**3GPP TSG-SA5 Meeting #146-bis-e *S5-231079***

**e-meeting, 16-19 January 2023**

**Source: China Unicom, CATT**

**Title: New WID on Management Aspects of IoT NTN Enhancement**

**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: Management Aspects of IoT NTN Enhancement

## Acronym: OAM\_IoT\_NTN

## Unique identifier: *{A number to be provided by MCC at the plenary}*

Potential target Release: {Rel-18}.

Note that this field above indicates the proposed Release at the time of submission of the WID to TSG approval. It can later be changed without a need to revise the WID. The updated target Release is indicated in the Work Plan.

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  |  | X | X |  |
| **No** | 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 |
| X | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
|  |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| 830025 | Study on management and orchestration aspects with integrated satellite components in a 5G network(FS\_5GSAT\_MO) | Use solutions of this SID about specifying scenarios. |
| 920069 | NB-IoT/eMTC support for Non-Terrestrial Networks | Use IoT NTN solutions of this WID |
| 800026 | Study on architecture aspects for using satellite access in 5G (FS\_5GSAT\_ARCH) | specify the key issues associated with service and network management of NR NTN enhancements and potential solutions |
| 960026 | Study on Management Aspects of IoT NTN Enhancements(FS\_IoT\_NTN) | specify the key issues associated with service and network management of IoT NTN enhancements and potential solutions |
| 860046 | Solutions for NR to support non-terrestrial networks (NTN) | Use solutions of this WID to specify NTN |

## 3 Justification

SA5 has conducted a study on management and orchestration aspects to support IoT Non-Terrestrial Networks. FS\_IoT\_NTN(see SP-220490) investigates the key issues associated with service and network management of an IoT NTN and potential solutions.The results are reflected in TR 28.841, including:

- Reference management architectures and scenarios for integrated satellite IoT components.

- Use cases and solutions related to the general management of satellite IoT with transparent satellite components.

- Use cases and solutions related to the monitoring of satellite IoT.

The solutions of the feature have impact on some specifications such as TS 28.541, TS 28.552, TS 28.554. The required changes on the relevant specifications shall be made as part of this WID appropriately to enable to specify the solutions for the existing and new topics to be addressed.

Based on the above points, a new work item is proposed to carry the conclusion of the solutions form study items and specify the requirements and solutions enabling Management Aspects of IoT to support non-terrestrial networks.

## 4 Objective

The objectives of the work item are as follows:

1. Specifying the concept, use case and requirements associated with business roles and service for 5G network management with integrated satellite IoT component(s),
2. Specifying appropriate performance measurements and KPIs for IoT NTN.

This work may require cooperation with 3GPP RAN WGs.

## 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 |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Impacted existing TS/TR** | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
| TS 28.541 | Update network slice managements for the NTN 5G system | TSG#102 |  |
| TS 28.552 | Update performance measurements for NTN | TSG#102 |  |
| TS 28.554 | Update KPI for NTN | TSG#102 |  |

## 6 Work item Rapporteur(s)

Sun Mingrui, China Unicom, [sunmr19@chinaunicom.cn](mailto:sunmr19@chinaunicom.cn) : rapporteur for use case and requirements for NTN management;

Shu Min, CATT, [shumin@catt.cn](mailto:shumin@catt.cn): rapporteur for provisioning and performance assurance for supporting NTN management.

## 7 Work item leadership

SA WG5

## 8 Aspects that involve other WGs

## Co-ordination with SA WG1, SA WG2, RAN WG3 where appropriate.

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| CU |
| CATT |
| ZTE |
| HW |
| Intel |
| Alibaba group |