Source:	**TSG-S4 (Codec Working Group) Chairman**
Title:	**Status Report at TSG-SA#5**
Document for:	**Information and Decision**
Agenda Item:	**5.4.1**

TSG-S4 Codec Working Group Status Report

Executive Summary

TSG-SA WG4 (also called in this report TSG-S4 or Codec Working Group) held one meeting since TSG-SA#4. This meeting was preceded by a Joint Session with SMG11 to review the work coordination between the two groups. Following TSG-SA recommendation, S4 and SMG11 agreed to hold joint meetings from now on. An agreement was also reached to transfer the AMR and TFO specifications to S4 pending the SMG approval.

S4 reviewed and approved the AMR VAD and ANSI C-Code specifications (26.094 and 26.073), which are presented to TSG-SA respectively for approval and information. The AMR Frame Structure Specification was also updated and is forwarded to SA to information.

Most AMR deliverables (Release 99) have now been forwarded to SA for approval or information. The only missing piece is the Characterization Report, which can only be completed once the corresponding tests have been performed. On this issue, S4 noted the PCG approval for the required funding. The corresponding test plan should be prepared in the following months and the listening subjective tests completed by 1Q00.

S4 received a number of liaisons from R1 and R3 presenting the current status of the definition of the support of the speech service over the Access Network. This information was quite useful to secure the Characterization Phase. The only remaining non-critical issues relate to the definition of representative channel conditions and the production of the required Error Patterns, which should be solved by TSG-SA#6.

Overall, the AMR specifications should all be approved on time for Release 99.

All S4 Specifications/Report regarding the support of Circuit-Switched H.324 based Multimedia Telephony service are already approved and considered stable. 3 CRs are presented on these documents.

No other deliverables is expected for this R99 work item.

Similarly, no new input was received for the WI QoS for Speech and Multimedia service which objective is to produce Test Reports on the quality offered for CS and PS Multimedia services and review the transmission plans for 3G PLMN networks.

S4 noted that the GSM AMR TFO definition has now been completed and the related specifications should be presented for approval at the next SMG plenary. The TFO subgroup will now focus on the adaptation of these specifications to the 3G environment. Draft specifications are still expected for TSG-SA#6 on time for the approval of Release 1999. S4 also reviewed the N2 Feasibility Report on Out-of-Band Transcoder Control (or Transcoder Free Operation) and sent a couple of response Liaison Statements to clarify some aspects of the In-Band TFO.

S4 and SMG11 agreed to develop the Wideband Codec under a Joint Work Item. A modified version of the WI Description is presented to SA for approval. Preliminary Performance Requirements and Design Constraints are expected for the next S4 meeting.

Annex A contains an updated status list of TSG-S4 deliverables. Annex B contains a copy of the slides presented to the TSG-SA#5 plenary.
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1. Introduction

The 3GPP Codec Working Group held one meeting since the last TSG-SA#4. TSG-S4#5 took place on September 8-10, 1999 following a joint meeting with SMG11 on September 7, 1999. The two meetings were hosted by ETSI in Sophia-Antipolis.

Following the recommendation from TSG-SA, S4 and SMG11 decided to hold joint meetings from now on. S4 and SMG11 also agreed on the following points for the future work coordination between the two groups:

- The maintenance of the GSM AMR and TFO specifications is transferred to S4, pending SMG approval
- The development of the Wideband Speech Codec is made a common S4/SMG11 Work Item
- The SMG11 SQ sub-group becomes a common Sub Working Group of S4 and SMG11
- From an administrative point of view, all other work items continue to be managed by the group under which they were created, but the deliverables must be prepared to be applicable to both systems (GSM and 3GPP). This specifically applies to the development of the AMR Noise Suppresser (managed by SMG11) and the Codec for Multimedia (managed by S4).

TSG-S4 will hold two more meetings in 1999 and has scheduled 4 meetings dates for 1999. Hosts are required for all meetings except for the next TSG-S4#7. In order to reduce the cost of hosting, SMG11 and TSG-S4 also agreed to hold electronic (paperless) meeting from now on.

Meetings held:

Joint SMG11/S4:   September 7.
TSG-S4#6:   September 8-10   hosted by ETSI in Sophia-Antipolis, France.

Next Meetings dates:

TSG-S4#7/SMG11#12:   October 18-22   hosted by Texas Instruments in St-Laurent-du-Var, France.
TSG-S4#8/SMG11#13:   December 6-10   host required.
TSG-S4#9/SMG11#14:   January 24-28   host required.
TSG-S4#10/SMG11#15: May 15-19   host required.
TSG-S4#11/SMG11#16: September 4-8   host required.
TSG-S4#12/SMG11#17: October 23-27   host required.

Annex A contains an updated list of TSG-S4 deliverables providing status information and target approval dates for each specification.

Annex B contains a copy of the slides presented at TSG-SA#5.

2. Release 99: Mandatory Speech Codec

The complete status list of the AMR specifications is provided in the following table.

Following the approval by SMG of the GSM AMR VAD specification, the corresponding 3G specification (3G TS 26.094 included in Tdoc SP-99356) is presented to TSG-SA#5 for approval.

The AMR ANSI C-Code (3G TS 26.073) is presented for information as version 1.0.0. Understanding that this specification will be made available on the free access 3GPP Web site after its review by TSG-SA, S4 would like to point out that this specification contains the C-Code of the AMR codec and as it appears will not contain any Copyright Statement. On the opposite the equivalent GSM specification contains a standard ETSI Copyright Statement.

The AMR Frame structure specification (3G TS 26.101) was once again updated (now v1.4.0) and is presented again for information to TSG-SA. One the modifications included in this version consisted in changing the number of Class 1 bits for the 6.7 kbps mode, as requested by RAN, to facilitate the blind rate detection.

No CR is presented on the previously approved specifications, which can be considered as stable.

Deliverable	Title	Latest version	Comment/Status	Approval
TS 26.071	AMR Speech Codec; General Description	3.0.1	Stable. Presented for approval at TSG-SA#4 in Tdoc SP-99244	Approved
TS 26.090	AMR Speech Codec; Transcoding functions	3.0.1	Stable. Presented for approval at TSG-SA#4 in Tdoc SP-99245	Approved
TS 26.073	AMR Speech Codec; ANSI C-Code	1.0.0	Presented for information at TSG-SA#5 in Tdoc **SP-99355**	TSG-SA#6
TS 26.074	AMR Speech Codec; Test Sequences	2.0.0	Presented for information at TSG-SA#4 in Tdoc SP-99252 Includes Test Sequences for ENS VAD option 1 only.	TSG-SA#6
TS 26.091	AMR Speech Codec; Error Concealment of lost frames	3.0.1	Stable. Presented for approval at TSG-SA#4 in Tdoc SP-99246	Approved
TS 26.092	AMR Speech Codec; Comfort noise aspects	3.0.1	Stable. Presented for approval at TSG-SA#4 in Tdoc SP-99247	Approved
TS 26.093	AMR Speech Codec Source Controlled Rate operation	3.0.1	Stable. Presented for approval at TSG-SA#4 in Tdoc SP-99248	Approved
TS 26.094	AMR Speech Codec Voice Activity Detector	2.0.0	Stable. Presented for approval at TSG-SA#5 in Tdoc **SP-99353**	TSG-SA#5
TS 26.101	AMR Speech Codec Frame Structure	1.4.0	New update presented for information at TSG-SA#5 in Tdoc **SP-99356**	TSG-SA#6
TS 26.102	AMR Speech Codec Interface to Iu and Uu	0.2.0	Internal draft available. Should define the mapping of the AMR Frame Structure onto the Iu Interface	TSG-SA#6
TR 26.901	AMR Speech Codec Performances Characterization	-	Funding approved by PCG Preparation of Test plan under way	TSG-SA#7

The only deliverables for which no draft has been presented yet to TSG-SA are:

- The Interface to Iu specification (26.102) that S4 indents to use to describe the mapping of the AMR Frame structure (defined in a generic format in 26.101) onto the Iu Interface. If this appears to be unnecessary, this specification will be removed from the list of AMR specifications.

- The Characterization Phase Report (26.901) which can only be completed once the corresponding tests have been performed.

Regarding the Characterization phase, S4 noted the PCG endorsement for the corresponding funding (55 kEuros). The SQ sub-group was tasked to prepare the required test plan and schedule the execution of the subjective listening tests. This task is unlikely to be completed before 1Q00. The Characterization Report would then be presented at TSG-SA#7.

S4 also received substantial progress status information from R1 and R3 regarding the support of the speech service over the Access Network. This information providing a high level summary of the current working assumptions in R1 and R3 was highly appreciated. It appears that the current status of the definition of the support of the speech service over the Access Network is sufficiently well progressed to except a quick completion of the AMR characterization phase. The only open issues remain the definition of the relevant channel conditions and error patterns, but these should be solved before the next SA plenary possibly during a joint meeting with R1, R3 and R4, if felt necessary.

With the exception of the Characterization Report, this Work Item should be completed on time for the approval of Release 99.

3. Release 99: Codec for Circuit Switched H.324 Based Multimedia Telephony Service

An updated status list of all deliverables for this work item is provided below and in Annex A.

All S4 specifications are now under change control and considered stable.

S4 was informed that the joint S1, S2, N1, N2 meeting on Multimedia reviewed the content of the proposed specification on Call set-Up Requirements for Circuit Switched Multimedia Telephony service (TS 26.112) and decided to give to N3 the responsibility to transfer the content of this specification in the existing CN specifications. As a result this specification will be deleted from the list of S4 deliverables.

Deliverable	Title	Latest Version	Comment/Status	Approval
TS 26.110	Codec(s) for Circuit Switched Multimedia Telephony Service General Description	3.0.1	Stable Presented for approval at TSG-SA#4 in Tdoc SP-99249	Approved
TS 26.111	Codec(s) for Circuit Switched Multimedia Telephony Service Modifications to H.324	3.0.1	Stable Presented for information at TSG-SA#4 in Tdoc SP-99250	Approved
TS 26.112	Codec(s) for Circuit Switched Multimedia Telephony Service Call Set Up Requirements	1.1.0	Version 1.0.0 presented for information at TSG-SA#3 in Tdoc SP-99204 Version 1.1.0 reviewed in TSG-S4#5 (S4-99177) and sent to TSG-N1,N2 Content to be transferred I existing N3 specifications	To be removed
TR 26.911	Codec(s) for Circuit Switched Multimedia Telephony Service Terminal Implementor's Guide	3.0.1	Stable Presented for approval at TSG-SA#4 in Tdoc SP-99251	Approved

3 Change Requests (1 CR on 26.111 and 2 CRs on 26.911) are presented to TSG-SA for approval:

Document	Spec.	Ver.	CR	Rev	Description
SP-99359	26.111	3.0.1	001		Clarification on AMR H.245 Code Points Status
SP-99357	26.911	3.0.1	001		Recommendation to support videoFastUpdate commands for H.263 implementation
SP-99358	26.911	3.0.1	002	1	New recommendation for improved robustness and compression efficiency in H.263 implementation

No other deliverable should be expected for this Work tem as part of Release 99.

4.Release 99: QoS for Audio and Multimedia Codecs

The complete list of deliverables for this work item is provided below and in Annex A.

Deliverable	Title	Latest Version	Comment/Status	Approval
TR 26.912	Quantitative performance evaluation of H.324 Annex C over 3G	1.0.0	Version based on ARIB test results Presented for Information at TSG-SA#4 in Tdoc SP-99254	TSG-SA#6(?)
TR 26.913	Quantitative performance evaluation of real-time packet switched multimedia services over 3G	0.0.1	Reviewed in TSG-S4#5 Inputs expected for next TSG-S4 meetings	?
TR 26.915	Transmission planning aspects of the services in 3G PLMN System	-	First draft now expected for 10/99 (derived from GSM 03.50)	?

No new input was received for this Work Item.

The situation on the availability of the missing deliverables will be re-assessed at the next S4 meeting and presented at the next SA plenary.

5. Release 99: 3G Audio-Visual Terminal Characteristics

Still no contributions received on this work item.

The Acoustic and Visual specifications and Test specifications for 3G Terminal supporting the narrow band speech service and/or Multimedia service, initially scheduled for Release 99 are unlikely to be completed for the approval of the 3GPP Release 99.

The planning of availability of the corresponding deliverables will be reviewed at the next S4 meeting and presented to the next SA plenary.

6. Tandem Free Operation in 3G systems and between 2G and 3G systems

S4 reviewed the progress status of the definition of the GSM AMR TFO operation (evolution of 08.62), which should be approved at the next SMG plenary. The TFO sub-group should now focus its activity on 3G matters and define the required enhancements to the existing GSM TFO specifications for their application to the 3G systems. For this purpose, the GSM TFO specifications (02.53 and 08.62) were transferred from SMG11 to S4.

Draft 3G specifications are still expected for TSG-SA#6 on time for the approval of Release 99.

S4 also reviewed the N2 Feasibility Phase Report on the Out-of-Band Control of Transcoder and sent a response Liaison Statement with some clarifications regarding the characteristics of In-band TFO. S4 also proposed a dedicated terminology to differentiate Tandem Free Operation (acronym TFO) from Transcoder Free Operation (proposed acronym: TrFO).

TFO is defined as the configuration of a Speech or Multimedia call for which Transcoders are physically present in the communication path but transcoding functions are disabled or partially disabled. The Transcoders may perform control and/or protocol conversion functions.

TrFO is defined as the configuration of a Speech or Multimedia call for which Transcoders are not present in the communication path.

TFO can be established using In-Band or out-of-band signaling. TrFO requires out-of-band control.

7. Release 2000: Codec(s) for Wideband Telephony services

S4 and SMG11 agreed to develop and select the Wideband Codec under a common Work Item. A modified version of the corresponding Work Item Description was prepared for that purpose. It is submitted to TSG-SA for information and approval. The key difference with the previous version of the 3G Work Item Description is that the Wideband Codec is now defined as an extension of the AMR narrow band speech codec. This extension is only relevant for the compatibility with the GSM In-Band signaling and Codec Mode adaptation.

The definition of the relevant Wideband Codec Performance Requirements and Design Constraints is planned for the up-coming TSG-S4 meetings.

8. Miscellaneous

TSG-S4 reviewed the new version of the ITU-R Recommendation M.1079 and provided comments to S2, cc to RAN for submission to ITU-R TG8/1.

A Liaison Statement was also sent to N2 accepting to take the responsibility to manage the list of Codec Types and Codec Configuration for the negotiation of Transcoder Free Operation.

Deliverable	Title	Features under study	Editor	Date for approval	WI Rapporteur	Comment/Status
TS 26.071	AMR Speech Codec; General Description	None Mandatory Speech Codec selected	Erik Ekudden Ericsson	Approved at TSG-SA#4	Erik Ekudden Ericsson	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99244
TS 26.090	AMR Speech Codec; Transcoding functions	None Mandatory Speech Codec selected	Erik Ekudden Ericsson	Approved at TSG-SA#4	Erik Ekudden Ericsson	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99245
TS 26.073	AMR Speech Codec; ANSI C-Code	None Mandatory Speech Codec selected. Based on SMG VAD decision	Erik Ekudden Ericsson	Baseline: TSG-SA#5 Release 99: TSG-SA#6	Erik Ekudden Ericsson	Version 1.0.0 presented for information at TSG-SA#5 in Tdoc **SP-99355**
TS 26.074	AMR Speech Codec; Test Sequences	Definition of Test Sequences	Erik Ekudden Ericsson	Release 99: TSG-SA#6	Erik Ekudden Ericsson	Version 2.0.0 as presented to TSG-SA#4 in Tdoc SP-99252
TS 26.091	AMR Speech Codec; Error Concealment of lost frames	None Mandatory Speech Codec selected	Erik Ekudden Ericsson	Approved at TSG-SA#4	Erik Ekudden Ericsson	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99246
TS 26.092	AMR Speech Codec; Comfort noise aspects	None Mandatory Speech Codec selected	Erik Ekudden Ericsson	Approved at TSG-SA#4	Erik Ekudden Ericsson	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99247
TS 26.093	AMR Speech Codec Source Controlled Rate operation	Adaptation of existing GSM DTX specification	Erik Ekudden Ericsson	Approved at TSG-SA#4	Erik Ekudden Ericsson	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99248
TS 26.094	AMR Speech Codec Voice Activity Detector	None Derived from SMG approved specification with two VAD Options	Jari Hagqvist Nokia	Baseline: TSG-SA#5 Release 99: TSG-SA#6	Erik Ekudden Ericsson	Version 2.0.0 presented for information at TSG-S4#5 in Tdoc **SP-99353**
TS 26.101	AMR Speech Codec Frame Structure	Frame bit content, CRC, Octet Aligned Frame Format for AMR Codec Modes	Jari Hagqvist Nokia	Baseline: TSG-SA#4 Release 99: TSG-SA#6	Erik Ekudden Ericsson	Version 1.4.0 presented for information at TSG-SA#5 in Tdoc **SP-99356**
TS 26.102	AMR Speech Codec Interface to Iu and Uu	In relation with definition of system interfaces (Iu) Purpose: Define the mapping between the Iu generic format and the AMR generic format as defined in 26.101	William Navarro Nortel Networks	Release 99: TSG-SA#6	Erik Ekudden Ericsson	Version 0.2.0 reviewed in TSG-S4#4 (S4-99133) Stable version expected for TSG-SA#6
TR 26.901	AMR Speech Codec Performances Characterization	Preparation of test plan, identification of Host Lab and Listening Lab Dependency: Definition of Channel Coding by TSG-R1, Agreement on Channel conditions to test and production of Error Patterns	Alain Ohana GSM North America	Release 99: TSG-SA#6	Erik Ekudden Ericsson	55kEuro Funding accepted by PCG Preparation of Test Plan through SMG11/S4 SQ Sub-group. Actual Tests expected for end 99 or 1Q00
TS 26.110	Codec(s) for Circuit Switched Multimedia Telephony Service General Description	-	Barry Aronson Toshiba	Approved at TSG-SA#4	Barry Aronson Toshiba	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99249
TS 26.111	Codec(s) for Circuit Switched Multimedia Telephony Service Modifications to H.324	-	Hirokazu Tanaka Toshiba	Approved at TSG-SA#4	Barry Aronson Toshiba	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99250. 1 CR presented to TSG-SA#5 in Tdoc **SP-99359**
TS 26.112	Codec(s) for Circuit Switched Multimedia Telephony Service Call Set Up Requirements	Requirements gathered by TSG-S4, sent as input for TSG-CN, N1, N2 work	Harri Honko Nokia	Baseline: TSG-SA#3 Release 99: TSG-SA#6	Barry Aronson Toshiba	Version 1.0.0 presented for information at TSG-SA#3 in Tdoc SP-99204 Version 1.1.0 reviewed in TSG-S4#5 (S4-99177) and sent to TSG-N1,N2 N3 to transfer content in existing CN Specs.
TR 26.911	Codec(s) for Circuit Switched Multimedia Telephony Service Terminal Implementor's Guide	-	Petri Haavisto Nokia	Approved at TSG-SA#4	Barry Aronson Toshiba	Version 3.0.1 as approved by TSG-SA#4 in Tdoc SP-99251. 2 CRs presented to TSG-SA#5 in Tdoc **SP-99357/SP-99358**

Annex A: List of TSG-S4 Deliverables: Version: 0.5, 1999-09-10

Deliverable	Title	Features under study	Editor	Date for approval	WI Rapporteur	Comment/Status
TR 26.912	Quantitative performance evaluation of H.324 Annex C over 3G	-	Olle Franceschi, Ericsson	Baseline: TSG-SA#4 Release 99: TSG-SA#6	Harri Honko Nokia	Version 1.0.0 presented for Information at TSG-SA#4 in Tdoc SP-99254
TR 26.913	Quantitative performance evaluation of real-time packet switched multimedia services over 3G	-	Harri Honko Nokia	Release 99: TSG-SA#6	Harri Honko Nokia	Version 0.0.1 reviewed in TSG-S4#5 (S4-99160)
TR 26.915	Transmission planning aspects of the services in 3G PLMN System	Possibly derived from GSM03.50	Ian Goetz BT-Cellnet (tbc)	Release 99: TSG-SA#6	Harri Honko Nokia	First draft now expected for 10/99
TS 26.xx1	Narrow Band (3.1kHz) Speech & Video Telephony Terminal Acoustic Characteristics	-	Ian Goetz BT-Cellnet	Release 99: TSG-SA#6	Ian Goetz BT-Cellnet	First draft expected for 10/99
TS 26.xx2	Narrow Band (3.1kHz) Speech & Video Telephony Terminal Acoustic Test Specification.	-	Ian Goetz BT-Cellnet	Release 99: TSG-SA#6	Ian Goetz BT-Cellnet	First draft expected for 12/99
TS 26.xx3	Wide Band Speech Telephony Terminal Acoustic Characteristics	-	Paul Barrett BT	Release 00	Ian Goetz BT-Cellnet	First draft expected for 12/99
TS 26.xx4	Wide Band Speech Telephony Terminal Acoustic Test Specification	-	Paul Barrett BT	Release 00	Ian Goetz BT-Cellnet	First draft expected in 2000
TS 26.xx5	Terminal Display and Camera Characteristics For H.324 Narrow-band Video Telephony Service	-	tbd	Release 99: TSG-SA#6	Ian Goetz BT-Cellnet	First draft expected for 12/99
TS 26.xx6	Terminal Display and Camera Test Specifications For H.324 Narrow-band Video Telephony Service	-	tbd	Release 99: TSG-SA#6	Ian Goetz BT-Cellnet	First draft expected for 12/99
TS 26.xx7	Terminal Display and Camera Characteristics For H.323 Narrow-band Video Telephony Service	-	tbd	Release 99: TSG-SA#6	Ian Goetz BT-Cellnet	First draft expected for 12/99
TS 26.xx8	Terminal Display and Camera Test Specifications For H.324 Narrow-band Video Telephony Service	-	tbd	Release 99: TSG-SA#6	Ian Goetz BT-Cellnet	First draft expected for 12/99
TS 22.053	Tandem Free Operation of speech codecs; Stage 1 service description	Evolution of GSM 02.53 Sent to TSG-S1 for review	William Navarro Nortel Networks	Release 99: TSG-SA#6	William Navarro Nortel Networks	Version 0.1.1 reviewed in TSG-S4#4 (S4-99138)
TR 26.920	Architectural Model for the 3G Transcoders	Version 0.1.1 sent to TSG-S2 for comments	William Navarro Nortel Networks	Release 99: TSG-SA#6	William Navarro Nortel Networks	Version 0.1.1 reviewed in TSG-S4#4 (S4-99147)
TS 26.121	Technical Specification for Tandem Free Operation within 3G networks	Derived from GSM 08.62	?	Release 99: TSG-SA#6	William Navarro Nortel Networks	First draft expected for 10/99
TS 26.122	Technical Specification for Tandem Free Operation between 3G and 2G networks	Also derived from GSM 08.62	?	Release 99: TSG-SA#6	William Navarro Nortel Networks	First draft expected for 10/99

Work Programs:

WI-S4-1: Mandatory Speech Codec for Narrow band Speech Telephony Service
  Draft Work Program available for internal TSG-S4 use

WI-S4-2: Codec for Low bit rate Multimedia Telephony Service
  Draft Work Program available for internal TSG-S4 use

WI-S4-3: QoS for Speech and Multimedia Codec
  Work Program version 0.2.0 presented for information at TSG-SA#3 (Tdoc SP-99130)

WI-S4-4: 3G Audio-Visual Terminal Characteristics
  Draft Work Program now expected for TSG-S4#7

WI-S4-5: Codec(s) for Wideband Telephony Services
  Draft Work Program now expected for TSG-S4#6

WI-S4-6: Tandem Free Operation in 3G systems and between 2G and 3G systems
  Work Program version 0.3.0 reviewed in TSG-S4#5 (Tdoc S4-99174)

TSG-S4 CODEC Working Group
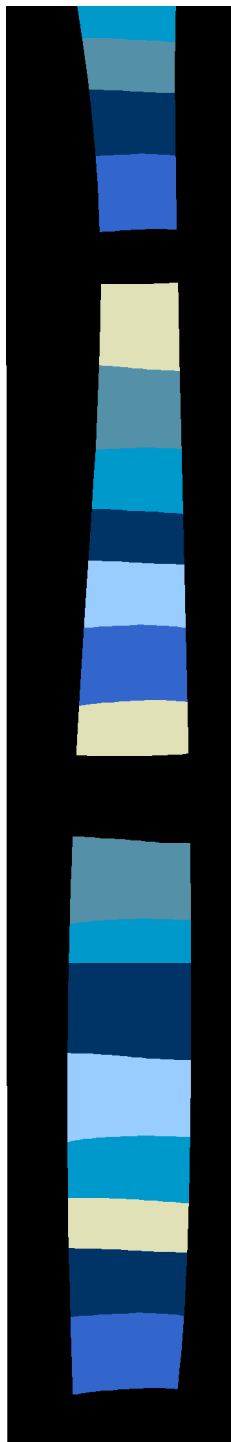
Status Report

TSG-SA#5
October 11-13, 1999
Kyongju, Korea

Alain Ohana
TSG-S4 Chairman
GSM North America, T1

3GPP TSG-S4

TSG-S4 Documents

- SP-99363   TSG-S4 Status Report

- SP-99353   3G TS 26.094 v2.0.0 (AMR VAD)
- SP-99354   Wideband Codec WI Description
- SP-99355   3G TS 26.073 v1.0.0 (AMR ANSI C-Code)
- SP-99356   3G TS 26.101 v1.4.0 (AMR Frame Structure)
- SP-99357   CR001 to 3G TS 26.911
- SP-99358   CR002 to 3G TS 26.911
- SP-99359   CR001 to 3G TS 26.111

3GPP TSG-S4

Meetings Schedule

- **1 Meeting held since TSG-SA#4**
  - Joint SMG11/TSG-S4: September 7, Sophia-Antipolis
  - TSG-S4#6: September 8-10, Sophia-Antipolis
    both hosted by ETSI
- **Next Meetings Schedule: All Joint Meetings with SMG11**
  - TSG-S4#7: October 18-22, in St-Laurent-du-Var, France hosted by
    Texas Instruments
  - TSG-S4#8: December 6-10   host required
  - TSG-S4#9: January 24-28   host required
  - TSG-S4#10: May 15-19   host required
  - TSG-S4#11: September 4-8   host required
  - TSG-S4#12: October 23-27   host required
- **Meetings Statistics**
  - ~40-50 Participants, 1 week, ~50 Documents

3GPP TSG-S4

Work Coordination with SMG11

- Agreements reached during the last joint S4/SMG11 meeting:
  - S4 and SMG11 to hold joint meetings from now on
  - GSM AMR and TFO specifications transferred from SMG11 to S4, pending SMG approval
  - SMG11 SQ Sub-Group (Speech Codec Quality Test and Evaluation) becomes a common Sub Working Group of SMG11 and S4
  - Wideband Codec development becomes a common Work Item
  - Other WI continue to be managed as before but deliverables must be applicable to both GSM and 3GPP (AMR Noise Suppresser under SMG11 responsibility)
  - Documents to be exchanged in electronic format only in future meetings

3GPP TSG-S4

Highlights

Release 99

- AMR Speech Codec
  - New AMR VAD and ANSI C-Code forwarded to TSG-SA
  - Preparation and execution of Characterization Tests in 3Q99-1Q00
- Low Codec for Multimedia Telephony Service:
  - CS H.324 Based: All S4 specifications under change control
- 3G Audio-Visual Terminal Characteristics
  - No input
- Tandem Free Operation
  - 3G TFO specification based on transferred GSM TFO specification

Release 2000

- Wideband Speech Codec: No significant progress so far

3GPP TSG-S4

Release 99: AMR Speech Codec

- No CR on approved specifications
- VAD specification presented to TSG-S4 for approval (TS 26.094)
- ANSI C-Codec presented for information (TS 26.073 v1.0.0)
- Frame Structure specification updated and presented again for information (TS 26.101 v1.4.0)
- Missing deliverables:
  - 3G TS 26.102 (Interface to Iu): Proposed content to describe the mapping of the AMR Frame Structure onto the Iu Interface
  - 3G TS 26.901 (Characterization Phase Report): Pending execution of the Characterization Tests
- Characterization Phase
  - Substantial Progress Information received from R1 and R3
  - Preparation/Execution of Characterization Tests: 3Q99-1Q00
  - Only pending issue: Agreement with RAN on representative channel conditions and production of Error Patterns

3GPP TSG-S4

Release 99: AMR Speech Codec

Specification	Title	Last Version	Status
3G TS 26.071	General Description	3.0.1	√
3G TS 26.090	Transcoding Functions	3.0.1	√
3G TS 26.073	ANSI C-Code	1.0.0	Approval SA#6
3G TS 26.074	Test Sequences	2.0.0	Approval SA#6
3G TS 26.091	Error Concealment of lost frames	3.0.1	√
3G TS 26.092	Comfort Noise Aspects	3.0.1	√
3G TS 26.093	Source Controlled Rate Operation	3.0.1	√
3G TS 26.094	Voice Activity Detection	2.0.0	√
3G TS 26.101	Frame Structure	1.4.0	Approval SA#6
3G TS 26.102	Interface to Iu	0.2.0	Approval SA#6
3G TS 26.901	Characterization Phase Report	-	Approval SA#7 (1Q00)

Work Item should be completed at TSG-SA#6, except for the production of the Characterization Phase Test Report

3GPP TSG-S4

Release 99: Codec for Multimedia Telephony Service

- **CS H.324 Based (3G 324) Multimedia Telephony Service**
  - All S4 Specifications/Report under Change Control and stable
  - 1CR on 26.111 and 2 CRs on 26.911 TS 26.911 (non critical)
  - Content of Call Set-Up Requirement Specifications (26.112) to be transferred in existing N3 specifications

- **No R99 deliverable expected for Packet Based Multimedia Telephony Service**

- **No new inputs received for the Quality of Service evaluation of Speech and Multimedia Codec**

3GPP TSG-S4

Release 99: Codec for Multimedia Telephony Service & QoS for Speech and Multimedia Codec

Specification	Title	Last Version	Status
Codec for CS Multimedia Telephony Service:			
3G TS 26.110	General Description	3.0.1	√
3G TS 26.111	Modifications to H.324	3.0.1	√
3G TS 26.112	Call Set-Up Requirements	1.1.0	Transferred to N3
3G TS 26.911	Implementor's Guide	3.0.1	√
QoS for Speech and Multimedia Codec:			
3G TS 26.912	Quantitative Evaluation of H.324 Annex C over 3G	1.0.0	Approval SA#6 ?
3G TS 26.913	Quantitative Evaluation of Real-Time Packet Multimedia services over 3G	-	No input
3G TS 26.914	Transmission Planning Aspects of services in 3G PLMN systems	-	No input

No missing Critical Item for completion of Release 99

3GPP TSG-S4

Other Release 99 Work Items

- **WI S4-4: 3G Audio-Visual Terminal Characteristics**
    - (Specification of Acoustic and Visual Characteristics of 3G Terminals, derived from GSM 03.50 and new ITU development)
    - – No input received so far
    - – Unlikely to be completed before TSG-SA#6
- **WI S4-6: Tandem Free Operation in 3G or between 2G and 3G systems**
    - – Reviewed progress of GSM AMR TFO specification (now completed)
    - – Working Group to focus now on 3G aspects
    - – GSM TFO specification (08.62) transferred to S4
    - – Draft 3G specifications still expected for TSG-SA#6
    - – Reviewed N2 report on Out-of-band control of Transcoder for Transcoder Free Operation (TrFO $\neq$ TFO)
    - – Sent response LS to clarify some aspects of TFO

3GPP TSG-S4

Documents Presented for Approval

Document	Specification	Version	Title
SP-99353	3G TS 26.094	2.0.0	AMR Speech Codec: Voice Activity Detector

Document	Spec.	Ver.	CR	Rev	Description
SP-99359	26.111	3.0.1	001		Clarification on AMR H.245 Code Points Status
SP-99357	26.911	3.0.1	001		Recommendation to support videoFastUpdate commands for H.263 implementation
SP-99358	26.911	3.0.1	002	1	New recommendation for improved robustness and compression efficiency in H.263 implementation

Document	Title
SP-99354	New Wideband Codec Work Item Description

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Documents Presented for Information

Document	Spec.	Ver.	Title
SP-99355	26.093	1.0.0	AMR Speech Codec: ANSI C-Code (see Cover Note)
SP-99356	26.101	1.4.0	AMR Speech Codec: Frame Structure

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