**3GPP TSG-CT3 Meeting #130C3-234299**

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-233752)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.122** | **CR** | **0734** | **rev** | **2** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Corrections to MonitoringEventReport | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NBI18 | | | | |  | ***Date:*** | | | 2023-09-26 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | Location\_notification is a R15 feature, IE "locFailureCause" added in R16 via CP-210247 shall not be marked as applicable for R15 feature Location\_notification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | In clause 5.3.2.3.2:   * Remove the Location\_notification feature applicability for the "locFailureCause" attribute; | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Wrong feature applicability for "locFailureCause" feature in MonitoringEventReport data type. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.3.2.1.1, 5.3.2.3.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision to C3-233752:  Updated as corrections to applicability for "locFailureCause" feature in MonitoringEventReport data type. | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

\*\*\* 1st Change \*\*\*

##### 5.3.2.1.1 Introduction

This clause defines data structures to be used in resource representations, including subscription resources.

Table 5.3.2.1.1-1 specifies data types re-used by the MonitoringEvent API from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the MonitoringEvent API.

Table 5.3.2.1.1-1: MonitoringEvent API re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| CivicAddress | 3GPP TS 29.572 [42] | Civic address. |
| CodeWord | 3GPP TS 29.515 [65] | Code word. |
| DlDataDeliveryStatus | 3GPP TS 29.571 [45] | Traffic Descriptor of source of downlink data notifications. |
| DddTrafficDescriptor | 3GPP TS 29.571 [45] | Traffic Descriptor of source of downlink data. |
| Dnn | 3GPP TS 29.571 [45] | Identifies a DNN. |
| GeographicArea | 3GPP TS 29.572 [42] | Identifies the geographical information of the user(s). |
| Gpsi | 3GPP TS 29.571 [45] | Represents a GPSI. |
| IpAddr | 3GPP TS 29.571 [45] | UE IP Address. |
| LocationQoS | 3GPP TS 29.572 [42] | Requested location QoS. |
| LdrType | 3GPP TS 29.572 [42] | Location deferred requested event type. |
| MinorLocationQoS | 3GPP TS 29.572 [42] | Minor Location QoS. |
| VelocityRequested | 3GPP TS 29.572 [42] | Velocity of the target UE requested. |
| AgeOfLocationEstimate | 3GPP TS 29.572 [42] | Age of the location estimate for change of location type or motion type of Location deferred report. |
| AccuracyFulfilmentIndicator | 3GPP TS 29.572 [42] | The indication whether the obtained location estimate satisfies the requested QoS or not. |
| VelocityEstimate | 3GPP TS 29.572 [42] | UE velocity, if requested and available. |
| LinearDistance | 3GPP TS 29.572 [42] | This IE shall be present and set to true if a location estimate is required for motion event report. |
| NetworkAreaInfo | 3GPP TS 29.554 [50] | Identifies a network area information. |
| PatchItem | 3GPP TS 29.571 [45] | Contains the list of changes to be made to a resource according to the JSON PATCH format specified in IETF RFC 6902 [67]. |
| PduSessionInformation | 3GPP TS 29.523 [70] | Represents PDU session identification information. |
| PositioningMethod | 3GPP TS 29.572 [42] | Identifies the positioning method used to obtain the location estimate of the UE. |
| SACEventStatus | 3GPP TS 29.571 [45] | Contains the network slice status information related to network slice admission control. |
| SACInfo | 3GPP TS 29.571 [45] | Represents network slice admission control information to control the triggering of notifications or convey network slice status information. |
| Snssai | 3GPP TS 29.571 [45] | Contains a S-NSSAI. |
| SupportedFeatures | 3GPP TS 29.571 [45] | Used to negotiate the applicability of the optional features defined in table 5.3.4-1. |
| ServiceIdentiy | 3GPP TS 29.515 [65] | Service identity. |
| SupportedGADShapes | 3GPP TS 29.572 [42] | Supported Geographical Area Description shapes. |
| MacAddr48 | 3GPP TS 29.571 [45] | MAC Address. |
| UcPurpose | 3GPP TS 29.503 [63] | Represents the purpose of a user consent. |
| Uri | Clause 5.2.1.3.2 | Represents a URI. |
| UserLocation | 3GPP TS 29.571 [6] | Represents a user location. |

Table 5.3.2.1.1-2 specifies the data types defined for the MonitoringEvent API.

Table 5.3.2.1.1-2: MonitoringEvent API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| Accuracy | 5.3.2.4.7 | Represents a desired granularity of accuracy for the requested location information. | Location\_notification,  eLCS, EDGEAPP |
| ApiCapabilityInfo | 5.3.2.3.9 | Represents the availability information of supported API. | API\_support\_capability\_notification |
| AppliedParameterConfiguration | 5.3.2.3.8 | Represents the parameter configuration applied in the network. | Enhanced\_param\_config |
| AssociationType | 5.3.2.4.6 | Represents an IMEI or IMEISV to IMSI association. | Change\_of\_IMSI\_IMEI\_association\_notification |
| ConsentRevocNotif | 5.3.2.3.12 | Represents the user consent revocation information conveyed in a user consent revocation notification. | UserConsentRevocation |
| ConsentRevoked | 5.3.2.3.13 | Represents the information related to revoked user consent(s). | UserConsentRevocation |
| FailureCause | 5.3.2.3.6 | Represents the reason of communication failure. | Communication\_failure\_notification |
| GroupMembListChanges | 5.3.2.3.13 | Represents information on the change(s) to a group's members list. | GMEC |
| IdleStatusInfo | 5.3.2.3.3 | Represents the information relevant to when the UE transitions into idle mode. | Ue-reachability\_notification,  Availability\_after\_DDN\_failure\_notification |
| InterfaceIndication | 5.3.2.4.10 | Represents the network entity used for data delivery towards the SCS/AS. | Pdn\_connectivity\_status |
| LocationFailureCause | 5.3.2.4.11 | Represents the cause of location/positioning failure. | eLCS |
| LocationInfo | 5.3.2.3.5 | Represents the user location information. | Location\_notification, eLCS |
| LocationType | 5.3.2.4.5 | Represents a location type. | Location\_notification, Number\_of\_UEs\_in\_an\_area\_notification, Number\_of\_UEs\_in\_an\_area\_notification\_5G,  eLCS |
| MonitoringEventReport | 5.3.2.3.2 | Represents an event monitoring report. |  |
| MonitoringEventReports | 5.3.2.3.10 | Represents one or multiple event monitoring report(s). | enNB |
| MonitoringEventSubscription | 5.3.2.1.2 | Represents a subscription to event(s) monitoring. |  |
| MonitoringNotification | 5.3.2.2.2 | Represents an event monitoring notification. |  |
| MonitoringType | 5.3.2.4.3 | Represents a monitoring event type. |  |
| PdnConnectionInformation | 5.3.2.3.7 | Represents the PDN connection information of the UE. | Pdn\_connectivity\_status |
| PdnConnectionStatus | 5.3.2.4.8 | Represents the PDN connection status. | Pdn\_connectivity\_status |
| PdnType | 5.3.2.4.9 | Represents a PDN connection type. |  |
| ReachabilityType | 5.3.2.4.4 | Represents a reachability type. | Ue-reachability\_notification |
| SACRepFormat | 5.3.2.4.13 | Represents the NSAC reporting format. | NSAC |
| SubType | 5.3.2.4.12 | Represents a subscription type. | UAV |
| UavPolicy | 5.3.2.3.11 | Represents the policy information included in the UAV presence monitoring request. | UAV |
| UePerLocationReport | 5.3.2.3.4 | Represents the number of UEs found at the indicated location. | Number\_of\_UEs\_in\_an\_area\_notification, Number\_of\_UEs\_in\_an\_area\_notification\_5G |
| RangeDirection | 5.3.2.3.14 | Represents the range and direction between two points. | Ranging\_SL |
| TwodrelativeLocation | 5.3.2.3.15 | Represents 2D local co-ordinates with origin corresponding to another known point. | Ranging\_SL |
| ThreedrelativeLocation | 5.3.2.3.16 | Represents 3D local co-ordinates with origin corresponding to another known point. | Ranging\_SL |

\*\*\* 2nd Change \*\*\*

##### 5.3.2.3.2 Type: MonitoringEventReport

This data type represents a monitoring event notification which is sent from the SCEF to the SCS/AS.

Table 5.3.2.3.2-1: Definition of type MonitoringEventReport

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | Cardinality | Description | Applicability (NOTE 1) |
| imeiChange | AssociationType | 0..1 | If "monitoringType" is "CHANGE\_OF\_IMSI\_IMEI\_ASSOCIATION", this parameter shall be included to identify the event of change of IMSI-IMEI or IMSI-IMEISV association is detected.  Refer to 3GPP TS 29.336 [11] Clause 8.4.22. | Change\_of\_IMSI\_IMEI\_association\_notification |
| externalId | ExternalId | 0..1 | External identifier.  This attribute may also be present in the monitoring event subscription one-time response message, if the "UEId\_retrieval" feature is supported and the corresponding request message includes the "ueIpAddr" attribute or the "ueMacAddr" attribute.  If "monitoringType" is "APPLICATION\_START" and/or "APPLICATION\_STOP", this parameter may be included.  (NOTE 2) |  |
| appId | string | 0..1 | Represents the detected application. | AppDetection\_5G |
| pduSessInfo | PduSessionInformation | 0..1 | Represents PDU session information related to the observed event.  If "monitoringType" is "APPLICATION\_START" and/or "APPLICATION\_STOP", this parameter shall be included to indicate the Application traffic detection details. | AppDetection\_5G |
| idleStatusInfo | IdleStatusInfo | 0..1 | If "idleStatusIndication" in the "MonitoringEventSubscription"sets to "true", this parameter shall be included to indicate the information when the UE transitions into idle mode. | Ue-reachability\_notification,  Availability\_after\_DDN\_failure\_notification |
| locationInfo | LocationInfo | 0..1 | If "monitoringType" is "LOCATION\_REPORTING", this parameter shall be included to indicate the user location related information. | Location\_notification, eLCS |
| locFailureCause | LocationFailureCause | 0..1 | Indicates the location positioning failure cause. | eLCS |
| lossOfConnectReason | integer | 0..1 | If "monitoringType" is "LOSS\_OF\_CONNECTIVITY", this parameter shall be included if available to identify the reason why loss of connectivity is reported.  Refer to 3GPP TS 29.336 [11] Clause 8.4.58. | Loss\_of\_connectivity\_notification |
| unavailPerDur | DurationSec | 0..1 | If "monitoringType" is "LOSS\_OF\_CONNECTIVITY", then this parameter shall be included if available to identify the UE’s Unavailability Period Duration. | Loss\_of\_connectivity\_notification\_5G |
| maxUEAvailabilityTime | DateTime | 0..1 | If "monitoringType" is "UE\_REACHABILITY", this parameter may be included to identify the timestamp until which a UE using a power saving mechanism is expected to be reachable for SM delivery.  Refer to Clause 5.3.3.22 of 3GPP TS 29.338 [34]. | Ue-reachability\_notification |
| msisdn | Msisdn | 0..1 | Identifies the MS internal PSTN/ISDN number.  If "monitoringType" is "APPLICATION\_START" and/or "APPLICATION\_STOP", this parameter may be included.  (NOTE 2) |  |
| monitoringType | MonitoringType | 1 | Identifies the type of monitoring type as defined in clause 5.3.2.4.3. |  |
| uePerLocationReport | UePerLocationReport | 0..1 | If "monitoringType" is "NUMBER\_OF\_UES\_IN\_AN\_AREA", this parameter shall be included to indicate the number of UEs found at the location.  If "subType" indicates "AERIAL\_UE" subscription type, this parameter shall be included to indicate the number of UAV’s found at the location. | Number\_of\_UEs\_in\_an\_area\_notification, Number\_of\_UEs\_in\_an\_area\_notification\_5G |
| plmnId | PlmnId | 0..1 | If "monitoringType" is "ROAMING\_STATUS" and "plmnIIndication" in the "MonitoringEventSubscription" sets to "true", this parameter shall be included to indicate the UE's serving PLMN. | Roaming\_status\_notification |
| reachabilityType | ReachabilityType | 0..1 | If "monitoringType" is "UE\_REACHABILITY", this parameter shall be included to identify the reachability of the UE.  Refer to 3GPP TS 29.336 [11] Clause 8.4.20. | Ue-reachability\_notification |
| roamingStatus | boolean | 0..1 | If "monitoringType" is "ROAMING\_STATUS", this parameter shall be set to "true" if the new serving PLMN is different from the HPLMN. Set to false or omitted otherwise. | Roaming\_status\_notification |
| failureCause | FailureCause | 0..1 | If "monitoringType" is "COMMUNICATION\_FAILURE", this parameter shall be included to indicate the reason of communication failure. | Communication\_failure\_notification |
| eventTime | DateTime | 0..1 | Identifies when the event is detected or received.  Shall be included for each group of UEs. |  |
| pdnConnInfoList | array(PdnConnectionInformation) | 0..N | If "monitoringType" is "PDN\_CONNECTIVITY\_STATUS", this parameter shall be included to indicate the PDN connection details. | Pdn\_connectivity\_status |
| dddStatus | DlDataDeliveryStatus | 0..1 | If "monitoringType" is "DOWNLINK\_DATA\_DELIVERY\_STATUS", this parameter shall be included to identify the downlink data delivery status detected by the network. | Downlink\_data\_delivery\_status\_5G |
| dddTrafDescriptor | DddTrafficDescriptor | 0..1 | If "monitoringType" is "DOWNLINK\_DATA\_DELIVERY\_STATUS", this parameter shall be included to identify the downlink data descriptor impacted by the downlink data delivery status change. | Downlink\_data\_delivery\_status\_5G |
| maxWaitTime | DateTime | 0..1 | If "monitoringType" is "DOWNLINK\_DATA\_DELIVERY\_STATUS", this parameter may be included to identify the time before which the data will be buffered. | Downlink\_data\_delivery\_status\_5G |
| apiCaps | array(ApiCapabilityInfo) | 0..N | If "monitoringType" is "API\_SUPPORT\_CAPABILITY", this parameter shall be included to indicate the availability of all APIs supported by the serving network or the availability of interested APIs, indicated by the "apiNames" attribute in "MonitoringEventSubscription", supported by the serving network.  If no API is supported by the serving network, an empty apiCaps shall be provided. | API\_support\_capability\_notification |
| nSStatusInfo | SACEventStatus | 0..1 | If the "monitoringType" attribute is set to "NUM\_OF\_REGD\_UES" or "NUM\_OF\_ESTD\_PDU\_SESSIONS", this parameter shall be included to indicate the current network slice status information for the concerned network slice.  (NOTE 3) | NSAC |
| afServiceId | string | 0..1 | Contains the identifier of the service to which the NSAC reporting is related.  It shall be provided only if it is present in the related NSAC subscription request and the "monitoringType" attribute is set to either "NUM\_OF\_REGD\_UES" or "NUM\_OF\_ESTD\_PDU\_SESSIONS". | NSAC |
| servLevelDevId | string | 0..1 | If "monitoringType" is "AREA\_OF\_INTEREST" or "NUMBER\_OF\_UES\_IN\_AN\_AREA" and "subType" indicate "AERIAL\_UE", this parameter may be included to identify the UAV. | UAV |
| uavPresInd | boolean | 0..1 | If "monitoringType" is "AREA\_OF\_INTEREST", this parameter shall be set to true if the specified UAV is in the monitoring area. Set to false or omitted otherwise. | UAV |
| groupMembListChanges | GroupMembListChanges | 0..1 | Contains information on the change(s) to the group member list.  This attribute shall be present only if the "monitoringType" attribute is set to "GROUP\_MEMBER\_LIST\_CHANGE". | GMEC |
| NOTE 1: Properties marked with a feature as defined in clause 5.3.4 are applicable as described in clause 5.2.7. If no features are indicated, the related property applies for all the features.  NOTE 2: Identifies the user for which the event occurred. Either "externalId" or "msisdn" attribute At least one of the properties shall be included.  NOTE 3: If the "eNSAC" feature is supported, the "SACEventStatus" data type shall include an indication to report either the current number of registered UEs or the current number of UEs with at least one PDU session/PDN connection. | | | | |

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