**3GPP TSG-SA5 Meeting #141-eS5-221130rev1**

**e-meeting, 17 - 26 January 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **32.291** | **CR** | **0368** | **rev** | **1** | **Current version:** | **17.1.0** |  |
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| *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:***  | Add charging information of 5GS CIoT |
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| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
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| ***Work item code:*** | 5G\_CIoT\_CH |  | ***Date:*** | 2022-01-07 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** | Rel-17 |
|  | *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 canbe 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | This tdoc is to add charging information elements of 5GS CIoT. |
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| ***Summary of change:*** | The charging information elements related to CIoT is added. |
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| ***Consequences if not approved:*** | The charging information of 5GS CIoT is not covered in TS 32.291. |
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| ***Clauses affected:*** | 6.1.6.2.2.8 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **Start of changes** |

###### 6.1.6.2.2.8 Type PDUSessionInformation

Table 6.1.6.2.2.8-1: Definition of type PDUSessionInformation

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| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| networkSlicingInfo | NetworkSlicingInfo  | OM | 0..1 | information of network slice serving the PDU session |  |
| pduSessionID | PduSessionId | M | 1 |  |  |
| pduType | PduSessionType | OM | 0..1 | type of the PDU session |  |
| sscMode | SscMode | OC | 0..1 | information of SSC Mode type. |  |
| hPlmnId | PlmnId | OC | 0..1 | PLMN identifier of the home network |  |
| servingNetworkFunctionID | ServingNetworkFunctionID | OC | 0..1 | This field holds serving Network Function identifier. |  |
| servingCNPlmnId | PlmnId | OC | 0..1 | Serving Core Network Operator PLMN ID selected by the UE in shared networks. |  |
| ratType | RatType | OC | 0..1 | the RAT Type of the PDU session |  |
| mAPDUNon3GPPRATType | RatType | OC | 0..1 | the RAT Type of non-3GPP access for the MA PDU session | ATSSS |
| dnnId | Dnn | M | 1 | a Data Network Name |  |
| dnnSelectionMode | DnnSelectionMode | OC | 0..1 | This field indicates how the DNN was selected. |  |
| chargingCharacteristics | string | OC | 0..1 | the Charging Characteristics for this PDU session.It carries the value in hexadecimal representationPattern: '^[0-9a-fA-F]{1,4}$' |  |
| chargingCharacteristicsSelectionMode | ChargingCharacteristicsSelectionMode | OC | 0..1 | information about how the "Charging Characteristics" was selected.  |  |
| startTime | DateTime | OC | 0..1 | the UTC time which represents the start of a PDU session at the SMF |  |
| stopTime | DateTime | OC | 0..1 | the UTC time which represents the stop of a PDU session at the SMF |  |
| 3gppPSDataOffStatus | 3GPPPSDataOffStatus | OC | 0..1 | This field holds the 3GPP Data off Status when UE’s 3GPP Data Off status is Activated or Deactivated. |  |
| sessionStopIndicator | boolean | OC | 0..1 | This field indicates to the CHF that the PDU session has been terminated. |  |
| pduAddress | PDUAddress | OC | 0..1 | Group of user ip address/prefix |  |
| diagnostics | Diagnostics | OC | 0..1 | provides a detailed cause value from SMF. |  |
| enhancedDiagnostics | EnhancedDiagnostics5G | OC | 0..N | provides a more detailed cause value from SMF. | EnhancedDiagnostics |
| authorizedQoSInformation | AuthorizedDefaultQos | OC | 0..1 | This field holds the authorized QoS applied to PDU session. |  |
| subscribedQoSInformation | SubscribedDefaultQos | OC | 0..1 | This field holds the subscribed Default QoS  |  |
| authorizedSessionAMBR | Ambr | OC | 0..1 | This field holds the authorized session-AMBR. |  |
| subscribedSessionAMBR | Ambr | OC | 0..1 | This field holds the subscribed session-AMBR. |  |
| mAPDUSessionInformation | MAPDUSessionInformation | OC | 0..1 | This field holds the MA PDU session information. | ATSSS |
| redundantTransmissionType | RedundantTransmissionType | OC | 0..1 | Indicates the redundant transmission type.If this field isn’t present, it should be seen as a non-redundant transmission. | URLLC |
| qosMonitoringReport | array(QosMonitoringReport) | OC | 0..N | This field holds QoS Monitoring reporting information.It may be present when the URLLC is supported. | QoSMonitoring |
| pDUSessionPairID | Uint32 | OC | 0..1 | This field identifies the two redundant PDU Sessions that belong together for dual connectivity based end to end redundant user plane paths type. | URLLC |
| 5GSCIoTServiceInformation | 5GSCIoTServiceInformation | OC | 0..1 | This field holds specific charging information related to 5GS CIoT | 5GS CIoT |

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| **Next change** |

###### 6.1.6.2.2.y Type 5GSCIoTServiceInformation

Table 6.1.6.2.2.y-1: Definition of type 5GSCIoTServiceInformation

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| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| cpCIoTOptimisationIndicator  | boolean | OC | 0..1 | This field holds the indicator whether control plane optimization CIoT for 5GS is used during the PDU session, if this feature is enabled.The default value is false. | 5GS CIoT |
| 5GSControl PlaneOnlyIndicator | boolean | OC | 0..1 | This field holds the indicator whether the control plane only is used, i.e., the PDU data only transfers to control plane in case of control plane CIoT optimization. The default value is false. | 5GS CIoT |
| smallDataRateControlIndicator | boolean | OC | 0..1 | This field holds the indicator whether the small data rate control for 5GS CIoT is used during the PDU session. The default value is false. | 5GS CIoT |

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| **End of changes** |