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# BUGS FOUND #41

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hi, with the help of fuzzing ,I found some crash sample in this repo.  
crash sample will be offered, and to reproduce the crash info please use command `./linux/jpegdec crash_sample`

## negative-size-param

sample here:

[negative-size-param-crash-sample.zip](#)

crash info:

```
--11053-- ERROR: AddressSanitizer: negative-size-param: (size=-555)
#0 0x4ad750 in __asan_memcpy /home/bupt/Desktop/tools/llvm-12.0.1/llvm/projects/compiler-rt/lib/asan/asan_interceptors_memintrinsics.cpp:22
#1 0x5138a0 in JPEGParseInfo /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:1381:17
#2 0x512866 in main /home/bupt/Desktop/JPEGDEC/linux/main.c:42:14
#3 0x7f1585cab86 in __libc_start_main /build/glibc-CVJwZb/glibc-2.27/csu/../csu/libc-start.c:310
#4 0x41c109 in _start (/home/bupt/Desktop/JPEGDEC/linux/jpegdec+0x41c109)

0x0000010136aa is located 6602 bytes inside of global variable 'jpg' defined in 'main.c:14:11' (0x1011ce0) of size 17864
SUMMARY: AddressSanitizer: negative-size-param /home/bupt/Desktop/tools/llvm-12.0.1/llvm/projects/compiler-rt/lib/asan/asan_interceptors_memintrinsics.cpp:22 in __asan_memcpy
==11053==ABORTING
```

## SEGV on unknown address

## sample1:

[SEGV on unknown address sample1.zip](#)

## crash info:

```
AddressSanitizer:DEADLYSIGNAL
--16536-- ERROR: AddressSanitizer: SEGV on unknown address 0x000050538315 (pc 0x000000519856 bp
0x000000000001 sp 0x7ffda97ee2f0 T0)
--16536-- The signal is caused by a READ memory access.
#0 0x519856 in TIFFSHORT /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl
#1 0x519856 in GetTIFFInfo /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:1191:17
#2 0x516242 in JPEGParseInfo /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:1425:29
#3 0x512866 in main /home/bupt/Desktop/JPEGDEC/linux/main.c:42:14
#4 0x7ff45c6c4c86 in __libc_start_main /build/glibc-CVJwZb/glibc-2.27/csu/../csu/libc-
start.c:310
#5 0x41c109 in _start (/home/bupt/Desktop/JPEGDEC/linux/jpegdec+0x41c109)

AddressSanitizer can not provide additional info.
SUMMARY: AddressSanitizer: SEGV /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl in TIFFSHORT
==16536==ABORTING
```

## sample2:

[SEGV on unknown address sample2.zip](#)

## crash info:

```
AddressSanitizer:DEADLYSIGNAL
==53466==ERROR: AddressSanitizer: SEGV on unknown address 0x000700000080 (pc 0x7f9ea1731c01 bp
0x000000014538 sp 0x7ffefc49da70 T0)
==53466==The signal is caused by a READ memory access.
#0 0x7f9ea1731c01 in fseek /build/glibc-CVJwZb/glibc-2.27/libio/fseek.c:35
#1 0x4f49d4 in seekFile /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:645:5
#2 0x51381a in JPEGParseInfo /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:1375:17
#3 0x512866 in main /home/bupt/Desktop/JPEGDEC/linux/main.c:42:14
#4 0x7f9ea16cbc86 in __libc_start_main /build/glibc-CVJwZb/glibc-2.27/csu/../csu/libc-
start.c:310
#5 0x41c109 in _start (/home/bupt/Desktop/JPEGDEC/linux/jpegdec+0x41c109)

AddressSanitizer can not provide additional info.
SUMMARY: AddressSanitizer: SEGV /build/glibc-CVJwZb/glibc-2.27/libio/fseek.c:35 in fseek
==53466==ABORTING
```

## global-buffer-overflow

## crash sample1:

[global-buffer-overflow-crash-sample1.zip](#)

## crash info:

```
==53474==ERROR: AddressSanitizer: global-buffer-overflow on address 0x00000101b880 at pc
0x00000050f80b bp 0x7ffe917d20f0 sp 0x7ffe917d20e8
WRITE of size 1 at 0x00000101b880 thread T0
#0 0x50f80a in JPEGPutMCU8BitGray /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:2026:26
#1 0x50f80a in DecodeJPEG /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:3428:17
#2 0x51298c in JPEG_decode /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:577:12
#3 0x51298c in main /home/bupt/Desktop/JPEGDEC/linux/main.c:50:6
#4 0x7f7afe6f8c86 in __libc_start_main /build/glibc-CVJwZb/glibc-2.27/csu/../csu/libc-
start.c:310
#5 0x41c109 in _start (/home/bupt/Desktop/JPEGDEC/linux/jpegdec+0x41c109)
```

0x00000101b880 is located 1120 bytes to the right of global variable 'ucDitherBuffer' defined in 'main.c:15:9' (0x1017420) of size 16384

SUMMARY: AddressSanitizer: global-buffer-overflow  
/home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:2026:26 in JPEGPutMCU8BitGray  
Shadow bytes around the buggy address:

```
0x00000801fb6c0: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb6d0: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb6e0: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb6f0: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb700: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
=>0x00000801fb710: [f9]f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb720: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb730: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb740: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb750: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
0x00000801fb760: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
```

Shadow byte legend (one shadow byte represents 8 application bytes):

Addressable:	00
Partially addressable:	01 02 03 04 05 06 07
Heap left redzone:	fa
Freed heap region:	fd
Stack left redzone:	f1
Stack mid redzone:	f2
Stack right redzone:	f3
Stack after return:	f5
Stack use after scope:	f8
Global redzone:	f9
Global init order:	f6
Poisoned by user:	f7
Container overflow:	fc
Array cookie:	ac
Intra object redzone:	bb
ASan internal:	fe
Left alloca redzone:	ca
Right alloca redzone:	cb
Shadow gap:	cc

```
==53474==ABORTING
info: No menu item '=' in node '(dir)Top'
```

## crash sample2:

[global-buffer-overflow-crash-sample2.zip](#)

## crash info:

```
==53494==ERROR: AddressSanitizer: global-buffer-overflow on address 0x0000010162f0 at pc
0x00000051b8f7 bp 0x7ffd42bca940 sp 0x7ffd42bca938
READ of size 2 at 0x0000010162f0 thread T0
#0 0x51b8f6 in JPEGDecodeMCU /home/bupt/Desktop/JPEGDEC/linux/../../src/jpeg.inl:1704:22
#1 0x4f741a in DecodeJPEG /home/bupt/Desktop/JPEGDEC/linux/../../src/jpeg.inl:3326:20
#2 0x51298c in JPEG_decode /home/bupt/Desktop/JPEGDEC/linux/../../src/jpeg.inl:577:12
#3 0x51298c in main /home/bupt/Desktop/JPEGDEC/linux/main.c:50:6
#4 0x7fe142af9c86 in __libc_start_main /build/glibc-CVjWZb/glibc-2.27/csu/../csu/libc-
start.c:310
#5 0x41c109 in _start (/home/bupt/Desktop/JPEGDEC/linux/jpegdec+0x41c109)

0x0000010162f0 is located 72 bytes to the right of global variable 'jpg' defined in 'main.c:14:11'
(0x1011ce0) of size 17864
SUMMARY: AddressSanitizer: global-buffer-overflow
/home/bupt/Desktop/JPEGDEC/linux/../../src/jpeg.inl:1704:22 in JPEGDecodeMCU
Shadow bytes around the buggy address:
 0x0000801fac00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x0000801fac10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x0000801fac20: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x0000801fac30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x0000801fac40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
=>0x0000801fac50: 00 00 00 00 00 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
 0x0000801fac60: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
 0x0000801fac70: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
 0x0000801fac80: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
 0x0000801fac90: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
 0x0000801faca0: f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9 f9
Shadow byte legend (one shadow byte represents 8 application bytes):
Addressable:          00
Partially addressable: 01 02 03 04 05 06 07
Heap left redzone:    fa
Freed heap region:    fd
Stack left redzone:    f1
Stack mid redzone:    f2
Stack right redzone:   f3
Stack after return:    f5
Stack use after scope: f8
Global redzone:        f9
Global init order:     f6
Poisoned by user:      f7
Container overflow:    fc
Array cookie:          ac
Intra object redzone:  bb
```

```
ASan internal:      fe
Left alloca redzone: ca
Right alloca redzone: cb
Shadow gap:        cc
==53494==ABORTING
```

## FPE

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### crash sample1:

[FPE-sample1.zip](#)

### crash info:

```
AddressSanitizer:DEADLYSIGNAL
```

```
==53478==ERROR: AddressSanitizer: FPE on unknown address 0x0000004f6aa6 (pc 0x0000004f6aa6 bp
0x7ffd10d4a3d0 sp 0x7ffd10d49c40 T0)
#0 0x4f6aa6 in DecodeJPEG /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:3285:37
#1 0x51298c in JPEG_decode /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:577:12
#2 0x51298c in main /home/bupt/Desktop/JPEGDEC/linux/main.c:50:6
#3 0x7f92f93acc86 in __libc_start_main /build/glibc-CVJwZb/glibc-2.27/csu/../csu/libc-
start.c:310
#4 0x41c109 in _start (/home/bupt/Desktop/JPEGDEC/linux/jpegdec+0x41c109)
```

```
AddressSanitizer can not provide additional info.
```

```
SUMMARY: AddressSanitizer: FPE /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:3285:37 in
DecodeJPEG
==53478==ABORTING
```

### crash sample2:

[FPE-sample2.zip](#)

### crash info:

```
AddressSanitizer:DEADLYSIGNAL
```

```
==53482==ERROR: AddressSanitizer: SEGV on unknown address 0x00004f4a7e15 (pc 0x000000519856 bp
0x0000000000001 sp 0x7ffed5dd5f70 T0)
==53482==The signal is caused by a READ memory access.
#0 0x519856 in TIFFSHORT /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl
#1 0x519856 in GetTIFFInfo /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:1191:17
#2 0x516242 in JPEGParseInfo /home/bupt/Desktop/JPEGDEC/linux/./../src/jpeg.inl:1425:29
#3 0x512866 in main /home/bupt/Desktop/JPEGDEC/linux/main.c:42:14
#4 0x7f5efd945c86 in __libc_start_main /build/glibc-CVJwZb/glibc-2.27/csu/../csu/libc-
start.c:310
```

```
#5 0x41c109 in _start (/home/bupt/Desktop/JPEGDEC/linux/jpegdec+0x41c109)
```

AddressSanitizer can not provide additional info.

SUMMARY: AddressSanitizer: SEGV /home/bupt/Desktop/JPEGDEC/linux/../../src/jpeg.inl in TIFFSHORT  
==53482==ABORTING

#### Assignees

No one assigned

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#### Labels

None yet

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#### Projects

None yet

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#### Milestone

No milestone

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#### Development

No branches or pull requests

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1 participant

