**3GPP TSG-CT WG4 Meeting #106-eC4-215354**

**E-Meeting, 11th – 15th October 2021 (was C4-215285)**

**3GPP TSG-CT WG3 Meeting #118-eC3-215410**

**E-Meeting, 11th – 15th October 2021**

(revision of CP-yyxxxx)

**Source: NTT DOCOMO**

**Title: New WID on Restoration of Profiles related to UDR**

**Document for: Approval**

**Agenda Item: 5**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: Restoration of Profiles related to UDR

Acronym: ReP\_UDR

Unique identifier:

Potential target Release: Rel-17

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  |  | X |  |
| No | X | X | X |  | X |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
| X | Feature |
|  | Building Block |
|  | *Work Task* |
|  | Study Item |

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| FS\_ReP\_UDR | CT4 | 900001 | Study on restoration of profiles related to UDR |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
|  |  |  |

**Dependency on non-3GPP (draft) specification:**

# 3 Justification

Data stored in UDR is automatically updated in normal operation; the main information is the location of each UE. Callback information to update the subscription data and the policy data might come next. The loss or corruption of these information seriously degrades the service offered to subscribers; it is therefore necessary to define a regime and a procedure to limit the effects of failure of UDR, and to restore these information automatically.

This regime can include replication of volatile storage units and periodic back-up of data. A procedure is needed in case the integrity of data in UDR cannot be ensured necessarily when relying on those replicated data.

The study has been conducted in study item FS\_ReP\_UDR, and the recommended conclusion needs to be implemented in the corresponding specifications to overcome the case when the integrity of data in UDR cannot be ensured.

# 4 Objective

The aim of this workitem is to complete the normative phase following the conclusion of the study item in FS\_ReP\_UDR.

In particular, it is intended to implement the following aspects into corresponding stage2 and stage3 specifications:

a) Preparation of profile in NF

- AMF/SMF/SMSF stores registration time that UDM forwards from UDR. AUSF stores timestamp of authentication as is already specified.

- UDM may send Reset-ID. AMF/SMF/SMSF/AUSF stores it.

b) Notification path from UDR to NF

- *(TBD)*

c) Notification content

- Notification includes (partial) recovery time and optionally partialLastReplicationTime.

- Notification includes SUPI range(/GPSI range) and/or Reset ID.

d) Synchronization trigger

- Local policy.

e) Synchronization procedure

- AMF/SMSF includes registration time, if any. AUSF includes timestamp of authentication, if any, as is already specified.

- AMF may defer Nudm\_UECM.

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 23.527 | Define stage2 level procedures on how AMF and other NFs update their local profiles in case they detect UDM/UDR has recovered from loss or corruption of profiles | TSG#95(Mar. 2022) |  |
| 29.503 | Enhancement on interaction between AMF/SMF/SMSF and UDM | TSG#95(Mar. 2022) |  |
| 29.505 | Enhancement on interaction between UDM and UDR | TSG#95(Mar. 2022) |  |
| 29.510 | Potential impact on updating discovery or notification path | TSG#95(Mar. 2022) |  |
| 29.519 | Enhancement on interaction between NEF/PCF and UDR | TSG#95(Mar. 2022) |  |

# 6 Work item Rapporteur(s)

Ishikawa, Hiroshi, NTT DOCOMO, hiroshi.ishikawa.ev (at) nttdocomo.com

# 7 Work item leadership

CT4

# 8 Aspects that involve other WGs

None identified yet

# 9 Supporting Individual Members

{At least 4 supporting Individual Members are needed. There is an expectation that these companies will provide resources to progress the work. Note that having 4 supporting companies is a necessary but not sufficient condition: the usual TSG approval process by consensus is needed for the WID approval}

|  |
| --- |
| Supporting IM name |
| NTT DOCOMO |
| Nokia |
| Nokia Shanghai Bell |
| Ericsson |
| Hewlett Packard Enterprise |
| NEC |