3RD GENERATION PARTNERSHIP PROJECT 2 "3GPP2"

Mr. Richard Robinson
Chair, 3GPP2 TSG-S
Sprint – M/S KSOPHD0504-5D124
6220 Sprint Parkway
Overland Park, KS 66251-6118
richard.w.robinson@mail.sprint.com

23 September 2004

Ms. Gabriele Lenhart
Chair, OMA POC WG
gabriele.lenhart@t-mobile.at

Re: LS to 3GPP and 3GPP2 about speech codec for PoC

Dear Gaby,

This liaison response is sent on behalf of the 3GPP2 TSGs.

3GPP2 thanks you for your liaison statement of July 27, 2004, referred to in the subject line. On behalf of TSG-C, the response to your inquiry is attached herein as text imbedded in the full text of the original LS. For legibility, the response is shown indented and in blue font.

3GPP2 TSGs are pleased to cooperate with the OMA POC WG. We trust that the replies we provide herein will assist in your efforts for a timely completion of the PoC specifications that meets all requirements and can function well on all radio interfaces. If you have any additional questions or comments, please do not hesitate to contact us.

Regards,

Richard Robinson
Chair, 3GPP2 TSG-S

cc:	George Turnipseed	Chair, 3GPP2 TSG-A	george.a.turnipseed@mail.sprint.com
	B K Yi	Chair, 3GPP2 TSG-C	bkyi@lge.com
	Betsy Kidwell	Chair, 3GPP2 TSG-X	ekidwell@lucent.com
	Hideo Okinaka	Chair, 3GPP2 SC	okinaka@ma.kcom.ne.jp
	Henry Cuschieri	3GPP2 Secretariat	hcuschieri@tiaonline.org
	Mr. Kari Jarvinen	Chair, 3GPP SA4	kari.ju.jarvinen@nokia.com

1 Requested Action(s)

OMA POC WG kindly request 3GPP and 3GPP2 to provide an answer to the following questions:

1. Is your organisation willing to create (in the time frame indicated above) or modify existing specification documents that OMA can reference for the purpose of describing the speech codec usage for PoC.

   3GPP2 TSG-C is discussing development of a document that addresses PoC requirements and allowable vocoders. The document number and publication date is not yet known.

   A 3GPP2 requirement document is in development and includes requirements for use of a native CDMA codec.

   [1] S.R0100-0 *Press-to-talk over Cellular System Requirements Document*;

   The document [1] is expected to be published by November 2004.

2. The preferred speech codec for PoC including encoder mode(s) and mode(s) of operation

   EVRC is the preferred speech codec. EVRC is a variable rate vocoder, so it would be desirable that PoC will accommodate variable rate operation.

3. Indicate if you think there is a necessity for additional PoC speech codecs, codec modes or modes of operation

   In addition to EVRC, there may be a need for identifying additional PoC speech codecs in the future. 3GPP2 is discussing development of a document addressing this issue.

4. Suitable settings for the speech codec payload format(s) that are negotiated during the SIP session set-up

   As a minimum, the following settings shall be negotiable:

   - Speech codec (e.g. EVRC, 13K, SMV, VMR-WB, …);
   - Number of speech frames per IP packet;
   - Speech frame duration; and,
   - Maximum codec bit rate.

5. Your view if frame interleaving shall be supported or prohibited

   In principle, 3GPP2 agrees with your assessment of interleaving, but would prefer to leave it as a negotiable option, which may be useful in some cases. Further study would be required to evaluate the impacts and benefits of interleaving.

6. What are the issues related to transcoding when using the proposed PoC codec(s) (e.g quality degradation, latency increase)

   Generally, a study is required to assess the impact of transcoding dissimilar codecs when one or more of the codecs are limited to a fractional rate.

7. If one or both organizations specify two or more codecs in order to do transcoding free interworking, what codec do you think should be suitable to be the “common denominator” and do you think that this method be advantageous over transcoding.

   It may be feasible over the longer term to migrate all networks to a common vocoder, optimised to work efficiently across multiple radio interfaces. However,

that would require further study and consensus building across the 3GPP and 3GPP2 communities including significant leadership among vendors and operators. The establishment of a common vocoder would have to be a joint effort involving 3GPP and 3GPP2.

OMA PoC should develop the general solution that includes negotiation of speech codec settings, and transcoding when codecs are different. If and when speech codec commonality occurs, the general solution will be just as applicable, and will avoid transcoding.