**3GPP TSG-SA5 Meeting #154 *S5-242096***

Changsha, China, 15 – 19 April 2024

**Source: Ericsson**

**Title: pCR TR 28.873 Unique Trace/MDT/QoE Identity**

**Document for: Approval**

**Agenda Item: 6.19.11**

# 1 Decision/action requested

***For agreement and approval***

# 2 References

[1] TR 28.873 " Study on data management, subscriptions and reporting"

[2] SP-231732 "Study on data management regarding subscriptions and reporting"

[3] 3GPP TS 32.421: "Telecommunication management; Subscriber and equipment trace; Trace concepts and requirements".

[4] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".

[5] 3GPP TS 28.404: "Telecommunication management;Quality of Experience (QoE) measurement collection; Concepts, use cases and requirements".

[6] 3GPP TS 28.405: "Telecommunication management; Quality of Experience (QoE) measurement collection; Control and configuration".

[7] 3GPP TS 28.550: "Management and orchestration; Performance assurance"

[8] 3GPP TS 28.622: "Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS) ".

# 3 Rationale

This contribution proposes to add the Trace/MDT/QoE Identity uniqueness use case for TR 28.873 based on SP-231732 [2].

Performance measurement collection, QoE measurement collection and collection of trace and MDT measurement data are ordered from the management system. The purposes are e.g. calculation of KPIs, testing of new UEs, testing of new services, understanding the performance of the network etc.

For trace and MDT use cases are documented in 3GPP TS 32.421[3] and for QoE measurement collection use cases are documented in 3GPP TS 28.404[5].

High level descriptions of Trace and MDT are documented in 3GPP TS 32.422[4] and for QoE measurement collection descriptions are documented in 3GPP TS 28.405[6].

Performance measurement collection is documented in 3GPP TS 28.550[7].

Trace Reference is specified in 3GPP TS 28.622[8], and it shall be unique.

The number of automation functions are increasing in the 3GPP system. There are domain specific and interdomain entities that are performing automated functionality. All of these require data from the NFs and/or 3GPP management system. Several subscription functions are remaining from the time when it was few consumers. With many different consumers the uniqueness of the measurement job identities cannot be guaranteed.

Example:

Consumer A (e.g. NWDAF) request MDT data “1”, “2”, “5”, and “22” in Cell “a” and want the collected data to be sent to itself.

Consumer B (e.g. a customer care central) request MDT data “1”, “5” and “22” in Cell “a” and want the collected data to be sent to second line support.

These two requests are received within a short time difference.

As the two consumers are different and do not have any possibility to correlate the value for the Trace Reference, both use the value “123”, which will lead to that the base station supporting Cell “a” cannot differ on which collected data shall be sent where.

QoE and trace/MDT data is now also used by automated assurance, analytics and Self Organizing Network functions. These functions can reside in the management system or in the traffic system. The measurement job identity needs to be unique per PLMN, which means that automated functions within the traffic system needs to be able to have measurement job identity for QoE measurement collection and trace/MDT that do not collide with the measurement job identity that are used by the management system.

In the existing solutions there is no support for not getting colliding measurement job identity for Trace job created in the management system and the traffic system.

In the large networks with more than one management system, the measurement job identity needs to be unique within a management system. To ensure uniqueness of measurement job identity within PLMN in such networks an identifier for the relevant management system can be added to the measurement job identity.

The example of this unique measurement job identity, which is used for all management and orchestration jobs, are:

* traceReference in TraceJob
* qoEReference in QMCJob
* jobId in PerfMetricJob, TraceJob, and QMCJob

Examples of consumers are: SLS assurance function, Centralized coverage and capacity optimization function, Distributed load balancing function, Operator technician and Customer care center.

Examples of producers are: Base station, AMF-node, UDR-node and Element manager.

This study is focusing on solutions on how to get unique measurement job identifiers for performance measurement, Trace, MDT, and QoE subscriptions/requests within a PLMN from different consumers.

# 4 Detailed proposals

\*\*\* START OF NEXT 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 28.622: “Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)”.

It is preferred that the reference to 21.905 be the first in the list.

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## 5.x Use case#<X>: Trace/MDT/QoE Identity uniqueness

## 5.x.1 Description

In the current 3GPP system, the number of automation functions are increasing. There are domain specific entities and interdomain entities. Both entities are performing automated functionality. All of these require collecting measurement data from the NFs and/or 3GPP management system. A unique identity is required to identify the measurement collection requests to avoid collisions. The example of this unique measurement job identity, which is used for all management and orchestration jobs, are:

* traceReference in TraceJob, refer to 3GPP TS28.622[x]
* qoEReference in QMCJob, refer to 3GPP TS28.622[x]
* jobId in PerfMetricJob, TraceJob, and QMCJob, refer to 3GPP TS28.622[x]

With the large number of different consumers the uniqueness of the measurement job identities cannot be guaranteed. One example is:

*Consumer A (e.g., NWDAF) request MDT data “1”, “2”, “5”, and “22” in Cell “a” and want the collected data to be sent to itself.*

*Consumer B (e.g. a customer care central) request MDT data “1”, “5” and “22” in Cell “a” and want the collected data to be sent to second line support.*

*These two requests are received within a short time difference.*

*As the two consumers are different and do not have any possibility to correlate the value for the Trace Reference, both use the value “123”, which will lead to that the base station supporting Cell “a” cannot differ on which collected data shall be sent where.*

The examples of consumer are: SLS assurance function, Centralized coverage and capacity optimization function, Distributed load balancing function, Operator technician and Customer care center.

The examples of producer are: Base station, AMF-node, UDR-node and Element manager.

## 5.x.2 Potential requirements

REQ-PM-Y1: The identity used in a measurement job shall be globally unique between consumers and producers.

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