**3GPP TSG-SA5 Meeting #157S5-247225d1**

**Orlando, USA, 18-22 November 2024**

**Source: Ericsson**

**Title: Revised WID on 5G Advanced NRM features phase 3**

**Document for: Approval**

**Agenda Item: 6.2.2**

**3GPP TSG-SA Meeting #106SP-xxxxxx**

**Madrid, ES, 10th Dec 2024 - 13th Dec 2024**

**3GPP TSG-SA Meeting #104 *SP-240875***

**Shanghai, China, 18 - 21 June 2024 (revision of SP-240709)**

**Source: SA WG5**

**Title: Revised WID on 5G Advanced NRM features phase 3**

**Document for: Approval**

**Agenda Item: 6.3.5**

**3GPP TSG-SA5 Meeting #155 *S5-242546***

**Jeju, South Korea, 27 - 31 May 2024** (revision of S5-242034)

**Source: Nokia, Nokia Shanghai Bell**

**Title: Revised WID on 5G Advanced NRM features phase 3**

**Document for: Approval**

**Agenda Item: 6.2.2**

**3GPP TSG-SA5 Meeting #154 *S5-242034***

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

**Source: Samsung**

**Title: Revised WID on 5G Advanced NRM features phase 3**

**Document for: Approval**

**Agenda Item: 6.2.2**

**3GPP TSG-SA Meeting #102SP-231745**

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

**Source: SA WG5**

**Title: New WID on 5G Advanced NRM features phase 3**

**Document for: Approval**

**3GPP TSG-SA5 Meeting #152S5-238262**

**Chicago, US, 13-17 November 2023 revision of S5-238203**

**Source: Nokia, Nokia Shanghai Bell**

**Title: New WID on 5G Advanced NRM features 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: 5G Advanced NRM features phase 3

Acronym: AdNRM\_Ph3

Unique identifier: 1020027

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 …

|  |  |
| --- | --- |
|  | Study  |
| X | Normative – Stage 1 |
| X | Normative – Stage 2 |
| X | 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 | N/A | N/A | N/A |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 950031 | 5G Advanced NRM features phase 2 |  |
| 860040 | Further enhancements on MIMO for NR (NR\_feMIMO) |  |
| 980059 | CT4 aspects of 5G\_eLCS\_Ph3 |  |
| 990067 | CT4 aspects of Ranging\_SL |  |
| 990055 | Architecture for enabling Edge Applications | Defines EDEGAPP architecture |

# 3 Justification

Network Resource Model (NRM), which is standardized management and service model, is essential to support new features of NR and 5GC in Rel-19 and Rel-18. E.g.

* SA2/CT4: Architecture enhancements for the support of 5G System Enhancement, aligning information elements on 5GC NF etc.
* RAN: Further Enhancement on MIMO, etc.
* There are continuous enhancements on GSMA NG.116, which may require enhancement for possible misalignments and Service/Slice Profile and inconsistencies in Network slice NRM.

On the other hand, there’s leftover in Rel18 NRM, stage 3 enhancement, generic NRM enhancement etc.

The NRM information model design shall consider the capability the provisioning operations (as defined in TS 28.532).

EDGEAPP has evolved with additional features in Rel-19 that need management support. The edge NRM need to be enhanced to those features.

The Generic RAN NRM (TS 28.662) currently does not cover NR. Enhancements to the Generic RAN NRM are required to include NR. The NR NRM can then be updated to reuse the Generic NRM content ensuring consistency for LTE, NR, and multi-RAT deployments.

# 4 Objective

* WT-1: Enhancement for 5GC NRM to support 5GC features (including but not limited to 5G\_eLCS\_Ph3, ranging based services).
* WT-2: Enhancement for NR NRM to support NR features (note: to be updated based on RAN Rel19 progress).
* WT-3: Enhancement for NRM fragment related to misalignment with NG.116.
* WT-4: Generic NRM enhancement.
* WT-5: Stage 3 enhancement.
* WT-6: Enhancement for edge NRM to support new EDGEAPP features defined in Rel-19.
* WT-7: Update Generic RAN NRM to support NR including updates to sector equipment function and antenna function definitions to support multi-RAT deployments.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Work Task ID** | **TU Estimate (Study)** | **TU Estimate (Normative)** | **RAN Dependency (Yes/No/Maybe)** | **SA/CT Dependency (Yes/No/Maybe)** | **Non-3Gpp Dependency****(Yes/No/Maybe)** |
| WT-1 | 0 | 1.2 | Maybe | Yes | No |
| WT-2 | 0 | 1 | Yes | Maybe | No |
| WT-3 | 0 | 0.3 | Maybe | Maybe | Maybe |
| WT-4 | 0 | 0.5 | No | No | No |
| WT-5 | 0 | 0.5 | No | No | No |
| WT-6 | 0 | 1 | No | Yes | No |
| WT-7 | 0 | 0.25 | No | No | No |

**Total TU estimates for the study phase: 0**

**Total TU estimates for the normative phase: 4.75**

**Total TU estimates: 4.75**

# 5 Expected Output and Time scale

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 28.540 | Add requirements to support REL19 features | SA#108(Jun 2025) | This TS covers stages 1. |
| 28.541 | Add NRM Stage 2 and Stage 3 definitions to support REL19 features. Update content affected by updates to 28.662 for WT-7. | SA#108(Jun 2025) | This TS covers both stages 2 and 3. |
| 28.622 | Minor enhancements | SA#108(Jun 2025) | This TS covers stages 2. |
| 28.623 | Minor enhancements | SA#108(Jun 2025) | This TS covers stages 3. |
| 28.538 | Add NRM Stage 2 and Stage 3 definitions to support REL19 EDGEAPP features. | SA#108(Jun 2025) | This TS covers stages 1, 2 and 3. |
| 28.662 | Add support for NR and SBMA deployments. Update the sector equipment function and antenna function definitions to support NR and multi-RAT deployments. | SA#108(Jun 2025) | This TS covers stage 2. |

# 6 Work item Rapporteur(s)

Primary Rapporteur: Sean Sun (Nokia), sean.sun@nokia-sbell.com

Secondary Rapporteur: Shi Xiaoli (Huawei), (shixiaoli@huawei.com)

# 7 Work item leadership

*SA5*

# 8 Aspects that involve other WGs

Potential coordination: providing network resource model for network features defined in SA2, SA6, CT4, RAN3 and RAN4.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Nokia |
| Nokia Shanghai Bell |
| KDDI |
| TELUS |
| Samsung |
| CATT |
| Ericsson |
| Deutsche Telekom |
| Verizon |
| Telefónica |
| Huawei |
| P.I. Works |
| NEC |

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