Method to capture ftrace in stability test

1.1 purpose

in stability test, device may crash at any time, it will not be able to capture ftrace with normal steps, however we can extract ftrace log from ramdump.

1.2 Crash and trace-cmd tool preparation

crash tool can be built from source, if test device is using 64bit kernel, please build 64bit version of crash, otherwise, build 32bit version.

Crash tool can be downloaded from: http://people.redhat.com/anderson

Trace-cmd tool: git://git.kernel.org/pub/scm/linux/kernel/git/rostedt/trace-cmd.git

1.3 test preparation

Depending on early analysis/debug direction, need to enable different trace categories xx: echo 1 > /d/tracing/events/xxx/enable. From performance perspective, we suggest to enabling bellows:

```
adb root
adb shell
echo 1 > /d/tracing/events/sched/sched_switch/enable
echo 1 > /d/tracing/events/sched/sched_wakeup/enable
echo 1 > /d/tracing/events/sched/sched_waking/enable
echo 1 > /d/tracing/events/sched/sched_enq_deq_task/enable
echo 1 > /d/tracing/events/sched/sched_blocked_reason/enable
echo 1 > /d/tracing/events/sched/sched_stat_iowait/enable
echo 1 > /d/tracing/events/sched/sched_stat_blocked/enable
echo 1 > /d/tracing/events/block/block_rq_issue/enable
echo 1 > /d/tracing/events/block/block_rq_complete/enable
echo 1 > /d/tracing/events/ext4/ext4_sync_file_enter/enable
echo 1 > /d/tracing/events/ext4/ext4_sync_file_exit/enable
echo 20960 > /sys/kernel/debug/tracing/buffer_size_kb
echo 1 > /d/tracing/tracing_on
```

Remind: please don't capture any systrace/ftrace manually after stability test is started, otherwise ftrace will not be included in the final ramdump

1.4 extract ftrace

when issue is replicated and ramdump is captured, below step can help to extract ftrace:

1)merge ramdump image files into one single image:

```
cat DDRCS0.BIN DDRCS1.BIN > DDR.BIN
```

2) 0x80000000 is the starting address of ram image, it can be found in dump_info.txt which is one of the output of ramdump. Vmlinux is unstriped image of kernel, should be exactly as the kernel version used in the test.

```
cd ~/crash_tool
```

crash DDR.BIN@0x80000000 vmlinux

crash> extend extensions/trace.so

crash> trace dump -t rawtracedata

trace-cmd/trace-cmd report -i rawtracedata >ftrace_out.txt