**3GPP TSG-SA5 Meeting #144-eS5-224086rev2**

**e-meeting, 27 June - 1 July 2022**

**Source: Alibaba group**

**Title: pCR 28.824 evaluation of solution 7.9**

**Document for: Approval**

**Agenda Item: 6.9.6.3**

# 1 Decision/action requested

***For approval***

# 2 References

[1] 3GPP TR 28.824 V0.5.0 Study on network slice management capability exposure

# 3 Rationale

So far, 3 alternatives of CAPIF based architecture of network slice management capability exposure were captured in Solution 7.9. an evaluation of these 3 alternatives is given, which can help to draw the conclusion and recommendation for this solution.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Summary | pros | Cons |
| Alternative 1 | API provider domain acts as MnS consumer which interacts with the MnS producer within SA5. SA5 juridiction ends at MnS Consumer. What MnS consumers does to expose the MnS further to API Invoker (external entity) is out–of-scope of SA5.How the external MnS consumer conduct authentication, authentication, discover the MnS and consume the MnS is not specified in this alternative. | No standardization work needed for SA5. | Not solve any issues for network slice management capability exposure. How external MnS consumer discover, and consume MnS is still not specified in SA5. |
| Alternative 2 | MnS producer embeds API provider domain functions capabilities within SA5 and has direct interaction with CAPIF core function. External MnS consumer can conduct authentication and authorization with CCF. After that, the external MnS consumer can consume the MnS via the service API provided by API provider domain. | With certain extension for CAPIF interface, solution on how external MnS consumer discover and consume MnS can be specified. | Extension of CAPIF interfaces (e.g. CAPIF-1e, CAPIF-2e, CAPIF-3, CAPIF-4, CAPIF-5) is needed. |
| Alternative 3 | MnS producer embeds both CAPIF Core Function and API provider domain functions capabilities within SA5. CCF and API provider domain can interact with each other via CAPIF-3, CAPIF-4 and CAPIF-5. | With certain extension for CAPIF interface, solution on how external MnS consumer discover and consume MnS can be specified. | Extension of CAPIF interface (e.g. CAPIF CAPIF-1e, CAPIF-2e) is needed. |

So far, there are several gaps regarding, MnS publishing, discovery, which are captured in TR 28.824:

- Whether and how to publish a MnS that can be discovered by external customer is not speficied in existing 3GPP management system.

- If there is a need to publish MnS, then the exposure of MnS (e.g. performance MnS regarding NR and 5GC) is not specified in 3GPP management system.

- To limit issues the exposure from a discovery system of the operator may only provide “read” permissions (w.r.t the exposed MnS) without authentication and authorization. To execute the discovered exposed MnS the consumer still needs to be authenticated and authorized by the management system. Therefore, there is a gap in the difference in exposure for consumption, and exposure for discovery which needs to be solved.

All these gap can be resolved by alternative 2 and 3 since all the related interfaces are within the scope of alternative 2 and 3. Alternative 1 can not solve the gaps mentioned above.

Proposal: Based on the aforementioned evaluation, It is suggested to recommend alternative 2 and 3 as baseline for the normative work.

# 4 Detailed proposal

This contribution proposes to make the following changes in [1].

|  |
| --- |
| **1st change** |







## 7.9 Potential solutions for network slice management capability exposure via CAPIF

### 7.9.4 Evaluation

an evaluation of these 3 alternatives is given, which can help to draw the conclusion and recommendation for this solution.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Summary | pros | Cons |
| Alternative 1 | API provider domain acts as MnS consumer which interacts with the MnS producer within SA5. SA5 juridiction ends at MnS Consumer. What MnS consumers does to expose the MnS further to API Invoker (external entity) is out–of-scope of SA5.How the external MnS consumer conduct authentication, authentication, discover the MnS and consume the MnS is not specified in this alternative. | No standardization work needed for SA5. | Not solve any issues for network slice management capability exposure. How external MnS consumer discover, and consume MnS is still not specified in SA5. |
| Alternative 2 | MnS producer embeds API provider domain functions capabilities within SA5 and has direct interaction with CAPIF core function. External MnS consumer can conduct authentication and authorization with CCF. After that, the external MnS consumer can consume the MnS via the service API provided by API provider domain. | With certain extension for CAPIF interface, solution on how external MnS consumer discover and consume MnS can be specified. | Extension of CAPIF interfaces (e.g. CAPIF-1e, CAPIF-2e, CAPIF-3, CAPIF-4, CAPIF-5) is needed. |
| Alternative 3 | MnS producer embeds both CAPIF Core Function and API provider domain functions capabilities within SA5. CCF and API provider domain can interact with each other via CAPIF-3, CAPIF-4 and CAPIF-5. | With certain extension for CAPIF interface, solution on how external MnS consumer discover and consume MnS can be specified. | Extension of CAPIF interface (e.g. CAPIF CAPIF-1e, CAPIF-2e) is needed. |

Editor’s note: The evaluation is FFS.

So far, there are several gaps regarding, MnS publishing, discovery, which are captured in TR 28.824:

- Whether and how to publish a MnS that can be discovered by external customer is not speficied in existing 3GPP management system.

- If there is a need to publish MnS, then the exposure of MnS (e.g. performance MnS regarding NR and 5GC) is not specified in 3GPP management system.

- To limit issues the exposure from a discovery system of the operator may only provide “read” permissions (w.r.t the exposed MnS) without authentication and authorization. To execute the discovered exposed MnS the consumer still needs to be authenticated and authorized by the management system. Therefore, there is a gap in the difference in exposure for consumption, and exposure for discovery which needs to be solved.

All these gap can be resolved by alternative 2 and 3 since all the related interfaces are within the scope of alternative 2 and 3. Alternative 1 can not solve the gaps mentioned above.

Based on the aforementioned evaluation, It is suggested to recommend alternative 2 and 3 as baseline for the normative work.

|  |
| --- |
| **End of changes** |