

**From:** Karsten Suehring <suehring@hhi.de>  
**Sent:** Friday, November 8, 2002 2:32 PM  
**To:** Byeong-Moon Jeon  
**Cc:** jvt-experts  
**Subject:** [jvt-experts] Re: reordering and mmco operation in JM5.0

Dear Byeong-Moon,

please see my inline comments.

- > I checked JM5.0 software and I found that it still has some bugs in RMPNI(reordering) and MMCO.
- > Mainly, encoder does not provide the correct operations for them.
- > In encoder, rmpni and mmco operations are ON by activating `_CHECK_MULTI_BUFFER_1_` and `_CHECK_MULTI_BUFFER_2_` of defines.h
- >
- > I attached modified source files including the correct rmpni and mmco operations and some bug fixes.
- > You can find the modified parts by searching // Byeong-Moon

I agree that the rmpni/rpsl implementation at the encoder is very basic. It was provided as a sample how this could work.

- > Changes in encoder
- > - rmpni and mmco operations

I will merge these.

- > - bug fix : In order to remove the waste of bits. "sym->mapping = dquant\_linfo" should be returned to "sym->mapping = n\_linfo2" just after writing the syntax element of SliceQuant
- > in SliceHeader().

I'm not sure if this makes any difference. If there was a real change at the encoder, wouldn't we need the same change also at the decoder? Anyway the slice header needs much work to be aligned to the text (together with all the other high level stuff).

- > Changes in decoder
- > - bug(?) fix : Actual mmco operation is done at copy2fb(). But this module is called totally three times at frame\_postprocessing() and exit\_frame() after decoding one frame, when picture structure is frame mode. It may result in the incorrect mmco procedure. I didn't check yet mmco operation in the case that picture structure is field mode. I think it is necessary that someone checks mmco operation again in decoder.

This effectively breaks picture adaptive frame/field coding. I'm aware that there is an issue and I will try to resolve it in my "Multi-picture handling" implementation time slot.

- > Question
- > Under the visual C 6.0 environment, when decoder is compiled at debug mode, the test results show the error message at free (mref\_frm) and free (mcef\_frm) lines in free\_global\_buffers() function after all

> frames are correctly decoded. But when decoder is compiled at release mode, there is no error at those lines. Is there anyone who knows the reason?

I think this was caused by your decoder change. The debug mode C-libraries add some checks to the memory allocation functions which will fail if pointers were overwritten.

> Anyway, I hope my work is a help to make the software more stable and powerful(?).

Thanks for your efforts. We can always need help in improving the code.

Best regards,  
Karsten

---

The use of the jvt-experts list is intended only for the video coding standardization work conducted by the Joint Video Team (JVT) of ISO/IEC JTC1/SC29/WG11 (MPEG) and ITU-T SG16 Q.6 (VCEG).

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