**3GPP TSG-CT WG4 Meeting #97eC4-202146**

**E-Meeting, 15th – 24th April 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **0396** | **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:*** | Support of inter-RAT HO from NR SA to EN-DC | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | NTT DOCOMO | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2020-04-08 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | As described in CR#2127 of TS 23.502 (available in S2-2002551), access restriction for subscription profile needs to be provided from AMF to MME during inter RAT handover from NR SA to EN-DC in order to support adequate SGW selection at MME, as well as to avoid allocating unnecessary resources for secondary RAT at EPC in case it is restricted. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify that access restriction can be sent from AMF to MME for the purpose of (1) adequate SGW selection at MME based on subscription profile, and (2) to avoid allocating unnecessary resources for secondary RAT at EPC if it is restricted, during inter RAT handover from NR SA to EN-DC. | | | | | | | | |
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| ***Consequences if not approved:*** | | Mis-alignment with stage2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1.6.2.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \*\*\***

##### 6.1.6.2.4 Type: AccessAndMobilitySubscriptionData

Table 6.1.6.2.4-1: Definition of type AccessAndMobilitySubscriptionData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| supportedFeatures | SupportedFeatures | O | 0..1 | See clause 6.1.8 |  |
| gpsis | array(Gpsi) | O | 0..N | List of Generic Public Subscription Identifier; see 3GPP TS 29.571 [7] |  |
| internalGroupIds | array(GroupId) | O | 1..N | List of internal group identifier; see 3GPP TS 23.501 [2] clause 5.9.7 |  |
| vnGroupInfo | map(VnGroupData) | O | 1..N | A map of 5G VN group data (list of key-value pairs where GroupId serves as key; see clause 6.1.6.1).  This attribute is only applicable to the Nudm interface and shall not be included over the Nudr interface. |  |
| sharedVnGroupDataIds | map(SharedDataId) | O | 1..N | A map of identifiers of shared 5G VN group data (list of key-value pairs whereGroupId serves as key; see clause 6.1.6.1), only present if vnGroupInfo not present.  This attribute is only applicable to the Nudm interface and shall not be included over the Nudr interface. |  |
| subscribedUeAmbr | AmbrRm | O | 0..1 |  |  |
| nssai | Nssai | O | 0..1 | Network Slice Selection Assistance Information |  |
| ratRestrictions | array(RatType) | O | 0..N | List of RAT Types that are restricted; see 3GPP TS 29.571 [7] (NOTE 2) |  |
| forbiddenAreas | array(Area) | O | 0..N | List of forbidden areas |  |
| serviceAreaRestriction | ServiceAreaRestriction | O | 0..1 | Subscribed Service Area Restriction |  |
| coreNetworkTypeRestrictions | array(CoreNetworkType) | O | 0..N | List of Core Network Types that are restricted |  |
| rfspIndex | RfspIndexRm | O | 0..1 | Index to RAT/Frequency Selection Priority; |  |
| subsRegTimer | DurationSecRm | O | 0..1 | Subscribed periodic registration timer; see 3GPP TS 29.571 [7] |  |
| ueUsageType | UeUsageType | O | 0..1 |  |  |
| mpsPriority | MpsPriorityIndicator | O | 0..1 |  |  |
| mcsPriority | McsPriorityIndicator | O | 0..1 |  |  |
| activeTime | DurationSecRm | O | 0..1 | subscribed active time for PSM UEs |  |
| dlPacketCount | DlPacketCount | O | 0..1 | DL Buffering Suggested Packet Count indicates whether extended buffering of downlink packets for High Latency Communication is requested. |  |
| sorInfo | SorInfo | O | 0..1 | On Nudm, this IE shall be present if the UDM shall send the information for Steering of Roaming during registration or the subscription data update to the UE. The UDM may detect the need to send sorInfo by retrieving context information from the UDR.  (NOTE 4) |  |
| sorInfoExpectInd | Boolean | C | 1 | Contains the indication on whether or not the UE is expecting to receive SoR information at initial registration.  - When set to true; it indicates that the UE is expecting to receive SoR information at initial registration, i.e. the UDM shall send SoR information to the AMF on Nudm even when nothing was received from UDR or SOR-AF. In case the UDM was not able to obtain SoR information, SoR information sent to on Nudm shall contain the indication that "no change" is needed.  - When set to false: it indicates that the UE is not expecting to receive SoR information at initial registration, i.e. the UDM shall send SoR information to the AMF only if SoR information was received from the UDR or SOR-AF, but otherwise shall not send it, not even a "no change" indication.  This attribute may be present on Nudr interface and shall be absent on UDM interface.  The UDM shall ignore this attribute if the UE is not roaming out of its HPLMN |  |
| sorafRetrieval | boolean | C | 0..1 | Contains the indication on whether or not SoR information shall be retrieved from the SOR-AF.  - When set to true: it indicates that the UDM shall retrieve SoR information from the SOR-AF.  - When set to false or absent: it indicates that the retrieval of SorInfo from the SOR-AF is not required.  This attribute may be present on Nudr interface and shall be absent on Nudm interface.  The UDM shall ignore this attribute if the UE is not roaming out of its HPLMN. |  |
| sorUpdateIndicatorList | array(SorUpdateIndicator) | C | 1..N | When present, it contains the list of SoR Update Indicators;  - It shall indicate that the AMF shall retrieve SoR information when the UE performs Registration with NAS Registration Type "Initial Registration" if the value "INITIAL\_REGISTRATION" is included;  - And/or it shall indicate that the AMF shall retrieve SoR information when the UE performs Registration with NAS Registration Type "Emergency Registration" if the value "EMERGENCY\_REGISTRATION" is included.  When absent on Nudm interface, it indicates that the AMF is not requested to retrieve SoR information when the UE performs Registration with either NAS Registration Type "Initial Registration" or NAS Registration Type "Emergency Registration".  The UDM shall ignore this attribute if the UE is not roaming out of its HPLMN. |  |
| upuInfo | UpuInfo | O | 0..1 | This IE shall be present if the UDM shall send the information for UE Parameters Update after the UE has been successfully authenticated and registered to the 5G system. |  |
| micoAllowed | MicoAllowed | O | 0..1 | Indicates whether the UE subscription allows MICO mode. |  |
| sharedAmDataIds | array(SharedDataId) | O | 0..N | Identifier of shared Access And Mobility Subscription data | SharedData |
| odbPacketServices | OdbPacketServices | O | 0..1 | Operator Determined Barring for Packet Oriented Services (NOTE 3). |  |
| subscribedDnnList | array(Dnn) | O | 0..N | List of the subscribed DNNs for the UE (including optionally the Wildcard DNN). Used to determine the list of LADN available to the UE as defined in clause 5.6.5 of TS 23.501 [2].  When present, this IE shall contain the Network Identifier only. |  |
| serviceGapTime | DurationSec | O | 0..1 | Used to set the Service Gap timer for Service Gap Control (see TS 23.501 [2] clause 5.26.16 and TS 23.502 [3] clause 4.2.2.2.2). |  |
| traceData | TraceData | O | 0..1 | Trace requirements about the UE, only sent to AMF in the HPLMN or one of its equivalent PLMN(s) |  |
| cagData | CagData | O | 0..1 | Closed Access Group Data.  Shall be absent if both - no CAG is subscribed for the serving PLMN and - an acknowledgement from the UE is not pending. |  |
| stnSr | StnSr | O | 0..1 | This IE shall be present if the UE is subscribed to 5G SRVCC.  When present, it indicates the STN-SR (Session Transfer Number for SRVCC) of the UE. |  |
| cMsisdn | CMsisdn | O | 0..1 | This IE shall be present if the UE is subscribed to 5G SRVCC.  When present, it indicates the C-MSISDN (Correlation MSISDN) of the UE. |  |
| nbIoTUePriority | NbIoTUePriority | O | 0..1 | Indicates NB IoT UE priority which is used by the NG-RAN to prioritise resource allocation between UEs accessing via NB-IoT(see clause 5.31.17 of 3GPP TS 23.501 [2]). |  |
| nssaiInclusionAllowed | boolean | O | 0..1 | Indicates that the UE is allowed to include NSSAI in the RRC connection establishment in clear text for 3GPP access.  true: indicates that NSSAI can be included in RRC connection establishment by the UE.  false or absent: indicates that NSSAI cannot be included. |  |
| rgWirelineCharacteristics | RgWirelineCharacteristics | O | 0..1 | Indicates the RG Level Wireline Access Characteristics as specified in 3GPP TS 23.316 [37]. |  |
| rgTMBR | TMBR | O | 0..1 | The maximum aggregated uplink and downlink bit rates to be shared across all Non-GBR and GBR QoS Flows via wireline access network for the UE as specified in 3GPP TS 23.316 [37] |  |
| ecRestrictionData | EcRestrictionData | O | 0..1 | Indicates Enhanced Coverage Restriction Data.  If absent, indicates enchanged coverage is not restricted. |  |
| expectedUeBehaviour | ExpectedUeBehaviourData | O | 0..1 | Indicates Expected UE Behaviour parameters associated with AMF(see clause 5.20 of 3GPP TS 23.501 [2] and clause  4.15.6.3 of 3GPP TS 23.502 [3]).  This attribute is only applicable to the Nudm interface and shall not be included over the Nudr interface. |  |
| maximumResponseTimeList | array(MaximumResponseTime) | O | 1..N | Indicates Maximum Response Time associated with AMF (see clause 5.20 of 3GPP TS 23.501 [2] and clause  4.15.6.3a of 3GPP TS 23.502 [3]).  This attribute is only applicable to the Nudm interface and shall not be included over the Nudr interface. |  |
| maximumLatencyList | array(MaximumLatency) | O | 1..N | Indicates Maximum Latency associated with AMF (see clause 5.20 of 3GPP TS 23.501 [2] and clause  4.15.6.3a of 3GPP TS 23.502 [3]).  This attribute is only applicable to the Nudm interface and shall not be included over the Nudr interface. |  |
| primaryRatRestrictions | array(RatType) | O | 0..N | List of RAT Types that are restricted for use as primary RAT; see 3GPP TS 29.571 [7] (NOTE 2) |  |
| secondaryRatRestrictions | array(RatType) | O | 0..N | List of RAT Types that are restricted for use as secondary RAT; see 3GPP TS 29.571 [7] (NOTE 2) |  |
| edrxParametersList | array(EdrxParameters) | O | 1..N | List of subscribed the extended idle mode DRX parameters (see clause 5.31.7.2.1 of 3GPP TS 23.501 [2]). |  |
| ptwParametersList | array(PtwParameters) | O | 1..N | List of subscribed the Paging Time Window parameters (see clause 5.31.7.2.1 of 3GPP TS 23.501 [2]). |  |
| iabOperationAllowed | boolean | O | 0..1 | Indicates that the UE is allowed for IAB operation as specified in 3GPP TS 23.501 [2].  true: indicates that the UE is allowed for IAB operation.  false or absent: indicates that the UE is not allowed for IAB operation. |  |
| nrV2xServicesAuth | NrV2xAuth | O | 0..1 | Indicates whether the UE is authorized to use the LTE sidelink for V2X services. |  |
| lteV2xServicesAuth | LteV2xAuth | O | 0..1 | Indicates whether the UE is authorized to use the NR sidelink for V2X services. |  |
| nrUePc5Ambr | BitRate | O | 0..1 | Indicates UE-PC5-AMBR for V2X communication over PC5 reference point for NR PC5. |  |
| ltePc5Ambr | BitRate | O | 0..1 | Indicates UE-PC5-AMBR for V2X communication over PC5 reference point for LTE PC5. |  |
| NOTE 1: AccessAndMobilitySubscriptionData can be UE-individual data or shared data.  UE-individual data take precedence over shared data.  E.g.: When an attribute of type array is present but empty within UE-Individual data and present (with any cardinality) in shared data, the empty array takes precedence. Similarly, when a nullable attribute is present with value null within the individual data and present (with any value) in shared data, the null value takes precedence (i.e. for the concerned UE the attribute is considered absent).  NOTE 2: If the primaryRatRestrictions and secondaryRatRestrictions attributes are supported by the sender, the sender shall include the list of RAT Types that are restricted, if any, in the ratRestrictions attribute, shall include the list of RAT Types that are restricted for use as primary RAT, if any, in the primaryRatRestrictions attribute and shall include the list of RAT Types that are restricted for use as secondary RAT, if any, in the secondaryRatRestrictions attribute. If the primaryRatRestrictions and secondaryRatRestrictions attributes are supported by the receiver, the receiver shall use the data in the primaryRatRestrictions attribute, if received, as the list of RAT Types that are restricted for use as primary RAT, and shall use the data in the secondaryRatRestrictions attribute, if received, as the list of RAT Types that are restricted for use as secondary RAT, otherwise the receiver shall use the data in the ratRestrictions attribute, if received, as the list of RAT Types that are restricted.  If the secondaryRatRestictions attribute is included in the subscription profile, the content may be sent to MME during inter RAT handover from NR SA to EN-DC, for the purpose of adequate SGW selection at MME based on subscription profile, and to avoid allocating unnecessary resources for secondary RAT at EPC if it is restricted.  NOTE 3: The AMF shall take responsibility to perform PDU session related actions subject to change of OdbPacketService, e.g. release existing PDU session.  NOTE 4: The UDM shall ignore the content of sorInfo received on Nudr if "sorafRetrieval" is set to true. | | | | |  |

**\*\*\* End of Change \*\*\***