**3GPP TSG-SA5 Meeting #155 *S5-243252***

Jeju, South Korea, 27 - 31 May 2024 revision of S5-242877

**Source: Nokia**

**Title: Rel-19 pCR TR 28.879 Add use case for publishing management services to the CCF**

**Document for: Approval**

**Agenda Item: 6.19.21**

# 1 Decision/action requested

***In this box give a very clear / short /concise statement of what is wanted.***

# 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 a new use case, i.e., the publishing of management services in clause 5.1 of TR 28.879 [1].

# 4 Detailed proposal

It is proposed that the following changes be made in clause 5.1 of TR 28.879 [1].

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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*.

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

[2] 3GPP TS 28.533: "Management and orchestration; Architecture Framework".

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

[4] 3GPP TS 28.537: "Management and orchestration; Management capabilities".

[5] 3GPP TS 23.222: "Functional architecture and information flows to support Common API Framework for 3GPP Northbound APIs; Stage 2"

[6] SP-231669: "LS on collaboration and alignment of 3GPP defined application enablers with GSMA Open Gateway".

[7] 3GPP [TS 23.434](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3587): "Service Enabler Architecture Layer for Verticals (SEAL); Functional architecture and information flows".

[8] 3GPP [TS 23.255](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3843): "Application layer support for Vehicle-to-Everything (V2X) services; Functional architecture and information flows".

[9] 3GPP [TS 23.286](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3562): "Application layer support for Uncrewed Aerial Systems (UAS) services; Functional architecture and information flows".

[10] 3GPP [TS 23.545](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3948): "Application layer support for Factories of the Future (FF) ".

[11] 3GPP [TS 23.542](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=4156): "Application layer support for Personal IoT Networks".

[12] 3GPP [TS 23.554](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3818): "Application architecture for MSGin5G Service; Stage 2".

[13] 3GPP [TS 29.222](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3450): "Common API Framework for 3GPP Northbound APIs; stage 3".

[14] 3GPP [TS 33.122](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3420): "Security aspects of Common API Framework (CAPIF) for 3GPP Northbound APIs".

[15] "The Ecosystem for Open Gateway NaaS API Development", white paper, June 2023 [[link](https://www.gsma.com/solutions-and-impact/gsma-open-gateway/wp-content/uploads/2023/05/The-Ecosystem-for-Open-Gateway-NaaS-API-development.pdf)]

[16] "GSMA Operator Platform Group – Requirements and Architecture", version 5.0, July 2023 [[link](https://www.gsma.com/futurenetworks/wp-content/uploads/2023/07/OPG.02-v5.0-Operator-Platform-Requirements-and-Architecture.pdf)]

[17] 3GPP TS 28.532: "Management and orchestration; Generic management services".

[18] 3GPP [TS 28.531](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3274): "Management and orchestration; Provisioning"

[19] 3GPP [TS 23.435](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=4092): "Procedures for Network Slice Capability Exposure for Application Layer Enablement Service"

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| **Second Change** |

## 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].

5GC 5G Core

CAPIF Common API Framework

CCF CAPIF Core Function

CSP Communication Service Provider

EAS Edge Application Server

ECS Edge Configuration Server

EDN Edge Data Network

EEC Edge Enabler Client

EES Edge Enabler Server

FF Factories of the Future

GSMA GSM Association

MnS Management Service (see TS28.533[2])

NaaS Network as a Service

NEF Network Exposure Function

NOP Network Operator

NSACF Network Slice Access Control Function

NSCE Network Slice Capability Enablement

NWDAF Network Data Analytics Function

OAM Operation, Administration and Maintenance

OPAG Operator Platform API Group

OPG Operator Platform Group

SEAL Service Enabler Abstraction Layer

UAS Uncrewed Aerial Systems

V2X Vehicle-to-Everything

VAE Vertical App Enabler

WAS Whole Agreement Services

WG Working Group

APF API publishing function

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| **Third Change** |

## 5.1 Exposure of management services

### 5.1.Y Use case #<Y>: Publishing of management services to the CCF

#### 5.1.Y.1 Description

To publish management services for consumption by external MnS consumers leveraging the CAPIF framework, the following should occur:

* First, the management services are translated into service APIs that can be published to the CCF.
* Next, the translated management services (now service APIs) will be published in the CCF.

Currently, the publishing of service APIs in the CAPIF framework is done by the CAPIF API publishing function (CAPIF APF) (defined in clause 6.3.5 in TS 23.222[5]). In the management system, there is a need to determine which management entity (MnS registry or MnS producer) will play this role. This management entity should be able to support the CAPIF-4 interface (defined in clause 6.4.7 in TS 23.222[5]). In addition, this management entity should be able to determine whether a particular MnS can be published to the CCF.

Considering that MnSRegistry IOC (see clause 4.3.41 in TS 28.622[3]) is a managed object, then this managed object is not capable of either the translation of management services into service API or the actual publishing of the translated management service (now service API) to the CCF. Accordingly, the MnSRegistry IOC can not play the role of the CAPIF APF. There is an option of defining a new management function (MnF) that consumes the MnSInfo IOCs data (see clause 4.3.42 in TS 28.622[3]) from MnSRegistry IOC and, in turn, takes on the role of APF and publishes the management services to the CCF via the CAPIF-4 interface. This option has the advantage of simultaneously publishing all the management services to the CCF. However, considering SBMA principles, the definition of a new MnF does not seem ideal. This "MnF" acting as the CAPIF APF would still need to know what management services can be published to the CCF.

On the other hand, the MnS producers can play the role of the CAPIF APFs. We can enhance the MnS producers to support the CAPIF-4 interface.

#### 5.1.Y.2 Potential requirements

**PREQ-FS\_MExpo-01** The 3GPP management system should have the capability to map management services (described by the MnSInfo IOC (clause 4.3.42 in TS 28.622[3])) into service APIs (described by the Service API information element (clause 8.3.2.1 in TS 23.222[5]) ).

Note: CAPIF is defined based on service APIs; hence, there is a need to map the management services into service APIs.

**PREQ-FS\_MExpo-02** The 3GPP management system should have the capability to publish the mapped management services (now service APIs) to the CCF.

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| **End of Changes** |