**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

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: 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) |
| FS\_MEDACO\_RAN | SA5 | 960024 | Study on measurement data collection to support RAN intelligence |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 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

|  |
| --- |
| 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 specifications)

# 7 Work item leadership

SA WG5.

# 8 Aspects that involve other WGs

May need cooperation with RAN3 WGs

# 9 Supporting Individual Members

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