Technical Specification Group Services and System Aspects **TSGS#21(03)0506**
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Source: **Coding Technologies**[1]
Title: **Specification format for mandatory audio codec**

Agenda item: **7.4.2**
Document for: **Discussion and Approval**

Introduction

At SA4 #28, in the course of the discussion about selection rules for the audio codec selection under the Rel.6 PSS/MMS work item, the issue of the specification format was discussed. In particular, there was a controversy about whether or not optimized source code (the code that was used in the selection tests) for the selected codec should be made part of the public specification document. This document highlights a number of issues around this topic and reviews a compromise proposal which was largely (but not by consensus) supported at the SA4 #28 closing plenary. A specific proposal on how to resolve the remaining issues is made at the end of the document.

Issues in the context of public source code

This section will highlight a number of topics and briefly explain the authors' point of view on them.

- **Why is access to source code important?**
  Source code can serve various purposes. It helps to ensure interoperability in mission critical components, it is one way to ensure a minimum performance level, it facilitates the adoption of the specification, it saves money for manufacturers and service providers. While the first benefit is obviously of outstanding interest for the success of the specification in the market place and the second one is relevant to ensure consistent service quality, the other two are more like commercial arguments. Access to the source code can be guaranteed by means other than a public document, and the ETSI IPR policy specifically points out that IPR owners are to be rewarded for IPR they contribute into the specification.
- **Which are the critical interoperability components in a multimedia codec?**
  Other than in conversational codecs like AMR or AMR-WB, the critical interoperability components are the bitstream specification and the decoder implementation. Millions of MPEG-2 video set-top boxes world-wide are living proof for this fact. There is no (commercially useful) encoder source code available through MPEG but the market has never been affected adversely by this fact. MMS may be somewhat different from a conventional entertainment infrastructure, but is there any reason to assume that this **requires** to make the optimized source code **public**?
- **Public source code is a serious threat for IP-centric companies**
  For small and medium sized technology companies, the know how they collected over years and introduced in the implementations of their technologies is a major company asset. The selection of the codec as a mandatory technology in the 3GPP specification will make some of the commercial concerns go away. Losses on the software business will be outweighed by the patent royalties, but public source code would have a significant adverse effect on the value of their know how in markets beyond 3GPP. Ignoring this

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could fundamentally discourage innovative technology-driven companies (which make a living from licensing technology and not from manufacturing the related products) to contribute their know how. To stress this point once again, it is **not** an issue of **free** software nor broad access to the software, it is an issue around **public** software and **uncontrolled** access that is raising concerns.

- **There is no consistent policy in 3GPP so far**
  While the conversational codecs have historically been specified with both encoder and decoder source code, none of the other mandatory codecs for PSS has an optimized encoder source code attached to it. Nevertheless, those codecs are being used successfully in terminals and services. Isn't that telling us that public encoder source code is not the only way to go?

Conclusion

The list of points above may not be comprehensive, a lot more could be added to the discussion.
However, at this point I would like to stress that Coding Technologies, provider of two out of the three competing codecs in the selection process, is fully committed to the goal of making the 3GPP specification successful. We are also in full respect of the IPR policy, which obliges us to grant fair, reasonable and non-discriminatory access to our IPR.
It is our strong belief that the mission critical components (bitstream specification and decoder implementation) should be fully specified including source code as part of the specification. We are willing to contribute whatever is deemed necessary to get the specification to this point.
However, we would like SA to consider that by moving forward on the road described below, our serious and justified concerns can be taken into account without any adverse effect on the availability of highly optimized encoder source code for companies with a business interest in implementing the 3GPP specification.
Nothing is lost, a lot can be gained!

The compromise proposal, which is described in the SA4 status report, raised concerns with respect to two particular details.
I think this contribution has clarified that the issue of the fee (which was one of the two concerns) is not blocking this process. If companies request clarification that this fee shall only cover the cost of the process that is put in place, we can all agree to that.
The second issue (who is a non-eligible entity?) may require more legal text to actually be fully unambiguous but I would like to reiterate what I described above: Whoever has a bona fide business interest to implement the 3GPP specification and is willing to sign a confidential disclosure document should be entitled to receive the encoder source code. This is the assurance that 3GPP needs to make the specification work successfully. Anything beyond that should be optional for proponents to offer. Coding Technologies is willing to support any text to this import.

Having said all that, the author respectfully requests SA to put the compromise solution as described in the SA4 report, with the clarifications added above, into full force and effect. This will allow the testing exercise to begin as scheduled and will ensure timely completion of the work for inclusion into Rel.6 of the specification. Otherwise, this goal is fundamentally endangered.