**3GPP TSG-CT WG4 Meeting #99eC4-204xxx**

**E-Meeting, 18th – 28th August 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.505** | **CR** | **0296** | **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:*** | Addition of SMSF registration notification flag | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | NTT DOCOMO | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_eSBA | | | | |  | ***Date:*** | | | 2020-08-07 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | CR 0040 to TS 29.500 ([C4-193727](https://www.3gpp.org/ftp/tsg_ct/WG4_protocollars_ex-CN4/TSGCT4_93_Wroclaw/Docs/C4-193727.zip)) has introduced support of stateless NFs, in particular a text *“A NF may become stateless by storing its contexts in the UDSF, or in the UDR for UDM, PCF, NEF.*” However the current specification does not allow UDM to be stateless due to “SMSF registration notification flag”. This flag needs to be stored in UDR.  The followings are observed when considering proposed changes:  - Storing SMSF registration notification flag in UDR was discussed in UDICOM and CR 0003 to TS 23.632 ([C4-202307](https://www.3gpp.org/ftp/tsg_ct/WG4_protocollars_ex-CN4/TSGCT4_97e_meeting/Docs/C4-202307.zip)) specified it’s not needed. This conclusion is fine in the context of UDICOM, but not from the perspective to allow a stateless UDM.  - CR 0287 to TS 29.505 ([C4-203623](https://www.3gpp.org/ftp/tsg_ct/WG4_protocollars_ex-CN4/TSGCT4_98e_meeting/Docs/C4-203623.zip)) has enabled storing “Message Waiting Data list” in UDR. UDM uses URRP-AMF flag and SMSF registration notification flag in conjunction with Message Waiting Data list to trigger re-attempt of delivery of MT SMS that was not successfully delivered. But it is to be noted that URRP-AMF flag is relevant while UE is registered and that SMSF registration notification flag and Message Waiting Data list are relevant even when UE is not registered. Thus, it is considered SMSF registration notification flag and Message Waiting Data list can be managed together.  This solution is chosen to ensure the backward compatibility and to avoid “one boolean” resource and under understanding that whenever SMSF Registration Notification Flag is set, there is MwdList.  NOTE: With this CR, discrepancy of definitions of MWD between in this document and in stage 2 (e.g. TS 23.502) are introduced. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | To add SMSF registration notification flag into the Message Waiting Data list. | | | | | | | | |
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| ***Consequences if not approved:*** | | Stateless UDM cannot be realized. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.2.24, A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR introduces backwards-compatible changes on the TS29505\_Subscription\_Data.yaml OpenAPI specification, with impact to the following APIs:  - TS29504\_Data\_Repository.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

---Start of the 1st Change---

#### 5.4.2.24 Type: MessageWaitingData

Table 5.4.2.24-1: Definition of type MessageWaitingData

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| mwdList | array(SmscData) | O | 1..N | List of addresses of SM-Service Center entities with SMS wating to be delivered to the UE. |
| smsfRegistrationNotificationFlag | boolean | O | 0..1 | true: indicates to notify the SM-Service Centers upon subsequent SMSF registration for the UE.  false (default): otherwise. |

---Start of the 2nd Change---

A.2 Nudr\_DataRepository API for Subscription Data

***(… text not shown for clarity …)***

IpSmGwRegistration:

$ref: 'TS29503\_Nudm\_UECM.yaml#/components/schemas/IpSmGwRegistration'

MessageWaitingData:

type: object

properties:

mwdList:

type: array

items:

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

minItems: 1

smsfRegistrationNotificationFlag:

type: boolean

default: false

SmscData:

type: object

anyOf:

- required: [ smscMapAddress ]

- required: [ smscDiameterAddress ]

properties:

smscMapAddress:

$ref: 'TS29503\_Nudm\_UECM.yaml#/components/schemas/E164Number'

smscDiameterAddress:

$ref: 'TS29503\_Nudm\_UECM.yaml#/components/schemas/NetworkNodeDiameterAddress'

---End of the Changes---