**3GPP TSG-SA5 Meeting #156 *S5-244857d1***

**Maastricht , NL, 19 - 23 Aug 2024**

**Source: China Unicom**

**Title: Add use case, requirements and solution on** **performance management support for Indirect Network Sharing**

**Document for: Approval**

**Agenda Item: 6.19.19**

# 1 Decision/action requested

***The group is asked to discuss and approval.***

# 2 References

[1] 3GPP TS 23.501: "System architecture for the 5G System (5GS)".

[2] 3GPP TS 22.261: "Service requirements for the 5G system".

[3] 3GPP TS 32.130: "Network sharing; Concepts and requirements".

# 3 Rationale

For Indirect Network Sharing, to observe the performance of different operators, similar with other network sharing scenarios, the performance measurement in PLMN granularity is supposed to be supported.

# 4 Detailed proposal

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| **1st Change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.261: "Service requirements for the 5G system".

[3] 3GPP TR 22.851: "Feasibility Study on Network Sharing Aspect".

[4] 3GPP TS 32.130: "Network sharing; Concepts and requirements".

[5] 3GPP TR 28.835: "Study on Management Aspect Enhancement of 5G MOCN Network Sharing Phase2".

[6] 3GPP TS 28.622: "Generic Network Resource Model (NRM);Integration Reference Point (IRP); Information Service (IS)".

[7] 3GPP TS 28.533: "Management and orchestration; Architecture framework".

[x] 3GPP TS 28.552: "5G performance measurements".

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| **2nd Change** |

# 5 Use Cases

## 5.X Use Case#X: performance management support for Indirect Network Sharing

### 5.X.1 Description

According to TS 22.261[y], Indirect Network Sharing is defined as follow:

"a type of NG-RAN Sharing in which the communication between the Shared NG-RAN and the Participating Operator’s core network is routed through the Hosting NG-RAN Operator’s core network ".

According to TS 23.501[y], Indirect Network Sharing is supported as follow:

" The communication between the shared RAN and the core network of the participating operator is routed through the core network of the hosting operator that connects to the shared RAN.".

Therefore, performance measurement of Indirect Network Sharing includes RAN and CN parts and both parts require the performance measurement in the PLMN granularity.

### 5.X.2 Potential requirements

**REQ-NetShare-RAN-Perf\_Req-1:** The 3GPP management system of the MOP should have the capability to collect and report some measurements from RAN in PLMN granularity for each POP.

**REQ-NetShare-CN-Perf\_Req-2:** The 3GPP management system of the MOP should have the capability to collect and report some measurements from NFs of CN in PLMN granularity for each POP.

### 5.X.3 Potential solutions

Following are the enhancements to support the requirements above in TS 28.552[y].

**Enhancement Aspect:**  add PLMN granularity support for the performance measurement of related NFs in the Indirect Network Sharing Scenario (e.g., AMF, SMF) of the core network, including:

* Mean number of registered subscribersMaximum number of registered subscribers
* Number of initial registration requests
* Number of PDU sessions (Mean)
* Number of PDU sessions (Maximum)
* Number of PDU session creation requests
* Number of successful PDU session creations
* Number of failed PDU session creations

Following aspects needs to be added or enhanced in TS 32.130[a]:

- Add descriptions of potential requirements performance management support for Indirect Network Sharing

### 5.X.4 Evaluation of potential solutions

TBD

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| **End of Change** |