**3GPP TSG-SA5 Meeting #158 *S5-247229***

**Orlando, USA, 18 - 22 November 2024**

**Source: Nokia**

**Title: New WID on** **Enhanced OAM for management exposure to external consumers through CAPIF**

**Document for: Approval**

**Agenda Item: 6.2.3**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title:

New WID on Enhanced OAM for management exposure to external consumers through CAPIF

Acronym:

MExpo

Unique identifier:

Potential target Release: Rel-19

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  | X | X |  |
| No | X | X |  |  | X |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a

|  |  |
| --- | --- |
|  | Study  |
| X | Normative – Stage 1 |
| X | Normative – Stage 2 |
| X | Normative – Stage 3 |
|  | Normative – Other\* |

## 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| FS\_MExpo |  | 1020022 | New Study on Enhanced OAM for management exposure to external consumers |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| MSAC  | Access control for management service | Relevant access control mechanisms for external consumers |
| NSOEU | Network & Service Operations for Energy Utilities | Related to exposing management services to energy utilities through an exposure framework |

# 3 Justification

TR 28.879 has studied a generic approach for exposing management services to external MnS consumers. The chosen exposure framework for the study has been the CAPIF exposure framework. Accordingly, an external MnS consumer represents a MnS consumer that discovers and consumes management services using CAPIF.

In CAPIF, one or more API provider domains are registered into the CAPIF Core Function (CCF) to expose service APIs to API invokers. To expose management services using the CAPIF, the study has identified the need for the 3GPP management system to define an API provider domain for management services. This API provider domain is referred as to Management Service Exposure Domain (MSED). The MSED provides the API provider domain functions: API Exposure Function (AEF), API Management Function (AMF) and API Publishing Function (APF).

TR 28.879 has documented the following use cases related to the exposure of management services through CAPIF, based on CAPIF release-18 specifications:

- Registration of the API provider domain into the CAPIF

- Publishing of management services into the CCF

- Configuring discovery information of an external MnS consumer

- Authorization of the external MnS consumer to access the management service API

- Logging the management service API invocations to the CCF

For the above use cases, the study has identified the requirements on the 3GPP management system and proposed solutions to fulfil them. All of the above use cases have impact on 3GPP management system, with the exception of the discovery use case.

Accordingly, based on the conclusions and recommendations documented in TR 28.879, SA5 should start normative work on enhanced OAM for management service exposure to external MnS consumers.

# 4 Objective

The objective of this work item is to normatively specify how to expose management service to external MnS consumers through CAPIF, based on conclusions and recommendations documented in TR 28.879. The work tasks for the WID include:

WT-1: Specify the use cases and corresponding requirements for enabling the exposure of management services through the CAPIF exposure framework:

WT-1.1: Registration of the API provider domain into the CAPIF

WT-1.2: Publishing of management services into the CCF

WT-1.3: Authorization of the external MnS consumer to access the management service APIs

WT-1.4: Logging the management service API invocations to the CCF

WT-2：Normative specification of the MSED. This will include:

WT-2-1: Definition of the MSED.

WT-2-2: Specifying the capabilities to support the use case requirements defined in WT-1.

WT-3: Specification of the solutions for exposing management services through the CAPIF exposure framework. This includes:

WT-3-1: Mapping tables from management service information to CAPIF information elements.

WT-3-2: Use case solution workflows if applicable in relation to the use cases in WT-1

WT-4: Informative specification of MSED deployment options.

## TU estimates and dependencies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Work Task ID** | **TU Estimate****(Study)** | **TU Estimate****(Normative)** | **RAN Dependency****(Yes/No/Maybe)**  | **SA Dependency****(Yes/No/Maybe)** | **Non-3GPP Dependency** |
| WT-1 | 0 | 0.3 | No | No | No |
| WT-2 | 0 | 0.65 | No | No | No |
| WT-3 | 0 | 0.25 | No | Yes | No |
| WT-4 | 0 | 0.25 | No | No | No |

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| TS | 28.XYZ | Exposure of management services to external consumers through CAPIF | Jun 2025 (SA#108) |  Sept 2025 (SA#109) |  |

# 6 Work item Rapporteur(s)

# 7 Work item leadership

SA WG5

# 8 Aspects that involve other WGs

The activities in scope of WT-3 can be affected by potential Release-18 CRs that are agreed for TS 29.222.

# 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| Nokia  |
| Deutsche Telekom |
| AT&T |
| Verizon |
| Huawei |
| Samsung |
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