If my WM_TIMER handler takes longer than the timer period, will my queue fill up with WM_TIMER messages?

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A customer was worried that they may have a problem with their message queue filling with `WM_TIMER` messages. "If my `WM_TIMER` handler takes longer than the timer period, will my queue fill up with `WM_TIMER` messages?" As we should know by now, timer messages are generated on demand:

> The **WM_TIMER** message is a low-priority message. The **GetMessage** and **PeekMessage** functions post this message only when no other higher-priority messages are in the thread's message queue.

Here's the basic algorithm. (I'm ignoring filtering and I'm assuming that messages are removed.)

- Look for a posted message. If one exists, then return it.
- Was `PostQuitMessage` called? If so, then generate and return a `WM_QUIT` message.
- Look for an input message. If one exists, then return it.
- Did the mouse move since the last call? If so, then generate and return a `WM_MOUSE-MOVE` message.
- Does a window need to be repainted? If so, then generate and return a `WM_PAINT` message.
- Is there a timer that has elapsed? If so, then generate and return a `WM_TIMER` message.

Notice that the generated messages are generated on demand by message retrieval functions. If you never call a message retrieval function, then no messages are generated. And in the case where the messages are removed (*i.e.*, you use `GetMessage` or you use `PeekMessage` with `PM_REMOVE`), the messages are removed immediately after being generated, so they don't hang around very long at all.

In particular, if your `WM_TIMER` handler takes longer than the timer period, and it doesn't call a message retrieval function, then there is no opportunity for another `WM_TIMER` message to be generated. Only when you call a message retrieval function does there become a possibility for a `WM_TIMER` message to be generated.

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