**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** |  |
|  | | | | | | | | |
| *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 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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 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)* | |
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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.

A diagram of a computer

Description automatically generated

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.

A diagram of a function

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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** |