**3GPP TSG-SA5 Meeting #155 *S5-243343d1***

**Jeju, South Korea, 27 - 31 May 2024 revision of S5-242558**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.105** | **CR** | **Input to DraftCR** | **rev** |  | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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 Input to DraftCR TS 28.105 Add lifecycle management operations for ML model | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | AIML\_MGT | | | | |  | ***Date:*** | | | 2024-5-17 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | There are plenty of IOCs defined in TS 28.105 without specifying what Operations and/or Notifications can be supported for different IOCs. It’s difficult for readers to know how a MnS consumer can manipulate these IOCs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | It is proposed to add LCM operation/notification for AIML IOCs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | It’s difficult for readers to know how a MnS consumer can manipulate these IOCs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.1; 8.y(new), 8.z(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st Change** |

# 8 Service components

## 8.0 General

The operations for generic provisioning management service refer to clause 11.1.1 of TS 28.532 [11]. For notifications,please see clause 7.6.

## 8.1 Lifecycle management operations for AI/ML management MnS

The components for ML model training MnS are listed in table 8.1-1.

Table 8.1-1: Components for ML model training

|  |  |  |  |
| --- | --- | --- | --- |
| ML model training management capability | Management service component type A | Management service component type B | Management service component type C |
|  |  |  | N/A |
| Create an ML model training request | createMOI operation | MLTrainingRequest |
| Modify an ML model training request | modifyMOIAttributes operation |
| Query an ML model training report | getMOIAttributes operation | MLTrainingReport |
| Modify an ML model training process | modifyMOIAttributes operation | MLTrainingProcess |
| Query an ML model training process | getMOIAttributes operation |
| Create, Delete, and Update ML training | changeMOIs operation | MLTrainingRequest  MLTrainingReport  MLTrainingProcess |

The components for ML model testing are listed in table 8.1-x.

Table 8.1-x: Components for ML model testing

|  |  |  |  |
| --- | --- | --- | --- |
| ML model testing management capability | Management service component type A | Management service component type B | Management service component type C |
| Create an ML model testing request | createMOI operation | MLTestingRequest | N/A |
| Modify an ML model testing request | modifyMOIAttributes operation |
| Query an ML model testing report | getMOIAttributes operation | MLTestingReport |
| Subscribe an ML model testing report | createMOI operation |
| Unsubscribe an ML model testing report | deleteMOI operation |
| Query an ML model testing report subscription | getMOIAttributes operation |
| Create, Delete, and Update ML testing | changeMOIs operation | MLTestingRequest MLTestingReport |

The components for ML model deployment are listed in table 8.y-1.

Table 8.1-y: Components for ML model deployment

|  |  |  |  |
| --- | --- | --- | --- |
| ML model deployment management capability | Management service component type A | Management service component type B | Management service component type C |
| Create an ML model loading request | createMOI operation | MLModelLoadingRequest | N/A |
| Modify an ML model loading request | modifyMOIAttributes operation |
| Create an ML model loading policy | createMOI operation | MLModelLoadingPolicy |
| Delete an ML model loading policy | deleteMOI operation |
| Modify an ML model loading policy | modifyMOIAttributes operation |
| Query an ML model loading policy | getMOIAttributes operation |
| Modify an ML model loading process | modifyMOIAttributes operation | MLModelLoadingProcess |
| Query an ML model loading process | getMOIAttributes operation |
| Create, Delete, and Update ML model Loading | changeMOIs operation | MLModelLoadingRequest  MLModelLoadingPolicy  MLModelLoadingPolicy |

The components for ML model inference are listed in table 8.z-1.

Table 8.1-z: Components for AI/ML inference

|  |  |  |  |
| --- | --- | --- | --- |
| AI/ML Inference management capability | Management service component type A | Management service component type B | Management service component type C |
| Create an ML model update request | createMOI operation | MLUpdateRequest | N/A |
| Modify an ML model update request | modifyMOIAttributes operation |
| Modify an ML model update process | modifyMOIAttributes operation | MLUpdateProcess |
| Query an ML model update process | getMOIAttributes operation |
| Query an ML model update report | getMOIAttributes operation | MLUpdateReport |
| Query an AI/ML inference report | getMOIAttributes operation | AIMLInferenceReport |
| Create, Delete, and Update ML model Update and ML Inference Report | changeMOIs operation | MLUpdateRequest MLUpdateProcess  MLUpdateProcess  AIMLInferenceReport |

The components for AI/ML inference emulation are listed in table 8.z-1.

Table 8.1-a: Components for AI/ML inference emulation MnS

|  |  |  |  |
| --- | --- | --- | --- |
| ML model emulation management capability | Management service component type A | Management service component type B | Management service component type C |
| Query an AI/ML inference emulation report | getMOIAttributes operation | AIMLInferenceReport | N/A |

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| **End of changes** |