**3GPP TSG-CT3 Meeting #134C3-242xxx**

**Changsha, China, 15th – 19st April 2024 was C3-242340**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.514** | **CR** | **0631** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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:*** | Various GMEC related corrections | | | | | | | | |
|  |  | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | |
|  |  | | | | | | | | |
| ***Work item code:*** | GMEC | | | | |  | ***Date:*** | | 2024-04-18 |
|  |  | | | |  | |  | |  |
| ***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:*** | | | The following issues have been identified:   * Some of the GMEC related provisions need further clarifications and corrections to avoid confusion. * The provisions of event notifications related to implicit subscriptions made via the UDR for Application Data need to be made more generic to allow for possible new cases in the future. No need to restrict it to the case of the event notifications related to an AF requested QoS for a UE or group of UE(s) not identified by UE address(es). * Various terminology alignments are needed. | | | | | | |
|  | | |  | | | | | | |
| ***Summary of change:*** | | | This CR proposes to:   * Address the above-mentioned issues. * Apply additional editorial corrections. | | | | | | |
|  | | |  | | | | | | |
| ***Consequences if not approved:*** | | | * The provisions related to the GMEC functionality continue to contain provisions that may generate confusion and are misaligned with the other specifications defining this functionality. | | | | | | |
|  | |  | | | | | | | |
| ***Clauses affected:*** | | 4.2.5.29, 5.5.2.1, 5.5.2.2, 5.6.2.9 | | | | | | | |
|  | |  | | | | | | | |
|  | | **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 does not impact the OpenAPI descriptions of the APIs defined in this specification. | | | | | | | |
|  | |  | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | |

\* \* \* \* Start of changes \* \* \* \*

#### 4.2.5.29 Event notification for AF requested QoS for a UE or group of UE(s) not identified by UE address(es)

An NF service consumer (e.g., AF, NEF) may subscribe to event(s) reporting implicitly via the UDR as specified in 3GPP TS 29.519 [53] (see also clause 4.15.6.14 of 3GPP TS 23.502 [3] and clause 6.1.3.28 of 3GPP TS 23.503 [4]) when provisioning/updating AF requested QoS for a UE or a group of UE(s) not identified by UE address(es).

When the PCF determines that event(s) occurred (e.g., as defined in clause 4.2.6.2.23 of 3GPP TS 29.512 [8]), the PCF shall invoke the Npcf\_PolicyAuthorization\_Notify service operation as defined in clause 4.2.5.2 with the following differences:

- The "{notifUri}" variable part of the request URI of the HTTP POST request shall contain the callback URI included within the "notifUri" attribute contained within the "evSubsc" attribute of the corresponding AF Requested QoS Data obtained from the UDR as specified in 3GPP TS 29.519 [53].

- The "EventsNotification" data type shall include within the "{appSessionId}" variable part of the "<apiSpecificResourceUriPart>" component (see clause 5.1) of the "evSubsUri" attribute, the notification correlation identifier contained within the "notifCorreId" attribute included within the "evSubsc" attribute of the corresponding AF Requested QoS Data also obtained from the UDR as specified in 3GPP TS 29.519 [53].

\* \* \* \* Next changes \* \* \* \*

#### 5.5.2.1 Description

The Event Notification is used by the PCF to report one or several observed application session context events to the NF service consumer that has subscribed to such notifications, via the Events Subscription sub-resource for explicit subscriptions or, via the UDR for implicit subscriptions.

NOTE: The "callbacks" definition for the "eventNotification" in the OpenAPI description in Annex A.2 is used for the definition of the notification request also when the notification is triggered without an explicit subscription to events (e.g., clause 4.2.5.29).

\* \* \* \* Next changes \* \* \* \*

#### 5.5.2.2 Target URI

The Callback URI **"{notifUri}/notify"** shall be used with the callback URI variables defined in table 5.5.2.2-1.

Table 5.5.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notifUri | Uri | The Notification URI as assigned within the Events Subscription sub-resource and described within the EventsSubscReqData type (see table 5.6.2.6-1) for explicit subscriptions.  For implicit subscriptions, the Notification URI is assigned via the provisioning of the corresponding application data in the UDR (e.g., as specified in clause 4.2.5.29 (see also 3GPP TS 29.519 [53])). |

\* \* \* \* Next changes \* \* \* \*

#### 5.6.2.9 Type EventsNotification

Table 5.6.2.9-1: Definition of type EventsNotification

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| adReports | array(AppDetectionReport) | C | 0..1 | Includes the detected application report. It shall be present when the notified event is "APP\_DETECTION". | ApplicationDetectionEvents |
| accessType | AccessType | C | 0..1 | Includes the access type. It shall be present when the notified event is "ACCESS\_TYPE\_CHANGE" or, if the feature "URSPEnforcement" is supported, when the notified event is "URSP\_ENF\_INFO". |  |
| addAccessInfo | AdditionalAccessInfo | O | 0..1 | Indicates the additional combination of Access Type and RAT Type available for MA PDU session. It may be present when the notified event is "ACCESS\_TYPE\_CHANGE" and the PDU session is a Multi-Access PDU session. | ATSSS |
| relAccessInfo | AdditionalAccessInfo | O | 0..1 | Indicates the released combination of Access Type and RAT Type previously available for MA PDU session. It may be present when the notified event is "ACCESS\_TYPE\_CHANGE" and the PDU session is a Multi-Access PDU session. | ATSSS |
| anChargAddr | AccNetChargingAddress | O | 0..1 | Includes the access network charging address. It shall be present if available when the notified event is "CHARGING\_CORRELATION". | IMS\_SBI |
| anChargIds | array(AccessNetChargingIdentifier) | C | 1..N | Includes the access network charging identifier(s). It shall be present when the notified event is "CHARGING\_CORRELATION". | IMS\_SBI |
| anGwAddr | AnGwAddress | O | 0..1 | Access network Gateway Address. It carries the IP address of the ePDG used as IPSec tunnel endpoint with the UE for EPC/ePDG and 5GS interworking. It shall be present, if applicable, when the notified event is "ACCESS\_TYPE\_CHANGE". |  |
| l4sReports | array(L4sSupport) | C | 1..N | ECN marking for L4S support information. It shall be present when the notified event is "L4S\_SUPP". | L4S |
| evSubsUri | Uri | M | 1 | The Events Subscription URI. Identifies the Events Subscription sub-resource that triggered the notification.  (NOTE 1, NOTE 5) |  |
| evNotifs | array(AfEventNotification) | M | 1..N | Notifications about individual events. |  |
| failedResourcAllocReports | array(ResourcesAllocationInfo) | C | 1..N | Indicates the status of the PCC rule(s) related to certain failed media components. It shall be included when the event trigger is "FAILED\_RESOURCES\_ALLOCATION". |  |
| succResourcAllocReports | array(ResourcesAllocationInfo) | O | 1..N | Indicates the alternative service requirement the NG-RAN can guarantee to certain media components. It may be included when the event trigger is "SUCCESSFUL\_RESOURCES\_ALLOCATION". | AuthorizationWithRequiredQoS |
| noNetLocSupp | NetLocAccessSupport | O | 0..1 | Indicates the access network does not support the report of the requested access network information. | NetLoc |
| outOfCredReports | array(OutOfCreditInformation) | C | 1..N | Out of credit information per service data flow. It shall be present when the notified event is "OUT\_OF\_CREDIT". | IMS\_SBI |
| plmnId | PlmnIdNid | C | 0..1 | PLMN Identifier or the SNPN Identifier.  It shall be present when the notified event is "PLMN\_CHG" or, if location information is required but is not available when the notified event is "ANI\_REPORT". It shall be present if available when the notified event is "RAN\_NAS\_CAUSE".  (NOTE 2) |  |
| qncReports | array(QosNotificationControlInfo) | C | 1..N | QoS notification control information. It shall be present when the notified event is "QOS\_NOTIF". |  |
| qosMonReports | array(QosMonitoringReport) | C | 1..N | QoS Monitoring reporting information. It shall be present when the notified event is "QOS\_MONITORING". | QoSMonitoring |
| qosMonDatRateReps | array(QosMonitoringReport)t | C | 1..N | QoS Monitoring reporting information with data rate measurements. It shall be present when the notified event is "QOS\_MONITORING" and data rate measurements are available. | EnQoSMon |
| congestReports | array(QosMonitoringReport) | C | 1..N | Congestion information. It shall be present when the notified event is "QOS\_MONITORING". | EnQoSMon |
| pdvMonReports | array(PdvMonitoringReport) | C | 1..N | Packet Delay Variation information. It shall be present when the notified event is "PACK\_DEL\_VAR". | EnQoSMon |
| rttMonReports | array(QosMonitoringReport) | C | 1..N | The measurement result of Round-Trip delay over two QoS flows. It shall be present when the notified event is "RT\_DELAY\_TWO\_QOS\_FLOWS". | EnQoSMon |
| ranNasRelCauses | array(RanNasRelCause) | C | 1..N | RAN-NAS release cause. It shall be present if available when the notified event is "RAN\_NAS\_CAUSE". | RAN-NAS-Cause |
| ratType | RatType | O | 0..1 | RAT type. It shall be present, if applicable, when the notified event is "ACCESS\_TYPE\_CHANGE" or, if the feature "URSPEnforcement" is supported, when the notified event is "URSP\_ENF\_INFO". |  |
| satBackhaulCategory | SatelliteBackhaulCategory | C | 0..1 | Indicates the satellite or non-satellite backhaul category of the PDU session. It shall be present, if applicable, when the notified event is "SAT\_CATEGORY\_CHG".  If the "EnSatBackhaulCatChg" feature is supported, the different dynamic satellite backhaul categories may also be provided. | SatelliteBackhaul |
| ueLoc | UserLocation | O | 0..1 | E-UTRA, or NR, and/or non-3GPP trusted and untrusted access user location information. "n3gppTai" and "n3IwfId" attributes within the "N3gaLocation" data type shall not be supplied. It shall be present if required and available when the notified event is "ANI\_REPORT". It shall be present if available when the notified event is "RAN\_NAS\_CAUSE".  (NOTE 3) (NOTE 4) | NetLoc, RAN-NAS-Cause |
| ueLocTime | DateTime | O | 0..1 | Contains the NTP time at which the UE was last known to be in the location.  (NOTE 3) | NetLoc |
| ueTimeZone | TimeZone | O | 0..1 | UE time zone.  It shall be present if required and available when the notified event is "ANI\_REPORT". It shall be present if available when the notified event is "RAN\_NAS\_CAUSE". | NetLoc, RAN-NAS-Cause |
| usgRep | AccumulatedUsage | C | 0..1 | Indicates the measured volume and/or time for sponsored data connectivity. It shall be present when the notified event is "USAGE\_REPORT". | SponsoredConnectivity |
| urspEnfRep | UrspEnforcementInfo | C | 0..1 | Includes the URSP rule enforcement information received from a UE from associated URSP rule(s). It shall be present when the notified event is "URSP\_ENF\_INFO". | URSPEnforcement |
| sscMode | SscMode | O | 0..1 | SSC Mode of the PDU session.  It may be present when the notified event is "URSP\_ENF\_INFO". | URSPEnforcement |
| ueReqDnn | Dnn | O | 0..1 | UE requested DNN.  It may be present when the notified event is "URSP\_ENF\_INFO". | URSPEnforcement |
| redundantPduSessionInfo | RedundantPduSessionInformation | O | 0..1 | RSN and PDU session pair ID of the redundant PDU session.  It may be present when the notified event is "URSP\_ENF\_INFO". | URSPEnforcement |
| tsnBridgeManCont | BridgeManagementContainer | O | 0..1 | Transports TSC user plane node management information. | TimeSensitiveNetworking |
| tsnPortManContDstt | PortManagementContainer | O | 0..1 | Transports port management information for the DS-TT port. | TimeSensitiveNetworking |
| tsnPortManContNwtts | array(PortManagementContainer) | O | 1..N | Transports port management information for one or more NW-TT ports. | TimeSensitiveNetworking |
| ipv4AddrList | array(Ipv4AddrMask) | O | 1..N | List of Framed Route information of IPv4. | ExtraUEaddrReport |
| ipv6PrefixList | array(Ipv6Prefix) | O | 1..N | List of Framed Route information of IPv6 or list of IPv6 address prefixes of the served UE. | ExtraUEaddrReport |
| batOffsetInfo | BatOffsetInfo | C | 0..1 | The offset of the BAT and the optionally adjusted periodicity.  It shall be present if available when the notified event is "BAT\_OFFSET\_INFO". | EnTSCAC |
| NOTE 1: Either the complete resource URI included in the "evSubsUri" attribute or the "apiSpecificResourceUriPart" component (see clause 5.1) of the resource URI included in the "evSubsUri" attribute may be used by the NF service consumer for the identification of the Individual Application Session Context resource related to the notification.  NOTE 2: The SNPN Identifier consists of the PLMN Identifier and the NID.  NOTE 3: Whether the "ueLoc" attribute also encodes the age of location is implementation specific.  NOTE 4: When the "ueLoc" attribute contains both, the 3GPP and the non-3GPP UE location, the "ueLocTime" attribute contains the age of the last known 3GPP UE location.  NOTE 5: For event notifications of implicit subscriptions, the content of "evSubsUri" attribute shall be set based on the corresponding application data in the UDR (e.g., clause 4.2.5.29). | | | | | |

\* \* \* \* End of changes \* \* \* \*