

CONTRIBUTION

TITLE: Proposal for draft FRTV objective video quality assessment document

SOURCE¹: NTIA/ITS

PROJECT: T1A1-05, "Interface and Performance Specifications and Coding Techniques for the Transmission of Component Television Signals"

ABSTRACT

This contribution proposes that the FRTV draft standard under consideration in T1A1.1 [1] be issued as a T1 Technical Report rather than as an American National Standard.

DISCUSSION

At its October-November 2000 meeting, members of Working Group T1A1.1 decided to undertake the development of a proposed American National Standard that would specify one of the nine proponent metrics tested by the ITU-T Video Quality Experts Group (VQEG) for use in estimating the quality of television transmission systems under "full reference" test conditions. That decision has encountered opposition from two U.S. industry organizations whose executives hold senior leadership positions in the ITU. In similar letters [2] explaining their opposition to issuance of the proposed standard now, the two organizations note that "The VQEG results thus far are not conclusive, and there is no solid basis on which to standardize any of the methods evaluated in their test We believe that it would be in the best interests of all concerned, for T1A1 to wait until such time when one or more measurement methods will have been validated before moving to an ANSI standard...."

The VQEG Final Report [3] does in fact conclude by stating that "the analysis does not indicate that a method can be proposed for ITU Recommendation at this time." VQEG is continuing its evaluation of candidate video quality assessment metrics and expects to prepare an ITU-T Recommendation specifying a single metric when its evaluation is completed. However, participants expect that such results will take at least a year, and probably longer, to complete.

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T1A1.1 members supporting standardization of the proposed metric have stated the following rationale. U.S. telecommunication service providers need digital video test capabilities now. The proposed metric performed about as well as the others in the initial VQEG tests, and is good enough to be of practical use to providers. It has been implemented in an off-the-shelf measurement product. Several U.S. providers have purchased this product, but it is currently available from only one manufacturer. Standardizing the proposed technology in T1 would make its proprietary design available to other manufacturers, reducing measurement equipment cost and promoting video quality testing compatibility among U.S. service providers.

NTIA/ITS believes the best way of reconciling these conflicting views is to specify the proposed metric in a T1 Technical Report. This action would make the technology available to users during the interim period while no ITU Recommendation exists, without undermining the VQEG effort to develop a metric whose performance justifies standardization.

PROPOSAL

NTIA/ITS believes that in light of the findings of VQEG [3], the appeals from key leaders in both the T and R sectors of ITU [2], and in the interest of meeting service provider needs for interim video quality assessment capabilities pending completion of a definitive ITU video quality assessment Recommendation, the metric under consideration [1] should be specified in a T1 Technical Report. This action will meet the near-term need without adopting a standard that will, in all likelihood, be withdrawn in one or two years when new VQEG results become available.

REFERENCES

- [1] T1A1.1 Contribution T1A1.1/2001-007, "Digital Transport of One-Way Video Signals – Objective Perceptual Video Quality Measurement Technique in the Presence of a Full Reference."
- [2] T1A1.1/2001-006, ITU-T and ITU-R Liaison letters regarding Objective Picture Quality Metrics.
- [3] ITU-T COM 9-80-E, "Final report from the video quality experts group (VQEG) on the validation of objective models of video quality assessment," approved for release at VQEG meeting number 4, Ottawa, Canada, March, 2000.