**3GPP TSG-SA5 Meeting #157 *S5-246130d3***

**Hyderabad, India, 14 - 18 October 2024**

**Source: Ericsson**

**Title: New WID on management of IAB nodes**

**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 of IAB nodes

Acronym: NR\_MOBILE\_IAB\_OAM

Unique identifier:

Potential target Release: Rel-19

# 1 Impacts

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

# 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

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| FS\_NR\_mobile\_IAB\_OAM | SA WG5 | 1020014 | Study on management of IAB nodes |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 941009 | Mobile IAB (Integrated Access and Backhaul) for NR | RAN3, RAN2 and RAN4 Rel-18 work item |

# 3 Justification

Integrated access and backhaul (IAB) architecture and basic RAN functionalities were defined by SA WGs and RAN WGs since Rel-16. The further enhancement including the support of IAB node mobility and MBSR (Mobile Base Station Relay) functions were added in Rel-17 and Rel-18. As of today, there are no SA5 specifications specify the impact to 3GPP management system for the management of IAB nodes.

SA5 has conducted a study on management of IAB nodes. The following aspects have been studied and described in TR 28.875:

* Use cases, requirements, and solutions to support IAB node OAM connectivity at power up and during mobility.
* Use cases, requirements, and solutions to support IAB node configuration update during mobility.

A new specification is needed to capture above aspects to support management of IAB nodes.

# 4 Objective

The objectives of this work item are to:

* WT-1 Specify the impact to 3GPP management system to support IAB node connectivity to OAM system:
	+ Specify the use cases that IAB node connect to OAM system at power up and in mobility scenarios.
	+ Specify the requirements for the 3GPP management system to support IAB node OAM connectivity based on its location.
	+ Specify the reuse of existing notification mechanism to support IAB node to obtain the IP configuration for OAM connectivity, and impact to Plug and Connect (PnC) procedures.
	+ Specify the impact to Network Resource Model (NRM) for the location information that supporting notification mechanism for IAB node OAM connectivity.
* WT-2 Specify the impact to 3GPP management system to support IAB node configuration:
	+ Specify the use cases for 3GPP management system to support IAB node configuration update during mobility.
	+ Specify the requirements for the 3GPP management system to support IAB node configuration update based on its location.
	+ Specify the reuse of existing notification mechanism to support IAB node configuration update.
	+ Specify the impact to Network Resource Model (NRM) for the location information that supporting notification mechanism for IAB node configuration update.
	+ Specify the potential impact to NRM to support NCI reconfiguration by IAB-donor-CU in case of NCI collision.

TU estimates and dependencies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Work Task ID** | **TU Estimate****(Study)** | **TU Estimate****(Normative)** | **RAN Dependency****(Yes/No/Maybe)**  | **SA Dependency****(Yes/No/Maybe)** | **Non-3GPP Dependency** |
| WT-1 |  | 1.5 | No | No  | No |
| WT-2 |  | 1 | No | No | No |

# 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 {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| TS 28.541 | Update NRM to support location information that supporting notification mechanism, and potential update to support NCI reconfiguration by IAB-donor-CU in case of NCI collision in F1 setup | SA#109 |  |
| TS 28.540 | Add NRM requirement to support location information that supporting notification mechanism | SA#109 |  |
| TS 28.531 | Add requirement, use cases, procedures to support IAB node configuration update | SA#109 |  |
| TS 28.314 | Add requirement to support IAB OAM connectivity | SA#109 |  |
| TS 28.315 | Add use cases and procedures to support IAB OAM connectivity | SA#109 |  |

# 6 Work item Rapporteur(s)

# 7 Work item leadership

SA WG5

# 8 Aspects that involve other WGs

Possible RAN3.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Ericsson |
| AT&T |
|  |
|  |
|  |
|  |