**3GPP TSG-SA5 Meeting #155 *S5-243162***

Jeju, South Korea, 27 - 31 May 2024

**Source: ZTE Corporation**

**Title: pCR TR 28.914 add use case, requirements and solution for intent degradation based on expectation preference**

**Document for: Approval**

**Agenda Item: 6.19.3**

# 1 Decision/action requested

***The group is asked to discuss and agree on the proposal.***

# 2 References

[1] Study on intent driven management service for mobile network phase 3 v0.0.0

[2] SP-231737 "Study on intent driven management services for mobile network phase 3"

# 3 Rationale

In Rel-18, intent conflict resolution procedure is introduced where the consumer needs to modify the intent based on the intent conflict reports. However, the motivation to introduce intent driven MnS is to relieve the burden of the consumer. The producer should be allowed to have the capability to modify the intent to resolve conflicts.

Sometimes an intent owner may express multiple intent expectations with different preference for the same requirement. Such information can be utilized by the producer to modify the intent automatically.

This contribution is related to WT-4 of the FS\_IDMS\_MN\_Ph3 SID [2], which is to investigate intent utility functionalities.

# 4 Detailed proposal

***Start of First change***

# 5 Use cases

## 5.X Use case#<X>: Intent degradation based on expectation preference

### 5.X.1 Description

In TS 28.312 Rel-18, procedures for intent conflict resolution are introduced, where the MnS consumer needs to modify its intent based on received intent conflict reports. Intent conflict reports identify the conflicting intent, conflicting expectation, conflicting target, and corresponding recommended solution. However, allowed values for recommendedsolutions are “modify” or “delete”, which means the MnS consumer may need to modify the intent many times without any assistance. It defeats the purpose of introducing IDMS, relieving the burden of the consumer.

Sometimes an MnS consumer may express multiple intent expectations with different preference for the same requirement. The MnS producer should give priority to satisfying the IntentExpectation(s) with higher preference. For example, the MnS consumer proposes a requirement on E2E latency smaller than 5 ms and prefers air latency lower than 1 ms. Such a requirement maybe translated into IntentExpectation 1 (E2E Latency < 5 ms) and IntentExpectation 2 (air latency < 1ms). The MnS consumer prefers to fulfil both IntentExpectation 1 and IntentExpectation 2, but only fulfilling IntentExpectation 2 also satisfies its requirement. Furthermore, such information can be utilized by the MnS producer to resolve intent degradation automatically. For example, the MnS producer can degrade the intent automatically by just satisfying IntentExpectation 1 when IntentExpectation 2 cannot be satisfied.

Based on analysis above, it is significant to allow the MnS consumer express its preference in an intent. Then, the MnS producer can leverage such preference information to address possible conflict.

### 5.X.2 Potential requirements

**REQ-Intent\_Negotiation \_01:**The intent-driven MnS should have the capability to enable the MnS Consumer to express its preference on expectation for fulfilment in an intent.

### 5.X.3 Potential solutions

#### 5.X.3.1 Potential solution #1

This solution proposes to enhance the existing Intent IOC and IntentReport IOC defined in TS 28.312 [X] to represent the Consumer’s preference on expectations. Following are the proposed enhancements:

**Enhancement on Intent IOC**: Introduce a new optional attribute “preferredExpectations” in the Intent IOC to represent preferred expectations that are optional to be fulfilled, which contains the DNs of preferred expectations.

**Enhancement on IntentReport IOC**: “IntentFulfilmentReport” should be extend to identify the fulfilment information of the preferredExpectations.

***End of First change***