**Source:** **Ericsson LM**

**Title: Proposed updates of IVAS\_Codec\_Ph2 time plan v0.0.1**

**Document for: Discussion and Agreement**

**Agenda Item: 7.5**

**Introduction**

At TSG SA#104, the IVAS\_Codec\_Ph2 work item was approved [1]. An initial work/time plan has been submitted to the present meeting [2]. In this contribution, amendments to the initial time plan are proposed. The proposed updates include the milestones for the IVAS fixed-point conversion as agreed in [3], but also contains further suggestions for discussion.

**Proposal**

It is proposed take the suggestions outlined in Annex A into consideration for the time plan of the IVAS\_Codec\_Ph2 work item. Revision marks are made against the initial time plan in [2].

**References**

[1] Tdoc SP-241000: New WID on EVS Codec Extension for Immersive Voice and Audio Services, Phase 2

[2] TDoc S4-241496: Timeplan for IVAS\_Codec\_Ph2 Work Item v0.0.1

[3] TDoc SA4aA240038: Organization of IVAS Characterization Phase – rev 1

## Annex A – Proposed updates to IVAS\_Codec\_Ph2 time plan (rev. of [2])

# 1 Introduction

The IVAS\_Codec\_Ph2 work item has been approved at the SA plenary #104 in document SP-241000. The work item has the following objectives:

1. A fixed-point C-code to be part of TS 26.251 having:
	* Same functionalities and equivalent performance as the floating-point C-code in TS 26.258.
	* Full interoperability with floating-point C-code in TS 26.258.
	* Comparable complexity as the floating-point C-code in TS 26.258.

This includes verification of 3rd party delivered code and necessary adaptation to the latest version of TS 26.258. This might include some alignment of floating-point C-code in TS 26.258.

1. Characterization of the IVAS codec based on the floating-point and fixed-point C-codes, and documentation of characterization results into TR 26.997.
2. Enhancements to codec conformance test procedures and criteria.
3. Definition of relevant tiers of functionality to be implementable on a wide range of UEs with different capabilities, balancing user experience and implementation complexity/cost.
4. Enhancements to the RTP payload format and SDP negotiation, including split rendering operation.
5. Update relevant system and service specifications.

# 2 Timeplan

The timeplan for the execution of the IVAS\_Codec\_ph2 work item objectives is proposed in the following table.

|  |  |
| --- | --- |
| Meeting | Objectives |
| ~~TSG SA#104 (18~~~~th~~ ~~– 21~~~~st~~ ~~June 2024)~~ | * ~~IVAS\_Codec\_Ph2 Work Item approved by SA Plenary~~
 |
| SA4#129-e (16th – 23rd August 2024, online) | * Agree on initial time plan
 |
| 31st August 2024 | * Delivery of IVAS fixed-point Decoder and Renderer by Ittiam to SA4, fulfilling the FL-to-FX requirements
 |
| Audio SWG call, TBD | * Review progress of the fixed-point code conversion
 |
| 30th September 2024  | * Delivery of IVAS fixed-point Encoder by Ittiam to SA4, fulfilling the FL-to-FX requirements, covering the following operation modes:
	+ Mono (EVS)
	+ ISM (core coder)
	+ Stereo
	+ MCT
 |
| Audio SWG call, TBD | * Review progress of the fixed-point code conversion
 |
| 31st October 2024 | * Delivery of IVAS fixed-point Encoder by Ittiam to SA4, fulfilling the FL-to-FX requirements, covering the following operation modes:
	+ MASA
	+ SBA
	+ Parametric modes
 |
| Audio SWG call, TBD | * Review progress of the fixed-point code conversion
 |
| SA4#130(18th – 22nd November 2024) | * Verification and Agreement by SA4 on Delivery by Ittiam of IVAS fixed-point Decoder and Renderer, fulfilling the FL-to-FX requirements
 |
| 30th November 2024 | * Delivery of complete IVAS fixed-point Encoder by Ittiam to SA4, fulfilling the FL-to-FX requirements, including the following operation modes:
	+ Combined formats
 |
| Audio SWG call, TBD | * Review progress of the fixed-point code conversion
 |
| TSG SA#106(10th – 12th December 2024) | * Approval by TSG SA (SA#106) of Delivery of IVAS fixed-point Decoder and Renderer, fulfilling the FL-to-FX requirements, based on agreement in SA4
 |
| SA4#131(17th – 21st February 2025) | * Verification and Agreement by SA4 on Delivery by Ittiam of IVAS fixed-point Encoder, fulfilling the FL-to-FX requirements
* Finalization of IVAS characterization permanent documents, including:
	+ IVAS-7b Processing Plan for Characterization Phase
	+ IVAS-8b Test Plan for Characterization Phase
 |
| TSG SA#107(12th – 14th March 2025) | * Approval by TSG SA (SA#107) of Delivery of IVAS fixed-point Encoder, fulfilling the FL-to-FX requirements, based on agreement in SA4
 |
| SA4#131-bis-e(7th – 11th April 2025) | * Verification of IVAS fixed-point C-code for TS 26.251 having
	+ Same functionalities and equivalent performance as the floating-point C-code in TS 26.258.
	+ Full interoperability with floating-point C-code in TS 26.258.
	+ Comparable complexity as the floating-point C-code in TS 26.258.

Note: This includes necessary adaptation to the latest version of TS 26.258 on top of the delivery by Ittiam and might include some adaptation of the floating-point C-code in TS 26.258.* Decision on launching characterization tests
 |
| April – May 2025 | * IVAS characterization testing
 |
| SA4#132(19th – 23rd May 2025) | * Characterization test results available for analysis
* Agreement on TS 26.251 (IVAS fixed-point C-code)
* Agreement on characterization test results to be incorporated into TR 26.997
* Agreement on relevant CRs for:
	+ Enhanced conformance procedures and criteria
	+ Definition of relevant tiers of functionality to be implementable on a wide range of UEs with different capabilities, balancing user experience and implementation complexity/cost
	+ Enhancements to the RTP payload format and SDP negotiation, including split rendering operation
* Agreement on CRs for update of relevant system and service specifications
 |
| TSG SA#108 (10th – 13th June 2025) | * TS 26.251 (IVAS fixed-point C-code), for approval
* CR to TR 26.997 on IVAS Codec characterization, for approval
* CR to TS 26.114 on enhanced support for the IVAS Codec, for approval
* CR to TS 26.117 with reference to TS 26.251, for approval
* CR to TS 26.119 on enhanced support for the IVAS Codec, for approval
* CR to TS 26.250 with definition of relevant tiers for implementation of IVAS, for approval
* CR to TS 26.252 on enhanced conformance procedures and criteria, for approval
* CR to TS 26.253 on enhanced RTP Payload Format and SDP negotiation, including split rendering operation
* Potential CR to TS 26.258 on alignment between floating-point code and fixed-point code in TS 26.251, for approval
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