**3GPP TSG-SA5 Meeting #162 *S5-254074***

Goteborg, Sweden, 25 - 29 August 2025

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.105** | **CR** | **0299** | **rev** | **1** | **Current version:** | **18.7.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:*** | Rel-18 CR TS 28.105 Correction on the isWritable propoerty of AIMLInferenceName in the MLTrainingRequest | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation | | | | | | | | | |
| ***Source to TSG:*** | SA5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | AIML\_MGT | | | | |  | ***Date:*** | | | 2024-08-01 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The usage of “isWriteable” and “isInvariant” property is as follws:   * When “isWriteable” is “F”, it means the attribute cannot be configured by the consumer when the consumer request to create the MOI. * When “isWriteable” is “T” and “isInvariant” is “F”, it means this attribute can be configured by the consumer when creating the MOI and can be further modified after creating the MOI. * When “isWriteable” is “T” and “isInvariant” is “T”, means this attribute can be configured by the consumer when creating the MOI but cannot be modified after creation of the MOI.   When the consumer request the producer to initially train an ML model with a specific AIMLInferenceName, the consumer needs to request to create the ML Trianing Request MOI on the Producer, which means the cosumer should be allowed to configre the AIMLInferenceName when creating the MLTrainingRequest MOI. Furthermore, the AIMLInferenceName cannot be changed when the ML model training is in process. Therefore, both the “isWriteable” and “isInvariant” properties of AIMLInferenceName should be set as “T”.  Similar reason for changing these two properties of mLModelCoordinationGroupRef and mLModelRef in retraining scenario. These two attributes should be present when the consumer request to retrain an ML model or a group of ML Models. The consumer should be allowed to configure the values of these two attributes when requesting to create the MLTrainingRequest MOI on the producer for retraining. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Change the“isWriteable” and “isInvariant” propoerties of the AIMLInferenceName/mLModelRef/mLModelCoordinationGroupRef to “T” 2. Correct the condition for mLModelCoordinationGroupRef | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Wrong definition may lead to wrong implementation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.3a.1.2.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | No impact on stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

***Start of next change***

##### 7.3a.1.2.2 MLTrainingRequest

###### 7.3a.1.2.2.1 Definition

The IOC MLTrainingRequest represents the ML model training request that is trigered by the ML training MnS consumer.

To trigger the ML model training process, ML training MnS consumer needs create MLTrainingRequest object instances on the ML training MnS producer. The MLTrainingRequest MOI is contained under one MLTrainingFunction MOI.

The MLTrainingRequest MOI may represent the request for initial ML model training or re-training. For ML model re-training, the MLTrainingRequest is associated to one MLModel for re-training a single ML model, or associated to one MLModelCoordinationGroup.

The MLTrainingRequest has a source to identify where it is coming from, which is represented with trainingRequestSource attribute. This attribute may be used by a ML Training MnS producer to prioritize the training resources for different sources.

Each MLTrainingRequest indicates the expectedRunTimeContext that describes the specific conditions for which the MLModel should be trained.

In case the request is accepted, the ML training MnS producer decides when to start the ML model training based on consumer requirements. Once the MnS producer decides to start the training based on the request, the ML training MnS producer instantiates one or more MLTrainingProcess MOI(s) that are responsible to perform the followings:

- collects (more) data for training, if the training data are not available or the data are available but not sufficient for the training;

- prepares and selects the required training data, with consideration of the consumer’s request provided candidate training data if any. The ML training MnS producer may examine the consumer's provided candidate training data and select none, some or all of them for training. In addition, the ML training MnS producer may select some other training data that are available in order to meet the consumer’s requirements for the ML model training;

- trains the MLModel using the selected and prepared training data.

The MLTrainingRequest may have a requestStatus field to represent the status of the specific MLTrainingRequest:

- The attribute values are "NOT\_STARTED", " IN\_PROGRESS", "SUSPENDED", "FINISHED", and "CANCELLED".

- When value turns to " IN\_PROGRESS", the ML training MnS producer instantiates one or more MLTrainingProcess MOI(s) representing the training process(es) being performed per the request and notifies the MLT MnS consumer(s) who subscribed to the notification.

When all of the training process associated to this request are completed, the value turns to "FINISHED".

The ML training MnS prodcuer shall delete the corresponding MLTrainingRequest instance in case of the status value turns to "FINISHED" or "CANCELLED". The MnS producer may notify the status of the request to MnS consumer after deleting MLTrainingRequest instance.

###### 7.3a.1.2.2.2 Attributes

Table 7.3a.1.2.2.1-1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| aIMLInferenceName | CM | T | T | T | T |
| candidateTrainingDataSource | O | T | T | F | T |
| trainingDataQualityScore | O | T | T | F | T |
| trainingRequestSource | M | T | T | F | T |
| requestStatus | M | T | F | F | T |
| expectedRuntimeContext | M | T | T | F | T |
| performanceRequirements | M | T | T | F | T |
| cancelRequest | O | T | T | F | T |
| suspendRequest | O | T | T | F | T |
| **Attribute related to role** |  |  |  |  |  |
| mLModelRef | CM | T | T | T | T |
| mLModelCoordinationGroupRef | CM | T | T | T | T |

###### 7.3a.1.2.2.3 Attribute constraints

Table 7.3a.1.2.2.3-1

|  |  |
| --- | --- |
| Name | Definition |
| aIMLInferenceName Support Qualifier | Condition: MLTrainingRequest MOI represents the request for ML model initial training. |
| mLModelRef Support Qualifier | Condition: MLTrainingRequest MOI represents the request for ML model re-training. |
| mLModelCoordinationGroupRef Support Qualifier | Condition: ML model joint training to retrain a group of ML Models is supported. |

###### 7.3a.1.2.2.4 Notifications

The common notifications defined in clause 7.6 are valid for this IOC, without exceptions or additions.

***End of next change***