**3GPP TSG-CT WG1 Meeting #141eC1-232647**

**Online 17– 21 April 2023 *was* C1-232122**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Correction to IKEv2 Notify payloads | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Huawei | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 2023-04-18 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In the subclauses 9.3.1.1 to 9.3.1.6, the IP address field indicates either the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access, only one IP address is included, so the "or" shall be used instead of "and".  And "Notify" is missing in many places.  Additionally, some of the editorial errors exist, e.g " establishent" in subclause 9.2.6. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Change "and" to "or" in the description of IP address field in subclauses 9.3.1.1 to 9.3.1.6;  Add the missing "Notify" in subclauses 9.3.1.1 to 9.3.1.6;  Fix the editorial errors in 7.8.1 and 9.2.6. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The specification is unclear on either the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access is included for a number of IKEv2 Notify payloads. Furthermore, some editorials exists. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.8.1, 9.2.6, 9.3.1.1, 9.3.1.2, 9.3.1.3, 9.3.1.4, 9.3.1.5, 9.3.1.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR … CR … | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

### 7.8.1 General

The UE-initiated liveness check procedure enables the UE to detect whether the N3IWF for untrusted non-3GPP access and the TNGF for trusted non-3GPP access is alive.

\* \* \* Next Change \* \* \* \*

### 9.2.6 TNGF IPv6 contact info

The purpose of the TNGF IPv6 contact info information element is to indicate the IPv6 address of the TNGF to be used for IKE SA establishment.

The TNGF IPv6 contact info is a type 4 information element with a length of 18 octets.

The TNGF IPv6 contact info information element is coded as shown in figure 9.2.6-1 and table 9.2.6-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| TNGF IPv6 contact info IEI | | | | | | | | octet 1 |
| Length of TNGF IPv6 contact info contents | | | | | | | | octet 2 |
| TNGF IPv6 address | | | | | | | | octet 3 - 18 |

Figure 9.2.6-1: TNGF IPv6 contact info information element

Table 9.2.6-1: TNGF IPv6 contact info information element

|  |
| --- |
| TNGF IPv6 address contains IPv6 address of the TNGF for IKE SA establishment over trusted non-3GPP access network. |

\* \* \* Next Change \* \* \* \*

#### 9.3.1.1 5G\_QOS\_INFO Notify payload

The 5G\_QOS\_INFO Notify payload is used to indicate:

a) the PDU session identity;

b) zero or more QFIs;

c) optionally a DSCP value associated with the child SA;

d) whether the child SA is the default child SA; and

e) if trusted non-3GPP access, Additional QoS Information or if untrusted non-3GPP access, optionally Additional QoS Information.

The 5G\_QOS\_INFO Notify payload is coded according to figure 9.3.1.1-1 and table 9.3.1.1-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | |  |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Protocol ID | | | | | | | | 1 |
| SPI Size | | | | | | | | 2 |
| Notify Message Type | | | | | | | | 3 - 4 |
| Length | | | | | | | | 5 |
| PDU Session Identity | | | | | | | | 6 |
| Number of QFIs | | | | | | | | 7 |
| QFI List | | | | | | | | 8\* - x\* |
| 0  Spare | 0  Spare | 0  Spare | 0  Spare | 0  Spare | QoSI | DCSI | DSCPI | x+1 |
| DSCP | | | | | | | | x+2\* |
| Additional QoS Information | | | | | | | | x+3\* - x+y\* |

Figure 9.3.1.1-1: 5G\_QOS\_INFO Notify payload format

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | |  |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Number of parameters | | | | | | | | x+3 |
| Parameters list | | | | | | | | x+4 – x+y |

Figure 9.3.1.1-2: Additional QoS Information

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Parameter 1 | | | | | | | | x+4 – x+k |
| Parameter 2 | | | | | | | | x+k+1 – x+p |
| … | | | | | | | | x+p+1 – x+q |
| Parameter m | | | | | | | | x+q+1 – x+y |

Figure 9.3.1.1-3: Parameters list

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Parameter identifier | | | | | | | | x+4 |
| Length of parameter contents | | | | | | | | x+5 |
| Parameter contents | | | | | | | | x+6 – x+k |

Figure 9.3.1.1-4: Parameter

Table 9.3.1.1-1: 5G\_QOS\_INFO Notify payload value

|  |  |
| --- | --- |
| Octet 1 is defined in IETF RFC 7296 [6] | |
| Octet 2 is the SPI Size field. It is set to 0 and there is no Security Parameter Index field. | |
| Octet 3 and Octet 4 is the Notify Message Type field. The Notify Message Type field is set to value 55501 to indicate the 5G\_QOS\_INFO. | |
| Octet 5 is the Length field. This field indicates the length in octets of the 5G\_QOS\_INFO Notify payload starting from octet 6. | |
| Octet 6 is the PDU Session Identity field. This field indicates the PDU session associated with the child SA for user plane. | |
| Octet 7 is the Number of QFIs field. This field indicates the number of QFIs in the QFI list. | |
| Octet 8 to octet x is the QFI List field. This field indicates those QoS flows associated with the child SA. Every QFI is coded as the QFI field in the QoS rule defined in 3GPP TS 24.501 [4]. | |
| Octet x+1, bit 0 is the DSCP included field (DSCPI).  0 DSCP field is not included.  1 DSCP field is included. | |
| Octet x+1, bit 1 is the indication of whether the child SA is the default child SA (DCSI).  0 the child SA is not the default child SA.  1 the child SA is the default child SA. | |
| Octet x+1, bit 2 is the Additional QoS Information indication field (QoSI)  0 Additional QoS Information is not included.  1 Additional QoS Information is included. | |
| Octet x+2 is the DSCP field. If included, this field indicates the DSCP marking for all IP packets sent over this child SA. | |
| Octet x+3 to octet x+y is the Additional QoS Information field which is included if the access network is the trusted non-3GPP access network, and is optionally included if the access network is the untrusted non-3GPP access network. This field is encoded as defined in table 9.3.1.1-2. | |
|  | |

Table 9.3.1.1-2: Additional QoS Information

|  |
| --- |
| Octet x+3 is number of parameters  The number of parameters field contains the binary coding for the number of parameters in the parameters list field. The number of parameters field is encoded in bits 7 through 0 of octet x+3 where bit 7 is the most significant and bit 0 is the least significant bit. |
| The parameter identifier field is used to identify each parameter included in the parameters list and it contains the binary coding of the parameter identifier. Bit 7 of the parameter identifier field contains the most significant bit and bit 0 contains the least significant bit. The following parameter identifiers are specified:  Bits  7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 1 QoS characteristics; 0 0 0 0 0 0 1 0 Maximum Flow Bit Rate downlink (MFBR downlink);  0 0 0 0 0 0 1 1 Maximum Flow Bit Rate uplink (MFBR uplink);  0 0 0 0 0 1 0 0 Guaranteed Flow Bit Rate downlink (GFBR downlink);  0 0 0 0 0 1 0 1 Guaranteed Flow Bit Rate uplink (GFBR uplink);  0 0 0 0 0 1 1 0 Notification Control;  0 0 0 0 0 1 1 1 Maximum Packet Loss Rate downlink; and 0 0 0 0 1 0 0 0 Maximum Packet Loss Rate uplink. All other values are spare.  If the parameters list contains a parameter identifier that is not supported by the receiving entity the corresponding parameter shall be discarded. |
| If the parameter identifier indicates QoS characteristics, the parameter contents field contains the following representation:  Octet 1 is the resource type with binary representation:  Bits  7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 GBR 0 0 0 0 0 0 0 1 Delayed critical GBR 0 0 0 0 0 0 1 0 Non GBR All other values are spare.  Octet 2 is the priority level with 1 as the highest priority and 127 as the lowest priority ((see clause 9.3.1.84 in 3GPP TS 38.413 [29], see NOTE), and the binary representation is:  Bits  7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 1 thru  0 1 1 1 1 1 1 1 All other values are spare.  Octets 3 and 4 are the packet delay budget and is a factor of 0.5ms (see clause 9.3.1.80 in 3GPP TS 38.413 [29], see NOTE), where the factor has the following binary representation:  Bits  7 6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 thru  0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 All other values are spare.  Octets 5 and 6 are the packet error rate where octet 5 is scalar and octet 6 represents exponent. The packet error rate is calculated as {scalar x10 – exponent} (see clause 9.3.1.81 in 3GPP TS 38.413 [29]) The binary representation of scalar and exponent are:  Bits  7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 thru  0 0 0 0 1 0 0 1 All other values are spare.  Octets 7 and 8 are the averaging window and is included if the resource type is GBR. Averaging window is a factor of 0.5ms with default value of 2000ms (see clause 9.3.1.82 in 3GPP TS 38.413 [29], see NOTE), where the factor has the following binary representation:  Bits  7 6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 thru  0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 All other values are spare.  Octets 9 and 10 are the maximum data burst volume and is included if the resource type is delayed critical GBR. Maximum data burst volume is the maximum number of the bytes for the data volume (see clause 9.3.1.83 in 3GPP TS 38.413 [29], see NOTE), where the maximum number of bytes has the following binary representation:  Bits  7 6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 thru  0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 All other values are spare.  For GBR and delayed critical GBR resource types if the parameter identifier indicates " GFBR downlink", the parameter contents field contains one octet indicating the unit of the guaranteed flow bit rate for downlink followed by two octets containing the value of the guaranteed flow bit rate for downlink.  Unit of the guaranteed flow bit rate for downlink (octet 1)  Bits  7 6 5 4 3 2 1 0  0 0 0 0 0 0 0 0 value is not used 0 0 0 0 0 0 0 1 value is incremented in multiples of 1 Kbps 0 0 0 0 0 0 1 0 value is incremented in multiples of 4 Kbps 0 0 0 0 0 0 1 1 value is incremented in multiples of 16 Kbps 0 0 0 0 0 1 0 0 value is incremented in multiples of 64 Kbps 0 0 0 0 0 1 0 1 value is incremented in multiples of 256 Kbps 0 0 0 0 0 1 1 0 value is incremented in multiples of 1 Mbps 0 0 0 0 0 1 1 1 value is incremented in multiples of 4 Mbps 0 0 0 0 1 0 0 0 value is incremented in multiples of 16 Mbps 0 0 0 0 1 0 0 1 value is incremented in multiples of 64 Mbps 0 0 0 0 1 0 1 0 value is incremented in multiples of 256 Mbps 0 0 0 0 1 0 1 1 value is incremented in multiples of 1 Gbps 0 0 0 0 1 1 0 0 value is incremented in multiples of 4 Gbps 0 0 0 0 1 1 0 1 value is incremented in multiples of 16 Gbps 0 0 0 0 1 1 1 0 value is incremented in multiples of 64 Gbps 0 0 0 0 1 1 1 1 value is incremented in multiples of 256 Gbps 0 0 0 1 0 0 0 0 value is incremented in multiples of 1 Tbps 0 0 0 1 0 0 0 1 value is incremented in multiples of 4 Tbps 0 0 0 1 0 0 1 0 value is incremented in multiples of 16 Tbps 0 0 0 1 0 0 1 1 value is incremented in multiples of 64 Tbps 0 0 0 1 0 1 0 0 value is incremented in multiples of 256 Tbps 0 0 0 1 0 1 0 1 value is incremented in multiples of 1 Pbps 0 0 0 1 0 1 1 0 value is incremented in multiples of 4 Pbps 0 0 0 1 0 1 1 1 value is incremented in multiples of 16 Pbps 0 0 0 1 1 0 0 0 value is incremented in multiples of 64 Pbps 0 0 0 1 1 0 0 1 value is incremented in multiples of 256 Pbps Other values shall be interpreted as multiples of 256 Pbps in this version of the protocol.  Value of the guaranteed flow bit rate for downlink (octets 2 and 3)  Octets 2 and 3 represent the binary coded value of the guaranteed flow bit rate for downlink in units defined by the unit of the guaranteed flow bit rate for downlink.  For GBR and delayed critical GBR resource types if the parameter identifier indicates " GFBR uplink", the parameter contents field contains one octet indicating the unit of the guaranteed flow bit rate for uplink followed by two octets containing the value of the guaranteed flow bit rate for uplink.  Unit of the guaranteed flow bit rate for uplink (octet 1)  The coding is identical to that of the unit of the guaranteed flow bit rate for downlink.  Value of the guaranteed flow bit rate for uplink (octets 2 and 3)  Octets 2 and 3 represent the binary coded value of the guaranteed flow bit rate for uplink in units defined by the unit of the guaranteed flow bit rate for uplink.  For GBR and delayed critical GBR resource types if the parameter identifier indicates " MFBR downlink", the parameter contents field contains one octet indicating the unit of the maximum flow bit rate for downlink followed by two octets containing the value of maximum flow bit rate for downlink.  Unit of the maximum flow bit rate for downlink (octet 1)  The coding is identical to that of the unit of the guaranteed flow bit rate for downlink.  Value of the maximum flow bit rate for downlink (octets 2 and 3)  Octets 2 and 3 represent the binary coded value of the maximum flow bit rate for downlink in units defined by the unit of the maximum flow bit rate for downlink.  For GBR and delayed critical GBR resource types if the parameter identifier indicates " MFBR uplink", the parameter contents field contains one octet indicating the unit of the maximum flow bit rate for uplink followed by two octets containing the value of the maximum flow bit rate for downlink.  Unit of the maximum flow bit rate for uplink (octet 1)  The coding is identical to that of the unit of the guaranteed flow bit rate for uplink.  Value of the maximum flow bit rate for uplink (octets 2 and 3)  Octets 2 and 3 represent the binary coded value of the maximum flow bit rate for uplink in units defined by the unit of the maximum flow bit rate for uplink.  For GBR and delayed critical GBR resource types if the parameter identifier indicates "Notification Control", the parameter identifier shall be ignored in this release.  For GBR and delayed critical GBR resource types if the parameter identifier indicates "Maximum Packet Loss Rate downlink", the parameter contents field contains the ratio of the lost downlink packets per number of downlink packets sent, expressed in tenth of percent (see clause 9.3.1.79 in 3GPP TS 38.413 [29], see NOTE), with the binary representation:  Bits  7 6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 thru  0 0 0 0 0 0 1 1 1 1 1 0 1 0 0 0 All other values are spare.  For GBR and delayed critical GBR resource types if the parameter identifier indicates "Maximum Packet Loss Rate uplink", the parameter contents field contains the ratio of the lost uplink packets per number of uplink packets sent, expressed in tenth of percent (see clause 9.3.1.79 in 3GPP TS 38.413 [29]), with the binary representation:  Bits  7 6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 thru  0 0 0 0 0 0 1 1 1 1 1 0 1 0 0 0 All other values are spare. |
| NOTE: The protocol specified in 3GPP TS 29.413 [39] uses IEs specified in 3GPP TS 38.413 [29]. |

\* \* \* Next Change \* \* \* \*

#### 9.3.1.2 NAS\_IP4\_ADDRESS Notify payload

The NAS\_IP4\_ADDRESS Notify payload is used to indicate the inner IPv4 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access for NAS message transport.

The NAS\_IP4\_ADDRESS Notify payload is coded according to figure 9.3.1.2-1 and table 9.3.1.2-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | |  |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Protocol ID | | | | | | | | 1 |
| SPI Size | | | | | | | | 2 |
| Notify Message Type | | | | | | | | 3 - 4 |
| IPv4 address | | | | | | | | 5 - 8 |

Figure 9.3.1.2-1: NAS\_IP4\_ADDRESS Notify payload format

Table 9.3.1.2-1: NAS\_IP4\_ADDRESS Notify payload value

|  |
| --- |
| Octet 1 is defined in IETF RFC 7296 [6] |
| Octet 2 is SPI Size field. It is set to 0 and there is no Security Parameter Index field. |
| Octet 3 and Octet 4 is the Notify Message Type field. The Notify Message Type field is set to value 55502 to indicate the NAS\_IP4\_ADDRESS. |
| Octet 5 to octet 8 is the IPv4 address field. The IPv4 address field contains the inner IPv4 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access for NAS message transport. |
|  |

\* \* \* Next Change \* \* \* \*

#### 9.3.1.3 NAS\_IP6\_ADDRESS Notify payload

The NAS\_IP6\_ADDRESS Notify payload is used to indicate the inner IPv6 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access for NAS message transport.

The NAS\_IP6\_ADDRESS Notify payload is coded according to figure 9.3.1.3-1 and table 9.3.1.3-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | |  |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Protocol ID | | | | | | | | 1 |
| SPI Size | | | | | | | | 2 |
| Notify Message Type | | | | | | | | 3 - 4 |
| IPv6 address | | | | | | | | 5 - 20 |

Figure 9.3.1.3-1: NAS\_IP6\_ADDRESS Notify payload format

Table 9.3.1.3-1: NAS\_IP6\_ADDRESS Notify payload value

|  |
| --- |
| Octet 1 is defined in IETF RFC 7296 [6] |
| Octet 2 is SPI Size field. It is set to 0 and there is no Security Parameter Index field. |
| Octet 3 and Octet 4 is the Notify Message Type field. The Notify Message Type field is set to value 55503 to indicate the NAS\_IP6\_ADDRESS. |
| Octet 5 to octet 20 is the IPv6 address field. The IPv6 address field contains the inner IPv6 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access for NAS message transport. |
|  |

\* \* \* Next Change \* \* \* \*

#### 9.3.1.4 UP\_IP4\_ADDRESS Notify payload

The UP\_IP4\_ADDRESS Notify payload is used to indicate the inner IPv4 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted on-3GPP access for GRE user data packet transport.

The UP\_IP4\_ADDRESS Notify payload is coded according to figure 9.3.1.4-1 and table 9.3.1.4-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | |  |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Protocol ID | | | | | | | | 1 |
| SPI Size | | | | | | | | 2 |
| Notify Message Type | | | | | | | | 3 - 4 |
| IPv4 address | | | | | | | | 5 - 8 |

Figure 9.3.1.4-1: UP\_IP4\_ADDRESS Notify payload format

Table 9.3.1.4-1: UP\_IP4\_ADDRESS Notify payload value

|  |
| --- |
| Octet 1 is defined in IETF RFC 7296 [6] |
| Octet 2 is SPI Size field. It is set to 0 and there is no Security Parameter Index field. |
| Octet 3 and Octet 4 is the Notify Message Type field. The Notify Message Type field is set to value 55504 to indicate the UP\_IP4\_ADDRESS. |
| Octet 5 to octet 8 is the IPv4 address field. The IPv4 address field contains the inner IPv4 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted on-3GPP access for GRE user data packet transport. |
|  |

\* \* \* Next Change \* \* \* \*

#### 9.3.1.5 UP\_IP6\_ADDRESS Notify payload

The UP\_IP6\_ADDRESS Notify payload is used to indicate the inner IPv6 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access for GRE user data packet transport.

The UP\_IP6\_ADDRESS Notify payload is coded according to figure 9.3.1.5-1 and table 9.3.1.5-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | |  |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Protocol ID | | | | | | | | 1 |
| SPI Size | | | | | | | | 2 |
| Notify Message Type | | | | | | | | 3 - 4 |
| IPv6 address | | | | | | | | 5 - 20 |

Figure 9.3.1.5-1: UP\_IP6\_ADDRESS Notify payload format

Table 9.3.1.5-1: UP\_IP6\_ADDRESS Notify payload value

|  |
| --- |
| Octet 1 is defined in IETF RFC 7296 [6] |
| Octet 2 is SPI Size field. It is set to 0 and there is no Security Parameter Index field. |
| Octet 3 and Octet 4 is the Notify Message Type field. The Notify Message Type field is set to value 55505 to indicate the UP\_IP6\_ADDRESS. |
| Octet 5 to octet 20 is the IPv6 address field. The IPv6 address field contains the inner IPv6 address of the N3IWF for untrusted non-3GPP access or the TNGF for trusted non-3GPP access for GRE user data packet transport. |
|  |

\* \* \* Next Change \* \* \* \*

#### 9.3.1.6 NAS\_TCP\_PORT Notify payload

The NAS\_TCP\_PORT Notify payload is used to indicate the port number for the connection of the inner TCP transport protocol for the NAS message transport.

The NAS\_TCP\_PORT Notify payload is coded according to figure 9.3.1.6-1 and table 9.3.1.6-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | |  |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Octets |
| Protocol ID | | | | | | | | 1 |
| SPI Size | | | | | | | | 2 |
| Notify Message Type | | | | | | | | 3 – 4 |
| Port Number | | | | | | | | 5 - 6 |

Figure 9.3.1.6-1: NAS\_TCP\_PORT Notify payload format

Table 9.3.1.6-1: NAS\_TCP\_PORT Notify payload value

|  |
| --- |
| Octet 1 is defined in IETF RFC 7296 [6] |
| Octet 2 is SPI Size field. It is set to 0 and there is no Security Parameter Index field. |
| Octet 3 and Octet 4 is the Notify Message Type field. The Notify Message Type field is set to value 55506 to indicate the NAS\_TCP\_PORT. |
| Octet 5 and octet 6 are the Port Number field which contains the port number of the connection for the inner TCP transport protocol for the NAS message transport. |
|  |

\* \* \* End of Changes \* \* \* \*