**3GPP TSG-SA5 Meeting #146-bis-e *S5-231029***

e-meeting, January 16 – 19, 2022 *(revision of S5-23abcd)*

**Source: Intel**

**Title: New WID on measurement data collection to support RAN intelligence**

**Document for: Approval**

**Agenda Item: 6.2**

3GPP™ Work Item Description

nformation 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: Measurement data collection to support RAN intelligence

Acronym: MEDACO\_RAN

Unique identifier:

Potential target Release: *{Rel-18}*

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  | X |  |  |
| No |  | X |  | X |  |
| Don't know | X |  |  |  | X |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

|  |  |
| --- | --- |
| X | Feature |
|  | Building Block |
|  | *Work Task* |
|  | 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 |
| 960024 | Study on measurement data collection to support RAN intelligence | The study prior to this normative works |
| 880076 | Study on enhancement for data collection for NR and ENDC | Functional framework for RAN intelligence |
| 941110 | Artificial Intelligence (AI)/Machine Learning (ML) for NG-RAN | Normative works of TR 37.817 “Study on enhancement for Data Collection for NR and EN-DC” |

**Dependency on non-3GPP (draft) specification:**

# 3 Justification

The Rel-18 study in TR 28.838 describes the use cases with derived requirements and potential solutions for collecting measurement data required for supporting RAN3 defined AI/ML functions in OAM. The measurements include data collected from UEs, serving nodes, and neighbouring nodes. A Rel. 18 WI RP-213602 “New WI: Artificial Intelligence (AI)/Machine Learning (ML) for NG-RAN” is to specify the data required by AI/ML-based RAN intelligence functions, including:

* + Network Energy Saving
	+ Load Balancing
	+ Mobility Optimization

As per recommendation from the Rel-18 study in TR 28.838, this work item is intended to start the normative work to define the measurements required by RAN3 defined AI/ML training functions to support intelligent RAN use cases.

# 4 Objective

The objectives of this work item are to:

* Define the performance measurements required to support AI/ML enabled NG RAN where the measurements are to be used as input to RAN3 defined AI/ML functions residing in OAM. The measurements include data collected from UE, serving nodes, and neighbouring nodes that are to support the following RAN intelligence functions:
	+ Network Energy Saving
	+ Load Balancing
	+ Mobility Optimization

This study may need to cooperate with RAN3.

# 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 |
|  |  |  |  |  |  |

{Note 1: Only TSs may contain normative provisions. Study Items shall create or impact only TRs.
"Internal TR" is intended for 3GPP internal use only whereas "External TR" may be transposed by OPs.}

{Note 2: The first listed Rapporteur is the specification primary Rapporteur. Secondary Rapporteur(s) are possible for particular aspect(s) of the TS/TR. In this case, their responsibility has to be provided as "Remarks".}

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 28.552 | Define new and/or enhance existing 5G performance measurements to support RAN intelligence | Dec 2023 (SA#102) |  |
| 28.554 | Add new and/or enhance existing 5G KPIs to support RAN intelligence | Dec 2023 (SA#102) |  |

# 6 Work item Rapporteur(s)

Chou, Joey, Intel (joey<dot>chou<at>intel<dot>com): primary rapporteur and rapporteur for the new TR.

Qi Sun, CMCC (sunqiyjy<at>chinamobile<dot>com): rapporteur for coordination with RAN3 WGs (e.g., input and output data defined in RAN3’s specifications)

# 7 Work item leadership

SA WG5.

# 8 Aspects that involve other WGs

May need cooperation with RAN3 WG

# 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| Intel |
| CMCC |
| Verizon |
| AT&T |
|  |
|  |