Subject: Re: BufferPainter::Clear() optimization
Posted by mirek on Mon, 18 May 2020 19:56:57 GMT

Tom1 wrote on Mon, 18 May 2020 20:57Hi,

My CPU here is Intel(R) Core(TM) i7-4790K:

  https://ark.intel.com/content/www/us/en/ark/products/80807/intel-core-i7-4790k-processor-8m-cache-up-to-4-40-ghz.html

Not surprisingly, they say it has an 8M 'smart cache'.

Please find attached two CSV files portraying execution time in ns for each call in average. The length is in dwords. Fill3a is there for reference and Fill3T is using 64 dword threshold for streaming in one and 2M dword (8MB) threshold in the other file. While not portrayed here, increasing the threshold above 32MB decreases the performance from 1.5 ms to 3.6 ms for a 32 MB buffer.

Best regards,

Tom

If I interpret these numbers correctly, it looks like around 4MB potential drop because of cache bypass starts to be diminish, right?

Thing is, I am afraid that making this dynamic will cause a lot of problems, starting with perfromance - it is after all another read from the memory. I would settle for some compromise constant there. Like 4MB... :)

Mirek