VQEG Minutes Saturday 24 January 2009-01-24

Thanks to Dave Hands of BT and Yves Dhondt of Ghent University for taking notes.

Reviewed minutes from Friday. **Minutes approved.**

**HDTV Testplan (continued)**

Considered changes to appendices. Deleted section on DSCQS method and associated scale.

*Rejection Criteria*

Proposal to change subject rejection criteria. **Agreed to use same method used in MM.**

*Cascading*

Agreed (no objections) to include chain coding scenario as an HRC (enc1-dec1-enc2-dec2), where one or more coding schemes are used.

Decision on including transmission errors:

Option 1: TE in final enc-dec only (4 votes)

Option 2: TE(transmission errors) in initial enc-dec and/or second enc-dec (11 votes)

Option 3: No TE allowed in cascaded HRC(0 votes)

**Decision: Option 2 agreed.**

*Source Files Delivered to Proponents*

Do proponents want to receive both 10 second and 14 sec source: only the 14 sec sources will be provided to proponents.

*Training Sequences*

Proposal to provide training sequences to proponents prior to model submission. Not required as example sequences used to determine low quality bound will be sufficient for this purpose.

*Example Sequences*

**Decision: These should be prepared to include examples across the full quality range to be used in the testing. (They will serve as anchor sequences for the selection and preparation of PVSs for the subjective test).**

**Joint Effort Group**

Overview of proposal presented. Idea is to initiate an open source approach to the development of objective models.

Chris says Opticom might be able to offer pevq as a baseline FR model if the IPR can be arranged first.

The question is raised which language the model should be in. Dave suggests putting that of till later.

NTIA can donate a Matlab framework. This is not an actual algorithm but rather a set of tools to read and loop through frames and stuff. The framework can not handle bitstreams currently.

Acreo can offer a framework which can handle bitstreams. It decodes the bitstream, it does not provide extra information.

Ghent University might be able to offer a parser for H.264.

As there are currently no standardized no reference models, a suggestion was made to go for a no reference hybrid model. It was decided to go for a no reference hybrid model for H.264.

Yonsei raised the question if it would not be a competitor for the no reference models in the hybrid projects. It is pointed out that proponents for that might be hesitant to take part in the JEG. Opticom suggests only making the one joint model and not letting proponents create a separate model. BT mentions that there might be too much conflict of interest any way to contribute in both. Arthur suggests allowing both models as the downfall of one would not be a disaster in that case.

The following groups are interested in taking part: Acreo, NTIA, Ghent University, Opticom, DT, Ericsson, AGH University, Dolby, NTT, BT, Yonsei, IRCCyN.

The following groups might be able to set up subjective tests: Verizon, Intel, Ghent University, DT, Orange labs, Acreo.

It is suggested that the focus would be on SD and HD and both compression and transmission errors. NTIA suggests limiting it to SD for now from a practical point of view and expand to HD later on.

**Presentation by Marcus Barkowsky on 3D QoE**

Requests for contributions to discussions and co-operative research activities within VQEG to better understand the subjective method requirements for assessing 3D QoE.

**Hybrid Testplan**

Reviewed version 1.3a.

*Rating Scale*

Discussion on rating scale. 11-point discrete or 11-point continuous. If continuous, software needs to be changed, but needs to be changed anyway from 5-grade ACR to 11-point ACR scale. But more changes are needed to modify software to accept continuous data.

Decision: no decision. To agree rating scale later or on reflector. Either 11-point continuous or 9-point discrete (unless there is an 11-point discrete option to be considered, issue with standards compliance?).

*Rebuffering*

Agreed not to mix 10sec and 16-24 sec sequences. Further study to be performed on 16-24 sec PVSs. Possibility to perform a dedicated test assessing PVSs with rebuffering events (in addition to rebufering, these PVSs can have compression and/or transmission errors).

*Viewing Distance*

**Agreed** to follow guidance on number of viewers per test and viewing distance from MM-I (for lower resolutions) and HDTV testplans (for SD and HD).

GC made reference to work published by Hoffman on HDTV viewing conditions (used 3 monitors).

*Audio*

Agreed not to include audio.

*Display*

Agreed the following display types for use in the test:

QVGA/QCIF: LCD

SD: professional grade CRT

HD: LCD or professional grade HD CRT

**Vote** to include plasma displays in HD test: 3 in favour, 7 against

**Decision: Different LCD panels may be used by test labs.**

Should there be a list of LCD panels that may be used in the testing.

QCIF/QVGA: TCO ‘06

CRT: professional grade CRT

LCD: professional grade LCD

*Length of a Test Session and Number of PVS Per Test*

Decision: For 10sec PVSs, total PVSs per test is 168

Each test session no more than 25 minutes duration.

**Decision: Randomisation - full randomisation is preferable. Where this is not possible, for example for SD and HD using hardware that does not allow direct access,max number of 6 viewers for one test presentation order, assuming a total number of viewers to be 24.**

**Decision: SRC must achieve a subjective score of 4 or higher for the associated PVSs to be used in model evaluation.**

Source

To allow encoder to stabilise, source sequences must be:

**Decision: For source sequences, 2secs either side of final PVS must be included for all test PVSs (e.g. for 10sec PVS, the source must be 14sec; for SD/HD 15sec PVSs the source must be 19 secs).**

**Vote: change from 16secs to 15 secs PVS. 15 for, 0 against.**

**Vote for 10 sec: 5, vote for 15 sec PVS: 5 votes.**

**Decision: PVS duration to be 15secs**

Agreed to limit usage of codecs (MPEG-4 pt 2 for QCIF and QVGA only, MPEG-2 for SD and HD only).

Variable frame rates may be applied to QCIF and QVGA only.

*Maximum Freezing and Skipping*

**Decisions for 10s PVSs**

* **Max freeze: 3s (single or combined multiple events) [if freeze is >=5sec PVS is invalid]**
* **Max skipping: 3s (single or combined multiple events) [if freeze is >=5sec PVS is invalid]**
* **Max total loss: 1s [if freeze is >=2sec PVS is invalid]**
* **Max total extra frames: 1s**

**Decisions for 15s PVSs**

* **Max freeze: 3s (single or combined multiple events) [if freeze is >=5sec PVS is invalid]**
* **Max skipping: 3s (single or combined multiple events) [if freeze is >=5sec PVS is invalid]**
* **Max total loss: 1s [if freeze is >=2sec PVS is invalid]**
* **Max total extra frames: 1s**

*Model Definition*

Models will be codec and resolution specific. This means there will be different models for: QCIF – H.264, QCIF – MPEG-4, QVGA – H.264, QVGA – MPEG-4, SD – H.264, SD – MPEG-2, HD – H.264, HD – MPEG-2.

To reduce total number of tests, the following two options were proposed:

Option 1: H.264 (SD, HD), MPEG-2 (SD), H.264 (QVGA)

Option 2: H.264 (SD, HD), MPEG-2 (SD), H.264 (QVGA), MPEG-4 (QVGA)

Both options involve the agreed decision to remove QCIF from the testing.

**Vote:** 10 votes for option 1, 3 votes for option 2.

**Decision: Option 1.**

**JEG (continued)**

PleC reported back on JEG proposal.

Request to set up an email reflector. PleC to email AW to set up the reflector.