

New issue

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## SEGV on CCITTFaxStream::lookChar #36

 strongcourage opened this issue on May 29, 2019 · 0 comments

strongcourage commented on May 29, 2019

Hi,

Our fuzzer found a crash due to an invalid write on the function CCITTFaxStream::lookChar (the latest commit [b671b64](#) on master - version 0.70).

PoC: [https://github.com/strongcourage/PoCs/blob/master/pdf2json\\_b671b64/PoC\\_seg\\_CCITTFaxStream::lookChar](https://github.com/strongcourage/PoCs/blob/master/pdf2json_b671b64/PoC_seg_CCITTFaxStream::lookChar)

Valgrind says:

```
valgrind pdf2json $PoC /dev/null
==15436== Memcheck, a memory error detector
==15436== Copyright (C) 2002-2015, and GNU GPL'd, by Julian Seward et al.
==15436== Using Valgrind-3.11.0 and LibVEX; rerun with -h for copyright info
==15436== Command: ./pdf2json ./PoC_seg_CCITTFaxStream::lookChar /dev/null
==15436==
...
==15436== Invalid write of size 2
==15436== at 0x431600: CCITTFaxStream::lookChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43ADDC: CCITTFaxStream::getChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x40947A: Object::streamGetChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x48796F: Lexer::getChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x4884FD: Lexer::getObj(Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489C19: Parser::shift() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489825: Parser::getObj(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x454759: Gfx::go(int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x454311: Gfx::display(Object*, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A59E: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== Address 0x5b100bc is 0 bytes after a block of size 108 alloc'd
==15436== at 0x42DB8F: malloc (in /usr/lib/valgrind/vgpreload_memcheck-amd64-linux.so)
==15436== by 0x48E521: gmalloc (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x48E667: gmallloc (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43051F: CCITTFaxStream::CCITTFaxStream(Stream*, int, int, int, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42CE76: Stream::makeFilter(char*, Stream*, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42C6AF: Stream::addFilters(Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489AFF: Parser::makeStream(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489549: Parser::getObj(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43FA44: XRef::fetch(int, int, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x4284A9: Object::fetch(XRef*, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A565: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== Invalid read of size 2
==15436== at 0x43162B: CCITTFaxStream::lookChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43ADDC: CCITTFaxStream::getChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x40947A: Object::streamGetChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x48796F: Lexer::getChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x4884FD: Lexer::getObj(Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489C19: Parser::shift() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489825: Parser::getObj(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x454759: Gfx::go(int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x454311: Gfx::display(Object*, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A59E: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== Address 0x5b100bc is 0 bytes after a block of size 108 alloc'd
==15436== at 0x42DB8F: malloc (in /usr/lib/valgrind/vgpreload_memcheck-amd64-linux.so)
==15436== by 0x48E521: gmalloc (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x48E667: gmallloc (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43051F: CCITTFaxStream::CCITTFaxStream(Stream*, int, int, int, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42CE76: Stream::makeFilter(char*, Stream*, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42C6AF: Stream::addFilters(Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489AFF: Parser::makeStream(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489549: Parser::getObj(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43FA44: XRef::fetch(int, int, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x4284A9: Object::fetch(XRef*, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A565: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== Invalid read of size 2
==15436== at 0x43154B: CCITTFaxStream::lookChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43ADDC: CCITTFaxStream::getChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x40947A: Object::streamGetChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x48796F: Lexer::getChar() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x4884FD: Lexer::getObj(Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489C19: Parser::shift() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489825: Parser::getObj(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x454759: Gfx::go(int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x454311: Gfx::display(Object*, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A59E: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== Address 0x5b100bc is 0 bytes after a block of size 108 alloc'd
```

[illegible]

[illegible]

[illegible]

```
==15436== at 0x4C2D88F: malloc (in /usr/lib/valgrind/vgpreload_memcheck-amd64-linux.so)
==15436== by 0x48E521: gmalloc (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x48E667: gmallocn (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43051F: CCITTFaxStream::CCITTFaxStream(Stream*, int, int, int, int, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42CE76: Stream::makeFilter(char*, Stream*, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42C6AF: Stream::addFilters(Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489AFF: Parser::makeStream(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x489549: Parser::getObj(Object*, unsigned char*, CryptAlgorithm, int, int, int) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x43FA44: XRef::fetch(int, int, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x428A49: Object::fetch(XRef*, Object*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A565: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in
/home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in
/home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436==
Error: Unknown operator '?*****?*****?*****?*****?*****?*****?'
Error: Unknown operator '?*****?*****?*****?*****?*****?*****?'
Error: Unknown operator '*****?*****?*****?*****?*****?*****?'
==15436== Invalid write of size 8
==15436== at 0x41C7A2: GfxState::restore() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x4678EB: Gfx::restoreState() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A5AA: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in
/home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in
/home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x428CB0: PDFDoc::displayPage(OutputDev*, int, double, double, int, int, int, int, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x428D48: PDFDoc::displayPages(OutputDev*, int, int, double, double, int, int, int, int, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x40269A: main (pdf2json.cc:275)
==15436== Address 0xfdcdb8fdb30035 is not stack'd, malloc'd or (recently) free'd
==15436==
==15436==
==15436== Process terminating with default action of signal 11 (SIGSEGV)
==15436== General Protection Fault
==15436== at 0x41C7A2: GfxState::restore() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x4678EB: Gfx::restoreState() (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A5AA: Page::displaySlice(OutputDev*, double, double, int, int, int, int, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in
/home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x42A14A: Page::display(OutputDev*, double, double, int, int, int, Links*, int, Catalog*, int (*)(void*), void*) (in
/home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x428CB0: PDFDoc::displayPage(OutputDev*, int, double, double, int, int, int, int, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x428D48: PDFDoc::displayPages(OutputDev*, int, int, double, double, int, int, int, int, int (*)(void*), void*) (in /home/dungnguyen/PoCs/pdf2json_b671b64/pdf2json)
==15436== by 0x40269A: main (pdf2json.cc:275)
==15436==
==15436== HEAP SUMMARY:
==15436==   in use at exit: 211,954 bytes in 1,760 blocks
==15436== total heap usage: 2,027 allocs, 267 frees, 304,086 bytes allocated
==15436==
==15436== LEAK SUMMARY:
==15436==   definitely lost: 760 bytes in 4 blocks
==15436==   indirectly lost: 192 bytes in 5 blocks
==15436==   possibly lost: 0 bytes in 0 blocks
==15436==   still reachable: 211,002 bytes in 1,751 blocks
==15436==     suppressed: 0 bytes in 0 blocks
==15436== Rerun with --leak-check=full to see details of leaked memory
==15436==
==15436== For counts of detected and suppressed errors, rerun with: -v
==15436== ERROR SUMMARY: 483 errors from 15 contexts (suppressed: 0 from 0)
Segmentation fault
```

Thanks,  
Manh Dung

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Development

No branches or pull requests

1 participant

