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Via Email
Kari Järvinen, Chair (kari.ju.jarvinen@nokia.com)
3GPP TSG SA WG4

Re: ATIS IPTV Interoperability Forum

The Alliance for Telecommunications Industry Solutions' (ATIS) IPTV Interoperability Forum (IIF) thanks 3GPP SA4 for the liaison of November 16, 2009, regarding the Technical Report outlining a Test Process for Perceptual Quality Measurements. The response contains several valuable suggestions and observations that will aid the IIF Quality of Service Metrics (QoSM) Committee in its ongoing work related to this important topic.

It should be noted that the Technical Report is not a normative document and was developed to encourage debate and discussion regarding Perceptual Quality Models in general and the ability to verify or validate their efficacy in particular. The 3GPP SA4 LS response, as well as the responses from other groups, indicates that this objective is being satisfied. It should be noted that the realization of this plan is a completely different matter and may or may not involve various standards groups and/or other industry groups and interested parties.

As with any new approach there will be advantages and disadvantages and the industry at large needs to make the appropriate trade-offs. Among the different considerations was the QoSM Committee's observation that technology is advancing at a much more rapid pace than even just ten years ago and this situation demands agility. Another concern was the current lack of the opportunity for small companies that may have excellent technology but not have the financial wherewithal to participate in a validation exercise of the type prevalent today. The Technical Report identifies an approach where model validation can be achieved rapidly and be feasible even for small companies. Furthermore, the approach allows companies to retain control over their intellectual property and make advancements to their algorithms at their own pace. Note however, that the Technical Report does not disqualify the traditional approach of a democratic standardization task. Rather, the Technical Report identifies areas for improvements and then suggests a modified process with these improvements.

IPTV Interoperability Forum (IIF)

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Standards that Drive the Business of Communications

3GPP SA4 makes the valid point that the individual Test Labs have control over their own database and this database may indeed be confidential and not shared. The process described does not mandate that the individual ITLs operate completely on their own. On the contrary, it is expected that there will be collaboration among all the individual labs, and the third party may be the facilitator of such collaborations. It is possible that an entity will emerge that consists of more than one lab that creates annotated test files – in fact this is preferred as we will want to have labs in different parts of the world for various reasons such as different formats, languages, and cultural differences. It would be possible for such a controlling entity to co-ordinate individual lab activities and the resulting database of annotated test files could be held in a central repository. This does not prohibit each lab from holding its own proprietary library of annotated materials. These considerations are beyond the scope of the Technical Report but are important issues that remain to be resolved. In the end, the Model Users will be the eventual judges and decide whether or not to accept validation results and thus market forces will prevail to ensure that Independent Test Labs will conform to accepted industry practices.

3GPP SA4 makes the valid point that individual Test Labs will have different databases and thus it may be difficult to compare the validation results of the same model done by two different labs. However, we expect that collaboration among the various labs will mitigate this concern. To a large extent this problem will be resolved by having sufficiently large databases. If the database is large enough then the differences will be statistically insignificant. It will be in the economic interest of different ITLs to collaborate and share material (the PVSa database). As indicated earlier, this may be one of the possible actions of the Third Party Organization identified in the Technical Report. This collaboration will no doubt be fueled by competition from the large and growing content available in open source forums.

Regarding the sentence “by permitting trade-offs between model accuracy and model complexity”, it was not our intention to allow bad models. The intent here was to recognize that models may have numerous applications and therefore “high performance” is defined based on how well the model fulfils its role from a technical as well as economic standpoint. For example, the application of a model may be to provide real-time monitoring of an IPTV program stream and just decide whether the quality is above or below a threshold chosen by the Model User. In this situation the model may be embedded in a particular network element as an adjunct, rather than primary, function of the network element. Clearly in this case the computational complexity may be of greater relevance than the case where the model is used in an offline test device where the device has little to no constraint on memory or computational power.

Based on the comments received from 3GPP SA4 as well as comments from other groups (including various study groups in ITU-T), a number of updates were made to the document. The QoSM Committee thinks that not all business issues need to be identified and resolved at this time, and would not need to be included in this Technical Report. Such issues are left for additional discussion among various groups and other interested parties of this new proposed process.

The ATIS IIF thanks 3GPP SA4 for its prompt LS response and the useful comments. We hope that information exchanges of this type will continue.

Sincerely,

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