Tdoc S4/SMG11 (00)0095

Source: **TSG-S4 Chairman**[1]

Title: **TSG-S4#9 Meeting Outcome**

Document for: **Information**

Agenda Item: **3**

This document provides a summary of the key outcome of the TSG-S4#9 meeting. Please report to the official meeting minutes for a full review of the discussions. A list of S4 outputs is provided in attachment 1.

Completion of Release 99: Status Review of Open Items

AMR Characterization Report: No significant progress. Still missing final agreement on representative Error Conditions. The March 2000 deadline will be missed without consequences. The R98 version of the AMR Characterization Report (TS 06.75/Draft TS6.975) was completed with performance data of the AMR speech codec modes as a function of FER & RBER providing preliminary information on the AMR Performances in 3G channels.
QoS for Speech and Multimedia: Completed the 3G TR 26.912 on the Quantitative Performance Evaluation of H.324 Annex C over 3G with AMR Speech Codec performance data extracted from the Characterization Report. Raised the specification to v2.0.0 for presentation and approval at TSG-SA#7. Action completed.
Floating Point AMR C-Code: Still on-going. Reviewed progress status and preliminary test results. Final results and specifications approval expected by TSG-S4#10 in March 2000.
Transmission planning aspects of services for 3G networks: Reviewed a skeleton of the TR 26.915 on the Transmission Planning aspects in 3G Networks. Agreed to focus the document on recommendations and/or requirements for Electrical Echo Cancellation using the relevant sections of the GSM 03.50. Decision required on the necessity to keep the document as a Technical Report or to raised it to a Technical Specification. Target completion kept to March 2000 and TSG-SA#7.
3G Audio-Visual Terminal Characteristics: Reviewed preliminary drafts of the TS 26.132 containing the 3G Terminal Acoustic Test Requirements. Agreed to set an expert drafting session to progress this task around April 2000, giving the possibility to STQ members to contribute to this work. Offer to host this meeting and final date to be provided and agreed by correspondence. Target completion kept to June 2000 and TSG-SA#8.

WI-1: Mandatory Speech Codec

Approved CR A021 on GSM 06.73 and CR 001 on 3G TS 26.073 (AMR C-Code) correcting a problem on the 5.9 mode introduced by a previously agreed CR. This CR will unfortunately require an update of the C-Code and Test Vectors (GSM 06.74/3G TS 26.074).
Approved 2 CRs on the R98 AMR Characterization Report (GSM 08.75) and 2 CRs o the 3G TS 26.102 (Interface to Iu and Uu).
Noted that CR 001Rev1 on 3G TS 26 102 recommended a set of SDU Error Ratio and Residual Bit Error Rate for the activation of an AMR carrying Radio Bearer, not in the range allowed by the latest known version of 3G TS 23.107. Evolution of this specification (YS 23.107:QoS Concept and Architecture under S2 responsibility) to be monitored to check the consistency with the recommended values included in 3G TS 26.102.
No progress on the completion of the AMR 3G Characterization. Still missing agreement on a set of representative 3G Error Conditions. Target completion date of March 2000 should be missed without major consequences. CR 003 on the GSM 06.75 (AMR Characterization Report) introduced Annex D showing AMR performance data as a function of FER/RBER provides preliminary information on the expected AMR performances in 3G Channels.
Reviewed version 1.1.0 of the R99 AMR Characterization Report (TS 26.975) derived from the latest version on the R98 version of the report and including the CRs approved in session.

WI-2: Codec for Multimedia Telephony service

No new CR or update on the related specifications.
Forwarded a Toshiba contribution proposing to use Mobile IP in conjunction with H.323 to TSG-S2 believed to be the 3G WG with the expertise and responsibility to discuss this issue.

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[1] **Alain Ohana**
BellSouth Mobility DCS & GSM North America Alliance
Mailing Address: PO Box 868075, Plano, TX 75086-8075, USA
Tel: 1 972 517 0709
Fax: 1 972 517 0709
Email: alain.ohana@pcs.bls.com

AMR Floating-Point C-Code: Reviewed the status on the preparation and evaluation of the AMR Floating-Point ANSI C-Code. Code still missing VAD Option 2 pending final NDA approval between contributing organizations. Preliminary version was already distributed to a number of organizations that have accepted to contribute to this activity. A detailed work task was also reviewed and will be completed and distributed over the reflector. Final version of the Code to be frozen by early February 2000. Reviewed a new version of the related specification (future 3G TS 26.104) and preliminary evaluation tests showing performance results generally equivalent to the Fixed-Point version. Completion still planned for the next TSG-S4 meeting on time for the presentation of specification for approval to TSG-SA#7 in March 200.
Pending question if it should be the only authorized Floating-Point version of the code: not discussed at this meeting.

WI-3: QoS for Speech and Multimedia Codec

Updated the 3G TR 26.912 on the Quantitative Evaluation of H.324M over 3G Networks with AMR performance data as a function of FER/RBER extracted from the AMR Characterization Report, n addition to further editorial modifications. Raised the report to v2.0.0 for presentation for approval to TSG-SA#7.
Reviewed a skeleton of 3G TR 26.915 on Transmission Planning Aspects of services in 3G Networks. Without further indications from other TSG WGs on the expected Transmission Delay of the speech service in 3G networks, decided to focus the document on requirements or recommendations for Electrical Echo cancellation using the relevant sections of the GSM 03.50, providing that the transmission delay is expected to be large enough to require Echo Cancellation in the same network configurations as for GSM. Decision required on the necessity to keep the document as a Technical Report or to raised it to a Technical Specification. New version of the document expected for the next TSG-S4 plenary. Completion date still planned for March 2000 and TSG-SA#7.

WI-4: 3G Audio-Visual Terminal Characteristics

Reviewed preliminary drafts of the 3G TS 26.132 containing 3G Terminal Acoustic Test Requirements. Agreed to set an expert drafting session by April 2000 to progress this activity, giving the possibility to STQ members to further contribute to this work. Completion date still planned for June 2000 and TSG-SA#8.
Received and answered to Liaison from TSG-T1 indicating the removal the Digital Audio Interface from the Terminal specifications and the existence of a new specification defining the 3G Terminals test environment. As indicated in the response sent to TSG-T1, any reference to the DAI must be removed from the TSG-S4 specifications and specifically from the 3G TS 26.131 containing the 3G Terminal Acoustic Performance Requirements.

WI-5: Codec(s) for Wideband Telephony service: Common item with SMG11: R2000

Proponents identity (9) relieved in session: CONBASCA Consortium (lead by Matra Nortel Communications with FT/CNET, ST Microelectronics, Thomson CSF Communication, GET-ENST-Bretagne, Eurecom Institute) Ericsson, France Telecom, Matsushita, Motorola, Nokia, Siemens AG and T-Nova Deutsche Telekom.
Further reviewed and updated the Permanent Documents on the Performance Requirements (WB-3) and Design Constraints (WB-4). Agreed to raise the Design Constraints to version 1.0.
These two documents are believed to be free of open issues for the Qualification Phase.
Agreed to introduce PoW requirements in Background Noise conditions for Applications A & B (single encoding only). Completed the Performance Requirements document with requirements for Applications C, D & E. Postponed the approval of the latest version (v1.2) by correspondence by February 10, based on the late agreement reached on the performance requirements for Application E.
Agreed on a Test Methodology for the Qualification Phase, based on proponents in-house testing of up to 3 candidates in 3 different experiments. Agreed on a list of test conditions for 6 Qualification Experiments (3 candidates related and 3 for EFR used as a reference).
Preliminary draft Test Plan to be distributed by correspondence after the plenary and to be approved at the next meeting.
Reviewed inputs for the qualification deliverables. New draft Qualification Deliverables Permanent Document (WB-6a) expected for the next meeting, in addition to the Qualification Rules (WB-5a) and Processing Functions (WB-7a).
The project status appears to be fairly in line with the latest discussed Project Schedule (contained in S4-99488R), but is still considered to be very aggressive. The preparation and execution of the selection phase immediately after the completion and approval by TSG-SA of the qualification phase results will present a formidable challenge.
No further progress on the question of the funding. Hopefully, no direct funding should be required for the Qualification Phase (To be confirmed for few auxiliary tasks: Independent Distributor, Noise Lab, Global

Analysis). The proponents will be requested to commit their contribution to the following project phase as early as the Qualification Phase (to be confirmed also). The initial estimate of 100 kEuros per candidate still stands (To be confirmed).
Approved and sent a Liaison to SMG2 asking for guidance in the testing of the Wideband Speech Codec in EDGE Phase 2 channels and for multi-slots (HSCSD type) applications.
Approved and sent a response Liaison to ITU-T SG16 Q16/20 on the collaboration between 3GPP and ITU regarding the development of a wideband speech codec, including the latest versions of the Performance Requirements (WB-3) and Design Constraints (WB-4) Permanent Documents.

WI-6: Tandem Free aspects for 3G and between 2G and 3G systems: R2000

Following the decision from TSG-SA#6 to reject a preliminary CR to the R98 TFO specification (GSM 08.62) introducing AMR support, and the decision by TSG-SA to postpone AMR TFO to Release 2000, S4 approved a new CR on the R98 GSM 08.62 to prepare the TFO messaging to support future complex speech codec as AMR.
Discussed an Ericsson proposal to simplify the AMR TFO protocol, but putting a number of constraints on the AMR configuration and associated procedures supported by the network equipment. Specifically, the BSS would be required to support all 8 AMR codec modes and the full range of codec modes in the Active Codec Set. Agreed to further analyze this proposal as an extension of the existing protocol allowing network equipment manufacturers to solely implement this option providing that their equipment is compliant with the associated requirements. Further discussions expected over the reflector and at the next TSG-S4 meeting.
Reviewed and approved a response Liaison to SMG2 regarding the location of the Transcoders in relation to the GERAN Architecture.

Miscellaneous

Pending action to prepare Technical Reports containing the AMR Narrowband and Wideband Feasibility Study.

Attachment 1: 3GPP TSG-S4 (Codec) Meeting #9
Meeting Outputs

Specifications:

Tdoc S4-000083: TS 26.912 v2.0.0 QoS for Speech and Multimedia Codec - Quantitative performance evaluation of H.324 Annex C over 3G

Tdoc S4-000033: TS 26.975 v1.1.0 AMR Characterization Report R99

Change Requests:

Tdoc S4-000023: CR A021 on TS 06.73 (v7.3.0) - Avoidance of pulse cancellation in FCB excitation

Tdoc S4-000006: CR A002 on TS 06.75 (v7.1.0) - Threshold and Hysteresis for Exp. 4a and 4b

Tdoc S4-000007: CR A003 on TS 06.75 (v7.1.0) - Introduction of Annex D

Tdoc S4-000050: CR A002Rev1 on TS 08.62 (v7.0.0) on TFO Message Extendibility”

Tdoc S4-000032: CR 001 on TS 26.073 (v3.0.0) - Avoidance of pulse cancellation in FCB excitation

Tdoc S4-000091R: CR 001Rev1 on TS26.102 (v3.0.0) on QoS Attributes for RAB assignment

Tdoc S4-000067: CR 002 on TS26.102 (v3.0.0) on Introduction of different RFCS set on Iu userplane

Liaisons:

Tdoc S4-000035R: Liaison in response to ITU-T SG16 Q20/16 (with Tdoc 87/00 and Tdoc 90/00 attached)

Tdoc S4-000069: Liaison to ETSI SMG2 on Wideband speech coding issues

Tdoc S4-000054: Liaison to ETSI SMG2 on Location of Transcoders

Tdoc S4-000055: Liaison to ETSI SMG2 on Network Control of Noise Suppressers

Tdoc S4-000084: Response Liaison to TSG-T1 on 3G Terminal Acoustic Performance Requirements (with latest versions of TS26.131 and TS26.132 attached).

Tdoc S4-000089R: Liaison to TSG-S2 on H.323 in 3G networks (with Tdoc 12/00 attached)

Other:

Tdoc S4-000087: Wideband Speech Codec Permanent Project Document WB-4: Design Constraints, v1.0

Tdoc S4-000090: Wideband Speech Codec Permanent Project Document WB-3: Performance Requirements, v1.2, to be approved by correspondence by February 10, 2000

Tdoc S4-000092: Minimum Performance Requirements for Noise Suppresser Application to the AMR Speech Encoder v. 1.0.0

Tdoc S4-000093: Results of AMR-NS selection phase (v. 2.0)