
Subject: Re: BufferPainter::Clear() optimization
Posted by Tom1 on Mon, 18 May 2020 11:31:25 GMT
[View Forum Message](#) <> [Reply to Message](#)

Hi,

Alignment corrected. (Caused obviously a lot of rearranging things to obtain balance.) Threshold is still at 8M, but feel free to experiment.

```
inline void new_memset128(void *b, dword data, int len){
    switch(len){
        case 5: ((dword *)b)[4] = data;
        case 4: ((dword *)b)[3] = data;
        case 3: ((dword *)b)[2] = data;
        case 2: ((dword *)b)[1] = data;
        case 1: ((dword *)b)[0] = data;
        case 0: return;
    }
}
```

```
__m128i q = _mm_set1_epi32(*(int*)&data);
__m128i *w = (__m128i*)b;
__m128i *e = (__m128i*)b + (len>>2);
```

```
if(len <= 2*1024*1024 || ((uintptr_t)b&3)){
    while(w<e-1){
        _mm_storeu_si128(w++, q);
        _mm_storeu_si128(w++, q);
    }
    if(w<e) _mm_storeu_si128(w++, q);
}
```

```
else{
    int s=-((int)((uintptr_t)b)>>2)&0x3;
    switch(s){
        case 3: ((dword *)b)[2] = data;
        case 2: ((dword *)b)[1] = data;
        case 1: ((dword *)b)[0] = data;
    }
}
```

```
w = (__m128i*) ((dword*)b + s);
```

```
while(w<e) _mm_stream_si128(w++, q);
_mm_sfence();
}
```

```
switch(len&3){
    case 3: ((dword *)b)[len-3] = data;
    case 2: ((dword *)b)[len-2] = data;
    case 1: ((dword *)b)[len-1] = data;
```

```
}  
}
```

Best regards,

Tom
