**3GPP TSG-SA5 Meeting #154 *S5-242035d1***

**Changsha, China, 15 - 19 April 2024**

**Source: China Unicom**

**Title: Revised SID on Management of Network Sharing Phase 3**

**Document for: Approval**

**Agenda Item: 6.2.2**

**3GPP TSG-SA Meeting #102SP-231731**

**Edinburgh, UNITED KINGDOM, 11th Dec 2023 - 15th Dec 2023**

**Source: SA WG5**

**Title: New SID: Study on Management of Network Sharing Phase 3**

**Document for: Approval**

**3GPP TSG-SA5 Meeting #152S5-238209**

**Chicago,US, 13-17 November 2023** **(revision of S5-237928)**

**Source: China Unicom, China Telcom, Ericsson, Huawei, ZTE, CMCC**

**Title: New SID on Management of Network Sharing Phase 3**

**Document for: Approval**

**Agenda Item: 6.2.2**

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 Management of Network Sharing Phase3

Acronym: FS\_NetShare\_OAM\_Ph3

Unique identifier: 1020015

Potential target Release: Rel-19

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  | X | 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 …

|  |  |
| --- | --- |
| X | Study |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 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 |
| 950006 | Study on Network Sharing Aspects | SA1 study item |
| 920018 | Study on Management Aspects of 5G Network Sharing |  |
| 950033 | Study on Management Aspect Enhancement of 5G MOCN Network Sharing Phase2 |  |

# 3 Justification

Network sharing is a crucial approach to decrease CAPEX of 5G constructions for operators. As stated in TS 22.261 the increased density of access nodes needed to meet future performance objectives pose considerable challenges in deployment and acquiring spectrum and antenna locations. RAN sharing is seen as a technical solution to these issues. Plenty of previous normative works have been completed during Rel-17 and Rel-18. Several TSGs, including SA1 and SA2, have been keeping track of this topic in Rel-19.

During Rel-18, SA5 has specified new scenarios for MOCN Network sharing, SBMA deployment examples for MOCN management architectures and related NRM enhancements. Some leftover issues for existing MOCN, including management of non-operator-specific configuration or performance measurement in CU level, EE-related, Trace job and collection requirements for POPs, etc., are supposed to be further studied.

Until now TR 22.851 has introduced new types of network sharing scenarios and TS 22.261 has specified service requirements of Indirect Network Sharing.

Clause 6.21.2.2 of TS 22.261 specifies Indirect Network Sharing as follows:

"The 5G system shall be able to support Indirect Network Sharing between the Shared NG-RAN and one or more Participating NG-RAN Operators’ core networks, by means of the connection being routed through the Hosting NG-RAN Operator’s core network."

SA2 has approved the Rel-19 work item of Indirect Network Sharing in SP-240488.

Indirect Network Sharing is different from existing MOCN Network Sharing. Potential effects on OAM are supposed to be studied.

For Rel-19, the following topic are suggested to study in general:

- Investigate the enhancement of existing MOCN Network Sharing;

- Investigate the potential gaps of management supporting Indirect Network Sharing.

# 4 Objective

**WT-1** Trace job and collection requirements for POPs.

**WT-2** Study issues related to Rel-18, such as:

- Study enhancements and scenarios for SBMA to support MOCN

- Study scenarios related to access rights on CRUD operation of MOCN management data

**WT-3** Investigate potential enhancements for Indirect Network Sharing scenarios.

NOTE: WT-3 will not start unless the system enhancements in SA2 related to NS are agreed.

**TU estimates and dependencie**s

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Work Task ID** | **TU Estimate**  **(Study)** | **TU Estimate**  **(Normative)** | **RAN Dependency**  **(Yes/No/Maybe)** | **SA Dependency**  **(Yes/No/Maybe)** | **Non-3GPP Dependency**  **(EE/ZSM/TMF etc.)** |
| WT-1 | 1 | 1 | no | no | no |
| WT-2 | 0.5 | 0.5 | no | no | no |
| WT-3 | 0.5 | 0.5 | no | Maybe(SA1 and SA2) | no |

**Total TU estimates for the study phase: 2**

**Total TU estimates for the normative phase: 2**

**Total TU estimates: 4**

# 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 | 28.878 | Study on Management of Network Sharing Phase3 | TSG#104(June 2024) | TSG#105  (Sept. 2024) | ZhaoNing Wang (China Unicom) |

# 6 Work item Rapporteur(s)

Primary Rapporteur: ZhaoNing Wang (China Unicom), wangzn18@chinaunicom.cn

# 7 Work item leadership

SA5

# 8 Aspects that involve other WGs

SA1 and SA2(related to SA2)

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| China Unicom |
| China Telecom |
| Ericsson |
| Huawei |
| ZTE |
| CATT |
| CMCC |
| Telefónica |
| Deutsche Telekom |