3GPP TSG SA WG 2 Meeting #162 S2-2404539r01

**15th – 19th April, Changsha, China**

**Title:** LS on data collection to enable ML model training and inference in 5GC for Direct AI/ML based positioning

**Response to:**

**Release:** Rel-19

**Work Item:** FS\_AIML\_CN

**Source:** SA2

**To:** RAN1, RAN2

**Cc:** RAN3

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**Attachments:** none

# Overall description

SA2 is discussing the Rel-19 key issue and solutions on enhancements to LCS to support Direct AI/ML based positioning corresponding to cases 2b, 3b as defined in TR 38.843.

*- Study whether and how an AI/ML model for Direct AI/ML positioning (i.e. case 2b/3b) is handled:*

*- Which entity trains the model for Direct AI/ML positioning and if the entity that train the model and the consumer are different, how the Model consumer gets the trained AI/ML model;*

*- How the Model consumer uses the trained model to perform inference and/or derive UE position;*

***- Define procedures for data collection with objective to train AI/ML models for Direct AI/ML positioning.***

*- Whether and how to support Direct AI/ML positioning with additional 5GC enhancements.*

*- How to monitor model performance for ML models used for Direct AI/ML based positioning.*

*NOTE 1: UE data collection, model delivery and transfer to the UE and model identification/management are not within the scope of this key issue.*

***NOTE 2: What data to be collected for the model training/model inference/model performance monitoring for LMF-sided model needs to be coordinated with RAN WGs.***

*NOTE 3: Any potential impacts for case1/2a/3a in TR 38.843 [6], are out of the scope and any potential alignment work will be based on the possible requirements defined by RAN WGs considering the conclusions in TR**38.843 [6].*

One of the objectives set as part of this study is to define procedures for data collection to enable ML model training either in LMF or NWDAF.

Some solutions have been proposed for data collection in TR 23.700-84 with the following Note.

NOTE: The data for model training for AI/ML based positioning will be discussed and defined by RAN WGs and SA WG2 will align with RAN WGs.

With this context, SA2 would seek clarification from RAN1 and RAN2 on the following questions:

1. What data to be collected for ML model training for Direct AI/ML based positioning corresponding to cases 2b, 3b has been identified by RAN WG?
2. What data to be collected for performance monitoring of ML models used for Direct AI/ML based positioning corresponding to cases 2b, 3b has been identified by RAN WG ?
3. What data to be collected for location inference using ML models for Direct AI/ML based positioning corresponding to cases 2b, 3b has been identified by RAN WG?
4. Do UEs with special capabilities need to be selected for model training, performance monitoring, and inference corresponding to cases 2b and 3b?
5. Are ML models corresponding to cases 2b and 3b expected to be dependent on cell IDs?

# 2 Actions

**To RAN1, RAN2:**

SA2 kindly asks RAN1, RAN2 to provide feedback on the questions above.

# 3 Dates of next TSG SA WG 2 meetings

SA2#163 27th -31st May 2024 Korea

SA2#164 19th - 23rd August 2024 Europe