**DESIGN AND IMPLEMENTATION OF PARALLEL PROGRAMMING
FOR COMPRESSION AND DECOMPRESSION OF VIDEO IMAGE
USING POSIX PTHREADS AND INTEL TBB**

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ABSTRACT

At current computing compression / decompression of video done sequentially which involves many matrix operations with command repetition (looping) such as: sequential for, assuming that the processor used is one processor. Meanwhile, a parallel computer systems (multicore) is already in a private environment. Example: Intel Core 2 Duo (2 cores), i7 (8 core), Haswell. To maximize the performance of computer systems, Intel TBB (Threading Building Blocks) must be used in parallel computing programming (multicore).

In the final project was designed and implemented programs (software) parallel compression and decompression of video images using POSIX pthreads library and Intel TBB. Programs run on computers based on Intel Core 2 Duo on MS Windows 7 operating system. System testing is done in sequential and parallel on various bitmap image and avi video with various compression quality factor (Q = 1, 5, 10).

The results show that the compression ratio value between 9.0164 to 24.7947, while the RMS value between 16.033 to 34.0425, and the speedup value between 1.267x to 1.515x.

Keywords : multithread, multicore, compression, decompression