**3GPP TSG-CT WG1 Meeting #130-eC1-21xxxx**

**Electronic meeting, 20–28 May 2021 Revision of C1-213095**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **23.122** | **CR** |  | **rev** | **1** | **Current version:** | **17.2.0** |  |
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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 |  |

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| ***Title:***  | The handling of wildcard CAG ID-solution#1 |
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| ***Source to WG:*** | China Mobile, China Telecom, China Unicom, Huawei, HiSilicon, ZTE, vivo, MediaTek Inc |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc17 |  | ***Date:*** | 2021-04-28 |
|  |  |  |  |  |
| ***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)* |
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| ***Reason for change:*** | In CT1#127e meeting, two editor’s notes were added for the operator’s PNI-NPN deployment demand raised in CT1 meetings in 2020:Editor's note (WI 5GProtoc17, CR#0611): It is FFS whether and how to enable the operators to configure the USIM so that the entry for HPLMN of the "CAG information list" stored in the USIM can contain an optional wild card CAG ID in the allowed CAG list or an optional PLMN selected range of allowed CAG IDs.Editor's note (WI 5GProtoc17, CR#0611): It is FFS whether and how to enable a wild card CAG ID or a PLMN selected range of the allowed CAG IDs to match the available CAG IDs of the HPLMN and how the NAS and the AS interact.This CR is a proposed solution to the issue the ENs address. |
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| ***Summary of change:*** | Consider a range of CAG-IDs to simplify the configuration of the allowed CAG-IDs in the USIM to enable the UE to access CAG cells of HPLMN or EHPLMN to get its "CAG information list". |
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| ***Consequences if not approved:*** | 1. The demand from NPN customers cannot be met.
2. The demand from operators of decoupling USIM management and NPN design for practicality cannot be met.
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| ***Clauses affected:*** | 3.8 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** | 1. Update the description of the CAG information list to support configuring a range of CAG-IDs.
2. Delete the NOTE in subclause 3.8.
3. Delete subclause 4.4.3.1.1.
4. Update “reason for change” to remove the relations between the CR and Tdocs.
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## 3.8 CAG selection (N1 mode only)

The MS may support CAG.

If the MS supports CAG, the MS can be provisioned by the network with a "CAG information list", consisting of zero or more entries, each containing:

a) a PLMN ID;

b) an "Allowed CAG list". The "Allowed CAG list" contains zero or more CAG-IDs; and

c) an optional "indication that the MS is only allowed to access 5GS via CAG cells".

The "CAG information list" provisioned by the network is stored in the non-volatile memory of the ME, as specified in 3GPP TS 24.501 [64] annex C.

NOTE 1: When the MS is registering or registered to a PLMN other than the HPLMN or EHPLMN, then the HPLMN will send a "CAG information list" consisting of CAG subscription information related to the serving PLMN only. When the MS is registering or registered to the HPLMN or EHPLMN then the HPLMN or EHPLMN can send CAG subscription information related to any PLMN in the "CAG information list".

In addition, the MS can also be pre-configured with a "CAG information list" stored in the USIM (see 3GPP TS 31.102 [40]). The "Allowed CAG list" included in the entry for the HPLMN or EHPLMN in "CAG information list" stored in the USIM can contain a range of CAG-IDs.

Editor's note (WI 5GProtoc17, CR#0714): It is FFS whether the encoding of the "CAG information list" stored in the USIM is to be updated by CT6.

3GPP TS 24.501 [64] annex C specifies condition under which the "CAG information list" stored in the ME is deleted. Additionally, when a USIM is inserted, if:

- no "CAG information list" is stored in the non-volatile memory of the ME; or

- the SUPI from the USIM does not match the SUPI stored together with the "CAG information list" in the non-volatile memory of the ME;

and the MS has a "CAG information list" stored in the USIM (see 3GPP TS 31.102 [22]), the MS shall store the "CAG information list" from the USIM into the ME, as specified in 3GPP TS 24.501 [64] annex C. If an entry in the "CAG information list" stored in the USIM includes an "Allowed CAG list" which contains a range of CAG-IDs, the range of CAG-IDs can be replaced with individual CAG-IDs matching the range up to ME implementation.

Editor's note (WI 5GProtoc17, CR#0714): Whether a range of CAG-IDs needs to provided to the AS is FFS..

NOTE 2: The MS ignores the "CAG information list" stored in the USIM except when the USIM is inserted.

If the MS supports CAG and a PLMN is selected as described in subclause 4.4.3.1.1, the automatic CAG selection is performed as part of subclause 4.4.3.1.1.

If the MS supports CAG and a PLMN is selected as described in subclause 4.4.3.1.2, the manual CAG selection is performed as part of subclause 4.4.3.1.2.

The NAS shall provide the AS with a "CAG information list", if available. If the contents of the "CAG information list" have changed, the NAS shall provide an updated "CAG information list" to the AS.

The "indication that the MS is only allowed to access 5GS via CAG cells" is not applicable in EPS.

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