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Improving producer-consumer type workload performance

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When each CPU core can independently control its performance states, then there is performance loss on some benchmarks compared to the case when there are no independent performance states. There are couple of options to indicate to the cpufreq drivers when a producer thread wakes a consumer thread: One sending some hints like we do for IO boost or give boost PELT utilization. But there is a challenge in cleanly identifying a producer/consumer relationship in scheduler code. There are several ways a thread can wait and get signaled to wake in Linux.

They don't end up in one place in scheduler code to cleanly implement. I experimented a case where futex are used between producer and consumers, where a hint is passed when cpufreq drivers to give small boost. The idea here is to discuss:
- Shall we solve this problem?
- How to unify wait and wake up functions?
- Is it better to give a hint or boost PELT utilization of the consumer?

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Yes

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