From: TK Tan <tktan@spg.yrp.nttdocomo.co.jp>
Sent: Tuesday, October 1, 2002 2:59 AM
To: Krishna Ratakonda; Sandy (Alexander) MacInnis
Cc: Kerofsky, Louis; 'Luthra Ajay-MGI1164'; 'Mathias Wien'; jvt_vlc_adhoc@yahoogroups.com; jvt-experts@mail.imtc.org
Subject: [jvt-experts] RE: [jvt_vlc_adhoc] CAVLC for ABT

Dear All,

So far I have seen a lot of evidence that CAVLC works well.
I have seen only one point that shows CABAC is to the left of the other points (and that is with a buggy encoder for CAVLC).

Eventhought ABT is in the Main profile we should not look at it as a main profile tool only.

I think we should first look at these tools for their technical merit and then bring in issues about profiles (much later).

I agree that we should reduce the number of lossless coding from 3 down to 2 or maybe 1.

I suspect having 3 tools is out at this point in time so we need to do something anyway.

If it is 2, then we should try to make them really interwork if possible. (Someone please give me a good justification why we should have 2. Is it a complexity issue?)

If it is 1, we need to also see evidence and comparisons to see which is the better one and keep that.
Full RD curves like the ones Karl presented would be nice.

My understanding is that until the small modification by Karl, the CAVLC cannot handle blocks of 8x8, 8x4 and 4x8. Now it can and does it very well. So CAVLC is a candidate for the replacement.

Can someone firmiliar with CABAC say how or what is needed to make it work with ABT?

Regards,
t.k.

> -----Original Message-----
> From: Krishna Ratakonda [mailto:ratakond@us.ibm.com]
> Sent: Tuesday, October 01, 2002 3:13 AM
> To: Sandy (Alexander) MacInnis
> Cc: Kerofsky, Louis; 'Luthra Ajay-MGI1164'; 'Mathias Wien';
> jvt_vlc_adhoc@yahoogroups.com; jvt-experts@mail.imtc.org
> Subject: [jvt-experts] RE: [jvt_vlc_adhoc] CAVLC for ABT
>
>
>
>
> Ajay, Sandy and others,

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IPR2024-00572, U.S. Patent No. 7,724,818
Page 1 of 4

>
> I would like to add my support to Ajay & Sandy ... I dont see any
> point in having CAVLC/UVLC/ABT-VLC in the main profile. As Sandy
> points out Main profile is already incompatible with the baseline
> profile.
> Most people seem to agree that CABAC is better at coding efficiency
> than CAVLC. If some one has valid concerns that necessitate
> inclusion of these VLC tools in the main profile, please voice them
> now.
>
> Best,
>
> Krishna
>
> #Krishna Ratakonda, Research Scientist, Multimedia Dept.
> #IBM Research, Route 134 & Taconic Pkwy, Yorktown Heights, NY 10598
> #E-mail: ratakond@us.ibm.com Ph: 914-945-2178 (internal: 862-2178) Fax:
> 914-945-1602
>
>
>
> "Sandy (Alexander) MacInnis" <macinnis@broadcom.com> on
> 09/30/2002 02:06:51
> PM
>
> Please respond to "Sandy (Alexander) MacInnis" <macinnis@broadcom.com>
>
> To: "Kerofsky, Louis" <lkerofsky@sharplabs.com>, "'Luthra
> Ajay-MGI1164'"
> <aluthra@motorola.com>, "'Mathias Wien'"
> <wien@ient.rwth-aachen.de>,
> jvt_vlc_adhoc@yahoogroups.com
> cc: jvt-experts@mail.imtc.org
> Subject: [jvt-experts] RE: [jvt_vlc_adhoc] CAVLC for ABT
>
>
>
> Louie, Ajay, and everyone,
>
> Remember that main profile is already incompatible with baseline.
> Baseline has tools that are not allowed in main, as was resolved in
> July. So there is no compatibility advantage achieved by including CALVC in main.
>
> If a main profile decoder wants compatibility with baseline, the
> answer is
> simple: Implement baseline too.
>
> --Sandy
>
> At 10:42 AM 9/30/2002, Kerofsky, Louis wrote:
> >Ajay,
> >

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Page 2 of 4

> >I understand your argument with the comment that we actually have
> >three lossless coding tools, (CABAC, CAVLC, and ABT-VLC). You make a
> >case for having only one lossless coding tool. I am suggesting as a
> >step
> we reduce
> >to two (CABAC and CAVLC). I assume the main reason for having CAVLC
> >in
> main
> >is an effort to maintain compatibility with baseline. Perhaps an answer
> is
> >to marry ABT to CABAC requiring use of CABAC when using ABT.
> >
> >Thoughts?
> >
> >Louie
> >
> >-----Original Message-----
> >From: Luthra Ajay-MGI1164 [mailto:aluthra@motorola.com]
> >Sent: Monday, September 30, 2002 10:30 AM
> >To: 'Kerofsky, Louis'; 'Mathias Wien'; jvt_vlc_adhoc@yahoogroups.com
> >Cc: jvt-experts@mail.imtc.org
> >Subject: RE: [jvt_vlc_adhoc] CAVLC for ABT
> >
> >Louie,
> > > Thanks for your email and work. If I understand it right CABAC is
> >more than 10% better than CAVLC for ABT. In that case, I do not
> >understand why
> to
> >have it for ABT. I have heard the design consistency argument but am
> >not sure I agree with it. I do not see any benefit of trying to
> unify this one
> >particular thing in ABT when many other things are different. Let us
> >not make decoder any more complex than they have to be, specially if
> >all that
> is
> >achieved is some (vague) theoretical design consistency.
> >
> > > Pushing this argument further, why to have CAVLC in Main profile
> > > at
> all.
> >CABAC provides better gain and Main Profile decoders have to
> >implement it anyway. Why to put two tools (CAVLC and CABAC) to do the
> >same thing (lossless coding) in the same profile.
> >
> >Regards,
> >Ajay
> >
> >PS. As part of this discussion also happened on the JVT reflector, I
> >have sent the reply also to the general reflector.
> [...]
>
>

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Page 3 of 4

>
> ---
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> standardization work conducted by the Joint Video Team (JVT) of
> ISO/IEC
> JTC1/SC29/WG11 (MPEG) and ITU-T SG16 Q.6 (VCEG).
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> You are currently subscribed to jvt-experts as:
> tktan@spg.yrp.nttdocomo.co.jp
> To unsubscribe send a blank email to
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You are currently subscribed to jvt-experts as: suehring@hhi.de To unsubscribe send a blank email to leave-jvt-experts-12909W@mail.imtc.org

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Page 4 of 4