**S5-242008**

**3GPP TSG-SA5 Meeting #154 *revision of* S5-241440**

Changsha, China, 15 - 19 April 2024

**Source: Nokia**

**Title: Rel-19 pCR TR 28.879 Add Concepts and background for Exposure of Management Services in Clause 4**

**Document for: Approval**

**Agenda Item: 6.19.21**

# 1 Decision/action requested

***The group is asked to discuss and approve the proposals.***

# 2 References

[1] 3GPP TR 28.879: “Study on OAM for service management and exposure to external consumers”.

# 3 Rationale

This pCR proposes to add the following changes to clause 2 and add clause 4.X to clause 4 of TR 28.879[1].

# 4 Detailed proposal

It is proposed to make the following changes in TR 28.879.

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| **First 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*.

[X] 3GPP TS 28.533: “Management and orchestration; Architecture Framework”.

[Y] 3GPP TS 28.662: "Telecommunication management; Generic Radio Access Network (RAN) Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS) ".

[Z] 3GPP TS 28.537: “Management and orchestration; Management capabilities”.

[K] 3GPP TS 23.222: "Functional architecture and information flows to support Common API Framework for 3GPP Northbound APIs; Stage 2"

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| **Second Change** |

# 3 Definitions of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

**MnS consumer:** defined in TS 28.533[X].

**MnS producer:** defined in TS 28.533[X].

## 3.2 Symbols

For the purposes of the present document, the following symbols apply:

<symbol> <Explanation>

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

MnS Management Service (see TS28.533[X])

MnF Management Function (see TS28.533[X])

NOP Network Operator

# 4 Concepts and Background

## 4.X Exposure of management services

### 4.X.1 Overview

The present document studies a generic approach to expose management services to external MnS consumers. A management service (MnS) is identified by different component types, i.e., MnS component type A (management operations or notifications), MnS component type B (managed objects), and MnS component type C (performance and fault information) (as defined in clause 4.2 TS28533[Z]). Accordingly, when an external MnS consumer wants to consume management services, depending on the service-level agreements with the NOP, the external MnS consumer will be assigned role(s) within the management system. These roles will determine what MnS component type (in this case whether they can access component type B or C and their associated information) of the MnS they can access. Subsequently, what operations they can or cannot perform on the MnS (in this case what aspects of MnS component A are allowed or not). exposed management service may differ as shown in Figure 4.X.1-1. For example, considering Figure 4.X.1-1, the MnF A produces MnS A that is directly consumed by the internal MnS consumer and the external MnS consumers 1 and 2 respectively. Depending on the roles assigned to the external MnS consumers 1 and 2, it’s possible that:

* They can access the same or different managed objects under the management scope of MnS A producer.
* The operations (i.e., CRUD) or notifications that they can perform on the accessed managed objects are the same or different.
* They can or cannot access the same or different performance and fault information associated with the accessible managed objects of MnS A.

A diagram of a diagram

Description automatically generated

Figure 4.X.1-1: Example of Exposing Management Services concept.

To provide a MnS to be consumed, it first needs to be published to the MnS discovery producer entity and then the MnS will be available to be discovered by the external MnS consumers. Moreover, authentication and authorization mechanisms need to be applied to ensure that the external MnS consumers only have access to the allowed MnS component type A, B, or C for the MnS.

### 4.X.2 Background

A MnS can be available (i.e., instantiated, and ready to be exposed) and hence discoverable by internal and external MnS consumers. An available MnS is described by the MnsInfo IOC (see clause 4.3.42 of TS 28.622 [X]). The available MnSs in the management system can be found in the MnSRegistry IOC (see clause 4.3.41 of TS 28.622 [X]) or in the MnS discovery producer (see clause 5 in TS 28.537 [Y]) which currently is the MnS registry. However, the problem is that MnS registry doesn’t have the required capabilities to support discovery of internal or external MnS consumers. Accordingly, for this study, we will study how the external MnS consumer can leverage an external exposure framework (i.e., the CAPIF framework [K]) to access and consume management services.

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| **End of Changes** |