**3GPP TSG-SA5 Meeting #158 *S5-247138***

**, , - Revision of S5-246885**

**Source: Ericsson España S.A., Huawei, Nokia**

**Title: pCR TR 28.879 Conclusions and recommendations**

**Document for: Approval**

**Agenda Item: 6.19.21**

# 1 Decision/action requested

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

# 2 References

[1] 3GPP TR 28.879, " Study on OAM for service management and exposure to external consumers".

# 3 Rationale

The pCR proposes to add conclusions and recommendations for the exposure of management services.

# 4 Detailed proposal

It is proposed that the following changes be made to clause 6 of TR 28.879 [1].

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| **Begin Change** |

# 6 Conclusions and recommendations

## 6.1 Conclusions

### 6.1.0 General

The study has focused on a generic approach to expose management services to external MnS consumers. For the present document, the chosen exposure framework is CAPIF. When management services are exposed using the CAPIF, the study has identified the need for 3GPP management system to define an API provider domain for management services. This API provider domain is referred as to MSED. As described in clause 5.1.0, the MSED provides the API provider domain functions: AEF, AMF and APF. The specification of the MSED is to be done in normative phase.

For the exposure of management services, based on the Rel-18 CAPIF specifications, the study has reported on five key use cases.

### 6.1.1 Use case #1: API provider domain registration into CAPIF

For 3GPP management system to become a recognized API provider domain, there is a need to register the MSED into CAPIF. The registration is initiated by an existing AMF functionality , which sends MSED registration information to the CCF.

The MSED registration information needs to be represented with appropriate CAPIF data type (i.e., APIProviderEnrolmentDeatils), so it can be sent over CAPIF-5 interface. The solution is described in clause 5.1.1.3.1. The solution is feasible and no gaps have been identified.

### 6.1.2 Use case #2: Publishing of management services to the CCF

For a management service to be discoverable and consumable through CAPIF, there is a need to publish this management service as one (or more) service APIs onto the CCF. The publishing is initiated by the APF (API Publishing Function) functionality of the MSED, which sends management service information to the CCF:

* The management service information need to be represented with appropriate CAPIF data type (i.e., ServiceAPIDescription), so it can be sent over CAPIF-4 interface. The solution is described in clause 5.1.2.3.1. The solution is feasible and no gaps have been identified.
* The URL components of a management service (what is offered to MnS consumer) need to match with the URL components of a service API (what is offered to external MnS consumer). The solution is described in clause 5.1.2.3.2. The solution is feasible and no gaps have been identified.
* The APF instance is provided by the registered MSEF. The solution is described in clause 5.1.2.3.x. The solution is feasible and no gaps have been identified.

### 6.1.3 Use case #3: Configuring discovery policy information for an external MnS consumer

An operator may want to limit the visibility that certain API invokers have over published API information, according to the business agreements settled with the stakeholder owning the API invoker. To that end, the CCF is configured with discovery policy information on a per API invoker basis.

The discovery policy information, configured on CCF, is at the operator’s discretion. After analysis, it is concluded that this use case has no impact on 3GPP management system, so no requirements and solutions are proposed.

### 6.1.4 Use case #4: Authorization of the external MnS consumer to access the management service API

To get access to one or more service APIs, the external MnS consumer needs to get authorized. The consumer requests the CCF (over CAPIF-1e interface) an access token, that it can later use to invoke one or more service APIs (over CAPIF-2e interface). For this use case, the following has to occur:

* The authorization information of the external MnS consumer needs to be defined using MSAC information, The solution is described in clause 5.1.4.3.1. The solution is feasible and no gaps have been identified.
* The authorization information of the external MnS consumer needs to be made available to the CCF, so that CCF can grant authorization issuing the access token. The solution is described in clause 5.1.4.3.x. The baseline solution has been agreed, though further elaboration on how authentication and authorization MnS producer generates token claims is required during normative phase.

### 6.1.5 Use case #5: Logging the management service API

To log service API invocations, the AEF functionality of the MSED sends invocation logs to the CCF over CAPIF-3 interface. These logs can be used for auditing and charging purposes. Accordingly, it is needed to represent service API invocation logs with appropriate CAPIF data type (e.g., InvocationLog data type). The solution is described in clause 5.1.5.3.1. The solution is feasible and no gaps have been identified.

## 6.2 Recommendations

It is recommended to start normative work covering the following:

* Adding the capability for the 3GPP management system to implement the following solutions:
	+ solution described in clause 5.1.1.3.1, to support the following use case: “ MSED registration into CAPIF use case”.
	+ solutions described in clauses 5.1.2.3.1, 5.1.2.3.2 and 5.1.2.3.3, to support the following use case: “Publication of management services to the CCF”
	+ solutions described in clauses 5.1.4.3.1 and 5.1.4.3.x, to support the following use case: “Authorization of the external MnS consumer to access the management service API”
	+ solution described in clauses 5.1.5.3.1, to support the following use case: “Logging the management service API”
* Specification of MSED. The MSED represents a new entity within 3GPP management system implementing API provider domain functions, to communicate with CCF (over CAPIF-3/4/5 interfaces) and external MnS consumers (over CAPIF-2 interface). The final name of MSED (currently non-binding) and supported capabilities need to be specified.

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| **End Change** |