**3GPP TSG-SA2 Meeting #170 *S2-2506820***

**25 - 29 August 2025, Goteborg, Sweden (Revision of S2-2504931)**

**Source: China Mobile**

**Title: Dynamic Network Identity**

**Document for: Approval**

**Agenda Item: 30.1**

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: New WID on Dynamic Network Identity

Acronym: TEI20\_DNI

Unique identifier: TBD

Potential target Release: Rel-20

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  |  | X |  |
| No | 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 Feature

|  |  |
| --- | --- |
| 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) |
| N/A |  |  |  |

### 2.3 Other related Work Items and dependencies

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

# 3 Justification

For Network Identity provided to the UE, there is following:

* After the UE is registered to the 5GC, the AMF is allowed to configure the NITZ (Network Identity and Time Zone) to the UE via UE Configuration Update procedure as defined in 3GPP TS 23.502, and the Network Identity will be presented on the UI according to the 3GPP TS 22.042.

When referring to the definition in 3GPP TS 22.042, the following text is captured as below:

*The Network Operator may change the network identity at any time. However the change of network identity need not force immediate transfer of information to the MS.*

So far, the only way to update the network identity is by OAM via configuration in the AMF, which does not support dynamically update of the network identity at any time, e.g., transferring information via dynamically assigned network identity to the end user behind the UE:

1) In some specific places (e.g., museums, supermarkets, or gyms), the site operators may co-operate with telecom operators to offer pre-designed services (e.g., free of charge for data connection, location-based-services provided by the place) to the local users who have subscribed with the site/telecom operators. To gracefully notify the availability of the special offer to the end user, the Network Identity presented on the mobile phone can be dynamically updated and presented on the terminal device as below, e.g., to present the name of the mall ‘Grand Joy City’ to indicate special offer in this place.



**Operator1**



**Operator1 - Grand Joy City**



To

Upon noticing the specially designed Network Identity, the end user can be aware that the offer provided by the site operator is now available and may trigger the corresponding services when needed.

2) Subscriber Categories has long been adopted by the operators as way for refined operation to enhance the relationship with the end user, which is only reflected in the subscription data in the core network. To achieve explicit perception towards the end users, Network Identity can be dynamically updated and presented based on the tariff plan or loyalty plan as below.



**Operator1 - VIP plan**



**Operator1**



To

Besides the scenarios above, dynamically assigned Network Identity can also be utilized to interact with the end user in many other scenarios. This work item proposes to specify the enhancement of dynamic Network Identity decision within the 5GC, thus the Network Identity on the UE could be updated accordingly.

# 4 Objective

The objective of this work item:

WT-1: Ability of the 5GC to dynamically update the Network Identity to the AMF, i.e. the PCF updates the Network Identity based on operator policy and inputs for PCC decision from surrounding NFs, thus the AMF can provide the dynamic Network Identity to the UE by reusing the current UCU procedure.

NOTE 1: Inter-PLMN cases are not involved in this WID, i.e. the network identity is updated to UE only by the UE’s PLMN holding the UE’s subscription.

NOTE 2: It is assumed that a PLMN, which deployed dynamic update of Network Identity via NAS, also supports the delivery of default Network Identity via NAS when the conditions for the dynamically provided Network Identity are no longer applicable. This is to avoid the possibility of displaying inaccurately at the UE side the dynamic Network Identity, which is only applicable in certain conditions.

## TU estimates and dependencies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Work Tas ID | TU Estimate  (Study) | TU Estimate  (Normative) | RAN Dependency  (Yes/No/Maybe) | Inter Work Tasks Dependency |
| WT-1 |  | 0.5 | No | None |

# 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 |
| TS 23.501 | Support for dynamic network identity mechanism. | SA#108  (Jun 2025) |  |
| TS 23.502 | Network Identity received from the PCF is stored as UE Context in AMF | SA#108  (Jun 2025) |  |
| TS 23.503 | Network Identity management is involved as Access and Mobility management related policy and can be provided by the PCF to the UE via AMF. | SA#108  (Jun 2025) |  |

# 6 Work item Rapporteur(s)

Aihua Li, China Mobile <liaihua@chinamobile.com>

# 7 Work item leadership

SA2

# 8 Aspects that involve other WGs

None identified.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| China Mobile |
| SK Telecom |
| China Unicom |
| CBN |
| Huawei |
| CATT |
| Tencent |
| Ericsson |
| MediaTek Inc |
| AT&T |
|  |