**3GPP TSG-SA5 Meeting #155 *S*5-243427**

**Jeju, South Korea, 27 - 31 May 2024**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **28.105** | **CR** | **0145** | **rev** | **-** | **Current version:** | **18.3.0** |  |
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| *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 28.105 correct AIML function management scenario for NWDAF |
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| ***Source to WG:*** | Asiainfo |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | AIML\_MGT |  | ***Date:*** | 2024-05-13 |
|  |  |  |  |  |
| ***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 canbe 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)* |
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| ***Reason for change:*** | In clause 4a.2, it is missing the senario where the ML training function is located in the CN domain manament function, the ML inference function is located in the NWDAF. |
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| ***Summary of change:*** | Adding the AI/ML functionalities management secenario that where the ML training is located in CN domain management function and AI/ML inference is located in NWDAF |
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| ***Consequences if not approved:*** | It may cause the senario missed  |
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| ***Clauses affected:*** | 4a.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **First Change** |

## 4a.2 AI/ML functionalities management scenarios (relation with managed AI/ML features)

The ML training function and/or AI/ML inference function can be located in the RAN domain MnS consumer (e.g. cross-domain management system) or the domain-specific management system (i.e. a management function for RAN or CN), or Network Function.

For MDA, the ML training function can be located inside or outside the MDAF. The AI/ML inference function is in the MDAF.

For NWDAF, the ML training function can be located in the MTLF of the NWDAF or the management system, the AI/ML inference function is in the AnLF of NWDAF.

For RAN, the ML training function and AI/ML inference function can both be located in the gNB, or the ML training function can be located in the management system and AI/ML inference function is located in the gNB.

Therefore, there might exist several location scenarios for ML training function and AI/ML inference function.

**Scenario 1:**

The ML training function and AI/ML inference function are both located in the 3GPP management system (e.g. RAN domain management function). For instance, for RAN domain-specific MDA, the ML training function and AI/ML inference functions for MDA can be located in the RAN domain-specific MDAF. As depicted in figure 4a.2-1.

 

Figure 4a.2-1: Management for RAN domain specific MDAF

Similarly, for CN domain-specific MDA the ML training function and AI/ML inference function can be located in CN domain-specific MDAF.

**Scenario 2:**

For RAN AI/ML capabilities, the ML training function is located in the 3GPP RAN domain-specific management function while the AI/ML inference function is located in gNB. See figure 4a.2-2.



Figure 4a.2-2: Management where the ML training is located in RAN domain management function and AI/ML inference is located in gNB

**Scenario 3:**

For RAN AI/ML capabilities, the ML training function and AI/ML inference function are both located in the gNB. See figure 4a.2-3.



Figure 4a.2-3: Management where the ML training and AI/ML inference are both located in gNB

**Scenario 4:**

For NWDAF, the ML training function is located in the MTLF of NWDAF and AI/ML inference function is located in the AnLF of NWDAF. See figure 4a.2-4.



Figure 4a.2-4: Management where the ML training is located in MTLF of NWDAF and AI/ML inference is located in AnLF of NWDAF

**Scenario 5:**

For NWDAF, the ML training function is located in the CN domain manament function, the ML inference function is located in the AnLF of NWDAF. See figure 4a.2-5.



Figure 4a.2-5: Management where the ML training is located in CN domain management function and AI/ML inference is located in AnLF of NWDAF

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| **End Change** |