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Sin #4a

You may never take a lock in real-time code

Normal lock: `std::mutex::lock()`

std::mutex::lock is wrapper around `pthread_mutex_lock` (linux source code) - edited for brevity

```
while (1) {
   /* Try to acquire the lock through a CAS from 0 (not acquired) to our TID  */
   oldval = atomic_compare_and_exchange_val_acq (&mutex->__data.__lock,
                                                 tid, 0);
   if (__glibc_likely (oldval == 0))
       break;

    ...
    /* Block using the futex and reload current lock value.  */
     futex_wait ((unsigned int *) &mutex->__data.__lock, oldval,
                 PTHREAD_ROBUST_MUTEX_PSHARED (mutex));
     oldval = mutex->__data.__lock;
}
return;
```

Real-time safe

OS call which can block thread

➔ Lock is real-time safe as long as it's never contended

FABIAN RENN-GILES

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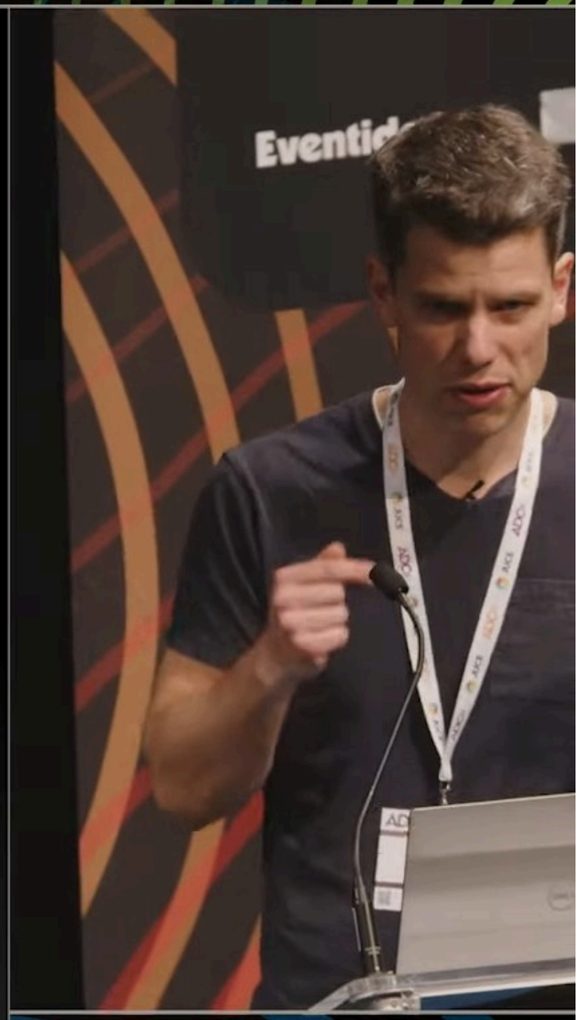
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