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==95486==ERROR: AddressSanitizer: heap-buffer-overflow on address 0x6020000000f1
at pc 0x000000549906 bp 0x7ffc1e70ea10 sp 0x7ffc1e70ea08
READ of size 16 at 0x6020000000f1 thread T0
    #0 0x549905 in mng delta addition
/home/bupt/Desktop/advancecomp/lib/mng.c:406:13
    #1 0x5446c7 in mng_read_delta /home/bupt/Desktop/advancecomp/lib/mng.c:550:4
   #2 0x5446c7 in mng read /home/bupt/Desktop/advancecomp/lib/mng.c:656:9
    #3 0x5418da in adv mng read /home/bupt/Desktop/advancecomp/lib/mng.c:748:9
    #4 0x5074e6 in convert_f_mng(adv_fz_struct*, adv_fz_struct*, unsigned int*,
unsigned int*, adv scroll info struct*, bool, bool)
/home/bupt/Desktop/advancecomp/remng.cc:479:8
    #5 0x4fbd7d in convert_mng(std::__cxx11::basic_string<char,
std::char traits<char>, std::allocator<char> > const&,
std:: cxx11::basic string<char, std::char traits<char>, std::allocator<char> >
const&) /home/bupt/Desktop/advancecomp/remng.cc:593:3
    #6 0x4fc3dd in convert_mng_inplace(std::__cxx11::basic_string<char,
std::char traits<char>, std::allocator<char> > const&)
/home/bupt/Desktop/advancecomp/remng.cc:614:3
    #7 0x4ffc08 in remng_single(std::__cxx11::basic_string<char,
std::char traits<char>, std::allocator<char> > const&, unsigned long long&,
unsigned long long&) /home/bupt/Desktop/advancecomp/remng.cc:950:4
    #8 0x50b705 in remng_all(int, char**)
/home/bupt/Desktop/advancecomp/remng.cc:985:3
    #9 0x5102d4 in process(int, char**)
/home/bupt/Desktop/advancecomp/remng.cc:1249:3
    #10 0x511a98 in main /home/bupt/Desktop/advancecomp/remng.cc:1268:3
    #11 0x7f3b95b0ac86 in __libc_start_main /build/glibc-CVJwZb/glibc-
2.27/csu/../csu/libc-start.c:310
    #12 0x41f289 in _start (/home/bupt/Desktop/advancecomp/advmng+0x41f289)
0x6020000000f1 is located 0 bytes to the right of 1-byte region
[0x6020000000f0,0x6020000000f1)
allocated by thread T0 here:
    #0 0x4b1850 in malloc /home/bupt/Desktop/tools/llvm-
12.0.1/llvm/projects/compiler-rt/lib/asan/asan_malloc_linux.cpp:145
    #1 0x54332a in mng_read_delta /home/bupt/Desktop/advancecomp/lib/mng.c:455:18
   #2 0x54332a in mng_read /home/bupt/Desktop/advancecomp/lib/mng.c:656:9
    #3 0x5418da in adv_mng_read /home/bupt/Desktop/advancecomp/lib/mng.c:748:9
    #4 0x4fbd7d in convert_mng(std::__cxx11::basic_string<char,
std::char_traits<char>, std::allocator<char> > const&,
std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >
const&) /home/bupt/Desktop/advancecomp/remng.cc:593:3
    #5 0x4fc3dd in convert_mng_inplace(std::__cxx11::basic_string<char,</pre>
std::char_traits<char>, std::allocator<char> > const&)
/home/bupt/Desktop/advancecomp/remng.cc:614:3
    #6 0x4ffc08 in remng_single(std::__cxx11::basic_string<char,
std::char_traits<char>, std::allocator<char> > const&, unsigned long long&,
```

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unsigned long long&) /home/bupt/Desktop/advancecomp/remng.cc:950:4
  #7 0x50b705 in remng all(int, char**)
/home/bupt/Desktop/advancecomp/remng.cc:985:3
  #8 0x5102d4 in process(int, char**)
/home/bupt/Desktop/advancecomp/remng.cc:1249:3
  #9 0x511a98 in main /home/bupt/Desktop/advancecomp/remng.cc:1268:3
  #10 0x7f3b95b0ac86 in libc start main /build/glibc-CVJwZb/glibc-
2.27/csu/../csu/libc-start.c:310
SUMMARY: AddressSanitizer: heap-buffer-overflow
/home/bupt/Desktop/advancecomp/lib/mng.c:406:13 in mng delta addition
Shadow bytes around the buggy address:
 0x0c047fff8000: fa fa fd fd fa fa fd fd fa fa fd fd fa fa 01 fa
=>0x0c047fff8010: fa fa fd fa fa fa fd fa fa fd fd fa fa[01]fa
 Shadow byte legend (one shadow byte represents 8 application bytes):
 Addressable:
 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:
                  hh
 ASan internal:
                  fe
 Left alloca redzone:
                  ca
 Right alloca redzone:
                  cb
 Shadow gap:
                  CC
==95486==ABORTING
```

## Crash summary

SUMMARY: AddressSanitizer: heap-buffer-overflow

/home/bupt/Desktop/advancecomp/lib/mng.c:406:13 in mng\_delta\_addition