**3GPP TSG-SA WG4 Meeting #129-eS4-24xxxx**

**Online, 19 – 23 August 2024**

Title: Draft Reply LS on Feature coding for machines

Response to: LS (S4-241463) on Feature coding for machines [SC 29/WG 4 N 529] from SC 29/WG 4

Release: Release 19

Work Item: FS\_AI4Media (Feasibility Study on Artificial Intelligence (AI) and Machine Learning (ML) for Media)

Source: 3GPP SA4

To: SC 29/WG 4

Cc:

**Contact Person:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

Attachments: 26.927 v0.9.0

**1. Overall Description:**

3GPP SA4 would like to thank SC 29/WG 4 (MPEG Video) for their liaison on Feature coding for machines. We are currently conducting a study on AI/ML for media aimed at analyzing the service configurations requiring AI/ML model transfers and split inference operations between the network and the user device. Federated learning scenarios are also in our scope. This work in progress is document into the attached draft TR 26.927. Beyond the architecture and functional analysis, we are also conducting performance evaluations of those scenarios including compression and optimization techniques. From your liaison, it seems that FCM deals with similar techniques, particularly for the feature reduction (fusion, temporal/spatial resampling, truncation…).

* We would be interested in whether the FCM AI/ML model is applicable to our use cases documented in the attached TR and if it can be generalized to other networks and other tasks such as NLP (Natural Language Processing) and (Large Language Models) LLM.
* We would like to better understand which AI/ML model types are used, if they are generic or specific to feature extraction.

**2. Actions:**

**To SC 29/WG 4 group.**

**ACTION:** Please take the above information into account and provide feedback on:

* + The optimization techniques of the AIML model for FCM and their efficiency, impact on the precision/accuracy.
  + The applicability of FCM AI/ML model on the use cases docuementd into the attached TR 26.927.
  + The generalization of the FCM AI/ML to scenarios other than feature extraction.

**3. Date of Next CT1 Meetings:**

SA4#130 18th-22nd November 2024 Orlando, US 🎡

SA4#131 17th-21st February 2025 Geneva, CH ⛷️