3GPP TSG SA WG5 Meeting 136-e TDoc S5-212312

electronic meeting, online, 1 - 9 March 2021

**Title: LS on OpenAPI guidelines**

**Response to: -**

**Release: Rel-16, Rel-17**

**Work Item: -**

**Source: SA5**

**To: CT, SA**

**Cc: CT3, CT4**

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**Attachments:** S5-212235

# 1 Overall description

At SA#90, SA5 received an official request from TSG CT (in the CT report to SA) to align with the OpenAPI guidelines developed by CT in 29.501. SA5 has analysed and discussed these comments extensively, also in a conf. call with CT, and a contribution summarising the request from CT was submitted to SA5#136e by the CT chair as S5-212235 (attached).

SA5 has discussed the document and would like to provide the following feedback regarding the requests provided (main bullets in slides 3-5 of S5-212235):

1. “As described in TR 21.900 clause 5B, All OpenAPI specification files documented by TS have to be stored by the MCC officer in the following locations.”

SA5 reply: SA5 has some concerns to put all OpenAPI files into one repository. SA5 is actively cooperating with open source projects and the SA5 forge repository is already referred by external groups in their implementation. Changing the repository may cause problems and impact SA5 external influence. In addition, we would like some clarification on the rationale behind using one repository. One reason presented was simplification of referencing other OpenAPI files. We think this target may also be achieved by other means (please see bullet point 3).

SA5 supports any endeavour to make 3GPP OpenAPI definitions easily accessible for the worldwide development community. We suggest working on a simplified branching strategy for outside exposure shielding external readers from 3GPP internals.

We welcome a continued discussion with CT on this point.

It is not an issue however for our MCC officer to store the files in the zip file containing the Word file of the new version of the TS; this can be done from the SA#91 CR implementation.

1. “Align YAML file naming with TS 29.501 clause 5.3.6“

SA5 reply: SA5 specifications contain an OpenAPI definition file name. SA5’s understanding is that this approach is consistent with CT guidelines.

1. “Align $refs in normative OpenAPI in TS’s”

SA5 reply: SA5 acknowledges that references need to be carefully designed. For example, 3GPP should ensure that the external development community can use the 3GPP definitions without the need to change them. References containing just the file name and no relative or absolute path components can help in that. SA5 proposes to enhance the 3GPP Forge environment with the possibility to specify locations where the tool shall search for referenced files. This would allow for using simple references with the file name only, also for the case that CT and SA5 use different repositories.

1. “Align to 3GPP Common API Versioning Mechanism“

SA5 reply: SA5 currently uses a versioning concept where the OpenAPI definition version number is identical to the TS version number containing the OpenAPI definition. We acknowledge that the CT concept which decouples the OpenAPI definition version number from the TS version number has advantages. We will study if it is possible to adopt the CT concept.

1. “Align with IE naming convention“

SA5 reply: SA5 guidelines and best practices are aligned with CT naming conventions in many cases:

* Attribute names follow lowerCamel convention
* Values of enumerations use UPPER\_WITH\_UNDERSCORE
* Data type names follow UpperCamel convention
* Array names are either plural ("users") or are appending "List" ("userList"). Plural only can be used in future.
* Query parameter names follow the same naming convention as attributes when they refer to attributes of the resource. CT uses lower-with-hyphen. SA5 believes readability is improved when attribute names and query names are identical when they refer to the same information.
* URI path segment names follow lower-with-hyphen for standalone Management Services (MnS). For an MnS combined from an NRM and CRUD operations, the naming convention for managed object classes used in stage 2 (e.g. to align with RAN specifications) is also used for stage 3: normally UpperCamel is followed (e.g. ManagedElement), but when abbreviations are contained in the name UpperCamel is not always strictly followed (e.g. NRCellDU is used instead of NrCellDu).

SA5 recognized that TS 29.501 is currently mainly documented for 5GC SBI OpenAPI guidelines. It would be helpful if CT could consider indicating the sections which are generic and could apply for other groups.

SA5 Charging APIs are currently aligned with 5GC TS 29.501 guidelines, in which how to refer to OpenAPI definitions from external bodies is not defined. In order to allow future-proof evolution of Charging APIs, this possibility is important to be anticipated.

SA5 is happy to continue working together with CT to align the OpenAPI guidelines as much as possible.

# 2 Actions

**To CT, SA**

**ACTION:** SA5 asks CT and SA to take the above information into account and provide feedback if needed.

# 3 Dates of next TSG SA WG 5 meetings

SA5#137-e 10th - 19th May 2021 electronic meeting