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RK1108_CVR Project Debug Method

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[√] Official Release	Author:	Huaping Liao
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Revision History

Version No.	Author	Revision Date	Revision Description
V0.1	Huaping Liao	2016/6/28	Add project debug methods
V0.2	Huaping Liao	2016/7/11	Add adb function

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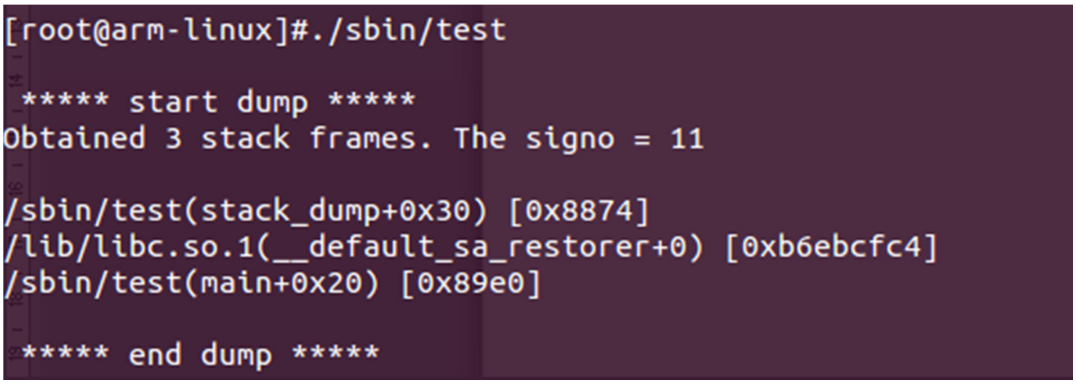
1、 Call Stack when Memory Error

1) **Compiling environment:** update the latest cross-compiling tools on server, and make sure "execinfo.h" head file is included.
2) **Reference code**: library code stored in rk_backtrace.c under directory src/external/librk_backtrace.
3) **Signal registration**: before the code main function, dump signals need to be registered, direct call "init_dump ()" to register multiple signal processing functions (use " externl void init_dump();" in advance, state first). Pay attention to add command "-g -rdynamic -ldl -funwind-tables" during compiling, otherwise stack can't be exported, and can't link to library "-lrk_backtrace ".
4) **Error parsing**: as shown in the figure below, when memory error occurs, relevant stack information can be printed. Machine code when error occurs is 0x89e0. Related applications or libraries can be found (Note: symbol cannot be removed, the symbol on target plate is removed), code when error occurs can be found by using command "addr2line -e test 0x89e0".



2、 ADB Using Method

1) **Start ADB**: configure "enable_adb" to yes in the configuration file "config.sh" under system directory. Then when system starts, directly running "source /etc/init.d/run_adbd.sh " can start adb; or modify script "out\root\etc\init.d\rcS", remove annotation "#source /etc/init.d/run_adbd.sh", adb will start when system power on.

   Note: adb cannot run simultaneously with CVR project camera app, otherwise they will conflict.

2) **Configure UBUNTU**: please refer to Appendix A UBUNTU ADB Equipment Configuration.

3) Currently support commands such as adb shell, adb push and adb pull.

Appendix A UBUNTU ADB Equipment Configuration

Under Ubuntu14.04, running adb after equipment is connected, if "device not found shows, the solution is as follows:

1、 First, enter User's Directory

```
cd  ~
ls –la
```

Directory .android can be found

```
cd .android
```

There should have a adb_usb.ini file, if no, use below command to create one:

```
touch adb_usb.ini
```

2、 Use lsusb to check VID of connected device, connected device, then execute below commands:

```
test@test:$lsusb
Bus 002 Device 002: ID 8087:0024 Intel Corp. Integrated Rate Matching Hub
Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 009: ID 0480:a200 Toshiba America Info. Systems, Inc.
Bus 001 Device 002: ID 8087:0024 Intel Corp. Integrated Rate Matching Hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 003 Device 005: ID 0461:4e35 Primax Electronics, Ltd
Bus 003 Device 004: ID 2207:0006
Bus 003 Device 002: ID 1a40:0101 Terminus Technology Inc. 4-Port HUB
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
```

Pull out device, execute below commands again:

```
test@test:$lsusb
Bus 002 Device 002: ID 8087:0024 Intel Corp. Integrated Rate Matching Hub
Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 009: ID 0480:a200 Toshiba America Info. Systems, Inc.
Bus 001 Device 002: ID 8087:0024 Intel Corp. Integrated Rate Matching Hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 003 Device 005: ID 0461:4e35 Primax Electronics, Ltd
Bus 003 Device 002: ID 1a40:0101 Terminus Technology Inc. 4-Port HUB
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
```

By comparison, Bus 003 Device 004: ID 2207:0006 is the connected device. 0x2207 is VID, ox0006 is PID, write down these two values.

3、 Open adb_usb.ini file created before, and execute:

```
sudo vim adb_usb.ini
```

Add VID (0x2207) in the last line.

4、 Execute as root user:

```
sudo su
adb shell
```

The device can be found now.

5、 If execute as common user, add owner parameter in /etc/udev/rules.d/51-android.rules.

```
SUBSYSTEM=="usb", ATTR{idVendor}=="2207", ATTR{idProduct}=="0011", MODE="0666",
GROUP="plugdev"
```

Save and exit, then common user can run adb shell to connect device.