Hybrid Project – Boulder 2014

# Issues with PVSs:

## HD2:

HRC13, HRC15 use High-4:2:2 profile. **AGREED to remove these PVSs.**

Files h02\_src02\_hrc01.pcap, h02\_src07\_hrc01.pcap have packet loss, but the HRC is coding degradation only. . **AGREED to remove these PVSs.**

## VGA3

Tandem coding: Encode at bitrate b\_1, the re-encode at bitrate b\_2, with b\_2 > b\_1

8 PVSs outside of limit in test plan:

v03\_src01\_hrc15\_h264.pcap (799/349 = 2.29)

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_192kbits\_490kbits/HybridVGA3\_src01\_192\_490kbit\_gop50\_tandem.264/

v03\_src04\_hrc15\_h264.pcap (1.040MB/438 = 2.43)

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_240kbits\_612kbits/HybridVGA3\_src04\_240\_612kbit\_gop50\_baseline\_tandem.264/

v03\_src06\_hrc15\_h264.pcap (0.970MB/411 = 2.42)

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_240kbits\_612kbits/HybridVGA3\_src06\_240\_612kbit\_gop50\_baseline\_tandem.264/

v03\_src07\_hrc15\_h264.pcap(965/374 = 2.58)

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_240kbits\_612kbits/HybridVGA3\_src07\_240\_612kbit\_gop50\_baseline\_tandem.264/

v03\_src08\_hrc15\_h264.pcap(2.270MB/870=2.67)

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_512kbits\_1380kbits/HybridVGA3\_src08\_512\_1380kbit\_gop50\_baseline\_tandem.264/

v03\_src11\_hrc15\_h264.pcap (2.27MB/883=2.63)

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_512kbits\_1380kbits/HybridVGA3\_src11\_512\_1380kbit\_gop50\_baseline\_tandem.264/

v03\_src12\_hrc15\_h264.pcap ()

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_512kbits\_1380kbits/HybridVGA3\_src12\_512\_1380kbit\_gop50\_baseline\_tandem.264/

v03\_src14\_hrc15\_h264.pcap (1.03MB/432=2.44)

Content-Base: rtsp://192.168.169.77/Tandem\_coding2\_240kbits\_612kbits/HybridVGA3\_src14\_240\_612kbit\_gop50\_baseline\_tandem.264/

**Accepted to exclude**:

v03\_src07\_hrc15, v03\_src08\_hrc15, v03\_src11\_hrc15

**Open**: v03\_src12\_hrc15

**Other samples from hrc15 will remain included in VGA3**.

## WVGA2:

Down-up-sampling PVSs: MOS has to be equal or larger to the MOS of the samples transmitted without resizing.

|  |  |  |  |
| --- | --- | --- | --- |
| Down-Up-sampling | HRC11 | HRC04 | Same resolution |
| HybridWGA2\_src01\_hrc11\_WVGA\_25fps.avi | 1.52 | 2.96 | HybridWGA2\_src01\_hrc04\_WVGA\_25fps.avi |
| HybridWGA2\_src02\_hrc11\_WVGA\_25fps.avi | 1.57 | 1.30 | HybridWGA2\_src02\_hrc04\_WVGA\_25fps.avi |
| HybridWGA2\_src03\_hrc11\_WVGA\_25fps.avi | 1.39 | 1.57 | HybridWGA2\_src03\_hrc04\_WVGA\_25fps.avi |
| HybridWGA2\_src04\_hrc11\_WVGA\_25fps.avi | 1.61 | 1.04 | HybridWGA2\_src04\_hrc04\_WVGA\_25fps.avi |
| HybridWGA2\_src05\_hrc11\_WVGA\_25fps.avi | 1.57 | 1.48 | HybridWGA2\_src05\_hrc04\_WVGA\_25fps.avi |
| HybridWGA2\_src06\_hrc11\_WVGA\_25fps.avi | 1.39 | 1.91 | HybridWGA2\_src06\_hrc04\_WVGA\_25fps.avi |
| HybridWGA2\_src07\_hrc11\_WVGA\_25fps.avi | 1.35 | 1.09 | HybridWGA2\_src07\_hrc04\_WVGA\_25fps.avi |
| HybridWGA2\_src08\_hrc11\_WVGA\_25fps.avi | 1.57 | 2.09 | HybridWGA2\_src08\_hrc04\_WVGA\_25fps.avi |
| average | 1.49 | 1.68 |  |
|  |  |  |  |
| HybridVGA3\_csrc02\_hrc11\_WVGA\_25fps\_dec.avi | 2.35 |  |  |
| HybridVGA3\_csrc04\_hrc11\_WVGA\_25fps\_dec.avi | 2.52 |  |  |
|  |  |  |  |
|  | HRC09 | HRC03 |  |
| HybridWVGA1\_csrc01\_hrc09\_WVGA\_25fps\_dec.avi | 1.22 |  |  |
| HybridVGA2\_csrc03\_hrc09\_WVGA\_25fps\_dec.avi | 1.09 | 1.65 | HybridWVGA2\_csrc03\_hrc03\_WVGA\_25fps\_dec.avi |
| HybridWGA2\_src01\_hrc09\_WVGA\_25fps.avi | 3.87 | 3.09 | HybridWGA2\_src01\_hrc03\_WVGA\_25fps.avi |
| HybridWGA2\_src02\_hrc09\_WVGA\_25fps.avi | 3.43 | 2.48 | HybridWGA2\_src02\_hrc03\_WVGA\_25fps.avi |
| HybridWGA2\_src03\_hrc09\_WVGA\_25fps.avi | 3.00 | 2.52 | HybridWGA2\_src03\_hrc03\_WVGA\_25fps.avi |
| HybridWGA2\_src04\_hrc09\_WVGA\_25fps.avi | 3.52 | 1.78 | HybridWGA2\_src04\_hrc03\_WVGA\_25fps.avi |
| HybridWGA2\_src05\_hrc09\_WVGA\_25fps.avi | 2.74 | 2.00 | HybridWGA2\_src05\_hrc03\_WVGA\_25fps.avi |
| HybridWGA2\_src06\_hrc09\_WVGA\_25fps.avi | 3.43 | 2.35 | HybridWGA2\_src06\_hrc03\_WVGA\_25fps.avi |
| HybridWGA2\_src07\_hrc09\_WVGA\_25fps.avi | 3.22 | 2.00 | HybridWGA2\_src07\_hrc03\_WVGA\_25fps.avi |
| HybridWGA2\_src08\_hrc09\_WVGA\_25fps.avi | 3.78 | 3.17 | HybridWGA2\_src08\_hrc03\_WVGA\_25fps.avi |

**Will be re-discussed tomorrow**

## Common set:

Timestamps must be set according to DTS and must be monotonically increasing, this does not hold for

HybridHD1\_csrc03\_HRC06\_HD\_30fps.pcap

HybridHD1\_csrc03\_HRC14\_HD\_30fps.pcap

HybridHD2\_csrc03\_HRC02\_HD\_30fps.pcap

**Accepted: these 3 PVSs will be removed from objective data evaluation (but used for determining superset mapping).**

Common set: HybridHD5\_csrc01\_hrc12\_HD\_25fps, HybridHD5\_csrc01\_hrc12\_HD\_30fps contain actually HybridHD2\_csrc03\_hrc09\_HD\_30fps.

**Accepted to exclude this PVS from determining the superset mapping, but use it for objective evaluation.**

# Model crash

What if model does not return a value?

Proposition 1: Put a constant value.

Proposition 2: Eliminate that data point for that particular model.

Proposition 3: Eliminate that data point from all the model evaluations.

Proposition 4: Use the video only to make prediction (as stated in the test plan).

Proposition 5: If a model for the non-encrypted case crashes, use the predictions of the model for the encrypted case.

**Accepted: Proponents decide between proposition 4 and 5.**

# Review of Subjective Results

## Subject screening:

Some subjects have low correlation (see plots subject’s correlation, subjective\_results.py)

WVGA1, subject number 13 should be excluded. **Accepted**

## Source scores:

Some sources have a MOS below 4 (see plots MOS of sources, analyse\_subjective\_score\_source.py).

hd1\_src02.avi

hd2\_src03.avi

hd2\_src05.avi

hd2\_src08.avi

vga1\_src03.avi

vga1\_src09.avi

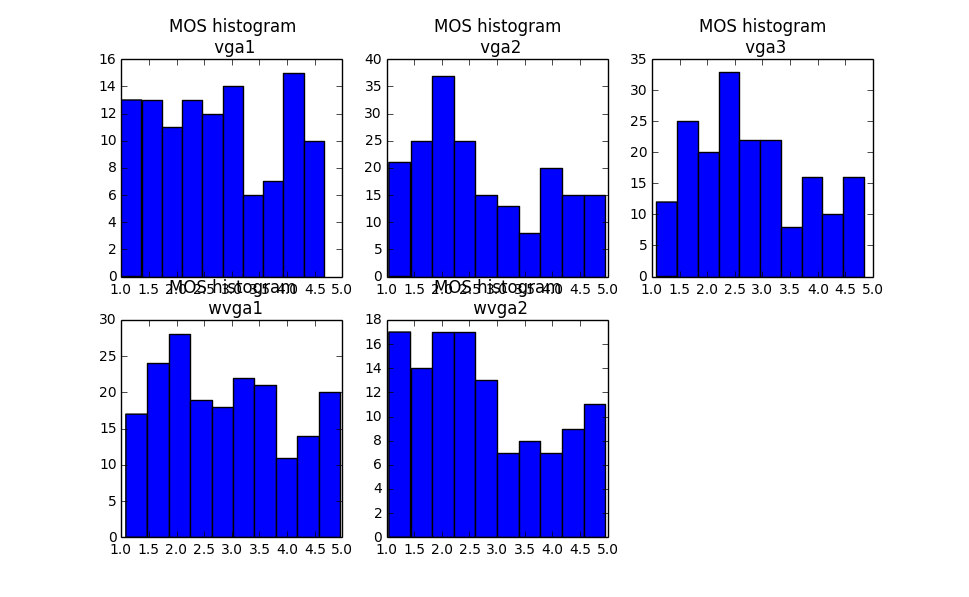
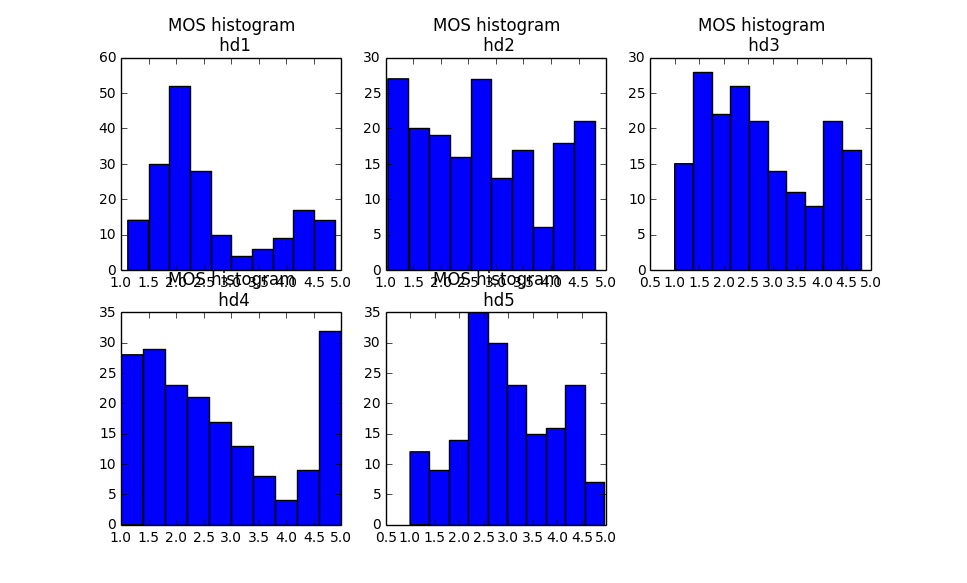
vga1\_src10.avi

vga3\_src05.avi

ILG will review these source videos and make a decision.

## Histogram of MOS per-experiment

HD1, HD4 have a strong non-uniform distribution (see plots histograms of MOS, subjective\_results.py)



# Model Performance Analysis

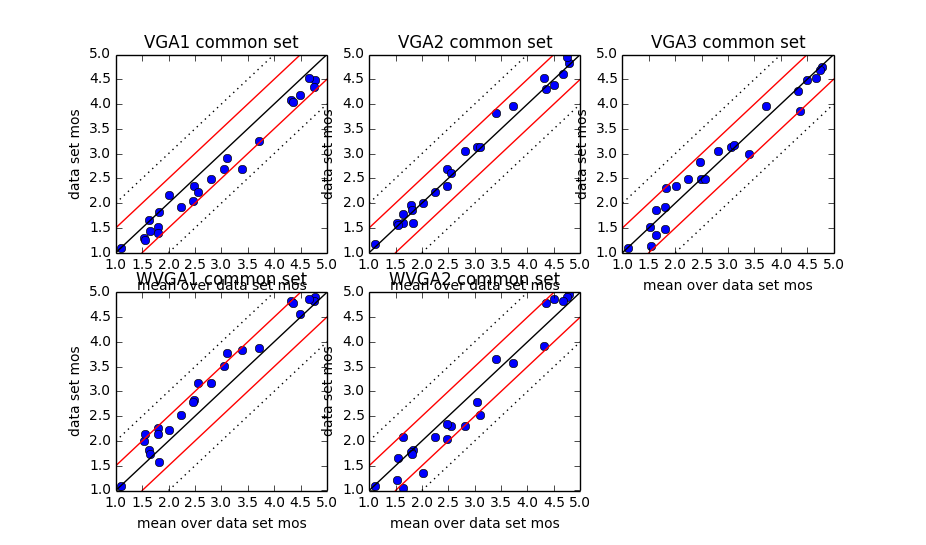
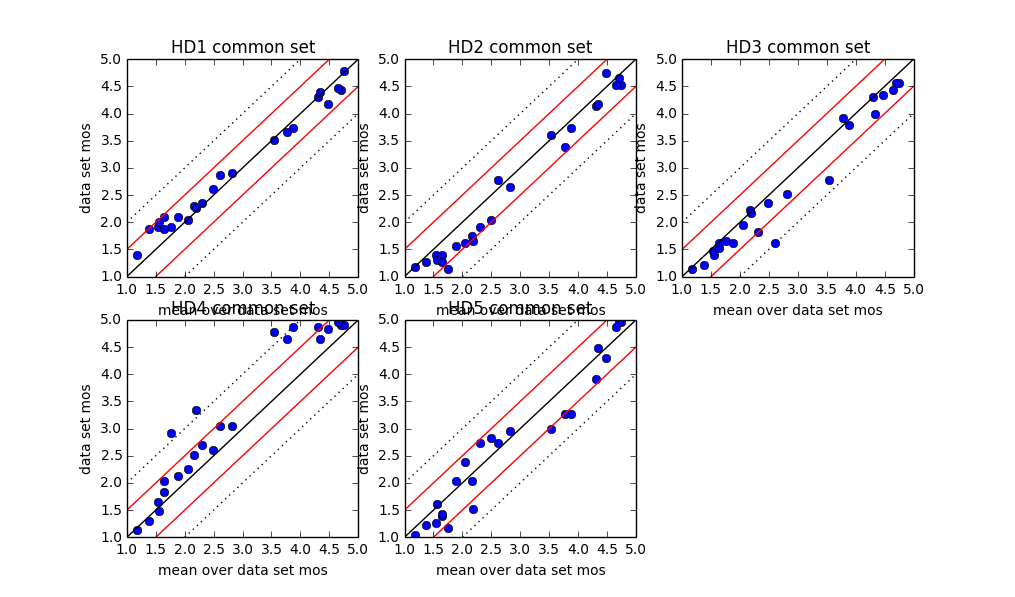
Decided at last meeting: Possibility to withdraw model from WVGA2 rebuffering.

Proposition: performance statistics for WVGA2 without rebuffering for all models and including rebuffering for those models which choose to. **Accepted.**

# Common Set Mapping

Common set ratings, difference per experiment

(See plots analyse\_subjective\_score\_common.py)



HD4: HD5 common set sequences get very high MOS compared to values in HD1, HD3, HD5

e.g. HybridHD5\_csrc01\_hrc12\_HD\_25fps