**3GPP TSG-CT WG4 Meeting #110-eC4-223090\_v1**

**E-Meeting, 12th – 20th May 2022**

**Source: Nokia, Nokia Shanghai Bell**

**Title: New SID on NRF API enhancements to avoid signalling and storing of redundant data**

**Document for: Agreement**

**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: Study on NRF API enhancements to avoid signalling and storing of redundant data

Acronym: FS\_NRFe

Unique identifier:

{A number to be provided by MCC at the plenary}

Potential target Release: Rel-18

# 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 …

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

## 2.2 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

NF profiles of NF instances (of same or different NF-type) may share a significant set of common data. Existing NRF APIs do not leverage the concept of shared data, which results in signalling overhead (both in terms of payload size and number of HTTP requests), processing overhead (at the NRF and NFs) and data storage/caching overhead (at NRF and discovering NFs).

The size of each NF profile can become very large (depending on deployments) and the addition of new features in every new 3GPP release will continue to make that size larger. This may also result in limiting the number of candidate producer profiles an NRF can return in a discovery response.

# 4 Objective

It is intended to study potential optimization solutions for the NRF APIs addressing e.g. the following issues:

-avoid duplicate information storage in the NRF due to many NF instances register identical (common) information.

-avoid NF discovery responses containing NF profiles with lots of duplicate information.

-avoid massive data change notification signalling caused by changes of profile data common to many NFs.

The study will investigate potential solutions to mitigate the issues, and will conclude on possible normative work to enhance the NRF APIs.

# 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 |
| Internal TR | 29.xxx | Study on NRF API enhancements to avoid signalling and storing of redundant data | TSG#99 | TSG#100 | Wiehe, Ulrich,  Nokia, Ulrich.wiehe@nokia.com |

|  |  |  |  |
| --- | --- | --- | --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
|  |  |  |  |

# 6 Work item Rapporteur(s)

Wiehe, Ulrich, Nokia, Ulrich.wiehe@nokia.com

# 7 Work item leadership

CT4

# 8 Aspects that involve other WGs

CT4 will liaise with SA5 during the course of the study for feedbacks on the candidate solutions (if they have OAM impacts) and coordination on potential OAM impacts

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Nokia |
| Nokia Shanghai Bell |
|  |
|  |
|  |
|  |