**3GPP TSG-CT WG3 Meeting #142C3-253292**

**Gothenburg, SE, 25 - 29 August 2025**

**Source: Samsung**

**Title: Pseudo-CR on AIMLES\_SplitOpNodeRegistration – Service Description**

**Spec: 3GPP TS 29.548 v1.0.0**

**Agenda item: 19.41**

**Document for: Decision**

**1. Introduction**

This pseudo CR implements the service description for AIMLES\_SplitOpNodeRegistration API.

**2. Reason for Change**

As per TS 23.548 v19.2.0, the AIMLES\_SplitOpNodeRegistration API has been agreed and needs to be implemented in TS 29.548.

**3. Conclusions**

N/A

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.548 v1.0.0.

\* \* \* First Change \* \* \* \*

### 5.2.X AIMLES\_SplitOpNodeRegistration

#### 5.2.X.1 Service Description

The AIMLES\_SplitOpNodeRegistration service exposed by the AIMLE Server enables a service consumer to:

- request, update, and deregister for split AI/ML operation node registration.

#### 5.2.X.2 Service Operations

##### 5.2.X.2.1 Introduction

The service operation defined for AIMLES\_SplitOpNodeRegistration API is shown in Table 5.2.X.2.1-1.

Table 5.2.1.2.1-1: AIMLES\_ContextTransfer Service Operations

|  |  |  |
| --- | --- | --- |
| Service Operation Name | Description | Initiated by |
| AIMLES\_SplitOpNodeRegistration\_Request | This service operation is used by a service consumer to request for one time split AI/ML node registration. | e.g., VAL server |
| AIMLES\_SplitOpNodeRegistration\_Update | The service operation is used by a service consumer to update split AI/ML node registration. | e.g., VAL server |
| AIMLES\_SplitOpNodeRegistration\_Deregister | The service operation is used by a service consumer to deregister split AI/ML node registration.  | e.g. VAL server |

##### 5.2.X.2.2 Aimles\_SplitOpNodeRegistration\_Request

5.2.X.2.2.1 General

This service operation is used by a service consumer to request AIMLE split operation node registration with the AIMLE server.

The following procedures are supported by the "AIMLES\_SplitOpNodeRegistration\_Request" service operation:

- AIMLE Split Operation Node Registration.

5.2.X.2.2.2 AIMLE split operation node registration request

Figure 5.2.X.2.2.2-1 depicts a scenario where a VAL server sends a request to the AIMLE Server for AIMLE Split Operation Node Registration Request (see also clause 8.14.2.4.2 of 3GPP°TS°23.482°[13]).



Figure 5.2.1.2.2.2-1: Procedure for AIMLE Split Operation Node Registration Request

1. In order to register for AIMLE Split Operation Node Registration, the VAL server shall send an HTTP POST request to the AIMLE Server targeting the URI of the corresponding custom operation, with the request body including the SplitOpNodeRegInfo data structure as specified in clause 6.1.X.6.2.3.

2a. Upon reception of the HTTP POST registration request, the AIMLE server shall perform an authentication and authorization check to determine if the service consumer is permitted to register at the AIMLE server and participate in AIML operations. If the VAL server is authorized to register at the AIMLE server, the AIMLE server shall:

a) create a new "Individual AIMLE split operation node registration" resource with the received registration information; and

b) respond with an HTTP "201 Created" status code with the response body including the SplitOpNodeReg data structure and an HTTP "Location" header field containing the URI of the created resource.

2b. If the VAL server is not authorized to register at the AIMLE server, the AIMLE server shall take proper error handling actions, as specified in clause 6.1.X.7, and respond with an appropriate error status code.

If an "expTime" attribute indicating the expiration time for the AIMLE Split Operation Node registration was included in the SplitOpNodeRegInfo data structure as part of the created resource representation in step 1b above, then to maintain the registration at the AIMLE server, the service consumer shall send a registration update request (as defined in clause 5.2.X.2.3) to update the registration prior to the expiration time. If the AIMLE server did not receive the registration update request before the expiration time, then the AIMLE server shall delete the corresponding "Individual AIMLE Split Operation Node registration" resource.

##### 5.2.X.2.3 Aimles\_ SplitOpNodeRegistration\_Update service operation

###### 5.2.X.2.3.1 General

The Aimles\_ SplitOpNodeRegistration\_Update service operation is used by the VAL server to update its registration information at the AIMLE server.

###### 5.2.X.2.3.2 AIMLE split operation node registration update

Figure 5.2.X.2.3.2-1 depicts a scenario where a VAL server sends a request to the AIMLE Server for AIMLE Split Operation Node Registration Update (see also clause 8.14.2.4.3 of 3GPP°TS°23.482°[13]).



Figure 5.2.X.2.3.2-1: Procedure for AIMLE Split Operation Node Registration Update

1. In order to update an Individual Registered AIMLE Split Operation Node Register, the service consumer shall send an HTTP PUT/PATCH request to the AIMLE Server targeting the URI of the corresponding resource (i.e., "Individual Registered AIMLE Split Operation Node Register Configuration"), with the request body including either:

- the updated representation of the resource within the SplitOpNodeReg data structure, in case the HTTP PUT method is used; or

- the requested modifications to the resource within the SplitOpNodeRegPatch data structure, in case the HTTP PATCH method is used.

2a. Upon reception of the HTTP PUT/PATCH request, the AIMLE server shall perform an authentication and authorization check to determine if the VAL server is permitted to update the targeted registration. If the VAL server is authorized to update the targeted registration at the AIMLE server, the AIMLE server shall:

a) accordingly update the targeted "Individual AIMLE split operation node registration" resource; and

b) respond with either:

- an HTTP "204 No Content" status code; or

- an HTTP "200 OK" status code with the response body including a representation of the updated resource within the SplitOpNodeReg data structure.

2b. If the VAL server is not authorized to update the targeted registration at the AIMLE server, the AIMLE server shall take proper error handling actions, as specified in clause 6.1.X.7, and respond with an appropriate error status code.

 If the AIMLE server determined the received HTTP PUT/PATCH request needs to be redirected, the AIMLE server may respond with an HTTP "307 Temporary Redirect" status code or an HTTP "308 Permanent Redirect" status code including an HTTP "Location" header containing an alternative URI representing the end point of an alternative AIMLE server towards which the HTTP PUT request should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2].

If an "expTime" attribute indicating the expiration time for the AIMLE Split Operation Registration was included in the AimleRegistration data structure in step 1b above, then to maintain the registration at the AIMLE server, the VAL server shall send the HTTP PUT registration update request (as described above) to update the registration prior to the expiration time. If the AIMLE server did not receive the registration update request before the expiration time, then the AIMLE server shall delete the corresponding "Individual AIMLE split operation node registration" resource.

##### 5.2.X.2.4 Aimles\_ SplitOpNodeRegistration\_Deregister service operation

###### 5.2.X.2.4.1 General

The Aimles\_ SplitOpNodeRegistration\_Deregister service operation is used by the VAL server to deregister itself from the Split AI/ML operation.

###### 5.2.X.2.4.2 AIML split operation node deregistration

Figure 5.2.X.2.4.2-1 depicts a scenario where a VAL server sends a request to the AIMLE Server for AIMLE split operation node deregistration (see also clause 8.14.2.4.4 of 3GPP°TS°23.482°[13]).



Figure 5.2.X.2.4.2-1: Procedure for AIMLE Split Operation Node Deregistration

1. To deregister itself at the AIMLE server, the VAL server shall send an HTTP DELETE request to the AIMLE server targeting the "Individual AIMLE split operation registration" resource, as specified in clause 6.1.X.3.3.3.2.

2a. Upon reception of the HTTP DELETE request, the AIMLE server shall perform an authentication and authorization check to determine if the VAL server is permitted to deregister at the AIMLE server. If the VAL server is authorized to deregister at the AIMLE server, the AIMLE server shall:

a) delete the corresponding "Individual AIMLE Split Operation Node registration" resource; and

b) respond with an HTTP "204 Not Content" status code.

2b. If the VAL server is not authorized to deregister at the AIMLE server, the AIMLE server shall take proper error handling actions, as specified in clause 6.1.X.7, and respond with an appropriate error status code.

 If the AIMLE server determined the received HTTP DELETE request needs to be redirected, the AIMLE server may respond with an HTTP "307 Temporary Redirect" status code or an HTTP "308 Permanent Redirect" status code including an HTTP "Location" header containing an alternative URI representing the end point of an alternative AIMLE server towards which the HTTP DELETE request should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2].

\* \* \* End of Changes \* \* \* \*