**3GPP TSG-SA5 Meeting #154 *S5-242124d1***

**Changsha, China, 15 -19 April 2024**

**Source: China Unicom**

**Title: Add use case and potential requirement on metric of RedCap RRC connection number**

**Document for: Approval**

**Agenda Item: 6.19.17**

# 1 Decision/action requested

***The group is asked to approve the proposal.***

# 2 References

[1] 3GPP TR 28.876: “Management aspects of RedCap feature”

[2] 3GPP TS 28.552: “Management and orchestration;5G performance measurements”

[3] 3GPP TS 28.554: "Management and orchestration; 5G end to end Key Performance Indicators (KPI)"

# 3 Rationale

It was approved in SP-231734 to study the management of aspects of RedCap features. One of the working taks is to investigate the measurements and KPIs to evaluate the performance of NR networks delivering communication services for RedCap UEs. In order to achieve the objective mentioned above, issue on metric of RedCap RRC connection number is proposed in this contribution.

# 4 Detailed proposal

This contribution proposes to make the following changes in [1].

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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".

[X] 3GPP TS 22.104: " Technical Specification Group Services and System Aspects; Service requirements for cyber-physical control applications in vertical domains;"

[Y] 3GPP TR 22.804: " Technical Specification Group Services and System Aspects; Study on Communication for Automation in Vertical Domains;"

[Z] 3GPP TS 28.552: " Technical Specification Group Services and System Aspects; Management and orchestration; 5G performance measurements"

[W] 3GPP TS 38.875: " Technical Specification Group Radio Access Network; Study on support of reduced capability NR devices"

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| **2nd Change** |

5.X Use case #X: Metric of RedCap RRC connection number

5.X.1 Description

Industry sensors scenario is a typical use case of RedCap technology. It’s desirable in this scenario to connect different kinds of sensors to 5G network as mentioned in TR 38.875[W]. According to TS 22.104[X] and TR 22.804[Y], this use case has a requirement on UE density to ensure enough number of devices enjoying communication service.

RRC connection number is an indispensable performance metric for 5G NR, indicating the number of UEs connected to gNB simultaneously. It can reflect network resource load and performance to operators. Furthermore, it also indicates to service consumers whether the target for coverage and access UE number are satisfied.

The current measurements related to RRC connection number specified in TS 28.552[Z] are all performed without recognizing the UE type. Therefore, it’s difficult to accurately determine the number of RedCap UEs connected to NR, especially when different type of UEs co-exist. Consequently, it is important to investigate how to define metric for RRC connection number of RedCap UEs. It will assist operators in understanding the resource load brought by RedCap and enable dynamic resource allocation.

5.X.2 Potential requirements

**REQ-RedCap\_Perf\_RRCNum:** The MnS shall have capability to provide measurements or KPIs related to RedCap RRC connection number in NR network.

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| **End of changes** |