**3GPP TSG-CT WG4 Meeting #99eC4-204xxx**

**E-Meeting, 18th – 28th August 2020 *Revision of C4-204166***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.244** | **CR** | **0476** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](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 |  | Radio Access Network |  | Core Network | **X** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Number of occurrences for an event | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2020-08-24 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | For event based usage reporting, UPF reports event and the related Event Time Stamp to the SMF, several Event Time Stamps may be included to report multiple occurrences for an event.  On N40 interface, serviceSpecificUnits will be sent from SMF to CHF for the number of occurrences for an event reported. Currently, the SMF needs to calculate the number of Event Time Stamps to decide the number.  It is proposed to add a new optional IE to notify the number to the SMF. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Support Event Measurement IE if the report is related to an event. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Extra handling in SMF | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.5.8.3, 8.1.2, 8.2.y(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

#### 7.5.8.3 Usage Report IE within PFCP Session Report Request

The Usage Report grouped IE shall be encoded as shown in Figure 7.5.8.3-1.

Table 7.5.8.3-1: Usage Report IE within PFCP Session Report Request

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Octet 1 and 2 |  | Usage Report IE Type = 80 (decimal) | | | | | |
| Octets 3 and 4 |  | Length = n | | | | | |
| Information elements | P | Condition / Comment | Appl. | | | | IE Type |
| Sxa | Sxb | Sxc | N4 |
| URR ID | M | This IE shall identify the URR for which usage is reported. | X | X | X | X | URR ID |
| UR-SEQN | M | This IE shall uniquely identify the Usage Report for the URR (see clause 5.2.2.3). | X | X | X | X | UR-SEQN |
| Usage Report Trigger | M | This IE shall identify the trigger for this report. | X | X | X | X | Usage Report Trigger |
| Start Time | C | This IE shall be present, except if the Usage Report Trigger indicates 'Start of Traffic', 'Stop of Traffic' or 'MAC Addresses Reporting'.  When present, this IE shall provide the timestamp when the collection of the information in this report was started. | X | X | X | X | Start Time |
| End Time | C | This IE shall be present, except if the Usage Report Trigger indicates 'Start of Traffic', 'Stop of Traffic' or ' MAC Addresses Reporting'.  When present, this IE shall provide the timestamp when the collection of the information in this report was generated. | X | X | X | X | End Time |
| Volume Measurement | C | This IE shall be present if a volume measurement needs to be reported. (NOTE 2) | X | X | X | X | Volume Measurement |
| Duration Measurement | C | This IE shall be present if a duration measurement needs to be reported. (NOTE 2) | X | X | X | X | Duration Measurement |
| Application Detection Information | C | This IE shall be present if application detection information needs to be reported. | - | X | X | X | Application Detection Information |
| UE IP address | C | This IE shall be present if the start or stop of an application has been detected and no UE IP address was provisioned in the PDI. See NOTE 1. | - | - | X | X | UE IP address |
| Network Instance | C | This IE shall be present if the start or stop of an application has been detected, no UE IP address was provisioned in the PDI and multiple PDNs with overlapping IP addresses are used in the UP function. See NOTE 1. | - | - | X | X | Network Instance |
| Time of First Packet | C | This IE shall be present if available for this URR. | - | X | X | X | Time of First Packet |
| Time of Last Packet | C | This IE shall be present if available for this URR. | - | X | X | X | Time of Last Packet |
| Usage Information | C | This IE shall be present if the UP function reports Usage Reports before and after a Monitoring Time, or before and after QoS enforcement. When present, it shall indicate whether the usage is reported for the period before or after that time, or before or after QoS enforcement. | X | X | X | X | Usage Information |
| Query URR Reference | C | This IE shall be present if this usage report is sent as a result of a query URR received in a PFCP Session Modification Request and the Query URR Reference IE was present in the PFCP Session Modification Request.  When present, it shall be set to the Query URR Reference value received in the PFCP Session Modification Request. | X | X | X | X | Query URR Reference |
| Event Time Stamp | C | This IE shall be present, if the report is related to an event.  When present, it shall be set to the time when the event occurs.  Several IEs with the same IE type may be present to report multiple occurrences for an event for this URR ID. | - | X | X | X | Event Time Stamp |
| Ethernet Traffic Information | C | This IE shall be present if Ethernet Traffic Information needs to be reported. See Table 7.5.8.3-3. | - | - | - | X | Ethernet Traffic Information |
| Join IP Muticast Information | C | This IE shall be present if the UPF needs to report that it has added the PDU session to the DL replication tree of a new IP multicast flow.  Several IEs with the same IE type may be present to report multiple IP multicast flows added to the PDU session. | - | - | - | X | Join IP Multicast Information |
| Leave IP Muticast Information | C | This IE shall be present if the UPF needs to report that it has removed the PDU session from the DL replication tree of an IP multicast flow.  Several IEs with the same IE type may be present to report multiple IP multicast flows removed from the PDU session. | - | - | - | X | Leave IP Multicast Information |
| Event Measurement | O | This IE may be present if an event measurement needs to be reported. (NOTE 2)  When present, this IE indicates the number of times the event was detected. | - | X | X | X | Event Measurement |
| NOTE 1: This is the case for unsolicited application reporting by the TDF. The Network instance is required when the UE IP address cannot be used to determine the corresponding PDN connection.  NOTE 2: The UP function may send a Usage Report with the Volume/Duration/Event Measurement set to zero. | | | | | | | |

Table 7.5.8.3-2: Application Detection Information IE within Usage Report IE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Octet 1 and 2 |  | Application Detection Information IE Type = 68 (decimal) | | | | | |
| Octets 3 and 4 |  | Length = n | | | | | |
| Information elements | P | Condition / Comment | Appl. | | | | IE Type |
| Sxa | Sxb | Sxc | N4 |
| Application ID | M | This IE shall identify the Application ID for which a start or stop of traffic is reported. | - | X | X | X | Application ID |
| Application Instance ID | C | When present, this IE shall identify the Application Instance Identifier for which a start or stop of traffic is reported. It shall be present, when reporting the start of an application, if the Reduced Application Detection Information flag was not set in the Measurement Information and if the flow information for the detected application is deducible. It shall be present, when reporting the stop of an application, if the Reduced Application Detection Information flag was not set in the Measurement Information and if it was provided when reporting the start of the application. | - | X | X | X | Application Instance ID |
| Flow Information | C | When present, this IE shall contain the flow information for the detected application. It shall be present, when reporting the start of an application, if the Reduced Application Detection Information flag was not set in the Measurement Information and if the flow information for the detected application is deducible. | - | X | X | X | Flow Information |
| PDR ID | O | When present, it shall contain the PDR ID which the application traffic matches. | - | X | X | X | PDR ID |

Table 7.5.8.3-3: Ethernet Traffic Information IE within Usage Report IE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Octet 1 and 2 |  | Ethernet Traffic Information IE Type = 143 (decimal) | | | | | |
| Octets 3 and 4 |  | Length = n | | | | | |
| Information elements | P | Condition / Comment | Appl. | | | | IE Type |
| Sxa | Sxb | Sxc | N4 |
| MAC Addresses Detected | C | This IE shall be present if one or more new MAC addresses have been detected.  When present, it shall identify the MAC (Ethernet) addresses newly detected as source address of frames sent UL by the UE.  Several IEs with the same IE type may be present to to provision multiple lists of MAC addresses (e.g. with different V-LAN tags). | - | - | - | X | MAC Addresses Detected |
| MAC Addresses Removed | C | This IE shall be present if one or more new MAC addresses have been removed.  When present, it shall identify the MAC (Ethernet) addresses that have been inactive for a duration exceeding the Ethernet inactivity Timer.  Several IEs with the same IE type may be present to to provision multiple lists of MAC addresses (e.g. with different V-LAN tags). | - | - | - | X | MAC Addresses Removed |

Table 7.5.8.3-4: Join IP Multicast Information IE within Usage Report IE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Octet 1 and 2 |  | Join IP Multicast Information IE Type = 189 (decimal) | | | | | |
| Octets 3 and 4 |  | Length = n | | | | | |
| Information elements | P | Condition / Comment | Appl. | | | | IE Type |
| Sxa | Sxb | Sxc | N4 |
| IP Multicast Address | M | This IE shall contain the IP multicast address of the DL multicast flow added to the PDU session. | - | - | - | X | IP Multicast Address |
| Source IP Address | C | This IE shall contain the source specific IP address of the DL multicast flow added to the PDU session, if available.  Several IEs with the same IE type may be present to represent multiple source specific addresses. | - | - | - | X | Source IP Address |

Table 7.5.8.3-5: Leave IP Multicast Information IE within Usage Report IE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Octet 1 and 2 |  | Leave IP Multicast Information IE Type = 190 (decimal) | | | | | |
| Octets 3 and 4 |  | Length = n | | | | | |
| Information elements | P | Condition / Comment | Appl. | | | | IE Type |
| Sxa | Sxb | Sxc | N4 |
| IP Multicast Address | M | This IE shall contain the IP multicast address of the DL multicast flow removed from the PDU session. | - | - | - | X | IP Multicast Address |
| Source IP Address | C | This IE shall contain the source specific IP address of the DL multicast flow removed from the PDU session, if available.  Several IEs with the same IE type may be present to represent multiple source specific addresses. | - | - | - | X | Source IP Address |

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

### 8.1.2 Information Element Types

A PFCP message may contain several IEs. In order to have forward compatible type definitions for the PFCP IEs, all of them shall be TLV (Type, Length, Value) coded. PFCP IE type values are specified in the Table 8.1.2-1.

The 3rd column of this table specifies if the IE is either Extendable or has a variable length or a fixed length and a reference to the clause where the IE is specified:

- Fixed Length: the IE has a fixed set of fields, and a fixed number of octets;

- Variable Length: the IE has a fixed set of fields, and has a variable number of octets.  
For example, the last octets may be numbered similar to "5 to (n+4)". In this example, if the value of the length field, n, is 0, then the last field is not present;

- Extendable: the IE has a variable number of fields, and has a variable number of octets.  
The last fields are typically specified with the statement: "These octet(s) is/are present only if explicitly specified". The legacy receiving entity shall ignore the unknown octets.

The 4th column of this table indicates the number of fixed Octets the IE contained when the IE was first defined in the specification, which shall be an integer value reflecting the minimum length of fixed octets defined for the IE.

An IE of any of the above types may have a null length as specified in clause 5.6.3. This shall not be considered as an error by the receiving PFCP entity.

In order to improve the efficiency of troubleshooting, it is recommended that the IEs should be arranged in the signalling messages as well as in the grouped IEs, according to the order the IEs are listed in the message definition table or grouped IE definition table in clause 7. However the receiving entity shall be prepared to handle the messages with IEs in any order.

Within IEs, certain fields may be described as spare. These bits shall be transmitted with the value set to "0". To allow for future features, the receiver shall not evaluate these bits.

Table 8.1.2-1: Information Element Types

| IE Type value  (Decimal) | Information elements | Comment / Reference | Number of Fixed Octets |
| --- | --- | --- | --- |
| 0 | Reserved |  |  |
| 1 | Create PDR | Extendable / Table 7.5.2.2-1 | Not Applicable |
| 2 | PDI | Extendable / Table 7.5.2.2-2 | Not Applicable |
| 3 | Create FAR | Extendable / Table 7.5.2.3-1 | Not Applicable |
| 4 | Forwarding Parameters | Extendable / Table 7.5.2.3-2 | Not Applicable |
| 5 | Duplicating Parameters | Extendable / Table 7.5.2.3-3 | Not Applicable |
| 6 | Create URR | Extendable / Table 7.5.2.4-1 | Not Applicable |
| 7 | Create QER | Extendable / Table 7.5.2.5-1 | Not Applicable |
| 8 | Created PDR | Extendable / Table 7.5.3.2-1 | Not Applicable |
| 9 | Update PDR | Extendable / Table 7.5.4.2-1 | Not Applicable |
| 10 | Update FAR | Extendable / Table 7.5.4.3-1 | Not Applicable |
| 11 | Update Forwarding Parameters | Extendable / Table 7.5.4.3-2 | Not Applicable |
| 12 | Update BAR (PFCP Session Report Response) | Extendable / Table 7.5.9.2-1 | Not Applicable |
| 13 | Update URR | Extendable / Table 7.5.4.4 | Not Applicable |
| 14 | Update QER | Extendable / Table 7.5.4.5 | Not Applicable |
| 15 | Remove PDR | Extendable / Table 7.5.4.6 | Not Applicable |
| 16 | Remove FAR | Extendable / Table 7.5.4.7 | Not Applicable |
| 17 | Remove URR | Extendable / Table 7.5.4.8 | Not Applicable |
| 18 | Remove QER | Extendable / Table 7.5.4.9 | Not Applicable |
| 19 | Cause | Fixed / Clause 8.2.1 | 1 |
| 20 | Source Interface | Extendable / Clause 8.2.2 | 1 |
| 21 | F-TEID | Extendable / Clause 8.2.3 | 1 |
| 22 | Network Instance | Variable Length / Clause 8.2.4 | Not Applicable |
| 23 | SDF Filter | Extendable / Clause 8.2.5 | 2 |
| 24 | Application ID | Variable Length / Clause 8.2.6 | Not Applicable |
| 25 | Gate Status | Extendable / Clause 8.2.7 | 1 |
| 26 | MBR | Extendable / Clause 8.2.8 | 10 |
| 27 | GBR | Extendable / Clause 8.2.9 | 10 |
| 28 | QER Correlation ID | Extendable / Clause 8.2.10 | 4 |
| 29 | Precedence | Extendable / Clause 8.2.11 | 4 |
| 30 | Transport Level Marking | Extendable / Clause 8.2.12 | 2 |
| 31 | Volume Threshold | Extendable /Clause 8.2.13 | 1 |
| 32 | Time Threshold | Extendable /Clause 8.2.14 | 4 |
| 33 | Monitoring Time | Extendable /Clause 8.2.15 | 4 |
| 34 | Subsequent Volume Threshold | Extendable /Clause 8.2.16 | 1 |
| 35 | Subsequent Time Threshold | Extendable /Clause 8.2.17 | 4 |
| 36 | Inactivity Detection Time | Extendable /Clause 8.2.18 | 4 |
| 37 | Reporting Triggers | Extendable /Clause 8.2.19 | 2 |
| 38 | Redirect Information | Extendable /Clause 8.2.20 | 3 |
| 39 | Report Type | Extendable / Clause 8.2.21 | 1 |
| 40 | Offending IE | Fixed / Clause 8.2.22 | 2 |
| 41 | Forwarding Policy | Extendable / Clause 8.2.23 | 1 |
| 42 | Destination Interface | Extendable / Clause 8.2.24 | 1 |
| 43 | UP Function Features | Extendable / Clause 8.2.25 | 1 |
| 44 | Apply Action | Extendable / Clause 8.2.26 | 1 |
| 45 | Downlink Data Service Information | Extendable / Clause 8.2.27 | 1 |
| 46 | Downlink Data Notification Delay | Extendable / Clause 8.2.28 | 1 |
| 47 | DL Buffering Duration | Extendable / Clause 8.2.29 | 1 |
| 48 | DL Buffering Suggested Packet Count | Variable / Clause 8.2.30 | Not Applicable |
| 49 | PFCPSMReq-Flags | Extendable / Clause 8.2.31 | 1 |
| 50 | PFCPSRRsp-Flags | Extendable / Clause 8.2.32 | 1 |
| 51 | Load Control Information | Extendable / Table 7.5.3.3-1 | Not Applicable |
| 52 | Sequence Number | Fixed Length / Clause 8.2.33 | 4 |
| 53 | Metric | Fixed Length / Clause 8.2.34 | 1 |
| 54 | Overload Control Information | Extendable / Table 7.5.3.4-1 | Not Applicable |
| 55 | Timer | Extendable / Clause 8.2 35 | 1 |
| 56 | PDR ID | Extendable / Clause 8.2 36 | 2 |
| 57 | F-SEID | Extendable / Clause 8.2 37 | 9 |
| 58 | Application ID's PFDs | Extendable / Table 7.4.3.1-2 | Not Applicable |
| 59 | PFD context | Extendable / Table 7.4.3.1-3 | Not Applicable |
| 60 | Node ID | Extendable / Clause 8.2.38 | 1 |
| 61 | PFD contents | Extendable / Clause 8.2.39 | 2 |
| 62 | Measurement Method | Extendable / Clause 8.2.40 | 1 |
| 63 | Usage Report Trigger | Extendable / Clause 8.2.41 | 2 |
| 64 | Measurement Period | Extendable / Clause 8.2.42 | 4 |
| 65 | FQ-CSID | Extendable / Clause 8.2.43 | 1 |
| 66 | Volume Measurement | Extendable / Clause 8.2.44 | 1 |
| 67 | Duration Measurement | Extendable / Clause 8.2.45 | 4 |
| 68 | Application Detection Information | Extendable / Table 7.5.8.3-2 | Not Applicable |
| 69 | Time of First Packet | Extendable / Clause 8.2.46 | 4 |
| 70 | Time of Last Packet | Extendable / Clause 8.2.47 | 4 |
| 71 | Quota Holding Time | Extendable / Clause 8.2.48 | 4 |
| 72 | Dropped DL Traffic Threshold | Extendable / Clause 8.2.49 | 1 |
| 73 | Volume Quota | Extendable / Clause 8.2.50 | 1 |
| 74 | Time Quota | Extendable / Clause 8.2.51 | 4 |
| 75 | Start Time | Extendable / Clause 8.2.52 | 4 |
| 76 | End Time | Extendable / Clause 8.2.53 | 4 |
| 77 | Query URR | Extendable / Table 7.5.4.10-1 | Not Applicable |
| 78 | Usage Report (Session Modification Response) | Extendable / Table 7.5.5.2-1 | Not Applicable |
| 79 | Usage Report (Session Deletion Response) | Extendable / Table 7.5.7.2-1 | Not Applicable |
| 80 | Usage Report (Session Report Request) | Extendable / Table 7.5.8.3-1 | Not Applicable |
| 81 | URR ID | Extendable / Clause 8.2.54 | 4 |
| 82 | Linked URR ID | Extendable / Clause 8.2.55 | 4 |
| 83 | Downlink Data Report | Extendable / Table 7.5.8.2-1 | Not Applicable |
| 84 | Outer Header Creation | Extendable / Clause 8.2.56 | 2 |
| 85 | Create BAR | Extendable / Table 7.5.2.6-1 | Not Applicable |
| 86 | Update BAR (Session Modification Request) | Extendable / Table 7.5.4.11-1 | Not Applicable |
| 87 | Remove BAR | Extendable / Table 7.5.4.12-1 | Not Applicable |
| 88 | BAR ID | Extendable / Clause 8.2.57 | 1 |
| 89 | CP Function Features | Extendable / Clause 8.2.58 | 1 |
| 90 | Usage Information | Extendable / Clause 8.2.59 | 1 |
| 91 | Application Instance ID | Variable Length / Clause 8.2.60 | Not Applicable |
| 92 | Flow Information | Extendable / Clause 8.2.61 | 3 |
| 93 | UE IP Address | Extendable / Clause 8.2.62 | 1 |
| 94 | Packet Rate | Extendable / Clause 8.2.63 | 1 |
| 95 | Outer Header Removal | Extendable / Clause 8.2.64 | 1 |
| 96 | Recovery Time Stamp | Extendable / Clause 8.2.65 | 4 |
| 97 | DL Flow Level Marking | Extendable / Clause 8.2.66 | 1 |
| 98 | Header Enrichment | Extendable / Clause 8.2.67 | 1 |
| 99 | Error Indication Report | Extendable / Table 7.5.8.4-1 | Not Applicable |
| 100 | Measurement Information | Extendable / Clause 8.2.68 | 1 |
| 101 | Node Report Type | Extendable / Clause 8.2.69 | 1 |
| 102 | User Plane Path Failure Report | Extendable / Table 7.4.5.1.2-1 | Not Applicable |
| 103 | Remote GTP-U Peer | Extendable / Clause 8.2.70 | 1 |
| 104 | UR-SEQN | Fixed Length / Clause 8.2.71 | 4 |
| 105 | Update Duplicating Parameters | Extendable / Table 7.5.4.3-3 | Not Applicable |
| 106 | Activate Predefined Rules | Variable Length / Clause 8.2.72 | Not Applicable |
| 107 | Deactivate Predefined Rules | Variable Length / Clause 8.2.73 | Not Applicable |
| 108 | FAR ID | Extendable / Clause 8.2.74 | 4 |
| 109 | QER ID | Extendable / Clause 8.2.75 | 4 |
| 110 | OCI Flags | Extendable / Clause 8.2.76 | 1 |
| 111 | PFCP Association Release Request | Extendable / Clause 8.2.77 | 1 |
| 112 | Graceful Release Period | Extendable / Clause 8.2.78 | 1 |
| 113 | PDN Type | Extendable / Clause 8.2.79 | 1 |
| 114 | Failed Rule ID | Extendable / Clause 8.2.80 | 1 |
| 115 | Time Quota Mechanism | Extendable / Clause 8.2.81 | 1 |
| 116 | Reserved |  |  |
| 117 | User Plane Inactivity Timer | Extendable /Clause 8.2.83 | 4 |
| 118 | Aggregated URRs | Extendable / Table 7.5.2.4-2 | Not Applicable |
| 119 | Multiplier | Fixed / Clause 8.2.84 | 12 |
| 120 | Aggregated URR ID | Fixed / Clause 8.2.85 | 4 |
| 121 | Subsequent Volume Quota | Extendable / Clause 8.2.86 | 1 |
| 122 | Subsequent Time Quota | Extendable / Clause 8.2.87 | 4 |
| 123 | RQI | Extendable / Clause 8.2.88 | 1 |
| 124 | QFI | Extendable / Clause 8.2.89 | 1 |
| 125 | Query URR Reference | Extendable / Clause 8.2.90 | 4 |
| 126 | Additional Usage Reports Information | Extendable / Clause 8.2.91 | 2 |
| 127 | Create Traffic Endpoint | Extendable / Table 7.5.2.7 | Not Applicable |
| 128 | Created Traffic Endpoint | Extendable / Table 7.5.3.5 | Not Applicable |
| 129 | Update Traffic Endpoint | Extendable / Table 7.5.4.13 | Not Applicable |
| 130 | Remove Traffic Endpoint | Extendable / Table 7.5.4.14 | Not Applicable |
| 131 | Traffic Endpoint ID | Extendable / Clause 8.2.92 | 1 |
| 132 | Ethernet Packet Filter | Extendable / Table 7.5.2.2-3 | Not Applicable |
| 133 | MAC address | Extendable / Clause 8.2.93 | 1 |
| 134 | C-TAG | Extendable / Clause 8.2.94 | 3 |
| 135 | S-TAG | Extendable / Clause 8.2.95 | 3 |
| 136 | Ethertype | Extendable / Clause 8.2.96 | 2 |
| 137 | Proxying | Extendable / Clause 8.2.97 | 1 |
| 138 | Ethernet Filter ID | Extendable / Clause 8.2.98 | 4 |
| 139 | Ethernet Filter Properties | Extendable / Clause 8.2.99 | 1 |
| 140 | Suggested Buffering Packets Count | Extendable / Clause 8.2.100 | 1 |
| 141 | User ID | Extendable / Clause 8.2.101 | 1 |
| 142 | Ethernet PDU Session Information | Extendable / Clause 8.2.102 | 1 |
| 143 | Ethernet Traffic Information | Extendable / Table 7.5.8.3-3 | Not Applicable |
| 144 | MAC Addresses Detected | Extendable / Clause 8.2.103 | 7 |
| 145 | MAC Addresses Removed | Extendable / Clause 8.2.104 | 7 |
| 146 | Ethernet Inactivity Timer | Extendable / Clause 8.2.105 | 4 |
| 147 | Additional Monitoring Time | Extendable / Table 7.5.2.4-3 | Not Applicable |
| 148 | Event Quota | Extendable / Clause 8.2.112 | 4 |
| 149 | Event Threshold | Extendable / Clause 8.2.113 | 4 |
| 150 | Subsequent Event Quota | Extendable / Clause 8.2.106 | 4 |
| 151 | Subsequent Event Threshold | Extendable / Clause 8.2.107 | 4 |
| 152 | Trace Information | Extendable / Clause 8.2.108 | 7 |
| 153 | Framed-Route | Variable Length / Clause 8.2.109 | Not Applicable |
| 154 | Framed-Routing | Fixed Length / Clause 8.2.110 | 4 |
| 155 | Framed-IPv6-Route | Variable Length / Clause 8.2.111 | Not Applicable |
| 156 | Event Time Stamp | Extendable / Clause 8.2.114 | 4 |
| 157 | Averaging Window | Extendable /Clause 8.2.115 | 4 |
| 158 | Paging Policy Indicator | Extendable / Clause 8.2.116 | 1 |
| 159 | APN/DNN | Variable Length / Clause 8.2.117 | Not Applicable |
| 160 | 3GPP Interface Type | Extendable / Clause 8.2.118 | 1 |
| 161 | PFCPSRReq-Flags | Extendable / Clause 8.2.119 | 1 |
| 162 | PFCPAUReq-Flags | Extendable / Clause 8.2.120 | 1 |
| 163 | Activation Time | Extendable / Clause 8.2.121 | 4 |
| 164 | Deactivation Time | Extendable / Clause 8.2.122 | 4 |
| 165 | Create MAR | Extendable / Table 7.5.2.8-1 | Not Applicable |
| 166 | 3GPP Access Forwarding Action Information | Extendable / Table 7.5.2.8-2 | Not Applicable |
| 167 | Non-3GPP Access Forwarding Action Information | Extendable / Table 7.5.2.8-3 | Not Applicable |
| 168 | Remove MAR | Extendable / Table 7.5.4.15-1 | Not Applicable |
| 169 | Update MAR | Extendable / Table 7.5.4.16-1 | Not Applicable |
| 170 | MAR ID | Extendable / Clause 8.2.123 | 2 |
| 171 | Steering Functionality | Extendable / Clause 8.2.124 | 1 |
| 172 | Steering Mode | Extendable / Clause 8.2.125 | 1 |
| 173 | Weight | Fixed / Clause 8.2.126 | 1 |
| 174 | Priority | Extendable / Clause 8.2.127 | 1 |
| 175 | Update 3GPP Access Forwarding Action Information | Extendable / Table 7.5.4.16-2 | Not Applicable |
| 176 | Update Non 3GPP Access Forwarding Action Information | Extendable / Table 7.5.4.16-3 | Not Applicable |
| 177 | UE IP address Pool Identity | Extendable / Clause 8.2.128 | 2 |
| 178 | Alternative SMF IP Address | Extendable / Clause 8.2.129 | 1 |
| 179 | Packet Replication and Detection Carry-On Information | Extendable / Clause 8.2.130 | 1 |
| 180 | SMF Set ID | Extendable / Clause 8.2.131 | Not applicable |
| 181 | Quota Validity Time | Extendable / Clause 8.2.132 | 4 |
| 182 | Number of Reports | Fixed / Clause 8.2.133 | 2 |
| 183 | PFCP Session Retention Information (within PFCP Association Setup Request) | Extendable / Table 7.4.4.1-2 | 1 |
| 184 | PFCPASRsp-Flags | Extendable / Clause 8.2.134 | 1 |
| 185 | CP PFCP Entity IP Address | Extendable / Clause 8.2.135 | 1 |
| 186 | PFCPSEReq-Flags | Extendable / Clause 8.2.136 | 1 |
| 187 | User Plane Path Recovery Report | Extendable / Table 7.4.5.1.3-1 | Not Applicable |
| 188 | IP Multicast Addressing Info within PFCP Session Establishment Request | Extendable / Clause 7.5.2.2-4 | Not Applicable |
| 189 | Join IP Multicast Information IE within Usage Report | Extendable / Table 7.5.8.3-4 | Not Applicable |
| 190 | Leave IP Multicast Information IE within Usage Report | Extendable / Table 7.5.8.3-5 | Not Applicable |
| 191 | IP Multicast Address | Extendable / Clause 8.2.137 | 1 |
| 192 | Source IP Address | Extendable / Clause 8.2.138 | 1 |
| 193 | Packet Rate Status | Extendable / Clause 8.2.139 | 1 |
| 194 | Create Bridge Info for TSC | Extendable / Clause 8.2.140 | 1 |
| 195 | Created Bridge Info for TSC | Extendable / Table 7.5.3.6-1 | Not Applicable |
| 196 | DS-TT Port Number | Fixed Length / Clause 8.2.141 | 4 |
| 197 | NW-TT Port Number | Fixed Length / Clause 8.2.142 | 4 |
| 198 | TSN Bridge ID | Extendable / Clause 8.2.143 | 1 |
| 199 | TSC Management Information IE within PFCP Session Modification Request | Extendable / Table 7.5.4.18-1 | Not Applicable |
| 200 | TSC Management Information IE within PFCP Session Modification Response | Extendable / Table 7.5.5.3-1 | Not Applicable |
| 201 | TSC Management Information IE within PFCP Session Report Request | Extendable / Table 7.5.8.5-1 | Not Applicable |
| 202 | Port Management Information Container | Variable Length / Clause 8.2.144 | Not Applicable |
| 203 | Clock Drift Control Information | Extendable / Table 7.4.4.1.2-1 | Not Applicable |
| 204 | Requested Clock Drift Information | Extendable / Clause 8.2.145 | 1 |
| 205 | Clock Drift Report | Extendable / Table 7.4.5.1.4-1 | Not Applicable |
| 206 | TSN Time Domain Number | Extendable / Clause 8.2.146 | 1 |
| 207 | Time Offset Threshold | Extendable / Clause 8.2.147 | 8 |
| 208 | Cumulative rateRatio Threshold | Extendable / Clause 8.2.148 | 4 |
| 209 | Time Offset Measurement | Extendable / Clause 8.2.149 | 8 |
| 210 | Cumulative rateRatio Measurement | Extendable / Clause 8.2.150 | 4 |
| 211 | Remove SRR | Extendable/ Table 7.5.4.19-1 | Not applicable |
| 212 | Create SRR | Extendable/ Table 7.5.2.9-1 | Not applicable |
| 213 | Update SRR | Extendable/ Table 7.5.4.21-1 | Not applicable |
| 214 | Session Report | Extendable / Table 7.5.8.7-1 | Not Applicable |
| 215 | SRR ID | Extendable / Clause 8.2.151 | 1 |
| 216 | Access Availability Control Information | Extendable / Table 7.5.2.9-2 | Not applicable |
| 217 | Requested Access Availability Information | Extendable / Clause 8.2.152 | 1 |
| 218 | Access Availability Report | Extendable / Table 7.5.8.6-2 | Not applicable |
| 219 | Access Availability Information | Extendable / Clause 8.2.153 | 1 |
| 220 | Provide ATSSS Control Information | Extendable / Table 7.5.2.10-1 | Not Applicable |
| 221 | ATSSS Control Parameters | Extendable / Table 7.5.3.7-1 | Not Applicable |
| 222 | MPTCP Control Information | Extendable / Clause 8.2.154 | 1 |
| 223 | ATSSS-LL Control Information | Extendable / Clause 8.2.155 | 1 |
| 224 | PMF Control Information | Extendable / Clause 8.2.156 | 1 |
| 225 | MPTCP Parameters | Extendable / Table 7.5.3.7-2 | Not Applicable |
| 226 | ATSSS-LL Parameters | Extendable / Table 7.5.3.7-3 | Not Applicable |
| 227 | PMF Parameters | Extendable / Table 7.5.3.7-4 | Not Applicable |
| 228 | MPTCP Address Information | Extendable / Clause 8.2.157 | 4 |
| 229 | UE Link-Specific IP Address | Extendable / Clause 8.2.158 | 1 |
| 230 | PMF Address Information | Extendable / Clause 8.2.159 | 1 |
| 231 | ATSSS-LL Information | Extendable / Clause 8.2.160 | 1 |
| 232 | Data Network Access Identifier | Variable Length / Clause 8.2.161 | Not applicable |
| 233 | UE IP address Pool Information | Extendable / Table 7.4.4.1-3 | Not Applicable |
| 234 | Average Packet Delay | Extendable / Clause 8.2.162 | 4 |
| 235 | Minimum Packet Delay | Extendable / Clause 8.2.163 | 4 |
| 236 | Maximum Packet Delay | Extendable / Clause 8.2.164 | 4 |
| 237 | QoS Report Trigger | Extendable / Clause 8.2.165 | 1 |
| 238 | GTP-U Path QoS Control Information | Extendable / Table 7.4.4.1.3-1 | Not Applicable |
| 239 | GTP-U Path QoS Report (PFCP Node Report Request) | Extendable / Table 7.4.5.1.5-1 | Not Applicable |
| 240 | QoS Information in GTP-U Path QoS Report | Extendable / Table 7.4.5.1.6-1 | Not Applicable |
| 241 | GTP-U Path Interface Type | Extendable / Clause 8.2.166 | 1 |
| 242 | QoS Monitoring per QoS flow Control Information | Extendable / Table 7.5.2.9-3 | Not applicable |
| 243 | Requested QoS Monitoring | Extendable / Clause 8.2.167 | 1 |
| 244 | Reporting Frequency | Extendable / Clause 8.2.168 | 1 |
| 245 | Packet Delay Thresholds | Extendable / Clause 8.2.169 | 1 |
| 246 | Minimum Wait Time | Extendable / Clause 8.2.170 | 4 |
| 247 | QoS Monitoring Report | Extendable / Table 7.5.8.6-3 | Not applicable |
| 248 | QoS Monitoring Measurement | Extendable / Clause 8.2.171 | 1 |
| 249 | MT-EDT Control Information | Extendable / Clause 8.2.172 | 1 |
| 250 | DL Data Packets Size | Extendable / Clause 8.2.173 | 2 |
| 251 | QER Control Indications | Extendable / Clause 8.2.174 | 1 |
| 252 | Packet Rate Status Report | Extendable / Table 7.5.7.1-2 | Not applicable |
| 253 | NF Instance ID | Fixed / Clause 8.2.175 | 16 |
| 254 | Ethernet Context Information | Extendable / Table 7.5.4.21-1 | Not Applicable |
| 255 | Redundant Transmission Parameters | Extendable / Table 7.5.2.2-5, Table 7.5.2.3-4 | Not Applicable |
| 256 | Updated PDR | Extendable / Table 7.5.9.3-1 | Not Applicable |
| 257 | S-NSSAI | Fixed Length / Clause 8.2.176 | 4 |
| 258 | IP version | Extendable / Clause 8.2.177 | 1 |
| 259 | PFCPASReq-Flags | Extendable / Clause 8.2.178 | 1 |
| 260 | Data Status | Extendable / Clause 8.2.179 | 1 |
| 261 | Provide RDS configuration information | Extendable / Table 7.5.2.11-1 | Not Applicable |
| 262 | RDS configuration information | Extendable / Clause 8.2.180 | 1 |
| 263 | Query Packet Rate Status IE within PFCP Session Modification Request | Extendable / Table 7.5.4.22-1 | Not Applicable |
| 264 | Packet Rate Status Report IE within PFCP Session Modification Response | Extendable / Table 7.5.5.4-1 | Not Applicable |
| 265 | MPTCP Applicable Indication | Extendable / Clause 8.2.181 | 1 |
| 266 | Bridge Management Information Container | Variable Length / Clause 8.2.182 | Not Applicable |
| x | Event Measurement | Extendable / Clause 8.2.y | 2 |
| z to 32767 | Spare. For future use. |  |  |
| 32768 to 65535 | Reserved for vendor specific IEs |  |  |

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

### 8.2.y Event Measurement

The Event Measurement IE type shall be encoded as shown in Figure 8.2.y-1. It contains an Unsigned16 binary integer value.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Bits | | | | | | | |  |
|  | Octets | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
|  | 1 to 2 | Type = x (decimal) | | | | | | | |  |
|  | 3 to 4 | Length = n | | | | | | | |  |
|  | 5 to 6 | Event Measurement | | | | | | | |  |
|  | 7 to (n+4) | These octet(s) is/are present only if explicitly specified | | | | | | | |  |

Figure 8.2.y-1: Event Measurement

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