

# Wine под MCBC

## Начало истории для меня

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## Проблемы времени выполнения

**wine-preloader** загружает **wine-kthread** и падает с **segmentation fault** при попытке начать его исполнение

Ход разборок:

```
gdb --args /home/dumb/rpmbuild/BUILD/wine-20070915/loader/wine-preloader
/home/dumb/rpmbuild/BUILD/wine-20070915/loader/wine-kthread ./NOTEPAD.EXE
```

```
(gdb) run
```

```
...
jumping to 600019c0
```

```
Program received signal SIGSEGV, Segmentation fault.
0x60005240 in ?? ()
```

disassemble не работает, потому что исполняемый сегмент загружен самим wine-preloader

```
(gdb) x/64i $eip-32
0x60005220:    call    0x6000195c
0x60005225:    add    $0x20,%esp
0x60005228:    mov    0x164(%ebx),%eax
0x6000522e:    mov    (%eax),%edx
0x60005230:    lea   0xf(%edx),%eax
0x60005233:    and   $0xf0,%al
0x60005235:    sub   %eax,%esp
0x60005237:    mov   %esp,0xfffff6c(%ebp)
0x6000523d:    add   $0xffffffc,%esp
0x60005240:    push  %edx
```

```
(gdb) info registers
eax            0x1000      4096
ecx            0x802       2050
edx            0x1000      4096
ebx            0x60013868    1610692712
esp            0xbfffd58    0xbfffd58
ebp            0xbffff074    0xbffff074
esi            0x63f2b     409387
```

edi	0x0	0
eip	0x60005240	0x60005240
eflags	0x10293	66195
cs	0x23	35
ss	0x2b	43
ds	0x2b	43
es	0x2b	43
fs	0x0	0
gs	0x0	0

получается, после сдвига стека на 0x1000 вниз все сломалось. wine-preloader резервирует мало стека?

Написал тест:

```
void f(int i)
{
    int r[4096];
    f(i+1);
}

int main()
{
    f(0);
}
```

падает в одном и том же (по стеку и по i) месте, как при обычном запуске, так и при запуске wine-preloader'ом. С объемом стека все в порядке.

Нашел **настоящую** разницу: после загрузки wine-kthread резервирует память. Когда он запускается сам по себе картина такова:

```
...
stat("/usr/bin/wineserver", {st_mode=S_IFREG|0755, st_size=343953, ...}) = 0
old_mmap(0x7ffe0000, 1073741824, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0x7ffe0000
old_mmap(0x1000, 1110016, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0x1000
old_mmap(NULL, 4096, PROT_NONE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0
open("/usr/lib/wine/ntdll.dll.so", O_RDONLY) = 4
...
```

Когда же через wine-preloader:

```
...
stat("/usr/bin/wineserver", {st_mode=S_IFREG|0755, st_size=343953, ...}) = 0
old_mmap(0x7ffe0000, 1073741824, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = -1 ENOMEM (Cannot allocate
memory)
old_mmap(0x7ffe0000, 536870912, PROT_NONE,
```

```

MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = -1 ENOMEM (Cannot allocate
memory)
old_mmap(0x7ffe0000, 268435456, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0x6021a000
munmap(0x6021a000, 268435456) = 0
old_mmap(0x7ffe0000, 134217728, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0x6021a000
munmap(0x6021a000, 134217728) = 0
old_mmap(0x7ffe0000, 67108864, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0x6021a000
...
old_mmap(0x87fe0000, 134217728, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0x87fe0000
old_mmap(0x8ffe0000, 268435456, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = -1 ENOMEM (Cannot allocate
memory)
old_mmap(0x8ffe0000, 134217728, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = 0x8ffe0000
...
old_mmap(0xbffd0000, 65536, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = -1 ENOMEM (Cannot allocate
memory)
old_mmap(0x1000, 1110016, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0) = -1 ENOMEM (Cannot allocate
memory)
brk(0x7c004000) = 0x7c004000
open("/usr/lib/wine/ntdll.dll.so", O_RDONLY) = 4
fstat(4, {st_mode=S_IFREG|0755, st_size=549156, ...}) = 0
--- SIGSEGV (Segmentation fault) @ 0 (0) ---
...

```

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