

Bug 16341 - [oss-fuzz] Indirect-leak in dissect_lte_rrc_SystemInfoListGERAN_item

Status: RESOLVED FIXED

Alias: None

Product: Wireshark

Component: Dissection engine (libwireshark) ([show other bugs](#))

Version: Git

Hardware: x86-64 Linux

Importance: Low Major (vote)

Target Milestone: ---

Assignee: Bugzilla Administrator

URL: <https://bugs.chromium.org/p/oss-fuzz/>

Depends on:

Blocks:

Reported: 2020-01-21 18:28 UTC by Gerald Combs

Modified: 2020-04-10 15:34 UTC ([History](#))

CC List: 2 users ([show](#))

See Also: <http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2020-9431>

Attachments	
Reproducer testcase (115 bytes, application/octet-stream)	Details
2020-01-21 18:28 UTC Gerald Combs	
Add an attachment (proposed patch, testcase, etc.)	

Note
You need to [log in](#) before you can comment on or make changes to this bug.

Gerald Combs 2020-01-21 18:28:17 UTC	Description
Created attachment 17581 details	
Reproducer testcase	
Build Information: Paste the COMPLETE build information from "Help>About Wireshark", "wireshark -v", or "tshark -v". -- OSS-Fuzz found an issue in the LTE RRC dissector: [Environment] ASAN_OPTIONS=alloc_dealloc_mismatch=0;allocator_malloc_return_null=1;allocator_release_to_os_interval_ms=500;allow_user_segv_handler=0;check_malloc_usable_size=0;detect_leaks=1;detect_odr_violation=0;detect_stack_use_after_return=1;fast_unwind_on_fatal=0;handle_abort=1; -----Release Build Stacktrace----- ----- os-fuzzshark: disabling: ip os-fuzzshark: disabling: udplite os-fuzzshark: disabling: ospf os-fuzzshark: disabling: bgp os-fuzzshark: disabling: dhcp os-fuzzshark: disabling: json os-fuzzshark: disabling: snort os-fuzzshark: configured for dissector: udp in table: ip.proto INFO: Seed: 112630464 INFO: Loaded 1 modules (352024 inline 8-bit counters): 352024 [0xde25f2b0, 0xde7bec8], INFO: Loaded 1 PC tables (352024 PCs): 352024 [0xde7bec8, 0xe3db048], INFO: -fork=1: fuzzing in separate process(s) INFO: -fork=1: 1517 seed inputs, starting to fuzz in /tmp/libfuzzerTemp.1.dfr #71: cov: 19446 ft: 32270 corp: 1517 exec/s 15 com/timeout/crash: 0/0/0 time: 13s job: 1 dft: time: 0 #134: cov: 19446 ft: 32270 corp: 1517 exec/s 14 com/timeout/crash: 0/0/0 time: 18s job: 2 dft: time: 0 INFO: log from the inner process: os-fuzzshark: disabling: ip os-fuzzshark: disabling: udplite os-fuzzshark: disabling: ospf os-fuzzshark: disabling: bgp os-fuzzshark: disabling: dhcp os-fuzzshark: disabling: json os-fuzzshark: configured for dissector: udp in table: ip.proto INFO: Seed: 1134549287 INFO: Loaded 1 modules (352024 inline 8-bit counters): 352024 [0xde25f2b0, 0xde7bec8], INFO: Loaded 1 PC tables (352024 PCs): 352024 [0xde7bec8, 0xe3db048], INFO: 0 files found in /tmp/libfuzzerTemp.1.dfr/2 INFO: seed corpus: files: 38 min: 28s max: 359s total: 3905s rss: 274M #32 pulse cov: 1555 ft: 2380 corp: 15/901b exec/s: 16 rss: 300M ----- ==63==ERROR: LeakSanitizer: detected memory leaks Indirect leak of 160 byte(s) in 2 object(s) allocated from: #0 0xb23e0d in _interceptor_malloc /src/llvm-project/compiler-rt/lib/asan/asan_malloc_linux.cpp:145:3 #1 0x2815b4f8 in g_malloc #2 0x1737559 in tvb_new_composite /src/wireshark/epan/tvbuff_composite.c:198:18 #3 0x226956a in dissect_lte_rrc_SystemInfoListGERAN_item /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:5173:19 #4 0x17719e4 in dissect_per_sequence_of_helper /src/wireshark/epan/dissectors/packet-per.c:1568:10 #5 0x17719e4 in dissect_per_constrained_sequence_of /src/wireshark/epan/dissectors/packet-per.c:1943:9 #6 0x26931b in dissect_lte_rrc_SystemInfoListGERAN /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51799:12 #7 0x226931b in dissect_lte_rrc_T_psi /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51823:12 #8 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #9 0x2269141 in dissect_lte_rrc_RI_OrPBI_GERAN /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51845:12 #10 0x1777e93 in dissect_per_sequence /src/wireshark/epan/dissectors/packet-per.c:1908:12 #11 0x22686c8 in dissect_lte_rrc_Handover /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51865:12 #12 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #13 0x22689b1 in dissect_lte_rrc_T_purpose /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51977:12 #14 0x1777e93 in dissect_per_sequence /src/wireshark/epan/dissectors/packet-per.c:1908:12 #15 0x2268536 in dissect_lte_rrc_MobilityFromEUTRACommand_r8_1Es /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:52037:12 #16 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #17 0x22684b1 in dissect_lte_rrc_T_ci_26 /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:52193:12 #18 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #19 0x2268471 in dissect_lte_rrc_T_criticalExtensions_20 /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:52228:12 #20 0x1777e93 in dissect_per_sequence /src/wireshark/epan/dissectors/packet-per.c:1908:12 #21 0x226762b in dissect_lte_rrc_MobilityFromEUTRACommand_r8_1Es /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:52227:12 #22 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #23 0x2267301 in dissect_lte_rrc_T_ci_13 /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:526723:12 #24 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #25 0x22672c1 in dissect_lte_rrc_DL_DCCCH_MessageType /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:526758:12 #26 0x1777e93 in dissect_per_sequence /src/wireshark/epan/dissectors/packet-per.c:1908:12 #27 0x2200e73 in dissect_lte_rrc_DL_DCCCH_Message /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:526751:12 #28 0x2200e73 in dissect_DL_DCCCH_Message_PDU /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:526762:12 #29 0x2200e73 in dissect_lte_rrc_DL_DCCCH /work/build/asn1/lte-rrc/packet-lte-rrc-template.c:3209:3 #30 0x6d3a22 in call_dissector_through_handle /src/wireshark/epan/packet.c:70679 #31 0x6d3a22 in call_dissector_work /src/wireshark/epan/packet.c:799:9 #32 0x6d038b in call_dissector_only /src/wireshark/epan/packet.c:3208:8 #33 0x6d038b in call_dissector_with_data /src/wireshark/epan/packet.c:3221:8 #34 0x11b017 in dissect_gsmmap /src/wireshark/epan/dissectors/packet-gsmmap.c:0 #35 0x6d3a22 in call_dissector_through_handle /src/wireshark/epan/packet.c:70679 #36 0x6d3a22 in call_dissector_work /src/wireshark/epan/packet.c:799:9 Indirect leak of 128 byte(s) in 2 object(s) allocated from: #0 0xb23e0d in _interceptor_malloc /src/llvm-project/compiler-rt/lib/asan/asan_malloc_linux.cpp:145:3 #1 0x2815b4f8 in g_malloc #2 0x1d4c4e1 in tvb_new_real_data /src/wireshark/epan/tvbuff_real.c:65:8 #3 0x2269141 in dissect_lte_rrc_SystemInfoListGERAN_item /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:5176:49 #4 0x17719e4 in dissect_per_sequence_of_helper /src/wireshark/epan/dissectors/packet-per.c:1568:10 #5 0x17719e4 in dissect_per_constrained_sequence_of /src/wireshark/epan/dissectors/packet-per.c:1943:9 #6 0x26931b in dissect_lte_rrc_SystemInfoListGERAN /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51799:12 #7 0x226931b in dissect_lte_rrc_T_psi /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51823:12 #8 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #9 0x2269141 in dissect_lte_rrc_RI_OrPBI_GERAN /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51845:12 #10 0x1777e93 in dissect_per_sequence /src/wireshark/epan/dissectors/packet-per.c:1908:12 #11 0x22686c8 in dissect_lte_rrc_Handover /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51865:12 #12 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #13 0x22689b1 in dissect_lte_rrc_T_purpose /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:51977:12 #14 0x1777e93 in dissect_per_sequence /src/wireshark/epan/dissectors/packet-per.c:1908:12 #15 0x2268536 in dissect_lte_rrc_MobilityFromEUTRACommand_r8_1Es /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:52037:12 #16 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #17 0x22684b1 in dissect_lte_rrc_T_ci_26 /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:52193:12 #18 0x1777182 in dissect_per_choice /src/wireshark/epan/dissectors/packet-per.c:1751:13 #19 0x2268471 in dissect_lte_rrc_T_criticalExtensions_20 /work/build/asn1/lte-rrc/packet-lte-rrc-fn.c:52228:12 #20 0x1777e93 in dissect_per_sequence	

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 Gerald Costa      2020-01-22 01:28:04 UTC                                Comment 4
(In reply to Pascal Quentin from comment #3)
> I generated a dump from the test case using
https://github.com/fuzzbuzz/fuzzbuzz/blob/master/docs/usage.md#fuzzbuzz
with clang/UBSan does not
> report any leak when compiling master branch with ASAN (even when using
the ASAN options provided in the bug report).
> Can anyone else reproduce it?

I wasn't able to reproduce it using ASAN, but it was able to using Valgrind:

FUZZBUSHAR TARGET=udp valgrind -tool=memcheck --leak-check=full /run/fuzzbuzz/
/tmp/Cluster/testcase-fuzzshark-fuzzshark_ip_proto=udp-571794700898816

==24884== Memcheck, a memory error detector
==24884== command: C:\Program Files\LLVM\bin\valgrind.exe /run/fuzzbuzz/
==24884==
==24884== Using memcheck:
==24884==   /tmp/Cluster/testcase-fuzzshark-fuzzshark_ip_proto=udp-571794700898816
==24884==
==24884== HEAP SUMMARY:
==24884==   in use at exit: 26,144,108 bytes in 274,854 blocks
==24884==   total heap usage: 314,932 allocations, 39,978 frees, 39,860,604 bytes
allocated
==24884==
==24884== 384 (heap address, 224 indirect) bytes in 2 blocks are definitely lost
in record 55,275 of 56,741.
==24884==
==24884== LEAKED MEMORY MALLOC (in /usr/lib/x86_64-linux-gnu/vzload_memcheck-and4-
linux.o):
2.0.x.so.0.5600.40: g_malloc (in /usr/lib/x86_64-linux-gnu/libglib-
2.0.so.0.5600.40)
==24884== by 0x7A37F75: tvb_new (tvbuff.c:75)
==24884== by 0x7A76D0A: dissect_tvb_composite (tvbuff_composite.c:198)
==24884== by 0x7A768D0: dissect_tlv_rfc_systemInfo_GETERAN_item (packet-tlvc-
rfc-51779.c:1177)
==24884== by 0x7A7D597: dissect_per_sequence_of_helper (packet-per.c:568)
==24884== by 0x7A78D2C: dissect_per_constrained_sequence (packet-per.c:943)
==24884== by 0x7A78E98: dissect_per_constrained_sequence_of_helper (packet-per-
rfc-51779.c:153)
==24884== by 0x7A76741: dissect_tlv_rc_psi (packet-tlvc-rc-rfc-51823.c:51823)
==24884== by 0x7A728135: dissect_tlv_cholice (packet-per.c:17151)
==24884== by 0x7A7AD9F: dissect_tlv_rc_si_defpi_GETERAN (packet-tlvc-rc-
rfc-51845.c:51845)
==24884== by 0x7A781718: dissect_per_sequence (packet-per.c:11908)

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<pre>==24884== LEAK SUMMARY: ==24884== definitely lost: 160 bytes in 2 blocks ==24884== indirectly lost: 224 bytes in 10 blocks ==24884== possibly lost: 0 bytes in 0 blocks ==24884== still reachable: 26,143,724 bytes in 274,842 blocks ==24884== suppressed: 0 bytes in 0 blocks ==24884== Reachable blocks (those to which a pointer was found) are not shown. ==24884== To see them, rerun with: --leak-check=full --show-leak-kinds=all ==24884== ==24884== For counts of detected and suppressed errors, rerun with: -v ==24884== ERROR SUMMARY: 1 errors from 1 contexts (suppressed: 0 from 0) Where are we freeing s1_tvb and gsm_rlc_mac_dl_tvb in dissect_lte_rrc_SystemInfoListGERAN_item?</pre>		
Pascal Quantin	2020-01-22 10:08:48 UTC	Comment 5
I thought composite TVBs were added automatically to the tvb chain, but indeed this is not the case. Stupid mistake.		
Gerrit Code Review	2020-01-22 10:43:07 UTC	Comment 6
Change 35899 had a related patch set uploaded by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35899		
Gerrit Code Review	2020-01-22 11:26:14 UTC	Comment 7
Change 35899 merged by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35899		
Gerrit Code Review	2020-01-22 11:26:44 UTC	Comment 8
Change 35901 had a related patch set uploaded by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35901		
Gerrit Code Review	2020-01-22 11:27:09 UTC	Comment 9
Change 35901 merged by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35901		
Gerrit Code Review	2020-01-22 11:27:22 UTC	Comment 10
Change 35902 had a related patch set uploaded by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35902		
Gerrit Code Review	2020-01-22 11:27:45 UTC	Comment 11
Change 35902 merged by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35902		
Gerrit Code Review	2020-01-22 11:44:29 UTC	Comment 12
Change 35903 had a related patch set uploaded by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35903		
Gerrit Code Review	2020-01-22 11:49:41 UTC	Comment 13
Change 35903 merged by Pascal Quantin: LTE RRC: fix a memory leak in composite TVB handling https://code.wireshark.org/review/35903		