**3GPP TSG-SA WG4 Meeting #132S4-250866 revision of S4-250616**

**Fukuoka, Japan, 19 - 23 May 2025**

**Source: Samsung Electronics Co., Ltd**

**Title: New WID on AI/ML for IMS services**

**Document for: Approval**

**Agenda Item: 17.1**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: Media aspects for AI/ML in IMS services

Acronym: AI\_IMS-MED

Unique identifier:

Potential target Release: Rel-20

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  | X |  | X |  |
| No | X |  | X |  | X |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Study  |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
| X | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| FS\_AI4Media | SA4 | 950011 | Study on Artificial Intelligence (AI) and Machine Learning (ML) for Media |
|  |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 960042 | IMS-based AR Conversational Services |   |

**Dependency on non-3GPP (draft) specification:**

N/A

# 3 Justification

The use of AI/ML for media processing is now common in many different consumer applications, applicable not only to specific user devices (e.g. immersive headsets, mobile phones), but also to a variety of different media services. Whilst AI/ML processing is commonly supported for non-real time services such as consumer picture enhancement or video editing, there is a market need from operators to support AI/ML for media processing in real-time communication services such that new enhanced services can be provided; examples being real-time translation, speech-to-text and text-to-speech applications, object detection, tracking and/or segmentation based computer vision services.

This work focuses on the necessary technical enablers to support AI/ML media processing in real-time communication, in particular specifying AI/ML model formats, signalling support for the delivery of AI/ML data (AI/ML models and intermediate data when split inferencing is involved), as well as the configuration and negotiation of any split model inferencing between a user device and the network. The progress of such work should ensure minimal impact on existing architectures and protocols in order to provide flexible enablers supporting existing and new AI/ML technologies (given the rapid progress of AI/ML) over already existing IMS services.

Following the conclusions of the study in TR 26.927, this work-item prioritizes supporting configurations for AI/ML media processing in IMS based real-time media services.

# 4 Objective

The AI\_IMS-MED work item will focus solely on enabling AI/ML media processing as part of IMS-based services (including audio, video and AR calls) and has the following objectives in Rel-20:

* Extend TS 26.114 and TS 26.264 specifications to support AI/ML data delivery in IMS services, as identified in TR 26.927 clause 5.4.
* Extend TS 26.114 and TS 26.264 specifications to support AI/ML media processing in IMS services, as identified in TR 26.927 in clause 5.5.
* Specify support for AI/ML data signalling and negotiation, including support for split inferencing, as identified in TR 26.927 clause 6.6.
* Select interoperable formats for AI/ML model data as identified in clause 6.2, and intermediate data as identified in TR 26.927 clause 6.3.
* Define the support of the configuration, delivery, compression, and processing of AI/ML data as needed and identified in TR 26.927 clause 6.6
* Identifying optional metadata to support AI/ML data delivery and processing, leveraging existing procedures for IMS-based AR/MTSI calls where possible.

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| *TS 26.114* | *Add support for AI/ML processing to IMS-MTSI* |  |  |
| *TS 26.264* | *Add support for AI/ML processing to IBACS* |  |  |

# 6 Work item Rapporteur(s)

Yip, Eric, Samsung Electronics Co., Ltd, eric dot yip AT samsung dot com

# 7 Work item leadership

SA4

# 8 Aspects that involve other WGs

Collaboration with SA2 may be needed.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Samsung Electronics Co., Ltd. |
| InterDigital Communication |
| Qualcomm Incorporated |