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Subject: : AmigaOS4

Topic: : GDB

Re: GDB

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URL:

@billyfish

Tried your new commit: just crashes in `amigaos_deprecated_xfer_memory()` once I set breakpoint and execute test binary :) There is the full log from serial:

```
<amigaos_init>
</amigaos_init>
<_initialize_amigaos_nat>
<init_amigaos_ops>
</init_amigaos_ops>
</_initialize_amigaos_nat>
<amigaos_can_run>
</amigaos_can_run>
<amigaos_can_run>
</amigaos_can_run>
<amigaos_create_inferior>
Shell Process: Creating inferior process: exec_file = /Work/aa/test, args = , env = 0x614C07B0, from_tty = 1
<AllocateDebugInfo>
</AllocateDebugInfo>
<Ux2DOS>
</Ux2DOS>
Shell Process: Getting elf handle for seglist 0x185DAC75
Shell Process: Process created: 0x61A26490
Shell Process: Task: 0x61A26490
Shell Process: Suspending Task
Shell Process: Adding debug hook from 0x61A26490
Shell Process: Added debug hook for 0x61A26490
Shell Process: amigaos target_pushed_count 0
Shell Process: pushing amigaos target
Shell Process: add_thread 1633806608 inf 0x614C0728
</amigaos_create_inferior>
<amigaos_terminal_ours>
Shell Process: terminal_ours is a STUB
</amigaos_terminal_ours>
<amigaos_fetch_registers>
Shell Process: inferior_ptid=0x6161E868
Shell Process: regno = 64 (pc)
```

Shell Process: context = 0x6163BFC8, sp = 0, pc = 0, lr = 0

</amigaos\_fetch\_registers>  
<amigaos\_has\_execution>  
</amigaos\_has\_execution>  
<amigaos\_has\_registers>  
</amigaos\_has\_registers>  
<amigaos\_has\_stack>  
</amigaos\_has\_stack>  
<amigaos\_has\_memory>  
</amigaos\_has\_memory>  
<amigaos\_has\_registers>  
</amigaos\_has\_registers>  
<amigaos\_has\_stack>  
</amigaos\_has\_stack>  
<amigaos\_has\_memory>  
</amigaos\_has\_memory>  
<amigaos\_deprecated\_xfer\_memory>

Shell Process: amigaos\_xfer\_memory(memaddr = 0x010004D4, myaddr = 0x6161E2F8, len = 4, write = 0, attrib = 0x00000000, target = 0x61626A4C)

kernel 54.34 (5.2.2021) AmigaOne X5000 release

Machine model: 9 (AmigaOne X5000/20)

Dump of context at 0xEFC717C0

Trap type: DSI exception

DSISR: 00000000 DAR: 010004D4

No matching page found

Machine State (raw): 0x0002F030

Machine State (verbose): [Critical Ints on] [ExtInt on] [User] [IAT on] [DAT on]

Instruction pointer: in module kernel+0x00041A70 (0x01841A70)

Crashed process: gdb\_751 (0x61A29D80)

DSI verbose error description: Access to address 0x010004D4 not allowed by page protection in user state ( protection violation)

Access was a load operation

Exception Syndrome Register: 0x00000000

0: 01A65794 6161E120 00000002 6161E2F8 010004D4 00000004 00000004 00000004

8: 010004D0 00000001 6161E2F4 01A65764 00000794 6162CEC8 61620000 00000001

16: 00000000 61602838 61620000 61620000 614C0728 01846030 61626A4C 00000000

24: 6161E2F8 00000004 0224A968 00000000 614CBE14 010004D4 614CA750 6161E2F8

CR: 37555935 XER: A000007E CTR: 00000001 LR: 01841BD4

Disassembly of crash site:

01841A60: 3943FFFC subi r10,r3,4  
01841A64: 5529F0BE rlwinm r9,r9,30,2,31  
01841A68: 39290001 addi r9,r9,1  
01841A6C: 7D2903A6 mtctr r9  
>01841A70: 85280004 lwzu r9,4(r8)  
01841A74: 952A0004 stwu r9,4(r10)  
01841A78: 4200FFF8 bdnz+ 0x1841A70  
01841A7C: 54A507BE rlwinm r5,r5,0,30,31  
01841A80: 7C843A14 add r4,r4,r7  
01841A84: 2F850000 cmpwi cr7,r5,0

msr: 0x0002B032

TLB1 (64 entries):

\* [ 51]: size=7 tid = 0 TS = 1 epn=0xFE000000 rpn=0x0000000F\_FE000000 WIMG=0x5 XXWWRR=0xF  
protected

\* [ 52]: size=6 tid = 0 TS = 1 epn=0x01000000 rpn=0x00000000\_01000000 WIMG=0x0 XXWWRR=0x5  
protected

\* [ 53]: size=6 tid = 0 TS = 1 epn=0x01400000 rpn=0x00000000\_01400000 WIMG=0x0 XXWWRR=0x5  
protected

\* [ 54]: size=6 tid = 0 TS = 1 epn=0x01800000 rpn=0x00000000\_01800000 WIMG=0x0 XXWWRR=0x33  
protected

\* [ 55]: size=6 tid = 0 TS = 1 epn=0x01C00000 rpn=0x00000000\_01C00000 WIMG=0x0 XXWWRR=0x33  
protected

\* [ 56]: size=6 tid = 0 TS = 1 epn=0x02000000 rpn=0x00000000\_02000000 WIMG=0x0 XXWWRR=0xF  
protected

\* [ 57]: size=4 tid = 0 TS = 1 epn=0x02400000 rpn=0x00000000\_02400000 WIMG=0x0 XXWWRR=0xF  
protected

\* [ 58]: size=3 tid = 0 TS = 1 epn=0x02440000 rpn=0x00000000\_02440000 WIMG=0x0 XXWWRR=0xF  
protected

\* [ 59]: size=3 tid = 0 TS = 1 epn=0x02450000 rpn=0x00000000\_02450000 WIMG=0x0 XXWWRR=0xF  
protected

\* [ 60]: size=3 tid = 0 TS = 1 epn=0x02460000 rpn=0x00000000\_02460000 WIMG=0x0 XXWWRR=0xF  
protected

\* [ 61]: size=7 tid = 0 TS = 0 epn=0xFE000000 rpn=0x0000000F\_FE000000 WIMG=0x5 XXWWRR=0xF  
protected

\* [ 62]: size=A tid = 0 TS = 0 epn=0x00000000 rpn=0x00000000\_00000000 WIMG=0x0 XXWWRR=0x3F  
protected

\* [ 63]: size=A tid = 0 TS = 0 epn=0x40000000 rpn=0x00000000\_40000000 WIMG=0x0 XXWWRR=0x3F  
protected

HAL\_MaxTLB = 50, HAL\_NextTLB = 0

MMUCFG = 0x064809C4

mas0 = 0x103F0000

mas1 = 0xC000A00

mas2 = 0x40000000

mas3 = 0x4000003F

mas4 = 0x00000100

mas5 = 0x00000000

mas6 = 0x00000001

mas7 = 0x00000000

mas8 = 0x00000000

Kernel command line: serial munge debuglevel=1

Registers pointing to code:

r0 : native kernel module newlib.library.kmod+0x00008fb4

r9 : module Work:aa/test at 0x00000001 (section 0 @ 0xFFFFFDC)

r11: native kernel module newlib.library.kmod+0x00008f84

r13: gdb\_751:symbuf()+0x3d5c (section 16 @ 0x753C)

r14: gdb\_751:mi\_cmds()+0x4a0 (section 11 @ 0xFE4)

r15: module Work:aa/test at 0x00000001 (section 0 @ 0xFFFFFDC)

r18: gdb\_751:mi\_cmds()+0x4a0 (section 11 @ 0xFE4)

r19: gdb\_751:mi\_cmds()+0x4a0 (section 11 @ 0xFE4)

r21: native kernel module kernel+0x00046030

r22: gdb\_751:amigaos\_ops()+0x0 (section 16 @ 0x10C0)  
r26: native kernel module kernel+0x00a4a968  
r28: module gdb\_751 at 0x614CBE14 (section 1 @ 0x4DF0)  
r30: gdb\_751:\_\_PRETTY\_FUNCTION\_\_.26807()+0x0 (section 3 @ 0x374C)  
ip : native kernel module kernel+0x00041a70  
lr : native kernel module kernel+0x00041bd4  
ctr: module Work:aa/test at 0x00000001 (section 0 @ 0xFFFFFDC)

#### Stack trace:

(0x6161E120) native kernel module kernel+0x00041a70  
(0x6161E130) native kernel module kernel+0x00041bd4  
(0x6161E140) gdb\_751:amigaos\_deprecated\_xfer\_memory()+0x2c4 (section 1 @ 0x27F30)  
(0x6161E190) gdb\_751:default\_xfer\_partial()+0x128 (section 1 @ 0x13AEAC)  
(0x6161E1C0) gdb\_751:memory\_xfer\_partial\_1()+0x1a8 (section 1 @ 0x13C89C)  
(0x6161E240) gdb\_751:target\_xfer\_partial()+0x230 (section 1 @ 0x13CFDC)  
(0x6161E290) gdb\_751:target\_read()+0xc8 (section 1 @ 0x13C2D4)  
(0x6161E2E0) gdb\_751:target\_read\_memory()+0x44 (section 1 @ 0x13C41C)  
(0x6161E2F0) gdb\_751:rs6000\_skip\_main\_prologue()+0x30 (section 1 @ 0x2CF0)  
(0x6161E320) gdb\_751:skip\_prologue\_sal()+0x418 (section 1 @ 0xDEAA8)  
(0x6161E3A0) gdb\_751:convert\_linespec\_to\_sals()+0xa58 (section 1 @ 0xEEEEEC)  
(0x6161E480) gdb\_751:parse\_linespec()+0x314 (section 1 @ 0xF1244)  
(0x6161E5F0) gdb\_751:decode\_line\_full()+0x140 (section 1 @ 0xF1CC8)  
(0x6161E6D0) gdb\_751:decode\_linespec\_default.isra.49()+0x50 (section 1 @ 0x98A20)  
(0x6161E700) gdb\_751:addr\_string\_to\_sals()+0x9c (section 1 @ 0xA5AF8)  
(0x6161E830) gdb\_751:breakpoint\_re\_set\_default()+0x40 (section 1 @ 0xA8A88)  
(0x6161E880) gdb\_751:breakpoint\_re\_set\_one()+0x58 (section 1 @ 0x9457C)  
(0x6161E890) gdb\_751:catch\_errors()+0x74 (section 1 @ 0x111F4C)  
(0x6161E8F0) gdb\_751:breakpoint\_re\_set()+0xbc (section 1 @ 0xA8C40)  
(0x6161E930) gdb\_751:post\_create\_inferior()+0xec (section 1 @ 0xF7B00)  
(0x6161E980) gdb\_751:run\_command\_1()+0x194 (section 1 @ 0xF82B4)  
(0x6161E9E0) gdb\_751:execute\_command()+0x278 (section 1 @ 0x1D8EF8)  
(0x6161EA20) gdb\_751:command\_handler()+0x84 (section 1 @ 0x11AF54)  
(0x6161EA40) gdb\_751:command\_line\_handler()+0x464 (section 1 @ 0x11B608)  
(0x6161EA90) gdb\_751:rl\_callback\_read\_char()+0x1a8 (section 1 @ 0x226D58)  
(0x6161EAD0) gdb\_751:rl\_callback\_read\_char\_wrapper()+0x10 (section 1 @ 0x11AFD0)  
(0x6161EAE0) gdb\_751:process\_event()+0xb8 (section 1 @ 0x1198B0)  
(0x6161EB00) gdb\_751:gdb\_do\_one\_event()+0x3a4 (section 1 @ 0x119D3C)  
(0x6161EB40) gdb\_751:start\_event\_loop()+0x40 (section 1 @ 0x119F0C)  
(0x6161EB80) gdb\_751:captured\_command\_loop()+0x1c (section 1 @ 0x1136D4)  
(0x6161EB90) gdb\_751:catch\_errors()+0x74 (section 1 @ 0x111F4C)  
(0x6161EBF0) gdb\_751:captured\_main()+0xcb4 (section 1 @ 0x1146F4)  
(0x6161EC80) gdb\_751:catch\_errors()+0x74 (section 1 @ 0x111F4C)  
(0x6161ECE0) gdb\_751:gdb\_main()+0x34 (section 1 @ 0x1148A8)  
(0x6161ECF0) gdb\_751:main()+0x30 (section 1 @ 0x478)  
(0x6161ED10) native kernel module newlib.library.kmod+0x00002614  
(0x6161ED60) native kernel module newlib.library.kmod+0x00003340  
(0x6161EF10) native kernel module newlib.library.kmod+0x00003864  
(0x6161EF40) gdb\_751:\_start()+0x1e0 (section 1 @ 0x1DC)  
(0x6161EF90) native kernel module dos.library.kmod+0x0002a490  
(0x6161EFC0) native kernel module kernel+0x0005c6c8  
(0x6161EFD0) native kernel module kernel+0x0005c740

Disassembly of crash site:

```
01841A60: 3943FFFC  subi      r10,r3,4
01841A64: 5529F0BE  rlwinm   r9,r9,30,2,31
01841A68: 39290001  addi     r9,r9,1
01841A6C: 7D2903A6  mtctr    r9
>01841A70: 85280004  lwzu     r9,4(r8)
01841A74: 952A0004  stwu     r9,4(r10)
01841A78: 4200FFF8  bdnz+    0x1841A70
01841A7C: 54A507BE  rlwinm   r5,r5,0,30,31
01841A80: 7C843A14  add      r4,r4,r7
01841A84: 2F850000  cmpwi    cr7,r5,0
```

Stack pointer (0x6161E120) is inside bounds

Redzone is OK (4)

68k register dump

```
DATA: 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
ADDR: 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
```

Page information:

Page not found

Ready Tasks

```
IDF0/FastFileSystem 53.2 (pri 5, sigrec 0x20000000, sigwait 0xA8000100, masked 0x20000000)
IDF1/FastFileSystem 53.2 (pri 5, sigrec 0x20000000, sigwait 0xA8000100, masked 0x20000000)
  WinFrame 1 Process (pri 5, sigrec 0x00800000, sigwait 0xFF800000, masked 0x00800000)
    compose.task (pri 1, sigrec 0x00000010, sigwait 0x00000010, masked 0x00000010)
    Workbench (pri 1, sigrec 0x80000100, sigwait 0x80000000, masked 0x80000000)
  ScreenBlanker Library. (pri 1, sigrec 0x08000100, sigwait 0xE8001000, masked 0x08000000)
    dopus_clock (pri 1, sigrec 0x40000000, sigwait 0xC0000000, masked 0x40000000)
    AmiDock (pri 0, sigrec 0x00300100, sigwait 0x00000100, masked 0x00000100)
  NotificationServer (pri 0, sigrec 0x08000000, sigwait 0xF8001000, masked 0x08000000)
  TCP/IP Control (pri 0, sigrec 0x40000100, sigwait 0xF8009080, masked 0x40000000)
  ELF Collector (pri 0, sigrec 0x00000100, sigwait 0x00000100, masked 0x00000100)
  hub.usbfd (pri 0, sigrec 0x10000000, sigwait 0x30000000, masked 0x10000000)
  hub.usbfd (pri 0, sigrec 0x10000000, sigwait 0x30000000, masked 0x10000000)
  CPUDock_idleTask (pri -127, sigrec 0x00000000, sigwait 0x40000000, masked 0x00000000)
  idle.task (pri -128, sigrec 0x00000000, sigwait 0x00000000, masked 0x00000000)
```

Waiting Tasks

```
DH1/NGFileSystem 54.72 (pri 10, sigrec 0x00000100, sigwait 0xF0000000, masked 0x00000000)
DH0/NGFileSystem 54.72 (pri 10, sigrec 0x00000100, sigwait 0xF0000000, masked 0x00000000)
DH4/NGFileSystem 54.72 (pri 10, sigrec 0x00000100, sigwait 0xF0000000, masked 0x00000000)
  input.device (pri 20, sigrec 0x00000000, sigwait 0x80000000, masked 0x00000000)
  rx_pm (pri 100, sigrec 0x00000000, sigwait 0x80000001, masked 0x00000000)
  USB stack (pri 18, sigrec 0x00000000, sigwait 0xF800D000, masked 0x00000000)
CON/con-handler 53.82 (pri 5, sigrec 0x00000000, sigwait 0xB0000100, masked 0x00000000)
  appdir envarc manager (pri -50, sigrec 0x00000000, sigwait 0x00000100, masked 0x00000000)
  hid.usbfd (pri 10, sigrec 0x00000100, sigwait 0xE0000000, masked 0x00000000)
```



HID Keyboard (pri 10, sigrec 0x00000000, sigwait 0x90001000, masked 0x00000000)  
vsata disk changer (pri 0, sigrec 0x00000000, sigwait 0x80000000, masked 0x00000000)  
serial.device (pri 1, sigrec 0x00000000, sigwait 0x7E000000, masked 0x00000000)  
ICD1/CDFileSystem 53.8 (pri 10, sigrec 0x00000000, sigwait 0x00000100, masked 0x00000000)  
ICD0/CDFileSystem 53.8 (pri 10, sigrec 0x00000000, sigwait 0x00000100, masked 0x00000000)  
DH2/SmartFilesystem 1.293 (pri 11, sigrec 0x00000000, sigwait 0x00000100,  
masked 0x00000000)  
DH3/SmartFilesystem 1.293 (pri 11, sigrec 0x00000000, sigwait 0x00000100,  
masked 0x00000000)  
p50x0sata.device Port 0 (pri 12, sigrec 0x10000000, sigwait 0xC0007000, masked 0x00000000)  
dos\_signal\_server (pri -5, sigrec 0x00000000, sigwait 0x0000F000, masked 0x00000000)  
New Process (pri 0, sigrec 0x00000000, sigwait 0x00000010, masked 0x00000000)  
X-Dock (pri 0, sigrec 0x00000100, sigwait 0xFE001000, masked 0x00000000)  
hid.usbfd (pri 10, sigrec 0x00000100, sigwait 0xE0000000, masked 0x00000000)  
HID Mouse (pri 10, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
URL/launch-handler 53.39 (pri 5, sigrec 0x00000100, sigwait 0x80000000, masked 0x00000000)  
TEXTCLIP/textclip-handler 53.4 (pri 3, sigrec 0x00000100, sigwait 0x80000000, masked 0x00000000  
)  
RANDOM/Random-Handler 52.1 (pri 5, sigrec 0x00000000, sigwait 0x00000100,  
masked 0x00000000)  
P50x0 Ethernet (pri 20, sigrec 0x00000000, sigwait 0x00001000, masked 0x00000000)  
Background CLI (pri 0, sigrec 0x00000100, sigwait 0x10001080, masked 0x00000000)  
New Process (pri 0, sigrec 0x00000000, sigwait 0x00000010, masked 0x00000000)  
CON/con-handler 53.82 (pri 5, sigrec 0x00000000, sigwait 0xB0000100, masked 0x00000000)  
Mounter Task (pri -1, sigrec 0x00000000, sigwait 0xB0001000, masked 0x00000000)  
Mounter GUI (pri 0, sigrec 0x00000000, sigwait 0x80007000, masked 0x00000000)  
Mounter Companion Process (pri -1, sigrec 0x00000000, sigwait 0x80003000,  
masked 0x00000000)  
Workbench DosList Notify (pri 1, sigrec 0x00000100, sigwait 0x00003000, masked 0x00000000)  
dos\_filedir\_notify (pri 5, sigrec 0x80000000, sigwait 0x40001000, masked 0x00000000)  
Background CLI (pri 0, sigrec 0x00000100, sigwait 0x80000000, masked 0x00000000)  
DH2/SmartFilesystem 1.293 (pri 10, sigrec 0x00000000, sigwait 0xE0000100,  
masked 0x00000000)  
DH3/SmartFilesystem 1.293 (pri 10, sigrec 0x00000000, sigwait 0xE0000100,  
masked 0x00000000)  
RexxMaster (pri 4, sigrec 0x00000100, sigwait 0xC0000000, masked 0x00000000)  
ContextMenus (pri 0, sigrec 0x00000000, sigwait 0xE0001000, masked 0x00000000)  
ramlib.support (pri -2, sigrec 0x00000000, sigwait 0x80005000, masked 0x00000000)  
ramlib (pri 1, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
ContextMenus Command Dispatcher (pri 1, sigrec 0x00000000, sigwait 0x80001000,  
masked 0x00000000)  
New Process (pri 0, sigrec 0x00000000, sigwait 0x80000010, masked 0x00000000)  
KeymapSwitcher.docky (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
TCP/IP Configuration (pri 0, sigrec 0x00000100, sigwait 0xF8003000, masked 0x00000000)  
AsyncWB (pri 0, sigrec 0x00000100, sigwait 0xC0001000, masked 0x00000000)  
select.gadget prefs (pri 0, sigrec 0x00000100, sigwait 0x80001000, masked 0x00000000)  
RAWBInfo (pri 0, sigrec 0x00000100, sigwait 0x80001000, masked 0x00000000)  
texteditor.gadget Clipboard Server (pri 1, sigrec 0x00000100, sigwait 0x80000000,  
masked 0x00000000)  
FKey (pri 0, sigrec 0x00000100, sigwait 0xC000D000, masked 0x00000000)  
CON/con-handler 53.82 (pri 5, sigrec 0x00000000, sigwait 0xA0000100, masked 0x00000000)



~~string.gadget server (pri 1, sigrec 0x00000100, sigwait 0x40000000, masked 0x00000000)~~  
datatypes.library (pri 1, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
RAM/ram-handler 54.24 (pri 10, sigrec 0x00000100, sigwait 0x80000000, masked 0x00000000)  
ENV/env-handler 54.18 (pri 5, sigrec 0x00000100, sigwait 0x80000000, masked 0x00000000)  
CON/con-handler 53.82 (pri 5, sigrec 0x00000000, sigwait 0xA0000100, masked 0x00000000)  
RAW/con-handler 53.82 (pri 5, sigrec 0x00000000, sigwait 0xA0000100, masked 0x00000000)  
CON/con-handler 53.82 (pri 5, sigrec 0x00000000, sigwait 0xA0000100, masked 0x00000000)  
SFS DosList handler (pri 19, sigrec 0x00000000, sigwait 0x80000000, masked 0x00000000)  
dos\_nbmd\_process (pri 5, sigrec 0x00000000, sigwait 0x00001100, masked 0x00000000)  
dos\_lock\_handler (pri 5, sigrec 0x00000000, sigwait 0x00001100, masked 0x00000000)  
hub.usbfd (pri 0, sigrec 0x00000000, sigwait 0x30000000, masked 0x00000000)  
hub.usbfd (pri 0, sigrec 0x00000000, sigwait 0x30000000, masked 0x00000000)  
p50x0sata.device Port 1 (pri 12, sigrec 0x00000000, sigwait 0xC0007000, masked 0x00000000)  
DMA2 Channel 4 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
DMA1 Channel 4 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
DMA2 Channel 3 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
DMA1 Channel 3 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
DMA2 Channel 2 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
DMA1 Channel 2 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
DMA2 Channel 1 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
DMA1 Channel 1 Handler (pri 0, sigrec 0x00000000, sigwait 0x80001000, masked 0x00000000)  
Exec Command and Control (pri 30, sigrec 0x00000000, sigwait 0x80000000,  
masked 0x00000000)  
rx\_gc (pri 100, sigrec 0x00000000, sigwait 0x80000001, masked 0x00000000)

#### Suspended Tasks

/Work/aa/test (pri 0, sigrec 0x00000000, sigwait 0x00000000, masked 0x00000000)