**3GPP TSG-CT WG1 Meeting #135-eC1-222616**

**E-meeting, 6-12 April 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **24.501** | **CR** | **4145** | **rev** | **1** | **Current version:** | **17.6.1** |  |
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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 | **X** | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | UCU for MPS |
|  |  |
| ***Source to WG:*** | Peraton Labs, CISA ECD |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | MPS2 |  | ***Date:*** | 2022-03-28 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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)* |
|  |  |
| ***Reason for change:*** | CR S2-2201743 adds the MPS indicator to the UE Configuration Update procedure. From S2-2201743: For a regular UE that obtains an MPS subscription sometime after registration, the AMF learns about this update by subscribing to UDM changes in the Access and Mobility Subscription data. After registration, AMF decisions for MPS UEs are based on the priority establishment cause previously sent in a Registration Accept. Only a re-registration could lead this UE to obtain MPS treatment. This CR adds explicit support for MPS priority subscription changes to the UE Configuration Procedure (UCU). The UCU would send the MPS priority immediately, and not tell the UE to reregister, which would be an unnecessary extra interaction over the air. Using the UCU, rather than other mechanisms to re-register would significantly reduce the time by which the UE obtains priority treatment in the network.  |
|  |  |
| ***Summary of change:*** | First Change:Adds to the UAC clause the MPS indicator bit from the CONFIGURATION UPDATE COMMAND message as an additional way to obtain Access Identity 1.Second Change:Adds the Priority indicator to the parameters supported by the generic UE configuration update procedureThird Change:Adds the Priority indicator to the parameters supported by the generic UE configuration update procedure for SNPNs.Fourth Change:Adds the AMF procedure for conveying the MPS indicator in the Priority indicator IE to the UE in the UCU.Fifth Change:Adds the UE procedure for receipt of the MPS indicator in the UCU.Sixth Change:Adds the Priority indicator IE to the CONFIGURATION UPDATE COMMAND message.Seventh Change:Adds a new clause to define the Priority indicator IE. |
|  |  |
| ***Consequences if not approved:*** | A UE that obtains an MPS priority subscription in the UDM after registration will need to wait until it re-registers before it receives MPS treatment. |
|  |  |
| ***Clauses affected:*** | 4.5.2, 4.5.2A, 5.4.4.1, 5.4.4.2, 5.4.4.3, 8.2.19.1, 9.11.3.y (new) |
|  |  |
|  | **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 \*\*\*\*\*

### 4.5.2 Determination of the access identities and access category associated with a request for access for UEs not operating in SNPN access mode

When the UE needs to initiate an access attempt in one of the events listed in subclause 4.5.1, the UE shall determine one or more access identities from the set of standardized access identities, and one access category from the set of standardized access categories and operator-defined access categories, to be associated with that access attempt.

The set of the access identities applicable for the request is determined by the UE in the following way:

a) for each of the access identities 1, 2, 3, 11, 12, 13, 14 and 15 in table 4.5.2.1, the UE shall check whether the access identity is applicable in the selected PLMN, if a new PLMN is selected, or otherwise if it is applicable in the RPLMN or equivalent PLMN; and

b) if none of the above access identities is applicable, then access identity 0 is applicable.

Table 4.5.2.1: Access identities

|  |  |
| --- | --- |
| Access Identity number | UE configuration |
| 0 | UE is not configured with any parameters from this table |
| 1 (NOTE 1) | UE is configured for multimedia priority service (MPS). |
| 2 (NOTE 2) | UE is configured for mission critical service (MCS). |
| 3 (NOTE 4) | UE for which a disaster condition applies |
| 4-10 | Reserved for future use |
| 11 (NOTE 3) | Access Class 11 is configured in the UE. |
| 12 (NOTE 3) | Access Class 12 is configured in the UE. |
| 13 (NOTE 3) | Access Class 13 is configured in the UE. |
| 14 (NOTE 3) | Access Class 14 is configured in the UE. |
| 15 (NOTE 3) | Access Class 15 is configured in the UE. |
| NOTE 1: Access identity 1 is valid when:- the USIM file EFUAC\_AIC indicates the UE is configured for access identity 1 and the selected PLMN, if a new PLMN is selected, or RPLMN is the HPLMN (if the EHPLMN list is not present or is empty) or EHPLMN (if the EHPLMN list is present), or a visited PLMN of the home country (see the definition of home country in 3GPP TS 24.301 [15]);- the UE receives the 5GS network feature support IE with the MPS indicator bit set to "Access identity 1 valid" from the RPLMN as described in subclause 5.5.1.2.4 and subclause 5.5.1.3.4; or- the UE receives the Priority indicator IE with the MPS indicator bit set to "Access identity 1 valid" from the RPLMN as described in subclause 5.4.4.3.NOTE 2: Access identity 2 is used by UEs configured for MCS and is valid when:- the USIM file EFUAC\_AIC indicates the UE is configured for access identity 2 and the selected PLMN, if a new PLMN is selected, or RPLMN is the HPLMN (if the EHPLMN list is not present or is empty) or EHPLMN (if the EHPLMN list is present), or a visited PLMN of the home country (see 3GPP TS 23.122 [5]); or- the UE receives the 5GS network feature support IE with the MCS indicator bit set to "Access identity 2 valid" from the RPLMN as described in subclause 5.5.1.2.4 and subclause 5.5.1.3.4.NOTE 3: Access identities 11 and 15 are valid in HPLMN (if the EHPLMN list is not present or is empty) or EHPLMN (if the EHPLMN list is present). Access Identities 12, 13 and 14 are valid in HPLMN and visited PLMNs of home country only (see the definition of home country in 3GPP TS 24.301 [15]).NOTE 4: Access Identity 3 is valid when the UE is registering or registered for disaster roaming services (see 3GPP TS 23.122 [5]). |

The UE uses the MPS indicator bit of the 5GS network feature support IE or the Priority indicator IE to determine if access identity 1 is valid. Processing of the MPS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message is described in subclause 5.5.1.2.4 and subclause 5.5.1.3.4. Processing of the MPS indicator bit of the Priority indicator IE in the CONFIGURATION UPDATE COMMAND message is described in subclause 5.4.4.3. The UE shall not consider access identity 1 to be valid when the UE is not in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present) prior to receiving the MPS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message or of the Priority indicator IE in the CONFIGURATION UPDATE COMMAND message being set to "Access identity 1 valid".

When the UE is in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), the contents of the USIM file EFUAC\_AIC as specified in 3GPP TS 31.102 [22] and the rules specified in table 4.5.2.1 are used to determine the applicability of access identity 1. When the UE is in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), and the USIM file EFUAC\_AIC does not indicate the UE is configured for access identity 1, the UE uses the MPS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message or of the Priority indicator IE in the CONFIGURATION UPDATE COMMAND message to determine if access identity 1 is valid. When the UE is in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), and the USIM file EFUAC\_AIC indicates the UE is configured for access identity 1, the MPS indicator bit of the 5GS network feature support IE and the Priority indicator IE are not applicable. When the UE is not in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), the contents of the USIM file EFUAC\_AIC are not applicable.

The UE uses the MCS indicator bit of the 5GS network feature support IE to determine if access identity 2 is valid. Processing of the MCS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message is described in subclause 5.5.1.2.4 and subclause 5.5.1.3.4. The UE shall not consider access identity 2 to be valid when the UE is not in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present) prior to receiving the MCS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message being set to "Access identity 2 valid".

When the UE is in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), the contents of the USIM file EFUAC\_AIC as specified in 3GPP TS 31.102 [22] and the rules specified in table 4.5.2.1 are used to determine the applicability of access identity 2. When the UE is in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), and the USIM file EFUAC\_AIC does not indicate the UE is configured for access identity 2, the UE uses the MCS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message to determine if access identity 2 is valid. When the UE is in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), and the USIM file EFUAC\_AIC indicates the UE is configured for access identity 2, the MCS indicator bit of the 5GS network feature support IE is not applicable. When the UE is not in the country of its HPLMN or in an EHPLMN (if the EHPLMN list is present), the contents of the USIM file EFUAC\_AIC are not applicable.

The UE checks the conditions specified in subclause 4.4.3.1.1 of 3GPP TS 23.122 [5] to determine if access identity 3 is valid, and the applicability of access identity 3.

When the UE is in its HPLMN (if the EHPLMN list is not present or is empty) or in an EHPLMN (if the EHPLMN list is present), the contents of the USIM file EFACC as specified in 3GPP TS 31.102 [22] and the rules specified in table 4.5.2.1 are used to determine the applicability of access classes 11 and 15. When the UE is not in its HPLMN (if the EHPLMN list is not present or is empty) or in an EHPLMN (if the EHPLMN list is present), access classes 11 and 15 are not applicable.

When the UE is in the country of its HPLMN, the contents of the USIM file EFACC as specified in 3GPP TS 31.102 [22] and the rules specified in table 4.5.2.1 are used to determine the applicability of access classes 12 - 14. When the UE is not in the country of its HPLMN, access classes 12-14 are not applicable.

In order to determine the access category applicable for the access attempt, the NAS shall check the rules in table 4.5.2.2, and use the access category for which there is a match for barring check. If the access attempt matches more than one rule, the access category of the lowest rule number shall be selected. If the access attempt matches more than one operator-defined access category definition, the UE shall select the access category from the operator-defined access category definition with the lowest precedence value (see subclause 4.5.3).

NOTE: The case when an access attempt matches more than one rule includes the case when multiple events trigger an access attempt at the same time.

Table 4.5.2.2: Mapping table for access categories

|  |  |  |  |
| --- | --- | --- | --- |
| Rule # | Type of access attempt | Requirements to be met | Access Category |
| 1 | Response to paging or NOTIFICATION over non-3GPP access;5GMM connection management procedure initiated for the purpose of transporting an LPP or location event report message without an ongoing 5GC-MO-LR procedure;Access attempt to handover of ongoing MMTEL voice call, MMTEL video call or SMSoIP from non-3GPP access | Access attempt is for MT access, or handover of ongoing MMTEL voice call, MMTEL video call or SMSoIP from non-3GPP access | 0 (= MT\_acc) |
| 2 | Emergency | UE is attempting access for an emergency session (NOTE 1, NOTE 2) | 2 (= emergency) |
| 3 | Access attempt for operator-defined access category | UE stores operator-defined access category definitions valid in the current PLMN as specified in subclause 4.5.3, and access attempt is matching criteria of an operator-defined access category definition | 32-63 (= based on operator classification) |
| 3.1 | Access attempt for MO exception data | UE is in NB-N1 mode and allowed to use exception data reporting (see the ExceptionDataReportingAllowed leaf of the NAS configuration MO in 3GPP TS 24.368 [17] or the USIM file EFNASCONFIG in 3GPP TS 31.102 [22]), and access attempt is for MO data or for MO signalling initiated upon receiving a request from upper layers to transmit user data related to an exceptional event. | 10 (= MO exception data) |
| 4 | Access attempt for delay tolerant service | (a) UE is configured for NAS signalling low priority or UE supporting S1 mode is configured for EAB (see the "ExtendedAccessBarring" leaf of NAS configuration MO in 3GPP TS 24.368 [17] or 3GPP TS 31.102 [22]) where "EAB override" does not apply, and(b): the UE received one of the categories a, b or c as part of the parameters for unified access control in the broadcast system information, and the UE is a member of the broadcasted category in the selected PLMN or RPLMN/equivalent PLMN(NOTE 3, NOTE 5, NOTE 6, NOTE 7, NOTE 8) | 1 (= delay tolerant) |
| 4.1 | MO IMS registration related signalling | Access attempt is for MO IMS registration related signalling (e.g. IMS initial registration, re-registration, subscription refresh)or for NAS signalling connection recovery during ongoing procedure for MO IMS registration related signalling (NOTE 2a) | 9 (= MO IMS registration related signalling) |
| 5 | MO MMTel voice call | Access attempt is for MO MMTel voice callor for NAS signalling connection recovery during ongoing MO MMTel voice call (NOTE 2) | 4 (= MO MMTel voice) |
| 6 | MO MMTel video call | Access attempt is for MO MMTel video callor for NAS signalling connection recovery during ongoing MO MMTel video call (NOTE 2) | 5 (= MO MMTel video) |
| 7 | MO SMS over NAS or MO SMSoIP | Access attempt is for MO SMS over NAS (NOTE 4) or MO SMS over SMSoIP transferor for NAS signalling connection recovery during ongoing MO SMS or SMSoIP transfer (NOTE 2) | 6 (= MO SMS and SMSoIP) |
| 8 | UE NAS initiated 5GMM specific procedures | Access attempt is for MO signalling | 3 (= MO\_sig) |
| 8.1 | Mobile originated location request | Access attempt is for mobile originated location request (NOTE 9) | 3 (= MO\_sig) |
| 8.2 | Mobile originated signalling transaction towards the PCF | Access attempt is for mobile originated signalling transaction towards the PCF (NOTE 10) | 3 (= MO\_sig) |
| 9 | UE NAS initiated 5GMM connection management procedure or 5GMM NAS transport procedure | Access attempt is for MO data | 7 (= MO\_data) |
| 10 | An uplink user data packet is to be sent for a PDU session with suspended user-plane resources | No further requirement is to be met | 7 (= MO\_data) |
| NOTE 1: This includes 5GMM specific procedures while the service is ongoing and 5GMM connection management procedures required to establish a PDU session with request type = "initial emergency request" or "existing emergency PDU session", or to re-establish user-plane resources for such a PDU session. This further includes the service request procedure initiated with a SERVICE REQUEST message with the Service type IE set to "emergency services fallback".NOTE 2: Access for the purpose of NAS signalling connection recovery during an ongoing service as defined in subclause 4.5.5, or for the purpose of NAS signalling connection establishment following fallback indication from lower layers during an ongoing service as defined in subclause 4.5.5, is mapped to the access category of the ongoing service in order to derive an RRC establishment cause, but barring checks will be skipped for this access attempt.NOTE 2a: Access for the purpose of NAS signalling connection recovery during an ongoing procedure for MO IMS registration related signalling as defined in subclause 4.5.5, or for the purpose of NAS signalling connection establishment following fallback indication from lower layers during an ongoing procedure for MO IMS registration related signalling as defined in subclause 4.5.5, is mapped to the access category of the MO IMS registration related signalling in order to derive an RRC establishment cause, but barring checks will be skipped for this access attempt.NOTE 3: If the UE selects a new PLMN, then the selected PLMN is used to check the membership; otherwise the UE uses the RPLMNor a PLMN equivalent to the RPLMN.NOTE 4: This includes the 5GMM connection management procedures triggered by the UE-initiated NAS transport procedure for transporting the MO SMS.NOTE 5: The UE configured for NAS signalling low priority is not supported in this release of specification. If a UE supporting both S1 mode and N1 mode is configured for NAS signalling low priority in S1 mode as specified in 3GPP TS 24.368 [17] or 3GPP TS 31.102 [22], the UE shall ignore the configuration for NAS signalling low priority when in N1 mode.NOTE 6: If the access category applicable for the access attempt is 1, then the UE shall additionally determine a second access category from the range 3 to 7. If more than one access category matches, the access category of the lowest rule number shall be chosen. The UE shall use the second access category only to derive an RRC establishment cause for the access attempt.NOTE 7: "EAB override" does not apply, if the UE is not configured to allow overriding EAB (see the "Override\_ExtendedAccessBarring" leaf of NAS configuration MO in 3GPP TS 24.368 [17] or 3GPP TS 31.102 [22]), or if NAS has not received an indication from the upper layers to override EAB and the UE does not have a PDU session that was established with EAB override.NOTE 8: For the definition of categories a, b and c associated with access category 1, see 3GPP TS 22.261 [3]. The categories associated with access category 1 are distinct from the categories a, b and c associated with EAB (see 3GPP TS 22.011 [1A]).NOTE 9: This includes:a) the UE-initiated NAS transport procedure for transporting a mobile originated location request;b) the 5GMM connection management procedure triggered by a) above; andc) NAS signalling connection recovery during an ongoing 5GC-MO-LR procedure.NOTE 10: This includes:a) the UE-initiated NAS transport procedure for transporting a mobile originated signalling transaction towards the PCF;b) the 5GMM connection management procedure triggered by a) above; andc) NAS signalling connection recovery during an ongoing UE-requested policy provisioning procedure for V2XP, ProSeP or both (see 3GPP TS 24.587 [19B] and see 3GPP TS 24.554 [19E]). |

\*\*\*\*\* Second change \*\*\*\*\*

### 4.5.2A Determination of the access identities and access category associated with a request for access for UEs operating in SNPN access mode

When the UE needs to initiate an access attempt in one of the events listed in subclause 4.5.1, the UE shall determine one or more access identities from the set of standardized access identities, and one access category from the set of standardized access categories and operator-defined access categories, to be associated with that access attempt.

The set of the access identities applicable for the request is determined by the UE in the following way:

a) for each of the access identities 1, 2, 11, 12, 13, 14 and 15 in table 4.5.2A.1, the UE shall check whether the access identity is applicable in the selected SNPN, if a new SNPN is selected, or otherwise if it is applicable in the RSNPN; and

b) if none of the above access identities is applicable, then access identity 0 is applicable.

Table 4.5.2A.1: Access identities

|  |  |
| --- | --- |
| Access Identity number | UE configuration |
| 0 | UE is not configured with any parameters from this table |
| 1 (NOTE 1) | UE is configured for multimedia priority service (MPS). |
| 2 (NOTE 2) | UE is configured for mission critical service (MCS). |
| 3-10 | Reserved for future use |
| 11 (NOTE 3) | Access Class 11 is configured in the UE. |
| 12 (NOTE 3) | Access Class 12 is configured in the UE. |
| 13 (NOTE 3) | Access Class 13 is configured in the UE. |
| 14 (NOTE 3) | Access Class 14 is configured in the UE. |
| 15 (NOTE 3) | Access Class 15 is configured in the UE. |
| NOTE 1: Access identity 1 is valid when:- the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) indicates the UE is configured for access identity 1 in the selected SNPN, if a new SNPN is selected, or RSNPN;- the UE receives the 5GS network feature support IE with the MPS indicator bit set to "Access identity 1 valid" from the RSNPN as described in subclause 5.5.1.2.4 and subclause 5.5.1.3.4; or- the UE receives the Priority indicator IE with the MPS indicator bit set to "Access identity 1 valid" from the RPLMN as described in subclause 5.4.4.3.NOTE 2: Access identity 2 is used by UEs configured for MCS and is valid when:- the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) indicates the UE is configured for access identity 2 in the selected SNPN, if a new SNPN is selected, or RSNPN; or- the UE receives the 5GS network feature support IE with the MCS indicator bit set to "Access identity 2 valid" from the RSNPN as described in subclause 5.5.1.2.4 and subclause 5.5.1.3.4.NOTE 3: Access identities 11 to 15 are valid if indicated as configured for the UE in the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) in the selected SNPN, if a new SNPN is selected, or RSNPN. |

The contents of the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) and the rules specified in table 4.5.2A.1 are used to determine the applicability of access identity 1 in the SNPN. When the contents of the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) do not indicate the UE is configured for access identity 1 for the SNPN, the UE uses the MPS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message and the MPS indicator bit of the Priority indicator IE in the CONFIGURATION UPDATE COMMAND message to determine if access identity 1 is valid.

The contents of the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) and the rules specified in table 4.5.2A.1 are used to determine the applicability of access identity 2 in the SNPN. When the contents of the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) do not indicate the UE is configured for access identity 2 for the SNPN, the UE uses the MCS indicator bit of the 5GS network feature support IE in the REGISTRATION ACCEPT message to determine if access identity 2 is valid.

The contents of the unified access control configuration in the "list of subscriber data" stored in the ME (see 3GPP TS 23.122 [5]) and the rules specified in table 4.5.2A.1 are used to determine the applicability of access classes 11 to 15 in the SNPN.

In order to determine the access category applicable for the access attempt, the NAS shall check the rules in table 4.5.2A.2, and use the access category for which there is a match for barring check. If the access attempt matches more than one rule, the access category of the lowest rule number shall be selected. If the access attempt matches more than one operator-defined access category definition, the UE shall select the access category from the operator-defined access category definition with the lowest precedence value (see subclause 4.5.3).

NOTE: The case when an access attempt matches more than one rule includes the case when multiple events trigger an access attempt at the same time.

Table 4.5.2A.2: Mapping table for access categories

|  |  |  |  |
| --- | --- | --- | --- |
| Rule # | Type of access attempt | Requirements to be met | Access Category |
| 1 | Response to paging or NOTIFICATION over non-3GPP access (NOTE 11);5GMM connection management procedure initiated for the purpose of transporting an LPP or location event report message without an ongoing 5GC-MO-LR procedure;Access attempt to handover of MMTEL voice call, MMTEL video call or SMSoIP from non-3GPP access | Access attempt is for MT access, or handover of ongoing MMTEL voice call, MMTEL video call or SMSoIP from non-3GPP access | 0 (= MT\_acc) |
| 2 | Emergency | UE is attempting access for an emergency session (NOTE 1, NOTE 2) | 2 (= emergency) |
| 3 | Access attempt for operator-defined access category | UE stores operator-defined access category definitions valid in the SNPN as specified in subclause 4.5.3, and access attempt is matching criteria of an operator-defined access category definition | 32-63 (= based on operator classification) |
| 4 | Access attempt for delay tolerant service | (a) UE is configured for NAS signalling low priority, and(b) the UE received one of the categories a, b or c as part of the parameters for unified access control in the broadcast system information, and the UE is a member of the broadcasted category in the selected SNPN or RSNPN(NOTE 3, NOTE 5, NOTE 6, NOTE 7, NOTE 8) | 1 (= delay tolerant) |
| 4.1 | MO IMS registration related signalling | Access attempt is for MO IMS registration related signalling (e.g. IMS initial registration, re-registration, subscription refresh)or for NAS signalling connection recovery during ongoing procedure for MO IMS registration related signalling (NOTE 2a) | 9 (= MO IMS registration related signalling) |
| 5 | MO MMTel voice call | Access attempt is for MO MMTel voice callor for NAS signalling connection recovery during ongoing MO MMTel voice call (NOTE 2) | 4 (= MO MMTel voice) |
| 6 | MO MMTel video call | Access attempt is for MO MMTel video callor for NAS signalling connection recovery during ongoing MO MMTel video call (NOTE 2) | 5 (= MO MMTel video) |
| 7 | MO SMS over NAS or MO SMSoIP | Access attempt is for MO SMS over NAS (NOTE 4) or MO SMS over SMSoIP transferor for NAS signalling connection recovery during ongoing MO SMS or SMSoIP transfer (NOTE 2) | 6 (= MO SMS and SMSoIP) |
| 8 | UE NAS initiated 5GMM specific procedures | Access attempt is for MO signalling | 3 (= MO\_sig) |
| 8.1 | Mobile originated location request | Access attempt is for mobile originated location request (NOTE 9) | 3 (= MO\_sig) |
| 8.2 | Mobile originated signalling transaction towards the PCF | Access attempt is for mobile originated signalling transaction towards the PCF (NOTE 10) | 3 (= MO\_sig) |
| 9 | UE NAS initiated 5GMM connection management procedure or 5GMM NAS transport procedure | Access attempt is for MO data | 7 (= MO\_data) |
| 10 | An uplink user data packet is to be sent for a PDU session with suspended user-plane resources | No further requirement is to be met | 7 (= MO\_data) |
| NOTE 1: VoidNOTE 2: Access for the purpose of NAS signalling connection recovery during an ongoing service as defined in subclause 4.5.5, or for the purpose of NAS signalling connection establishment following fallback indication from lower layers during an ongoing service as defined in subclause 4.5.5, is mapped to the access category of the ongoing service in order to derive an RRC establishment cause, but barring checks will be skipped for this access attempt.NOTE 2a: Access for the purpose of NAS signalling connection recovery during an ongoing MO IMS registration related signalling as defined in subclause 4.5.5, or for the purpose of NAS signalling connection establishment following fallback indication from lower layers during an ongoing MO IMS registration related signalling as defined in subclause 4.5.5, is mapped to the access category of the MO IMS registration related signalling in order to derive an RRC establishment cause, but barring checks will be skipped for this access attempt.NOTE 3: If the UE selects a new SNPN, then the selected SNPN is used to check the membership; otherwise the UE uses the RSNPN.NOTE 4: This includes the 5GMM connection management procedures triggered by the UE-initiated NAS transport procedure for transporting the MO SMS.NOTE 5: The UE configured for NAS signalling low priority is not supported in this release of specification.NOTE 6: If the access category applicable for the access attempt is 1, then the UE shall additionally determine a second access category from the range 3 to 7. If more than one access category matches, the access category of the lowest rule number shall be chosen. The UE shall use the second access category only to derive an RRC establishment cause for the access attempt.NOTE 7: Void.NOTE 8: For the definition of categories a, b and c associated with access category 1, see 3GPP TS 22.261 [3]. The categories associated with access category 1 are distinct from the categories a, b and c associated with EAB (see 3GPP TS 22.011 [1A]).NOTE 9: This includes:a) the UE-initiated NAS transport procedure for transporting a mobile originated location request;b) the 5GMM connection management procedure triggered by a) above; andc) NAS signalling connection recovery during an ongoing 5GC-MO-LR procedure.NOTE 10: This includes:a) the UE-initiated NAS transport procedure for transporting a mobile originated signalling transaction towards the PCF;b) the 5GMM connection management procedure triggered by a) above; andc) NAS signalling connection recovery during an ongoing UE-requested policy provisioning procedure for V2XP, ProSeP or both (see 3GPP TS 24.587 [19B] and see 3GPP TS 24.554 [19E]).NOTE 11: The term "non-3GPP access" refers to the case when the UE is accessing SNPN services via a PLMN. |

\*\*\*\*\* Third change \*\*\*\*\*

#### 5.4.4.1 General

The purpose of this procedure is to:

a) allow the AMF to update the UE configuration for access and mobility management-related parameters decided and provided by the AMF by providing new parameter information within the command;

b) request the UE to perform a registration procedure for mobility and periodic registration update towards the network to update access and mobility management-related parameters decided and provided by the AMF (see subclause 5.5.1.3);

c) deliver the UAV authorization information to the UE, as described in 3GPP TS 23.256 [6AB]; or

d) update the PEIPS assistance information in the UE (see subclause 5.3.25).

This procedure is initiated by the network and can only be used when the UE has an established 5GMM context, and the UE is in 5GMM-CONNECTED mode. When the UE is in 5GMM-IDLE mode, the AMF may use the paging or notification procedure to initiate the generic UE configuration update procedure. The AMF can request a confirmation response in order to ensure that the parameter has been updated by the UE.

This procedure shall be initiated by the network to assign a new 5G-GUTI to the UE after:

a) a successful service request procedure invoked as a response to a paging request from the network and before the:

1) release of the N1 NAS signalling connection; or

2) suspension of the N1 NAS signalling connection due to user plane CIoT 5GS optimization i.e. before the UE and the AMF enter 5GMM-IDLE mode with suspend indication; or

b) the AMF receives an indication from the lower layers that the RRC connection has been resumed for a UE in 5GMM-IDLE mode with suspend indication and this resumption is a response to a paging request from the network, and before the:

1) release of the N1 NAS signalling connection; or

2) suspension of the N1 NAS signalling connection due to user plane CIoT 5GS optimization i.e. before the UE and the AMF enter 5GMM-IDLE mode with suspend indication.

If the service request procedure was triggered due to 5GSM downlink signalling pending, the procedure for assigning a new 5G-GUTI can be initiated by the network after the transport of the 5GSM downlink signalling.

The following parameters are supported by the generic UE configuration update procedure without the need to request the UE to perform the registration procedure for mobility and periodic registration update:

a) 5G-GUTI;

b) TAI list;

c) Service area list;

d) Network identity and time zone information (Full name for network, short name for network, local time zone, universal time and local time zone, network daylight saving time);

e) LADN information;

f) Rejected NSSAI;

g) void;

h) Operator-defined access category definitions;

i) SMS indication;

j) Service gap time value;

k) "CAG information list";

l) UE radio capability ID;

m) 5GS registration result;

n) Truncated 5G-S-TMSI configuration;

o) T3447 value;

x) "list of PLMN(s) to be used in disaster condition";

y) disaster roaming wait range;

z) disaster return wait range;

za) PEIPS assistance information; and

zb) Priority indicator.

Editor's note (WI MINT, CR#3437): Whether the PLMN offering disaster roaming can provide an indication that the disaster condition has ended in the CONFIGURATION UPDATE COMMAND message to a UE registered for disaster roaming is FFS.

The following parameters can be sent to the UE with or without a request to perform the registration procedure for mobility and periodic registration update:

a) Allowed NSSAI;

b) Configured NSSAI; or

c) Network slicing subscription change indication.

The following parameters are sent to the UE with a request to perform the registration procedure for mobility and periodic registration update:

a) MICO indication;

b) UE radio capability ID deletion indication; and

c) Additional configuration indication.

The following parameters can be included in the Service-level-AA container IE to be sent to the UE without a request to perform the registration procedure for mobility and periodic registration update:

a) Service-level device ID;

b) Service-level-AA payload type;

c) Service-level-AA payload; or

d) Service-level-AA response.

The following parameters are sent over 3GPP access only:

a) LADN information;

b) MICO indication;

c) TAI list;

d) Service area list;

e) Service gap time value;

f) "CAG information list";

g) UE radio capability ID;

h) UE radio capability ID deletion indication;

i) Truncated 5G-S-TMSI configuration;

j) Additional configuration indication;

k) T3447 value; and

l) Service-level-AA container.

The following parameters are managed and sent per access type i.e., independently over 3GPP access or non-3GPP access:

a) Allowed NSSAI;

b) Rejected NSSAI (when the NSSAI is rejected for the current registration area) or is rejected for the maximum number of UEs reached); and

c) If the UE is not registered to the same PLMN or SNPN over 3GPP and non-3GPP access:

- 5G-GUTI;

- Network identity and time zone information;

- Rejected NSSAI (when the NSSAI is rejected for the current PLMN or rejected for the failed or revoked NSSAA);

- Configured NSSAI;

- SMS indication;

- 5GS registration result; and

- PEIPS assistance information.

If the UE is registered to the same PLMN or SNPN over 3GPP and non-3GPP access, the following parameters are managed commonly and sent over 3GPP access or non-3GPP access:

a) 5G-GUTI;

b) Network identity and time zone information;

c) Rejected NSSAI (when the NSSAI is rejected for the current PLMN or rejected for the failed or revoked NSSAA);

d) Configured NSSAI;

e) SMS indication; and

f) 5GS registration result;

g) "list of PLMN(s) to be used in disaster condition";

h) disaster roaming wait range;

i) disaster return wait range; and

j) PEIPS assistance information.



Figure 5.4.4.1.1: Generic UE configuration update procedure

\*\*\*\*\* Fourth change \*\*\*\*\*

#### 5.4.4.2 Generic UE configuration update procedure initiated by the network

The AMF shall initiate the generic UE configuration update procedure by sending the CONFIGURATION UPDATE COMMAND message to the UE.

The AMF shall in the CONFIGURATION UPDATE COMMAND message either:

a) include one or more of the following parameters: 5G-GUTI, TAI list, allowed NSSAI that may include the mapped S-NSSAI(s), LADN information, service area list, MICO indication, NITZ information, configured NSSAI that may include the mapped S-NSSAI(s), rejected S-NSSAI(s) in the Rejected NSSAI IE or in the Extended rejected NSSAI IE, network slicing subscription change indication, operator-defined access category definitions, SMS indication, service gap time value, "CAG information list", UE radio capability ID, 5GS registration result, UE radio capability ID deletion indication, truncated 5G-S-TMSI configuration, T3447 value, "list of PLMN(s) to be used in disaster condition", disaster roaming wait range, disaster return wait range, PEIPS assistance information or the priority indicator;

Editor's note (WI MINT, CR#3437): Whether the PLMN offering disaster roaming can provide an indication that the disaster condition has ended in the CONFIGURATION UPDATE COMMAND message to a UE registered for disaster roaming is FFS.

b) include the Configuration update indication IE with the Registration requested bit set to "registration requested"; or

c) include a combination of both a) and b).

If the UE is registering or registered for onboarding services in SNPN, the serving SNPN shall not provide the configured NSSAI, the allowed NSSAI or the rejected NSSAI to the UE.

If the UE supports extended rejected NSSAI in roaming scenarios, the rejected S-NSSAI(s) shall be included in the Extended rejected NSSAI IE. Otherwise the rejected S-NSSAI(s) shall be included in the Rejected NSSAI IE.

If an acknowledgement from the UE is requested, the AMF shall indicate "acknowledgement requested" in the Acknowledgement bit of the Configuration update indication IE in the CONFIGURATION UPDATE COMMAND message and shall start timer T3555. Acknowledgement shall be requested for all parameters except when only NITZ is included.

To initiate parameter re-negotiation between the UE and network, the AMF shall indicate "registration requested" in the Registration requested bit of the Configuration update indication IE in the CONFIGURATION UPDATE COMMAND message.

NOTE 1: Generic UE configuration update procedure can be initiated by the AMF for updating the emergency number list, the extended emergency number list or both by indicating "registration requested" in the Registration requested bit of the Configuration update indication IE in the CONFIGURATION UPDATE COMMAND message to the UE.

If a new allowed NSSAI information or AMF re-configuration of supported S-NSSAIs requires an AMF relocation, the AMF shall indicate "registration requested" in the Registration requested bit of the Configuration update indication IE and include the Allowed NSSAI IE in the CONFIGURATION UPDATE COMMAND message.

If the AMF includes a new allowed NSSAI in the CONFIGURATION UPDATE COMMAND message and the subscription information includes the NSSRG information, then any two S-NSSAIs of the allowed NSSAI shall be associated with at least one common NSSRG value.

If the AMF includes a new configured NSSAI in the CONFIGURATION UPDATE COMMAND message and the new configured NSSAI requires an AMF relocation as specified in 3GPP TS 23.501 [8], the AMF shall indicate "registration requested" in the Registration requested bit of the Configuration update indication IE in the message.

If the AMF includes a new configured NSSAI in the CONFIGURATION UPDATE COMMAND message, the subscription information includes the NSSRG information, and the UE has set the NSSRG bit in the 5GMM capability IE of the REGISTRATION REQUEST message to:

a) "NSSRG supported", then the AMF shall include the NSSRG information in the CONFIGURATION UPDATE COMMAND message; or

b) "NSSRG not supported", then the configured NSSAI shall include one or more S-NSSAIs each of which is associated with all the NSSRG value(s) of the subscribed S-NSSAI(s) marked as default, or the configured NSSAI shall include, based on the indication received from the UDM as specified in 3GPP TS 23.501 [8], all subscribed S-NSSAIs even if these S-NSSAIs do not share any common NSSRG value.

If the CONFIGURATION UPDATE COMMAND message is initiated only due to changes to the allowed NSSAI and these changes require the UE to initiate a registration procedure, but the AMF is unable to determine an allowed NSSAI for the UE as specified in 3GPP TS 23.501 [8], then the CONFIGURATION UPDATE COMMAND message shall indicate "registration requested" in the Registration requested bit of the Configuration update indication IE, and shall not contain any other parameters.

If the AMF needs to enforce a change in the restriction on the use of enhanced coverage or use of CE mode B as described in subclause 5.3.18, the AMF shall indicate "registration requested" in the Registration requested bit of the Configuration update indication IE and "release of N1 NAS signalling connection not required" in the Signalling connection maintain request bit of the Additional configuration indication IE in the CONFIGURATION UPDATE COMMAND message.

If a network slice-specific authentication and authorization procedure for an S-NSSAI is completed as a:

a) success, the AMF shall include this S-NSSAI in the allowed NSSAI over the same access of the requested S-NSSAI; or

b) failure, the AMF shall include this S-NSSAI in the rejected NSSAI for the failed or revoked NSSAA with the rejection cause "S-NSSAI not available due to the failed or revoked network slice-specific authentication and authorization" over either 3GPP access or non-3GPP access.

If authorization is revoked for an S-NSSAI that is in the current allowed NSSAI for an access type, the AMF shall:

a) provide a new allowed NSSAI to the UE, excluding the S-NSSAI for which authorization is revoked; and

b) provide a new rejected NSSAI for the failed or revoked NSSAA, including the S-NSSAI in the rejected NSSAI for which the authorization is revoked, with the rejection cause "S-NSSAI not available due to the failed or revoked network slice-specific authentication and authorization".

The allowed NSSAI and the rejected NSSAI shall be included in the CONFIGURATION UPDATE COMMAND message to reflect the result of the procedures subject to network slice-specific authentication and authorization.

NOTE 2: If there are multiple S-NSSAIs subject to network slice-specific authentication and authorization, it is implementation specific if the AMF informs the UE about the outcome of the procedures in one or more CONFIGURATION UPDATE COMMAND messages.

If the AMF includes the Network slicing indication IE in the CONFIGURATION UPDATE COMMAND message with the Network slicing subscription change indication set to "Network slicing subscription changed", and changes to the allowed NSSAI require the UE to initiate a registration procedure, but the AMF is unable to determine an allowed NSSAI for the UE as specified in 3GPP TS 23.501 [8], then the CONFIGURATION UPDATE COMMAND message shall additionally indicate "registration requested" in the Registration requested bit of the Configuration update indication IE and shall not include an allowed NSSAI.

If EAC mode is activated for an S-NSSAI, the AMF shall perform NSAC for the S-NSSAI subject to NSAC before such S-NSSAI is included in the allowed NSSAI in the CONFIGURATION UPDATE COMMAND message. If EAC mode is deactivated for an S-NSSAI, the AMF shall perform NSAC for the S-NSSAI subject to NSAC after such S-NSSAI is included in the allowed NSSAI in the CONFIGURATION UPDATE COMMAND message.

If the UE supports extended rejected NSSAI and the AMF determines that maximum number of UEs reached for one or more S-NSSAI(s) in the allowed NSSAI as specified in subclause 4.6.2.5, the AMF shall include the rejected NSSAI containing one or more S-NSSAIs with the rejection cause "S-NSSAI not available due to maximum number of UEs reached" in the Extended rejected NSSAI IE in the CONFIGURATION UPDATE COMMAND message. In addition, the AMF may include a back-off timer value for each S-NSSAI with the rejection cause "S-NSSAI not available due to maximum number of UEs reached" included in the Extended rejected NSSAI IE of the CONFIGURATION UPDATE COMMAND message.

If the UE does not indicate support for extended rejected NSSAI and the maximum number of UEs has been reached, the AMF should include the rejected NSSAI containing one or more S-NSSAIs with the rejection cause "S-NSSAI not available in the current registration area" in the Rejected NSSAI IE and should not include these S-NSSAIs in the allowed NSSAI in the CONFIGURATION UPDATE COMMAND message. In addition, the AMF may based on the network policies start a local implementation specific timer for the UE per rejected S-NSSAI and upon expiration of the local implementation specific timer, the AMF may remove the rejected S-NSSAI from the rejected NSSAI and update to the UE by initiating the generic UE configuration update procedure.

NOTE 3: Based on network policies, the AMF can include the S-NSSAI(s) for which the maximum number of UEs has been reached in the rejected NSSAI with rejection causes other than "S-NSSAI not available in the current registration area".

If the AMF needs to update the LADN information, the AMF shall include the LADN information in the LADN information IE of the CONFIGURATION UPDATE COMMAND message.

If the AMF needs to update the "CAG information list", the AMF shall include the CAG information list IE or the Extended CAG information list IE in the CONFIGURATION UPDATE COMMAND message.

NOTE 4: If the UE supports extended CAG information list, the CAG information list can be included either in the CAG information list IE or Extended CAG information list IE.

If the UE does not support extended CAG information list, the CAG information list shall not be included in the Extended CAG information list IE.

If the AMF needs to update the "CAG information list", the UE has an emergency PDU session, and the AMF can determine that the UE is in

a) a CAG cell and none of the CAG-ID(s) supported by the CAG cell is included in the "allowed CAG list" for the current PLMN in the updated "CAG information list"; or

b) a non-CAG cell and the entry for the current PLMN in the updated "CAG information list" includes an "indication that the UE is only allowed to access 5GS via CAG cells";

the AMF may indicate to the SMF to perform a local release of all non-emergency PDU sessions associated with 3GPP access. The AMF shall not indicate to the SMF to release the emergency PDU session. If the AMF indicated to the SMF to perform a local release of all non-emergency PDU sessions associated with 3GPP access, the network shall behave as if the UE is registered for emergency services and shall set the 5GS registration result IE value to "Registered for emergency services" in the CONFIGURATION UPDATE COMMAND message.

If the AMF is initiating the generic UE configuration update procedure to indicate to a UE which is registered for disaster roaming services, and which has an ongoing emergency PDU session, that the UE is registered for emergency services as described in subclause 4.24, the AMF shall set the 5GS registration result IE value to "Registered for emergency services" in the CONFIGURATION UPDATE COMMAND message.

If the AMF:

- updated the "CAG information list" to remove one or more CAG-ID(s) in the Allowed CAG list for the serving PLMN or an equivalent PLMN; or

- updated the "CAG information list" to set the "indication that the UE is only allowed to access 5GS via CAG cells" for the serving PLMN or an equivalent PLMN which was not set before,

then upon completion of the configuration update procedure and if the UE does not have an emergency PDU session, the AMF shall initiate the release of the N1 NAS signalling connection according to subclause 5.3.1.3.

If the AMF needs to update the truncated 5G-S-TMSI configuration for a UE in NB-N1 mode using control plane CIoT 5GS optimization, the AMF shall include the Truncated 5G-S-TMSI configuration IE in the CONFIGURATION UPDATE COMMAND message.

If the AMF includes a UE radio capability ID deletion indication IE in the CONFIGURATION UPDATE COMMAND message, the AMF shall indicate "registration requested" in the Registration requested bit of the Configuration update indication IE.

If the AMF needs to redirect the UE to EPC as described in subclause 4.8.4A.2, the AMF shall indicate "registration requested" in the Registration requested bit of the Configuration update indication IE and "release of N1 NAS signalling connection not required" in the Signalling connection maintain request bit of the Additional configuration indication IE in the CONFIGURATION UPDATE COMMAND message.

If the UE is not in NB-N1 mode and the UE supports RACS, the AMF may include either a UE radio capability ID IE or a UE radio capability ID deletion indication IE in the CONFIGURATION UPDATE COMMAND message.

During an established 5GMM context, the network may send none, one, or more CONFIGURATION UPDATE COMMAND messages to the UE. If more than one CONFIGURATION UPDATE COMMAND message is sent, the messages need not have the same content.

messages need not have the same content.

Upon receipt of the successful result of the UUAA-MM procedure from the UAS-NF, the AMF shall include:

a) the service-level-AA response with the SLAR bits set to "Service level authentication and authorization was successful";

b) if the CAA-Level UAV ID is provided by the UAS-NF, the service-level device ID with the value set to the CAA-Level UAV ID;

c) if the UUAA authorization payload is received from the UAS-NF:

1) the service-level-AA payload type, with the values set to "UUAA payload"; and

2) the service-level-AA payload, with the value set to the UUAA payload;

in the Service-level-AA container IE of the CONFIGURATION UPDATE COMMAND message.

NOTE 5: UAS security information can be included in the UUAA payload by the USS as specified in 3GPP TS 33.256 [24B].

If the AMF needs to deliver to the UE the UUAA revocation notification received from the UAS-NF, the AMF shall include the Service-level-AA response IE with SLAR set to "Service level authentication and authorization was not successful or service level authorization is revoked" in the Service-level-AA container IE of the CONFIGURATION UPDATE COMMAND message.

If the AMF detects that the UUAA-MM procedure has:

a) succeeded, the AMF shall set the SLAR bit in the the service-level-AA response to "Service level authentication and authorization was successful"; or

b) failed, the AMF shall set the SLAR bit in the the service-level-AA response to "Service level authentication and authorization was not successful or service level authorization is revoked".

NOTE 6: If the AMF receives the HTTP code set to "4xx" or "5xx" as specified in 3GPP TS 29.500 [20AA] or the AMF detects that the UUAA-MM failure as specified in 3GPP TS 29.256 [21B], then the AMF considers the UUAA-MM procedure has failed.

If the UE supports MINT, the AMF may include the List of PLMNs to be used in disaster condition IE in the CONFIGURATION UPDATE COMMAND message.

If the UE supports MINT, the AMF may include the Disaster roaming wait range IE in the CONFIGURATION UPDATE COMMAND message.

If the UE supports MINT, the AMF may include the Disaster return wait range IE in the CONFIGURATION UPDATE COMMAND message.

NOTE 7: The AMF can determine the content of the "list of PLMN(s) to be used in disaster condition", the value of the disaster roaming wait range and the value of the disaster return wait range based on the network local configuration.

If the UE supports and the network supports and accepts the use of the PEIPS assistance information, and the AMF needs to update the PEIPS assistance information, the AMF may include the PEIPS assistance information in the Updated PEIPS assistance information IE of the CONFIGURATION UPDATE COMMAND message.

If the AMF needs to inform the UE that the use of access identity 1 is valid or is no longer valid, the AMF informs the UE by setting the MPS indicator bit of the Priority indicator IE to "Access identity 1 valid" or "Access identity 1 not valid" respectively, in the CONFIGURATION UPDATE COMMAND message. Based on operator policy, the AMF sets the MPS indicator bit in the CONFIGURATION UPDATE COMMAND message based on the MPS priority information in the user's subscription context obtained from the UDM.

\*\*\*\*\* Fifth change \*\*\*\*\*

#### 5.4.4.3 Generic UE configuration update accepted by the UE

Upon receiving the CONFIGURATION UPDATE COMMAND message, the UE shall stop timer T3346 if running and use the contents to update appropriate information stored within the UE.

If "acknowledgement requested" is indicated in the Acknowledgement bit of the Configuration update indication IE in the CONFIGURATION UPDATE COMMAND message, the UE shall send a CONFIGURATION UPDATE COMPLETE message.

If the UE receives a new 5G-GUTI in the CONFIGURATION UPDATE COMMAND message, the UE shall consider the new 5G-GUTI as valid, the old 5G-GUTI as invalid, stop timer T3519 if running, and delete any stored SUCI; otherwise, the UE shall consider the old 5G-GUTI as valid. The UE shall provide the 5G-GUTI to the lower layer of 3GPP access if the CONFIGURATION UPDATE COMMAND message is sent over the non-3GPP access, and the UE is in 5GMM-REGISTERED in both 3GPP access and non-3GPP access in the same PLMN.

If the UE receives a new TAI list in the CONFIGURATION UPDATE COMMAND message, the UE shall consider the new TAI list as valid and the old TAI list as invalid; otherwise, the UE shall consider the old TAI list as valid. If the registration area contains TAIs belonging to different PLMNs, which are equivalent PLMNs, and

a) the UE already has stored allowed NSSAI for the current registration area, the UE shall store the allowed NSSAI for the current registration area in each of the allowed NSSAIs which are associated with each of the PLMNs in the registration area; and

b) the UE already has stored rejected NSSAI for the current registration area, the UE shall store the rejected NSSAI for the current registration area in each of the rejected NSSAIs which are associated with each of the PLMNs in the registration area.

If the UE receives a new truncated 5G-S-TMSI configuration in the CONFIGURATION UPDATE COMMAND message, the UE shall consider the new truncated 5G-S-TMSI configuration as valid and the old truncated 5G-S-TMSI configuration as invalid; otherwise, the UE shall consider the old truncated 5G-S-TMSI configuration as valid.

If the UE receives a new service area list in the CONFIGURATION UPDATE COMMAND message, the UE shall consider the new service area list as valid and the old service area list as invalid; otherwise, the UE shall consider the old service area list, if any, as valid.

If the UE receives new NITZ information in the CONFIGURATION UPDATE COMMAND message, the UE considers the new NITZ information as valid and the old NITZ information as invalid; otherwise, the UE shall consider the old NITZ information as valid.

If the UE receives a LADN information IE in the CONFIGURATION UPDATE COMMAND message, the UE shall consider the old LADN information as invalid and the new LADN information as valid, if any; otherwise, the UE shall consider the old LADN information as valid.

If the UE receives a new allowed NSSAI for the associated access type in the CONFIGURATION UPDATE COMMAND message, the UE shall consider the new allowed NSSAI as valid for the associated access type, store the allowed NSSAI for the associated access type as specified in subclause 4.6.2.2 and consider the old allowed NSSAI for the associated access type as invalid; otherwise, the UE shall consider the old allowed NSSAI as valid for the associated access type.

If the UE receives a new configured NSSAI in the CONFIGURATION UPDATE COMMAND message, the UE shall consider the new configured NSSAI for the registered PLMN as valid and the old configured NSSAI for the registered PLMN as invalid; otherwise, the UE shall consider the old configured NSSAI for the registered PLMN as valid The UE shall store the new configured NSSAI as specified in subclause 4.6.2.2. In addition, if the CONFIGURATION UPDATE COMMAND message contains an NSSRG information IE, the UE shall store the contents of the NSSRG information IE as specified in subclause 4.6.2.2.

If the UE receives the Network slicing indication IE in the CONFIGURATION UPDATE COMMAND message with the Network slicing subscription change indication set to "Network slicing subscription changed", the UE shall delete the network slicing information for each and every PLMN except for the current PLMN as specified in subclause 4.6.2.2.

If the UE receives Operator-defined access category definitions IE in the CONFIGURATION UPDATE COMMAND message and the Operator-defined access category definitions IE contains one or more operator-defined access category definitions, the UE shall delete any operator-defined access category definitions stored for the RPLMN and shall store the received operator-defined access category definitions for the RPLMN. If the UE receives the Operator-defined access category definitions IE in the CONFIGURATION UPDATE COMMAND message and the Operator-defined access category definitions IE contains no operator-defined access category definitions, the UE shall delete any operator-defined access category definitions stored for the RPLMN. If the CONFIGURATION UPDATE COMMAND message does not contain the Operator-defined access category definitions IE, the UE shall not delete the operator-defined access category definitions stored for the RPLMN.

If the UE receives the SMS indication IE in the CONFIGURATION UPDATE COMMAND message with the SMS availability indication set to:

a) "SMS over NAS not available", the UE shall consider that SMS over NAS transport is not allowed by the network; and

b) "SMS over NAS available", the UE may request the use of SMS over NAS transport by performing a registration procedure for mobility and periodic registration update as specified in subclause 5.5.1.3, after the completion of the generic UE configuration update procedure.

If the UE receives the CAG information list IE in the CONFIGURATION UPDATE COMMAND message, the UE shall:

a) replace the "CAG information list" stored in the UE with the received CAG information list IE when received in the HPLMN or EHPLMN;

NOTE 1: When the UE receives the CAG information list IE in the HPLMN derived from the IMSI, the EHPLMN list is present and is not empty and the HPLMN is not present in the EHPLMN list, the UE behaves as if it receives the CAG information list IE in a VPLMN.

b) replace the serving VPLMN's entry of the "CAG information list" stored in the UE with the serving VPLMN's entry of the received CAG information list IE when the UE receives the CAG information list IE in a serving PLMN other than the HPLMN or EHPLMN; or

NOTE 2: When the UE receives the CAG information list IE in a serving PLMN other than the HPLMN or EHPLMN, entries of a PLMN other than the serving VPLMN, if any, in the received CAG information list IE are ignored.

c) remove the serving VPLMN's entry of the "CAG information list" stored in the UE when the UE receives the CAG information list IE in a serving PLMN other than the HPLMN or EHPLMN and the CAG information list IE does not contain the serving VPLMN's entry.

The UE shall store the "CAG information list" received in the CAG information list IE as specified in annex C.

If the received "CAG information list" includes an entry containing the identity of the current PLMN and the UE had set the CAG bit to "CAG supported" in the 5GMM capability IE of the REGISTRATION REQUEST message, the UE shall operate as follows.

a) If the UE receives the CONFIGURATION UPDATE COMMAND message via a CAG cell, the entry for the current PLMN in the received "CAG information list" does not include any of the CAG-ID(s) supported by the current CAG cell, and:

1) the entry for the current PLMN in the received "CAG information list" does not include an "indication that the UE is only allowed to access 5GS via CAG cells", then the UE shall enter the state 5GMM-REGISTERED.LIMITED-SERVICE and shall search for a suitable cell according to 3GPP TS 38.304 [28] or 3GPP TS 36.304 [25C] with the updated "CAG information list"; or

2) the entry for the current PLMN in the received "CAG information list" includes an "indication that the UE is only allowed to access 5GS via CAG cells" and:

i) if the entry for the current PLMN in the received "CAG information list" includes one or more CAG-IDs, the UE shall enter the state 5GMM-REGISTERED.LIMITED-SERVICE and shall search for a suitable cell according to 3GPP TS 38.304 [28] with the updated "CAG information list"; or

ii) if the entry for the current PLMN in the received "CAG information list" does not include any CAG-ID and:

A) the UE does not have an emergency PDU session, then the UE shall enter the state 5GMM-REGISTERED.PLMN-SEARCH and shall apply the PLMN selection process defined in 3GPP TS 23.122 [5] with the updated "CAG information list"; or

B) the UE has an emergency PDU session, then the UE shall perform a local release of all PDU sessions associated with 3GPP access except for the emergency PDU session and enter the state 5GMM-REGISTERED.LIMITED-SERVICE; or

b) If the UE receives the CONFIGURATION UPDATE COMMAND message via a non-CAG cell and the entry for the current PLMN in the received "CAG information list" includes an "indication that the UE is only allowed to access 5GS via CAG cells" and:

1) if the "allowed CAG list" for the current PLMN in the received "CAG information list" includes one or more CAG-IDs, the UE shall enter the state 5GMM-REGISTERED.LIMITED-SERVICE and shall search for a suitable cell according to 3GPP TS 38.304 [28] with the updated "CAG information list"; or

2) if the entry for the current PLMN in the received "CAG information list" does not include any CAG-ID and:

i) the UE does not have an emergency PDU session, then the UE shall enter the state 5GMM-REGISTERED.PLMN-SEARCH and shall apply the PLMN selection process defined in 3GPP TS 23.122 [5] with the updated "CAG information list"; or

ii) the UE has an emergency PDU session, then the UE shall perform a local release of all PDU sessions associated with 3GPP access except for the emergency PDU session and enter the state 5GMM-REGISTERED.LIMITED-SERVICE.

If the received "CAG information list" does not include an entry containing the identity of the current PLMN and the UE receives the CONFIGURATION UPDATE COMMAND message via a CAG cell, the UE shall enter the state 5GMM-REGISTERED.LIMITED-SERVICE and shall search for a suitable cell according to 3GPP TS 38.304 [28] or 3GPP TS 36.304 [25C] with the updated "CAG information list".

If the CONFIGURATION UPDATE COMMAND message indicates "registration requested" in the Registration requested bit of the Configuration update indication IE and:

a) contains no other parameters or contains at least one of the following parameters: a new allowed NSSAI, a new configured NSSAI or the Network slicing subscription change indication, and:

1) an emergency PDU session exists, the UE shall, after the completion of the generic UE configuration update procedure and the release of the emergency PDU session, release the existing N1 NAS signalling connection. If any Tsor-cm timer(s) were running and have stopped, the UE shall attempt to obtain service on a higher priority PLMN (see 3GPP TS 23.122 [5]). Otherwise the UE start a registration procedure for mobility and periodic registration update as specified in subclause 5.5.1.3; or

2) no emergency PDU Session exists, the UE shall, after the completion of the generic UE configuration update procedure and the release of the existing N1 NAS signalling connection. If any Tsor-cm timer(s) were running and have stopped, the UE shall attempt to obtain service on a higher priority PLMN (see 3GPP TS 23.122 [5]). Otherwise the UE start a registration procedure for mobility and periodic registration update as specified in subclause 5.5.1.3;

b) a MICO indication is included without a new allowed NSSAI; a new configured NSSAI or the Network slicing subscription change indication, the UE shall, after the completion of the generic UE configuration update procedure, start a registration procedure for mobility and registration update as specified in subclause 5.5.1.3 to re-negotiate MICO mode with the network;

c) an Additional configuration indication IE is included, and:

1) "release of N1 NAS signalling connection not required" is indicated in the Signalling connection maintain request bit of the Additional configuration indication IE; and

2) a new allowed NSSAI, a new configured NSSAI and the Network slicing subscription change indication is not included in the CONFIGURATION UPDATE COMMAND message,

 the UE shall, after the completion of the generic UE configuration update procedure, start a registration procedure for mobility and registration update as specified in subclause 5.5.1.3; or

d) a UE radio capability ID deletion indication IE set to "Network-assigned UE radio capability IDs deletion requested" is included, and:

1) the UE is not in NB-N1 mode;

2) a new allowed NSSAI, a new configured NSSAI or a Network slicing subscription change indication is not included; and

3) the UE has set the RACS bit to "RACS supported" in the 5GMM capability IE of the REGISTRATION REQUEST message,

 the UE shall, after the completion of the generic UE configuration update procedure, start a registration procedure for mobility and registration update as specified in subclause 5.5.1.3.

The UE receiving the rejected NSSAI in the CONFIGURATION UPDATE COMMAND message takes the following actions based on the rejection cause in the rejected S-NSSAI(s):

"S-NSSAI not available in the current PLMN or SNPN"

 The UE shall add the rejected S-NSSAI(s) in the rejected NSSAI for the current PLMN as specified in subclause 4.6.2.2 and shall not attempt to use this S-NSSAI(s) in the current PLMN until switching off the UE, the UICC containing the USIM is removed, the entry of the "list of subscriber data" with the SNPN identity of the current SNPN is updated, or the rejected S-NSSAI(s) are removed or deleted as described in subclause 4.6.2.2.

"S-NSSAI not available in the current registration area"

 The UE shall add the rejected S-NSSAI(s) in the rejected NSSAI for the current registration area as specified in subclause 4.6.2.2 and shall not attempt to use this S-NSSAI(s) in the current registration area until switching off the UE, the UE moving out of the current registration area, the UICC containing the USIM is removed, the entry of the "list of subscriber data" with the SNPN identity of the current SNPN is updated, or the rejected S-NSSAI(s) are removed or deleted as described in subclause 4.6.2.2.

"S-NSSAI not available due to the failed or revoked network slice-specific authentication and authorization"

 The UE shall add the rejected S-NSSAI(s) in the rejected NSSAI for the failed or revoked NSSAA as specified in subclause 4.6.2.2 and shall not attempt to use this S-NSSAI in the current PLMN over any access until switching off the UE, the UICC containing the USIM is removed, the entry of the "list of subscriber data" with the SNPN identity of the current SNPN is updated, or the rejected S-NSSAI(s) are removed or deleted as described in subclause 4.6.1 and 4.6.2.2.

"S-NSSAI not available due to maximum number of UEs reached"

 Unless the back-off timer value received along with the S-NSSAI is zero, the UE shall add the rejected S-NSSAI(s) in the rejected NSSAI for the maximum number of UEs reached as specified in subclause 4.6.2.2 and shall not attempt to use this S-NSSAI in the current PLMN over the current access until switching off the UE, the UICC containing the USIM is removed, the entry of the "list of subscriber data" with the SNPN identity of the current SNPN is updated, or the rejected S-NSSAI(s) are removed as described in subclause 4.6.2.2.

NOTE 3: If the back-off timer value received along with the S-NSSAI in the rejected NSSAI for the maximum number of UEs reached is zero as specified in subclause 10.5.7.4a of TS 24.008, the UE does not consider the S-NSSAI as the rejected S-NSSAI.

If there is one or more S-NSSAIs in the rejected NSSAI with the rejection cause "S-NSSAI not available due to maximum number of UEs reached", then for each S-NSSAI, the UE shall behave as follows:

a) stop the timer T3526 associated with the S-NSSAI, if running;

b) start the timer T3526 with:

1) the back-off timer value received along with the S-NSSAI, if back-off timer value is received along with the S-NSSAI that is neither zero nor deactivated; or

2) an implementation specific back-off timer value, if no back-off timer value is received along with the S-NSSAI; and

c) remove the S-NSSAI from the rejected NSSAI for the maximum number of UEs reached when the timer T3526 associated with the S-NSSAI expires.

If the UE receives a T3447 value IE in the CONFIGURATION UPDATE COMMAND message and has indicated "service gap control supported" in the REGISTRATION REQUEST, then the UE shall replace the stored T3447 value with the received value in the T3447 value IE, and if neither zero nor deactivated use the received T3447 value with the timer T3447 next time it is started. If the received T3447 value is zero or deactivated, then the UE shall stop the timer T3447 if running.

If the UE is not in NB-N1 mode, the UE has set the RACS bit to "RACS supported" in the 5GMM capability IE of the REGISTRATION REQUEST message and the CONFIGURATION UPDATE COMMAND message includes:

a) a UE radio capability ID deletion indication IE set to "Network-assigned UE radio capability IDs deletion requested", the UE shall delete any network-assigned UE radio capability IDs associated with the RPLMN or RSNPN and, if the UE supports access to an SNPN using credentials from a credentials holder, the selected entry of the "list of subscriber data" or the selected PLMN subscription stored at the UE; or

b) a UE radio capability ID IE, the UE shall store the UE radio capability ID as specified in annex C.

If the UE is not currently registered for emergency services and the 5GS registration result IE value in the CONFIGURATION UPDATE COMMAND message is set to "Registered for emergency services", the UE shall consider itself registered for emergency services and shall locally release all non-emergency PDU sessions, if any.

If the UE receives the service-level-AA container IE of the CONFIGURATION UPDATE COMMAND message, the UE passes it to the upper layer.

Editor's note: It is FFS how to identify the application for which [service-level-AA container IE] is transferred.

If the CONFIGURATION UPDATE COMMAND message includes the service-level-AA response in the Service-level-AA container IE with the SLAR bits set to "Service level authentication and authorization was not successful or service level authorization is revoked", the UE shall forward the service-level-AA response to the upper layers, so the UUAA authorization data is deleted as specified in 3GPP TS 33.256 [24B].

If the UE receives the List of PLMNs to be used in disaster condition IE in the CONFIGURATION UPDATE COMMAND message and the UE supports MINT, the UE shall delete the "list of PLMN(s) to be used in disaster condition" stored in the ME together with the PLMN ID of the RPLMN, if any, and may store the "list of PLMN(s) to be used in disaster condition" included in the List of PLMNs to be used in disaster condition IE in the ME together with the PLMN ID of the RPLMN.

If the UE receives the Disaster roaming wait range IE in the CONFIGURATION UPDATE COMMAND message and the UE supports MINT, the UE shall delete the disaster roaming wait range stored in the ME, if any, and store the disaster roaming wait range included in the Disaster roaming wait range IE in the ME.

If the UE receives the Disaster return wait range IE in the CONFIGURATION UPDATE COMMAND message and the UE supports MINT, the UE shall delete the disaster roaming wait range stored in the ME, if any, and store the disaster roaming wait range included in the Disaster roaming wait range IE in the ME.

If the UE receives the Updated PEIPS assistance information IE in the CONFIGURATION UPDATE COMMAND message and the UE supports NR paging subgrouping, the UE shall use the PEIPS assistance information included in the Updated PEIPS assistance information IE.

If the UE receives a CONFIGURATION UPDATE COMMAND message with the MPS indicator bit set to "Access identity 1 valid", the UE shall act as a UE with access identity 1 configured for MPS as described in subclause 4.5.2, in all NG-RAN of the registered PLMN and its equivalent PLMNs or in the case of SNPN, as described in subclause 4.5.2A, in all NG-RAN of the registered SNPN. The MPS indicator bit in the Priority indicator IE provided in the CONFIGURATION UPDATE COMMAND message is valid until the UE receives a REGISTRATION ACCEPT message with the MPS indicator bit set to "Access identity 1 not valid" or the UE receives a CONFIGURATION UPDATE COMMAND message with the MPS indicator bit of the Priority indicator IE set to "Access identity 1 not valid" or until the UE selects a non-equivalent PLMN (or in the case of SNPN, selects another SNPN). Access identity 1 is only applicable while the UE is in N1 mode.

\*\*\*\*\* Sixth change \*\*\*\*\*

#### 8.2.19.1 Message definition

The CONFIGURATION UPDATE COMMAND message is sent by the AMF to the UE. See table 8.2.19.1.1.

Message type: CONFIGURATION UPDATE COMMAND

Significance: dual

Direction: network to UE

Table 8.2.19.1.1: CONFIGURATION UPDATE COMMAND message content

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | Extended protocol discriminator | Extended protocol discriminator9.2 | M | V | 1 |
|  | Security header type | Security header type9.3 | M | V | 1/2 |
|  | Spare half octet | Spare half octet9.5 | M | V | 1/2 |
|  | Configuration update command message identity | Message type9.7 | M | V | 1 |
| D- | Configuration update indication | Configuration update indication9.11.3.18 | O | TV | 1 |
| 77 | 5G-GUTI | 5GS mobile identity9.11.3.4 | O | TLV-E | 14 |
| 54 | TAI list | 5GS tracking area identity list9.11.3.9 | O | TLV | 9-114 |
| 15 | Allowed NSSAI | NSSAI9.11.3.37 | O | TLV | 4-74 |
| 27 | Service area list | Service area list9.11.3.49 | O | TLV | 6-114 |
| 43 | Full name for network | Network name9.11.3.35 | O | TLV | 3-n |
| 45 | Short name for network | Network name9.11.3.35 | O | TLV | 3-n |
| 46 | Local time zone | Time zone9.11.3.52 | O | TV | 2 |
| 47 | Universal time and local time zone | Time zone and time9.11.3.53 | O | TV | 8 |
| 49 | Network daylight saving time | Daylight saving time9.11.3.19 | O | TLV | 3 |
| 79 | LADN information | LADN information9.11.3.30 | O | TLV-E | 3-1715 |
| B- | MICO indication | MICO indication9.11.3.31 | O | TV | 1 |
| 9- | Network slicing indication | Network slicing indication9.11.3.36 | O | TV | 1 |
| 31 | Configured NSSAI | NSSAI9.11.3.37 | O | TLV | 4-146 |
| 11 | Rejected NSSAI | Rejected NSSAI9.11.3.46 | O | TLV | 4-42 |
| 76 | Operator-defined access category definitions | Operator-defined access category definitions9.11.3.38 | O | TLV-E | 3-8323 |
| F- | SMS indication | SMS indication9.11.3.50A | O | TV | 1 |
| 6C | T3447 value | GPRS timer 39.11.2.5 | O | TLV | 3 |
| 75 | CAG information list | CAG information list9.11.3.18A | O | TLV-E | 3-n |
| 67 | UE radio capability ID | UE radio capability ID9.11.3.68 | O | TLV | 3-n |
| A- | UE radio capability ID deletion indication | UE radio capability ID deletion indication9.11.3.69 | O | TV | 1 |
| 44 | 5GS registration result | 5GS registration result9.11.3.6 | O | TLV | 3 |
| 1B | Truncated 5G-S-TMSI configuration | Truncated 5G-S-TMSI configuration9.11.3.70 | O | TLV | 3 |
| C- | Additional configuration indication | Additional configuration indication9.11.3.74 | O | TV | 1 |
| 68 | Extended rejected NSSAI | Extended rejected NSSAI9.11.3.75 | O | TLV | 5-90 |
| 72 | Service-level-AA container | Service-level-AA container9.11.2.10 | O | TLV-E | 6-n |
| 70 | NSSRG information | NSSRG information9.11.3.82 | O | TLV-E | 7-65538 |
| 14 | Disaster roaming wait range | Registration wait range9.11.3.84 | O | TLV | 4 |
| 2C | Disaster return wait range | Registration wait range9.11.3.84 | O | TLV | 4 |
| 13 | List of PLMNs to be used in disaster condition | List of PLMNs to be used in disaster condition9.11.3.83 | O | TLV | 2-n |
| 71 | Extended CAG information list | Extended CAG information list9.11.3.86 | O | TLV-E | 3-n |
| 1F | Updated PEIPS assistance information | PEIPS assistance information9.11.3.80 | O | TLV | 3-n |
| x | Priority indicator | Priority indicator9.11.3.y | O | TV | 1 |

\*\*\*\*\* Seventh change \*\*\*\*\*

#### 9.11.3.y Priority indicator

The purpose of the Priority indicator information element is to convey a priority indication to the UE.

The Priority indicator information element is coded as shown in figure 9.11.3.y.1 and table 9.11.3.y.1.

The Priority indicator is a type 1 information element.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Priority indicator IEI | 0Spare | 0Spare | 0Spare | MPSI | octet 1 |

Figure 9.11.3.y.1: Priority indicator

Table 9.11.3.y.1: Priority indicator

|  |
| --- |
| MPS indicator (MPSI) (octet 1, bit 1) |
| Bit**1** |
| 01 | Access identity 1 not validAccess identity 1 valid |
|  |  |
| Bits 2, 3, 4 are spare and shall be coded as zero. |

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