**3GPP TSG-SA5 Meeting #158 *S5-246973***

Orlando, USA, 18 - 22 November 2024

**Source: Ericsson**

**Title: ProblemDetails using oneOf**

**Document for: Discussion**

**Agenda Item: 7.3**

# 1 Decision/action requested

***The group is asked to discuss and agree a way forward.***

# 2 References

[1] 3GPP TS 29.501 5G System; Principles and Guidelines for Services Definition; Stage 3

[2] 3GPP TS 32.291 5G system, charging service; Stage 3

# 3 Rationale

The TS 29.501 [1] clause 4.8.3 states that a service operation that returns “ProblemDetails” in error responses in a given release, in a later release is required to provide additional application specific information in the error responses, the API should be modified to return an Extended-ProblemDetails data type by reusing the "ProblemDetails" common data type to keep the API backward compatibility. There are two examples on how this can be done either with an “AdditionInfo<ServiceOperation” or “ProblemDetails<ServiceOperation>”, in both cases it is seen as an extension to the "ProblemDetails".

In rel-16 of TS 32.291 [2] the error responses for 400, 403, and 404 all contained “ProblemDetails” in yaml, but “ChargingDataResponse” in table 6.1.3.2.3.1-3, in rel-17 a new feature was introduced “ES4XX” which allowed an extended support of HTTP 400, 403, 404 allowing use of either “ChargingDataResponse” or “ProblemDetails” in the response by the use “oneOf” allowing either “ProblemDetails” or “ChargingDataResponse”. The issue here that if an NF consumer only support one of the error responses, e.g. the rel-16 “ProblemDetails”, there is no way of indicating this, since indicating support of “ES4XX” implies support for both “ProblemDetails” and “ChargingDataResponse”.

# 4 Detailed proposal

There are at least three possible solutions:

1 The “ChargingDataResponse” is seen as a sort of “AdditionInfo<ServiceOperation” and in that case allow both “ProblemDetails” and “ChargingDataResponse” to be returned.

2 Introduce a data “ProblemDetails<ServiceOperation>” that contains both the “ProblemDetails” and the “ChargingDataResponse”

3 The “ChargingDataResponse” is seen as an Nchf specific alternative to the “ProblemDetails”, not conforming to the extension mechanism described in TS 29.501 [1]. This would however need a separate feature to be able to know which of the error responses that are expected.

4 Have a statement in TS 32.291 [2] that explains that if the CTF indicates support of the feature “EX4XX” it must support receiving both “ProblemDetails” and “ChargingDataResponse”, and that which one that is used is vendor specific.