**3GPP TSG-CT WG4 Meeting #99e****C4-20xxxx**

**E-Meeting, 18th – 28th August 2020 was C4-204236**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.572** | **CR** | **0074** | **rev** | **1** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Including VGMLC address towards LMF when requesting LMF’s Location service | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_eLCS | | | | |  | ***Date:*** | | | 2020-08-04 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | In step 28 in subclause 6.5.3 of 3GPP TS 23.273 v16.4.0, it is specifies that  the LMF can send event notification towards V-GMLC directly via Nlmf\_Location\_EventNotify service operation if the UE is for roaming case. And the V-GMLC is either used for steps 3-8 or selected by the LMF using NRF service. It is showed as follows:  ……  28. In the case of roaming, the LMF selects a VGMLC (which may be different to the VGMLC for steps 3-8 and steps 19-21), The LMF then invokes an Nlmf\_Location\_EventNotify service operation towards the selected VGMLC or (H)GMLC with an indication of the type of event being reported, the (H)GMLC contact address and LDR reference number, the identification of the LMF if this is a serving LMF, and any location estimate obtained at step 27.  NOTE 10: In the case of roaming, the LMF may select the VGMLC for step 28 using the NRF service or using configuration information in the LMF or may use the same VGMLC as for steps 3-8 (e.g. if the LMF acts as a serving LMF and received the VGMLC address from the AMF as part of step 14).  ……  ”  It means the AMF should include a VGMLC address for the roaming case when triggering Nlmf\_Location\_DetermineLocation service operation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Include VGMLC address in Nlmf\_Location\_DetermineLocation service operation during Deferred 5G-MT-LR procedure. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing the VGMLC address for LMF to send event report. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 6.1.6.1, 6.1.6.2.2, A.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 will introduce backward compatible corrections in the OpenAPI specification file of Nlmf\_Location API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\*\*\*Start of change \*\*\*\*\*

##### 6.1.6.2.2 Type: InputData

Table 6.1.6.2.2-1: Definition of type InputData

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| externalClientType | ExternalClientType | O | 0..1 | When present, this IE shall carry the external client type of the requester. |
| correlationID | CorrelationID | O | 0..1 | When present, this IE shall carry the correlation ID of the request. |
| amfId | NfInstanceId | O | 0..1 | Indicates the AMF Instance serving the UE. LMF shall use the AMF Instance to forward LCS related N1/N2 messages to the UE/RAN. |
| locationQoS | LocationQoS | O | 0..1 | When present, this IE shall carry the QoS of the location request. |
| supportedGADShapes | array(SupportedGADShapes) | O | 1..N | When present, this IE shall carry the GAD shapes supported by the requester. |
| supi | Supi | O | 0..1 | Indicates the SUPI of the target UE. |
| pei | Pei | O | 0..1 | Indicates the PEI of the target UE. |
| gpsi | Gpsi | O | 0..1 | Indicates the GPSI of the target UE. |
| ecgi | Ecgi | O | 0..1 | When present, this IE shall indicate the identifier of the E-UTRAN cell serving the UE or the serving cell identifier of the Primary Cell in the Master RAN Node that is an E-UTRAN node on Dual Connectivity scenarios.  (NOTE 2) |
| ecgiOnSecondNode | Ecgi | O | 0..1 | When present, the serving cell identifier of the Primary Cell in the Secondary RAN Node that is an E-UTRAN node when available on Dual Connectivity scenarios.  (NOTE 3) (NOTE 4) |
| ncgi | Ncgi | O | 0..1 | When present, this IE shall indicate the identifier of the NR cell serving the UE or the serving cell identifier of the Primary Cell in the Master RAN Node that is a NR node on Dual Connectivity scenarios.  (NOTE 2) |
| ncgiOnSecondNode | Ncgi | O | 0..1 | When present, the serving cell identifier of the Primary Cell in the Secondary RAN Node that is a NR node when available on Dual Connectivity scenarios.  (NOTE 3) (NOTE 4) |
| priority | LcsPriority | O | 0..1 | When present, this IE shall indicate the priority of the location request. |
| velocityRequested | VelocityRequested | O | 0..1 | When present, this IE shall indicate whether velocity is requested or not. |
| ueLcsCap | UeLcsCapability | O | 0..1 | When present, this IE shall indicate the LCS capability supported by the UE. |
| lcsServiceType | LcsServiceType | O | 0..1 | The LCS service type |
| ldrType | LdrType | O | 0..1 | The type of LDR |
| hgmlcCallBackURI | Uri | C | 0..1 | Callback URI of the H-GMLC  It shall be present, if attribute LdrType is present. |
| vgmlcAddress | Uri | C | 0..1 | V-GMLC address that corresponds to the V-GMLC that receives Location Request  It shall be present, if attribute LdrType is present and the target UE is in roaming case. |
| ldrReference | LdrReference | C | 0..1 | LDR Reference Number  It shall be present, if attribute LdrType is present. |
| periodicEventInfo | PeriodicEventInfo | C | 0..1 | Information for periodic event reporting |
| areaEventInfo | AreaEventInfo | C | 0..1 | Information for area event reporting |
| motionEventInfo | MotionEventInfo | C | 0..1 | Information for motion event reporting |
| reportingAccessTypes | ReportingAccessTypes | O | 0..1 | Allowed access types for event reporting |
| ueConnectivityStates | array(UeConnectivityState) | O | 1..N | When present, this IE shall indicate the UE connectivity state per access type |
| ueLocationServiceInd | UeLocationServiceInd | C | 0..1 | If UE sends an MO-LR Request message, this IE shall be present and indicate the request type for a 5GC-MO-LR. |
| lppMessage | RefToBinaryData | C | 0..1 | If UE includes the LPP message in MO-LR Request, this IE shall be present and Indicate the binary data of LPP message. |
| NOTE 1: At least one of the attributes defined in this table shall be present in the InputData structure.  NOTE 2: Attribute "ecgi" and "ncgi" shall not be present at the same time.  NOTE 3: Attribute "ecgiOnSecondNode" and "ncgiOnSecondNode" shall not be present at the same time.  NOTE 4: Attribute "ecgiOnSecondNode" or "ncgiOnSecondNode" shall not be present if neither attribute "ecgi" nor "ncgi" is present. | | | | |

\*\*\*\*\*Next change \*\*\*\*\*

## A.2 Nlmf\_Location API

\*\*\*\*\*\*skipped for clarification\*\*\*\*\*\*

#

# COMPLEX TYPES

#

InputData:

type: object

not:

required: [ ecgi, ncgi ]

properties:

externalClientType:

$ref: '#/components/schemas/ExternalClientType'

correlationID:

$ref: '#/components/schemas/CorrelationID'

amfId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

locationQoS:

$ref: '#/components/schemas/LocationQoS'

supportedGADShapes:

type: array

items:

$ref: '#/components/schemas/SupportedGADShapes'

minItems: 1

supi:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Supi'

pei:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Pei'

gpsi:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

ecgi:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ecgi'

ecgiOnSecondNode:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ecgi'

ncgi:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ncgi'

ncgiOnSecondNode:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ncgi'

priority:

$ref: '#/components/schemas/LcsPriority'

velocityRequested:

$ref: '#/components/schemas/VelocityRequested'

ueLcsCap:

$ref: '#/components/schemas/UeLcsCapability'

lcsServiceType:

$ref: '#/components/schemas/LcsServiceType'

ldrType:

$ref: '#/components/schemas/LdrType'

hgmlcCallBackURI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

vgmlcAddress:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

ldrReference:

$ref: '#/components/schemas/LdrReference'

periodicEventInfo:

$ref: '#/components/schemas/PeriodicEventInfo'

areaEventInfo:

$ref: '#/components/schemas/AreaEventInfo'

motionEventInfo:

$ref: '#/components/schemas/MotionEventInfo'

reportingAccessTypes:

$ref: '#/components/schemas/ReportingAccessTypes'

ueConnectivityStates:

$ref: '#/components/schemas/UeConnectivityState'

ueLocationServiceInd:

$ref: '#/components/schemas/UeLocationServiceInd'

lppMessage:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RefToBinaryData'

\*\*\*\*\*\*skipped for clarification\*\*\*\*\*\*

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