perf trace

```
      ? (          ): example_extern/25315  ... [continued]: execve())                                                    = 0
  0.021 ( 0.003 ms): example_extern/25315 brk()                                                                          = 0xaaaaeb303000
  0.092 ( 0.006 ms): example_extern/25315 faccessat(dfd: -100, filename: 0x9ffdb660, mode: 4)                            = -1 ENOENT (No such file or directory)
  0.171 ( 0.005 ms): example_extern/25315 openat(dfd: CWD, filename: 0x9ffd9480, flags: RDONLY|CLOEXEC)                  = 3
  0.192 ( 0.003 ms): example_extern/25315 close(fd: 3)                                                                   = 0
  0.202 ( 0.005 ms): example_extern/25315 openat(dfd: CWD, filename: 0x9ffeb140, flags: RDONLY|CLOEXEC)                  = 3
  0.210 ( 0.004 ms): example_extern/25315 read(fd: 3, buf: 0xffffd59feaa0, count: 832)                                   = 832
  0.239 ( 0.003 ms): example_extern/25315 munmap(addr: 0xffff9fd6b000, len: 20480)                                       = 0
  0.245 ( 0.003 ms): example_extern/25315 munmap(addr: 0xffff9ff9a000, len: 43040)                                       = 0
  0.251 ( 0.006 ms): example_extern/25315 mprotect(start: 0xffff9ff7a000, len: 61440)                                    = 0
  0.279 ( 0.003 ms): example_extern/25315 close(fd: 3)                                                                   = 0
  0.288 ( 0.004 ms): example_extern/25315 openat(dfd: CWD, filename: 0x9ffeb680, flags: RDONLY|CLOEXEC)                  = 3
  0.294 ( 0.004 ms): example_extern/25315 read(fd: 3, buf: 0xffffd59fea80, count: 832)                                   = 832
  0.320 ( 0.009 ms): example_extern/25315 munmap(addr: 0xffff9fd3b000, len: 20480)                                       = 0
  0.332 ( 0.003 ms): example_extern/25315 munmap(addr: 0xffff9fd65000, len: 41672)                                       = 0
  0.338 ( 0.009 ms): example_extern/25315 mprotect(start: 0xffff9fd54000, len: 61440)                                    = 0
  0.361 ( 0.003 ms): example_extern/25315 close(fd: 3)                                                                   = 0
  0.367 ( 0.004 ms): example_extern/25315 openat(dfd: CWD, filename: 0x9ffebbc0, flags: RDONLY|CLOEXEC)                  = 3
  0.374 ( 0.003 ms): example_extern/25315 read(fd: 3, buf: 0xffffd59fea60, count: 832)                                   = 832
  0.402 ( 0.003 ms): example_extern/25315 munmap(addr: 0xffff9fb87000, len: 36864)                                       = 0
  0.407 ( 0.003 ms): example_extern/25315 munmap(addr: 0xffff9fd39000, len: 28264)                                       = 0
  0.413 ( 0.005 ms): example_extern/25315 mprotect(start: 0xffff9fd18000, len: 61440)                                    = 0
  0.490 ( 0.006 ms): example_extern/25315 close(fd: 3)                                                                   = 0
  0.521 ( 0.009 ms): example_extern/25315 openat(dfd: CWD, filename: 0x9ffec100, flags: RDONLY|CLOEXEC)                  = 3
  0.541 ( 0.003 ms): example_extern/25315 read(fd: 3, buf: 0xffffd59fea20, count: 832)                                   = 832
  0.576 ( 0.004 ms): example_extern/25315 munmap(addr: 0xffff9fae9000, len: 28672)                                       = 0
  0.590 ( 0.003 ms): example_extern/25315 munmap(addr: 0xffff9fb87000, len: 32880)                                       = 0
  0.602 ( 0.011 ms): example_extern/25315 mprotect(start: 0xffff9fb76000, len: 61440)                                    = 0
  0.666 ( 0.003 ms): example_extern/25315 close(fd: 3)                                                                   = 0
  0.697 ( 0.005 ms): example_extern/25315 set_tid_address(tidptr: 0xffff9ffe9af0)                                        = 25315 (example_externa)
  0.710 ( 0.003 ms): example_extern/25315 set_robust_list(head: 0xffff9ffe9b00, len: 24)                                 = 0
  0.727 ( 0.003 ms): example_extern/25315 rseq(rseq: 0xffff9ffea1c0, rseq_len: 32, sig: 3559439360)                      = 0
  0.781 ( 0.005 ms): example_extern/25315 mprotect(start: 0xffff9fd27000, len: 16384, prot: READ)                        = 0
  0.791 ( 0.004 ms): example_extern/25315 mprotect(start: 0xffff9fb85000, len: 4096, prot: READ)                         = 0
  0.799 ( 0.004 ms): example_extern/25315 mprotect(start: 0xffff9fd63000, len: 4096, prot: READ)                         = 0
  1.794 ( 0.023 ms): example_extern/25315 mprotect(start: 0xffff9ff89000, len: 45056, prot: READ)                        = 0
  1.874 ( 0.012 ms): example_extern/25315 mprotect(start: 0xaaaaae426000, len: 4096, prot: READ)                         = 0
  1.897 ( 0.012 ms): example_extern/25315 mprotect(start: 0xffff9fff0000, len: 8192, prot: READ)                         = 0
  1.953 ( 0.003 ms): example_extern/25315 prlimit64(resource: STACK, old_rlim: 0xffffd59ff4b8)                           = 0
  1.983 ( 0.013 ms): example_extern/25315 munmap(addr: 0xffff9ffa5000, len: 67899)                                       = 0
  2.053 ( 0.009 ms): example_extern/25315 getrandom(ubuf: 0xffff9fd31930, len: 8, flags: NONBLOCK)                       = 8
  2.071 ( 0.003 ms): example_extern/25315 brk()                                                                          = 0xaaaaeb303000
  2.083 ( 0.009 ms): example_extern/25315 brk(brk: 0xaaaaeb324000)                                                       = 0xaaaaeb324000
  2.321 ( 0.004 ms): example_extern/25315 futex(uaddr: 0xffff9ff977a4, op: WAKE|PRIVATE_FLAG, val: 2147483647)           = 0
  2.489 ( 0.003 ms): example_extern/25315 rt_sigaction(sig: 0x21, act: 0xffffd59ff478, sigsetsize: 8)                    = 0
  2.495 ( 0.003 ms): example_extern/25315 rt_sigprocmask(how: UNBLOCK, nset: 0xffffd59ff6a8, sigsetsize: 8)              = 0
  2.507 ( 0.004 ms): example_extern/25315 mprotect(start: 0xffff9f2f0000, len: 8388608, prot: READ|WRITE)                = 0
  2.525 ( 0.004 ms): example_extern/25315 rt_sigprocmask(how: BLOCK, nset: 0xffff9fcd82c8, oset: 0xffffd59ff6a0, sigsetsize: 8) = 0
  2.544 ( 0.096 ms): example_extern/25315 clone(clone_flags: VM|FS|FILES|SIGHAND|THREAD|SYSVSEM|SETTLS|PARENT_SETTID|CHILD_CLEARTID, newsp: 0xffff9faee940, parent_tidptr: 0xffff9faef1d0, tls: 0xffff9faef8c0, chil
  2.647 ( 0.003 ms): example_extern/25315 rt_sigprocmask(how: SETMASK, nset: 0xffffd59ff6a0, sigsetsize: 8)              = 0
  2.676 (          ): example_extern/25315 futex(uaddr: 0xffff9faef1d0, op: WAIT_BITSET|CLOCK_REALTIME, val: 25316, val3: MATCH_ANY) ...
  2.689 ( 0.005 ms): example_extern/25316 rseq(rseq: 0xffff9faef8a0, rseq_len: 32, sig: 3559439360)                      = 0
  2.702 ( 0.003 ms): example_extern/25316 set_robust_list(head: 0xffff9faef1e0, len: 24)                                 = 0
  2.713 ( 0.006 ms): example_extern/25316 rt_sigprocmask(how: SETMASK, nset: 0xffff9faef7f0, sigsetsize: 8)              = 0
  2.728 ( 0.006 ms): example_extern/25316 sched_get_priority_max(policy: 1)                                              = 99
  2.742 ( 0.008 ms): example_extern/25316 sched_setscheduler(pid: 25316 (example_externa), policy: FIFO, param: 0xffff9faee6c0) = 0
  2.772 ( 0.004 ms): example_extern/25316 munmap(addr: 0xffff972e0000, len: 13762560)                                    = 0
  2.779 ( 0.003 ms): example_extern/25316 munmap(addr: 0xffff9c000000, len: 53346304)                                    = 0
  2.785 ( 0.003 ms): example_extern/25316 mprotect(start: 0xffff98000000, len: 135168, prot: READ|WRITE)                 = 0
  2.808 ( 0.003 ms): example_extern/25316 sched_get_priority_min(policy: 1)                                              = 1
  2.814 ( 0.004 ms): example_extern/25316 sched_setscheduler(pid: 25316 (example_externa), policy: FIFO, param: 0xffff9faee6c0) = 0
  2.823 ( 0.003 ms): example_extern/25316 rt_sigprocmask(how: BLOCK, nset: 0xffff9faef7f0, sigsetsize: 8)                = 0
  2.829 ( 0.005 ms): example_extern/25316 madvise(start: 0xffff9f2e0000, len_in: 8314880, behavior: MADV_DONTNEED)       = 0
  2.837 (          ): example_extern/25316 exit()                                                                        = ?
  2.676 ( 0.177 ms): example_extern/25315  ... [continued]: futex())                                                     = 0
  2.937 (          ): example_extern/25315 exit_group()                                                                  = ?
```

34

```
execve("./example_external", ["./example_external"], 0xfffff35bb480 /* 17 vars */) = 0
brk(NULL)                               = 0xaaaad04d8000
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0xffffaed86000
faccessat(AT_FDCWD, "/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=67899, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 67899, PROT_READ, MAP_PRIVATE, 3, 0) = 0xffffaed40000
close(3)                                = 0
openat(AT_FDCWD, "/lib/aarch64-linux-gnu/libstdc++.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0\267\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=2190752, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 2332704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0xffffaeb06000
mmap(0xffffaeb10000, 2267168, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0) = 0xffffaeb10000
munmap(0xffffaeb06000, 40960)           = 0
munmap(0xffffaed3a000, 22560)           = 0
mprotect(0xffffaed1a000, 61440, PROT_NONE) = 0
mmap(0xffffaed29000, 57344, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x209000) = 0xffffaed29000
mmap(0xffffaed37000, 10272, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0xffffaed37000
close(3)                                = 0
openat(AT_FDCWD, "/lib/aarch64-linux-gnu/libgcc_s.so.1", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0\267\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=84296, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 213704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0xffffaeadb000
mmap(0xffffaeae0000, 148168, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0) = 0xffffaeae0000
munmap(0xffffaeadb000, 20480)           = 0
munmap(0xffffaeb05000, 41672)           = 0
mprotect(0xffffaeaf4000, 61440, PROT_NONE) = 0
mmap(0xffffaeb03000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x13000) = 0xffffaeb03000
close(3)                                = 0
openat(AT_FDCWD, "/lib/aarch64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0\267\0\1\0\0\0\340u\2\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=1637400, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 1805928, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0xffffae927000
mmap(0xffffae930000, 1740392, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0) = 0xffffae930000
munmap(0xffffae927000, 36864)           = 0
munmap(0xffffaead9000, 28264)           = 0
mprotect(0xffffaeab8000, 61440, PROT_NONE) = 0
mmap(0xffffaeac7000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x187000) = 0xffffaeac7000
mmap(0xffffaeacd000, 48744, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0xffffaeacd000
close(3)                                = 0
openat(AT_FDCWD, "/lib/aarch64-linux-gnu/libm.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0\267\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=551064, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 680048, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0xffffae889000
mmap(0xffffae890000, 614512, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0) = 0xffffae890000
munmap(0xffffae889000, 28672)           = 0
munmap(0xffffae927000, 32880)           = 0
mprotect(0xffffae916000, 61440, PROT_NONE) = 0
mmap(0xffffae925000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x85000) = 0xffffae925000
close(3)                                = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0xffffaed84000
set_tid_address(0xffffaed84af0)         = 25322
set_robust_list(0xffffaed84b00, 24)     = 0
rseq(0xffffaed851c0, 0x20, 0, 0xd428bc00) = 0
mprotect(0xffffaeac7000, 16384, PROT_READ) = 0
mprotect(0xffffae925000, 4096, PROT_READ) = 0
mprotect(0xffffaeb03000, 4096, PROT_READ) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0xffffaed82000
mprotect(0xffffaed29000, 45056, PROT_READ) = 0
mprotect(0xaaaac3096000, 4096, PROT_READ) = 0
mprotect(0xffffaed8b000, 8192, PROT_READ) = 0
prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) = 0
munmap(0xffffaed40000, 67899)           = 0
getrandom("\x58\x27\x16\xb8\xfd\xe5\x40\x03", 8, GRND_NONBLOCK) = 8
brk(NULL)                               = 0xaaaad04d8000
brk(0xaaaad04f9000)                     = 0xaaaad04f9000
futex(0xffffaed377a4, FUTEX_WAKE_PRIVATE, 2147483647) = 0
rt_sigaction(SIGRT_1, {sa_handler=0xffffae9aa700, sa_mask=[], sa_flags=SA_ONSTACK|SA_RESTART|SA_SIGINFO}, NULL, 8) = 0
rt_sigprocmask(SIG_UNBLOCK, [RTMIN RT_1], NULL, 8) = 0
mmap(NULL, 8454144, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK, -1, 0) = 0xffffae080000
mprotect(0xffffae090000, 8388608, PROT_READ|PROT_WRITE) = 0
rt_sigprocmask(SIG_BLOCK, ~[], [], 8)   = 0
clone(child_stack=0xffffae88e940, flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, parent_tid=[25323], tls=0xffffae88f8c0, child_tidptr=0xffffae88f1d0) = 25323
rt_sigprocmask(SIG_SETMASK, [], NULL, 8) = 0
exit_group(0)                           = ?
```

strace

35