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**Лабораторная работа №1 по курсу**

**«Операционные системы»**

**Приобретение практических навыков диагностики работы программного обеспечения**

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1. **Постановка задачи**

При выполнении последующих лабораторных работ необходимо продемонстрировать ключевые системные вызовы, которые в них используются.

Используемые утилиты: strace, ltrace.

1. **Описание используемых утилит**

Strace — это утилита Linux, отслеживающая системные вызовы, которые представляют собой механизм трансляции, обеспечивающий интерфейс между процессом и операционной системой. Использование данной утилиты позволяет понять, что процесс пытается сделать в данное время. Strace может быть полезен при отладке программ.

Для удобства работы с протоколом утилиты можно использовать следующие ключи:

* -o file – Перенаправить протокол утилиты в файл file
* -e trace=filters – Указать выражения, по которым будут фильтроваться системные вызовы. Например -e trace=write,%process задаёт фильтрацию по системным вызовам write и по группе системных вызовов, связанных с межпроцессорным взаимодействием.
* -f – Отслеживать системные вызовы в дочерних процессах
* -y – Заменить в протоколе все файловые дескрипторы на имена соответствующих им файлов (где возможно).
* -p file – Отслеживать только обращения к файлу file
* -k – Отображать стек вызовов

Ltrace – это утилита Linux, отслеживающая системные вызовы, связанные с динамическими библиотеками. Использование данной утилиты очень похоже на использование strace.

1. **Примеры использования утилит**

Ниже приведены протоколы strace лабораторных работ. Ключевые строки в протоколе будут выделены красным цветом.

***Лабораторная работа 2 – взаимодействие между процессами***

**mosik@LAPTOP-69S778GL:~/os\_lab2$** strace -f -e trace="%process,read,write,dup2,pipe" -o strace\_log.txt ./parent

Enter file's name for chiild process 1: first\_file

Enter file's name for chiild process 2: second\_file

10

20

30

**mosik@LAPTOP-69S778GL:~/os\_lab2$** cat strace\_log.txt

942 execve("./parent", ["./parent"], 0x7fffe903e778 /\* 29 vars \*/) = 0

942 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000b\0\0\0\0\0\0"..., 832) = 832

942 read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"..., 832) = 832

942 arch\_prctl(ARCH\_SET\_FS, 0x7f10a9780740) = 0

942 write(1, "Enter file's name for chiild pro"..., 40) = 40

942 read(0, "first\_file\n", 1024) = 11

942 write(1, "Enter file's name for chiild pro"..., 40) = 40

942 read(0, "second\_file\n", 1024) = 12

942 pipe([5, 6]) = 0

942 pipe([7, 8]) = 0

942 clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f10a9780a10) = 951

942 clone( <unfinished ...>

951 dup2(5, 0) = 0

951 dup2(3, 1) = 1

951 execve("child", [], 0x7fffdb666388 /\* 29 vars \*/ <unfinished ...>

942 <... clone resumed> child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f10a9780a10) = 952

942 read(0, <unfinished ...>

952 dup2(7, 0) = 0

952 dup2(4, 1) = 1

952 execve("child", [], 0x7fffdb666388 /\* 29 vars \*/ <unfinished ...>

951 <... execve resumed> ) = 0

951 read(6, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"..., 832) = 832

952 <... execve resumed> ) = 0

951 arch\_prctl(ARCH\_SET\_FS, 0x7f0a5d4814c0) = 0

951 read(0, <unfinished ...>

952 read(5, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"..., 832) = 832

952 arch\_prctl(ARCH\_SET\_FS, 0x7ff4eb5f14c0) = 0

952 read(0, <unfinished ...>

942 <... read resumed> "10\n", 1024) = 3

942 write(6, "1", 1) = 1

951 <... read resumed> "1", 4096) = 1

942 write(6, "0", 1 <unfinished ...>

951 read(0, <unfinished ...>

942 <... write resumed> ) = 1

951 <... read resumed> "0", 4096) = 1

942 write(6, "\0", 1 <unfinished ...>

951 read(0, <unfinished ...>

942 <... write resumed> ) = 1

951 <... read resumed> "\0", 4096) = 1

942 read(0, <unfinished ...>

951 write(1, "01\n", 3) = 3

951 read(0, <unfinished ...>

942 <... read resumed> "20\n", 1024) = 3

942 write(8, "2", 1) = 1

952 <... read resumed> "2", 4096) = 1

942 write(8, "0", 1 <unfinished ...>

952 read(0, <unfinished ...>

942 <... write resumed> ) = 1

952 <... read resumed> "0", 4096) = 1

942 write(8, "\0", 1 <unfinished ...>

952 read(0, <unfinished ...>

942 <... write resumed> ) = 1

952 <... read resumed> "\0", 4096) = 1

942 read(0, <unfinished ...>

952 write(1, "02\n", 3) = 3

952 read(0, <unfinished ...>

942 <... read resumed> "30\n", 1024) = 3

942 write(6, "3", 1) = 1

951 <... read resumed> "3", 4096) = 1

942 write(6, "0", 1) = 1

951 read(0, <unfinished ...>

942 write(6, "\0", 1 <unfinished ...>

951 <... read resumed> "0", 4096) = 1

942 <... write resumed> ) = 1

951 read(0, <unfinished ...>

942 read(0, <unfinished ...>

951 <... read resumed> "\0", 4096) = 1

951 write(1, "03\n", 3) = 3

951 read(0, <unfinished ...>

942 <... read resumed> "", 1024) = 0

942 exit\_group(0) = ?

952 <... read resumed> "", 4096) = 0

951 <... read resumed> "", 4096) = 0

942 +++ exited with 0 +++

952 exit\_group(0) = ?

951 exit\_group(0) = ?

952 +++ exited with 0 +++

951 +++ exited with 0 +++

***Лабораторная работа 3 – взаимодействие между потоками***

**mosik@LAPTOP-69S778GL:~/os\_lab3$** strace -f -e trace="%process,write" -o strace\_log.txt ./main 3

Enter a number you want to check: 100

100 is not a prime number

**mosik@LAPTOP-69S778GL:~/os\_lab3$** cat strace\_log.txt

785 execve("./main", ["./main", "3"], 0x7fffc550ab10 /\* 30 vars \*/) = 0

785 arch\_prctl(ARCH\_SET\_FS, 0x7f1970de0740) = 0

785 write(1, "Enter a number you want to check"..., 34) = 34

785 clone(child\_stack=0x7f19703cffb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f19703d09d0, tls=0x7f19703d0700, child\_tidptr=0x7f19703d09d0) = 795

785 clone(child\_stack=0x7f196fbbffb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f196fbc09d0, tls=0x7f196fbc0700, child\_tidptr=0x7f196fbc09d0) = 796

785 clone(child\_stack=0x7f196f3affb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f196f3b09d0, tls=0x7f196f3b0700, child\_tidptr=0x7f196f3b09d0) = 797

795 exit(0) = ?

795 +++ exited with 0 +++

796 exit(0 <unfinished ...>

785 clone( <unfinished ...>

796 <... exit resumed>) = ?

796 +++ exited with 0 +++

785 <... clone resumed> child\_stack=0x7f19703cffb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f19703d09d0, tls=0x7f19703d0700, child\_tidptr=0x7f19703d09d0) = 798

797 exit(0) = ?

797 +++ exited with 0 +++

798 exit(0) = ?

798 +++ exited with 0 +++

785 write(1, "100 is not a prime number\n", 26) = 26

785 exit\_group(0) = ?

785 +++ exited with 0 +++

***Лабораторная работа 4 – отображаемые файлы***

**mosik@LAPTOP-69S778GL:~/os\_lab4$** strace -f -e trace="%process,read,write,dup2,mmap" -o strace\_log.txt ./parent

Enter file's name for child process 1: f1

Enter file's name for child process 2: f2

here are

some string

for strace

**mosik@LAPTOP-69S778GL:~/os\_lab4$** cat f1

era ereh

gnirts emos

**mosik@LAPTOP-69S778GL:~/os\_lab4$** cat f2

ecarts rof

**mosik@LAPTOP-69S778GL:~/os\_lab4$** cat strace\_log.txt

535 execve("./parent", ["./parent"], 0x7fffee34b5d8 /\* 30 vars \*/) = 0

535 mmap(NULL, 42756, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7ffea19c4000

535 read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\20\35\2\0\0\0\0\0"..., 832) = 832

535 mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7ffea19c0000

535 mmap(NULL, 4131552, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7ffea1200000

535 mmap(0x7ffea15e7000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e7000) = 0x7ffea15e7000

535 mmap(0x7ffea15ed000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7ffea15ed000

535 arch\_prctl(ARCH\_SET\_FS, 0x7ffea19c14c0) = 0

535 write(1, "Enter file's name for child proc"..., 39) = 39

535 read(0, "f1\n", 1024) = 3

535 write(1, "Enter file's name for child proc"..., 39) = 39

535 read(0, "f2\n", 1024) = 3

535 write(5, "\1\0\0\0\0\0\0\0", 8) = 8

535 write(6, "\1\0\0\0\0\0\0\0", 8) = 8

535 mmap(NULL, 4096, PROT\_READ|PROT\_WRITE, MAP\_SHARED, 5, 0) = 0x7ffea19b0000

535 mmap(NULL, 4096, PROT\_READ|PROT\_WRITE, MAP\_SHARED, 6, 0) = 0x7ffea19a0000

535 clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7ffea19c1790) = 536

536 dup2(3, 1 <unfinished ...>

535 clone( <unfinished ...>

536 <... dup2 resumed> ) = 1

536 execve("child", ["1"], 0x7fffeda13568 /\* 30 vars \*/ <unfinished ...>

535 <... clone resumed> child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7ffea19c1790) = 537

537 dup2(4, 1 <unfinished ...>

535 read(0, <unfinished ...>

537 <... dup2 resumed> ) = 1

537 execve("child", ["2"], 0x7fffeda13568 /\* 30 vars \*/ <unfinished ...>

536 <... execve resumed> ) = 0

536 mmap(NULL, 42756, PROT\_READ, MAP\_PRIVATE, 7, 0) = 0x7f82f5b9a000

536 read(7, <unfinished ...>

537 <... execve resumed> ) = 0

536 <... read resumed> "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\20\35\2\0\0\0\0\0"..., 832) = 832

536 mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f82f5b90000

536 mmap(NULL, 4131552, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 7, 0) = 0x7f82f5400000

536 mmap(0x7f82f57e7000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 7, 0x1e7000) = 0x7f82f57e7000

536 mmap(0x7f82f57ed000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0 <unfinished ...>

537 mmap(NULL, 42756, PROT\_READ, MAP\_PRIVATE, 7, 0 <unfinished ...>

536 <... mmap resumed> ) = 0x7f82f57ed000

537 <... mmap resumed> ) = 0x7f781f8c7000

536 arch\_prctl(ARCH\_SET\_FS, 0x7f82f5b914c0) = 0

537 read(7, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\20\35\2\0\0\0\0\0"..., 832) = 832

537 mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f781f8c0000

537 mmap(NULL, 4131552, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 7, 0) = 0x7f781f200000

537 mmap(0x7f781f5e7000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 7, 0x1e7000) = 0x7f781f5e7000

537 mmap(0x7f781f5ed000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f781f5ed000

537 arch\_prctl(ARCH\_SET\_FS, 0x7f781f8c14c0 <unfinished ...>

536 mmap(NULL, 4096, PROT\_READ|PROT\_WRITE, MAP\_SHARED, 7, 0 <unfinished ...>

537 <... arch\_prctl resumed> ) = 0

536 <... mmap resumed> ) = 0x7f82f5ba0000

537 mmap(NULL, 4096, PROT\_READ|PROT\_WRITE, MAP\_SHARED, 7, 0) = 0x7f781f8d0000

535 <... read resumed> "here are\n", 1024) = 9

535 read(0, <unfinished ...>

536 write(1, "era ereh\n", 9) = 9

535 <... read resumed> "some string\n", 1024) = 12

535 read(0, <unfinished ...>

536 write(1, "gnirts emos\n", 12) = 12

535 <... read resumed> "for strace\n", 1024) = 11

535 read(0, <unfinished ...>

537 write(1, "ecarts rof\n", 11) = 11

535 <... read resumed> "", 1024) = 0

536 exit\_group(0 <unfinished ...>

537 exit\_group(0 <unfinished ...>

536 <... exit\_group resumed>) = ?

537 <... exit\_group resumed>) = ?

536 +++ exited with 0 +++

537 +++ exited with 0 +++

535 --- SIGCHLD {si\_signo=SIGCHLD, si\_code=CLD\_EXITED, si\_pid=536, si\_uid=1000, si\_status=0, si\_utime=0, si\_stime=0} ---

535 exit\_group(0) = ?

535 +++ exited with 0 +++

***Лабораторная работа 5 – динамические библиотеки***

**mosik@LAPTOP-69S778GL:~/os\_lab5**$ ltrace -o ltrace.log ./prog2

0 --> change library

1 x --> count 'e' number

2 size\_of\_array array --> sort array

1

10

Counting 'e' number using second remarkable limit

2.593742

0

Implementation switched

1 10

Counting 'e' number using Taylor series

2.718282

0

Implementation switched

**mosik@LAPTOP-69S778GL:~/os\_lab5**$ cat ltrace.log

puts("0 --> change library") = 21

puts("1 x --> count 'e' number") = 25

puts("2 size\_of\_array array --> sort a"...) = 37

dlopen("lib1.so", 1) = 0x7fffd478b6a0

dlsym(0x7fffd478b6a0, "e") = 0x7f2c775e069a

dlsym(0x7fffd478b6a0, "sort") = 0x7f2c775e06f0

dlerror() = nil

\_\_isoc99\_scanf(0x7f2c78200e59, 0x7fffdc268e44, 1, 0) = 1

\_\_isoc99\_scanf(0x7f2c78200e59, 0x7fffdc268e48, 0x7f2c77bdd8d0, 16) = 1

printf("%f\n", 2.593742) = 9

\_\_isoc99\_scanf(0x7f2c78200e59, 0x7fffdc268e44, 0, 0) = 1

dlclose(0x7fffd478b6a0) = 0

dlopen("lib2.so", 1) = 0x7fffd478b6a0

dlsym(0x7fffd478b6a0, "e") = 0x7f2c775e067a

dlsym(0x7fffd478b6a0, "sort") = 0x7f2c775e0839

dlerror() = nil

puts("Implementation switched") = 24

\_\_isoc99\_scanf(0x7f2c78200e59, 0x7fffdc268e44, 0x7f2c77bdd8c0, 3) = 1

\_\_isoc99\_scanf(0x7f2c78200e59, 0x7fffdc268e48, 0x7f2c77bdd8d0, 16) = 1

printf("%f\n", 2.718282) = 9

\_\_isoc99\_scanf(0x7f2c78200e59, 0x7fffdc268e44, 0, 0) = 1

dlclose(0x7fffd478b6a0) = 0

dlopen("lib1.so", 1) = 0x7fffd478b6a0

dlsym(0x7fffd478b6a0, "e") = 0x7f2c775e069a

dlsym(0x7fffd478b6a0, "sort") = 0x7f2c775e06f0

dlerror() = nil

puts("Implementation switched") = 24

\_\_isoc99\_scanf(0x7f2c78200e59, 0x7fffdc268e44, 0x7f2c77bdd8c0, 4) = 0xffffffff

dlclose(0x7fffd478b6a0) = 0

+++ exited (status 0) +++

***Лабораторная работа 6 – очереди сообщений***

**mosik@LAPTOP-69S778GL:~/os\_lab6$** strace -o strace\_log.txt ./control

create 0 -1

OK: 20242

exit

**mosik@LAPTOP-69S778GL:~/os\_lab6$** cat strace\_log.txt

execve("./control", ["./control"], 0x7fffd7c8fb10 /\* 19 vars \*/) = 0

brk(NULL) = 0x7fffdb4a2000

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

access("/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

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=43552, ...}) = 0

mmap(NULL, 43552, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f71eb6c4000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/libzmq.so.5", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P?\1\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=630464, ...}) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f71eb6c0000

mmap(NULL, 2725560, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71eb160000

mprotect(0x7f71eb1f3000, 2097152, PROT\_NONE) = 0

mmap(0x7f71eb3f3000, 28672, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x93000) = 0x7f71eb3f3000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-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>\0\1\0\0\0\220\304\10\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=1594864, ...}) = 0

mmap(NULL, 3702848, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71eadd0000

mprotect(0x7f71eaf49000, 2097152, PROT\_NONE) = 0

mmap(0x7f71eb149000, 49152, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x179000) = 0x7f71eb149000

mmap(0x7f71eb155000, 12352, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f71eb155000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-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>\0\1\0\0\0\300\*\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=96616, ...}) = 0

mmap(NULL, 2192432, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71eabb0000

mprotect(0x7f71eabc7000, 2093056, PROT\_NONE) = 0

mmap(0x7f71eadc6000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x16000) = 0x7f71eadc6000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-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>\0\1\0\0\0\20\35\2\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0755, st\_size=2030928, ...}) = 0

mmap(NULL, 4131552, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71ea7b0000

mprotect(0x7f71ea997000, 2097152, PROT\_NONE) = 0

mmap(0x7f71eab97000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e7000) = 0x7f71eab97000

mmap(0x7f71eab9d000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f71eab9d000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/libsodium.so.23", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\340\251\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=330440, ...}) = 0

mmap(NULL, 2425864, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71ea550000

mprotect(0x7f71ea5a0000, 2093056, PROT\_NONE) = 0

mmap(0x7f71ea79f000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4f000) = 0x7f71ea79f000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/libpgm-5.2.so.0", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000;\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=293784, ...}) = 0

mmap(NULL, 2406448, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71ea300000

mprotect(0x7f71ea347000, 2093056, PROT\_NONE) = 0

mmap(0x7f71ea546000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x46000) = 0x7f71ea546000

mmap(0x7f71ea548000, 14384, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f71ea548000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/libnorm.so.1", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000\374\1\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=522248, ...}) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f71eb6b0000

mmap(NULL, 3340624, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71e9fd0000

mprotect(0x7f71ea04d000, 2097152, PROT\_NONE) = 0

mmap(0x7f71ea24d000, 12288, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x7d000) = 0x7f71ea24d000

mmap(0x7f71ea250000, 719184, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f71ea250000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/librt.so.1", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\"\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=31680, ...}) = 0

mmap(NULL, 2128864, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71e9dc0000

mprotect(0x7f71e9dc7000, 2093056, PROT\_NONE) = 0

mmap(0x7f71e9fc6000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x6000) = 0x7f71e9fc6000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libpthread.so.0", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000b\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0755, st\_size=144976, ...}) = 0

mmap(NULL, 2221184, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71e9ba0000

mprotect(0x7f71e9bba000, 2093056, PROT\_NONE) = 0

mmap(0x7f71e9db9000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x19000) = 0x7f71e9db9000

mmap(0x7f71e9dbb000, 13440, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f71e9dbb000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libm.so.6", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\200\272\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=1700792, ...}) = 0

mmap(NULL, 3789144, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71e9800000

mprotect(0x7f71e999d000, 2093056, PROT\_NONE) = 0

mmap(0x7f71e9b9c000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x19c000) = 0x7f71e9b9c000

close(3) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f71eb6a0000

mmap(NULL, 12288, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f71eb690000

arch\_prctl(ARCH\_SET\_FS, 0x7f71eb690b80) = 0

mprotect(0x7f71eab97000, 16384, PROT\_READ) = 0

mprotect(0x7f71e9b9c000, 4096, PROT\_READ) = 0

mprotect(0x7f71e9db9000, 4096, PROT\_READ) = 0

mprotect(0x7f71e9fc6000, 4096, PROT\_READ) = 0

mprotect(0x7f71eadc6000, 4096, PROT\_READ) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f71eb680000

mprotect(0x7f71eb149000, 40960, PROT\_READ) = 0

mprotect(0x7f71ea24d000, 8192, PROT\_READ) = 0

mprotect(0x7f71ea546000, 4096, PROT\_READ) = 0

mprotect(0x7f71ea79f000, 4096, PROT\_READ) = 0

mprotect(0x7f71eb3f3000, 24576, PROT\_READ) = 0

mprotect(0x7f71eba0d000, 4096, PROT\_READ) = 0

mprotect(0x7f71eb629000, 4096, PROT\_READ) = 0

munmap(0x7f71eb6c4000, 43552) = 0

set\_tid\_address(0x7f71eb690e50) = 20241

set\_robust\_list(0x7f71eb690e60, 24) = 0

rt\_sigaction(SIGRTMIN, {sa\_handler=0x7f71e9ba5cb0, sa\_mask=[], sa\_flags=SA\_RESTORER|SA\_SIGINFO, sa\_restorer=0x7f71e9bb2980}, NULL, 8) = 0

rt\_sigaction(SIGRT\_1, {sa\_handler=0x7f71e9ba5d50, sa\_mask=[], sa\_flags=SA\_RESTORER|SA\_RESTART|SA\_SIGINFO, sa\_restorer=0x7f71e9bb2980}, NULL, 8) = 0

rt\_sigprocmask(SIG\_UNBLOCK, [RTMIN RT\_1], NULL, 8) = 0

prlimit64(0, RLIMIT\_STACK, NULL, {rlim\_cur=8192\*1024, rlim\_max=8192\*1024}) = 0

brk(NULL) = 0x7fffdb4a2000

brk(0x7fffdb4c3000) = 0x7fffdb4c3000

gettimeofday({tv\_sec=1609673745, tv\_usec=387429}, {tz\_minuteswest=0, tz\_dsttime=0}) = 0

futex(0x7f71eb15609c, FUTEX\_WAKE\_PRIVATE, 2147483647) = 0

futex(0x7f71eb1560a8, FUTEX\_WAKE\_PRIVATE, 2147483647) = 0

time(NULL) = 1609673745 (2021-01-03T14:35:45+0300)

openat(AT\_FDCWD, "/sys/devices/system/cpu/online", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "0-7\n", 8192) = 4

close(3) = 0

openat(AT\_FDCWD, "/sys/devices/system/cpu", O\_RDONLY|O\_NONBLOCK|O\_CLOEXEC|O\_DIRECTORY) = 3

fstat(3, {st\_mode=S\_IFDIR|0755, st\_size=0, ...}) = 0

getdents(3, /\* 13 entries \*/, 32768) = 336

getdents(3, /\* 0 entries \*/, 32768) = 0

close(3) = 0

getpid() = 20241

sched\_getaffinity(20241, 128, [0, 1, 2, 3, 4, 5, 6, 7]) = 64

openat(AT\_FDCWD, "/etc/nsswitch.conf", O\_RDONLY|O\_CLOEXEC) = 3

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=513, ...}) = 0

read(3, "# /etc/nsswitch.conf\n#\n# Example"..., 4096) = 513

read(3, "", 4096) = 0

close(3) = 0

openat(AT\_FDCWD, "/etc/ld.so.cache", O\_RDONLY|O\_CLOEXEC) = 3

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=43552, ...}) = 0

mmap(NULL, 43552, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f71eb6c4000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu/tls/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu/tls/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu/tls/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu/tls", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64-linux-gnu", {st\_mode=S\_IFDIR|0755, st\_size=4096, ...}) = 0

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu/tls/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu/tls/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu/tls/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu/tls", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64-linux-gnu", {st\_mode=S\_IFDIR|0755, st\_size=4096, ...}) = 0

openat(AT\_FDCWD, "/lib/tls/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/tls/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/tls/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/tls/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/tls/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/tls/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/tls/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/tls", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib", {st\_mode=S\_IFDIR|0755, st\_size=4096, ...}) = 0

openat(AT\_FDCWD, "/usr/lib/tls/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/tls/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/tls/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/tls/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/tls/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/tls/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/tls/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/tls", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/haswell/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/haswell/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/haswell/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/haswell", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64", 0x7fffe3679a70) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib", {st\_mode=S\_IFDIR|0755, st\_size=4096, ...}) = 0

munmap(0x7f71eb6c4000, 43552) = 0

openat(AT\_FDCWD, "/etc/ld.so.cache", O\_RDONLY|O\_CLOEXEC) = 3

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=43552, ...}) = 0

mmap(NULL, 43552, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f71eb6c4000

close(3) = 0

access("/etc/ld.so.nohwcap", F\_OK) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libnss\_files.so.2", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P#\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=47568, ...}) = 0

mmap(NULL, 2168632, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f71e95e0000

mprotect(0x7f71e95eb000, 2093056, PROT\_NONE) = 0

mmap(0x7f71e97ea000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xa000) = 0x7f71e97ea000

mmap(0x7f71e97ec000, 22328, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f71e97ec000

close(3) = 0

mprotect(0x7f71e97ea000, 4096, PROT\_READ) = 0

munmap(0x7f71eb6c4000, 43552) = 0

openat(AT\_FDCWD, "/etc/protocols", O\_RDONLY|O\_CLOEXEC) = 3

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=2932, ...}) = 0

read(3, "# Internet (IP) protocols\n#\n# Up"..., 4096) = 2932

read(3, "", 4096) = 0

close(3) = 0

gettimeofday({tv\_sec=1609673745, tv\_usec=399158}, NULL) = 0

eventfd2(0, EFD\_CLOEXEC) = 3

fcntl(3, F\_GETFL) = 0x2 (flags O\_RDWR)

fcntl(3, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

fcntl(3, F\_GETFL) = 0x802 (flags O\_RDWR|O\_NONBLOCK)

fcntl(3, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

getrandom("\x2a\x1c\xa3\x42\xdf\x17\x02\x09\x03\x45\x54\x73\xed\x15\xde\xac", 16, 0) = 16

getrandom("\xf8\x48\x09\xa9\xd0\x1e\x10\xe7\xbb\xac\x48\xcb\xb5\xdb\x18\x37", 16, 0) = 16

fstat(0, {st\_mode=S\_IFCHR|0660, st\_rdev=makedev(4, 1), ...}) = 0

ioctl(0, TCGETS, {B38400 opost isig icanon echo ...}) = 0

read(0, "create 0 -1\n", 4096) = 12

clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f71eb690e50) = 20242

eventfd2(0, EFD\_CLOEXEC) = 4

fcntl(4, F\_GETFL) = 0x2 (flags O\_RDWR)

fcntl(4, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

fcntl(4, F\_GETFL) = 0x802 (flags O\_RDWR|O\_NONBLOCK)

fcntl(4, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

clock\_gettime(CLOCK\_MONOTONIC, {tv\_sec=10895, tv\_nsec=66665100}) = 0

epoll\_create1(EPOLL\_CLOEXEC) = 5

epoll\_ctl(5, EPOLL\_CTL\_ADD, 4, {0, {u32=3679145984, u64=140736872534016}}) = 0

epoll\_ctl(5, EPOLL\_CTL\_MOD, 4, {EPOLLIN, {u32=3679145984, u64=140736872534016}}) = 0

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f71e8dd0000

mprotect(0x7f71e8dd1000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f71e95cfb70, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f71e95d09d0, tls=0x7f71e95d0700, child\_tidptr=0x7f71e95d09d0) = 20243

openat(AT\_FDCWD, "/proc/self/task/20243/comm", O\_RDWR) = 6

write(6, "ZMQbg/0", 7) = 7

close(6) = 0

eventfd2(0, EFD\_CLOEXEC) = 6

fcntl(6, F\_GETFL) = 0x2 (flags O\_RDWR)

fcntl(6, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

fcntl(6, F\_GETFL) = 0x802 (flags O\_RDWR|O\_NONBLOCK)

fcntl(6, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

clock\_gettime(CLOCK\_MONOTONIC, {tv\_sec=10895, tv\_nsec=68580300}) = 0

epoll\_create1(EPOLL\_CLOEXEC) = 7

epoll\_ctl(7, EPOLL\_CTL\_ADD, 6, {0, {u32=3679146240, u64=140736872534272}}) = 0

epoll\_ctl(7, EPOLL\_CTL\_MOD, 6, {EPOLLIN, {u32=3679146240, u64=140736872534272}}) = 0

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f71e85c0000

mprotect(0x7f71e85c1000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f71e8dbfb70, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f71e8dc09d0, tls=0x7f71e8dc0700, child\_tidptr=0x7f71e8dc09d0) = 20244

openat(AT\_FDCWD, "/proc/self/task/20244/comm", O\_RDWR) = 8

write(8, "ZMQbg/1", 7) = 7

close(8) = 0

clock\_gettime(CLOCK\_MONOTONIC, {tv\_sec=10895, tv\_nsec=69505700}) = 0

eventfd2(0, EFD\_CLOEXEC) = 8

fcntl(8, F\_GETFL) = 0x2 (flags O\_RDWR)

fcntl(8, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

fcntl(8, F\_GETFL) = 0x802 (flags O\_RDWR|O\_NONBLOCK)

fcntl(8, F\_SETFL, O\_RDWR|O\_NONBLOCK) = 0

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

socket(AF\_NETLINK, SOCK\_RAW|SOCK\_CLOEXEC, NETLINK\_ROUTE) = 9

bind(9, {sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, 12) = 0

getsockname(9, {sa\_family=AF\_NETLINK, nl\_pid=20241, nl\_groups=00000000}, [12]) = 0

time(NULL) = 1609673748 (2021-01-03T14:35:48+0300)

sendto(9, "\24\0\0\0\22\0\1\3\24\254\361\_\0\0\0\0\0\0\0\0", 20, 0, {sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, 12) = 20

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=80, type=0x10 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, "\x00\x00\x01\x00\x08\x00\x00\x00\x40\x00\x00\x00\x00\x00\x00\x00\x0a\x00\x01\x00\xd8\xc4\x97\xc2\x6b\x92\x00\x00\x08\x00\x1b\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 80

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=80, type=0x10 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, "\x00\x00\x01\x00\x09\x00\x00\x00\x40\x00\x00\x00\x00\x00\x00\x00\x0a\x00\x01\x00\x1c\x1b\xb5\x88\x10\x48\x00\x00\x08\x00\x1b\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 80

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=80, type=0x10 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, "\x00\x00\x01\x00\x13\x00\x00\x00\x43\x10\x00\x00\x00\x00\x00\x00\x0a\x00\x01\x00\x0a\x00\x27\x00\x00\x13\x00\x00\x08\x00\x1b\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 80

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=76, type=0x10 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, "\x00\x00\x04\x03\x01\x00\x00\x00\x49\x00\x00\x00\x00\x00\x00\x00\x0a\x00\x01\x00\x00\x00\x00\x00\x00\x00\x00\x00\x08\x00\x1b\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 76

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=80, type=0x10 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, "\x00\x00\x21\x03\x06\x00\x00\x00\x43\x10\x00\x00\x00\x00\x00\x00\x0a\x00\x01\x00\x1c\x1b\xb5\x88\x10\x44\x00\x00\x08\x00\x1b\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 80

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=80, type=0x10 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, "\x00\x00\x21\x03\x0f\x00\x00\x00\x40\x00\x00\x00\x00\x00\x00\x00\x0a\x00\x01\x00\x1c\x1b\xb5\x88\x10\x45\x00\x00\x08\x00\x1b\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 80

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=80, type=0x10 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, "\x00\x00\x21\x03\x0c\x00\x00\x00\x40\x00\x00\x00\x00\x00\x00\x00\x0a\x00\x01\x00\x1e\x1b\xb5\x88\x10\x44\x00\x00\x08\x00\x1b\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 80

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=20, type=NLMSG\_DONE, flags=NLM\_F\_MULTI, seq=1609673748, pid=20241}, 0}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 20

sendto(9, "\24\0\0\0\26\0\1\3\25\254\361\_\0\0\0\0\0\0\0\0", 20, 0, {sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, 12) = 20

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=60, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x02\x10\x00\x00\x08\x00\x00\x00\x08\x00\x01\x00\xa9\xfe\x93\xad\x08\x00\x04\x00\xa9\xfe\xff\xff\x14\x00\x06\x00\xff\xff\xff\xff"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 60

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=64, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x0a\x40\x00\xfd\x08\x00\x00\x00\x14\x00\x01\x00\xfe\x80\x00\x00\x00\x00\x00\x00\x3d\x05\xea\xe6\x03\x7d\x93\xad\x14\x00\x06\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 64

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=60, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x02\x10\x00\x00\x09\x00\x00\x00\x08\x00\x01\x00\xa9\xfe\xd9\x3b\x08\x00\x04\x00\xa9\xfe\xff\xff\x14\x00\x06\x00\xff\xff\xff\xff"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 60

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=64, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x0a\x40\x00\xfd\x09\x00\x00\x00\x14\x00\x01\x00\xfe\x80\x00\x00\x00\x00\x00\x00\xe4\x8e\x44\xf8\x07\xe3\xd9\x3b\x14\x00\x06\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 64

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=60, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x02\x18\x00\x00\x13\x00\x00\x00\x08\x00\x01\x00\xc0\xa8\x38\x01\x08\x00\x04\x00\xc0\xa8\x38\xff\x14\x00\x06\x00\xff\xff\xff\xff"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 60

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=64, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x0a\x40\x00\xfd\x13\x00\x00\x00\x14\x00\x01\x00\xfe\x80\x00\x00\x00\x00\x00\x00\x54\x5a\x77\xc5\x46\x23\x7e\x74\x14\x00\x06\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 64

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=60, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x02\x08\x00\x00\x01\x00\x00\x00\x08\x00\x01\x00\x7f\x00\x00\x01\x08\x00\x04\x00\x7f\xff\xff\xff\x14\x00\x06\x00\xff\xff\xff\xff"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 60

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=64, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x0a\x80\x00\xfe\x01\x00\x00\x00\x14\x00\x01\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x01\x14\x00\x06\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 64

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=60, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x02\x18\x00\x00\x06\x00\x00\x00\x08\x00\x01\x00\xc0\xa8\x00\x25\x08\x00\x04\x00\xc0\xa8\x00\xff\x14\x00\x06\x00\x51\x51\x01\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 60

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=64, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x0a\x40\x00\xfd\x06\x00\x00\x00\x14\x00\x01\x00\xfe\x80\x00\x00\x00\x00\x00\x00\xc5\x1d\xff\x10\x1d\xa5\x8f\x8d\x14\x00\x06\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 64

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=60, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x02\x10\x00\x00\x0f\x00\x00\x00\x08\x00\x01\x00\xa9\xfe\xfe\x9f\x08\x00\x04\x00\xa9\xfe\xff\xff\x14\x00\x06\x00\xff\xff\xff\xff"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 60

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=64, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x0a\x40\x00\xfd\x0f\x00\x00\x00\x14\x00\x01\x00\xfe\x80\x00\x00\x00\x00\x00\x00\x91\xc4\x97\xe8\x18\x2d\xfe\x9f\x14\x00\x06\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 64

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=60, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x02\x10\x00\x00\x0c\x00\x00\x00\x08\x00\x01\x00\xa9\xfe\x13\x01\x08\x00\x04\x00\xa9\xfe\xff\xff\x14\x00\x06\x00\xff\xff\xff\xff"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 60

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=64, type=0x14 /\* NLMSG\_??? \*/, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, "\x0a\x40\x00\xfd\x0c\x00\x00\x00\x14\x00\x01\x00\xfe\x80\x00\x00\x00\x00\x00\x00\xb1\x56\x78\x65\x03\x84\x13\x01\x14\x00\x06\x00"...}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 64

recvmsg(9, {msg\_name={sa\_family=AF\_NETLINK, nl\_pid=0, nl\_groups=00000000}, msg\_namelen=12, msg\_iov=[{iov\_base={{len=20, type=NLMSG\_DONE, flags=NLM\_F\_MULTI, seq=1609673749, pid=20241}, 0}, iov\_len=4096}], msg\_iovlen=1, msg\_controllen=0, msg\_flags=0}, 0) = 20

close(9) = 0

socket(AF\_INET, SOCK\_STREAM|SOCK\_CLOEXEC, IPPROTO\_TCP) = 9

setsockopt(9, SOL\_SOCKET, SO\_REUSEADDR, [1], 4) = 0

bind(9, {sa\_family=AF\_INET, sin\_port=htons(4040), sin\_addr=inet\_addr("127.0.0.1")}, 16) = 0

listen(9, 100) = 0

getsockname(9, {sa\_family=AF\_INET, sin\_port=htons(4040), sin\_addr=inet\_addr("127.0.0.1")}, [128->16]) = 0

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

write(8, "\1\0\0\0\0\0\0\0", 8) = 8

poll([{fd=8, events=POLLIN}], 1, 0) = 1 ([{fd=8, revents=POLLIN}])

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

clock\_gettime(CLOCK\_MONOTONIC, {tv\_sec=10895, tv\_nsec=74918500}) = 0

poll([{fd=8, events=POLLIN}], 1, 5000) = 1 ([{fd=8, revents=POLLIN}])

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

fstat(1, {st\_mode=S\_IFCHR|0660, st\_rdev=makedev(4, 1), ...}) = 0

ioctl(1, TCGETS, {B38400 opost isig icanon echo ...}) = 0

write(1, "OK: 20242\n", 10) = 10

read(0, "exit\n", 4096) = 5

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

--- SIGCHLD {si\_signo=SIGCHLD, si\_code=CLD\_EXITED, si\_pid=20242, si\_uid=1000, si\_status=0, si\_utime=0, si\_stime=0} ---

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

lseek(0, -1, SEEK\_CUR) = -1 ESPIPE (Illegal seek)

exit\_group(0) = ?

+++ exited with 0 +++

1. **Выводы**

Утилиты strace и ltrace – простые и надежные инструменты для отслеживания системных вызовов. Они полезны при отладке и тестировании программ. Несмотря на то, что на первый взгляд протоколы этих утилит кажутся чересчур объёмными и непонятными, при помощи различных ключей можно отфильтровать их «на свой вкус».

Утилита strace позволяет отслеживать большинство системных вызовов. Но если требуется пронаблюдать за более узкими аспектами работы программ, то на помощь придёт ltrace (для отслеживания вызовов динамических библиотек), ftrace (для отслеживания работы операционной системы), perf, SystemTap и многие другие.

Данные утилиты пригодились мне для изучения принципов работы системных вызовов и поиска ошибок в моих лабораторных работах.