Address2line

./prebuilts/gcc/linux-x86/aarch64/aarch64-linux-android-4.9/bin/aarch64-linux-android-addr2line 00000000000692d4 -e /work1/N-Porting/Android-N\_8996/Android-N/out/target/product/htc\_pmeuhl/symbols/system/lib64/libc.so -f

c++filt \_Z7\_\_futexPVviiPK8timespeci

//使用32位的gdb和zygote

Package [com.htc.camera2] (ada09b5):

primaryCpuAbi=armeabi-v7a

./prebuilts/gcc/linux-x86/arm/arm-linux-androideabi-4.9/bin/arm-linux-androideabi-gdb /work/log/PERFUME\_WL\_M60\_SENSE80GP\_VZW/427/windforce/workspace/SymbolFile/out/target/product/htc\_pmewl/symbols/system/bin/app\_process32 -c /work/log/PERFUME\_WL\_M60\_SENSE80GP\_VZW/619/619/Log\_1.91.617.1\_HT5CBBN00080\_Day1\_SST\_htclog\_131958/CoreDumpLog\_HT5CBBN00080/data\_core/1470520765.17046.10007-app.core

//加载so库

set solib-search-path /work/dashboard/symbols/system/lib64/

(gdb) info proc mappings

0xf5f6d000 0xf5fd7000 0x6a000 0x0 /system/lib/libhwui.so

0xf5fd7000 0xf5fda000 0x3000 0x69000 /system/lib/libhwui.so

0xf5fda000 0xf5fdb000 0x1000 0x6c000 /system/lib/libhwui.so

0xf5f6d000 0xf5fd7000 0x6a000 0x0 /system/lib/libhwui.so

0xf5fd7000 0xf5fda000 0x3000 0x69000 /system/lib/libhwui.so

---Type <return> to continue, or q <return> to quit---

0xf5fda000 0xf5fdb000 0x1000 0x6c000 /system/lib/libhwui.so

0xf5f6d000

00017228

然後用info sharedlibrary 命令查看libart.so 是否已經加載(從以下顯示可以看到未加載)

(gdb) info sharedlibrary

archermind@archermind:/work1/QCT8974\_M60/QCT8974$readelf -S out/target/product/htc\_pmewl/symbols/system/lib/libhwui.so

共有 41 个节头，从偏移量 0xa71d1c 开始：

节头：

[Nr] Name Type Addr Off Size ES Flg Lk Inf Al

[ 0] NULL 00000000 000000 000000 00 0 0 0

[ 1] .interp PROGBITS 00002154 000154 000013 00 A 0 0 1

[ 2] .note.android.ide NOTE 00002168 000168 000018 00 A 0 0 4

[ 3] .note.gnu.build-i NOTE 00002180 000180 000020 00 A 0 0 4

[ 4] .dynsym DYNSYM 000021a0 0001a0 004010 10 A 5 1 4

[ 5] .dynstr STRTAB 000061b0 0041b0 00a6cd 00 A 0 0 1

[ 6] .gnu.hash GNU\_HASH 00010880 00e880 00127c 04 A 4 0 4

[ 7] .gnu.version VERSYM 00011afc 00fafc 000802 02 A 4 0 2

[ 8] .gnu.version\_d VERDEF 00012300 010300 00001c 00 A 5 1 4

[ 9] .gnu.version\_r VERNEED 0001231c 01031c 000070 00 A 5 3 4

[10] .rel.dyn LOOS+1 0001238c 01038c 0011a8 01 A 4 0 4

[11] .rel.plt REL 00013534 011534 001858 08 A 4 0 4

[12] .plt PROGBITS 00014d8c 012d8c 002498 00 AX 0 0 4

[13] .text PROGBITS 00017228 015228 04a59c 00 AX 0 0 8

[14] .ARM.exidx ARM\_EXIDX 000617c4 05f7c4 002880 08 AL 13 0 4

[15] .ARM.extab PROGBITS 00064044 062044 000c34 00 A 0 0 4

[16] .rodata PROGBITS 00064c78 062c78 006599 00 A 0 0 8

[17] .data.rel.ro.loca PROGBITS 0006c390 069390 001150 00 WA 0 0 8

[18] .fini\_array FINI\_ARRAY 0006d4e0 06a4e0 000004 00 WA 0 0 4

[19] .data.rel.ro PROGBITS 0006d4e8 06a4e8 000ca8 00 WA 0 0 8

[20] .init\_array INIT\_ARRAY 0006e190 06b190 000014 00 WA 0 0 4

[21] .dynamic DYNAMIC 0006e1a4 06b1a4 000168 08 WA 5 0 4

[22] .got PROGBITS 0006e30c 06b30c 000cf4 00 WA 0 0 4

[23] .data PROGBITS 0006f000 06c000 0002d3 00 WA 0 0 8

[24] .bss NOBITS 0006f2d4 06c2d4 000141 00 WA 0 0 4

[25] .comment PROGBITS 00000000 06c2d3 000042 01 MS 0 0 1

[26] .debug\_info PROGBITS 00000000 06c315 69ca47 00 0 0 1

[27] .debug\_abbrev PROGBITS 00000000 708d5c 0390ee 00 0 0 1

[28] .debug\_loc PROGBITS 00000000 741e4a 0f3873 00 0 0 1

[29] .debug\_aranges PROGBITS 00000000 8356c0 004ff0 00 0 0 8

[30] .debug\_ranges PROGBITS 00000000 83a6b0 036d90 00 0 0 1

[31] .debug\_line PROGBITS 00000000 871440 057a78 00 0 0 1

[32] .debug\_str PROGBITS 00000000 8c8eb8 149045 01 MS 0 0 1

[33] .debug\_frame PROGBITS 00000000 a11f00 012940 00 0 0 4

[34] .debug\_pubnames PROGBITS 00000000 a24840 0017a3 00 0 0 1

[35] .debug\_pubtypes PROGBITS 00000000 a25fe3 000b05 00 0 0 1

[36] .note.gnu.gold-ve NOTE 00000000 a26ae8 00001c 00 0 0 4

[37] .ARM.attributes ARM\_ATTRIBUTES 00000000 a26b04 00003e 00 0 0 1

[38] .symtab SYMTAB 00000000 a26b44 01f220 10 39 6945 4

[39] .strtab STRTAB 00000000 a45d64 02bdeb 00 0 0 1

[40] .shstrtab STRTAB 00000000 a71b4f 0001cc 00 0 0 1

Key to Flags:

W (write), A (alloc), X (execute), M (merge), S (strings)

I (info), L (link order), G (group), T (TLS), E (exclude), x (unknown)

O (extra OS processing required) o (OS specific), p (processor specific)

(gdb)add-symbol-file out/target/product/htc\_pmewl/symbols/system/lib/libhwui.so 0XF5F84228

set solib-search-path /work/issues/U15/OCEAN\_NOTE\_UHL\_N70\_SENSE80GP/lib/

(gdb) info proc mappings

0xf6ea0000 0xf6efd000 0x5d000 0x0 /system/lib/libc.so

0xf6efd000 0xf6f00000 0x3000 0x5c000 /system/lib/libc.so

0xf6f00000 0xf6f03000 0x3000 0x5f000 /system/lib/libc.so

archermind@archermind:/work1/QCT8974\_M60/QCT8974$readelf -S /out/target/product/htc\_pmewl/symbols/system/lib/libc.so

共有 44 个节头，从偏移量 0x2771dc 开始：

节头：

[Nr] Name Type Addr Off Size ES Flg Lk Inf Al

[ 0] NULL 00000000 000000 000000 00 0 0 0

[ 1] .interp PROGBITS 00000174 000174 000013 00 A 0 0 1

[ 2] .note.android.ide NOTE 00000188 000188 000018 00 A 0 0 4

[ 3] .note.gnu.build-i NOTE 000001a0 0001a0 000020 00 A 0 0 4

[ 4] .dynsym DYNSYM 000001c0 0001c0 005950 10 A 5 1 4

[ 5] .dynstr STRTAB 00005b10 005b10 0040eb 00 A 0 0 1

[ 6] .gnu.hash GNU\_HASH 00009bfc 009bfc 002a5c 04 A 4 0 4

[ 7] .hash HASH 0000c658 00c658 002678 04 A 4 0 4

[ 8] .gnu.version VERSYM 0000ecd0 00ecd0 000b2a 02 A 4 0 2

[ 9] .gnu.version\_d VERDEF 0000f7fc 00f7fc 00005c 00 A 5 3 4

[10] .gnu.version\_r VERNEED 0000f858 00f858 000020 00 A 5 1 4

[11] .rel.dyn REL 0000f878 00f878 002190 08 A 4 0 4

[12] .rel.plt REL 00011a08 011a08 0014d0 08 A 4 0 4

[13] .plt PROGBITS 00012ed8 012ed8 001f4c 00 AX 0 0 4

[14] .text PROGBITS 00014e30 014e30 03a864 00 AX 0 0 16

[15] .ARM.exidx ARM\_EXIDX 0004f694 04f694 002278 08 AL 14 0 4

[16] .ARM.extab PROGBITS 0005190c 05190c 00081c 00 A 0 0 4

[17] .rodata PROGBITS 00052128 052128 008e30 00 A 0 0 8

[18] .eh\_frame PROGBITS 0005af58 05af58 001494 00 A 0 0 4

[19] .eh\_frame\_hdr PROGBITS 0005c3ec 05c3ec 00075c 00 A 0 0 4

[20] .data.rel.ro.loca PROGBITS 0005dbc0 05cbc0 001704 00 WA 0 0 8

[21] .data.rel.ro PROGBITS 0005f2e0 05e2e0 000088 00 WA 0 0 32

[22] .init\_array INIT\_ARRAY 0005f368 05e368 000028 00 WA 0 0 4

[23] .fini\_array FINI\_ARRAY 0005f390 05e390 000004 00 WA 0 0 4

[24] .dynamic DYNAMIC 0005f394 05e394 000108 08 WA 5 0 4

[25] .got PROGBITS 0005f4a8 05e4a8 000b58 00 WA 0 0 4

[26] .data PROGBITS 00060000 05f000 002554 00 WA 0 0 32

[27] .bss NOBITS 00062560 061560 00952c 00 WA 0 0 32

[28] .debug\_info PROGBITS 00000000 061554 0c3738 00 0 0 1

[29] .debug\_abbrev PROGBITS 00000000 124c8c 03692d 00 0 0 1

[30] .debug\_loc PROGBITS 00000000 15b5b9 075878 00 0 0 1

[31] .debug\_aranges PROGBITS 00000000 1d0e38 007ec8 00 0 0 8

[32] .debug\_ranges PROGBITS 00000000 1d8d00 00af40 00 0 0 1

[33] .debug\_line PROGBITS 00000000 1e3c40 04838c 00 0 0 1

[34] .debug\_str PROGBITS 00000000 22bfcc 016922 01 MS 0 0 1

[35] .comment PROGBITS 00000000 2428ee 000042 01 MS 0 0 1

[36] .debug\_frame PROGBITS 00000000 242930 00cec8 00 0 0 4

[37] .debug\_pubnames PROGBITS 00000000 24f7f8 000146 00 0 0 1

[38] .debug\_pubtypes PROGBITS 00000000 24f93e 000103 00 0 0 1

[39] .note.gnu.gold-ve NOTE 00000000 24fa44 00001c 00 0 0 4

[40] .ARM.attributes ARM\_ATTRIBUTES 00000000 24fa60 00003a 00 0 0 1

[41] .symtab SYMTAB 00000000 24fa9c 01e010 10 42 6253 4

[42] .strtab STRTAB 00000000 26daac 009549 00 0 0 1

[43] .shstrtab STRTAB 00000000 276ff5 0001e4 00 0 0 1

Key to Flags:

W (write), A (alloc), X (execute), M (merge), S (strings)

I (info), L (link order), G (group), T (TLS), E (exclude), x (unknown)

O (extra OS processing required) o (OS specific), p (processor specific)

0xf6ea0000

00014e30

(gdb) add-symbol-file out/target/product/htc\_pmewl/symbols/system/lib/libc.so 0XF6EB4E30

怎样查看运行进程的所有线程的堆栈：

adb shell kill -3 <pid>

生成/data/tnr/traces.txt

adb shell gdbserver :10000 /system/bin/surfaceflinger

gdbclient 358(pid of surfaceflinger)

NDK

查看当前进程堆栈：

adb shell kill -s 3 1525

adb pull /data/anr/traces.txt .