**3GPP TSG- Meeting #124 *R3-243797***

**Fukuoka City, Fukuoka, Japan, 20th – 24th May, 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0397** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HELP***](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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Correction on definition of AI/ML terminology | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung, ZTE, China Telecom, China Unicom | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_AIML\_NGRAN-Core | | | | |  | ***Date:*** | | | 2024-05-10 |
|  |  | | | |  | |  | | |  |
| ***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 terminologies of AI/ML model training and AI/ML model inference are missing. The AI/ML deployment solution agreed on the RAN side involves OAM for model training, so these two terminologies can directly refer to SA5's definition. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Add the definitions of AI/ML terminologies in the Section 3.1 and refer to SA5 specification.   Impact analysis:  Impact assessment towards the previous version of the specification (same release):  This CR has an impact under protocol point of view. The impact can be considered isolated because the change affects AI/ML for NG-RAN function only. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The definitions of AI/ML terminologies are missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS38.300 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:*** | |  | | | | | | | | |

<<<<<<<<<<<<<<<<<<<< Begin of changes >>>>>>>>>>>>>>>>>>>>

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 38.300: "NR; Overall description; Stage-2".

[3] 3GPP TS 23.501: "System Architecture for the 5G System".

[4] 3GPP TS 38.473: "NG-RAN; F1 application protocol (F1AP)".

[5] 3GPP TS 38.414: "NG-RAN; NG data transport".

[6] 3GPP TS 38.424: "NG-RAN; Xn data transport".

[7] 3GPP TS 38.474: "NG-RAN; F1 data transport".

<<<<<<<<<<<<<<<<<<<< Unmodified Text Omitted >>>>>>>>>>>>>>>>>>>>

[30] 3GPP TS 38.321 " NR; Medium Access Control (MAC) protocol specification ".

[31] 3GPP TS 37.320: "Radio measurement collection for Minimization of Drive Tests (MDT); Overall description; Stage 2".

[32] 3GPP TS 23.502: "Procedures for the 5G System (5GS); Stage 2".

[33] 3GPP TS 28.532: "Management and orchestration; Generic management services".

[XX] 3GPP TS 28.105: “Management and orchestration; Artificial Intelligence/ Machine Learning (AI/ML) management”

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

3.1 Definitions

For the purpose of the present document, the terms and definitions given in TR 21.905 [1] and the following apply.   
A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

**AI/ML Model Inference:** follows the definition of “AI/ML inference” as specified in clause 3.1 of TS 28.105 [XX].

**AI/ML Model Training:** follows the definition of “ML model training” as specified in clause 3.1 of TS 28.105 [XX].**Associated QoS Flow:** as defined in TS 23.247 [27].

**Associated QoS flow information:** Information encompassing: QoS flow QoS parameters for associated QoS flows and mapping information between mapped (unicast) QoS flows and associated QoS flows. The respective information is included in a way that non-supporting RAN nodes would not establish respective RAN resources irrespective the multicast session state.

**Boundary IAB-node:** anIAB-node with one RRC interface terminating at a different IAB-donor-CU than the F1 interface. This definition applies to partial migration, inter-donor redundancy and inter-donor RLF recovery.

**Conditional Handover:** as defined in TS 38.300 [2].

**Conditional PSCell Addition:** as defined in TS 37.340 [12].

**Conditional PSCell Change:** as defined in TS 37.340 [12].

**DAPS Handover:** as defined in TS 38.300 [2].

**eNB-CP**: as defined in TS 36.401 [28].

**eNB-UP**: as defined in TS 36.401 [28].

**en-gNB**: as defined in TS 37.340 [12].

**Early Data Forwarding**: as defined in TS 38.300 [2].

**F1-terminating IAB-donor**: Refers to the IAB-donor that terminates F1 for the boundary IAB-node or a mobile IAB-node.

**gNB:** as defined in TS 38.300 [2].

**gNB Central Unit (gNB-CU):** a logical node hosting RRC, SDAP and PDCP protocols of the gNB or RRC and PDCP protocols of the en-gNB that controls the operation of one or more gNB-DUs. The gNB-CU terminates the F1 interface connected with the gNB-DU.

**gNB Distributed Unit (gNB-DU):** a logical node hosting RLC, MAC and PHY layers of the gNB or en-gNB, and its operation is partly controlled by gNB-CU. One gNB-DU supports one or multiple cells. One cell is supported by only one gNB-DU. The gNB-DU terminates the F1 interface connected with the gNB-CU. For DC operation, the MgNB-DU designates the gNB-DU of an en-gNB or a gNB acting as master node, and the SgNB-DU designates the gNB-DU of an en-gNB or a gNB acting as secondary node.

**gNB-CU-Control Plane (gNB-CU-CP):** a logical node hosting the RRC and the control plane part of the PDCP protocol of the gNB-CU for an en-gNB or a gNB. The gNB-CU-CP terminates the E1 interface connected with the gNB-CU-UP and the F1-C interface connected with the gNB-DU. For DC operation, the MgNB-CU-CP designates the gNB-CU-CP of the gNB-CU for an en-gNB or a gNB acting as master node, and the SgNB-CU-CP designates the gNB-CU-CP of the gNB-CU for an en-gNB or a gNB acting as secondary node.

**gNB-CU-User Plane (gNB-CU-UP):** a logical node hosting the user plane part of the PDCP protocol of the gNB-CU for an en-gNB, and the user plane part of the PDCP protocol and the SDAP protocol of the gNB-CU for a gNB. The gNB-CU-UP terminates the E1 interface connected with the gNB-CU-CP and the F1-U interface connected with the gNB-DU. For DC operation, the MgNB-CU-UP designates the gNB-CU-UP of the gNB-CU for an en-gNB or a gNB acting as master node, and the the SgNB-CU-UP designates the gNB-CU-UP of the gNB-CU for an en-gNB or a gNB acting as secondary node.

**IAB-node**: as defined in TS 38.300 [2].

**IAB-donor**:as defined in TS 38.300 [2].

**IAB-donor-CU**: the gNB-CU of an IAB-donor, terminating the F1 interface towards IAB-nodes and IAB-donor-DU.

**IAB-donor-DU**: the gNB-DU of an IAB-donor, hosting the IAB BAP sublayer (as defined in TS 38.340 [22]), providing wireless backhaul to IAB-nodes.

**IAB-DU**: as defined in TS 38.300 [2].

**IAB-MT**: as defined in TS 38.300 [2].

**IAB Topology**: as defined in TS 38.300 [2].

**Mapped QoS flows:** Unicast QoS flows requested to be established, i.e. included in the legacy QoS flow lists in a way, that non-support RAN nodes would attempt to establish unicast QoS flows and supporting RAN nodes can identify them as mapped QoS flows based on the associated QoS information.

**Master node:** as defined in TS 37.340 [12].

**Master gNB:** see TS 37.340 [12].

**MBS session resource**: This term is used for specification of NG, Xn, F1 and E1 interfaces. It denotes NG-RAN interface and radio resources provided to support an MBS Session.**MP Relay UE**: as defined in TS 38.300 [2].

**MP Remote UE**: as defined in TS 38.300 [2].

**Multi-path**: as defined in TS 38.300 [2].

**NCR-MT**: as defined in TS 38.300 [7].

**ng-eNB:** as defined in TS 38.300 [2].

**ng-eNB Central Unit (ng-eNB-CU):** as defined in TS 37.470 [21].

**ng-eNB Distributed Unit (ng-eNB-DU):** as defined in TS 37.470 [21].

**ng-eNB-CU-Control Plane (ng-eNB-CU-CP):** a logical node hosting the RRC and the control plane part of the PDCP protocol of the ng-eNB-CU for an ng-eNB. The ng-eNB-CU-CP terminates the E1 interface connected with the ng-eNB-CU-UP and the W1-C interface connected with the ng-eNB-DU.

**ng-eNB-CU-User Plane (ng-eNB-CU-UP):** a logical node hosting the user plane part of the PDCP protocol and the SDAP protocol of the ng-eNB-CU for an ng-eNB. The ng-eNB-CU-UP terminates the E1 interface connected with the ng-eNB-CU-CP and the W1-U interface connected with the ng-eNB-DU.

**NG-RAN node:** as defined in TS 38.300 [2].

**Non-F1-terminating IAB-donor of boundary IAB-node**: Refers to the IAB-donor that has an RRC connection with the boundary node but does not terminate F1 with this boundary node.

**PDU Session Resource**: This term is used for specification of NG, Xn, and E1 interfaces. It denotes NG-RAN interface and radio resources provided to support a PDU Session.

**Public Network Integrated NPN:** as defined in TS 23.501 [3].

**RRC-terminating IAB-donor:** Refers to the IAB-donor that terminates the RRC connection of the mobile IAB-node. The RRC-terminating IAB-donor may also be an F1-terminating IAB-donor.

**Secondary gNB:** see TS 37.340 [12].

**Stand-alone Non-Public Network:** as defined in TS 23.501 [3].

Subsequent CPAC: see TS 37.340 [12].

**U2N Relay UE:** as defined in TS 38.300 [2].

**U2N Remote UE:** as defined in TS 38.300 [2].

<<<<<<<<<<<<<<<<<<<< End of changes >>>>>>>>>>>>>>>>>>>>