**TSG-CT WG3 Meeting #108-e *C3-201379***

**E-Meeting, 19th – 28th February 2020 (Revision of C3-201045)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.520** | **CR** | **0110** | **rev** | **1** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update description of consumer functionalities | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNA | | | | |  | ***Date:*** | | | 2020-02-17 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | Open issue in subclause 4.2.1.3.2 and subclause 4.3.1.3.2  Editor’s Note: The functionalities of the consumers may be updated based on further stage 2 requirement. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Solve the open issue and update the functional description of NWDAF service consumers | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Unsolved open issue. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.1.3.2; 4.3.1.3.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

\*\*\* 1st Change \*\*\*

##### 4.2.1.3.2 NF Service Consumers

The Policy Control Function (PCF):

- supports (un)subscription to the notification of analytics information for slice load level network status from the NWDAF;

- supports (un)subscription to the notification of analytics information for service experience related network data from the NWDAF;

- supports (un)subscription to the notification of analytics information for network performance from the NWDAF;

- supports (un)subscription to the notification of UE related analytics information from the NWDAF;

- supports (un)subscription to the notification of analytics information for QoS sustainability from NWDAF;

- supports taking one or more above input from NWDAF into consideration for policies on assignment of network resources and/or for traffic steering policies.

NOTE: How this information is used by the PCF is not standardized in this release of the specification.

The Network Slice Selection Function (NSSF):

- supports (un)subscription to the notification of analytics information for slice load level information from NWDAF to determine slice selection.

The Access and Mobility Management Function (AMF):

- supports (un)subscription to the notification of analytics information for SMF load information from NWDAF to determine SMF selection;

- supports (un)subscription to the notification of analytics information for expected UE behavioural information (UE mobility and/or UE communication) from NWDAF to monitor UE behaviour;

- supports (un)subscription to the notification of analytics information for abnormal UE behaviour information from NWDAF to determine adjustment of UE mobility related network parameters to solve the abnormal risk.

The Session Management Function (SMF):

- supports (un)subscription to the notification of analytics information for UPF load information from NWDAF to determine UPF selection;

- supports (un)subscription to the notification of analytics information for expected UE behavioural information (UE mobility and/or UE communication) from NWDAF to monitor UE behaviour;

- supports (un)subscription to the notification of analytics information for abnormal UE behaviour information from NWDAF to determine adjustment of UE mobility related network parameters to solve the abnormal risk.

The Network Exposure Function (NEF):

- supports forwarding UE mobility information from NWDAF to the AF when it is untrusted;

- supports forwarding UE communication information from NWDAF to the AF when it is untrusted;

- supports forwarding expected UE behavioural parameters from NWDAF to the AF when it is untrusted;

- supports forwarding abnormal behaviour information from NWDAF to the AF when it is untrusted;

- supports forwarding user data congestion information from NWDAF to the AF when it is untrusted;

- supports forwarding network performance information from NWDAF to the AF when it is untrusted.

The Application Function (AF):

- supports receiving UE mobility information from NWDAF or via the NEF;

- supports receiving UE communication information from NWDAF or via the NEF;

- supports forwarding expected UE behavioural parameters from NWDAF or via the NEF;

- supports forwarding abnormal behaviour information from NWDAF or via the NEF;

- supports receiving user data congestion information from NWDAF or via the NEF;

- supports receiving network performance information from NWDAF or via the NEF.

The Operation, Administration, and Maintenance (OAM):

- supports receiving observed service experience from NWDAF;

- supports receiving NF load information from NWDAF;

- supports receiving network performance information from NWDAF;

- supports receiving UE mobility information from NWDAF;

- supports receiving UE communication information from NWDAF;

- supports receiving expected UE behaviour information from NWDAF;

- supports receiving abnormal UE behaviour information from NWDAF.

\*\*\* Next Change \*\*\*

##### 4.3.1.3.2 NF Service Consumers

The Policy Control Function (PCF):

- supports taking analytics information for slice load level network status from the NWDAF;

- supports taking analytics information for service experience related network data from the NWDAF;

- supports taking analytics information for network performance from the NWDAF;

- supports taking UE related analytics information from the NWDAF;

- supports taking analytics information for QoS sustainability from NWDAF

- supports taking one or more above input from NWDAF into consideration for policies on assignment of network resources and/or for traffic steering policies.

NOTE: How this information is used by the PCF is not standardized in this release of the specification.

The Network Slice Selection Function (NSSF):

- supports taking slice load level information from NWDAF into consideration for slice selection.

The Access and Mobility Management Function (AMF):

- supports taking SMF load information from NWDAF into consideration for SMF selection.

- supports taking excepted UE behaviour (UE mobility and/or UE behaviour) from NWDAF into consideration for monitoring UE behaviour;

- supports taking abnormal UE behaviour information from NWDAF into consideration for adjustment of UE mobility related network parameters to solve the abnormal risk.

The Session Management Function (SMF):

- supports taking UPF load information from NWDAF into consideration for UPF selection;

- supports taking excepted UE behaviour (UE mobility and/or UE behaviour) from NWDAF into consideration for monitoring UE behaviour;

- supports taking abnormal UE behaviour information from NWDAF into consideration for adjustment of UE mobility related network parameters to solve the abnormal risk.

The Network Exposure Function (NEF):

- supports forwarding UE mobility information from NWDAF to the AF when it is untrusted;

- supports forwarding UE communication information from NWDAF to the AF when it is untrusted;

- supports forwarding expected UE behavioural parameters from NWDAF to the AF when it is untrusted;

- supports forwarding abnormal behaviour information from NWDAF to the AF when it is untrusted;

- supports forwarding user data congestion information from NWDAF to the AF when it is untrusted;

- supports forwarding network performance information from NWDAF to the AF when it is untrusted.

The Application Function (AF):

- supports receiving UE mobility information from NWDAF or via the NEF;

- supports receiving UE communication information from NWDAF or via the NEF;

- supports forwarding expected UE behavioural parameters from NWDAF or via the NEF;

- supports forwarding abnormal behaviour information from NWDAF or via the NEF;

- supports receiving user data congestion information from NWDAF or via the NEF;

- supports receiving network performance information from NWDAF or via the NEF.

The Operation, Administration, and Maintenance (OAM):

- supports receiving observed service experience from NWDAF;

- supports receiving NF load information from NWDAF;

- supports receiving network performance information from NWDAF;

- supports receiving UE mobility information from NWDAF;

- supports receiving UE communication information from NWDAF;

- supports receiving expected UE behaviour information from NWDAF;

- supports receiving abnormal UE behaviour information from NWDAF.

\*\*\* End of Changes \*\*\*