EF = 0xb800
- Class1 = 0x2000
- Class2 = 0x4000
- Class3 = 0x6000
- Class4 = 0x8000
- Class5 = 0xa000
- Class6 = 0xc000
- Class7 = 0xe000

Length 2

Type 2

RT-Marking

Allowed max dscp rev. tun.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0x0
- AF11 = 0x2800
- AF12 = 0x3000
- AF13 = 0x3800
- AF21 = 0x4800

- AF22 = 0x5000
- AF23 = 0x5800
- AF31 = 0x6800
- AF32 = 0x7000
- AF33 = 0x7800
- AF41 = 0x8800
- AF42 = 0x9000
- AF43 = 0x9800
- EF = 0xb800
- Class1 = 0x2000
- Class2 = 0x4000
- Class3 = 0x6000
- Class4 = 0x8000
- Class5 = 0xa000
- Class6 = 0xc000
- Class7 = 0xe000

Length 2

Type 3

3GPP2-Allowed-Persistent-TFTs

3GPP2 Allowed Persistent Traffic Flow Templates.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 89

3GPP2-Alternate-Billing-ID

This attribute is currently not supported.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 35

3GPP2-Always-On

This attribute, when set to Active, indicates that the subscriber's session should be kept up regardless of the idle time as long as the subscriber is reachable. Reachability is ascertained using LCP keepalive messages.

Syntax Enumerated Integer. Supports the following value(s):

- Inactive = 0
- Active = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 78

3GPP2-Auth-Flow-Profile-Id

This compound attribute is a list of flow profile IDs.

Type 26

Vendor ID 5535

VSA Type 131

Syntax Compound. Contains the following sub-attribute(s).

Profile-Id-Forward

This attribute specifies a list of Forward Flow Profile IDs that the user is allowed to specify/request in a QoS Sub Blob.

Syntax Unsigned Integer

Length 2

Type 1

Profile-Id-Reverse

This attribute specifies a list of Reverse Flow Profile IDs that the user is allowed to specify/request in a QoS Sub Blob.

Syntax Unsigned Integer

Length 2

Type 2

Profile-Id-Bi-Direction

This attribute specifies the list of Bi-Direction Flow Profile IDs that the user is allowed to specify/request in a QoS Sub Blob.

Syntax Unsigned Integer

Length 2

Type 3

3GPP2-Bad-PPP-Frame-Count

The total number of PPP frames from the MS dropped by the PDSN due to uncorrectable errors.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 25

3GPP2-BCMCS-Auth-Parameters

This is a grouped attribute with Authentication signature, Sequence number, and timestamp required to validate each flow in a BCMCS flow registration request. Each flow is validated using the procedure described in 3GPP2 standard C.S0054-0_v1.0. This information is configured on a per subscriber basis.

Type 26

Vendor ID 5535

VSA Type 99

Syntax Compound. Contains the following sub-attribute(s).

BAK-Sequence-Number

BAK-Sequence-Number

Syntax Opaque Value

Length 1

Type 1

Timestamp

Timestamp

Syntax Opaque Value

Length 33

Type 2

Auth-Signature

Auth-Signature

Syntax Unsigned Integer

Length 4

Type 3

3GPP2-BCMCS-BSN-Session-Info

This is a grouped attribute containing information about the established flows. This includes the multicast address, port, compression status of the flow, and the content server address.

Type 26

Vendor ID 5535

VSA Type 103

Syntax Compound. Contains the following sub-attribute(s).

Flow-Id

This attribute specifies the Granted QoS parameters received from the RAN for the flow identified by FLOW_ID.

Syntax Unsigned Integer

Length 2

Type 2

Mcast-IP-Addr

Mcast-IP-Addr

Syntax IPv4 Address

Length 4

Type 2

Mcast-Port

Mcast-Port

Syntax Unsigned Integer

Length 2

Type 3

Header-Compression-Algorithm

Header-Compression-Algorithm

Syntax Enumerated Integer. Supports the following value(s):

- No_header_compression = 0
- ROHC_U_Mode = 1

Length 2

Type 4

CID-Type-Attribute

CID-Type-Attribute

Syntax Unsigned Integer

Length 1

Type 5

MAX-CID

MAX-CID

Syntax Unsigned Integer

Length 2

Type 6

Compression-Profile

Compression-Profile

Syntax Unsigned Integer

Length 2

Type 7

MAX-Header-Size

MAX-Header-Size

Syntax Unsigned Integer

Length 2

Type 8

MRRU

MRRU

Syntax Unsigned Integer

Length 2

Type 9

Content-Server-Source-IP-Address

Content-Server-Source-IP-Address

Syntax IPv4 Address

Length 4

Type 10

Content-Server-Source-IPv6-Address

Content-Server-Source-IPv6-Address

Syntax Opaque Value

Length 16

Type 11

3GPP2-BCMCS-Capability

This attribute defines the specific BCMCS protocol revision the PDSN supports.

Type 26

Vendor ID 5535

VSA Type 101

Syntax Compound. Contains the following sub-attribute(s).

BCMCS-Protocol-Revision

BCMCS-Protocol-Revision

Syntax Enumerated Integer. Supports the following value(s):

- Release_0 = 1

Length 2

Type 1

3GPP2-BCMCS-Common-Session-Info

This compound attribute specifies the program start time, end time, and the allowed registration time on a per flow basis.

Type 26

Vendor ID 5535

VSA Type 102

Syntax Compound. Contains the following sub-attribute(s).

Flow-ID

Flow-ID

Syntax Opaque Value

Length 2-4

Type 1

Program-Start-Time

Program-Start-Time

Syntax Unsigned Integer

Length 4

Type 2

Program-End-Time

Program-End-Time

Syntax Unsigned Integer

Length 4

Type 3

Program-Allowed-Registration-Time

Program-Allowed-Registration-Time

Syntax Unsigned Integer

Length 4

Type 4

Auth-Required-Flag

Auth-Required-Flag

Syntax Enumerated Integer. Supports the following value(s):

- Authorization_not_required = 0
- Authorization_required = 1

Length 2

Type 5

3GPP2-BCMCS-Flow-ID

This attribute specifies the BCMCS Flow ID.

Syntax Opaque Value

Length 2-4

Type 26

Vendor ID 5535

VSA Type 100

3GPP2-BCMCS-Flow-Transmit-Time

The total BCMCS flow transmission time in seconds.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 107

3GPP2-BCMCS-Mcast-IP-Addr

This attribute contains the multicast IP address of the BCMCS flow as it would appear in the source or destination field of an IP header.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 5535

VSA Type 109

3GPP2-BCMCS-Mcast-Port

The multicast port for the BCMCS flow.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 5535

VSA Type 110

3GPP2-BCMCS-Reason-Code

This attribute specifies the reason to send the RADIUS Access-Accept message.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 5535

VSA Type 105

3GPP2-BCMCS-RN-Session-Info

This is a grouped attribute which contains the encryption mechanism, BAK (Broadcast access key), BAK_ID, BAK expire time and authorization required flag. This attribute specifies the session information that needs to be known only by the RN.

Type 26

Vendor ID 5535

VSA Type 104

Syntax Compound. Contains the following sub-attribute(s).

Flow-ID

Flow-ID

Syntax Opaque Value

Length 2-4

Type 1

BCMCS-Encryption-Mechanism-Attribute

BCMCS-Encryption-Mechanism-Attribute

Syntax Enumerated Integer. Supports the following value(s):

- High_layer_encryption_in_CS = 0
- Link_layer_encryption_in_RN = 1

Length 2

Type 2

BCMCS-BAK-ID-Attribute

BCMCS-BAK-ID-Attribute

Syntax Unsigned Integer

Length 1

Type 3

BCMCS-BAK

BCMCS-BAK

Syntax Opaque Value

Length 16

Type 4

BCMCS-BAK-Expire-Time

BCMCS-BAK-Expire-Time

Syntax Unsigned Integer

Length 4

Type 5

BCMCS-Session-Bandwidth-attribute

BCMCS-Session-Bandwidth-attribute

Syntax Unsigned Integer

Length 2

Type 6

3GPP2-Beginning-Session

3GPP2 Beginning Session will be TRUE or FALSE depending on if this is a new session.

Syntax Enumerated Integer. Supports the following value(s):

- False = 0
- True = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 51

3GPP2-BSID

The base station ID.

Syntax Opaque Value

Length 6-12

Type 26

Vendor ID 5535

VSA Type 10

3GPP2-Carrier-ID

A 5 or 6-byte identifier of the visited PDSN comprising of a 3 byte Mobile Country Code (MCC) followed by a 2 or 3 byte Mobile Network Code (MNC) of the visited carrier. This value is configured locally in the visited carrier's PDSN.

Syntax Opaque Value

Length 5-6

Type 26

Vendor ID 5535

VSA Type 142

3GPP2-Comp-Tunnel-Indicator

This attribute indicates the invocation of a compulsory tunnel established on behalf of the MS for providing private network and/or ISP access during a single packet data connection. Normal PPP sessions will show No Tunnel. L2TP, IPinIP, and IP-GRE tunnels will show Non-Secure-Tunnel. IPSEC support will show Secure-Tunnel.

Syntax Enumerated Integer. Supports the following value(s):

- No-Tunnel = 0
- Non-Secure-Tunnel = 1
- Secure-Tunnel = 2

Length 4

Type 26

Vendor ID 5535

VSA Type 23

3GPP2-Container

A compound attribute that encapsulates the User Data Record for an Airlink Event.

Type 26

Vendor ID 8164

VSA Type 240

Syntax Compound. Contains the following sub-attribute(s). enum16 reason { Tarrif-Boundary = 1, Parameter-Change = 2, Handoff = 3, Active-To-Dormant = 4 } uint32 timestamp attribute ThreeGPP2-BSID attribute ThreeGPP2-MEID attribute ThreeGPP2-FEID reason Parameter-Change { attribute ThreeGPP2-User-Zone attribute ThreeGPP2-Forward-Mux-Option attribute ThreeGPP2-Reverse-Mux-Option attribute ThreeGPP2-Service-Option attribute ThreeGPP2-Fwd-Pdch-Rc attribute ThreeGPP2-Fwd-Dcch-Mux-Option attribute ThreeGPP2-Rev-Dcch-Mux-Option attribute ThreeGPP2-Air-QOS } reason Handoff { attribute NAS-IP-Address attribute ThreeGPP2-Serving-PCF } attribute Acct-Output-Octets attribute Acct-Input-Octets attribute ThreeGPP2-Bad-PPP-Frame-Count attribute ThreeGPP2-Active-Time attribute ThreeGPP2-Number-Active-Transitions attribute ThreeGPP2-SDB-Input-Octets attribute ThreeGPP2-SDB-Output-Octets attribute ThreeGPP2-Num-SDB-Input attribute ThreeGPP2-Num-SDB-Output attribute ThreeGPP2-Num-Bytes-Received-Total attribute ThreeGPP2-MIP-Signaling-Octet-Count-Input attribute ThreeGPP2-MIP-Signaling-Octet-Count-Output attribute ThreeGPP2-Last-Activity attribute Starent-Acct-PPP-Unfr-data-In-Oct attribute Starent-Acct-PPP-Unfr-data-Out-Oct }

Type 26

Vendor ID 5535

VSA Type 6

3GPP2-Correlation-Id-Long

Syntax Opaque Value

Length 1-251

Type 26

Vendor ID 5535

VSA Type 44

3GPP2-Correlation-Id-Old

Custom-11 style correlation ID.

Syntax Opaque Value

Length 1-251

Type 26

Vendor ID 5535

VSA Type 40

3GPP2-Correlation-Id

This attribute contains an ID that correlates all accounting sessions authorized for this NAI by this access request.

Syntax Opaque Value

Length 1-251

Type 26

Vendor ID 5535

VSA Type 44

3GPP2-DCCH-Frame-Size

Specifies the DCCH frame size.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- 5ms = 1
- 20ms = 2

Length 4

Type 26

Vendor ID 5535

VSA Type 50

3GPP2-Diff-Service-Class-Option

This is the DSCP (Differentiated Service Code Point) value as defined in the 3GPP2 standard. The DSCP values are assigned for different classes of traffic so that each traffic class can be given different priorities (QoS).

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 5

3GPP2-Disconnect-Reason

This attribute indicates the reason for disconnecting the user. This attribute may be present in the RADIUS Disconnect-request Message from Home RADIUS server to the PDSN.

Syntax Enumerated Integer. Supports the following value(s):

- MS_Mobility_Detection = 1;

Length 4

Type 26

Vendor ID 5535

VSA Type 96

3GPP2-DNS-Server-IP-Address

DNS server IP address. Used in custom dictionary.

Type 26

Vendor ID 5535

VSA Type 117

Syntax Compound. Contains the following sub-attribute(s).

Primary-DNS-Server-IP

IP address of the primary DNS server.

Syntax IPv4 Address

Length 4

Type 1

Secondary-DNS-Server-IP

IP address of the secondary DNS server.

Syntax IPv4 Address

Length 4

Type 2

Flag

M bit set to 1 indicates to the PDSN that primary and secondary IP addresses provided by the Home RADIUS server should override the primary and secondary IP addresses provided also by the visited RADIUS server.

Syntax Unsigned Integer

Length 1

Type 3

Entity-Type

Network Entity inserted in the DNS server ID address. Currently the following types are defined. HAAA = 1, VAAA = 1.

Syntax Unsigned Integer

Length 1

Type 4

3GPP2-DNS-Server-IPV6-Addr

DNS server IPv6 address.

Type 26

Vendor ID 5535

VSA Type 214

Syntax Compound. Contains the following sub-attribute(s).

Primary-DNS-Server-IPV6

Primary DNS server IPv6 address.

Syntax Opaque Value

Length 16

Type 1

Secondary-DNS-Server-IPV6

Secondary IPv6 DNS server IP address.

Syntax Opaque Value

Length 16

Type 2

Flag-IPV6

M bit set to 1 indicates to the PDSN that Primary and Secondary IPv6 addresses provided by the Home RADIUS server should override the Primary and Secondary IPv6 addresses provided also by the visited RADIUS server.

Syntax Unsigned Integer

Length 1

Type 3

Entity-Type-IPV6

Network Entity that inserted in the DNS server ID address. Either HAAA = 1, VAAA = 1.

Syntax Unsigned Integer

Length 1

Type 4

3GPP2-DNS-Update-Required

This attribute indicates whether the HA needs to send the DNS update to the DNS server.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 75

3GPP2-ESN

This attribute contains the Electronic Serial Number (ESN) of the Mobile Station.

Syntax Opaque Value

Length 1-15

Type 26

Vendor ID 5535

VSA Type 52

3GPP2-FA-Address

This attribute indicates if compulsory tunneling is to be employed on behalf of a subscriber. Usually compulsory tunneling is employed when a subscriber cannot initiate a tunnel itself, usually because the subscriber's device does not support tunneling. Contains an IP address as it would appear in the IP header.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 5535

VSA Type 79

3GPP2-FEID

This attribute specifies the FEID value.

Syntax Opaque Value

Length 0-16

Type 26

Vendor ID 5535

VSA Type 216

3GPP2-Flow-Id

This attribute specifies the 3GPP2-Flow-Id-parameter.

Type 26

Vendor ID 5535

VSA Type 144

Syntax Compound. Contains the following sub-attribute(s).

Direction

Direction of the PDF.

Syntax Enumerated Integer. Supports the following value(s):

- Forward = 0
- Reverse = 1
- Both = 2

Length 2

Type 1

Flow-Id

This attribute specifies the Granted QoS parameters received from the RAN for the flow identified by FLOW_ID.

Syntax Unsigned Integer

Length 2

Type 2

3GPP2-Flow-Status

This attribute specifies the 3GPP2 Flow Status.

Syntax Enumerated Integer. Supports the following value(s):

- Active = 0
- Inactive = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 145

3GPP2-Forward-Fundamental-Rate

As defined in "Wireless IP Network Standard - 3GPP2.P.S0001-A-1".

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 14

3GPP2-Forward-Fundamental-RC

The format and structure of the RADIUS channel in the forward direction. A set of forward transmission formats that are characterized by data rates, modulation characterized, and spreading rates.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 20

3GPP2-Forward-Mux-Option

Forward direction multiplexer option.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 12

3GPP2-Forward-Traffic-Type

Specifies the forward traffic type.

Syntax Enumerated Integer. Supports the following value(s):

- Primary = 0
- Secondary = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 17

3GPP2-Fundamental-Frame-Size

This attribute indicates the fundamental frame size. The fundamental channel has the choice of 5 or 20 ms size. The 5 ms frame size allows fast response for short signaling messages (short frame can be decoded quickly). However, depending on configuration, the fundamental may not be present.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- 5ms = 1
- 20ms = 2

Length 4

Type 26

Vendor ID 5535

VSA Type 19

3GPP2-Fwd-Dcch-Mux-Option

This attribute specifies Forward DCCH Mux option.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 84

3GPP2-Fwd-Dcch-Rc

This attribute specifies Radio Configuration of the Forward Packet Data Channel.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 86

3GPP2-Fwd-Pdch-Rc

This attribute specifies Radio Configuration of the Forward Packet Data Channel.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 83

3GPP2-GMT-Timezone-Offset

GMT-Time-Zone-Offset is 4-octet string that is interpreted as a 4-byte signed integer that indicates the current offset in seconds from GMT at the visited carrier's PDSN. The offset should be adjusted to reflect standard time or daylight saving time.

Syntax Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 143

3GPP2-Granted-QoS

This attribute specifies the 3GPP2-Granted-QoS-Parameter.

Type 26

Vendor ID 5535

VSA Type 132

Syntax Compound. Contains the following sub-attribute(s).

Direction

Direction of the PDF.

Syntax Enumerated Integer. Supports the following value(s):

- Forward = 0
- Reverse = 1
- Both = 2

Length 2

Type 1

Flow-Id

This attribute specifies the Granted QoS parameters received from the RAN for the flow identified by FLOW_ID.

Syntax Unsigned Integer

Length 2

Type 2

Attribute-Set-Id

This attribute specifies the Granted QoS parameters received from the RAN for flow verbose or non-verbose.

Syntax Unsigned Integer

Length 2

Type 3

Flow-Profile-Id

This attribute specifies the Granted QoS parameters received from the RAN for the flow profile ID.

Syntax Unsigned Integer

Length 2

Type 4

Traffic-Class

This attribute specifies the Granted QoS parameters received from the RAN for the flow traffic class.

Syntax Enumerated Integer. Supports the following value(s):

- Unknown = 0

- Conversational = 1
- Streaming = 2
- Interactive = 3
- Background = 4

Length 2

Type 5

Peak-Rate

This attribute specifies the Granted QoS parameters received from the RAN for the flow Peak Rate.

Syntax Unsigned Integer

Length 2

Type 6

Bucket-Rate

This attribute specifies the Granted QoS parameters received from the RAN for the flow Bucket Rate.

Syntax Unsigned Integer

Length 2

Type 7

Token-Rate

This attribute specifies the Granted QoS parameters received from the RAN for the flow Token Rate.

Syntax Unsigned Integer

Length 2

Type 8

Max-Latency

This attribute specifies the Granted QoS parameters received from the RAN for the flow Max Latency.

Syntax Unsigned Integer

Length 2

Type 9

Max-IP-Packet-Loss-Rate

This attribute specifies the Granted QoS parameters received from the RAN for the flow Packet Loss Rate.

Syntax Unsigned Integer

Length 2

Type 10

Packet-Size

This attribute specifies the Granted QoS parameters received from the RAN for the flow Packet Size.

Syntax Unsigned Integer

Length 2

Type 11

Delay-Var-Sensitive

This attribute specifies the Granted QoS parameters received from the RAN for the flow Delay Var Sensitive.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Specified = 0
- Sensitive = 1

Length 2

Type 12

3GPP2-IKE-Secret-Request

This attribute indicates if the IKE secret for the FA/HA pair is to be returned for the subscriber.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 1

3GPP2-IKE-Secret

This attribute contains the FA/HA shared secret for the IKE protocol. This attribute is salt-encrypted.

Syntax Opaque Value

Length 1-247

Type 26

Vendor ID 5535

VSA Type 3

3GPP2-IKE-Secret-Unencrypted

IKE Secret key from RADIUS server in Access-Accept message

Syntax Opaque Value

Length 1-247

Type 26

Vendor ID 5535

VSA Type 3

3GPP2-IMSI

This is the calling Station-ID attribute. IMSI value of the mobile is being filled in. This is sent when Custom11 dictionary is selected.

Syntax Opaque Value

Length 1-253

Type 26

Vendor ID 5535

VSA Type 1

3GPP2-Interconnect-IP

This attribute is currently not supported.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 5535

VSA Type 37

3GPP2-Interconnect-QOS

This attribute is currently not supported.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 38

3GPP2-Inter-User-Priority

This attribute specifies the 3GPP2-Inter-User-Priority.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 139

3GPP2-IP-QOS

This attribute defines the differentiated Services code points associated with the user data.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- CS1 = 8
- AF11 = 10
- AF12 = 12
- AF13 = 14
- CS2 = 16
- AF21 = 18
- AF22 = 20
- AF23 = 22
- CS3 = 24
- AF31 = 26
- AF32 = 28
- AF33 = 30
- CS4 = 32
- AF41 = 34
- AF42 = 36
- AF43 = 38
- CS5 = 40
- EF = 46
- CS6 = 48
- CS7 = 56

Length 4

Type 26

Vendor ID 5535

VSA Type 36

3GPP2-IP-Services-Authorized

This attribute specifies the type of IP services (IPv4/CMIPv4/IPv6/CMIPv6/PMIPv4/PMIPv6..etc) authorized.

Syntax Enumerated Integer. Supports the following value(s):

- SIP4 = 1
- SIP6 = 2
- MIP4 = 4
- MIP6 = 8
- IP4_PMIP4 = 16
- IP6_PMIP4 = 32
- IP4_PMIP6 = 64
- IP6_PMIP6 = 128

Length 4

Type 26

Vendor ID 5535

VSA Type 185

3GPP2-IP-Technology

This attribute identifies whether we are using Simple IP, Mobile IP, or another technology.

Syntax Enumerated Integer. Supports the following value(s):

- Simple-IP = 1
- Mobile-IP = 2

Length 4

Type 26

Vendor ID 5535

VSA Type 22

3GPP2-KeyID

This attribute contains the opaque IKE Key Identifier for the FA/HA shared IKE secret. The first eight bytes is the network-order FA IP address in hexadecimal characters. The next eight bytes is the network-order HA IP address in hexadecimal characters. The final four bytes is a timestamp in network order, indicating when the key was created, and is the number of seconds since January 1, 1970, UTC.

Syntax Opaque Value

Length 20

Type 26

Vendor ID 5535

VSA Type 8

3GPP2-Last-Activity

This attribute contains timestamp of the last user activity. This attribute is same as the 3GPP2-Last-User-Activity-Time standard attribute.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 80

3GPP2-Max-Auth-Aggr-Bw-BET

This attribute contains the maximum authorized aggregate bandwidth for Best Effort Traffic.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 130

3GPP2-Max-Per-Fl-Pri-ForTheUser

The maximum per flow priority for the user.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 133

3GPP2-MEID

Mobile Equipment Identifier (MEID) uniquely identifies the mobile equipment.

Syntax Opaque Value

Length 0-14

Type 26

Vendor ID 5535

VSA Type 116

3GPP2-MIP6-Authenticator

The MN-AAA authenticator obtained from the MN-AAA authentication mobility option in the BU.

Syntax Opaque Value

Length 12

Type 26

Vendor ID 5535

VSA Type 134

3GPP2-MIP6-CoA

MIPv6 CoA received in binding update.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 5535

VSA Type 119

3GPP2-MIP6-HA

MIPv6 Home Agent address received in binding update.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 5535

VSA Type 118

3GPP2-MIP6-HoA-Not-Authorized

Value of 1 indicates to the HA that the HoA is not authorized to be used by HA.

Syntax Enumerated Integer. Supports the following value(s):

- UnAuthorized = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 120

3GPP2-MIP6-HoA

MIPv6 HoA received in binding update.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 5535

VSA Type 141

3GPP2-MIP6-Home-Address

Carries the assigned Home Address during MIP6 bootstrapping.

Syntax Opaque Value

Length 18

Type 26

Vendor ID 5535

VSA Type 129

3GPP2-MIP6-Home-Agent

Carries the assigned MIPv6 Home Agent address received during MIPv6 bootstrapping.

Syntax Opaque Value

Length 18

Type 26

Vendor ID 5535

VSA Type 140

3GPP2-MIP6-Home-Link-Prefix

Carries the assigned Home Link Prefix during MIP6 bootstrapping.

Syntax Opaque Value

Length 2-18

Type 26

Vendor ID 5535

VSA Type 128

3GPP2-MIP6-MAC-Mobility-Data

The hashed Mobility Data from the HA to the Home RADIUS server so that the Home RADIUS server can validate the MN-AAA authenticator.

Syntax Opaque Value

Length 20

Type 26

Vendor ID 5535

VSA Type 138

3GPP2-MIP6-Mesg-ID

Value of Message ID from Mobility message replay protection option in Binding Update.

Syntax Opaque Value

Length 8

Type 26

Vendor ID 5535

VSA Type 123

3GPP2-MIP6-Session-Key

This VSA carries the Integrity Key (IK) in its encrypted form, from the Home RADIUS server to the HA.

Syntax Opaque Value

Length 16-64

Type 26

Vendor ID 5535

VSA Type 121

3GPP2-MIP-HA-Address

The IP address of the MIP Home Agent.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 5535

VSA Type 7

3GPP2-MIP-Lifetime

This VSA should be included in the RADIUS Access-Request message from the HA to the Home RADIUS/PPS if the HA is PrePaid capable. It may be included in the RADIUS Access-Accept message from the Home RADIUS/PPS to HA, in which case, the HA should include the received value in the MIP RRP sent to the PDSN.

Type 26

Vendor ID 5535

VSA Type 92

Syntax Compound. Contains the following sub-attribute(s).

RRQ-Lifetime

Should be included in the initial RADIUS Access-Request message and subsequent on-line RADIUS Access-Request if duration based PrePaid is provided for the session. It contains the MIP RRQ integer value lifetime received in the MIP RRQ message. In the RADIUS Access-Accept message, it contains the MIP RRQ integer value lifetime that should be used in the MIP RRP.

Syntax Unsigned Integer

Length 4

Type 1

Used-Lifetime

Should be included in the RADIUS Access-Request message at re-registration and updated RRQ (new CoA) if duration based PrePaid is provided for the session, it contains the used MIP RRQ lifetime value from an existing MIP session with the same NAI and Home Address.

Syntax Unsigned Integer

Length 4

Type 2

3GPP2-MIP-Rev-Tunnel-Required

Indicates to the PDSN if MIP Reverse Tunneling is required.

Syntax Enumerated Integer. Supports the following value(s):

- NotRequired = 0
- Required = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 4

3GPP2-MIP-Sig-Octet-Count-In

The total number of octets in registration requests and solicitations sent by the mobile.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 46

3GPP2-MIP-Sig-Octet-Count-Out

The total number of octets in registration replies and agent advertisements, sent to the mobile.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 47

3GPP2-MN-AAA-Removal-Indication

This attribute, when set to "Not Required", indicates that the system, when acting as a Mobile-IP Foreign Agent, should remove the MN-FA challenge and the MN-AAA Authentication Extensions, when present, from the RRQ before relaying the RRQ to the Mobile-IP Home Agent.

Syntax Enumerated Integer. Supports the following value(s):

- Allowed = 0
- Not-Required = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 81

3GPP2-MN-HA-Shared-Key-No-Enc

This attribute contains the MN-HA shared key in plain format.

Syntax Opaque Value

Length 1-251

Type 26

Vendor ID 5535

VSA Type 58

3GPP2-MN-HA-Shared-Key

A shared key for MN-HA authentication. The MN-HA shared key is encrypted using a method based on MD5.

Syntax Opaque Value

Length 1-251

Type 26

Vendor ID 5535

VSA Type 58

3GPP2-MN-HA-SPI

The SPI for the MN-HA authentication shared key.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 57

3GPP2-Mobile-Term-Orig-Ind

Tells whether the call is mobile originated (Call initiated from mobile side) or mobile terminated (Call initiated from external towards mobile).

Syntax Enumerated Integer. Supports the following value(s):

- Mobile-Originated = 0
- Mobile-Terminated = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 45

3GPP2-Number-Active-Transitions

This attribute counts the total number of non-active to active transitions by the user.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 30

3GPP2-Num-Bytes-Received-Total

This attribute counts all bytes received in the reverse direction by the HDLC layer in the PDSN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 43

3GPP2-Num-SDB-Input

This attribute counts the total number of Short Data Burst transactions to the user.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 33

3GPP2-Num-SDB-Output

This attribute counts the total number of Short Data Burst transactions from the user.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 34

3GPP2-PMIP-Capability

This attribute specifies the AGW's PMIP capability.

Syntax Enumerated Integer. Supports the following value(s):

- PMIPv4_ONLY = 1
- PMIPv6_ONLY = 2
- PMIPv4_PMIPv6 = 3

Length 4

Type 26

Vendor ID 5535

VSA Type 193

3GPP2-PMIP-IPv4Session-Info

This attribute specifies PMIP information for IPv4 session.

Type 26

Vendor ID 5535

VSA Type 194

Syntax Compound. Contains the following sub-attribute(s).

Length 0-160

VAAA-IPv4Session-HA-Addr

An IPv4 address or IPv6 Address of the local HA assigned by the AGW/VAAA for AT's IPv4 Address assignment.

Syntax Opaque Value

Length 0-16

Type 1

HAAA-IPv4Session-HA-Addr

An IPv4 address or IPv6 Address of the home or local HA assigned by the HAAA for AT's IPv4 Address assignment.

Syntax Opaque Value

Length 0-16

Type 2

PMN-HA-KEY

PMN-HA-KEY

Syntax Opaque Value

Length 0-32

Type 3

PMN-HA-SPI

PMN-HA-SPI

Syntax Unsigned Integer

Length 4

Type 4

VAAA-IPv4Session-LMA-Addr

An IPv4 address or IPv6 Address of the local LMA assigned by the AGW/VAAA for AT's IPv4 Address assignment

Syntax Opaque Value

Length 0-16

Type 5

HAAA-IPv4Session-LMA-Addr

An IPv4 address or IPv6 Address of the home or local LMA assigned by the HAAA for AT's IPv4 Address assignment.

Syntax Opaque Value

Length 0-16

Type 6

PMN-LMA-KEY

PMN-LMA-KEY

Syntax Opaque Value

Length 0-32

Type 7

PMN-LMA-SPI

PMN-LMA-SPI

Syntax Unsigned Integer

Length 4

Type 8

3GPP2-PMIP-IPv6Session-Info

This attribute specifies the PMIP information for IPv6 session.

Type 26

Vendor ID 5535

VSA Type 195

Syntax Compound. Contains the following sub-attribute(s).

Length 0-160

VAAA-IPv6Session-HA-Addr

VAAA-IPv6Session-HA-Addr

Syntax Opaque Value

Length 0-16

Type 1

HAAA-IPv6Session-HA-Addr

HAAA-IPv6Session-HA-Addr

Syntax Opaque Value

Length 0-16

Type 2

PMN-HA-KEY

PMN-HA-KEY

Syntax Opaque Value

Length 0-32

Type 3

PMN-HA-SPI

PMN-HA-SPI

Syntax Unsigned Integer

Length 4

Type 4

VAAA-IPv6Session-LMA-Addr

An IPv4 address or IPv6 Address of the local LMA assigned by the AGW/VAAA for AT's IPv6 Address assignment.

Syntax Opaque Value

Length 0-16

Type 5

HAAA-IPv6Session-LMA-Addr

An IPv4 address or IPv6 Address of the home or local LMA assigned by the HAAA for AT's IPv6 Address assignment.

Syntax Opaque Value

Length 0-16

Type 6

PMN-LMA-KEY

PMN-LMA-KEY

Syntax Opaque Value

Length 0-32

Type 7

PMN-LMA-SPI

PMN-LMA-SPI

Syntax Unsigned Integer

Length 4

Type 8

3GPP2-PMIP-NAI

This attribute specifies the PMIP NAI provided by AAA.

Syntax Opaque Value

Length 1-128

Type 26

Vendor ID 5535

VSA Type 192

3GPP2-Pre-Paid-Accounting-Quota

This attribute specifies the characteristics for PrePaid accounting of the volume and/or duration of a packet data session. It should be present in all on-line RADIUS Access-Request and on-line RADIUS Access-Accept messages and may be included in other RADIUS Access-Accept messages. Non-used Sub-Types by the PPC and PPS should be omitted.

Type 26

Vendor ID 5535

VSA Type 90

Syntax Compound. Contains the following sub-attribute(s).

Quota-Identifier

It is generated by the PPS together with the allocation of new quota.

Syntax Unsigned Integer

Length 4

Type 1

Volume-Quota

Indicates the volume in octets excluding control data.

Syntax Unsigned Integer

Length 4

Type 2

Volume-Quota-Overflow

The optional Volume-Quota-Overflow Sub-Type is used to indicate how many times the VolumeQuota counter has wrapped around 2^32 over the course of the service being provided.

Syntax Unsigned Integer

Length 2

Type 3

Volume-Threshold

Is generated by the PPS and indicates the volume (in octets) that be consumed before a new quota should be requested.

Syntax Unsigned Integer

Length 4

Type 4

Volume-Threshold-Overflow

The optional Volume-Threshold-Overflow Sub-Type is used to indicate how many times the VolumeThreshold counter has wrapped around 2^32 over the course of the service being provided.

Syntax Unsigned Integer

Length 2

Type 5

Duration-Quota

3GPP2 PrePaid Duration Quota. This is optionally present if duration-based charging is used. In RADIUS Access-Accept message, it indicates the duration (in seconds) allocated for the session by the PPS. In an on-line RADIUS Access-Accept message, it indicates the total duration (in seconds) since the start of the accounting session related to the QuotaID of the PPAQ in which it occurs.

Syntax Unsigned Integer

Length 4

Type 6

Duration-Threshold

3GPP2 PrePaid Duration Quota Threshold. This is optionally present if Duration-Quota is present in a RADIUS Access-Accept message. It is generated by the PPS and indicates the duration (in seconds) that should be consumed before a new quota should be requested. This threshold should not be larger than the Duration-Quota.

Syntax Unsigned Integer

Length 4

Type 7

Update-Reason

Reason for initiating online quota update operation. This should be present in the Authorize-Only RADIUS Access-Request message. It indicates the reason for initiating the on-line quota update operation. Update reasons 6, 7, 8, and 9 indicate that the associated resources are released at the client side, and that therefore the PPS should not allocate a new quota in the RADIUS Access-Accept message.

Syntax Enumerated Integer. Supports the following value(s):

- Pre-Initialization = 1
- Initial-Request = 2
- Threshold-Reached = 3
- Quota-Reached = 4
- Remote-Forced-Disconnect = 5
- Client-Service-Termination = 6
- Main-SI-Released = 7
- Service-Instance-Not-Established = 8
- Tariff-Switch-Update = 9
- Incorrect-Quota-Type-Received = 10
- Poorly-Formed-Quota-Attribute = 11

Length 2

Type 8

Pre-Paid-Server

PrePaid server IP address. This optional subtype indicates the address IPv4 of the serving PPS. If present, the Home RADIUS server uses this address to route the message to the serving PPS. The attribute may be sent by the Home RADIUS server. Multiple instances of this subtype may be present in a single PPAQ. If present in the incoming RADIUS Access-Accept message, the ASNGW should send this attribute back without modifying it in the subsequent RADIUS Access-Request message.

Syntax IPv4 Address

Length 4

Type 9

3GPP2-Pre-Paid-Acct-Capability

This attribute specifies the capability for PrePaid accounting for a packet data session. It contains the possible capabilities of the PrePaid client and the selected (by the PrePaid server) capability for the session. The absence of this VSA indicates that the client is not capable of PrePaid Accounting and the session should not use PrePaid accounting.

Type 26

Vendor ID 5535

VSA Type 91

Syntax Compound. Contains the following sub-attribute(s).

Available-In-Client

The optional Available-In-Client subtype, generated by the PPC, indicates the metering capabilities of the NAS and is be bitmap encoded.

Syntax Enumerated Integer. Supports the following value(s):

- Supported_None = 0
- Supported_Volume = 1
- Supported_Duration = 2
- Supported_Volume_And_Duration = 3
- Supported_Tariff_Switch = 64
- Supported_Volume_And_Duration_And_Tariff_Switch = 67

Length 4

Type 1

Selected-For-Session

The optional Selected-For-Session Sub-Type, generated by the PrePaid server, indicates the PrePaid Accounting capability to be used for a given session.

Syntax Enumerated Integer. Supports the following value(s):

- Usage_None = 0
- Usage_Volume = 1
- Usage_Duration = 2
- Usage_Volume_And_Duration = 3

Length 4

Type 2

3GPP2-Pre-Paid-TariffSwitch

3GPP2-Pre-Paid-TariffSwitch

Type 26

Vendor ID 5535

VSA Type 98

Syntax Compound. Contains the following sub-attribute(s).

Quota-Identifier

It is generated by the PPS together with the allocation of new quota.

Syntax Unsigned Integer

Length 4

Type 1

Volume-Used-After-Tariff-Switch

Volume quota used after tariff switch happened.

Syntax Unsigned Integer

Length 4

Type 2

Volume-Used-ATS-Overflow

Indicates how many times the VUATS counter has wrapped around 2^32 over the course of the service being provided.

Syntax Unsigned Integer

Length 2

Type 3

Tariff-Switch-Interval

Tariff switch interval in seconds.

Syntax Unsigned Integer

Length 4

Type 4

Time-Interval-After-Tariff-Switch-Update

Duration after TSI where an on-line RADIUS Access-Request is sent by PrePaid client to report VUATS before the next TS condition is triggered

Syntax Unsigned Integer

Length 4

Type 5

3GPP2-QoS-Service-Opt-Profile

The attribute specifies the unauthorized packet data service options, the maximum number of simultaneous service instances of the given service option number and the total maximum number of simultaneous service instances.

Syntax Opaque Value

Length 8-247

Type 26

Vendor ID 5535

VSA Type 74

3GPP2-Release-Indicator-custom9

3GPP2 Release Indicator for custom9, reason/cause for session release.

Syntax Enumerated Integer. Supports the following value(s):

- Unknown = 0
- PPP-Timeout = 1
- Handoff = 2
- PPP-Termination = 3
- Mobile-IP-Registration-Failure = 4
- PPP-Renegotiation = 5
- MIP-Registration-Revocation = 6
- VolumeQuota-Reached = 8
- DurationQuota-Reached = 9
- Incompatible-Prepaid = 10

Length 4

Type 26

Vendor ID 5535

VSA Type 24

3GPP2-Release-Indicator-Old

3GPP2 old Standard Release Indicator, reason/cause for session release.

Syntax Enumerated Integer. Supports the following value(s):

- Unknown = 0
- PPP-Timeout = 1
- Handoff = 2
- PPP-Protocol-Failure = 3
- PPP-Abnormal-Release = 4
- PPP-Termination = 5
- Mobile-IP-Registration-Failure = 6
- Active-To-Dormant = 7

Length 4

Type 26

Vendor ID 5535

VSA Type 24

3GPP2-Release-Indicator-Prepaid

Syntax Enumerated Integer. Supports the following value(s):

- TOPUP = 0
- AOC = 1
- OHHOLD = 2
- Session_Term_or_OFFLINE = 3
- CATALOG = 4
- BLOCK = 5
- Volume-Quota-Reached = 8
- Duration-Quota-Reached = 9

Length 4

Type 26

Vendor ID 5535

VSA Type 24

3GPP2-Release-Indicator

This attribute specifies reasons for sending a stop record. The enumeration of this attribute conforms to IS-835-1.

Syntax Enumerated Integer. Supports the following value(s):

- Unknown = 0
- PPP-Timeout = 1
- Handoff = 2
- PPP-Termination = 3
- Mobile-IP-Registration-Failure = 4
- Abnormal-Terminations = 5
- Termation-Dueto-Resource-Mgmt = 6
- Service-Instance-Released = 7
- VolumeQuota-Reached = 8
- DurationQuota-Reached = 9
- Incompatible-Prepaid = 10
- Airlink-Parameter-Change = 11
- TOD-Timer-Expiry = 12
- Active-To-Dormant = 13
- Flow-Deactivated = 15
- PPP-Renegotiation = 1001
- MIP-Lifetime-Expired = 1002
- A11-Lifetime-Expired = 1003
- MIP-Remote-Dereg = 1004
- Tarrif-Boundary = 1006
- PPP-Renegotiation-Handoff = 1007
- MIP-Registration-Revocation = 1008

Length 4

Type 26

Vendor ID 5535

VSA Type 24

3GPP2-Remote-Addr-Table-Idx-Old

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 71

3GPP2-Remote-Addr-Table-Index

This attribute contains the Remote Address Table Index used to generate remote address accounting records. Supported range is 1-65535. Only one 3GPP2-Remote-Addr-Table-Index can be associated with a session.

Type 26

Vendor ID 5535

VSA Type 71

Syntax Compound. Contains the following sub-attribute(s).

Table-Index

Table-Index

Syntax Unsigned Integer

Length 2

Type 1

Qualifier

Qualifier

Syntax Enumerated Integer. Supports the following value(s):

- Exempt-From-Prepaid = 1
- Summarize-Octet-Count = 2
- Both = 3

Length 2

Type 2

3GPP2-Remote-IPv4-Address

This attribute allows the HA or PDSN to identify any IP address to be used for remote address-based accounting for the user. Up to 20 instances of the attribute are supported in the access response.

Type 26

Vendor ID 5535

VSA Type 59

Syntax Compound. Contains the following sub-attribute(s).

Address

This attribute contains an IPv4 address to be used for remote address based accounting for the user. The address is used in conjunction with the Netmask subattribute to define the range of addresses to be monitored.

Syntax IPv4 Address

Length 4

Type 1

Netmask

This attribute contains an IPv4 address mask that defines the set of remote addresses to be used for remote address based accounting.

Syntax IPv4 Address

Length 4

Type 2

Qualifier

Qualifier

Syntax Enumerated Integer. Supports the following value(s):

- Exempt-From-Prepaid = 1
- Summarize-Octet-Count = 2
- Both = 3

Length 2

Type 3

3GPP2-Remote-IPv4-Addr-Octets

This attribute allows the HA or PDSN to identify any IP address to be used for remote address based accounting for the user. Up to 10 instances of the attribute are supported.

Type 26

Vendor ID 5535

VSA Type 72

Syntax Compound. Contains the following sub-attribute(s).

Address

This attribute contains an IPv4 address to be used for remote address based accounting for the user. The address is used in conjunction with the Netmask subattribute to define the range of addresses to be monitored.

Syntax IPv4 Address

Length 4

Type 1

Netmask

This attribute contains an IPv4 address mask that defines the set of remote addresses to be used for remote address based accounting.

Syntax IPv4 Address

Length 4

Type 2

Octets-Out

Indicates how many bytes have been sent to the remote address specification (corresponds to forward traffic direction).

Syntax Unsigned Integer

Length 4

Type 3

Octets-In

Indicates how many bytes have been received from the remote address specification (corresponds to reverse traffic direction).

Syntax Unsigned Integer

Length 4

Type 4

Table-Index

Table-Index

Syntax Unsigned Integer

Length 2

Type 5

Octets-Overflow-Out

Indicates how many times the forward octet overflow counter has wrapped around 2^32 over the course of the service being provided.

Syntax Unsigned Integer

Length 2

Type 6

Octets-Overflow-In

Indicates how many times the reverse octets overflow counter has wrapped around 2^32 over the course of the service being provided.

Syntax Unsigned Integer

Length 2

Type 7

3GPP2-Rev-Dcch-Mux-Option

This attribute specifies Reverse DCCH Mux option.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 85

3GPP2-Rev-Dcch-Rc

This attribute specifies the Radio Configuration of the Reverse Packet Data Channel.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 87

3GPP2-Reverse-Fundamental-Rate

As defined in "Wireless IP Network Standard - 3GPP2.P.S0001-A-1".

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 15

3GPP2-Reverse-Fundamental-RC

The format and structure of the RADIUS channel in the reverse direction. A set of forward transmission formats that are characterized by data rates, modulation characterized, and spreading rates.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 21

3GPP2-Reverse-Mux-Option

Forward direction multiplexer option.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 13

3GPP2-Reverse-Traffic-Type

Specifies the reverse traffic type.

Syntax Enumerated Integer. Supports the following value(s):

- Primary = 0
- Secondary = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 18

3GPP2-Rev-Pdch-Rc

This attribute specifies the 3GPP2-Rev-Pdch-Rc.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 114

3GPP2-RP-Session-ID

This represents the GRE key selected by the PCF that identifies the A10 traffic for a user session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 41

3GPP2-Rsvp-Signal-In-Count

This attribute specifies the RSVP signaling octets sent by the MS.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 162

3GPP2-Rsvp-Signal-In-Packets

This attribute specifies the Number of RSVP signaling packets sent by the MS.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 164

3GPP2-Rsvp-Signal-Out-Count

This attribute specifies the RSVP signaling octets sent to the MS.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 163

3GPP2-Rsvp-Signal-Out-Packets

This attribute specifies the Number of RSVP signaling packets sent to the MS.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 165

3GPP2-SDB-Input-Octets

This attribute counts the total number of octets sent to the user via Short Data Bursts.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 31

3GPP2-SDB-Output-Octets

This attribute counts the total number of octets sent by the user via Short Data Bursts.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 32

3GPP2-Security-Level

This attribute indicates the type of security that the home network mandates on the visited network.

Syntax Enumerated Integer. Supports the following value(s):

- IPSec = 3
- None = 4

Length 4

Type 26

Vendor ID 5535

VSA Type 2

3GPP2-Service-Option-Profile

This attribute specifies the authorized packet data service options, the maximum number of simultaneous service instances of the given service option number (n), and the total maximum number of simultaneous service instances. This attribute may appear in a RADIUS Access-Accept message.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 74

3GPP2-Service-Option

This attribute indicates the service option used for CDMA air interface.

Syntax Enumerated Integer. Supports the following value(s):

- HSPD = 0x21
- HRPD = 0x3b
- LLAROHC = 0x3d
- HRPD-AUX = 0x40
- HRPD-AUX-IP = 0x43
- eHRPD = 0x252
- LTE = 0x253
- UTRAN = 0x254
- GERAN = 0x255 WIFI = 0x806c

Length 4

Type 26

Vendor ID 5535

VSA Type 16

3GPP2-Service-Reference-ID

Specifies the reference ID of the service instance as received in the A11 Registration Request. If the service instance is the main service instance, the main SI Indicator Sub-Type should be included.

Type 26

Vendor ID 5535

VSA Type 94

Syntax Compound. Contains the following sub-attribute(s).

SR-ID

The SR_ID value received in the A11 Registration-Request message.

Syntax Unsigned Integer

Length 2

Type 1

Main-SI-Indicator

Only included for the main service instance.

Syntax Enumerated Integer. Supports the following value(s):

- Main-SI = 1

Length 2

Type 2

3GPP2-Serving-PCF

IP address of the serving PCF.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 5535

VSA Type 9

3GPP2-Session-Continue

This attribute when set to True means it is not the end of a session, and an Accounting Stop is immediately followed by an Account Start Record. False means end of a session.

Syntax Enumerated Integer. Supports the following value(s):

- False = 0
- True = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 48

3GPP2-Session-Term-Capability

This attribute should be included in a RADIUS Access-request message to the Home RADIUS server and should contain the value 3 to indicate that the PDSN and HA support both Dynamic authorization with RADIUS and Registration Revocation for Mobile IPv4. The attribute should also be included in the RADIUS Access-Accept message and should contain the preferred resource management mechanism by the home network, which should be used for the session and may include values 1 to 3.

Syntax Enumerated Integer. Supports the following value(s):

- Only_Dynamic_Auth_Extn_to_Radius = 0x00000001
- Only_Reg_Revocation_in_MIP = 0x00000002

- Both_Dynamic_Auth_And_Reg_Revocation_in_MIP = 0x00000003

Length 4

Type 26

Vendor ID 5535

VSA Type 88

3GPP2-S-Key

This attribute contains the HA IKE key in encrypted format.

Syntax Opaque Value

Length 1-247

Type 26

Vendor ID 5535

VSA Type 54

3GPP2-S-Lifetime

This attribute contains the lifetime of the 'S' secret parameter used to make the IKE pre-shared secret. indicating the time in seconds since January 1, 1970 00:00 UTC. Note that this is equivalent to the UNIX operating system expression of time.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 56

3GPP2-S-Request

This attribute indicates whether the HA requests a shared secret 'S'.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 5535

VSA Type 55

3GPP2-Subnet

This attribute specifies the subnet information of the HRPD RAN.

Type 26

Vendor ID 5535

VSA Type 108

Syntax Compound. Contains the following sub-attribute(s).

Rev-A-Subnet

This attribute specifies the subnet information of the HRPD RAN.

Syntax Opaque Value

Length 1-19

Type 1

Rev-A-Sector-Id

This attribute specifies the Sector ID information of the HRPD RAN.

Syntax Opaque Value

Length 1-18

Type 2

3GPP2-S-Unencrypted

This attribute contains the HA IKE key in plain format.

Syntax Opaque Value

Length 1-247

Type 26

Vendor ID 5535

VSA Type 54

3GPP2-User-Zone

This attribute describes the Tiered Services user zone. The least significant 16 bits are the user zone ID, the next significant 15 bits are the user zone system ID, and the most significant bit is zero.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 11

3GPP-Allocate-IPType

This attribute indicates whether the Access-Request is sent for user authentication only and/or for allocation of IPv4 and/or IPv6 address.

Syntax Enumerated Integer. Supports the following value(s):

- none = 0
- ipv4 = 1
- ipv6 = 2
- ipv4-or-ipv6 = 3

Length 4

Type 26

Vendor ID 10415

VSA Type 27

3GPP-CAMEL-Charging-Info

This attribute contains the received CAMEL charging information. CAMEL charging information is applicable to GGSN.

Syntax Opaque Value

Length 1-255

Type 26

Vendor ID 10415

VSA Type 24

3GPP-CG-Address

This attribute identifies the charging gateway address.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 10415

VSA Type 4

3GPP-Charging-Id

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 10415

VSA Type 2

3GPP-Chrg-Char

This attribute contains the charging characteristics for this PDP Context received in the Create PDP Context Request Message (only available in R99 and later releases).

Syntax Opaque Value

Length 4

Type 26

Vendor ID 10415

VSA Type 13

3GPP-GGSN-Address

This attribute contains IPv4 address of the GGSN.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 10415

VSA Type 7

3GPP-GGSN-IPv6-Address

For GGSN, it represents the GGSN IPv6 address that is used by the GTP control plane for thecontext establishment. For P-GW, it represents the P-GW IPv6 address that is used on S5/S8, S2a, S2b, or S2c control plane for the IP-CAN session establishment.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 10415

VSA Type 16

3GPP-GGSN-Mcc-Mnc

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

Syntax Opaque Value

Length 1-6

Type 26

Vendor ID 10415

VSA Type 9

3GPP-IMEISV

This attribute identifies the International Mobile Equipment Identity and Software Version (IMEISV) number received from the mobile node (MN). It is sent in RADIUS authentication and accounting messages by GGSN.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 10415

VSA Type 20

3GPP-IMSI-Mcc-Mnc

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

Syntax Opaque Value

Length 1-6

Type 26

Vendor ID 10415

VSA Type 8

3GPP-IMSI

This attribute contains the IMSI identifying the mobile unit.

Syntax Opaque Value

Length 1-15

Type 26

Vendor ID 10415

VSA Type 1

3GPP-IPv6-DNS-Servers

This attribute contains list of IPv6 DNS server addresses.

Syntax Opaque Value

Length 16-240

Type 26

Vendor ID 10415

VSA Type 17

3GPP-MS-TimeZone

This attribute indicates the offset between universal time and local time in steps of 15 minutes of where the MS currently resides.

Syntax Opaque Value

Length 2

Type 26

Vendor ID 10415

VSA Type 23

3GPP-Negotiated-DSCP

This attribute is used to mark IP packets of PDP context on the Gi interface.

Syntax Unsigned Integer

Length 1

Type 26

Vendor ID 10415

VSA Type 26

3GPP-Negotiated-QoS-Profile

This attribute specifies the QoS profile to be used for the subscriber.

Syntax ThreeGPP-Negotiated-QoS-Profile

Type 26

Vendor ID 10415

VSA Type 5

3GPP-NSAPI

This attribute specifies the value of the NSAPI of the PDP context that the RADIUS message is related to. It is encoded as its hexadecimal representation, using 1 UTF-8 encoded digit.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 10415

VSA Type 10

3GPP-Packet-Filter

This compound attribute specifies the Packet Filter used for the PDP context.

Length 65

Type 26

Vendor ID 10415

VSA Type 25

Syntax Compound. Contains the following sub-attribute(s).

Identifier

Identifier of the packet filter.

Syntax Unsigned integer

Length 1

Type 1

Eval-Precedence

Evaluation precedence of the packet filter.

Syntax Unsigned integer

Length 1

Type 2

Length

Length of the packet filter.

Syntax Unsigned integer

Length 1

Type 3

Direction

Direction of the packet filter.

Syntax Unsigned integer

Length 1

Type 4

IPv4-Address-Type

This is a compound attribute specifying the IPv4 source address and netmask if the direction is downlink, or destination address and netmask if the direction is downlink, or destination address and netmask if the direction is uplink.

Length 8

Type 5

Syntax Contains the following two sub-attribute(s):

Address

This attribute contains source address if direction value is set to Downlink, and destination address if direction value is set to Uplink.

Syntax IPv4 address

Length 4

Type 1

Netmask

This attribute contains netmask of the IPv4 address.

Syntax IPv4 address

Length 4

Type 2

IPv6-Address-Type

This is a compound attribute specifying the IPv6 source address and netmask if the direction is Downlink, or Destination Address and Netmask if the direction is Downlink, or Destination Address and Netmask if the direction is Uplink.

Length 32

Type 6

Syntax Contains the following two sub-attribute(s):

Address

This attribute contains source address if direction value is set to Downlink, and destination address if direction value is set to Uplink.

Syntax Opaque value

Length 16

Type 1

Netmask

This attribute contains the Netmask of the IPv6 address.

Syntax Opaque value

Length 16

Type 2

Protocol-Identifier-Or-Next-Header

Specifies the IPv4 Protocol Identifier or IPv6 Next Header.

Syntax Unsigned integer

Length 1

Type 7

Destination-Port

Specifies the Destination Port number of the packet filter.

Syntax An integer in network byte order

Length 2

Type 8

Destination-Port-Range

This is a compound attribute and specifies the destination port range.

Length 4

Type 9

Syntax Contains the following two sub-attribute(s):

Lower

Specifies the lower range of the destination port of the packet filter.

Syntax Unsigned integer

Length 2

Type 1

Higher

Specifies the higher range of the destination port of the packet filter.

Syntax Unsigned integer

Length 2

Type 2

Source-Port

Specifies the source port number of the packet filter.

Syntax Unsigned integer

Length 2

Type 10

Source-Port-Range

Specifies the source port range.

Length 4

Type 11

Syntax Contains the following two sub-attribute(s):

Lower

Specifies lower range of the source port of the packet filter.

Syntax Unsigned integer

Length 2

Type 1

Higher

Specifies the higher range of the source port of the packet filter.

Syntax Unsigned integer

Length 2

Type 2

Security-Parameter-Index

Specifies the IPSec Security Parameter Index(IPv6).

Syntax Unsigned integer

Length 4

Type 12

Type-Of-Service

This is a compound attribute and specifies the Type of Service/ Traffic Class.

Length 2

Type 13

Syntax Contains the following two sub-attribute(s):

Value

Specifies the Type of Service/Traffic Class Value.

Syntax Unsigned integer

Length 1

Type 1

Mask

Specifies the Type of Service/Traffic Class Mask.

Syntax Unsigned integer

Length 1

Type 2

Flow-Label

Specifies the IPv6 Flow Label.

Syntax Opaque value

Length 3

Type 14

3GPP-PDP-Type

This attribute identifies the PDP Context type.

Syntax Enumerated Integer. Supports the following value(s):

- ipv4 = 0
- ppp = 1
- ipv6 = 2
- ipv4-or-ipv6 = 3
- non-ip = 4

Length 4

Type 26

Vendor ID 10415

VSA Type 3

3GPP-RAT-Type

This attribute indicates which Radio Access Technology is currently serving the UE.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 10415

VSA Type 21

3GPP-Selection-Mode

This attribute contains the selection mode for this PDP Context received in the Create PDP Context Request message as an UTF-8 encoded character.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 10415

VSA Type 12

3GPP-Session-Stop-Ind

The presence of this attribute indicates to the AAA server that the last PDP context of a session is released and that the PDP session has been terminated.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 10415

VSA Type 11

3GPP-SGSN-Address

This attribute contains IPv4 address of the SGSN.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 10415

VSA Type 6

3GPP-SGSN-IPv6-Address

For GGSN, it represents the SGSN IPv6 address that is used by the GTP control plane for the handling of control messages. For P-GW, it represents the IPv6 address of the S-GW, trusted non-3GPP IP access or ePDG that is used on S5/S8, S2a, or S2b for the handling of control messages. The address may beused to identify the PLMN to which the user is attached.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 10415

VSA Type 15

3GPP-SGSN-Mcc-Mnc

For GPRS the MCC and the MNC of the SGSN.

Syntax Opaque Value

Length 1-6

Type 26

Vendor ID 10415

VSA Type 18

3GPP-Teardown-Indicator

If this value is set to 1 in disconnect-request, the whole correlated sessions would be disconnected.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 10415

VSA Type 19

3GPP-User-Location-Info

GTP user location information attribute for the subscriber session.

Syntax Opaque Value

Length 1-37

Type 26

Vendor ID 10415

VSA Type 22

AAA-Session-ID

A unique per realm identifier assigned to WiMAX session by the Home network during network entry.

Syntax String

Length 1-246

Type 26

Vendor ID 24757

VSA Type 4

Access-IN-Subs

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 224

Acct-Authentic

This attribute is included in Accounting-Request packets to indicate how the session was authenticated (RADIUS or locally).

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- RADIUS = 1
- Local = 2
- Remote = 3
- Diameter = 4

Length 4

Type 45

Vendor ID N/A

VSA Type N/A

Acct-Delay-Time

This attribute indicates how many seconds the chassis has been trying to send this record for. The standard behavior is that this attribute will be visible in the Accounting Request message only if it has a non-zero value.

Syntax Unsigned Integer

Length 4

Type 41

Vendor ID N/A

VSA Type N/A

Acct-Input-Gigawords

This attribute indicates how many times the Acct-Input-Octets attribute has wrapped within its 32-bit field length. In effect, the number of octets received is a 64-bit integer, with this attribute representing the high 32 bits, and the Acct-Input-Octets attribute representing the low 32 bits. This attribute is not included unless it has a non-zero value.

Syntax Unsigned Integer

Length 4

Type 52

Vendor ID N/A

VSA Type N/A

Acct-Input-Octets

This attribute indicates how many octets have been received in the PPP session. Since the value field is 32 bits, it is possible that the number of octets will exceed the 32-bit field length. If this happens, this attribute will "wrap" back to 0. Each time the "wrap" occurs, the Acct-Input-Gigawords attribute will be incremented. In effect, the number of octets received is a 64-bit integer, with the Acct-Input-Gigawords attribute representing the high 32 bits, and this attribute representing the low 32 bits.

Syntax Unsigned Integer

Length 4

Type 42

Vendor ID N/A

VSA Type N/A

Acct-Input-Packets

This attribute indicates how many PPP packets have been received during the session.

Syntax Unsigned Integer

Length 4

Type 47

Vendor ID N/A

VSA Type N/A

Acct-Interim-Interval

This attribute indicates the time (in seconds) between updates to session counters (log file on RADIUS or AAA event log) during the session. Note that the setting for this attribute always takes precedence over interim interval settings configured on the system.

Syntax Unsigned Integer

Length 4

Type 85

Vendor ID N/A

VSA Type N/A

Acct-Link-Count

Syntax Unsigned Integer

Length 4

Type 51

Vendor ID N/A

VSA Type N/A

Acct-Multi-Session-Id

This attribute is a unique Accounting ID to make it easy to link together multiple related sessions in a log file. Each session linked together would have a unique Acct-Session-Id but the same Acct-Multi-Session-Id. It is strongly recommended that the Acct-Multi-Session-Id contain UTF-8 encoded characters.

Syntax String

Length 1-253

Type 50

Vendor ID N/A

VSA Type N/A

Acct-Output-Gigawords

This attribute indicates how many times the Acct-Output-Octets attribute has wrapped within its 32-bit field length. In effect, the number of octets received is a 64-bit integer, with this attribute representing the high 32 bits, and the Acct-Output-Octets attribute representing the low 32 bits. This attribute is not included unless it has a non-zero value.

Syntax Unsigned Integer

Length 4

Type 53

Vendor ID N/A

VSA Type N/A

Acct-Output-Octets

This attribute indicates how many octets have been sent in the PPP session. Since the value field is 32 bits, it is possible that the number of octets will exceed the 32-bit field length. If this happens, this attribute will "wrap" back to 0. Each time the "wrap" occurs, the Acct-Output-Gigawords attribute will be incremented. In effect, the number of octets received is a 64-bit integer, with the Acct-Output-Gigawords attribute representing the high 32 bits, and this attribute representing the low 32 bits.

Syntax Unsigned Integer

Length 4

Type 43

Vendor ID N/A

VSA Type N/A

Acct-Output-Packets

This attribute indicates how many PPP packets have been sent during the session.

Syntax Unsigned Integer

Length 4

Type 48

Vendor ID N/A

VSA Type N/A

Acct-Session-Id-Long

This attribute contains long format account session ID. This is supported only for custom2 dictionary.

Syntax String

Length 1-253

Type 44

Vendor ID N/A

VSA Type N/A

Acct-Session-Id

This attribute is a session ID. Combined with the identification of the chassis (NAS-IP-Address or NAS-Identifier), this uniquely describes a session. For a given chassis, there will never be another session (even across boots) with this same session ID. The Acct-Session-ID attribute is sent on both Gx and Gy messages.

Syntax String

Length 1-253

Type 44

Vendor ID N/A

VSA Type N/A

Acct-Session-Time

This attribute indicates the duration of the session in seconds.

Syntax Unsigned Integer

Length 4

Type 46

Vendor ID N/A

VSA Type N/A

Acct-Status-Type

This attribute indicates the event for the session.

Syntax Enumerated Integer. Supports the following value(s):

- Start = 1

- Stop = 2
- Interim-Update = 3
- Accounting-On = 7
- Accounting-Off = 8
- Tunnel-Start = 9
- Tunnel-Stop = 10
- Tunnel-Reject = 11
- Tunnel-Link-Start = 12
- Tunnel-Link-Stop = 13
- Tunnel-Link-Reject = 14
- Failed = 15

Length 4

Type 40

Vendor ID N/A

VSA Type N/A

Acct-Termination-Cause

This attribute indicates why the session was terminated.

Syntax Enumerated Integer. Supports the following value(s):

- User_Request = 1
- Lost_Carrier = 2
- Lost_Service = 3
- Idle_Timeout = 4
- Session_Timeout = 5
- Admin_Reset = 6
- Admin_Reboot = 7
- Port_Error = 8
- NAS_Error = 9
- NAS_Request = 10
- NAS_Reboot = 11
- Port_Unneeded = 12
- Port_Preempted = 13

- Port_Suspended = 14
- Service_Unavailable = 15
- Callback = 16
- User_Error = 17
- Host_Request = 18
- Supplicant_Restart = 19
- Reauthentication_Failure = 20
- Port_Reinitialized = 21
- Port_Administratively_Disabled = 22
- Inter-PDSN-Handoff = 99
- Long-Duration-Timeout = 1001
- Invalid-Source-Address = 1002
- Duplicate-IMSI = 1003
- Interim-Update = 1004
- Hotlining-Status-Change = 1005

Length 4

Type 49

Vendor ID N/A

VSA Type N/A

BU-CoA-Ipv6

The IPv6 address extracted from the Careof Address field in the BU and sent in Access Request from HA for WiMAX call.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 24757

VSA Type 51

Callback-Id

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

Syntax Opaque Value

Length 1-253

Type 20

Vendor ID N/A

VSA Type N/A

Called-Station-ID

For PDSN, the value of this attribute is a single zero byte for custom6/7/8 dictionaries. For other dictionaries, this attribute will not be present for PDSN calls.

Syntax Opaque Value

Length 1-128

Type 30

Vendor ID N/A

VSA Type N/A

Calling-Station-Id

This attribute indicates the Mobile Station Identifier in PDSN, and MSISDN in GGSN.

Syntax Opaque Value

Length 1-253

Type 31

Vendor ID N/A

VSA Type N/A

Calling-Subscriber-Type

Opaque one byte value received from customer RADIUS server in Access Request. Used in custom dictionary.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 5535

VSA Type 218

CHAP-Challenge

This attribute contains the CHAP Challenge that was sent by the chassis to the other end of the PPP link, when CHAP authentication is being used.

Syntax Opaque Value

Length 1-253

Type 60

Vendor ID N/A

VSA Type N/A

CHAP-Password

This attribute contains the CHAP ID and the CHAP Response when CHAP authentication is used.

Syntax Opaque Value

Length 17

Type 3

Vendor ID N/A

VSA Type N/A

Charging-Id

Same as 3GPP-Charging-ID standard attribute; non-standard behavior for use in custom dictionary.

Syntax Unsigned Integer

Length 4

Type 225

Vendor ID N/A

VSA Type N/A

Class

This attribute may be sent by the RADIUS server to the chassis in an Access-Accept packet. The chassis will include this attribute in all subsequent Accounting-Request messages sent to the RADIUS Accounting server for this user's session. This attribute is included to support the RADIUS protocol and should not be human-interpreted.

Syntax Opaque Value

Length 1-253

Type 25

Vendor ID N/A

VSA Type N/A

CS-AVPair

This is a Cisco Vendor Specific Attribute. This attribute may contain any string required for Web Authorization feature for SaMOG.

Syntax String

Length 1-249

Type 26

Vendor ID 9

VSA Type 1

CS-Prepaid-Quota

Syntax String

Length 1-252

Type 26

Vendor ID 9

VSA Type 253

CS-Prepaid-Time-Quota

Syntax String

Length 1-252

Type 26

Vendor ID 9

VSA Type 102

CS-Prepaid-Volume-Quota

Syntax String

Length 1-252

Type 26

Vendor ID 9

VSA Type 101

CS-Service-Name

Syntax String

Length 1-252

Type 26

Vendor ID 9

VSA Type 251

CUI

Chargeable User Identity (CUI) is a unique temporary handle to the user responsible for paying bill. Set to NULL in Initial Access Request and set to value sent by AAA in subsequent messages.

Syntax Opaque Value

Length 1-253

Type 89

Vendor ID N/A

VSA Type N/A

custom54-Dial-Number

Syntax String

Length 1-252

Type 227

Vendor ID N/A

VSA Type N/A

custom54-IPX-Alias

Syntax Unsigned Integer

Length 4

Type 224

Vendor ID N/A

VSA Type N/A

custom54-Metric

Syntax Unsigned Integer

Length 4

Type 225

Vendor ID N/A

VSA Type N/A

custom54-PRI-Number-Type

Syntax Unsigned Integer

Length 4

Type 226

Vendor ID N/A

VSA Type N/A

custom54-Route-IP

Syntax Unsigned Integer

Length 4

Type 228

Vendor ID N/A

VSA Type N/A

custom54-Session-Svr-Key

Syntax String

Length 1-32

Type 151

Vendor ID N/A

VSA Type N/A

Custom-Prepaid-Ind

Syntax Unsigned Integer

Length 1

Type 226

Vendor ID N/A

VSA Type N/A

Delegated-IPv6-Prefix

For IPv6 subscriber sessions IPSG receives deligated IPv6 prefix or framed IPv6 prefix value from Accounting Start message and assigns that IPv6 prefix to the subscriber.

Syntax Opaque Value

Length 2-18

Type 123

Vendor ID N/A

VSA Type N/A

DHCPMSG-Server-IP

The IPv4 address of the DHCP server.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 24757

VSA Type 43

DHCP-RK-Key-ID

An integer uniquely identifying the DHCP-RK within the scope of a single DHCP server.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 41

DHCP-RK-Lifetime

Lifetime of the DHCP-RK and derived keys.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 42

DHCP-RK

DHCP-RK is a 160-bit randomly generated for every DHCP server, the DHCP Key is derived from this.

Syntax Opaque Value

Length 1-250

Type 26

Vendor ID 24757

VSA Type 40

Digest-AKA-Auts

This attribute holds the auts parameter that is used in the Digest AKA calculation.

Syntax Opaque Value

Length 0-253

Type 118

Vendor ID N/A

VSA Type N/A

Digest-Algorithm

This parameter holds the algorithm parameter that influences the HTTP Digest calculation.

Syntax Opaque Value

Length 0-253

Type 111

Vendor ID N/A

VSA Type N/A

Digest-Auth-Param

This attribute is a placeholder for future extensions.

Syntax Opaque Value

Length 0-253

Type 117

Vendor ID N/A

VSA Type N/A

Digest-CNonce

This attribute holds the client nonce that is used in the digest calculation.

Syntax Opaque Value

Length 0-253

Type 113

Vendor ID N/A

VSA Type N/A

Digest-Domain

This attribute consists of single URI that defines a protection space component.

Syntax Opaque Value

Length 0-256

Type 119

Vendor ID N/A

VSA Type N/A

Digest-Entity-Body-Hash

This attribute holds the hexadecimal representation of H(entity-body). This hash is required when quality of protection is set to "auth-int".

Syntax Opaque Value

Length 0-253

Type 112

Vendor ID N/A

VSA Type N/A

Digest-HA1

This attribute contains the hexadecimal representation on H(A1) as described in RFC 2617.

Syntax Opaque Value

Length 0-253

Type 121

Vendor ID N/A

VSA Type N/A

Digest-Method

This attribute holds the method value to be used in the HTTP digest calculation.

Syntax Opaque Value

Length 0-253

Type 108

Vendor ID N/A

VSA Type N/A

Digest-Nextnonce

This attribute holds a nonce to be used in the HTTP digest calculation.

Syntax Opaque Value

Length 0-253

Type 107

Vendor ID N/A

VSA Type N/A

Digest-Nonce-Count

This attribute holds the nonce count parameter that is used to detect replay attacks.

Syntax Opaque Value

Length 0-253

Type 114

Vendor ID N/A

VSA Type N/A

Digest-Nonce

Syntax Opaque Value

Length 0-253

Type 105

Vendor ID N/A

VSA Type N/A

Digest-Opaque

This attribute holds the opaque parameter that is passed to the SIP client.

Syntax Opaque Value

Length 0-253

Type 116

Vendor ID N/A

VSA Type N/A

Digest-Qop

This attribute holds the quality of protection parameter that influences the HTTP digest calculation.

Syntax Opaque Value

Length 0-253

Type 110

Vendor ID N/A

VSA Type N/A

Digest-Realm

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

Syntax Opaque Value

Length 0-253

Type 104

Vendor ID N/A

VSA Type N/A

Digest-Response-Auth

This enables the RADIUS server to prove possession of the password.

Syntax Opaque Value

Length 0-253

Type 106

Vendor ID N/A

VSA Type N/A

Digest-Response

Syntax Opaque Value

Length 0-256

Type 103

Vendor ID N/A

VSA Type N/A

Digest-Stale

This attribute is sent by RADIUS server in order to notify the RADIUS client whether it has accepted a nonce.

Syntax Opaque Value

Length 0-253

Type 120

Vendor ID N/A

VSA Type N/A

Digest-URI

This attribute is used to transport the contents of the URI of the SIP request.

Syntax Opaque Value

Length 0-253

Type 109

Vendor ID N/A

VSA Type N/A

Digest-Username

This attribute holds the user name used in the HTTP Digest calculation.

Syntax Opaque Value

Length 0-253

Type 115

Vendor ID N/A

VSA Type N/A

DNS

IPv4/IPv6 address of the DNS server to be conveyed to the MS via DHCP.

Syntax Opaque Value

Length 4-16

Type 26

Vendor ID 24757

VSA Type 52

Draft5-Digest-Response

Syntax Opaque Value

Length 0-253

Type 102

Vendor ID N/A

VSA Type N/A

DSCP_IP_Address

radius_attribute_DSCP_IP_Address

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 5535

VSA Type 245

EAP-Message

The EAP exchanged transported over RADIUS.

Syntax Opaque Value

Length 0-253

Type 79

Vendor ID N/A

VSA Type N/A

Error-Cause

It is possible that the NAS cannot honor Disconnect-Request or CoA-Request messages for some reason. The Error-Cause Attribute provides more detail on the cause of the problem. It may be included within Disconnect-ACK, Disconnect-NAK, and CoA-NAK messages.

Syntax Enumerated Integer. Supports the following value(s):

- Residual-Session-Context-Remove = 201
- Inavlid-EAP-Packet = 202
- Unsupported-Attribute = 401
- Missing-Attribute = 402
- NAS-Identification-Mismatch = 403
- Invalid-Request = 404
- Unsupported-Service = 405
- Unsupported-Extension = 406
- Administratively-Prohibited = 501
- Request-Not-Routable = 502
- Session-Context-Not-Found = 503
- Session-Context-Not-Removable = 504
- Other-Proxy-Processing-Error = 505
- Resources-Unavailable = 506
- Request-Initiated = 507
- Session-Context-Not-Removable-Dormant = 599

Length 4

Type 101

Vendor ID N/A

VSA Type N/A

Event-Timestamp

This attribute is a timestamp of when the event being logged occurred, indicating the time in seconds since January 1, 1970 00:00 UTC. Note that this is equivalent to the UNIX operating system expression of time.

Syntax Unsigned Integer

Length 4

Type 55

Vendor ID N/A

VSA Type N/A

FA-RK-KEY

This attribute contains the encrypted FA-RK-KEY. The FA-RK determined during EAP authentication by the RADIUS server and passed on to the NAS upon successful EAP authentication. It is used by the NAS to generate MN-FA keys.

Syntax Opaque Value

Length 1-244

Type 26

Vendor ID 24757

VSA Type 14

FA-RK-SPI

SPI used for the FA-RK associated with FA-RK Key for generating MN-FA key for WiMAX call

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 61

Filter-Id

This attribute identifies the IP access-list/filter by name.

Syntax String

Length 1-253

Type 11

Vendor ID N/A

VSA Type N/A

Framed-Compression

This attribute indicates the compression protocol to be used.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- VJ_TCP_IP_header_compression = 1
- IPX_header_compression = 2
- Stac_LZS_compressions = 3

Length 4

Type 13

Vendor ID N/A

VSA Type N/A

Framed-Interface-Id

This attribute contains the value of IPv6 Interface ID.

Syntax Opaque Value

Length 8

Type 96

Vendor ID N/A

VSA Type N/A

Framed-IP-Address

This attribute indicates the IP address to be configured for the user.

Syntax IPv4 Address

Length 4

Type 8

Vendor ID N/A

VSA Type N/A

Framed-IP-Netmask

This attribute indicates the IP netmask to be configured for the session when the PPP connection is to a router servicing a network.

Syntax IPv4 Address

Length 4

Type 9

Vendor ID N/A

VSA Type N/A

Framed-IPv6-Pool

This attribute contains the IPv6 pool name.

Syntax String

Length 1-253

Type 100

Vendor ID N/A

VSA Type N/A

Framed-IPv6-Prefix

This attribute contains IPv6 prefix.

Syntax Opaque Value

Length 2-18

Type 97

Vendor ID N/A

VSA Type N/A

Framed-MTU

This attribute indicates the Maximum Transmission Unit that was configured for the PPP session.

Syntax Integer

Length 4

Type 12

Vendor ID N/A

VSA Type N/A

Framed-Pool

This standard attribute indicates the name of the IP pool from which an IP address should be allocated to the subscriber. Also, see SN-IP-Pool-Name, which is a vendor-specific attribute accomplishing the same.

Syntax String

Length 1-253

Type 88

Vendor ID N/A

VSA Type N/A

Framed-Protocol

This attribute describes the framed protocol that the user is granted to use (Access-Accept), when Service-Type = Framed. Note that PPP is the only framed protocol supported.

Syntax Enumerated Integer. Supports the following value(s):

- PPP = 1
- SLIP = 2
- ARAP = 3
- Gandalf_proprietary___ = 4
- Xylogics_proprietary_IPX_SLIP = 5
- X_75_Synchronous = 6
- GPRS_PDP_Context = 7

Length 4

Type 7

Vendor ID N/A

VSA Type N/A

Framed-Route

This attribute specifies the subnet route to be installed in GGSN for the mobile router.

Syntax Opaque Value

Length 1-64

Type 22

Vendor ID N/A

VSA Type N/A

Geographical-Location

This attribute contains the information of geographical location as reported by HNB.

Syntax Opaque Value

Length 10

Type 26

Vendor ID 9

VSA Type 114

GGSN-GTP-IP-Address

Same as 3GPP-GGSN-Address standard attribute; non-standard behavior for use in custom dictionary.

Syntax IPv4 Address

Length 4

Type 230

Vendor ID N/A

VSA Type N/A

GGSN-IP-Address

Syntax IPv4 Address

Length 4

Type 227

Vendor ID N/A

VSA Type N/A

GMT-Time-Zone-Offset

Syntax Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 3

HA-IP-MIP4

IPv4 address of the HA.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 24757

VSA Type 6

HA-IP-MIP6

IPv6 address of the HA for CMIP4.

Syntax Opaque Value

Length 4-16

Type 26

Vendor ID 24757

VSA Type 7

HA-RK-KEY

The HA-RK-KEY determined during EAP authentication by the RADIUS server and passed to the NAS upon successful EAP authentication. It is used by the NAS to generate FA-HA keys.

Syntax Opaque Value

Length 1-244

Type 26

Vendor ID 24757

VSA Type 15

HA-RK-Lifetime

Lifetime of the HA-RK and derived keys.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 17

HA-RK-SPI

The SPI associated with the HA-RK for generating MN-HA key for WiMAX call.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 16

hLMA-IPv6-PMIP6

MIPv6 Home Agent address received in binding update.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 24757

VSA Type 127

HNB-Internet-Information

This attribute contains public IP address (either IPv4 or IPv6 address) of HNB assigned through the broadband connection.

Syntax Opaque Value

Length 4-16

Type 26

Vendor ID 9

VSA Type 115

HNB-Parameters

This attribute contains PLMN ID, LAC, RAC, SAC, and Cell ID of the HNB as reported to HNB-GW in RADIUS Access-Request during authentication.

Syntax Opaque Value

Length 12

Type 26

Vendor ID 9

VSA Type 112

Hotline-Indicator

This attribute in a RADIUS Accounting-Request message indicates to back-office systems (billing audit systems) that the session has been hot lined.

Syntax String

Length 1-64

Type 26

Vendor ID 24757

VSA Type 24

Hotline-Profile-ID

A unique identifier of a hotline profile to be applied to the session.

Syntax String

Length 1-64

Type 26

Vendor ID 24757

VSA Type 53

Hotline-Session-Timer

The time period, in seconds, the session can remain hotlined.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 56

HTTP-Redirection-Rule

An HTTP redirection rule.

Syntax Opaque Value

Length 1-246

Type 26

Vendor ID 24757

VSA Type 54

Idle-Timeout

This attribute sets the maximum idle session time, in seconds. A session is idle when there is no IP traffic on the link. After the connection has been idle for the indicated amount of time, the chassis will tear down the session.

Syntax Integer

Length 4

Type 28

Vendor ID N/A

VSA Type N/A

IMSI-MCC-MNC

Same as 3GPP-IMSI-Mcc-Mnc standard attribute; non-standard behavior for use in custom dictionary.

Syntax Opaque Value

Length 1-6

Type 226

Vendor ID N/A

VSA Type N/A

IMSI

Same as 3GPP-IMSI standard attribute; non-standard behavior for use in custom dictionary.

Syntax Opaque Value

Length 1-15

Type 224

Vendor ID N/A

VSA Type N/A

IN-Packet-Period

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 246

IN-Time-Period

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 247

IP-Redirection-Rule

This attribute is used to specify which packet flow to redirect and where to redirect it.

Syntax Opaque Value

Length 1-246

Type 26

Vendor ID 24757

VSA Type 55

KTF_VSA1

radius_attribute_KTF_VSA1

Syntax Opaque Value

Length 0-24

Type 26

Vendor ID 5535

VSA Type 249

KTF_VSA2

radius_attribute_KTF_VSA2

Syntax Opaque Value

Length 0-24

Type 26

Vendor ID 5535

VSA Type 255

Macro-Coverage-Information

This attribute contains the marco coverage information as reported by HNB which could be a GERAN or UTRAN cell information.

Syntax Opaque Value

Length 8-11

Type 26

Vendor ID 9

VSA Type 113

MN-HA-MIP4-KEY

MN-HA key for SPI value in the Access request if present.

Syntax Opaque Value

Length 1-244

Type 26

Vendor ID 24757

VSA Type 10

MN-HA-MIP4-SPI

SPI associated with the MN-HA-MIP4 key. This attribute needs to be sent in the Access Request to fetch the corresponding MN-HA keys.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 11

MN-HA-MIP6-KEY

Used to calculate AUTH for MIP6 BU during PMIP6 on ASN and to validate and compute AUTH for MIP6 Binding Answer on HA.

Syntax Opaque Value

Length 1-244

Type 26

Vendor ID 24757

VSA Type 12

MN-HA-MIP6-SPI

SPI associated with the MN-HA-MIP6-KEY.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 13

MSISDN

MSIDSN of the call. Used in custom dictionary.

Syntax String

Length 1-256

Type 26

Vendor ID 5535

VSA Type 222

MSK

The Master Session Key determined during EAP authentication by the RADIUS server and passed to the NAS upon successful EAP authentication.

Syntax Opaque Value

Length 1-246

Type 26

Vendor ID 24757

VSA Type 5

NAS-Filter-Rule

Indicates filter rules to be applied for the user.

Syntax Opaque Value

Length 1-246

Type 92

Vendor ID N/A

VSA Type N/A

NAS-Identifier

This attribute identifies the NAS generating the record.

Syntax String

Length 1-253

Type 32

Vendor ID N/A

VSA Type N/A

NAS-IP-Address

This attribute identifies the serving NAS.

Syntax IPv4 Address

Length 4

Type 4

Vendor ID N/A

VSA Type N/A

NAS-Port

This attribute describes the resource number assigned to the user session. It is guaranteed to be unique at a particular instance in time for a particular chassis.

Syntax Unsigned Integer

Length 4

Type 5

Vendor ID N/A

VSA Type N/A

NAS-Port-Type

This attribute indicates the physical layer that the session is using.

Syntax Enumerated Integer. Supports the following value(s):

- Async = 0
- Sync = 1
- ISDN_Sync = 2
- ISDN_Async_V_120 = 3
- ISDN_Async_V_110 = 4
- Virtual = 5
- PIAFS = 6
- HDLC_Clear_Channel = 7
- X_25 = 8
- X_75 = 9
- G_3_Fax = 10
- SDSL_Symmetric_DSL = 11
- ADSL_CAP = 12
- ADSL_DMT = 13
- IDSL = 14
- Ethernet = 15
- xDSL = 16
- Cable = 17
- Wireless_Other = 18
- Wireless_IEEE_802_11 = 19

- Token_Ring = 20
- FDDI = 21
- Wireless_CDMA2000 = 22
- Wireless_UMTS = 23
- HRPD = 24
- IAPP = 25
- FTTP = 26
- Wireless_IEEE_802_16 = 27
- Wireless_IEEE_802_20 = 28
- Wireless_IEEE_802_22 = 29
- Wireless_XGP = 36
- Wireless_DHCP = 41

Length 4

Type 61

Vendor ID N/A

VSA Type N/A

Paging-Grid-Id

Syntax Opaque Value

Length 12

Type 26

Vendor ID 9

VSA Type 119

PMIP6-RK-KEY

The PMIP6-RK-KEY sent by the RADIUS Server to the ASN and hCSN LMA for PMIP6. It is used to calculate the individual LMA-MAG key being the base for PBU and PBA messages protection through mobility authentication options.

Syntax Opaque Value

Length 1-251

Type 26

Vendor ID 24757

VSA Type 131

PMIP6-RK-SPI

The SPI associated with the PMIP6-RK-KEY.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 132

PMIP6-Service-Info

Indicates which PMIPv6 features are supported and enabled on ASN/LMA.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 24757

VSA Type 126

PMIP-Authenticated-Nwk-Id

The real user identifier returned by hAAA after successful authentication.

Syntax Opaque Value

Length 1-246

Type 26

Vendor ID 24757

VSA Type 78

Prepaid-Ind

Syntax Opaque Value

Length 4

Type 226

Vendor ID N/A

VSA Type N/A

Presence

This attribute is used to indicate the availablility of Location based service on HNB.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 9

VSA Type 118

Price-Plan

Opaque 1 byte value received from customer RADIUS server in Access Request. Used in custom dictionary.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 196

Primary-DNS-Server

Same as SN1-Primary-DNS-Server standard attribute; non-standard behavior for use in custom dictionary.

Syntax IPv4 Address

Length 4

Type 135

Vendor ID N/A

VSA Type N/A

Prohibit-Payload-Compression1

Flag to prohibit SGSN from compressing user data on per APN basis.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Allowed = 0
- Prohibited = 1

Length 2

Vendor ID 8164

VSA Type 237

Prohibit-Payload-Compression

Flag to prohibit SGSN from compressing user data on per APN basis.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Allowed = 0
- Prohibited = 1

Length 2

Vendor ID 8164

VSA Type 237

Reject-Cause

This attribute indicates the cause for sending Access-Reject.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 9

VSA Type 116

Reply-Message

This attribute indicates the text to be displayed to a user upon completion of authentication, whether successful or not.

Syntax String

Length 1-253

Type 18

Vendor ID N/A

VSA Type N/A

RRQ-HA-IP

Syntax Opaque Value

Length 4-16

Type 26

Vendor ID 24757

VSA Type 18

RRQ-MN-HA-KEY

MN-HA key computed using RRQ-HA-IP if sent in Access request.

Syntax Opaque Value

Length 1-244

Type 26

Vendor ID 24757

VSA Type 19

Secondary-DNS-Server

Same as SN1-Secondary-DNS-Server standard attribute; non-standard behavior for use in custom dictionary.

Syntax IPv4 Address

Length 4

Type 136

Vendor ID N/A

VSA Type N/A

Selection-Mode

Same as 3GPP-Selection-Mode standard attribute; non-standard behavior for use in custom dictionary.

Syntax Opaque Value

Length 1

Type 229

Vendor ID N/A

VSA Type N/A

Service-Selection

This attribute specifies the service network of UE (APN name).

Syntax Opaque Value

Length 1-253

Type 146

Vendor ID N/A

VSA Type N/A

Service-Type

This attribute identifies the service that the user is attempting to use (Access-Request), or is granted to use (Access-Accept).

Syntax Enumerated Integer. Supports the following value(s):

- Login = 1

- Framed = 2
- Callback_Login = 3
- Callback_Framed = 4
- Outbound = 5
- Administrative = 6
- NAS_Prompt = 7
- Authenticate_Only = 8
- Callback_NAS_Prompt = 9
- Call_Check = 10
- Callback_Administrative = 11
- Voice = 12
- Fax = 13
- Modem_Relay = 14
- IAPP_Register = 15
- IAPP_AP_Check = 16
- Authorize_Only = 17
- Inspector = 19650516
- Security_Admin = 19660618

Length 4

Type 6

Vendor ID N/A

VSA Type N/A

Session-Timeout

This attribute sets the maximum session time in seconds. After this session time expires the chassis will tear down the session.

Syntax Unsigned Integer

Length 4

Type 27

Vendor ID N/A

VSA Type N/A

SGSN-IP-Address

Same as 3GPP-SGSN-Address standard attribute; non-standard behavior for use in custom dictionary.

Syntax IPv4 Address

Length 4

Type 228

Vendor ID N/A

VSA Type N/A

SIP-AOR

This attribute identifies the URI, the use of which must be authenticated and authorized.

Syntax Opaque Value

Length 0-253

Type 122

Vendor ID N/A

VSA Type N/A

SN1-Access-link-IP-Frag

This attribute specifies what to do when data received for the subscriber on the Access link that needs to be fragmented and the DF bit is either set or unset. The default is Normal.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- DF-Ignore = 1
- DF-Fragment-ICMP-Notify = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 63

SN1-Acct-Input-Giga-Dropped

This attribute contains the number of input gigawords dropped if the number of input bytes is greater than 2^32 - 1.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 230

SN1-Acct-Input-Octets-Dropped

This attribute contains the number of input bytes dropped.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 228

SN1-Acct-Input-Packets-Dropped

This attribute contains the number of input packets dropped.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 226

SN1-Acct-Output-Giga-Dropped

This attribute contains the number of output gigawords dropped if the number of output bytes is greater than 2^32 - 1.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 231

SN1-Acct-Output-Octets-Dropped

This attribute contains the number of output bytes dropped.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 229

SN1-Acct-Output-Packets-Dropped

This attribute contains the number of output packets dropped.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 227

SN1-Admin-Expiry

This attribute contains the date/time the administrative user account expires. It is an integer value specifying the number of seconds since the UNIX epoch at which time the account will expire.

Syntax Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 72

SN1-Admin-Permission

This attribute indicates the services allowed to be delivered to the administrative user. The attribute value is a bit field, and many algorithms can be specified to indicate that one of these may be chosen by the user.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- CLI = 1
- FTP = 2
- CLI-FTP = 3
- Intercept = 4
- CLI-Intercept = 5
- CLI-Intercept-FTP = 7
- ECS = 8
- CLI-ECS = 9
- CLI-FTP-ECS = 11
- CLI-Intercept-ECS = 13

- CLI-Intercept-FTP-ECS = 15 NoCons = 16
- CLI-NoCons = 17
- FTP-NoCons = 18
- CLI-FTP-NoCons = 19
- Intercept-NoCons = 20
- CLI-Intercept-NoCons = 21
- CLI-Intercept-FTP-NoCons = 23
- ECS-NoCons = 24
- CLI-ECS-NoCons = 25
- CLI-FTP-ECS-NoCons = 27
- CLI-Intercept-ECS-NoCons = 29
- CLI-Intercept-FTP-ECS-NoCons = 31

Length 4

Type 26

Vendor ID 8164

VSA Type 21

SN1-Assigned-VLAN-ID

The VLAN ID assigned to the subscriber.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 152

SN1-Call-Id

Internal system generated call ID number for the session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 251

SN1-Cause-For-Rec-Closing

This attribute contains a reason for the release of the CDR.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 139

SN1-CFPolicy-ID

This attribute contains the Content Filtering policy ID.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 220

SN1-Change-Condition

This attribute defines the reason for closing the container.

Syntax Enumerated Integer. Supports the following value(s):

- QOSCHANGE = 0
- TARIFFTIMECHANGE = 1
- SGSNCHANGE = 500

Length 4

Type 26

Vendor ID 8164

VSA Type 140

SN1-Charging-VPN-Name

Charging VPN Name.

Syntax String

Length 1-252

Type 26

Vendor ID 8164

VSA Type 137

SN1-Chrg-Char-Selection-Mode

This attribute contains the charging characteristics type that the GSNs applied to the CDR.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 138

SN1-Data-Tunnel-Ignore-DF-Bit

This attribute specifies if the PDSN/FA or HA should ignore the DF bit in the IPv4 header when encapsulating the IPv4 packet in MIP, and therefore fragmenting the resulting tunneled packet if necessary. The default is not to ignore the DF bit.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 49

SN1-DHCP-Lease-Expiry-Policy

This attribute specifies whether to renew or disconnect on expiry of IP address lease time.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- auto-renew = 0
- disconnect = 1

Length 4

Vendor ID 8164

VSA Type 157

SN1-Disconnect-Reason

This attribute contains the reason the user was disconnected from service.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Defined = 0
- Admin-Disconnect = 1
- Remote-Disconnect = 2
- Local-Disconnect = 3
- Disc-No-Resource = 4
- Disc-Excd-Service-Limit = 5
- PPP-LCP-Neg-Failed = 6
- PPP-LCP-No-Response = 7
- PPP-LCP-Loopback = 8
- PPP-LCP-Max-Retry = 9
- PPP-Echo-Failed = 10
- PPP-Auth-Failed = 11
- PPP-Auth-Failed-No-AAA-Resp = 12
- PPP-Auth-No-Response = 13
- PPP-Auth-Max-Retry = 14
- Invalid-AAA-Attr = 15
- Failed-User-Filter = 16
- Failed-Provide-Service = 17
- Invalid-IP-Address-AAA = 18
- Invalid-IP-Pool-AAA = 19
- PPP-IPCP-Neg-Failed = 20
- PPP-IPCP-No-Response = 21
- PPP-IPCP-Max-Retry = 22
- PPP-No-Rem-IP-Address = 23
- Inactivity-Timeout = 24
- Session-Timeout = 25
- Max-Data-Excd = 26
- Invalid-IP-Source-Address = 27
- MSID-Auth-Failed = 28
- MSID-Auth-Failed-No-AAA-Resp = 29
- A11-Max-Retry = 30

- A11-Lifetime-Expired = 31
- A11-Message-Integrity-Failure = 32
- PPP-lcp-remote-disc = 33
- Session-setup-timeout = 34
- PPP-keepalive-failure = 35
- Flow-add-failed = 36
- Call-type-detection-failed = 37
- Wrong-ipcp-params = 38
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- gtpu-path-failure-s4u = 595
- gtpu-path-failure-s12u = 596
- gtpu-err-ind-s5u = 597
- gtpu-err-ind-s1u = 598
- gtpu-err-ind-s4u = 599
- gtpu-err-ind-s12u = 600
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- diameter-network-failure = 602
- diameter-roaming-not-allowed = 603
- diameter-rat-disallowed = 604
- diameter-no-subscription = 605
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- mme-embms-normal-disconnect = 608
- mme-embms-sctp-down = 609
- disconnect-from-charging-server = 610
- disconnect-irat-fail-hi-missing = 611
- apn-not-supported-in-plmn-rat = 612
- ue-pcscf-reselect-not-supported = 613
- newer-session-detected = 614
- mme-guti_realloc_failed-detach = 615
- mme-pcscf-rest-detach = 616
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- gx-vapn-selection-failed = 618
- dup-static-ipv6-addr-req = 619
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- apn-congestion = 621
- ue-redirected = 622
- ePDG-s2b-access-denied = 623
- ePDG-s2b-network-failure = 624
- ePDG-s2b-msg-failure = 625
- ePDG-s2b-rat-disallowed = 626
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- SaMOG-access-switch-timeout = 629
- decrypt-fail-count-exceeded = 630
- emergency-idle-timeout = 631
- gtpu-path-failure-s11u = 632
- gtpu-err-ind-s11u = 633
- mme-gtpu-path-failure-s11u = 634
- mme-gtpu-err-ind-s11u = 635
- ePDG-pcscf-restoration = 636
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- sx-req-rej = 638

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- sx-cond-ie-missing = 641
- sx-msg-invalid-length = 642
- sx-mand-ie-incorrect = 643
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- sx-invld-fteid-alloc-opt = 645
- sx-no-establshd-sx-association = 646
- sx-no-response = 647
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- sx-fteid-ipaddr-type-mismatch = 649
- sx-invalid-response = 650
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- user-plane-info-mismatch = 652
- ikev2-req-rate-exceeded = 653
- mme-decor-call-rerouted = 654
- mme-decor-call-rejected = 655
- origin-state-id-change = 656
- mme-ducon-path-update-failed = 657
- diam-no-non-3gpp-subscription = 658
- diameter-user-unknown = 659
- diameter-illegal-equipment = 660
- epdg-invalid-imei = 661
- sx-path-failure = 662
- sxfail-opr-revert-info = 663
- sxfail-opr-get-usagereport = 664
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- smp-fp-ambr-oper-failure = 669
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- smp-fp-brr-strm-chrgng-op-fail = 671
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- smp-fp-strm-chrg-oper-failure = 673
- vpp-next-hop-failure = 674
- graceful-cleanup-up-audit-fail = 675
- sx-max-trans-threshold-reached = 676
- sx-db-ub-collision = 677
- sx-failure-ntsr = 678
- graceful-term-up-self-protectn = 679

Length 4

Type 26

Vendor ID 8164

VSA Type 3

SN1-DNS-Proxy-Intercept-List

DNS proxy list.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 214

SN1-DNS-Proxy-Use-Subscr-Addr

This attribute is used to convey whether to use the subscriber's address as the source address for DNS Proxy.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 25

SN1-Dynamic-Addr-Alloc-Ind-Flag

This attribute indicates that the PDP address has been dramatically allocated for that particular PDP context. This field is missing if the address is static (e.g., part of the PDP context subscription). Dynamic address allocation might be relevant for charging (e.g., the duration of PDP context as one resource offered and possibly owned by the network operator).

Syntax Opaque Value

Length 1

Type 26

Vendor ID 8164

VSA Type 141

SN1-Ecs-Data-Volume

Compound attribute indicating downlink and uplink octet usage for a PDP context per rating group.

Type 26

Vendor ID 8164

VSA Type 176

Syntax Compound. Contains the following sub-attribute(s).

Rating-Group-ID

Rating-Group-ID for which the WiMAX PPAQ is allocated or reported.

Syntax Unsigned Integer

Length 4

Type 11

GPRS-Uplink

Uplink octet usage for a PDP context per rating group.

Syntax Unsigned Integer

Length 4

Type 2

GPRS-Downlink

Downlink octet usage for a PDP context per rating group.

Syntax Unsigned Integer

Length 4

Type 3

SN1-Enable-QoS-Renegotiation

This attribute configures the enabling of dynamic QoS renegotiation.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 144

SN1-Ext-Inline-Srvr-Context

This attribute configures the context name in which the External In-line server resides. The value is an ASCII string naming the In-line Server Context.

Syntax String

Length 1-247

Type 26

Vendor ID 8164

VSA Type 41

SN1-Ext-Inline-Srvr-Down-Addr

This attribute configures the IP address of the Downstream External In-line server to forward VLAN-tagged packets to. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 56

SN1-Ext-Inline-Srvr-Down-VLAN

This attribute configures the IP address of the downstream external in-line server to forward VLAN-tagged packets to. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 59

SN1-Ext-Inline-Srvr-Preference

This attribute configures the preference for the tagged group of External In-line Servers. This attribute is required, although it doesn't actually assign a preference right now. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 57

SN1-Ext-Inline-Srvr-Up-Addr

This attribute configures the IP address of the Upstream External In-line server to forward VLAN-tagged packets to. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 55

SN1-Ext-Inline-Srvr-Up-VLAN

This attribute configures the VLAN tag to be applied to Upstream packets and forwarded to the External In-line server. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 58

SN1-Firewall-Enabled

Firewall for subscriber enabled.

Syntax Enumerated Integer. Supports the following value(s):

- False = 0

- True = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 198

SN1-FMC-Location

MAC address and CDMA location information.

Syntax String

Length 1-247

Type 26

Vendor ID 8164

VSA Type 171

SN1-GGSN-MIP-Required

This attribute specifies if MIP is required for the GGSN subscriber.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 68

SN1-Gratuitous-ARP-Aggressive

This attribute specifies whether to generate a gratuitous ARP message whenever a MIP handoff or re-registration occurs. A non-zero of this attribute also configures the mode of operation when sending the gratuitous ARP, although only one mode (Aggressive) is supported at this time.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 54

SN1-GTP-Version

This attribute contains the version of GTP the subscriber is using.

Syntax Enumerated Integer. Supports the following value(s):

- GTP_VERSION_0 = 0
- GTP_VERSION_1 = 1
- GTP_VERSION_2 = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 62

SN1-HA-Send-DNS-Address

This attribute specifies if the HA should send the DNS address in the Mobile IP RRP message. The default is not to send the DSN Address.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 47

SN1-Home-Behavior

This attribute specifies the configuration for the behavior bits settings for a home subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 119

SN1-Home-Profile

This attribute specifies the configuration for the profile bits settings for a home subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 109

SN1-Home-Sub-Use-GGSN

This attribute configures GGSN to accept GGSN's charging characteristics for home subscribers defined for the APN.

Syntax Enumerated Integer. Supports the following value(s):

- Deny = 0
- Accept = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 106

SN1-Ignore-Unknown-HA-Addr-Err

Value of 1 enables HA to ignore unknown HA address error for incoming RRQ.

Type 26

Syntax Unsigned Integer

Length 1

Vendor ID 8164

VSA Type 160

SN1-IMS-AM-Address

IMS application manager address.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 167

SN1-IMS-AM-Domain-Name

IMS application manager domain name.

Syntax String

Length 1-64

Type 26

Vendor ID 8164

VSA Type 168

SN1-IMSI

This is the IMSI that identifies the mobile subscriber.

Syntax Opaque Value

Length 1-8

Type 26

Vendor ID 8164

VSA Type 252

SN1-Inactivity-Time

This attribute contains the inactivity time duration for a subscriber session under long time duration timer configuration.

Syntax Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 232

SN1-Interim-Event

Syntax Enumerated Integer. Supports the following value(s):

- QoS-Change = 1
- RAT-Change = 2

Length 1

Type 26

Vendor ID 8164

VSA Type 241

SN1-Internal-SM-Index

GGSN charging service. For internal use.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 122

SN1-IP-Alloc-Method

This attribute specifies the method for allocating an IP address. This feature only applies to the GGSN Service.

Syntax Enumerated Integer. Supports the following value(s):

- Alloc_Local_Pool = 0
- Alloc_Dhcp_Client = 1
- Alloc_Radius = 2
- Alloc_No_Alloc = 3
- Alloc_Static_Alloc = 4
- Alloc_Dhcp_Relay = 5

Length 4

Type 26

Vendor ID 8164

VSA Type 53

SN1-IP-Filter-In

This attribute is deprecated. To select an IP access list that is already defined in the destination context, use the IETF standard Filter-Id attribute. The filter ID is used to identify the IP access list by name.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 10

SN1-IP-Filter-Out

This attribute is deprecated. To select an IP access list that is already defined in the destination context, use the IETF standard Filter-Id attribute. The filter ID is used to identify the IP access list by name.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 11

SN1-IP-Header-Compression

Specifies the IP header compression method to use.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- VJ = 1
- ROHC = 2
- VJ_ROHC = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 150

SN1-IP-Hide-Service-Address

This attribute prevents the IP address bound to a call service from responding to ping and IMCP error packets.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 60

SN1-IP-In-ACL

This attribute contains a definition for one Input IP Access Control List, which is used to filter the IP packets coming from the user. Note that more than one of these attributes can be included, in which case they are processed in the order in which they appear in the RADIUS Access-Accept.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 17

SN1-IP-In-Plcy-Grp

This attribute specifies the name of the policy group config applied in the uplink direction.

Syntax String

Length 1-15

Type 26

Vendor ID 8164

VSA Type 193

SN1-IP-Out-ACL

This attribute contains a definition for one Output IP Access Control List, which is used to filter the IP packets sent to the user. Note that more than one of these attributes can be included, in which case they are processed in the order in which they appear in the RADIUS Access-Accept.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 18

SN1-IP-Out-Plcy-Grp

This attribute specifies the name of the policy group config applied in the downlink direction.

Syntax String

Length 1-15

Type 26

Vendor ID 8164

VSA Type 194

SN1-IP-Pool-Name

This attribute contains the name of the IP pool, configured on the chassis, from which an IP address should be chosen for the user.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 8

SN1-IP-Source-Validation

This attribute indicates if the source IP address should be validated before forwarding the IP packet.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 14

SN1-IP-Source-Violate-No-Acct

This attribute excludes the Source Violated IP packets and byte counts when reporting the Octet and Packet count in an accounting message.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 196

SN1-IP-Src-Valid-Drop-Limit

Maximum number of packet drops entertained before disconnecting the session for source violated packets for the session

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 110

SN1-IPv6-DNS-Proxy

IPV6 DNS Proxy Enabled or Disabled Setting for the session.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 126

SN1-IPv6-Egress-Filtering

This attribute enables egress filtering to make sure that packets being sent to the mobile device have an interface ID that matches that of the mobile device. This feature is meant to protect the Mobile from receiving unwanted packets from the Internet.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 103

SN1-IPv6-Min-Link-MTU

SN1-IPv6-Min-Link-MTU

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 136

SN1-IPv6-num-rtr-advt

This attribute contains the IPv6 number of Initial Router Advertisements. Default value is 3.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 97

SN1-IPv6-Primary-DNS

This attribute specifies a Primary DNS server address that the Router Advertisement message sent by the PDSN will include.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 8164

VSA Type 101

SN1-IPv6-rtr-advt-interval

This attribute contains the IPv6 Initial Router Advertisement Interval, specified in milliseconds. The default value is 3000.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 96

SN1-IPv6-Secondary-DNS

This attribute specifies a Secondary DNS server address that the Router Advertisement message sent by the PDSN will include.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 8164

VSA Type 102

SN1-IPv6-Sec-Pool

This attribute contains the IPv6 secondary pool name.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 124

SN1-IPv6-Sec-Prefix

IPv6 Secondary Pool name prefix.

Syntax Opaque Value

Length 2-18

Type 26

Vendor ID 8164

VSA Type 125

SN1-L3-to-L2-Tun-Addr-Policy

This attribute specifies the address allocation policy.

Syntax Enumerated Integer. Supports the following value(s):

- no-local-alloc-validate = 0
- local-alloc = 1
- local-alloc-validate = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 43

SN1-LI-Dest-Address

This attribute specifies the Authorized Destination-IP/Port to which LI packets could be forwarded.

Type 26

Vendor ID 8164

VSA Type 240

Syntax Compound. Contains the following sub-attribute(s).

Length 0-16

SN1-LI-Dest-IP

This attribute specifies the authorized Destination IP to which LI packets could be forwarded.

Syntax IPv4 Address

Length 4

Type 1

SN1-LI-Dest-Port

This attribute specifies the authorized Destination Port to which LI packets could be forwarded.

Syntax Unsigned Integer

Length 2

Type 2

SN1-Local-IP-Address

This attribute contains the IP address of the local interface on the chassis for the user's session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 13

SN1-Long-Duration-Action

This attribute specifies the action to take place when the long duration timeout expires for a subscriber session.

Syntax Enumerated Integer. Supports the following value(s):

- Detection = 1
- Disconnection = 2
- Dormant-Only-Disconnection = 3
- Dormant-Only-Detection = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 45

SN1-Long-Duration-Notification

Long Duration Notification.

Syntax Enumerated Integer. Supports the following value(s):

- Suppress = 0

- Send = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 253

SN1-Long-Duration-Timeout

This attribute is used to detect and if necessary disconnect sessions connected to the PDSN. This attribute configures the time period before either alerting the administrator or disconnecting the subscriber.

Syntax Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 44

SN1-Mediation-Acct-Rsp-Action

When this attribute is set to None, there is no action taken while waiting for a response for the accounting start message from the Mediation Accounting server. When this attribute is set to No-Early-PDUs the system buffers all packets from the user (uplink) until a response for the accounting start message is received from the Mediation Accounting server. When set to Delay_GTP_Response, the system does not send a GTP create PDP response to the GGSN until a response for the accounting start message is received from the Mediation Accounting server. If the attribute is not present in Access-Accept message or if the attribute value is invalid, the value "None" is assumed.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- No_Early_PDUs = 1
- Delay_GTP_Response = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 105

SN1-Mediation-Enabled

This attribute indicates whether the Mediation Accounting configuration is enabled or disabled for GGSN.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0

- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 123

SN1-Mediation-No-Interims

This attribute is used to disable or enable Mediation Interim Accounting Records for the session.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 146

SN1-Mediation-VPN-Name

This attribute specifies the Mediation Context name for the session.

Syntax String

Length 1-128

Type 26

Vendor ID 8164

VSA Type 104

SN1-Min-Compress-Size

This attribute contains the minimum size (in octets) a data packet can have in order to be compressed.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 23

SN1-MIP-AAA-Assign-Addr

This attribute specifies if the PDSN/FA will allow AAA to assign the home address. The default is to not allow AAA to assign the home address.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 50

SN1-MIP-ANCID

Accounting correlation ID created by IPGW, received by VBM and HBM.

Syntax Opaque Value

Length 12

Type 26

Vendor ID 8164

VSA Type 166

SN1-MIP-Dual-Anchor

Enable/disable dual-anchor service for a subscriber.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 165

SN1-MIP-HA-Assignment-Table

MIP-HA Assignment Table name. When this is received in an Access-Accept message, the system uses this local table to get the HA Address.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 154

SN1-MIP-Match-AAA-Assign-Addr

This attribute specifies if the PDSN/FA will enforce that a non-zero AAA-specified home address must match the home address present in the MIP RRQ from the mobile node, and disconnect the subscriber session if a match is not present. The default is not to force the addresses to match.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 51

SN1-MIP-MIN-Reg-Lifetime-Realm

This attribute configures the minimum MIP registration lifetime for a subscriber/realm.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 12

SN1-MIP-Reg-Lifetime-Realm

Configure the maximum MIP registration lifetime for a subscriber/realm.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 175

SN1-MIP-Send-Ancid

AAA attribute to enable/disable sending ANCID from FA to HA in MIP RRQ.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 163

SN1-MIP-Send-Correlation-Info

This attribute enables/disables sending of correlation-id from FA to HA in MIP RRQ.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- NVSE_Starent = 1
- NVSE_CUstom1 = 2
- NVSE_Custom2 = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 188

SN1-MIP-Send-Imsi

Attribute to enable/disable sending IMSI from FA to HA in MIP RRQ.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- NVSE_Starent = 1
- NVSE_Custom1 = 2
- NVSE_Custom2 = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 164

SN1-MIP-Send-Term-Verification

This attribute specifies whether the PDSN/FA should send the Terminal Verification Normal Vendor/Organization Specific Extension (NVSE) in the Mobile IP RRQ message to the HA. The default is not to send the Terminal Verification NVSE.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- NVSE_Custom1 = 1
- NVSE_Custom2 = 2
- NVSE_Starent = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 48

SN1-MN-HA-Hash-Algorithm

This attribute contains the hash algorithm to use for MN-HA authentication.

Syntax Enumerated Integer. Supports the following value(s):

- MD5 = 1
- MD5-RFC2002 = 2
- HMAC-MD5 = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 99

SN1-MN-HA-Timestamp-Tolerance

This attribute contains the duration of timestamp tolerance, in seconds, to use for MN-HA authentication.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 30

SN1-MS-ISDN

SN1-MS-ISDN.

Syntax Opaque Value

Length 1-9

Type 26

Vendor ID 8164

VSA Type 248

SN1-NAI-Construction-Domain

This attribute specifies the domain name to use when constructing the NAI.

Syntax String

Length 1-247

Type 26

Vendor ID 8164

VSA Type 37

SN1-NAT-Bind-Record

This attribute contains the NAT Binding Record.

Type 26

Vendor ID 8164

VSA Type 216

Syntax Compound. Contains the following sub-attribute(s).

NAT-IP-Address

NAT IP address.

Syntax IPv4 Address

Length 4

Type 1

NAT-Port-Block-Start

Start port of the port chunk

Syntax Unsigned Integer

Length 2

Type 2

NAT-Port-Block-End

End port of the port chunk.

Syntax Unsigned Integer

Length 2

Type 3

Alloc-Flag

Port chunk status. Accepted Values are 0(De-Allocated) and 1(Allocated).

Syntax Unsigned Integer

Length 1

Type 4

Correlation-Id

Correlation ID.

Syntax String

Length 1-253

Type 5

Loading-Factor

Indicates maximum number of users per NAT IP address.

Syntax Unsigned Integer

Length 2

Type 6

Binding-Timer

Port chunk hold timer.

Syntax Unsigned Integer

Length 4

Type 7

SN1-NAT-Info-Record

NAT-Record-Info.

Type 26

Vendor ID 8164

VSA Type 246

Syntax Compound. Contains the following sub-attribute(s).

Framed-IP-Address

Framed IP address.

Syntax IPv4 Address

Length 4

Type 1

NAT-IP-Address

NAT IP address.

Syntax IPv4 Address

Length 4

Type 2

NAT-Port-Block-Start

Start port of the port chunk

Syntax Unsigned Integer

Length 2

Type 3

NAT-Port-Block-End

End port of the port chunk.

Syntax Unsigned Integer

Length 2

Type 4

Acct-Session-Id

Accounting Session ID.

Syntax String

Length 1-17

Type 5

User-Name

User name.

Syntax String

Length 1-128

Type 6

Correlation-Id

Correlation ID.

Syntax String

Length 1-17

Type 7

Calling-Station-Id

This attribute indicates the MSISDN/Calling station ID.

Syntax String

Length 1-16

Type 8

3GPP-Charging-Id

This attribute specifies the 3GPP Charging Identifier.

Syntax Unsigned Integer

Length 4

Type 9

SN1-NAT-IP-Address-Old

Public IP address used for the call

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 0

SN1-NAT-IP-Address

This attribute includes the NAT (public) IP address used for the call.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 217

SN1-NAT-Port

This attribute specifies the port used along with NAT-IP for N:1 case.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 8164

VSA Type 179

SN1-NPU-Qos-Priority

This attribute configures Inter-Subscriber priority Queueing based on class of service offered. Gold has highest priority and Best_effort lowest priority. From DSCP, means the priority queueing will be done based on the DSCP marking the incoming subscriber packet carries.

Syntax Enumerated Integer. Supports the following value(s):

- Best_Effort = 0
- Bronze = 1
- Silver = 2
- Gold = 3
- From_DSCP = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 98

SN1-Ntk-Initiated-Ctx-Ind-Flag

This attribute indicates that the PDP context is network initiated. The attribute is missing for a mobile activated PDP context.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 8164

VSA Type 142

SN1-Ntk-Session-Disconnect-Flag

SN1-Ntk-Session-Disconnect-Flag.

Syntax Enumerated Integer. Supports the following value(s):

- Session-Disconnect = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 143

SN1-Nw-Reachability-Server-Name

This attribute specifies the name of a network reachability server (defined in the destination context of the subscriber) that must respond as reachable, or the user is be redirected.

Syntax String

Length 1-16

Type 26

Vendor ID 8164

VSA Type 65

SN1-Overload-Disc-Connect-Time

Provides the connect time for a session. When this time expires, the session may become a candidate for disconnection.

Syntax Uint32

Type 26

Vendor ID 8164

VSA Type 233

SN1-Overload-Disc-Inact-Time

Provides inactivity time for a session after which it may become candidate for disconnection.

Syntax Uint32

Type 26

Vendor ID 8164

VSA Type 234

SN1-Overload-Disconnect

Enables/disables the overload-disconnect feature (if 1) and disables if 0

Syntax Uint32

Type 26

Vendor ID 8164

VSA Type 235

SN1-PDIF-MIP-Release-TIA

PDIF mobile IP release TIA.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 172

SN1-PDIF-MIP-Required

PDIF mobile IP required.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 170

SN1-PDIF-MIP-Simple-IP-Fallback

PDIF mobile IP simple IP fallback.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 173

SN1-PDSN-Correlation-Id

Correlation ID received from PDSN to HA.

Syntax Opaque Value

Length 8

Type 26

Vendor ID 8164

VSA Type 189

SN1-PDSN-Handoff-Req-IP-Addr

This attribute specifies if the PDSN should reject and terminate the subscriber session when the proposed address in IPCP by the mobile does not match the existing address in the PDSN. The default (Disabled) is not to reject these sessions.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 46

SN1-PDSN-NAS-Id

NAS Identifier received from PDSN to HA.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 190

SN1-PDSN-NAS-IP-Address

NAS IP address received from PDSN to HA.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 191

SN1-Permit-User-Mcast-PDUs

Specifies whether or not to let the subscriber discard multicast PDUs.

Syntax Enumerated Integer. Supports the following value(s):

- disabled = 0
- enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 134

SN1-PPP-Accept-Peer-v6lfid

This attribute indicates the acceptance of the interface ID provided by peer during PPP IPv6CP if the ID is valid. The default is disabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 95

SN1-PPP-Always-On-Vse

SN1-PPP-Always-On-Vse.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 130

SN1-PPP-Data-Compression-Mode

This attribute indicates the PPP data compression mode to use for the PPP session when PPP data compression is used.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Stateless = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 19

SN1-PPP-Data-Compression

This attribute indicates the PPP data compression algorithm to use for the PPP session. The attribute value is a bit field, and many algorithms can be specified to indicate that one of these may be chosen by the user.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Stac-LZS = 1
- MPPC = 2
- Deflate = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 9

SN1-PPP-Keepalive

This attribute indicates the interval for the PPP keepalive, in seconds.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 16

SN1-PPP-NW-Layer-IPv4

This attribute indicates the PPP IPCP negotiation for IPv4. The default is enabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1
- Passive = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 92

SN1-PPP-NW-Layer-IPv6

This attribute indicates the PPP IPv6CP negotiation for IPv6. The default is enabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1
- Passive = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 93

SN1-PPP-Outbound-Password

This attribute indicates the password to be used when the user side of the PPP connection requires authentication.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 15

SN1-PPP-Outbound-Username

This attribute indicates the username to be used when the user side of the PPP connection requires authentication.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 61

SN1-PPP-Progress-Code

This attribute provides information about the "state" of the PPP connection, when the connection was terminated.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Defined = 0
- Call-Lcp-Down = 10
- Call-Disconnecting = 20
- Call-Ppp-Renegotiating = 30
- Call-Arrived = 40
- Call-Pdg-Tcp-Connecting = 45
- Call-Pdg-Ssl-Connecting = 46
- Call-Lcp-Up = 50
- Call-Authenticating = 60
- Call-Bcmcs-Authenticating = 70
- Call-Authenticated = 80
- Call-Tunnel-Connecting = 85
- Call-Ipcp-Up = 90
- Call-Imsa-Authorizing = 95
- Call-Imsa-Authorized = 97
- Call-MBMS-UE-Authorizing = 98
- Call-MBMS-Bearer-Authorizing = 99
- Call-Simple-IP-Connected = 100
- Call-Mobile-IP-Connected = 110
- Call-Tunnel-Connected = 115
- Call-Pdp-Type-IP-Connected = 120
- Call-Pdp-Type-IPv6-Connected = 125
- Call-Pdp-Type-PPP-Connected = 130

- Call-GTP-Connecting = 131
- Call-GTP-Connected = 132
- Call-Proxy-Mobile-IP-Connected = 140
- Call-Pdg-Ssl-Connected = 141
- Call-Pdg-Connected = 142
- Call-Ipsg-Connected = 145
- Call-Bcmcs-Connected = 150
- Call-MBMS-UE-Connected = 155
- Call-MBMS-Bearer-Connected = 156
- Call-Pending-Addr-From-DHCP = 160
- Call-Got-Addr-From-DHCP = 170
- Call-HA-IPSEC-Tunnel-Connecting = 180
- Call-HA-IPSEC-Connected = 190
- Call-ASN-Non-Anchor-Connected = 200
- Call-ASNPC-Connected = 210 Call-Mobile-IPv6-Connected = 220
- Call-PMIPv6-Connected = 221
- Call-PHSPC-Connected = 230
- Call-GTP-IPv4-Connected = 235
- Call-GTP-IPv6-Connected = 236
- Call-GTP-IPv4-IPv6-Connected = 237
- Call-SGW-Connected = 245
- Call-MME-Attached = 246
- Call-Auth-Only-Connected = 247

Length 4

Type 26

Vendor ID 8164

VSA Type 4

SN1-PPP-Reneg-Disc

PPP remote reneg disconnect policy.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Never = 0
- Always = 1
- NAI_Prefix_MSID_Mismatch = 2

Length 4

Vendor ID 8164

VSA Type 187

SN1-Prepaid-Compressed-Count

This attribute indicates if a Pre-paid subscriber's byte usage should be counted on the basis of compressed or uncompressed byte data over the subscriber's PPP connection to the system. If not present, the default is to count uncompressed byte data.

Syntax Enumerated Integer. Supports the following value(s):

- Uncompressed = 0
- Compressed = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 31

SN1-Prepaid-Final-Duration-Alg

For prepaid, final duration is calculated based on the algorithm specified by the value of this attribute.

Syntax Enumerated Integer. Supports the following value(s):

- current_time = 0
- last-user-layer3-activity-time = 1
- last-airlink-activity-time = 2
- last-airlink-activity-time-last-reported = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 135

SN1-Prepaid-Inbound-Octets

In an Access-Accept, this indicates how many additional inbound (bytes delivered to the subscriber) byte credits should be granted to the subscriber. In an Accounting- Request, this indicates how many total inbound

byte credits have been granted to the subscriber. When this attribute is not present in the Access-Accept, then pre-paid usage checking is disabled on an inbound octet basis.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 32

SN1-Prepaid-Outbound-Octets

SN1-Prepaid-Outbound-Octets.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 33

SN1-Prepaid-Preference

This attribute specifies whether prepaid is volume based or duration based.

Syntax Enumerated Integer. Supports the following value(s):

- prepaid_duration = 0
- prepaid_volume = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 129

SN1-Prepaid-Profile

Do not do prepaid, regardless of the Rulebase configuration.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Use-Rulebase-Config = 0
- Prohibit = 1

Length 4

Vendor ID 8164

VSA Type 155

SN1-Prepaid-Timeout

This attribute indicates how much time may elapse before a new request for more pre-paid credits is issued. If the specified time has elapsed since the prior grant of credits was received from the RADIUS server, then a new request for credits is issued. This attribute is primarily used to periodically update the subscriber of new credits issued since the subscriber was connected. Note that credit requests will still be made on behalf of the subscriber when the subscriber drops down to the low watermark of credits (or zero if there is no low watermark). The presence or absence of this attribute does not affect that mechanism in any way. However, this timer is re-set whenever any grant of credits is received on behalf of the subscriber, regardless of why the grant of credits was requested.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 35

SN1-Prepaid

Prepaid.

Syntax Enumerated Integer. Supports the following value(s):

- no_prepaid = 0
- custom_prepaid = 1
- standard_prepaid = 2
- wimax_prepaid = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 128

SN1-Prepaid-Total-Octets

In an Access-Accept, this attribute indicates how many additional byte credits (combining both inbound and outbound counts) should be granted to the subscriber. In an Accounting-Request, this indicates how many total bytes credits (combined inbound and outbound) have been granted to the subscriber. When this attribute is not present in the Access-Accept, then pre-paid usage checking is disabled on a combined inbound and outbound octet-count basis.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 34

SN1-Prepaid-Watermark

This attribute Indicates the percentage of remaining granted credits that will trigger a new request to grant credits from the RADIUS server. For example, if 1GB of credits was granted to a user, and the value of SN-Prepaid-Watermark was 10, then when 100 MB of credits are remaining (900 MB have been used) to the subscriber, a new request for any new byte credits is issued on behalf of the subscriber. Note that when calculating the pre-paid low watermark, the total credits granted for the subscriber's entire session is used.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 36

SN1-Primary-DCCA-Peer

This attribute indicates the name of the primary DCCA peer and primary DCCA realm.

Syntax String

Length 1-192

Type 26

Vendor ID 8164

VSA Type 223

SN1-Primary-DNS-Server

This attribute indicates the IP address of the primary DNS server that should be used for the session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 5

SN1-Primary-NBNS-Server

Primary NBNS Server IP address.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 148

SN1-Proxy-MIP

This attribute specifies if the PDSN/FA will perform compulsory Proxy-MIP tunneling for a Simple-IP PDSN subscriber. This feature is licensed. The default is not to perform compulsory Proxy-MIP.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 52

SN1-QoS-Background-Class

This attribute defines the QOS Background Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 91

SN1-QoS-Class-Background-PHB

SN1-QoS-Class-Background-PHB

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20

- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 10415

VSA Type 113

SN1-QoS-Class-Converstional-PHB

SN1-QoS-Class-Converstional-PHB.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 10415

VSA Type 111

SN1-QoS-Class-Interactive-1-PHB

SN1-QoS-Class-Interactive-1-PHB

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 10415

VSA Type 114

SN1-QoS-Class-Interactive-2-PHB

SN1-QoS-Class-Interactive-2-PHB

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10

- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 10415

VSA Type 115

SN1-QoS-Class-Interactive-3-PHB

SN1-QoS-Class-Interactive-3-PHB

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34

- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 10415

VSA Type 116

SN1-QoS-Class-Streaming-PHB

SN1-QoS-Class-Streaming-PHB

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 10415

VSA Type 112

SN1-QoS-Conversation-Class

This attribute defines the QOS Conversation Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 86

SN1-QoS-Interactive1-Class

This attribute defines the QOS Interactive Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 88

SN1-QoS-Interactive2-Class

This attribute defines the QOS Interactive2 Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 89

SN1-QoS-Interactive3-Class

This attribute defines the QOS Interactive3 Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 90

SN1-QoS-Negotiated

Negotiated QoS for GGSN sessions.

Syntax Opaque Value

Length 4-28

Type 26

Vendor ID 8164

VSA Type 147

SN1-QoS-Renegotiation-Timeout

This attribute configures the timeout duration of dampening time for dynamic QoS renegotiation.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 145

SN1-QoS-Streaming-Class

This attribute defines the QOS Streaming Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 87

SN1-QoS-Tp-Dnlk

This attribute enables/disables Traffic Policing/Shaping in downlink direction.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Policing = 1
- Shaping = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 73

SN1-QoS-Tp-Uplk

This attribute enables/disables Traffic Policing/Shaping in uplink direction.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Policing = 1
- Shaping = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 79

SN1-QoS-Traffic-Policy

This compound attribute simplifies sending QoS values for Traffic Class, Direction, Burst-Size, Committed-Data-Rate, Peak-Data-Rate, Exceed-Action, and Violate-Action from the RADIUS server. When the SN1-QoS-Traffic-Policy attribute is sent along with the Acct-Session-ID attribute, the system matches the particular PtDP context, and applies the new policy and retains the policy with the subscriber profile for future use. The next time the system sends a CoA request with a new policy and a different Acct-Session-ID for the same subscriber, the previously received policy is also applied to the matching PDP context along with the new policy.

Type 26

Vendor ID 8164

VSA Type 177

Syntax Compound. Contains the following sub-attribute(s).

Direction

Direction of the PDF.

Syntax Unsigned Integer

Length 1

Type 1

Class

Traffic class.

Syntax Unsigned Integer

Length 1

Type 2

Burst-Size

Peak burst size.

Syntax Unsigned Integer

Length 4

Type 3

Committed-Data-Rate

Committed data rate.

Syntax Unsigned Integer

Length 4

Type 4

Peak-Data-Rate

Peak data rate.

Syntax Unsigned Integer

Length 4

Type 5

Exceed-Action

Action to take on packets that exceed the Committed-Data-Rate but do not violate the Peak-Data-Rate.

Syntax Unsigned Integer

Length 1

Type 6

Violate-Action

Violate action.

Syntax Unsigned Integer

Length 1

Type 7

Auto-Readjust-Enabled

Auto-readjust enabled.

Syntax Unsigned Integer

Length 1

Type 8

Auto-Readjust-Duration

Auto-readjust duration.

Syntax Unsigned Integer

Length 4

Type 9

Qci

Available only in 11.0 and later releases. QOS QCI accepted values are 1 (qci 1), 2 (qci 2), 3 (qci 3), 4 (qci 4), 5 (qci 5), 6 (qci 6), 7 (qci 7), 8 (qci 8), 9 (qci 9).

Syntax Unsigned Integer

Length 1

Type 10

SN1-Rad-APN-Name

This attributes specifies the RADIUS returned APN name.

Type 26

Syntax Opaque Value

Length 1-64

Vendor ID 8164

VSA Type 162

SN1-Radius-Returned-Username

This attribute is used to prefer RADIUS returned user name over constructed username in the accounting messages.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Vendor ID 8164

VSA Type 236

SN1-Re-CHAP-Interval

The Periodic CHAP authentication interval for PPP, in seconds.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 7

SN1-Roaming-Behavior

This attribute specifies the configuration for the behavior bits settings for a roaming subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 121

SN1-Roaming-Profile

This attribute specifies the configuration for the profile bits settings for a roaming subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 118

SN1-Roaming-Status

This attribute specifies if the user is in roaming network for HA/LNS calls.

Syntax Enumerated Integer. Supports the following value(s):

- HOME = 0
- ROAMING = 1

Length 1

Type 26

Vendor ID 8164

VSA Type 244

SN1-Roaming-Sub-Use-GGSN

This attribute configures GGSN to accept GGSN's charging characteristics for roaming subscribers defined for the APN.

Syntax Enumerated Integer. Supports the following value(s):

- Deny = 0
- Accept = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 108

SN1-ROHC-Direction

Specifies in which direction to apply Robust Header Compression (ROHC).

Syntax Enumerated Integer. Supports the following value(s):

- Any = 0
- Uplink = 1
- Downlink = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 153

SN1-ROHC-Flow-Marking-Mode

Configure ROHC compression for marked flows only.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- False = 0
- True = 1

Length 4

Vendor ID 8164

VSA Type 195

SN1-ROHC-Mode

Sets the mode of operation for Robust Header Compression for IP.

Syntax Enumerated Integer. Supports the following value(s):

- Reliable = 0

- Optimistic = 1
- Unidirectional = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 151

SN1-ROHC-Profile-Name

Specifies the ROHC profile name to use for the subscriber.

Type 26

Syntax String

Length 1-64

Vendor ID 8164

VSA Type 238

SN1-Routing-Area-Id

For GGSN calls this indicates the Routing Area ID of the subscriber.

Syntax Opaque Value

Length 3

Type 26

Vendor ID 8164

VSA Type 249

SN1-Rulebase

When the session is active charging enabled, Rulebase name will specify one of the pre configured ECSv2 rulebases in active charging subsystem.

Syntax String

Length 1-64

Type 26

Vendor ID 8164

VSA Type 250

SN1-Secondary-DCCA-Peer

This attribute indicates the name of the Secondary DCCA peer and Secondary DCCA realm.

Syntax String

Length 1-192

Type 26

Vendor ID 8164

VSA Type 224

SN1-Secondary-DNS-Server

This attribute indicates the IP address of the secondary DNS server that should be used for the session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 6

SN1-Secondary-NBNS-Server

Secondary NBNS Server IP Address.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 149

SN1-Service-Address

Used to send the bind IP address of the service in RADIUS messages.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 169

SN1-Service-Type

This attribute signifies the type that the user is accessing.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0

- PDSN = 1
- Management = 2
- HA = 3
- GGSN = 4
- LNS = 5
- IPSG = 6
- CSCF = 7
- ASNGW = 8
- PDIF = 9
- STANDALONE_FA = 10
- SGSN = 11
- PHSGW = 12
- EPDG = 13
- MIPV6HA = 14
- PGW = 15
- SGW = 16
- FNG = 17
- MSEG = 18
- HNBGW = 19
- BNG = 20
- WSG = 21
- SAMOG = 22

Length 4

Type 26

Vendor ID 8164

VSA Type 24

SN1-Simultaneous-SIP-MIP

This attribute indicates if a PDSN Subscriber can simultaneously be given Simple IP and Mobile IP service.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 22

SN1-Subs-Acc-Flow-Traffic-Valid

This attribute indicates the subscriber account flow traffic is valid.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Vendor ID 8164

VSA Type 225

SN1-Subscriber-Accounting

This attribute specifically enables or disables subscriber accounting. Note that if enabled, subscriber accounting still needs to be enabled in the subscriber's AAA context for accounting to be performed.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Radius = 1
- GTPP = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 64

SN1-Subscriber-Acct-Interim

This attribute specifies if accounting INTERIM messages are enabled for the subscriber. Note that accounting must also be globally enabled for the subscriber (SN-Subscriber-Accounting), and enabled for the subscriber's AAA context (along with a specific INTERIM interval), if accounting INTERIM messages are to be sent.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Suppress = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 70

SN1-Subscriber-Acct-Mode

SN1-Subscriber-Acct-Mode

Syntax Enumerated Integer. Supports the following value(s):

- flow-based-auxilliary = 0
- flow-based-all = 1
- flow-based-none = 2
- session-based = 3
- main-a10-only = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 192

SN1-Subscriber-Acct-Rsp-Action

When this attribute is set to None, there is no action taken while waiting for a response for the accounting start message from the RADIUS server. When this attribute is set to No-Early-PDUs the system buffers all packets from the user (uplink) until a response for the accounting start message is received from the RADIUS server. When set to Delay_GTP_Response, the system does not send a GTP create response to the GGSN until a response for the accounting start message is received from the RADIUS server.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- No_Early_PDUs = 1
- Delay_GTP_Response = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 100

SN1-Subscriber-Acct-Start

This attribute specifies if accounting START messages are enabled for the subscriber. Note that accounting must also be globally enabled for the subscriber (SN-Subscriber-Accounting), and enabled for the subscriber's AAA context, if accounting START messages are to be sent.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Suppress = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 69

SN1-Subscriber-Acct-Stop

This attribute specifies if accounting STOP messages are enabled for the subscriber. Note that accounting must also be globally enabled for the subscriber (SN-Subscriber-Accounting), and enabled for the subscriber's AAA context, if accounting STOP messages are to be sent.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Suppress = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 71

SN1-Subscriber-Class

Customer-requested attribute for supporting specific behavior for their subscriber billing.

Syntax Enumerated Integer. Supports the following value(s):

- Normal_Subscriber = 0
- Ting_100 = 1
- Ting_500 = 2
- Ting_Buddy = 3
- Ting_Star = 4
- Ting_Nolimit_SMS = 5
- Kids_Locator = 6

- Ting_2000 = 7
- Handicapped_Welfare = 8
- Reserved = 9

Length 4

Type 26

Vendor ID 8164

VSA Type 219

SN1-Subscriber-Dormant-Activity

This attribute specifies whether to treat dormant packets routed to the mobile as activity for idle timeout purposes. The default is Enabled. Disabled means dormant packets routed to the mobile are not treated as activity for idle timeout purposes.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 66

SN1-Subscriber-IP-Hdr-Neg-Mode

This attribute specifies whether to wait for (detect) IP header compression to be requested by the mobile before responding, or not to wait (force). Force is the default.

Syntax Enumerated Integer. Supports the following value(s):

- Force = 0
- Detect = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 67

SN1-Subscriber-IP-TOS-Copy

This attribute enables copying of TOS bits from outer IP headers into inner tunneled IP headers. The default is Both.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Access-Tunnel = 1
- Data-Tunnel = 2
- Both = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 85

SN1-Subscriber-Nexthop-Address

This attribute specifies the nexthop gateway address to be returned by AAA on a per subscriber basis.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 127

SN1-Subscriber-No-Interims

This is a GGSN specific attribute. When set to 0 (disabled) interim accounting is generated. When set to 1 (enabled) interim accounting generation is disabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 133

SN1-Subscriber-Permission

This attribute indicates the services allowed to be delivered to the subscriber. The attribute value is a bit field, and many algorithms can be specified to indicate that one of these may be chosen by the user.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0

- Simple-IP = 1
- Mobile-IP = 2
- Simple-IP-Mobile-IP = 3
- HA-Mobile-IP = 4
- Simple-IP-HA-Mobile-IP = 5
- Mobile-IP-HA-Mobile-IP = 6
- SIP-MIP-HA-MIP = 7
- GGSN-PDP-TYPE-IP = 0x08
- GGSN-PDP-TYPE-PPP = 0x10
- Network-Mobility = 0x20
- FA-HA-NEMO = 0x26
- Pmipv6-interception = 0x40
- HA-Mobile-Pmipv6 = 0x44
- FA-HA-Mobile-Pmipv6 = 0x46
- All = 0x7F

Length 4

Type 26

Vendor ID 8164

VSA Type 20

SN1-Subscriber-Template-Name

RADIUS returned subscriber template.

Type 26

Syntax String

Length 1-127

Vendor ID 8164

VSA Type 158

SN1-Subs-IMSA-Service-Name

IMS Authorization Service name.

Type 26

Syntax String

Length 1-128

Vendor ID 8164

VSA Type 159

SN1-Subs-VJ-Slotid-Cmp-Neg-Mode

Enable/Disable slotid compression in either direction when using VJ compression.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Receive = 1
- Transmit = 2
- Both = 3

Length 4

Vendor ID 8164

VSA Type 221

SN1-Tp-Dnlk-Burst-Size

This attribute specifies the Traffic Policing downlink burst size in bytes.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 76

SN1-Tp-Dnlk-Committed-Data-Rate

This attribute specifies the Traffic Policing downlink committed data rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 74

SN1-Tp-Dnlk-Exceed-Action

This attribute specifies the action to take on Traffic Policing downlink packets that exceed the committed-data-rate but do not violate the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 77

SN1-Tp-Dnlk-Peak-Data-Rate

This attribute specifies the Traffic Policing downlink peak data rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 75

SN1-Tp-Dnlk-Violate-Action

This attribute specifies the action to take on Traffic Policing downlink packets that exceed both the committed-data-rate and the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 78

SN1-Tp-Uplk-Burst-Size

This attribute specifies the Traffic Policing uplink burst size in bytes.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 82

SN1-Tp-Uplk-Committed-Data-Rate

This attribute specifies the Traffic Policing uplink committed data rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 80

SN1-Tp-Uplk-Exceed-Action

This attribute specifies the action to take on Traffic Policing uplink packets that exceed the committed-data-rate but do not violate the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 83

SN1-Tp-Uplk-Peak-Data-Rate

This attribute specifies the Traffic Policing uplink peak data rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 81

SN1-Tp-Uplk-Violate-Action

This attribute specifies the action to take on Traffic Policing uplink packets that exceed both the committed-data-rate and the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 84

SN1-Traffic-Group

This attribute is used to assign a tag to an FA or a group of FAs, so that traffic policy can be enforced based on the tag value.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 8164

VSA Type 161

SN1-Transparent-Data

This attribute is used by RADIUS to provide Global Title information for the GGSN to use in CDRs and Quota Auth.

Syntax Opaque Value

Length 1-247

Type 26

Vendor ID 8164

VSA Type 247

SN1-Tun-Addr-Policy

Describes IP address validation policy for non L2TP tunneled calls.

Syntax Enumerated Integer. Supports the following value(s):

- no-local-alloc-validate = 0
- local-alloc = 1
- local-alloc-validate = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 156

SN1-Tunnel-Gn

Used to enable/disable Gn interface from PDG/TTG to GGSN.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 174

SN1-Tunnel-ISAKMP-Crypto-Map

This attribute specifies the system-defined crypto map to use for the subscriber's Mobile-IP connection, when IPSec is used to protect the Mobile-IP connection. This attribute is salt-encrypted.

Syntax String

Length 1-128

Type 26

Vendor ID 8164

VSA Type 38

SN1-Tunnel-ISAKMP-Secret

This attribute specifies the secret to use for IKE.

Syntax String

Length 1-128

Type 26

Vendor ID 8164

VSA Type 39

SN1-Tunnel-Load-Balancing

Specifies the load-balancing algorithm to use when tunneling is employed.

Syntax Enumerated Integer. Supports the following value(s):

- random = 1
- balanced = 2
- prioritized = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 27

SN1-Tunnel-Password

This attribute contains a secret for tunneling usage. Currently this is only used for L2TP. It is recommended that if your RADIUS server supports salt-encryption of attributes, that you use the Tunnel-Password attribute instead.

Syntax Opaque Value

Length 1-240

Type 26

Vendor ID 8164

VSA Type 26

SN1-Unclassify-List-Name

SN1-Unclassify-List-Name.

Syntax String

Length 1-32

Type 26

Vendor ID 8164

VSA Type 132

SN1-Virtual-APN-Name

This attribute indicates the virtual APN name.

Syntax Opaque Value

Length 1-64

Type 26

Vendor ID 8164

VSA Type 94

SN1-Visiting-Behavior

This attribute specifies the configuration for the behavior bits settings for a visiting subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 120

SN1-Visiting-Profile

This attribute specifies the configuration for the profile bits settings for a visiting subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 117

SN1-Visiting-Sub-Use-GGSN

This attribute configures GGSN to accept GGSN's charging characteristics for visiting subscribers defined for the APN.

Syntax Enumerated Integer. Supports the following value(s):

- Deny = 0
- Accept = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 107

SN1-Voice-Push-List-Name

SN1-Voice-Push-List-Name.

Syntax String

Length 1-32

Type 26

Vendor ID 8164

VSA Type 131

SN1-VPN-ID

This attribute indicates the Destination VPN of the user, specified by a 32-bit identifier.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1

SN1-VPN-Name

This attribute indicates the name of the user's destination VPN.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 2

SN1-VRF-Name

This attribute specifies the IP VRF context to distinguish the RADIUS accounting feeds per enterprise.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 242

SNA1-PPP-Unfr-data-In-Gig

This attribute contains the total number of PPP gigawords without framing sent for the subscriber's session. When combined with the attribute SNA-PPP-Unfr-data-In-Oct, a 64-bit value can be formed which is the total number of PPP octets without framing send for the subscriber's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 202

SNA1-PPP-Unfr-data-In-Oct

This attribute contains the total number of PPP octets without framing sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 200

SNA1-PPP-Unfr-data-Out-Gig

This attribute contains the total number of PPP octets without framing received for the user's session. When combined with the attribute SNA-PPP-Unfr-data-In-Oct, a 64-bit value can be formed which is the total number of PPP octets without framing received for the subscriber's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 203

SNA1-PPP-Unfr-data-Out-Oct

This attribute contains the total number of PPP octets without framing received for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 201

SN-Access-link-IP-Frag

This attribute specifies what to do when data received for the subscriber on the Access link that needs to be fragmented and the DF bit is either set or unset. The default is Normal.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- DF-Ignore = 1
- DF-Fragment-ICMP-Notify = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 63

SN-Acct-Input-Giga-Dropped

This attribute contains the number of input gigawords dropped if the number of input bytes is greater than 2^32 - 1.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 230

SN-Acct-Input-Octets-Dropped

This attribute indicates how many octets received have been dropped in the PPP session. Since the value field is 32 bits, it is possible that the number of octets will exceed the 32-bit field length. If this happens, this attribute will "wrap" back to 0. Each time the "wrap" occurs, the SN-Acct-Input-Giga-Dropped attribute will be incremented.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 228

SN-Acct-Input-Packets-Dropped

This attribute indicates how many PPP packets received have been dropped during the session.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 226

SN-Acct-Output-Giga-Dropped

This attribute contains the number of output gigawords dropped if the number of output bytes is greater than 2^32 - 1.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 231

SN-Acct-Output-Octets-Dropped

This attribute indicates how many octets have been dropped in the PPP session. Since the value field is 32 bits, it is possible that the number of octets will exceed the 32-bit field length. If this happens, this attribute will "wrap" back to 0. Each time the "wrap" occurs, the SN-Acct-Output-Giga-Dropped attribute will be incremented.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 229

SN-Acct-Output-Packets-Dropped

This attribute indicates how many output PPP packets have been dropped during the session.

Type 26

Syntax Unsigned Integer

Length 4

Vendor ID 8164

VSA Type 227

SN-Acs-Credit-Control-Group

This attribute contains the Diameter Credit Control Group name. It is used to send the Credit Control Group name from APN config to the ACS module.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 301

SN-Admin-Expiry

This attribute contains the date/time the administrative user account expires. It is an integer value specifying the number of seconds since the UNIX epoch at which time the account will expire.

Syntax Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 72

SN-Admin-Permission

This attribute indicates the services allowed to be delivered to the administrative user. The attribute value is a bit field, and many algorithms can be specified to indicate that one of these may be chosen by the user.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- CLI = 1
- FTP = 2
- CLI-FTP = 3
- Intercept = 4
- CLI-Intercept = 5
- CLI-Intercept-FTP = 7
- ECS = 8
- CLI-ECS = 9
- CLI-FTP-ECS = 11
- CLI-Intercept-ECS = 13
- CLI-Intercept-FTP-ECS = 15 NoCons = 16

- CLI-NoCons = 17
- FTP-NoCons = 18
- CLI-FTP-NoCons = 19
- Intercept-NoCons = 20
- CLI-Intercept-NoCons = 21
- CLI-Intercept-FTP-NoCons = 23
- ECS-NoCons = 24
- CLI-ECS-NoCons = 25
- CLI-FTP-ECS-NoCons = 27
- CLI-Intercept-ECS-NoCons = 29
- CLI-Intercept-FTP-ECS-NoCons = 31

Length 4

Type 26

Vendor ID 8164

VSA Type 21

SNA-Input-Gigawords

This attribute contains the total number of input gigawords.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 206

SNA-Input-Octets

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 204

SN-ANID

This attribute contains the Access Network ID.

Syntax Opaque Value

Length 10

Type 26

Vendor ID 5535

VSA Type 178

SNA-Output-Gigawords

This attribute contains the total number of output gigawords.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 207

SNA-Output-Octets

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 205

SNA-PPP-Bad-Addr

This attribute contains the total number of frames received with bad address field in the HDLC header field, for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1011

SNA-PPP-Bad-Ctrl

This attribute contains the total number of frames received with bad control field in the HDLC header field, for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1012

SNA-PPP-Bad-FCS

This attribute contains the number of frames received, for the user's PPP session, with bad FCS.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1014

SNA-PPP-Ctrl-Input-Octets

This attribute contains the number of PPP Control Octets received for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1001

SNA-PPP-Ctrl-Input-Packets

This attribute contains the number of PPP Control packets received for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1003

SNA-PPP-Ctrl-Output-Octets

This attribute contains the number of PPP Control Octets sent to the user during the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1002

SNA-PPP-Ctrl-Output-Packets

This attribute contains the number of PPP Control packets sent to the user during the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1004

SNA-PPP-Discards-Input

This attribute contains the number of PPP input frames that were discarded during the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1007

SNA-PPP-Discards-Output

This attribute contains the number of PPP output frames that were discarded during the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1008

SNA-PPP-Echo-Req-Input

This attribute contains the number of LCP echo packets received, for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1015

SNA-PPP-Echo-Req-Output

This attribute contains the number of LCP echo packets sent, for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1016

SNA-PPP-Echo-Rsp-Input

This attribute contains the number of LCP echo response packets received, for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1017

SNA-PPP-Echo-Rsp-Output

This attribute contains the number of LCP echo response packets sent, for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1018

SNA-PPP-Errors-Input

This attribute contains the number of PPP input de-framing errors for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1009

SNA-PPP-Errors-Output

This attribute contains the number of PPP output framing errors for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1010

SNA-PPP-Framed-Input-Octets

This attribute contains the number of PPP octets received (without framing overhead) for the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1005

SNA-PPP-Framed-Output-Octets

This attribute contains the number of PPP octets sent (without framing overhead) to the user during the user's PPP session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1006

SNA-PPP-Packet-Too-Long

This attribute contains the total number of frames received, for the user's PPP session, that exceeds the MTU of the interface.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1013

SNA-PPP-Unfr-data-In-Gig

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 202

SNA-PPP-Unfr-data-In-Oct

This attribute contains the total number of PPP octets without framing sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 200

SNA-PPP-Unfr-data-Out-Gig

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 203

SNA-PPP-Unfr-data-Out-Oct

This attribute contains the total number of PPP octets without framing received for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 201

SNA-RPRAK-Rcvd-Acc-Ack

This attribute contains the total number of A11 registration ACK accepted for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1028

SNA-RPRAK-Rcvd-Mis-ID

This attribute contains the total number of A11 registration ACK messages received with ID-mismatch for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1030

SNA-RPRAK-Rcvd-Msg-Auth-Fail

This attribute contains the total number of message auth failures for A11 registration ACK messages for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1029

SNA-RPRAK-Rcvd-Total

This attribute contains the total number of A11 registration ACK received for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1027

SNA-RP-Reg-Reply-Sent-Acc-Dereg

This attribute contains the number of Accept A11 registration replies sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1033

SNA-RP-Reg-Reply-Sent-Acc-Reg

This attribute contains the number of Accept A11 registration replies sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1032

SNA-RP-Reg-Reply-Sent-Bad-Req

This attribute contains the number of A11 registration replies sent for bad requests for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1034

SNA-RP-Reg-Reply-Sent-Denied

This attribute contains the number of denied A11 registration replies sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1035

SNA-RP-Reg-Reply-Sent-Mis-ID

This attribute contains the number of A11 registration replies sent for mismatched ID for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1036

SNA-RP-Reg-Reply-Sent-Send-Err

This attribute contains the number of A11 registration replies sent with send errors for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1037

SNA-RP-Reg-Reply-Sent-Total

This attribute contains the total number A11 registration replies sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1031

SNA-RP-Reg-Upd-Re-Sent

This attribute contains the total number of A11 registration update re-sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1039

SNA-RP-Reg-Upd-Send-Err

This attribute contains the total number of A11 registration update send errors for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1040

SNA-RP-Reg-Upd-Sent

This attribute contains the total number of A11 registration update sent for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1038

SNA-RPRRQ-Rcvd-Acc-Dereg

This attribute contains the number of A11 De-registration Requests accepted for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1021

SNA-RPRRQ-Rcvd-Acc-Reg

This attribute contains the number of A11 Registration Requests accepted for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1020

SNA-RPRRQ-Rcvd-Badly-Formed

This attribute contains the number of badly formed A11 registration requests received for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1024

SNA-RPRRQ-Rcvd-Mis-ID

This attribute contains the number of A11 registration requests received with ID-mismatch for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1023

SNA-RPRRQ-Rcvd-Msg-Auth-Fail

This attribute contains the number of message authentication failures for A11 registration requests for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1022

SNA-RPRRQ-Rcvd-T-Bit-Not-Set

This attribute contains the number of A11 registration requests received with T-Bit not set for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1026

SNA-RPRRQ-Rcvd-Total

This attribute contains the number of A11 Registration Requests received for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1019

SNA-RPRRQ-Rcvd-VID-Unsupported

This attribute contains the number of A11 registration requests received with an unsupported Vendor ID for the user's session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1025

SN-Assigned-VLAN-ID

This attribute contains the Assigned VLAN ID.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 152

SN-Authorised-Qos

This attribute contains the authorized QoS.

Syntax Authorised-Qos

Type 26

Vendor ID 8164

VSA Type 266

SN-Bandwidth-Policy

This attribute contains the Traffic Policy value.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 300

SN-Call-Id

This attribute contains the Call ID.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 251

SN-Cause-Code

This attribute includes the termination cause code value from IMS node.

Syntax Enumerated Integer. Supports the following value(s):

- Normal_End_Of_Session = 0
- Successful_Transaction = 1
- End_Of_Subscriber_Dialog = 2
- 3XX_Redirection = 3
- 4XX_Request_Failure = 4
- 5XX_Server_Failure = 5
- 6XX_Global_Failure = 6
- Unspecified_Error = 7
- Unsuccessful_Session_Setup = 8
- Internal_Error = 9

Length 4

Type 26

Vendor ID 8164

VSA Type 267

SN-Cause-For-Rec-Closing

This attribute contains the GGSN Specific Record Closing Reason Value.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 139

SN-CBB-Policy

This attribute contains the CBB policy name.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 302

SN-CF-Call-International

This attribute contains enable/disable config for CF call restriction and dialing permission for international calls.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 293

SN-CF-Call-Local

This attribute contains enable/disable config for CF call restriction and dialing permission for local calls.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 291

SN-CF-Call-LongDistance

This attribute contains enable/disable config for CF call restriction and dialing permission for long distance calls.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 292

SN-CF-Call-Premium

This attribute contains enable/disable config for CF call restriction and dialing permission for premium calls.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 294

SN-CF-Call-RoamingInternatnl

This attribute contains enable/disable config for CSCF call restriction and dialing permission - Roaming International call.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 298

SN-CF-Call-Transfer

This attribute contains enable/disable config for CSCF call feature - call transfer.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 285

SN-CF-Call-Waiting

This attribute contains enable/disable config for CSCF call feature - call waiting.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 284

SN-CF-Cld-Display-Blocked

This attribute contains enable/disable config for CSCF call feature - caller ID display blocked.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 283

SN-CF-Cld-Display

This attribute contains enable/disable config for CSCF call feature - caller ID display.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 282

SN-CF-Follow-Me

This attribute contains URIs for CSCF call feature - follow me.

Syntax String

Length 0-255

Type 26

Vendor ID 8164

VSA Type 281

SN-CF-Forward-Busy-Line

This attribute contains URI for CSCF call feature - forward busy line.

Syntax String

Length 0-255

Type 26

Vendor ID 8164

VSA Type 279

SN-CF-Forward-No-Answer

This attribute contains URI for CSCF call feature - forward no answer.

Syntax String

Length 0-255

Type 26

Vendor ID 8164

VSA Type 278

SN-CF-Forward-Not-Regd

This attribute contains URI for CSCF call feature - forward not registered.

Syntax String

Length 0-255

Type 26

Vendor ID 8164

VSA Type 280

SN-CF-Forward-Unconditional

This attribute contains URI for CSCF call feature - forward unconditional.

Syntax String

Length 0-255

Type 26

Vendor ID 8164

VSA Type 277

SN-CFPolicy-ID

This attribute contains the Content Filtering Policy ID.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 220

SN-Change-Condition

The change condition that triggered this record for a GGSN session.

Syntax Enumerated Integer. Supports the following value(s):

- QOSCHANGE = 0
- TARIFFTIMECHANGE = 1
- SGSNCHANGE = 500

Length 4

Type 26

Vendor ID 8164

VSA Type 140

SN-Charging-VPN-Name

The Charging Context Name for GGSN sessions.

Syntax String

Length 1-252

Type 26

Vendor ID 8164

VSA Type 137

SN-Chrg-Char-Selection-Mode

SN-Chrg-Char-Selection-Mode

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 138

SN-Congestion-Mgmt-Policy

This attribute specifies the Congestion Management Policy.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 315

SN-Content-Disposition

This attribute indicates how the SIP message body or a message body part is to be interpreted.

Syntax String

Length 0-128

Type 26

Vendor ID 8164

VSA Type 272

SN-Content-Length

This attribute contains size of the SIP message body.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 271

SN-Content-Type

This attribute contains the media type of the SIP message body.

Syntax String

Length 0-128

Type 26

Vendor ID 8164

VSA Type 270

SN-CR-International-Cid

Carrier ID for routing international calls.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 295

SN-CR-LongDistance-Cid

Carrier ID for routing long distance calls.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 296

SN-CSCF-App-Server-Info

This is a compound attribute and contains information about application servers.

Type 26

Vendor ID 8164

VSA Type 275

Syntax Compound. Contains the following sub-attribute(s).

App-Server

Holds URL of the application server.

Syntax String

Length 1-128

Type 1

AS-Called-Party-Address

Holds the called party addresses determined by the application server.

Syntax String

Length 1-128

Type 2

SN-CSCF-Rf-SDP-Media-Components

This is a compound attribute for IMS SDP media components.

Type 26

Vendor ID 8164

VSA Type 273

Syntax Compound. Contains the following sub-attribute(s).

Media-Name

Name of the media as available in the SDP data.

Syntax String

Length 0-128

Type 1

Media-Description

Holds the attributes of the media as available in the SDP data.

Syntax SDP-Media-Description

Type 2

Authorised-QoS

Holds the 3GPP Authorised QoS string.

Syntax String

Length 0-128

Type 3

3GPP-Charging-Id

This attribute specifies the 3GPP Charging Identifier.

Syntax String

Length 0-253

Type 4

Access-Network-Charging-Identifier-Value

Holds the access network charging identifier value.

Syntax Opaque Value

Length 1-256

Type 5

SN-Cscf-Subscriber-Ip-Address

This attribute contains the IP address of subscriber, used for early IMS authentication procedures.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 287

SN-Customer-ID

This attribute contains the internal Customer-ID.

Syntax Opaque Value

Length 1-32

Type 26

Vendor ID 8164

VSA Type 325

SN-Data-Tunnel-Ignore-DF-Bit

This attribute specifies if the PDSN/FA or HA should ignore the DF bit in the IPv4 header when encapsulating the IPv4 packet in MIP, and therefore fragmenting the resulting tunneled packet if necessary. The default is not to ignore the DF bit.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 49

SN-DHCP-Lease-Expiry-Policy

This attribute specifies whether to renew or disconnect on expiry of IP address lease time.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- auto-renew = 0
- disconnect = 1

Length 4

Vendor ID 8164

VSA Type 157

SN-DHCP-Options

Specific information to be sent from the DHCP server to the client.

Syntax Opaque Value

Length 1-245

Type 26

Vendor ID 8164

VSA Type 309

SN-Direction

ROHC protocol control that specifies in which direction to enable Robust Header Compression (ROHC).

Syntax Enumerated Integer. Supports the following value(s):

- Any = 0
- Uplink = 1
- Downlink = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 153

SN-Disconnect-Reason

This attribute indicates the reason the user was disconnected from service.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Defined = 0
- Admin-Disconnect = 1
- Remote-Disconnect = 2
- Local-Disconnect = 3
- Disc-No-Resource = 4
- Disc-Excd-Service-Limit = 5
- PPP-LCP-Neg-Failed = 6

- PPP-LCP-No-Response = 7
- PPP-LCP-Loopback = 8
- PPP-LCP-Max-Retry = 9
- PPP-Echo-Failed = 10
- PPP-Auth-Failed = 11
- PPP-Auth-Failed-No-AAA-Resp = 12
- PPP-Auth-No-Response = 13
- PPP-Auth-Max-Retry = 14
- Invalid-AAA-Attr = 15
- Failed-User-Filter = 16
- Failed-Provide-Service = 17
- Invalid-IP-Address-AAA = 18
- Invalid-IP-Pool-AAA = 19
- PPP-IPCP-Neg-Failed = 20
- PPP-IPCP-No-Response = 21
- PPP-IPCP-Max-Retry = 22
- PPP-No-Rem-IP-Address = 23
- Inactivity-Timeout = 24
- Session-Timeout = 25
- Max-Data-Excd = 26
- Invalid-IP-Source-Address = 27
- MSID-Auth-Failed = 28
- MSID-Auth-Failed-No-AAA-Resp = 29
- A11-Max-Retry = 30
- A11-Lifetime-Expired = 31
- A11-Message-Integrity-Failure = 32
- PPP-lcp-remote-disc = 33
- Session-setup-timeout = 34
- PPP-keepalive-failure = 35
- Flow-add-failed = 36
- Call-type-detection-failed = 37
- Wrong-ipcp-params = 38

- MIP-remote-dereg = 39
- MIP-lifetime-expiry = 40
- MIP-proto-error = 41
- MIP-auth-failure = 42
- MIP-reg-timeout = 43
- Invalid-dest-context = 44
- Source-context-removed = 45
- Destination-context-removed = 46
- Req-service-addr-unavailable = 47
- Demux-mgr-failed = 48
- Internal-error = 49
- AAA-context-removed = 50
- invalid-service-type = 51
- mip-relay-req-failed = 52
- mip-rcvd-relay-failure = 53
- ppp-restart-inter-pdsn-handoff = 54
- gre-key-mismatch = 55
- invalid_tunnel_context = 56
- no_peer_lns_address = 57
- failed_tunnel_connect = 58
- l2tp-tunnel-disconnect-remote = 59
- l2tp-tunnel-timeout = 60
- l2tp-protocol-error-remote = 61
- l2tp-protocol-error-local = 62
- l2tp-auth-failed-remote = 63
- l2tp-auth-failed-local = 64
- l2tp-try-another-lns-from-remote = 65
- l2tp-no-resource-local = 66
- l2tp-no-resource-remote = 67
- l2tp-tunnel-disconnect-local = 68
- l2tp-admin-disconnect_remote = 69
- l2tpmgr-reached-max-capacity = 70

- MIP-reg-revocation = 71
- path-failure = 72
- dhcp-relay-ip-validation-failed = 73
- gtp-unknown-pdp-addr-or-pdp-type = 74
- gtp-all-dynamic-pdp-addr-occupied = 75
- gtp-no-memory-is-available = 76
- dhcp-relay-static-ip-addr-not-allowed = 77
- dhcp-no-ip-addr-allocated = 78
- dhcp-ip-addr-allocation-tmr-exp = 79
- dhcp-ip-validation-failed = 80
- dhcp-static-addr-not-allowed = 81
- dhcp-ip-addr-not-available-at-present = 82
- dhcp-lease-expired = 83
- lpool-ip-validation-failed = 84
- lpool-static-ip-addr-not-allowed = 85
- static-ip-validation-failed = 86
- static-ip-addr-not-present = 87
- static-ip-addr-not-allowed = 88
- radius-ip-validation-failed = 89
- radius-ip-addr-not-provided = 90
- invalid-ip-addr-from-sgsn = 91
- no-more-sessions-in-aaa = 92
- ggsn-aaa-auth-req-failed = 93
- conflict-in-ip-addr-assignment = 94
- apn-removed = 95
- credits-used-bytes-in = 96
- credits-used-bytes-out = 97
- credits-used-bytes-total = 98
- prepaid-failed = 99
- l2tp-ipsec-tunnel-failure = 100
- l2tp-ipsec-tunnel-disconnected = 101
- mip-ipsec-sa-inactive = 102

- Long-Duration-Timeout = 103
- proxy-mip-registration-failure = 104
- proxy-mip-binding-update = 105
- proxy-mip-inter-pdsn-handoff-require-ip-address = 106
- proxy-mip-inter-pdsn-handoff-mismatched-address = 107
- Local-purge = 108
- failed-update-handoff = 109
- closed_rp-handoff-complete = 110
- closed_rp-duplicate-session = 111
- closed_rp-handoff-session-not-found = 112
- closed_rp-handoff-failed = 113
- pcf-monitor-keep-alive-failed = 114
- call-internal-reject = 115
- call-restarted = 116
- a11-mn-ha-auth-failure = 117
- a11-badly-formed = 118
- a11-t-bit-not-set = 119
- a11-unsupported-vendor-id = 120
- a11-mismatched-id = 121
- mipha-dup-home-addr-req = 122
- mipha-dup-imsi-session = 123
- ha-unreachable = 124
- IPSP-addr-in-use = 125
- mipfa-dup-home-addr-req = 126
- mipha-ip-pool-busyout = 127
- inter-pdsn-handoff = 128
- active-to-dormant = 129
- ppp-renegotiation = 130
- active-start-param-change = 131
- tarrif-boundary = 132
- a11-disconnect-no-active-stop = 133
- nw-reachability-failed-reject = 134

- nw-reachability-failed-redirect = 135
- container-max-exceeded = 136
- static-addr-not-allowed-in-apn = 137
- static-addr-required-by-radius = 138
- static-addr-not-allowed-by-radius = 139
- mip-registration-dropped = 140
- counter-rollover = 141
- constructed-nai-auth-fail = 142
- inter-pdsn-service-optimize-handoff-disabled = 143
- gre-key-collision = 144
- inter-pdsn-service-optimize-handoff-triggered = 145
- intra-pdsn-handoff-triggered = 146
- delayed-abort-timer-expired = 147
- Admin-AAA-disconnect = 148
- Admin-AAA-disconnect-handoff = 149
- PPP-IPV6CP-Neg-Failed = 150
- PPP-IPV6CP-No-Response = 151
- PPP-IPV6CP-Max-Retry = 152
- PPP-Restart-Invalid-source-IPV4-address = 153
- a11-disconnect-handoff-no-active-stop = 154
- call-restarted-inter-pdsn-handoff = 155
- call-restarted-ppp-termination = 156
- mipfa-resource-conflict = 157
- failed-auth-with-charging-svc = 158
- mipha-dup-imsi-session-purge = 159
- mipha-rev-pending-newcall = 160
- volume-quota-reached = 161
- duration-quota-reached = 162
- gtp-user-authentication-failed = 163
- MIP-reg-revocation-no-lcp-term = 164
- MIP-private-ip-no-rev-tunnel = 165
- Invalid-Prepaid-AAA-attr-in-auth-response = 166

- mipha-prepaid-reset-dynamic-newcall = 167
- gre-flow-control-timeout = 168
- mip-paaa-bc-query-not-found = 169
- mipha-dynamic-ip-addr-not-available = 170
- a11-mismatched-id-on-handoff = 171
- a11-badly-formed-on-handoff = 172
- a11-unsupported-vendor-id-on-handoff = 173
- a11-t-bit-not-set-on-handoff = 174
- MIP-reg-revocation-i-bit-on = 175
- A11-RRQ-Deny-Max-Count = 176
- Dormant-Transition-During-Session-Setup = 177
- PPP-Rem-Reneg-Disc-Always-Cfg = 178
- PPP-Rem-Reneg-Disc-NAI-MSID-Mismatch = 179
- mipha-subscriber-ipsec-tunnel-down = 180
- mipha-subscriber-ipsec-tunnel-failed = 181
- mipha-subscriber-ipsecmgr-death = 182
- flow-is-deactivated = 183
- ecsv2-license-exceeded = 184
- IPSG-Auth-Failed = 185
- driver-initiated = 186
- ims-authorization-failed = 187
- service-instance-released = 188
- flow-released = 189
- ppp-renego-no-ha-addr = 190
- intra-pdsn-handoff = 191
- overload-disconnect = 192
- css-service-not-found = 193
- Auth-Failed = 194
- dhcp-client-sent-release = 195
- dhcp-client-sent-nak = 196
- msid-dhcp-chaddr-mismatch = 197
- link-broken = 198

- prog-end-timeout = 199
- qos-update-wait-timeout = 200
- css-synch-cause = 201
- Gtp-context-replacement = 202
- PDIF-Auth-failed = 203
- l2tp-unknown-apn = 204
- ms-unexpected-network-reentry = 205
- r6-invalid-nai = 206
- eap-max-retry-reached = 207
- vbm-hoa-session-disconnected = 208
- vbm-voa-session-disconnected = 209
- in-acl-disconnect-on-violation = 210
- eap-msk-lifetime-expiry = 211
- eap-msk-lifetime-too-low = 212
- mipfa-inter-tech-handoff = 213
- r6-max-retry-reached = 214
- r6-nwexit-recd = 215
- r6-dereg-req-recd = 216
- r6-remote-failure = 217
- r6r4-protocol-errors = 218
- wimax-qos-invalid-aaa-attr = 219
- npu-gre-flows-not-available = 220
- r4-max-retry-reached = 221
- r4-nwexit-recd = 222
- r4-dereg-req-recd = 223
- r4-remote-failure = 224
- ims-authorization-revoked = 225
- ims-authorization-released = 226
- ims-auth-decision-invalid = 227
- mac-addr-validation-failed = 228
- excessive-wimax-pd-flows-cfgd = 229
- sgsn-canc-loc-sub = 230

- sgsn-canc-loc-upd = 231
- sgsn-mnr-exp = 232
- sgsn-ident-fail = 233
- sgsn-sec-fail = 234
- sgsn-auth-fail = 235
- sgsn-glu-fail = 236
- sgsn-imp-det = 237
- sgsn-smgr-purge = 238
- sgsn-subs-handed-to-peer = 239
- sgsn-dns-fail-inter-rau = 240
- sgsn-cont-rsp-fail = 241
- sgsn-hlr-not-found-for-imsi = 242
- sgsn-ms-init-det = 243
- sgsn-opr-policy-fail = 244
- sgsn-duplicate-context = 245
- hss-profile-update-failed = 246
- sgsn-no-pdp-activated = 247
- asnpc-idle-mode-timeout = 248
- asnpc-idle-mode-exit = 249
- asnpc-idle-mode-auth-failed = 250
- asngw-invalid-qos-configuration = 251
- sgsn-dsd-allgprswithdrawn = 252
- r6-pmk-key-change-failure = 253
- sgsn-illegal-me = 254
- sess-termination-timeout = 255
- sgsn-sai-fail = 256
- sgsn-rnc-removal = 257
- sgsn-rai-removal = 258
- sgsn-init-deact = 259
- ggsn-init-deact = 260
- hlr-init-deact = 261
- ms-init-deact = 262

- sgsn-detach-init-deact = 263
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- sgsn-gtpc-path-failure = 267
- sgsn-local-handoff-init-deact = 268
- sgsn-remote-handoff-init-deact = 269
- sgsn-gtp-no-resource = 270
- sgsn-rnc-no-resource = 271
- sgsn-odb-init-deact = 272
- sgsn-invalid-ti = 273
- sgsn-actv-rejected-due-to-rnc = 274
- sgsn-apn-restrict-vio = 275
- sgsn-actv-rejected-by-sgsn = 276
- sgsn-abnormal-deact = 277
- sgsn-actv-rejected-by-ggsn = 278
- sgsn-err-ind = 279
- asngw-non-anchor-prohibited = 280
- asngw-im-entry-prohibited = 281
- session-idle-mode-entry-timeout = 282
- session-idle-mode-exit-timeout = 283
- asnpc-ms-power-down-nwexit = 284
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- sgsn-iu-rel-before-call-est = 286
- ikev2-subscriber-ipsecmgr-death = 287
- All-dynamic-pool-addr-occupied = 288
- mip6ha-ip-addr-not-available = 289
- bs-monitor-keep-alive-failed = 290
- sgsn-att-in-reg-state = 291
- sgsn-inbound-srns-in-reg-state = 292
- dt-ggsn-tun-reestablish-failed = 293
- sgsn-unknown-pdp = 294

- sgsn-pdp-auth-failure = 295
- sgsn-duplicate-pdp-context = 296
- sgsn-no-rsp-from-ggsn = 297
- sgsn-failure-rsp-from-ggsn = 298
- sgsn-apn-unknown = 299
- sgsn-pdp-status-mismatch = 300
- sgsn-attach-on-attch-init-abort = 301
- sgsn-iu-rel-in-israu-init-abort = 302
- sgsn-smgr-init-abort = 303
- sgsn-mm-ctx-cleanup-init-abort = 304
- sgsn-unknown-abort = 305
- sgsn-guard-timeout-abort = 306
- vpn-bounce-dhcpip-validate-req = 307
- mipv6-id-mismatch = 308
- aaa-session-id-not-found = 309
- x1-max-retry-reached = 310
- x1-nwexit-recd = 311
- x1-dereg-req-recd = 312
- x1-remote-failure = 313
- x1x2-protocol-errors = 314
- x2-max-retry-reached = 315
- x2-nwexit-recd = 316
- x2-dereg-req-recd = 317
- x2-remote-failure = 318
- x1-pmk-key-change-failure = 319
- sa-rekeying-failure = 320
- sess-sleep-mode-entry-timeout = 321
- phsgw-non-anchor-prohibited = 322
- asnpc-pc-relocation-failed = 323
- asnpc-pc-relocation = 324
- auth_policy_mismatch = 325
- sa-lifetime-expiry = 326

- asnpc-del-ms-entry-recd = 327
- phspc-sleep-mode-timeout = 328
- phspc-sleep-mode-exit = 329
- phspc-sleep-mode-auth-failed = 330
- phspc-ms-power-down-nwexit = 331
- phspc-x2-nwexit-recd = 332
- invalid-nat-config = 333
- asngw-tid-entry-not-found = 334
- No-NAT-IP-Address = 335
- excessive-phs-pd-flows-cfgd = 336
- phsgw-invalid-qos-configuration = 337
- Interim-Update = 338
- sgsn-attach-abrt-rad-lost = 339
- sgsn-inbnd-irau-abrt-rad-lost = 340
- ike-keepalive-failed = 341
- sgsn-attach-abrt-ms-suspend = 342
- sgsn-inbnd-irau-abrt-ms-suspend = 343
- duplicate-session-detected = 344
- sgsn-xid-response-failure = 345
- sgsn-nse-cleanup = 346
- sgsn-gtp-req-failure = 347
- sgsn-imsi-mismatch = 348
- sgsn-bvc-blocked = 349
- sgsn-attach-on-inbound-irau = 350
- sgsn-attach-on-outbound-irau = 351
- sgsn-incorrect-state = 352
- sgsn-t3350-expiry = 353
- sgsn-page-timer-expiry = 354
- phsgw-tid-entry-not-found = 355
- phspc-del-ms-entry-recd = 356
- sgsn-pdp-local-purge = 357
- phs-invalid-nai = 358

- session-sleep-mode-exit-timeout = 359
- sgsn-offload-phase2 = 360
- phs-thirdparty-auth-fail = 361
- remote-error-notify = 362
- no-response = 363
- PDG-Auth-failed = 364
- mme-s1AP-send-failed = 365
- mme-egtpc-connection-failed = 366
- mme-egtpc-create-session-failed = 367
- mme-authentication-failure = 368
- mme-ue-detach = 369
- mme-mme-detach = 370
- mme-hss-detach = 371
- mme-pgw-detach = 372
- mme-sub-validation-failure = 373
- mme-hss-connection-failure = 374
- mme-hss-user-unknown = 375
- dhcp-lease-mismatch-detected = 376
- nemo-link-layer-down = 377
- eapol-max-retry-reached = 378
- sgsn-offload-phase3 = 379
- mbms-bearer-service-disconnect = 380
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- CSCF-REG-User-disconnect = 384
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- CSCF-Call-Admin-disconnect = 387
- CSCF-CAll-User-disconnect = 388
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- CSCF-CALL-No-Resource = 390

- CSCF-CALL-No-Respone = 391
- CSCF-CALL-Inactivity-timeout = 392
- CSCF-CALL-Media-Auth-Failure = 393
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- ms-unexpected-idle-mode-entry = 395
- re-auth-failed = 396
- sgsn-pdp-nse-cleanup = 397
- sgsn-mm-ctxt-gtp-no-resource = 398
- unknown-apn = 399
- gtpc-path-failure = 400
- gtpu-path-failure = 401
- actv-rejected-by-sgsn = 402
- sgsn-pdp-gprs-camel-release = 403
- sgsn-check-imei-failure = 404
- sgsn-sndcp-init-deact = 405
- sgsn-pdp-inactivity-timeout = 406
- sfw-policy-removed-mid-session = 407
- FNG-Auth-failed = 408
- ha-stale-key-disconnect = 409
- No-IPV6-address-for-subscriber = 410
- prefix-registration-failure = 411
- disconnect-from-policy-server = 412
- s6b-auth-failed = 413
- gtpc-err-ind = 414
- gtpu-err-ind = 415
- invalid-pdn-type = 416
- aaa-auth-req-failed = 417
- apn-denied-no-subscription = 418
- Sgw-context-replacement = 419
- dup-static-ip-addr-req = 420
- apn-restrict-violation = 421
- invalid-wapn = 422

- ttg-nsapi-allocation-failed = 423
- mandatory-gtp-ie-missing = 424
- aaa-unreachable = 425
- asngw-service-flow-deletion = 426
- CT-PMIP-RRQ-NVSE-Value-Change = 427
- tcp-read-failed = 428
- tcp-write-failed = 429
- ssl-handshake-failed = 430
- ssl-renegotiate-failed = 431
- ssl-bad-message = 432
- ssl-alert-received = 433
- ssl-disconnect = 434
- ssl-migration = 435
- sgsn-ard-failure = 436
- sgsn-camel-release = 437
- sgsn-egtpc-connection-failed = 438
- sgsn-egtpc-create-sess-failed = 439
- sgsn-hss-detach = 440
- sgsn-hss-connection-failure = 441
- sgsn-pgw-detach = 442
- sgsn-s5-s8-no-support-for-apn = 443
- sgsn-no-rab-for-gbr-bearer = 444
- sgsn-sgw-selection-failure = 445
- sgsn-pgw-selection-failure = 446
- Hotlining-Status-Change = 447
- ggsn-no-rsp-from-sgsn = 448
- diameter-protocol-error = 449
- diameter-request-timeout = 450
- operator-policy = 451
- spr-connection-timeout = 452
- mipha-dup-wimax-session = 453
- invalid-version-attr = 454

- sgsn-zone-code-failure = 455
- invalid-qci = 456
- no_rules = 457
- sgsn-rnc-no-dual-pdp-init-deact = 458
- mme-init-ctxt-setup-failure = 459
- mme-driver-initiated = 460
- mme-s1ap-connection-down = 461
- mme-s1ap-reset-recd = 462
- mme-s6a-response-timeout = 463
- mme-s13-response-timeout = 464
- mme-Illegal-equipment = 465
- mme-unexpected-attach = 466
- mme-sgw-selection-failure = 467
- mme-pgw-selection-failure = 468
- mme-reselection-to-sgsn = 469
- mme-relocation-to-sgsn = 470
- mme-reselection-to-mme = 471
- mme-relocation-to-mme = 472
- mme-tau-attach-collision = 473
- mme-old-sgsn-resolution-failure = 474
- mme-old-mme-resolution-failure = 475
- mme-reloc-ho-notify-timeout = 476
- mme-reloc-ho-req-ack-timeout = 477
- mme-create-session-timeout = 478
- mme-create-session-failure = 479
- mme-s11-path-failure = 480
- mme-policy-no-ue-irat = 481
- mme-x2-handover-failed = 482
- mme-attach-restrict = 483
- mme-reloc-to-non-3GPP = 484
- mme-no-response-from-ue = 485
- mme-sgw-relocation-failed = 486

- mme-implicit-detach = 487
- sgsn-detach-notify = 488
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- gy-result-code-system-failure = 491
- mme-zone-code-validation-failed = 492
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- s6b-ip-validation-failed = 494
- sgsn-failure-rsp-from-sgw = 495
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- tcp-reset-received = 497
- tcp-socket-error = 498
- ptmsi-signature-mismatch = 499
- camel-invalid-configuration = 500
- 4Gto3G-context-replacement = 501
- mme-isr-sgsn-init-detach = 502
- sgsn-isr-addl-ptmsi-rai = 503
- sgsn-sgw-dbr-cause-isr-deact = 504
- sgsn-isr-mme-init-detach = 505
- mme-sgw-dbr-cause-isr-deact = 506
- sgsn-ptmsi-crunch = 507
- 3Gto4G-context-replacement = 508
- mme-no-eps-bearers-activated = 509
- intra-ggsn-handoff = 510
- WSG-Auth-failed = 511
- Gtp-non-existent-pdp-context = 512
- sgsn-cancel-loc-inital-attach = 513
- Local-fallback-timeout = 514
- sgsn-nrspca-actv-rej-by-sgsn = 515
- sgsn-nrspca-actv-rej-by-ms = 516
- ims-authorization-config-delete = 517
- sgsn-no-ptmsi-signature = 518

- pgw-sel-dns-server-nt-reachable = 519
- pgw-sel-dns-no-resource-records = 520
- pgw-sel-dns-no-service-params = 521
- ePDG-Auth-failed = 522
- ePDG-pgw-sel-failure-initial = 523
- ePDG-pgw-sel-failure-handoff = 524
- sgsn-ho-sgw-reloc-collision = 525
- ePDG-dbr-from-pgw = 526
- ePDG-gtpc-abort-session = 527
- ePDG-gtpu-abort-session = 528
- ePDG-gtpu-error-ind = 529
- ePDG-pgw-not-reachable = 530
- ePDG-reject-from-pgw = 531
- ipsg-session-replacement = 532
- ePDG-rel-due-to-handoff = 533
- mme-foreign-plmn-guti-rejected = 534
- sgsn-dsd-allepswithdrawn = 535
- NAT-Pool-BusyOut-Or-Pend-Delete = 536
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- srvcc-ps-to-cs-handover = 538
- henbgw-mme-s1ap-reset-recd = 539
- henbgw-henb-s1ap-reset-recd = 540
- henbgw-ue_sess-mme-conn-down = 541
- henbgw-ue-sess-henb-conn-down = 542
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- henbgw-handover-failed = 544
- henbgw-mme-error-indication = 545
- henbgw-henb-error-indication = 546
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- epdg-local-pgw-res-failed = 555
- sgsn-iovui-negotiation-failure = 556
- henbgw-gw2henb-inv-mmeues1apid = 557
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- henbgw-henb-sess-henb-conn-down = 559
- henbgw-nw-path-unavailable = 560
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- samog-multi-dev-demux-failure = 563
- mme-pgw-restarted = 564
- samog-session-replacement = 565
- authorization-failed = 566
- mm-apn-congestion-control = 567
- samog-pgw-init-detach = 568
- samog-ggsn-init-detach = 569
- samog-pgw-rejected = 570
- samog-ggsn-rejected = 571
- samog-pgw-no-response = 572
- samog-ggsn-no-response = 573
- samog-gtpc-path-failure = 574
- samog-gtpu-path-failure = 575
- samog-gtpu-err-ind = 576
- samog-mandatory-ie-missing = 577
- samog-mandatory-ie-incorrect = 578
- samog-ip-alloc-failed = 579
- samog-default-gw-not-found = 580
- samog-dns-unreachable = 581
- samog-dns-no-resource-records = 582

- samog-dns-no-service-params = 583
- samog-internal-error = 584
- handoff-pcf-restriction = 585
- graceful-cleanup-on-audit-fail = 586
- ue-ctxt-normal-del-ntsr-ddn = 587
- session-auto-delete = 588
- mme-qos-pgw-upgrade-reject = 589
- path-failure-s5 = 590
- path-failure-s11 = 591
- path-failure-s4 = 592
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- gtpu-path-failure-s1u = 594
- gtpu-path-failure-s4u = 595
- gtpu-path-failure-s12u = 596
- gtpu-err-ind-s5u = 597
- gtpu-err-ind-s1u = 598
- gtpu-err-ind-s4u = 599
- gtpu-err-ind-s12u = 600
- diameter-network-too-busy = 601
- diameter-network-failure = 602
- diameter-roaming-not-allowed = 603
- diameter-rat-disallowed = 604
- diameter-no-subscription = 605
- pcc-data-mismatch = 606
- mme-embms-call_setup-timeout = 607
- mme-embms-normal-disconnect = 608
- mme-embms-sctp-down = 609
- disconnect-from-charging-server = 610
- disconnect-irat-fail-hi-missing = 611
- apn-not-supported-in-plmn-rat = 612
- ue-pcscf-reselect-not-supported = 613
- newer-session-detected = 614

- mme-guti_realloc_failed-detach = 615
- mme-pcscf-rest-detach = 616
- Reject-ho-old-tun-path-failure = 617
- gx-vapn-selection-failed = 618
- dup-static-ipv6-addr-req = 619
- mip-path-failure = 620
- apn-congestion = 621
- ue-redirected = 622
- ePDG-s2b-access-denied = 623
- ePDG-s2b-network-failure = 624
- ePDG-s2b-msg-failure = 625
- ePDG-s2b-rat-disallowed = 626
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- SaMOG-access-switch-timeout = 629
- decrypt-fail-count-exceeded = 630
- emergency-idle-timeout = 631
- gtpu-path-failure-s11u = 632
- gtpu-err-ind-s11u = 633
- mme-gtpu-path-failure-s11u = 634
- mme-gtpu-err-ind-s11u = 635
- ePDG-pcscf-restoration = 636
- samog-lbo-user-logout = 637
- sx-req-rej = 638
- sx-cntxt-not-found = 639
- sx-mand-ie-missing = 640
- sx-cond-ie-missing = 641
- sx-msg-invalid-length = 642
- sx-mand-ie-incorrect = 643
- sx-invld-fwd-policy = 644
- sx-invld-fteid-alloc-opt = 645
- sx-no-establshd-sx-association = 646

- sx-no-response = 647
- sx-no-resource = 648
- sx-fteid-ipaddr-type-mismatch = 649
- sx-invalid-response = 650
- user-plane-info-not-available = 651
- user-plane-info-mismatch = 652
- ikev2-req-rate-exceeded = 653
- mme-decor-call-rerouted = 654
- mme-decor-call-rejected = 655
- origin-state-id-change = 656
- mme-ducon-path-update-failed = 657
- diam-no-non-3gpp-subscription = 658
- diameter-user-unknown = 659
- diameter-illegal-equipment = 660
- epdg-invalid-imei = 661
- sx-path-failure = 662
- sxfail-opr-revert-info = 663
- sxfail-opr-get-usagereport = 664
- sxfail-opr-create-rulebase-pdr = 665
- sxfail-opr-remove-pdr = 666
- gtp-remote-data-teid-invalid = 667
- smp-fp-tep-oper-failure = 668
- smp-fp-ambr-oper-failure = 669
- smp-fp-brr-stream-oper-failure = 670
- smp-fp-brr-strm-chrgng-op-fail = 671
- smp-fp-itc-bw-oper-failure = 672
- smp-fp-strm-chrg-oper-failure = 673
- vpp-next-hop-failure = 674
- graceful-cleanup-up-audit-fail = 675
- sx-max-trans-threshold-reached = 676
- sx-db-ub-collision = 677
- sx-failure-ntsr = 678

- graceful-term-up-self-protectn = 679

Length 4

Type 26

Vendor ID 8164

VSA Type 3

SN-DNS-Proxy-Intercept-List

This attribute is used to specify the list name which contains the rules to intercept and redirect DNS requires received from mobile. This attribute can be configured using either local subscriber template or returned from Access-Accept.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 214

SN-DNS-Proxy-Use-Subscr-Addr

This attribute is used to convey whether to use the subscriber's address as the source address for DNS Proxy.

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 25

SN-Dynamic-Addr-Alloc-Ind-Flag

This attribute indicates whether the IP address is allocated statically or dynamically from SGW perspective.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 8164

VSA Type 141

SN-Ecs-Data-Volume

Compound attribute indicating downlink and uplink octet usage for a PDP context per rating group.

Type 26

Vendor ID 8164

VSA Type 176

Syntax Compound. Contains the following sub-attribute(s).

Rating-Group-Id

Rating Group Id in a PDP context.

Syntax Unsigned Integer

Length 4

Type 1

GPRS-Uplink

Uplink octet usage for a PDP context per rating group.

Syntax Unsigned Integer

Length 4

Type 2

GPRS-Downlink

Downlink octet usage for a PDP context per rating group.

Syntax Unsigned Integer

Length 4

Type 3

SN-Enable-QoS-Renegotiation

This attribute configures the enabling of dynamic QoS renegotiation.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 144

SN-Event

This attribute contains the type of SIP event for which the accounting-request message is generated.

Syntax String

Length 0-64

Type 26

Vendor ID 8164

VSA Type 255

SN-Ext-Inline-Srvr-Context

This attribute configures the context name in which the External In-line server resides.

Syntax String

Length 1-247

Type 26

Vendor ID 8164

VSA Type 41

SN-Ext-Inline-Srvr-Down-Addr

This attribute configures the IP address of the Downstream External In-line server to forward VLAN-tagged packets to. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 56

SN-Ext-Inline-Srvr-Down-VLAN

This attribute configures the IP address of the Downstream External In-line server to forward VLAN-tagged packets to. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 59

SN-Ext-Inline-Srvr-Preference

This attribute configures the preference for the tagged group of External In-line Servers. This attribute is required, although it doesn't actually assign a preference right now. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 57

SN-Ext-Inline-Srvr-Up-Addr

This attribute configures the IP address of the Upstream External In-line server to forward VLAN-tagged packets to. It can be tagged, in which case it is treated as part of an external in-line server group

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 55

SN-Ext-Inline-Srvr-Up-VLAN

This attribute configures the VLAN tag to be applied to Upstream packets and forwarded to the External In-line server. It can be tagged, in which case it is treated as part of an external in-line server group.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 58

SN-Fast-Reauth-Username

Fast re-authentication user name.

Syntax Opaque Value

Length 1-128

Type 26

Vendor ID 8164

VSA Type 304

SN-Firewall-Enabled

Firewall for subscriber enabled.

Syntax Enumerated Integer. Supports the following value(s):

- False = 0
- True = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 198

SN-Firewall-Policy

This attribute contains the firewall policy name.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 239

SN-FMC-Location

This attribute contains the MAC address and CDMA location information.

Syntax String

Length 1-247

Type 26

Vendor ID 8164

VSA Type 171

SN-GGSN-Address

The control plane IP address of the GGSN that handles one or more media component(s) of an IMS session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 264

SN-GGSN-MIP-Required

This attribute specifies if MIP is required for the GGSN subscriber.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 68

SN-Gratuitous-ARP-Aggressive

This attribute specifies whether to generate a gratuitous ARP message whenever a MIP handoff or re-registration occurs. A non-zero of this attribute also configures the mode of operation when sending the gratuitous ARP, although only one mode (Aggressive) is supported at this time.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 54

SN-GTP-Version

This attribute indicates the version of GTP the subscriber is using.

Syntax Enumerated Integer. Supports the following value(s):

- GTP_VERSION_0 = 0
- GTP_VERSION_1 = 1
- GTP_VERSION_2 = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 62

SN-Handoff-Indicator

This attribute indicates whether the Accounting Interim is sent because of the interim or not.

Syntax Enumerated Integer. Supports the following value(s):

- Active-Handoff = 0
- Location-Update = 1

Length 1

Type 26

Vendor ID 8164

VSA Type 310

SN-HA-Send-DNS-Address

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 47

SN-Home-Behavior

This attribute specifies the configuration for the behavior bits settings for a home subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 119

SN-Home-Profile

This attribute specifies the configuration for the profile bits settings for a home subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 109

SN-Home-Sub-Use-GGSN

This attribute configures GGSN to accept GGSN's charging characteristics for home subscribers defined for the APN.

Syntax Enumerated Integer. Supports the following value(s):

- Deny = 0
- Accept = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 106

SN-Ignore-Unknown-HA-Addr-Error

Type 26

Syntax Unsigned Integer

Length 1

Vendor ID 8164

VSA Type 160

SN-IMS-AM-Address

IMS application manager address.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 167

SN-IMS-AM-Domain-Name

IMS application manager domain name.

Syntax String

Length 1-64

Type 26

Vendor ID 8164

VSA Type 168

SN-IMS-Charging-Identifier

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

Syntax String

Length 0-253

Type 26

Vendor ID 8164

VSA Type 260

SN-IMSI

SN-IMSI

Syntax Opaque Value

Length 1-8

Type 26

Vendor ID 8164

VSA Type 252

SN-Inactivity-Time

This attribute contains the inactivity time duration for a subscriber session under long time duration timer configuration.

Syntax Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 232

SN-Internal-SM-Index

SN-Internal-SM-Index

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 122

SN-IP-Alloc-Method

This attribute specifies the method for allocating an IP address. This feature only applies to the GGSN service.

Syntax Enumerated Integer. Supports the following value(s):

- Alloc_Local_Pool = 0
- Alloc_Dhcp_Client = 1
- Alloc_Radius = 2
- Alloc_No_Alloc = 3
- Alloc_Static_Alloc = 4
- Alloc_Dhcp_Relay = 5

Length 4

Type 26

Vendor ID 8164

VSA Type 53

SN-IP-Filter-In

This attribute specifies the IP input filter rules to determine whether the traffic should undergo DPI processing.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 10

SN-IP-Filter-Out

This attribute specifies the IP output filter rules to determine whether the traffic should undergo DPI processing.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 11

SN-IP-Header-Compression

Specifies the IP header compression method to use.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- VJ = 1
- ROHC = 2
- VJ_ROHC = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 150

SN-IP-Hide-Service-Address

This attribute prevents subscribers from using traceroute to discover the public domain network addresses configured on HA and other services on the system.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 60

SN-IP-In-ACL

This attribute contains a definition for one Input IP Access Control List, which is used to filter the IP packets coming from the user. Note that more than one of these attributes can be included, in which case they are processed in the order in which they appear in the RADIUS Access-Accept.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 17

SN-IP-In-Plcy-Grp

This attribute specifies the name of the policy group configuration applied in the uplink direction.

Syntax String

Length 1-15

Type 26

Vendor ID 8164

VSA Type 193

SN-IP-Out-ACL

This attribute contains a definition for one Output IP Access Control List, which is used to filter the IP packets sent to the user. Note that more than one of these attributes can be included, in which case they are processed in the order in which they appear in the RADIUS Access-Accept.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 18

SN-IP-Out-Plcy-Grp

This attribute specifies the name of the policy group configuration applied in the downlink direction.

Syntax String

Length 1-15

Type 26

Vendor ID 8164

VSA Type 194

SN-IP-Pool-Name

This vendor-specific attribute indicates the name of the IP pool from which an IP address should be allocated to the subscriber. Also, see Framed-Pool, which is the standard attribute accomplishing the same.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 8

SN-IP-Source-Validation

This attribute indicates if the source IP address should be validated before forwarding the IP packet.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0

- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 14

SN-IP-Source-Violate-No-Acct

This attribute excludes the Source Violated IP packets and byte counts when reporting the Octet and Packet count in an accounting message.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 196

SN-IP-Src-Validation-Drop-Limit

Maximum number of packet drops entertained before disconnecting the session for source violated packets for the session.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 110

SN-IPv6-Alloc-Method

This attribute specifies the method for allocating an IPv6 address. This feature only applies to the GGSN service.

Syntax Enumerated Integer. Supports the following value(s):

- Alloc_Local_Pool = 0
- Alloc_Dhcp_Client = 1
- Alloc_No_Alloc = 2
- Alloc_Static_Alloc = 3

Length 1

Type 26

Vendor ID 8164

VSA Type 314

SN-IPv6-DNS-Proxy

IPV6 DNS proxy enabled or disabled setting for the session.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 126

SN-IPv6-Egress-Filtering

This attribute enables egress filtering to make sure that packets being sent to the mobile device have an interface ID that matches that of the mobile device. This feature is meant to protect the Mobile from receiving unwanted packets from the Internet.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 103

SN-IPv6-Min-Link-MTU

IPV6 MTU size.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 136

SN-IPv6-num-rtr-advt

This attribute indicates the IPv6 number of Initial Router Advertisements. The default value is 3.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 97

SN-IPv6-Primary-DNS

This attribute specifies a Primary DNS server address that the Router Advertisement message sent by the PDSN will include.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 8164

VSA Type 101

SN-IPv6-rtr-advt-interval

This attribute indicates the IPv6 Initial Router Advertisement Interval specified in milliseconds. The default value is 3000.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 96

SN-IPv6-Secondary-DNS

This attribute specifies a Secondary DNS server address that the Router Advertisement message sent by the PDSN will include.

Syntax Opaque Value

Length 16

Type 26

Vendor ID 8164

VSA Type 102

SN-IPv6-Sec-Pool

IPv6 secondary pool names.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 124

SN-IPv6-Sec-Prefix

IPv6 secondary pool name prefix.

Syntax Opaque Value

Length 2-18

Type 26

Vendor ID 8164

VSA Type 125

SN-ISC-Template-Name

This attribute contains name of the CSCF ISC template to be used for a subscriber.

Syntax String

Length 0-255

Type 26

Vendor ID 8164

VSA Type 276

SN-Is-Unregistered-Subscriber

This attribute specifies if a subscriber is registered or not.

Syntax String

Length 0-256

Type 26

Vendor ID 8164

VSA Type 269

SN-L3-to-L2-Tun-Addr-Policy

This attribute specifies the address allocation policy.

Syntax Enumerated Integer. Supports the following value(s):

- no-local-alloc-validate = 0
- local-alloc = 1
- local-alloc-validate = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 43

SN-LBO-Acct-IN-Octets

This attribute indicates the number of Local Breakout accounting input octets sent by UE directly to the internet. This attribute is sent in the Acct-Interim/Acct-Stop message to AAA server.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 323

SN-LBO-Acct-IN-Pkts

This attribute indicates the number of Local Breakout accounting input packets sent by UE directly to the internet. This attribute is sent in the Acct-Interim/Acct-Stop message to AAA server.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 321

SN-LBO-Acct-Out-Octets

This attribute indicates the number of Local Breakout accounting output octets received by UE directly from the internet. This attribute is sent in the Acct-Interim/Acct-Stop message to AAA server..

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 324

SN-LBO-Acct-Out-Pkts

This attribute indicates the number of Local Breakout accounting output packets received by UE directly from the internet. This attribute is sent in the Acct-Interim/Acct-Stop message to AAA server.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 322

SN-Local-IP-Address

This attribute indicates the IP address of the local interface on the chassis for the user's session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 13

SN-Long-Duration-Action

This attribute specifies the action to take place when the long duration timeout expires for a subscriber session.

Syntax Enumerated Integer. Supports the following value(s):

- Detection = 1
- Disconnection = 2
- Dormant-Only-Disconnection = 3
- Dormant-Only-Detection = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 45

SN-Long-Duration-Notification

SN-Long-Duration-Notification.

Syntax Enumerated Integer. Supports the following value(s):

- Suppress = 0

- Send = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 253

SN-Long-Duration-Timeout

This attribute is used to detect and if necessary disconnect sessions connected to the PDSN. This attribute configures the time period, in seconds, before either alerting the administrator or disconnecting the subscriber.

Syntax Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 44

SN-Max-Sec-Contexts-Per-Subs

Maximum secondary PDP contexts per subscriber.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 8164

VSA Type 290

SN-Mediation-Acct-Rsp-Action

When this attribute is set to None, there is no action taken while waiting for a response for the accounting start message from the Mediation Accounting server. When this attribute is set to No-Early-PDUs the system buffers all packets from the user (uplink) until a response for the accounting start message is received from the Mediation Accounting server. When set to Delay_GTP_Response, the system does not send a GTP create PDP response to the GGSN until a response for the accounting start message is received from the Mediation Accounting server. If the attribute is not present in Access-Accept message or if the attribute value is invalid, the value "None" is assumed.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- No_Early_PDUs = 1
- Delay_GTP_Response = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 105

SN-Mediation-Enabled

This attribute indicates whether the Mediation Accounting configuration is enabled or disabled for GGSN.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 123

SN-Mediation-No-Interims

This attribute is used to disable or enable Mediation Interim Accounting Records for the session.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 146

SN-Mediation-VPN-Name

This attribute specifies the Mediation Context name for the session.

Syntax String

Length 1-128

Type 26

Vendor ID 8164

VSA Type 104

SN-Min-Compress-Size

This attribute specifies the minimum size (in octets) a data packet can have in order to be compressed.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 23

SN-MIP-AAA-Assign-Addr

This attribute specifies if the PDSN/FA will allow AAA to assign the home address. The default is to not allow AAA to assign the home address.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 50

SN-MIP-ANCID

Accounting correlation ID created by IPGW, received by VBM and HBM.

Syntax Opaque Value

Length 12

Type 26

Vendor ID 8164

VSA Type 166

SN-MIP-Dual-Anchor

Enable/disable dual-anchor service for a subscriber.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 165

SN-MIP-HA-Assignment-Table

MIP-HA Assignment Table name. When this is received in an Access-Accept message, the system uses this local table to get the HA Address.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 154

SN-MIP-Match-AAA-Assign-Addr

This attribute specifies if the PDSN/FA will enforce that a non-zero AAA-specified home address must match the home address present in the MIP RRQ from the mobile node, and disconnect the subscriber session if a match is not present. The default is not to force the addresses to match.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 51

SN-MIP-MIN-Reg-Lifetime-Realm

This attribute configures the minimum MIP registration lifetime for a subscriber/realm.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 12

SN-MIP-Reg-Lifetime-Realm

This attribute configures the maximum MIP registration lifetime for a subscriber/realm.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 175

SN-MIP-Send-Ancid

This attribute enables/disables sending ANCID from FA to HA in MIP RRQ.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 163

SN-MIP-Send-Correlation-Info

This attribute enables/disables sending of correlation-id from FA to HA in MIP RRQ.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- NVSE_Starent = 1
- NVSE_CUstom1 = 2
- NVSE_Custom2 = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 188

SN-MIP-Send-Host-Config

This attribute is used to enable/disable Host Config Extension in MIP RRQ.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0

- Enabled = 1

Length 1

Vendor ID 8164

VSA Type 311

SN-MIP-Send-Imsi

AAA attribute to enable/disable sending IMSI from FA to HA in MIP RRQ.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- NVSE_Starent = 1
- NVSE_Custom1 = 2
- NVSE_Custom2 = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 164

SN-MIP-Send-Term-Verification

This attribute specifies whether the PDSN/FA should send the Terminal Verification Normal Vendor/Organization Specific Extension (NVSE) in the Mobile IP RRQ message to the HA. The default is not to send the Terminal Verification NVSE.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- NVSE_Custom1 = 1
- NVSE_Custom2 = 2
- NVSE_Starent = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 48

SN-MN-HA-Hash-Algorithm

This attribute contains the hash algorithm to use for MN-HA authentication.

Syntax Enumerated Integer. Supports the following value(s):

- MD5 = 1
- MD5-RFC2002 = 2
- HMAC-MD5 = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 99

SN-MN-HA-Timestamp-Tolerance

This attribute indicates the duration of timestamp tolerance, in seconds, to use for MN-HA authentication.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 30

SN-Mode

Robust Header Compression (ROHC) Mode. Reliable mode means each ROHC control needs to be Acknowledged. Optimistic mode is a modified version to reduce the number of control messages and bandwidth consumption. Unidirectional assumes a one way link without any Feedback from the decompressor.

Syntax Enumerated Integer. Supports the following value(s):

- Reliable = 0
- Optimistic = 1
- Unidirectional = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 151

SN-MS-ISDN

SN-MS-ISDN.

Syntax Opaque Value

Length 1-9

Type 26

Vendor ID 8164

VSA Type 248

SN-NAI-Construction-Domain

This attribute specifies the domain name to use when constructing the NAI.

Syntax String

Length 1-247

Type 26

Vendor ID 8164

VSA Type 37

SN-NAT-IP-Address

This attribute includes the NAT (public) IP address used for the call.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 297

SN-Node-Functionality

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

Syntax Enumerated Integer. Supports the following value(s):

- S-CSCF = 0
- P-CSCF = 1
- I-CSCF = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 268

SN-NPU-Qos-Priority

This attribute configures inter-subscriber priority queueing based on class of service offered. Gold has the highest priority and Best_effort the lowest priority. From_DSCP means the priority queueing will be done based on the DSCP marking that the incoming subscriber packet carries.

Syntax Enumerated Integer. Supports the following value(s):

- Best_Effort = 0
- Bronze = 1
- Silver = 2
- Gold = 3
- From_DSCP = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 98

SN-Ntk-Initiated-Ctx-Ind-Flag

Indicates whether the GGSN call is a network initiated PDP Context.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 8164

VSA Type 142

SN-Ntk-Session-Disconnect-Flag

SN-Ntk-Session-Disconnect-Flag.

Syntax Enumerated Integer. Supports the following value(s):

- Session-Disconnect = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 143

SN-Nw-Reachability-Server-Name

This attribute specifies the name of the Network Reachability Detection Server.

Syntax String

Length 1-16

Type 26

Vendor ID 8164

VSA Type 65

SN-Originating-IOI

This attribute holds the Inter Operator Identifier for the originating network in the home network of the originating end user.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 261

SN-Overload-Disc-Connect-Time

This attribute provides inactivity time for session to become candidate for disconnection during overload.

Syntax Uint32

Type 26

Vendor ID 8164

VSA Type 233

SN-Overload-Disc-Inact-Time

This attribute provides inactivity time for session to become candidate for disconnection during overload.

Syntax Uint32

Type 26

Vendor ID 8164

VSA Type 234

SN-Overload-Disconnect

This attribute enables (if one) and disables the overload-disconnect feature for a subscriber.

Syntax Uint32

Type 26

Vendor ID 8164

VSA Type 235

SN-PDG-TTG-Required

TTG mode of operation Required for PDG.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 1

Type 26

Vendor ID 8164

VSA Type 299

SN-PDIF-MIP-Release-TIA

PDIF mobile IP release TIA.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 172

SN-PDIF-MIP-Required

PDIF mobile IP required.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 170

SN-PDIF-MIP-Simple-IP-Fallback

PDIF mobile IP simple IP fallback.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 173

SN-PDSN-Correlation-Id

Correlation ID received from PDSN to HA.

Syntax Opaque Value

Length 8

Type 26

Vendor ID 8164

VSA Type 189

SN-PDSN-Handoff-Req-IP-Addr

This attribute specifies if the PDSN should reject and terminate the subscriber session when the proposed address in IPCP by the mobile does not match the existing address in the PDSN. The default (Disabled) is not to reject these sessions.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 46

SN-PDSN-NAS-Id

NAS Identifier received from PDSN to HA

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 190

SN-PDSN-NAS-IP-Address

NAS IP address received from PDSN to HA.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 191

SN-Permit-User-Mcast-PDUs

Specifies whether or not to let the subscriber discard multicast PDUs.

Syntax Enumerated Integer. Supports the following value(s):

- disabled = 0
- enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 134

SN-PPP-Accept-Peer-v6Ifid

This attribute indicates the acceptance of the interface ID provided by peer during PPP IPv6CP if the ID is valid. The default is disabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 95

SN-PPP-Always-On-Vse

SN-PPP-Always-On-Vse.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 130

SN-PPP-Data-Compression-Mode

This attribute indicates the PPP data compression mode to use for the PPP session when PPP data compression is used.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Stateless = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 19

SN-PPP-Data-Compression

This attribute indicates the PPP data compression algorithm to use for the PPP session. The attribute value is a bit field, and many algorithms can be specified to indicate that one of these may be chosen by the user.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Stac-LZS = 1
- MPPC = 2
- Deflate = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 9

SN-PPP-Keepalive

This attribute indicates the interval for the PPP keepalive, in seconds.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 16

SN-PPP-NW-Layer-IPv4

This attribute indicates the PPP IPCP negotiation for IPv4. The default is enabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1
- Passive = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 92

SN-PPP-NW-Layer-IPv6

This attribute indicates the PPP IPv6CP negotiation for IPv6. The default is enabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1
- Passive = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 93

SN-PPP-Outbound-Password

This attribute indicates the password to be used when the user side of the PPP connection requires authentication.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 15

SN-PPP-Outbound-Username

This attribute indicates the username to be used when the user side of the PPP connection requires authentication.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 61

SN-PPP-Progress-Code

This attribute provides information about the "state" of the PPP connection, when the connection was terminated.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Defined = 0
- Call-Lcp-Down = 10
- Call-Disconnecting = 20
- Call-Ppp-Renegotiating = 30
- Call-Arrived = 40
- Call-Pdg-Tcp-Connecting = 45
- Call-Pdg-Ssl-Connecting = 46
- Call-Lcp-Up = 50
- Call-Authenticating = 60
- Call-Bcmcs-Authenticating = 70
- Call-Authenticated = 80
- Call-Tunnel-Connecting = 85
- Call-Ipcp-Up = 90
- Call-Imsa-Authorizing = 95
- Call-Imsa-Authorized = 97
- Call-MBMS-UE-Authorizing = 98

- Call-MBMS-Bearer-Authorizing = 99
- Call-Simple-IP-Connected = 100
- Call-Mobile-IP-Connected = 110
- Call-Tunnel-Connected = 115
- Call-Pdp-Type-IP-Connected = 120
- Call-Pdp-Type-IPv6-Connected = 125
- Call-Pdp-Type-PPP-Connected = 130
- Call-GTP-Connecting = 131
- Call-GTP-Connected = 132
- Call-Proxy-Mobile-IP-Connected = 140
- Call-Pdg-Ssl-Connected = 141
- Call-Pdg-Connected = 142
- Call-Ipsg-Connected = 145
- Call-Bcmcs-Connected = 150
- Call-MBMS-UE-Connected = 155
- Call-MBMS-Bearer-Connected = 156
- Call-Pending-Addr-From-DHCP = 160
- Call-Got-Addr-From-DHCP = 170
- Call-HA-IPSEC-Tunnel-Connecting = 180
- Call-HA-IPSEC-Connected = 190
- Call-ASN-Non-Anchor-Connected = 200
- Call-ASNPC-Connected = 210 Call-Mobile-IPv6-Connected = 220
- Call-PMIPv6-Connected = 221
- Call-PHSPC-Connected = 230
- Call-GTP-IPv4-Connected = 235
- Call-GTP-IPv6-Connected = 236
- Call-GTP-IPv4-IPv6-Connected = 237
- Call-SGW-Connected = 245
- Call-MME-Attached = 246
- Call-Auth-Only-Connected = 247

Length 4

Type 26

Vendor ID 8164

VSA Type 4

SN-PPP-Reneg-Disc

PPP remote reneg disconnect policy

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Never = 0
- Always = 1
- NAI_Prefix_MSID_Mismatch = 2

Length 4

Vendor ID 8164

VSA Type 187

SN-Prepaid-Compressed-Count

This attribute indicates if a Pre-paid subscriber's byte usage should be counted on the basis of compressed or uncompressed byte data over the subscriber's PPP connection to the system. If not present, the default is to count uncompressed byte data.

Syntax Enumerated Integer. Supports the following value(s):

- Uncompressed = 0
- Compressed = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 31

SN-Prepaid-Final-Duration-Alg

For prepaid, final duration is calculated based on the algorithm specified by the value of this attribute.

Syntax Enumerated Integer. Supports the following value(s):

- current_time = 0
- last-user-layer3-activity-time = 1
- last-airlink-activity-time = 2
- last-airlink-activity-time-last-reported = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 135

SN-Prepaid-Inbound-Octets

In an Access-Accept, this indicates how many additional inbound (bytes delivered to the subscriber) byte credits should be granted to the subscriber. In an Accounting- Request, this indicates how many total inbound byte credits have been granted to the subscriber. When this attribute is not present in the Access-Accept, then pre-paid usage checking is disabled on an inbound octet basis.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 32

SN-Prepaid-Outbound-Octets

SN-Prepaid-Outbound-Octets

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 33

SN-Prepaid-Preference

This attribute specifies whether prepaid is volume based or duration based.

Syntax Enumerated Integer. Supports the following value(s):

- prepaid_duration = 0
- prepaid_volume = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 129

SN-Prepaid-Timeout

This attribute indicates how much time may elapse before a new request for more pre-paid credits is issued. If the specified time has elapsed since the prior grant of credits was received from the RADIUS server, then a new request for credits is issued. This attribute is primarily used to periodically update the subscriber of new credits issued since the subscriber was connected. Note that credit requests will still be made on behalf of the subscriber when the subscriber drops down to the low watermark of credits (or zero if there is no low watermark). The presence or absence of this attribute does not affect that mechanism in any way. However, this timer is re-set whenever any grant of credits is received on behalf of the subscriber, regardless of why the grant of credits was requested.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 35

SN-Prepaid

Prepaid

Syntax Enumerated Integer. Supports the following value(s):

- no_prepaid = 0
- custom_prepaid = 1
- standard_prepaid = 2
- wimax_prepaid = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 128

SN-Prepaid-Total-Octets

In an Access-Accept, this attribute indicates how many additional byte credits (combining both inbound and outbound counts) should be granted to the subscriber. In an Accounting- Request, this indicates how many total bytes credits (combined inbound and outbound) have been granted to the subscriber. When this attribute is not present in the Access-Accept, then pre-paid usage checking is disabled on a combined inbound and outbound octet-count basis.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 34

SN-Prepaid-Watermark

This attribute Indicates the percentage of remaining granted credits that will trigger a new request to grant credits from the RADIUS server. For example, if 1GB of credits was granted to a user, and the value of SN-Prepaid-Watermark was 10, then when 100 MB of credits are remaining (900 MB have been used) to the subscriber, a new request for any new byte credits is issued on behalf of the subscriber. Note that when calculating the pre-paid low watermark, the total credits granted for the subscriber's entire session is used.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 36

SN-Primary-DCCA-Peer

This attribute indicates the name of the primary DCCA peer and primary DCCA realm.

Syntax String

Length 1-192

Type 26

Vendor ID 8164

VSA Type 223

SN-Primary-DNS-Server

This attribute indicates the IP address of the primary DNS server that should be used for the session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 5

SN-Primary-NBNS-Server

Primary NBNS Server IP address.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 148

SN-Proxy-MIP

This attribute specifies if the PDSN/FA will perform compulsory Proxy-MIP tunneling for a Simple-IP PDSN subscriber. This feature is licensed. The default is not to perform compulsory Proxy-MIP.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 52

SN-Pseudonym-Username

This attribute contains the pseudonym user name generated by AAA server.

Syntax Opaque Value

Length 1-256

Type 26

Vendor ID 8164

VSA Type 305

SN-QoS-Background-Class

This attribute defines the QOS Background Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 91

SN-QoS-Class-Background-PHB

Quality of Service DSCP classification value.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0

- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 8164

VSA Type 113

SN-QoS-Class-Conversational-PHB

Quality of Service DSCP classification value.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28

- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 8164

VSA Type 111

SN-QoS-Class-Interactive-1-PHB

Interactive-1 class PHB value.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 8164

VSA Type 114

SN-QoS-Class-Interactive-2-PHB

Interactive-2 class PHB.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 8164

VSA Type 115

SN-QoS-Class-Interactive-3-PHB

Interactive-3 class PHB.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18

- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 8164

VSA Type 116

SN-QoS-Class-Streaming-PHB

Quality of Service DSCP classification value.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- Pass-Through = 1
- AF11 = 10
- AF12 = 12
- AF13 = 14
- AF21 = 18
- AF22 = 20
- AF23 = 22
- AF31 = 26
- AF32 = 28
- AF33 = 30
- AF41 = 34
- AF42 = 36
- AF43 = 38
- EF = 46

Length 4

Type 26

Vendor ID 8164

VSA Type 112

SN-QoS-Conversation-Class

This attribute defines the QOS Conversation Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 86

SN-QOS-HLR-Profile

QoS with Allocation Retention bit. QoS structured as per 29.002.

Syntax QoS-HLR-Profile

Type 26

Vendor ID 8164

VSA Type 303

SN-QoS-Interactive1-Class

This attribute defines the QOS Interactive TrafficClass.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 88

SN-QoS-Interactive2-Class

This attribute defines the QOS Interactive2 Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 89

SN-QoS-Interactive3-Class

This attribute defines the QOS Interactive3 Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 90

SN-QoS-Negotiated

Negotiated QoS for GGSN sessions.

Syntax Opaque Value

Length 4-28

Type 26

Vendor ID 8164

VSA Type 147

SN-QoS-Renegotiation-Timeout

This attribute configures the timeout duration of dampening time for dynamic QoS renegotiation.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 145

SN-QoS-Streaming-Class

This attribute defines the QOS Streaming Traffic Class.

Syntax Opaque Value

Length 28

Type 26

Vendor ID 8164

VSA Type 87

SN-QoS-Tp-Dnlk

This attribute enables/disables Traffic Policing/Shaping in downlink direction.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Policing = 1
- Shaping = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 73

SN-QoS-Tp-Uplk

This attribute enables/disables Traffic Policing/Shaping in uplink direction.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Policing = 1
- Shaping = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 79

SN-QoS-Traffic-Policy

This compound attribute simplifies sending QoS values for Traffic Class, Direction, Burst-Size, Committed-Data-Rate, Peak-Data-Rate, Exceed-Action, and Violate-Action from the RADIUS server. When the SN-QoS-Traffic-Policy attribute is sent along with Acct-Session-ID attribute, the system matches the particular PDP context, and applies the new policy and retains the policy with the subscriber profile for future use. The next time the system sends a CoA request with a new policy and a different Acct-Session-ID for the same subscriber, the previously received policy is also applied to the matching PDP context along with the new policy.

Type 26

Vendor ID 8164

VSA Type 177

Syntax Compound. Contains the following sub-attribute(s).

Direction

Direction of the PDF.

Syntax Unsigned Integer

Length 1

Type 1

Class

Traffic class.

Syntax Unsigned Integer

Length 1

Type 2

Burst-Size

Peak burst size.

Syntax Unsigned Integer

Length 4

Type 3

Committed-Data-Rate

Committed data rate.

Syntax Unsigned Integer

Length 4

Type 4

Peak-Data-Rate

Peak data rate.

Syntax Unsigned Integer

Length 4

Type 5

Exceed-Action

Action to take on packets that exceed the Committed-Data-Rate but do not violate the Peak-Data-Rate.

Syntax Unsigned Integer

Length 1

Type 6

Violate-Action

Violate action.

Syntax Unsigned Integer

Length 1

Type 7

Auto-Readjust-Enabled

Auto-readjust enabled.

Syntax Unsigned Integer

Length 1

Type 8

Auto-Readjust-Duration

Auto-readjust duration.

Syntax Unsigned Integer

Length 4

Type 9

Qci

Available only in 11.0 and later releases. QOS QCI accepted values are 1 (qci 1), 2 (qci 2), 3 (qci 3), 4 (qci 4), 5 (qci 5), 6 (qci 6), 7 (qci 7), 8 (qci 8), 9 (qci 9).

Syntax Unsigned Integer

Length 1

Type 10

SN-Rad-APN-Name

This attributes specifies the RADIUS returned APN name.

Type 26

Syntax Opaque Value

Length 1-64

Vendor ID 8164

VSA Type 162

SN-Radius-Returned-Username

This attribute is used to prefer RADIUS returned user name over constructed user name in the accounting messages.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Vendor ID 8164

VSA Type 236

SN-Re-CHAP-Interval

The Periodic CHAP authentication interval for PPP, in seconds.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 7

SN-Roaming-Behavior

This attribute specifies the configuration for the behavior bits settings for a roaming subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 121

SN-Roaming-Profile

This attribute specifies the configuration for the profile bits settings for a roaming subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 118

SN-Roaming-Sub-Use-GGSN

This attribute configures GGSN to accept GGSN's charging characteristics for roaming subscribers defined for the APN.

Syntax Enumerated Integer. Supports the following value(s):

- Deny = 0
- Accept = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 108

SN-ROHC-Flow-Marking-Mode

Configure ROHC compression for marked flows only.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- False = 0
- True = 1

Length 4

Vendor ID 8164

VSA Type 195

SN-ROHC-Profile-Name

Specifies the ROHC profile to use for the subscriber.

Type 26

Syntax String

Length 1-64

Vendor ID 8164

VSA Type 238

SN-Role-Of-Node

This attribute denotes the role of the CSCF.

Syntax Enumerated Integer. Supports the following value(s):

- Originating_Role = 0

- Terminating_Role = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 256

SN-Routing-Area-Id

For GGSN calls this indicates the Routing Area ID of the subscriber.

Syntax Opaque Value

Length 3

Type 26

Vendor ID 8164

VSA Type 249

SN-Rulebase

When the session is active charging enabled, Rulebase name will specify one of the pre-configured ECSv2 rulebases in active charging subsystem.

Syntax String

Length 1-64

Type 26

Vendor ID 8164

VSA Type 250

SN-SDP-Session-Description

This attribute contains the Session portion of the SDP data exchanged between the User Agents in the SIP transaction.

Syntax SDP-Session-Description

Type 26

Vendor ID 8164

VSA Type 263

SN-Sec-IP-Pool-Name

This attribute contains the secondary IP pool name.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 265

SN-Secondary-DCCA-Peer

This attribute indicates the name of the Secondary DCCA peer and Secondary DCCA realm.

Syntax String

Length 1-192

Type 26

Vendor ID 8164

VSA Type 224

SN-Secondary-DNS-Server

This attribute indicates the IP address of the secondary DNS server that should be used for the session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 6

SN-Secondary-NBNS-Server

Secondary NBNS server IP address.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 149

SN-Service-Address

Used to send bind IP address of the service in RADIUS messages.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 169

SN-Service-Type

This attribute indicates the service type that the user is accessing.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- PDSN = 1
- Management = 2
- HA = 3
- GGSN = 4
- LNS = 5
- IPSG = 6
- CSCF = 7
- ASNGW = 8
- PDIF = 9
- STANDALONE_FA = 10
- SGSN = 11
- PHSGW = 12
- EPDG = 13
- MIPV6HA = 14
- PGW = 15
- SGW = 16
- FNG = 17
- MSEG = 18
- HNBGW = 19
- BNG = 20
- WSG = 21
- SAMOG = 22

Length 4

Type 26

Vendor ID 8164

VSA Type 24

SN-Session-Id

This attribute contains Call-ID of the SIP session.

Syntax String

Length 0-160

Type 26

Vendor ID 8164

VSA Type 257

SN-Simultaneous-SIP-MIP

This attribute indicates if a PDSN Subscriber can simultaneously be given Simple IP and Mobile IP service.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 22

SN-SIP-Method

This attribute identifies the SIP-method for which acct request is sent.

Syntax String

Length 0-32

Type 26

Vendor ID 8164

VSA Type 254

SN-SIP-Request-Time-Stamp

This attribute specifies the time of initial SIP request.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 258

SN-SIP-Response-Time-Stamp

This attribute specifies the time of response to initial SIP request.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 259

SN-Software-Version

Specifies the software version. Includes the major version number, minor version number, and build number.

Type 26

Syntax String

Length 1-32

Vendor ID 8164

VSA Type 288

SN-Subs-Acc-Flow-Traffic-Valid

Specifies the subscriber account flow traffic is valid.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- Disable = 0
- Enable = 1

Length 4

Vendor ID 8164

VSA Type 225

SN-Subscriber-Accounting

This attribute specifically enables or disables subscriber accounting. Note that if enabled, subscriber accounting still needs to be enabled in the subscriber's AAA context for accounting to be performed.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Radius = 1

- GTPP = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 64

SN-Subscriber-Acct-Interim

This attribute specifies if accounting INTERIM messages are enabled for the subscriber. Note that accounting must also be globally enabled for the subscriber (SN-Subscriber-Accounting), and enabled for the subscriber's AAA context (along with a specific INTERIM interval), if accounting INTERIM messages are to be sent.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Suppress = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 70

SN-Subscriber-Acct-Mode

Specifies the subscriber accounting mode.

Syntax Enumerated Integer. Supports the following value(s):

- flow-based-auxilliary = 0
- flow-based-all = 1
- flow-based-none = 2
- session-based = 3
- main-a10-only = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 192

SN-Subscriber-Acct-Rsp-Action

When this attribute is set to None, there is no action taken while waiting for a response for the accounting start message from the RADIUS server. When this attribute is set to No-Early-PDUs the system buffers all

packets from the user (uplink) until a response for the accounting start message is received from the RADIUS server. When set to Delay_GTP_Response, the system does not send a GTP create response to the GGSN until a response for the accounting start message is received from the RADIUS server.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- No_Early_PDUs = 1
- Delay_GTP_Response = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 100

SN-Subscriber-Acct-Start

This attribute specifies if accounting START messages are enabled for the subscriber. Note that accounting must also be globally enabled for the subscriber (SN-Subscriber-Accounting), and enabled for the subscriber's AAA context, if accounting START messages are to be sent.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Suppress = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 69

SN-Subscriber-Acct-Stop

This attribute specifies if accounting STOP messages are enabled for the subscriber. Note that accounting must also be globally enabled for the subscriber (SN-Subscriber-Accounting), and enabled for the subscriber's AAA context, if accounting STOP messages are to be sent.

Syntax Enumerated Integer. Supports the following value(s):

- Normal = 0
- Suppress = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 71

SN-Subscriber-Class

Customer-specific attribute to support specific subscriber billing behavior.

Syntax Enumerated Integer. Supports the following value(s):

- Normal_Subscriber = 0
- Ting_100 = 1
- Ting_500 = 2
- Ting_Buddy = 3
- Ting_Star = 4
- Ting_Nolimit_SMS = 5
- Kids_Locator = 6
- Ting_2000 = 7
- Handicapped_Welfare = 8
- Reserved = 9

Length 4

Type 26

Vendor ID 8164

VSA Type 219

SN-Subscriber-Dormant-Activity

This attribute specifies whether to treat dormant packets routed to the mobile as activity for idle timeout purposes. The default is Enabled. Disabled means dormant packets routed to the mobile is not treated as activity for idle timeout purposes.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 66

SN-Subscriber-IP-Hdr-Neg-Mode

This attribute specifies whether to wait (detect) for IP header compression to be requested by the mobile before responding, or not to wait (force). Force is the default.

Syntax Enumerated Integer. Supports the following value(s):

- Force = 0
- Detect = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 67

SN-Subscriber-IP-TOS-Copy

This attribute controls the copying of the IP TOS octet value from IPv4 datagrams to the IP header in tunnel encapsulation.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Access-Tunnel = 1
- Data-Tunnel = 2
- Both = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 85

SN-Subscriber-Nexthop-Address

This attribute specifies the nexthop gateway address to be returned by AAA on a per subscriber basis.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 8164

VSA Type 127

SN-Subscriber-No-Interims

This is a GGSN specific attribute. When set to 0 (disabled) interim accounting is generated. When set to 1 (enabled) interim accounting generation is disabled.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0

- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 133

SN-Subscriber-Permission

This attribute indicates the services allowed to be delivered to the subscriber. The attribute value is a bit field, and many algorithms can be specified to indicate that one of these may be chosen by the user.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Simple-IP = 1
- Mobile-IP = 2
- Simple-IP-Mobile-IP = 3
- HA-Mobile-IP = 4
- Simple-IP-HA-Mobile-IP = 5
- Mobile-IP-HA-Mobile-IP = 6
- SIP-MIP-HA-MIP = 7
- GGSN-PDP-TYPE-IP = 0x08
- GGSN-PDP-TYPE-PPP = 0x10
- Network-Mobility = 0x20
- FA-HA-NEMO = 0x26
- Pmipv6-interception = 0x40
- HA-Mobile-Pmipv6 = 0x44
- FA-HA-Mobile-Pmipv6 = 0x46
- All = 0x7F

Length 4

Type 26

Vendor ID 8164

VSA Type 20

SN-Subscriber-Template-Name

RADIUS returned subscriber template.

Type 26

Syntax String

Length 1-127

Vendor ID 8164

VSA Type 158

SN-Subs-IMSA-Service-Name

IMS authorization service name.

Type 26

Syntax String

Length 1-128

Vendor ID 8164

VSA Type 159

SN-Subs-VJ-Slotid-Cmp-Neg-Mode

Enable/Disable slot ID compression in either direction when using VJ compression.

Type 26

Syntax Enumerated Integer. Supports the following value(s):

- None = 0
- Receive = 1
- Transmit = 2
- Both = 3

Length 4

Vendor ID 8164

VSA Type 221

SN-Terminating-IOI

This attribute holds the Inter Operator Identifier for the originating network in the home network of the terminating end user.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 262

SN-Tp-Dnlk-Burst-Size

This attribute specifies the Traffic Policing downlink burst size in bytes.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 76

SN-Tp-Dnlk-Committed-Data-Rate

This attribute specifies the Traffic Policing downlink committed data rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 74

SN-Tp-Dnlk-Exceed-Action

This attribute specifies the action to take on Traffic Policing downlink packets that exceed the committed-data-rate but do not violate the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 77

SN-Tp-Dnlk-Peak-Data-Rate

This attribute specifies the Traffic Policing downlink peak data rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 75

SN-Tp-Dnlk-Violate-Action

This attribute specifies the action to take on Traffic Policing downlink packets that exceed both the committed-data-rate and the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 78

SN-TPO-Policy

This attribute contains the TPO policy name.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 308

SN-Tp-Uplk-Burst-Size

This attribute specifies the Traffic Policing uplink burst size in bytes.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 82

SN-Tp-Uplk-Committed-Data-Rate

This attribute specifies the Traffic Policing uplink committed data rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 80

SN-Tp-Uplk-Exceed-Action

This attribute specifies the action to take on Traffic Policing uplink packets that exceed the committed-data-rate but do not violate the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 83

SN-Tp-Uplk-Peak-Data-Rate

This attribute specifies the Traffic Policing Uplink Peak Data Rate in bps.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 81

SN-Tp-Uplk-Violate-Action

This attribute specifies the action to take on Traffic Policing uplink packets that exceed both the committed-data-rate and the peak-data-rate.

Syntax Enumerated Integer. Supports the following value(s):

- Transmit = 0
- Drop = 1
- Lower-IP-Precedence = 2
- Buffer = 3
- Transmit-On-Buffer-Full = 4

Length 4

Type 26

Vendor ID 8164

VSA Type 84

SN-Traffic-Group

This attribute is used to assign a tag to an FA or a group of FAs, so that traffic policy can be enforced based on the tag value.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 8164

VSA Type 161

SN-TrafficSelector-Class

The ipsec traffic selector class.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 307

SN-Transparent-Data

This attribute is used by RADIUS to provide Global Title information for the GGSN to use in CDRs and Quota Auth.

Syntax Opaque Value

Length 1-247

Type 26

Vendor ID 8164

VSA Type 247

SN-Tun-Addr-Policy

Describes IP address validation policy for non L2TP tunneled calls.

Syntax Enumerated Integer. Supports the following value(s):

- no-local-alloc-validate = 0
- local-alloc = 1
- local-alloc-validate = 2

Length 4

Type 26

Vendor ID 8164

VSA Type 156

SN-Tunnel-Gn

Used to enable/disable Gn interface from PDG/TTG to GGSN.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 174

SN-Tunnel-ISAKMP-Crypto-Map

This attribute specifies the system-defined crypto map to use for the subscriber's Mobile-IP connection, when IPSec is used to protect the Mobile-IP connection. This attribute is salt-encrypted.

Syntax String

Length 1-128

Type 26

Vendor ID 8164

VSA Type 38

SN-Tunnel-ISAKMP-Secret

This attribute specifies the secret to use for IKE.

Syntax String

Length 1-128

Type 26

Vendor ID 8164

VSA Type 39

SN-Tunnel-Load-Balancing

This attribute specifies the load-balancing algorithm to use when tunneling is employed.

Syntax Enumerated Integer. Supports the following value(s):

- random = 1
- balanced = 2
- prioritized = 3

Length 4

Type 26

Vendor ID 8164

VSA Type 27

SN-Tunnel-Password

This attribute contains a secret for tunneling usage. Currently this is only used for L2TP. It is recommended that you use the Tunnel-Password attribute if your RADIUS server supports salt-encryption of attributes.

Syntax Opaque Value

Length 1-240

Type 26

Vendor ID 8164

VSA Type 26

SN-Unclassify-List-Name

Unclassify List Name.

Syntax String

Length 1-32

Type 26

Vendor ID 8164

VSA Type 132

SN-User-Privilege

This attribute specifies the user privilege.

Syntax Enumerated Integer. Supports the following value(s):

- Administrative = 6
- NAS_Prompt = 7
- Inspector = 19650516
- Security_Admin = 19660618

Length 4

Type 26

Vendor ID 8164

VSA Type 313

SN-Virtual-APN-Name

This attribute contains the virtual APN name.

Syntax Opaque Value

Length 1-64

Type 26

Vendor ID 8164

VSA Type 94

SN-Visiting-Behavior

This attribute specifies the configuration for the behavior bits settings for a visiting subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 120

SN-Visiting-Profile

This attribute specifies the configuration for the profile bits settings for a visiting subscriber in an APN.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 117

SN-Visiting-Sub-Use-GGSN

This attribute configures GGSN to accept GGSN's charging characteristics for visiting subscribers defined for the APN.

Syntax Enumerated Integer. Supports the following value(s):

- Deny = 0
- Accept = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 107

SN-Voice-Push-List-Name

SN-Voice-Push-List-Name.

Syntax String

Length 1-32

Type 26

Vendor ID 8164

VSA Type 131

SN-VPN-ID

This attribute contains the Destination VPN of the user, specified by a 32-bit identifier.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 8164

VSA Type 1

SN-VPN-Name

This attribute contains the name of the user's Destination VPN.

Syntax String

Length 1-253

Type 26

Vendor ID 8164

VSA Type 2

SN-VRF-Name

This attribute specifies the IP VRF context to distinguish the RADIUS accounting feeds per enterprise.

Syntax String

Length 1-63

Type 26

Vendor ID 8164

VSA Type 242

SN-WiMAX-Auth-Only

Specifies whether the call is established for Authentication Mode Only.

Syntax Enumerated Integer. Supports the following value(s):

- Disabled = 0
- Enabled = 1

Length 1

Type 26

Vendor ID 8164

VSA Type 306

SN-WLAN-AP-Identifier

This attribute contains the access point identifier for WLAN UE. This attribute comprises LAC and CI digits separated by an underscore. This AP identifier may include Access point MAC address or MAC/SSID. This attribute is received in Acct-Start / Acct-Interim message from WLC.

Syntax Opaque Value

Length 1-48

Type 26

Vendor ID 8164

VSA Type 319

SN-WLAN-UE-Identifier

This attribute contains the identifier for WLAN UE, i.e. device's MAC address in Calling-Station-Id attribute format according to RFC 3580 (MAC address in ASCII format (upper case only), with octet values separated by a "-"). Example: "00-10-A4-23-19-C0". This attribute is received in Acct-Start / Acct-Interim message from WLC.

Syntax Opaque Value

Length 1-17

Type 26

Vendor ID 8164

VSA Type 320

SN-WSG-MIP-Release-TIA

WSG Mobile IP Release TIA

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 317

SN-WSG-MIP-Required

This attribute indicates whether or not the WSG Mobile IP is required.

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 316

SN-WSG-MIP-Simple-IP-Fallback

WSG Mobile IP Simple IP Fallback

Syntax Enumerated Integer. Supports the following value(s):

- No = 0
- Yes = 1

Length 4

Type 26

Vendor ID 8164

VSA Type 318

Terminal-Capability

Opaque one byte value received from customer RADIUS server in Access Request. Used in custom dictionary.

Syntax Opaque Value

Length 1

Type 26

Vendor ID 5535

VSA Type 219

Termination-Action

Indicates what action the NAS should take when the service is completed. AAAMgr passes this attribute to SessMgr only for ASN-GW calls. The combination of Session-Timeout and Termination-Action attributes received in Access-Accept or Access-Challenge determines how NAS should interpret it.

Syntax Enumerated Integer. Supports the following value(s):

- Default = 0
- RADIUS-Request = 1

Length 4

Type 29

Vendor ID N/A

VSA Type N/A

Tunnel-Assignment-ID

This attribute indicates the tunnel to which the session is to be assigned.

Syntax Opaque Value

Length 1-252

Type 82

Vendor ID N/A

VSA Type N/A

Tunnel-Client-Auth-ID

This attribute contains the name of the client for the purposes of tunnel authentication.

Syntax Opaque Value

Length 1-252

Type 90

Vendor ID N/A

VSA Type N/A

Tunnel-Client-Endpoint

This attribute is an identifier of the Tunnel client. When Tunnel-Medium-Type = IPv4, then this attribute is in the form of an IP address string in "dotted-decimal" notation.

Syntax Opaque Value

Length 1-250

Type 66

Vendor ID N/A

VSA Type N/A

Tunnel-Medium-Type

This attribute indicates the protocol medium over which the tunneling protocol runs. It is used to describe the format of the attributes Tunnel-Client-Endpoint and Tunnel-Server-Endpoint.

Syntax Enumerated Integer. Supports the following value(s):

- IPv4 = 1
- IPv6 = 2
- NSAP = 3
- HDLC = 4
- BBN-1822 = 5
- IEEE-802 = 6
- E-163 = 7
- E-164 = 8

- F-69 = 9
- X-121 = 10
- IPX = 11
- Appletalk = 12
- Decnet-IV = 13
- Banyan-Vines = 14
- E-164-NSAP-Subaddress = 15

Length 4

Type 65

Vendor ID N/A

VSA Type N/A

Tunnel-Password

This attribute contains a shared secret for the Tunnel connection. It is salt-encrypted.

Syntax Opaque Value

Length 1-240

Type 69

Vendor ID N/A

VSA Type N/A

Tunnel-Preference

This attribute indicates the priority given to the tunnel group. The tunnel group is defined as those tunnel attributes that have the same tag.

Syntax Unsigned Integer

Length 4

Type 83

Vendor ID N/A

VSA Type N/A

Tunnel-Private-Group-ID

This attribute contains the context of the tunnel.

Syntax String

Length 1-252

Type 81

Vendor ID N/A

VSA Type N/A

Tunnel-Server-Auth-ID

This attribute contains the name of the server for the purposes of tunnel authentication.

Syntax Opaque Value

Length 1-252

Type 91

Vendor ID N/A

VSA Type N/A

Tunnel-Server-Endpoint

This attribute is an identifier of the Tunnel server. When Tunnel-Medium-Type = IPv4, then this attribute is in the form of an IP address string in "dotted-decimal" notation.

Syntax Opaque Value

Length 1-250

Type 67

Vendor ID N/A

VSA Type N/A

Tunnel-Type

This attribute indicates the type of tunnel used by the subscriber.

Syntax Enumerated Integer. Supports the following value(s):

- PPTP = 1
- L2F = 2
- L2TP = 3
- ATMP = 4
- VTP = 5
- AH = 6
- IP-IP = 7
- MIN-IP-IP = 8
- ESP = 9
- GRE = 10
- DVS = 11

- MIP = 12
- VLAN = 13
- GN = 14
- UDP = 15

Length 4

Type 64

Vendor ID N/A

VSA Type N/A

User-Name

This attribute indicates the name of the user to be authenticated. This field can contain a stand-alone user name, or a user name and domain name. The format of this field is variable and configurable on a per-context basis. Separation of user and domain names is delineated by a special character, which can be %, -, @, \, #, and /. The user name may appear before the domain name or after. If this attribute is included in the Access-Accept, then the value of that attribute will be the value of the User-Name attribute in subsequent Accounting-Request messages for that particular session.

Syntax Opaque Value

Length 1-253

Type 1

Vendor ID N/A

VSA Type N/A

User-Password

This attribute contains the encrypted password of the user, when simple password authentication is being used.

Syntax Opaque Value

Length 16-128

Type 2

Vendor ID N/A

VSA Type N/A

White-List

This attribute contains the list of IMSIs which are allowed to access through an HNB.

Syntax Opaque Value

Length 3-251

Type 26

Vendor ID 9

VSA Type 117

WiMAX-Acct-Input-Packets-Giga

Number of packets incremented each time Acct-Input-Packets(47) overflows.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 48

WiMAX-Acct-Output-Packets-Giga

Number of packets incremented each time Acct-Output-Packets(48) overflows.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 49

WiMAX-Active-Time

The period of time the session was NOT in idle state.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 39

WiMAX-Beginning-Of-Session

This attribute indicates whether the session is new or a continuation of previous flow.

Syntax Enumerated Integer. Supports the following value(s):

- False = 0
- True = 1

Length 4

Type 26

Vendor ID 24757

VSA Type 22

WiMAX-BS-ID

Uniquely identifies an NAP and a base station within that NAP. The first three octets representing the NAP operator identifier, and the next three the Base Station ID.

Syntax Opaque Value

Length 6-12

Type 26

Vendor ID 24757

VSA Type 46

WiMAX-Capability

This compound attribute identifies the supported WiMAX capabilities.

Type 26

Vendor ID 24757

VSA Type 1

Syntax Compound. Contains the following sub-attribute(s).

WiMAX-Release

Specifies WiMAX release of the sender.

Syntax String

Length 4

Type 1

Accounting-Capabilities

Describes accounting capabilities supported for the session.

Syntax Enumerated Integer. Supports the following value(s):

- None = 0x00
- IP-Session-Based = 0x01
- Flow-Based = 0x02
- IP-Session-And-Flow-Based = 0x03

Length 1

Type 2

Hotlining-Capabilities

Supported hotline capabilities.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Supported = 0x00
- Hotline-Profile-Id = 0x01
- NAS-Filter = 0x02
- HTTP-Redirection = 0x04
- Profile-Id-based-and-HTTP-Redirection-Rule-based = 0x05
- IP-Redirection = 0x08

Length 1

Type 3

Idle-Mode-Notification-Capabilities

Describes idle mode notification capabilities.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Supported = 0x00
- Supported = 0x01

Length 1

Type 4

ROHC-Support

Describes ROHC capability support for the session

Syntax Enumerated Integer. Supports the following value(s):

- Not-Supported = 0x00
- Supported = 0x01

Length 1

Type 11

WiMAX-Control-Octets-In

Octet counts for incoming Mobile IP, DHCP, ICMP messages for IPv4 and IPv6.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 32

WiMAX-Control-Octets-Out

Octet counts for outgoing Mobile IP, DHCP, ICMP messages for IPv4 and IPv6.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 34

WiMAX-Control-Packets-In

Packet counts for incoming Mobile IP, DHCP, ICMP messages for IPv4 and IPv6.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 31

WiMAX-Control-Packets-Out

Packet counts for outgoing Mobile IP, DHCP, ICMP messages for IPv4 and IPv6.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 24757

VSA Type 33

WiMAX-Count-Type

Indicates if the record represents compressed counts over-the-air.

Syntax Unsigned Integer

Length 1

Type 26

Vendor ID 24757

VSA Type 59

WiMAX-Device-Auth-Indicator

Indicates whether NAS performed device authentication successfully or not.

Syntax Unsigned Integer

Length 1

Type 26

Vendor ID 24757

VSA Type 2

WiMAX-Flow-Description

Describes a flow classifier.

Syntax String

Length 1-240

Type 26

Vendor ID 24757

VSA Type 50

WiMAX-Home-HNP-PMIP6

The IPv6 Home Network Prefix assigned by the AAA in HCSN to the MS for PMIP6 mobility session.

Syntax Opaque Value

Length 2-18

Type 26

Vendor ID 24757

VSA Type 133

WiMAX-Home-IPv4-HoA-PMIP6

The IPv4 Home Address assigned by the CSN to the MS for PMIP6-IPv4 mobility session.

Syntax IPv4 Address

Length 4

Type 26

Vendor ID 24757

VSA Type 135

WiMAX-Idle-Mode-Transition

A flag indicating whether the mobile node is in idle mode or not. When the mobile node enters or exits idle mode, an interim accounting message that includes WiMAX-Idle-Mode-Transition(26/44) attribute is generated instantly. The value of this attribute is 1 when mobile enters idle mode, and 0 when mobile exits idle mode. If accounting mode is flow based, then the asynchronous interim message is generated only for an ISF and not for all the flows in the session. Regular interim accounting if enabled, is not affected by idle mode entry. Also, the regular interim messages will not include WiMAX-Idle-Mode-Transition attribute.

Syntax Enumerated Integer. Supports the following value(s):

- Not-Idle = 0x00
- Idle = 0x01

Length 1

Type 26

Vendor ID 24757

VSA Type 44

WiMAX-IP-Technology

Indicates the type of WiMAX session being used.

Syntax Enumerated Integer. Supports the following value(s):

- SIP = 1
- PMIP4 = 2
- CMIP4 = 3
- CMIP6 = 4
- Ethernet-CS = 5
- PMIP6 = 6

Length 4

Type 26

Vendor ID 24757

VSA Type 23

WiMAX-NAP-ID

Uniquely identifies the Network Access Provider.

Syntax String

Length 3

Type 26

Vendor ID 24757

VSA Type 45

WiMAX-NSP-ID

Uniquely identifies the Network Service Provider.

Syntax Opaque Value

Length 3

Type 26

Vendor ID 24757

VSA Type 57

WiMAX-Packet-Flow-Descriptor

This compound attribute describes a packet flow. A packet flow may describe uni-directional flow and bi-directional flow. The packet flow descriptor may be pre-provisioned. A packet flow descriptor references one or two QoS specifications.

Type 26

Vendor ID 24757

VSA Type 28

Syntax Compound. Contains the following sub-attribute(s).

Length 4-1400

PDF-ID

Used to match all records from the same Packet Data Flow.

Syntax Unsigned Integer

Length 2

Type 1

SDF-ID

Used to match all PDFs from the same Service Data Flow.

Syntax Unsigned Integer

Length 2

Type 2

Service-Profile-ID

Identifies a pre-configured Flow Descriptor at the NAS.

Syntax Unsigned Integer

Length 4

Type 3

Direction

Direction of the PDF.

Syntax Enumerated Integer. Supports the following value(s):

- Uplink = 1
- Downlink = 2
- Bi-Directional = 3

Length 1

Type 4

Activation-Trigger

Specifies the trigger to be used for the activation of Service Flow.

Syntax Enumerated Integer. Supports the following value(s):

- Provisioned = 0x01
- Admit = 0x02
- Provisioned-Admit = 0x03
- Activate = 0x04
- Provisioned-Activate = 0x05
- Admit-Activate = 0x06
- Provisioned-Admit-Activate = 0x07 Dynamic = 0x08 Dynamic-Admit = 0x0a Dynamic-Activate = 0x0c Dynamic-Admit-Activate = 0x0e

Length 1

Type 5

Transport-Type

Type of transport (IP, Ethernet).

Syntax Enumerated Integer. Supports the following value(s):

- IPv4-CS = 1
- IPv6-CS = 2
- Ethernet = 3

Length 1

Type 6

Uplink-QoS-ID

Identifier of the QoS Descriptor for Uplink or Bidirection.

Syntax Unsigned Integer

Length 1

Type 7

Downlink-QoS-ID

Identifier of the QoS Descriptor for Downlink.

Syntax Unsigned Integer

Length 1

Type 8

Uplink-Classifier

Classifier to match for traffic flowing in Uplink Direction.

Syntax String

Length 1-240

Type 9

Downlink-Classifier

Classifier to match for traffic flowing in Downlink Direction.

Syntax String

Length 1-240

Type 10

WiMAX-Packet-Flow-Descriptor-V2

Describes a Unidirectional or Bidirectional Packet Flow Descriptor Version 2. This attribute is also accepted in CoA request message to be used in a currently active subscriber session.

Length 4-1400

Type 26

Vendor ID 24757

VSA Type 84

Syntax Compound. Contains the following sub-attribute(s).

PDF-ID

Used to match all records from the same Packet Data Flow.

Syntax Unsigned integer

Length 2

Type 1

SDF-ID

Used to match all PDFs from the same Service Data Flow.

Syntax Unsigned integer

Length 2

Type 2

Service-Profile-ID

Identifies a pre-configured Flow Descriptor at the NAS.

Syntax Unsigned integer

Length 4

Type 3

Direction

Direction of the PDF.

Syntax Enumerated integer. Supported values are:

- Uplink = 1
- Downlink = 2
- Bi-Directional = 3

Length 1

Type 4

Activation-Trigger

Specifies the trigger to be used for the activation of Service Flow.

Syntax Enumerated integer. Supported values are:

- Provisioned = 0x01
- Admit = 0x02
- Activate = 0x04
- Dynamic = 0x08

Length 1

Type 5

Transport-Type

Type of transport (IP, Ethernet).

Syntax Enumerated integer. Supported values are:

- IPv4-CS = 1
- IPv6-CS = 2
- Ethernet = 3

Length 1

Type 6

Uplink-QoS-ID

Identifier of the QoS Descriptor for Uplink or Bidirection.

Syntax Unsigned integer

Length 1

Type 7

Downlink-QoS-ID

Identifier of the QoS Descriptor for Downlink.

Syntax Unsigned integer

Length 1

Type 8

WiMAX-Packet-Flow-Classifier

Describes Packet Flow Classifiers.

Type 9

Syntax Contains the following sub-attributes:

Classifier-ID

WiMAX Classifier ID.

Syntax Unsigned integer

Length 1

Type 1

Priority

WiMAX Classifier Priority.

Syntax Unsigned integer

Length 1

Type 2

Protocol

WiMAX Classifier Protocol, i.e TCP/UDP.

Syntax In StarOS 10.0 and earlier: Enumerated integer. Supported values are:

- ICMP = 1
- TCP = 6
- UDP = 17

In StarOS 10.2 and later: Unsigned integer.

Length 1

Type 3

Direction

Direction of the PDF.

Syntax Enumerated integer. Supported values are:

- Uplink = 1
- Downlink = 2
- Bi-Directional = 3

Length 1

Type 4

Source-Specification

Identifies WiMAX classifier rule params for source specification.

Length 1

Type 5

Syntax Contains the following sub-attributes:

IP-Address

This attribute contains source/destination address.

Syntax IPv4 address

Length 4

Type 1

IP-Address-Range

WiMAX Packet Classifier IP Address Range.

Syntax Opaque value

Length 1

Type 2

IP-Address-Mask

WiMAX Packet Classifier IP Address Mask.

Syntax Opaque value

Length 5

Type 3

Port

WiMAX Packet Classifier Port.

Syntax Unsigned integer

Length 2

Type 4

Port-Range

WiMAX Packet Classifier Port Range.

Syntax Unsigned integer

Length 4

Type 5

Inverted

WiMAX Classifier Inverted.

Syntax Enumerated integer. Supported values are:

- FALSE = 0
- TRUE = 1

Length 1

Type 6

Assigned

WiMAX Classifier Assigned.

Syntax Enumerated integer. Supported values are:

- Src_Assigned = 1
- Dest_Assigned = 2
- Src_Dest_Assigned = 3

Length 1

Type 7

Destination-Specification

Identifies WiMAX classifier rule params for destination specification.

Syntax Contains the following sub-attribute(s):

Type 6

IP-Address

This attribute contains source/destination address.

Syntax IPv4 address

Length 4

Type 1

IP-Address-Range

WiMAX Packet Classifier IP Address Range.

Syntax Opaque value

Length 8

Type 2

IP-Address-Mask

WiMAX Packet Classifier IP Address Mask.

Syntax Opaque value

Length 5

Type 3

Port

WiMAX Packet Classifier Port.

Syntax Unsigned integer

Length 2

Type 4

Port-Range

WiMAX Packet Classifier Port Range.

Syntax Unsigned integer

Length 4

Type 5

Inverted

WiMAX Classifier Inverted.

Syntax Enumerated integer. Supported values are:

- FALSE = 0
- TRUE = 1

Length 1

Type 6

Assigned

WiMAX Classifier Assigned.

Syntax Enumerated integer. Supported values are:

- Src_Assigned = 1
- Dest_Assigned = 2
- Src_Dest_Assigned = 3

Length 1

Type 7

IP-TOS-DSCP-Range-And-Mask

WiMAX Classifier WiMAX-IP-TOS-DSCP-Range-And-Mask.

Syntax Opaque value

Length 1-3

Type 7

Action

WiMAX Classifier Action.

Syntax Enumerated integer. Supported values are:

- Reserved = 0
- Permit = 1
- Deny = 2

Length 1

Type 8

Paging-Preference

WiMAX Paging Preference.

Syntax Enumerated integer. Supported values are:

- FALSE = 0
- TRUE = 1

Length 1

Type 10

WiMAX-PDF-ID

The value of this attribute matches all records from the same packet data flow. PDFID is assigned by the CSN and remains constant through all handover scenarios.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 24757

VSA Type 26

WiMAX-PPAC

The Prepaid-Accounting-Capability (PPAC) attribute is sent in the Access-Request message by a prepaid capable ASNGW, and is used to describe the prepaid capabilities of the ASNGW. The absence of this attribute indicates that the client is not capable of prepaid accounting and the session should not use prepaid accounting.

Type 26

Vendor ID 24757

VSA Type 35

Syntax Compound. Contains the following sub-attribute(s).

Available-In-Client

The optional Available-In-Client subtype, generated by the PPC, indicates the metering capabilities of the NAS and is be bitmap encoded.

Syntax Enumerated Integer. Supports the following value(s):

- Supported_None = 0
- Supported_Volume = 1
- Supported_Duration = 2
- Supported_Volume_And_Duration = 3
- Supported_Tariff_Switch = 64
- Supported_Volume_And_Duration_And_Tariff_Switch = 67

Length 4

Type 1

WiMAX-PPAQ

Prepaid Quota, used for charging, report usage, and request quota. This attribute specifies the characteristics for pre-paid accounting of the volume and/or duration of a packet data session. It should be present in all on-line RADIUS Access-Request and on-line RADIUS Access-Accept messages and may be included in other RADIUS Access-Accept messages. In Authorize-Only Access-Request messages, it is used for one-time charging, report usage and the request for further quota. In an Access-Accept message it is used in order to allocate the (initial and subsequent) quotas.

Type 26

Vendor ID 24757

VSA Type 37

Syntax Compound. Contains the following sub-attribute(s).

Quota-Identifier

It is generated by the PPS together with the allocation of new quota.

Syntax Opaque Value

Length 1-4

Type 1

Volume-Quota

Indicates the volume in octets excluding control data.

Syntax Opaque Value

Length 4-12

Type 2

Volume-Threshold

Is generated by the PPS and indicates the volume (in octets) that be consumed before a new quota should be requested.

Syntax Opaque Value

Length 4-12

Type 3

Duration-Quota

3GPP2 PrePaid Duration Quota. This is optionally present if duration-based charging is used. In RADIUS Access-Accept message, it indicates the duration (in seconds) allocated for the session by the PPS. In an on-line RADIUS Access-Accept message, it indicates the total duration (in seconds) since the start of the accounting session related to the QuotaID of the PPAQ in which it occurs.

Syntax Unsigned Integer

Length 4

Type 4

Duration-Threshold

3GPP2 PrePaid Duration Quota Threshold. This is optionally present if Duration-Quota is present in a RADIUS Access-Accept message. It is generated by the PPS and indicates the duration (in seconds) that should be consumed before a new quota should be requested. This threshold should not be larger than the Duration-Quota.

Syntax Unsigned Integer

Length 4

Type 5

Update-Reason

Reason for initiating online quota update operation. This should be present in the Authorize-Only RADIUS Access-Request message. It indicates the reason for initiating the on-line quota update operation. Update reasons 6, 7, 8, and 9 indicate that the associated resources are released at the client side, and that therefore the PPS should not allocate a new quota in the RADIUS Access-Accept message.

Syntax Enumerated Integer. Supports the following value(s):

- Pre-Initialization = 1
- Initial-Request = 2
- Threshold-Reached = 3
- Quota-Reached = 4
- TITSU-Approaching = 5
- Remote-Forced-Disconnect = 6
- Client-Service-Termination = 7
- Access-Service-Terminated = 8
- Service-Not-Established = 9
- One-Time-Charging = 10

Length 1

Type 8

Pre-Paid-Server

PrePaid server IP address. This optional subtype indicates the address IPv4 of the serving PPS. If present, the Home RADIUS server uses this address to route the message to the serving PPS. The attribute may be sent by the Home RADIUS server. Multiple instances of this subtype may be present in a single PPAQ. If present in the incoming RADIUS Access-Accept message, the ASNGW should send this attribute back without modifying it in the subsequent RADIUS Access-Request message.

Syntax IPv4 Address

Length 4

Type 9

Service-ID

This value is a string that uniquely describes the service instance to which prepaid metering should be applied.

Syntax Opaque Value

Length 1-246

Type 10

Rating-Group-ID

Rating-Group-ID for which the WiMAX PPAQ is allocated or reported.

Syntax Unsigned Integer

Length 4

Type 11

Termination-Action

Describes action to take when PPS does not grant additional quota.

Syntax Enumerated Integer. Supports the following value(s):

- Reserved = 0
- Terminate = 1
- Request-more-quota = 2
- Redirect/Filter = 3

Length 1

Type 12

WiMAX-Prepaid-Indicator

Indicates that this session was associated with a prepaid user (online accounting).

Syntax Enumerated Integer. Supports the following value(s):

- Offline = 0
- Online = 1

Length 1

Type 26

Vendor ID 24757

VSA Type 25

WiMAX-Prepaid-Tariff-Switch

Attribute to indicate Tariff-Switch-Interval / Time-Interval-After-Tariff-Switch-Update by the PPS and Volume-Used-After-Tariff-Switch by the PPC.

Type 26

Vendor ID 24757

VSA Type 38

Syntax Compound. Contains the following sub-attribute(s).

Quota-Identifier

It is generated by the PPS together with the allocation of new quota.

Syntax Opaque Value

Length 1-4

Type 1

Volume-Used-After-Tariff-Switch

Volume quota used after tariff switch happened.

Syntax Unsigned Integer

Length 4

Type 2

Tariff-Switch-Interval

Tariff switch interval in seconds.

Syntax Unsigned Integer

Length 4

Type 3

Time-Interval-After-Tariff-Switch-Update

Duration after TSI where an on-line RADIUS Access-Request is sent by PrePaid client to report VUATS before the next TS condition is triggered

Syntax Unsigned Integer

Length 4

Type 4

WiMAX-QoS-Descriptor

This attribute describes over the air QoS parameter that are associated with a flow. The QoS-Descriptor is only valid for the actual RADIUS transaction.

Type 26

Vendor ID 24757

VSA Type 29

Syntax Compound. Contains the following sub-attribute(s).

Length 6-700

QoS-ID

Unique ID for the QoS specification in the packet

Syntax Unsigned Integer

Length 1

Type 1

Global-Service-Class-Name

Specifies global service class name as defined in IEEE802.16e.

Syntax String

Length 6

Type 2

Service-Class-Name

Specifies service class name as defined in IEEE802.16e.

Syntax String

Length 2-127

Type 3

Schedule-Type

Specifies the uplink granted scheduling type.

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 2
- nrtPS = 3
- rtPS = 4
- Extended-rtPS = 5
- UGS = 6

Length 1

Type 4

Traffic-Priority

Specifies the priority assigned to a service flow.

Syntax Unsigned Integer

Length 1

Type 5

Maximum-Sustained-Traffic-Rate

Specifies peak information rate of the service in bits/second.

Syntax Unsigned Integer

Length 4

Type 6

Minimum-Reserved-Traffic-Rate

Syntax Unsigned Integer

Length 4

Type 7

Maximum-Traffic-Burst

Specifies maximum burst size accommodated for the Service in bytes/second.

Syntax Unsigned Integer

Length 4

Type 8

Tolerated-Jitter

Specifies maximum delay variation in milliseconds.

Syntax Unsigned Integer

Length 4

Type 9

Maximum-Latency

Specifies maximum latency in milliseconds.

Syntax Unsigned Integer

Length 4

Type 10

Reduced-Resources-Code

Indicates that requesting entity will accept reduced resources if requested resources are unavailable.

Syntax Unsigned Integer

Length 1

Type 11

Media-Flow-Type

Specifies the application type, used as a hint in admission decisions.

Syntax Enumerated Integer. Supports the following value(s):

- VoIP = 1
- Robust-Browser = 2
- Secure-Browser/VPN = 3
- Streaming-Video-On-Demand = 4
- Streaming-Live-TV = 5
- Music-Photo-Download = 6
- Multi-Player-Gaming = 7
- Location-Based-Services = 8
- Text-Audio-Books-With-Graphics = 9
- Video-Conversation = 10
- Message = 11
- Control = 12
- Data = 13

Length 1

Type 12

Unsolicited-Grant-Interval

Specifies nominal interval between successive data grant opportunities for the Service Flow, in milliseconds.

Syntax Unsigned Integer

Length 2

Type 13

SDU-Size

Specifies the number of bytes in the fixed size SDU.

Syntax Unsigned Integer

Length 1

Type 14

Unsolicited-Polling-Interval

Specifies maximal nominal interval between successive polling grant opportunities for the Service Flow.

Syntax Unsigned Integer

Length 2

Type 15

Transmission-Policy

Include options for PDU formation, and for uplink service flows, restrictions on the types of bandwidth request options that may be use.

Syntax Unsigned Integer

Length 1

Type 17

DSCP

DSCP

Syntax Enumerated Integer. Supports the following value(s):

- Best-Effort = 0
- CS1 = 8
- AF11 = 10
- AF12 = 12
- AF13 = 14
- CS2 = 16
- AF21 = 18
- AF22 = 20
- AF23 = 22
- CS3 = 24
- AF31 = 26
- AF32 = 28
- AF33 = 30
- CS4 = 32
- AF41 = 34
- AF42 = 36
- AF43 = 38
- CS5 = 40
- EF = 46
- CS6 = 48

- CS7 = 56

Length 4

Type 18

WiMAX-SDF-ID

The value of this attribute matches all records from the same packet data flow. SDFID is assigned by the CSN and remains constant through all handover scenarios.

Syntax Unsigned Integer

Length 2

Type 26

Vendor ID 24757

VSA Type 27

WiMAX-Session-Continue

The value of this attribute matches all records from the same packet data flow. SDFID is assigned by the CSN and remains constant through all handover scenarios.

Syntax Enumerated Integer. Supports the following value(s):

- False = 0
- True = 1

Length 4

Type 26

Vendor ID 24757

VSA Type 21

WiMAX-Session-Term-Capability

WiMAX session term capability. This attribute is included in a RADIUS Access-Request message to the RADIUS server and indicates whether or not the NAS supports Dynamic Authorization.

Syntax Enumerated Integer. Supports the following value(s):

- Only_Dynamic_Auth_Extn_to_Radius = 0x00000001
- Only_Reg_Revocation_in_MIP = 0x00000002
- Both_Dynamic_Auth_And_Reg_Revocation_in_MIP = 0x00000003

Length 4

Type 26

Vendor ID 24757

VSA Type 36

Win-Call-Id

Customer-specific attribute used in custom dictionary. Contains opaque 1 byte value received from customer RADIUS server in access request.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 205

Win-Service-Name

Opaque value value received from customer RADIUS server in Access Request. Used in custom dictionary.

Syntax String

Length 0-256

Type 26

Vendor ID 5535

VSA Type 206

WSType

Opaque one byte value received from customer RADIUS server in Access Request.

Syntax Unsigned Integer

Length 4

Type 26

Vendor ID 5535

VSA Type 197

WSType