

SkyEye 测试文档

1、测试文档介绍

1.1 安装 SkyEye

1.1.1 rpm 包安装

1.1.2 源码编译安装

从 sourceforge 网站上下载 Skyeye 的 1.2.9 的源代码，解压

```
tar xzvf skyeye-1.2.9.tar.gz
```

然后运行如下命令编译

```
./configure
```

```
make lib
```

```
make
```

其中 `make lib` 来编译第三方的库，`make` 来编译 skyeye 的源代码

最后安装 SkyEye 到/opt 目录下

```
make install_lib
```

```
make install
```

1.2 下载测试套件

从 sourceforge 网站上下载 skyeye-testsuite-1.2.9.tar.gz 软件包，这个软件包中包含了所有的测试用例。

2、Linux 测试目录

2.1 godson 测试用例

2.1.1 使用的 config 文件

```
ksh@localhost:/opt/testsuite/skyeye-testsuite-1.2.9/linux/godson> cat skyeye.conf
#skyeye config file sample
arch: mips
cpu: mips
#mach:au1100
#mach:godson1
mach:gs32eb1

#SDRAM: 256MByte, 0x0--0x10000000
mem_bank: map=M, type=RW, addr=0x0, size=0x10000000
#Mapped IO: 0x400Byte, 0x14000000--0x140003ff
mem_bank: map=I, type=RW, addr=0x14000000, size=0x400
#Flash: 2MByte, 0x1fc00000--0x1fdfffff
mem_bank: map=F, type=R, addr=0x1FC00000, size=0x00200000
#set nic info state=on/off mac=xx:xx:xx:xx:xx:xx ethmod=tuntap/vnet hostip=dd.dd.dd.dd
#net: state=on, mac=0:4:3:2:1:f, ethmod=tuntap, hostip=10.0.0.1
log: logon=0, logfile=./test.log, start=0x0, end=0x814c0000
#log: logon=0, logfile=./test.log, start=3200000, end=3330000
#lcd: state=on
uart:mod=term
```

2.1.2 运行过程

```
ksh@localhost:/opt/testsuite/skyeye-testsuite-1.2.9/linux/godson> /opt/skyeye/bin/skyeye -e vmlinux -l
0x0,0xFFFFFFFF
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their author. Any modification or redistributions of SkyEye should note remove or modify the
annoucement of SkyEye copyright.
Get more information about it, please visit the homepage http://www.skyeye.org.
Type "help" to get command list.
In SKY_load_module, /opt/skyeye/lib/skyeye/libsound.so: undefined symbol: s3c44b0x_iisfifo_tx

In SKY_load_all_modules, Can not load module from file libsound.so.

(skyeye)start
arch: mips
Error: Unkonw cpu name "mips"
"cpu" option parameter error!
In do_mach_option, mach info: name gs32eb1, mach_init addr 0x2adc46480220

Unkonw option: log
uart_mod:3, desc_in:, desc_out:, converter:
```

```
In create_uart_console
In skyeye_read_config, Config format is wrong.

exec file "vmlinux"'s format is elf64-x86-64.
load section .text: addr = 0x81200000 size = 0x000ad2a0.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .fixup: addr = 0x812ad2a0 size = 0x0000107c.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .kstrtab: addr = 0x812ae31c size = 0x0000217c.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section __ex_table: addr = 0x812b04a0 size = 0x00001608.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section __dbe_table: addr = 0x812b1aa8 size = 0x00000000.
load section __ksymtab: addr = 0x812b1aa8 size = 0x000010c8.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .data.init_task: addr = 0x812b4000 size = 0x00002000.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .text.init: addr = 0x812b6000 size = 0x000092f8.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .data.init: addr = 0x812bf2f8 size = 0x000003b0.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .setup.init: addr = 0x812bf6b0 size = 0x000000a0.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .initcall.init: addr = 0x812bf750 size = 0x0000004c.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .data.cacheline_aligned: addr = 0x812c0000 size = 0x00001180.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .reginfo: addr = 0x812c1180 size = 0x00000018.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .data: addr = 0x812c2000 size = 0x00290000.
In tea_write, load_base=0x0,load_mask=0xffffffff
not load section .sbss: addr = 0x81552000 size = 0x00000000 .
not load section .bss: addr = 0x81552000 size = 0x0001f4f0 .
not load section .comment: addr = 0x000101f4 size = 0x00000ed6 .
not load section .pdr: addr = 0x00000000 size = 0x00012b60 .
not load section .mdebug.abi32: addr = 0x00000000 size = 0x00000000 .
In SIM_start, Set PC to the address 0x1200464
```

```
In gs32eb1_boot_linux, Set PC to the address 0x81200464
```

```
(skyeye)run
(running)Reg=0x1c, not implemented instruction in write_cp0
Reg=0x10, not implemented instruction in write_cp0
Reg=0x5, not implemented instruction in write_cp0
Reg=0x6, not implemented instruction in write_cp0
stop
(skyeye)info registers
R0 0x0
R1 0x81570000
```

```
R2 0x0
R3 0x8155214c
R4 0x19
R5 0x0
R6 0x1004fc01
R7 0xffff00ff
R8 0x812b5fe0
R9 0xfc00
R10 0x812c1000
R11 0x3
R12 0x7f1c0300
R13 0x1000
R14 0x0
R15 0x115
R16 0x8000
R17 0xb4000101
R18 0xb4000100
R19 0x3
R20 0x0
R21 0x0
R22 0x0
R23 0x0
R24 0x0
R25 0x429f50
R26 0x812b5f58
R27 0x812b5f58
R28 0x812b4000
R29 0x812b5f58
R30 0x0
R31 0x81200cb0
PC 0x81200c9c
```

(skyeye)disassemble 1200c9c

```
andeq r0, r0, r0
```

```
sfmeq f3, 2, [r8], {104}
```

```
andeq r0, r0, r0
```

```
cfstrdeq mvd8, [r8], {12}
```

```
andeq r0, r0, r0
```

```
stmdaeq r8, {r2, r3, r4, r8, r9}^
```

```
andeq r0, r0, r0
```

```
stfccd f0, [r2], {45}
```

```
cfstrdhi mvd8, [r2], {64}
```

```
subsne r0, ip, r3
```

(skyeye)stepi

In skyeye_stepi, stopped_step=33819416

(running)

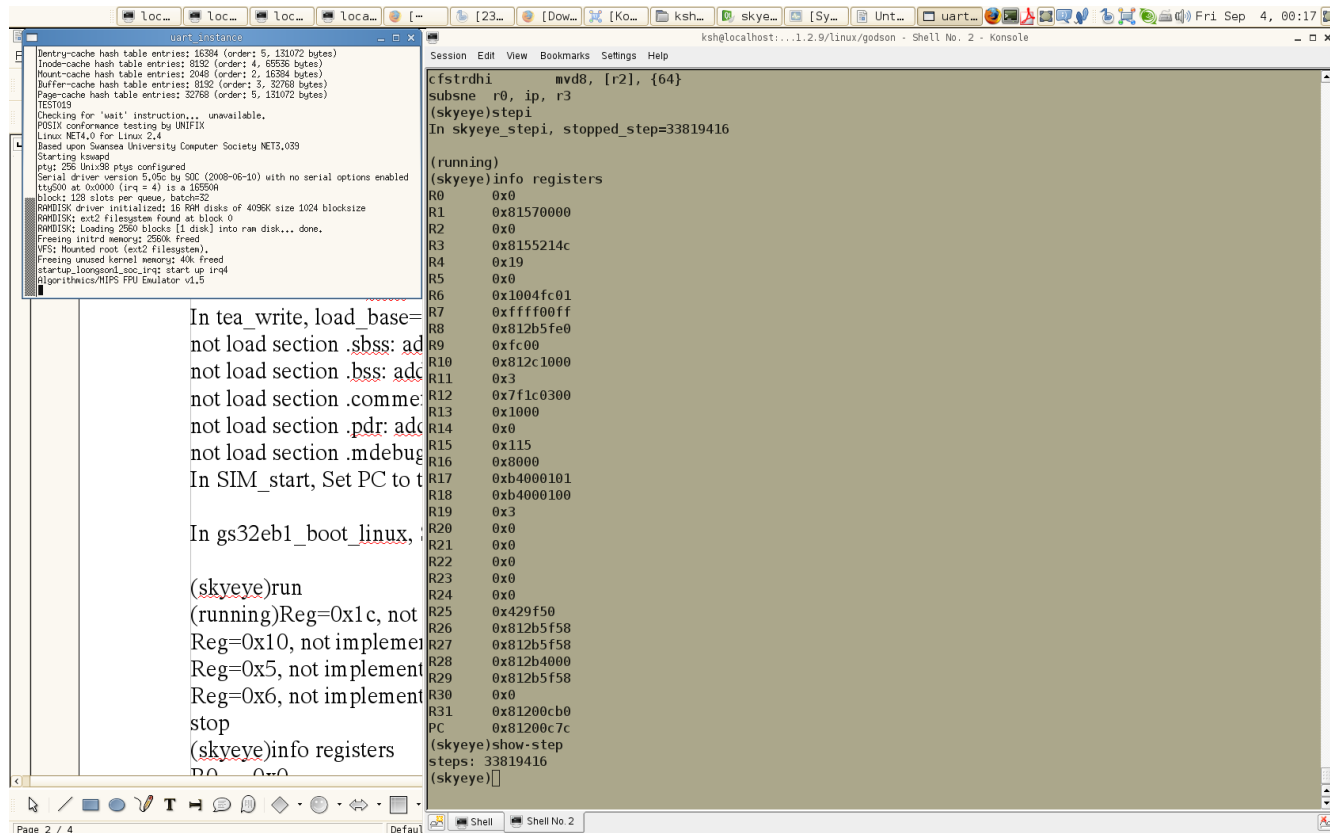
(skyeye)info registers

```
R0 0x0
```

```
R1 0x81570000
```

```
R2  0x0
R3  0x8155214c
R4  0x19
R5  0x0
R6  0x1004fc01
R7  0xffff00ff
R8  0x812b5fe0
R9  0xfc00
R10 0x812c1000
R11 0x3
R12 0x7f1c0300
R13 0x1000
R14 0x0
R15 0x115
R16 0x8000
R17 0xb4000101
R18 0xb4000100
R19 0x3
R20 0x0
R21 0x0
R22 0x0
R23 0x0
R24 0x0
R25 0x429f50
R26 0x812b5f58
R27 0x812b5f58
R28 0x812b4000
R29 0x812b5f58
R30 0x0
R31 0x81200cb0
PC  0x81200c7c
(skyeye)show-step
steps: 33819416
(skyeye)
```

2.1.3 屏幕快照



2.2 MPC8560 测试过程

2.2.1 SkyEye 的配置文件

```
# skyeeye config file sample
arch: ppc
cpu: e500
mach:mpc8560
# 64M DDR SDRAM
mem_bank: map=M, type=RW, addr=0x0, size=0x4000000
# default 8M bootrom for 8560
mem_bank: map=M, type=RW, addr=0xFF800000, size=0x800000
# 16k init ram for 8560
mem_bank: map=M, type=RW, addr=0xe4010000, size=0x4000
#mem_bank: map=M, type=RW, addr=0xFE000000, size=0x1000000
#mem_bank: map=M, type=RW, addr=0xFE000000, size=0x1000000
#log: logon=0, logfile=./test.log, start=0xC0000000, end=0xB0000000
uart:mod=term
```

2.2.2 运行过程

```
ksh@localhost:/opt/testsuite/skyeye-testsuite-1.2.9/linux/mpc8560> /opt/skyeye/bin/skyeye -e vmlinux
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their author. Any modification or redistributions of SkyEye should note remove or modify the
announcement of SkyEye copyright.
```

```
Get more information about it, please visit the homepage http://www.skyeye.org.
```

```
Type "help" to get command list.
```

```
In SKY_load_module, /opt/skyeye/lib/skyeye/libsound.so: undefined symbol: s3c44b0x_iisfifo_tx
```

```
In SKY_load_all_modules, Can not load module from file libsound.so.
```

```
(skyeye)start
```

```
arch: ppc
```

```
Error: Unkonw cpu name "e500"
```

```
"cpu" option parameter error!
```

```
In do_mach_option, mach info: name mpc8560, mach_init addr 0x2ba17b50a0e0
```

```
uart_mod:3, desc_in:, desc_out:, converter:
```

```
In create_uart_console
```

```
1 core is initialized.
```

```
exec file "vmlinux"'s format is elf64-x86-64.
```

```
load section .text: addr = 0xc0000000 size = 0x001b6074.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

```
load section .rodata: addr = 0xc01b7000 size = 0x00026f91.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

```
load section .pci_fixup: addr = 0xc01ddf94 size = 0x00000540.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

```
not load section .rio_route: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __ksymtab: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __ksymtab_gpl: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __ksymtab_unused: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __ksymtab_unused_gpl: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __ksymtab_gpl_future: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __kcrctab: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __kcrctab_gpl: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __kcrctab_unused: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __kcrctab_unused_gpl: addr = 0xc01de4d4 size = 0x00000000 .
```

```
not load section __kcrctab_gpl_future: addr = 0xc01de4d4 size = 0x00000000 .
```

```
load section __param: addr = 0xc01de4d4 size = 0x00000190.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

```
load section __ex_table: addr = 0xc01df000 size = 0x00001488.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

```
load section __bug_table: addr = 0xc01e0488 size = 0x000028c0.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

```
load section .data: addr = 0xc01e3000 size = 0x000140c4.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

```
load section .data.page_aligned: addr = 0xc01f8000 size = 0x00003000.
```

```
In tea_write, load_base=0x0,load_mask=0xffffffff
```

load section .data.cacheline_aligned: addr = 0xc01fb000 size = 0x000000c0.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .data.init_task: addr = 0xc01fc000 size = 0x00002000.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .init.text: addr = 0xc01fe000 size = 0x0001a03c.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .exit.text: addr = 0xc021803c size = 0x00000980.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .init.data: addr = 0xc02189c0 size = 0x0000236c.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .init.setup: addr = 0xc021ad30 size = 0x0000027c.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .initcall.init: addr = 0xc021afac size = 0x000001a0.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .con_initcall.init: addr = 0xc021b14c size = 0x00000004.
In tea_write, load_base=0x0,load_mask=0xffffffff
not load section .security_initcall.init: addr = 0xc021b150 size = 0x00000000 .
load section __fr_fixup: addr = 0xc021b150 size = 0x00000060.
In tea_write, load_base=0x0,load_mask=0xffffffff
load section .init.ramfs: addr = 0xc021c000 size = 0x00000085.
In tea_write, load_base=0x0,load_mask=0xffffffff
not load section .bss: addr = 0xc021d000 size = 0x00016618 .
not load section .stab: addr = 0x00000000 size = 0x00000360 .
not load section .PPC.EMB.apuinfo: addr = 0x00000000 size = 0x00000020 .
not load section .stabstr: addr = 0x00000000 size = 0x000004c0 .
not load section .comment: addr = 0x00000000 size = 0x00002556 .
not load section .note.GNU-stack: addr = 0x00000000 size = 0x00000000 .
In SIM_start, Set PC to the address 0x0

In load_file, Load the file initrd.img to the memory 0x2000000

In mpc8560_boot_linux, Set PC to the address 0xc0000000

(skyeye)run

(running)in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8c50
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8c70
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8c90
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8df0
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8dd0
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8db0
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8c40
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8c44
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8c48
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8c50
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8de0
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8de8
in mpc8560_io_write_word, error when write to PCI_ATMU.offset=0x8df0

(running)info registers


```
R0 0x323d
R1 0xc02e3ea0
R2 0xc02e1960
R3 0x323d
R4 0x1
R5 0x1
R6 0x0
R7 0xc01f0488
R8 0xfdfc00b0
R9 0xc01f6eb0
R10 0xfdfc00b0
R11 0xc01f0000
R12 0x24000022
R13 0x0
R14 0x0
R15 0x0
R16 0x0
R17 0x0
R18 0x0
R19 0x0
R20 0x0
R21 0xc0220000
R22 0x0
R23 0x0
R24 0x0
R25 0xc02e2000
R26 0x0
R27 0xc0220000
R28 0x487ab0
R29 0x2af
R30 0xc01f0000
R31 0xc0220000
PC 0xc000408c
```

(running)stop

(skyeye)show-step

steps: 30500650

(skyeye)stepi

In skyeye_stepi, stopped_step=30500651

(running)

(running)

(skyeye)disassemble 0x408c

andeq r0, r0, r2, asr #32

andcs r8, r0, lr, asr #32

undefined

streq r0, [r0, #-72]

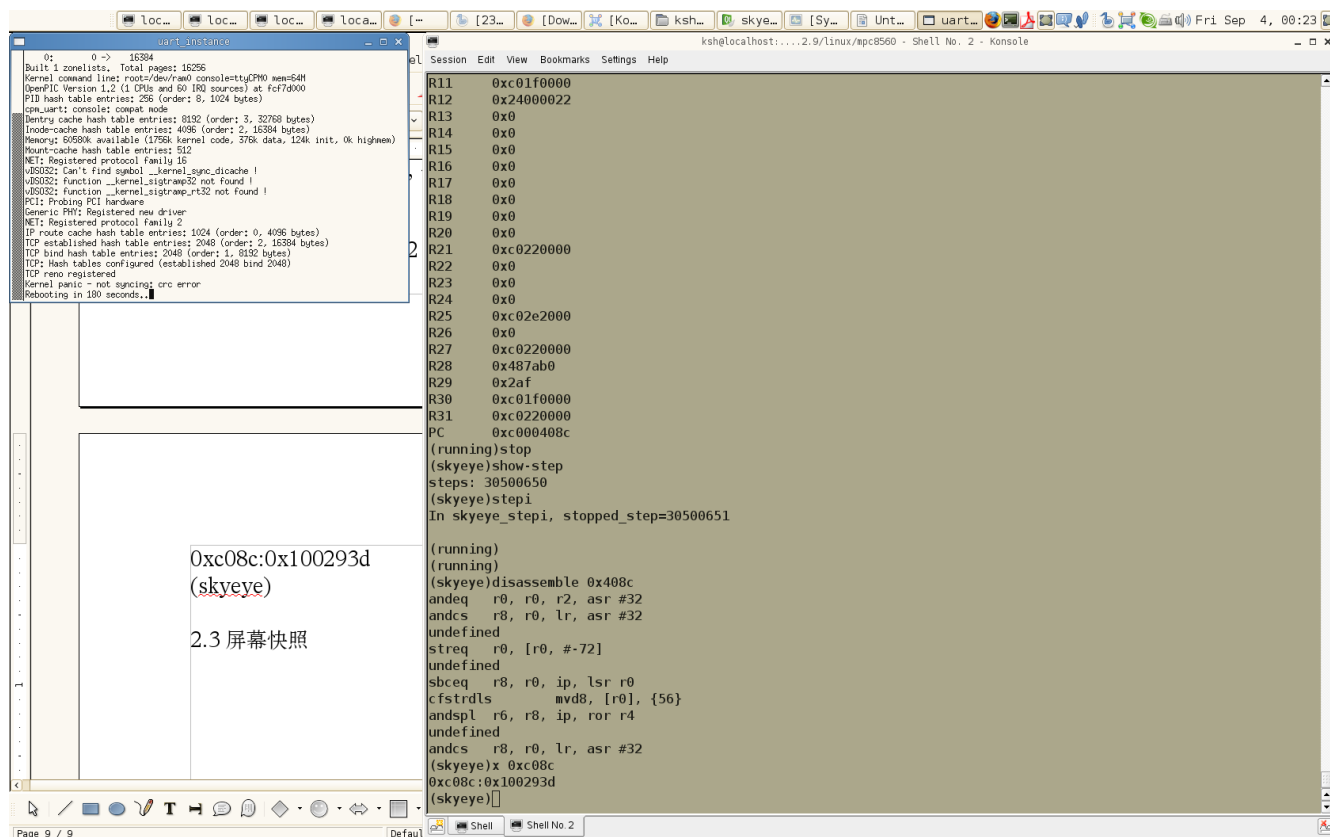
undefined

sbceq r8, r0, ip, lsr r0

cfstrdls mvd8, [r0], {56}

```
andspl r6, r8, ip, ror r4
undefined
andcs r8, r0, lr, asr #32
(skyeye)x 0xc08c
0xc08c:0x100293d
(skyeye)
```

2.2.3 屏幕快照



2.3、2410 的测试过程

2.3.1 配置文件

```
ksh@localhost:/opt/testsuite/skyeye-testsuite-1.2.9/linux/s3c2410/2.4.18> cat skyeye.conf
#skyeye config file sample
arch:arm
cpu: arm920t
mach: s3c2410x

#physical memory
#mem_bank: map=M, type=RW, addr=0x20000000, size=0x01000000
mem_bank: map=M, type=RW, addr=0xc0000000, size=0x01000000
mem_bank: map=M, type=RW, addr=0xc1000000, size=0x00600000, file=./initrd.img
```

```
mem_bank: map=M, type=RW, addr=0xc1600000, size=0x00a00000
#all peripherals I/O mapping area
#mem_bank: map=I, type=RW, addr=0xfefa0000, size=0x00060000
mem_bank: map=I, type=RW, addr=0x48000000, size=0x20000000
mem_bank: map=I, type=RW, addr=0x19000300, size=0x00000020
net: type=cs8900a, base=0x19000300, size=0x20,int=9, mac=0:4:3:2:1:f, ethmod=tuntap,
hostip=10.0.0.1
lcd:type=s3c2410x,mod=gtk
uart:mod=term
#dbct:state=on
```

2.3.2 运行过程

```
ksh@localhost:/opt/testsuite/skyeye-testsuite-1.2.9/linux/s3c2410/2.4.18> /opt/skyeye/bin/skyeye -e
vmlinux
```

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Get more information about it, please visit the homepage <http://www.skyeye.org>.

Type "help" to get command list.

In SKY_load_module, /opt/skyeye/lib/skyeye/libsound.so: undefined symbol: s3c44b0x_iisfifo_tx

In SKY_load_all_modules, Can not load module from file libsound.so.

(skyeye)start

arch: arm

cpu info: armv4, arm920t, 41009200, ff00fff0, 2

In do_mach_option, mach info: name s3c2410x, mach_init addr 0x2af0152d44a0

ethmod num=1, mac addr=0:4:3:2:1:f, hostip=10.0.0.1

failed to setup_module (name:net, type:cs8900a)

tapif_init: icotl TUNSETIFF errorlcd_mod:1

uart_mod:3, desc_in:, desc_out:, converter:

In create_uart_console

SKYEYE: use arm920t mmu ops

exec file "vmlinux"s format is elf64-x86-64.

load section .init: addr = 0xc0008000 size = 0x0000f000.

In tea_write, load_base=0x0,load_mask=0xffffffff

load section .text: addr = 0xc0017000 size = 0x000e246c.

In tea_write, load_base=0x0,load_mask=0xffffffff

load section __ex_table: addr = 0xc00f9470 size = 0x00000978.

In tea_write, load_base=0x0,load_mask=0xffffffff

not load section __ksymtab: addr = 0xc00f9de8 size = 0x00000000 .

load section .data: addr = 0xc00fa000 size = 0x0000e3e3.

In tea_write, load_base=0x0,load_mask=0xffffffff

not load section .bss: addr = 0xc0108400 size = 0x00027f90 .

not load section .stab: addr = 0x00000000 size = 0x00326154 .

not load section .stabstr: addr = 0x00000000 size = 0x000e23f0 .

not load section .comment: addr = 0x00000000 size = 0x0000258e .

In SIM_start, Set PC to the address 0xc0008000

(skyeye)run

(running)ERROR: s3c2410x_io_write_word(0x4d000060) = 0x00000002

ERROR: s3c2410x_io_write_word(0x4d000050) = 0x00000000

In skyeye_find_lcd_dma, probably not finished porting.

In get_dma_addr, host_addr=0x2aaaaac21010,

ERROR: s3c2410x_io_write_word(0x4d000060) = 0x00000002

ERROR: s3c2410x_io_write_word(0x4d000050) = 0x00000000

ERROR: s3c2410x_io_write_word(0x1900030a) = 0x00000002

ERROR: s3c2410x_io_write_word(0x1900030a) = 0x00000136

stop

(skyeye)info registers

R0 0x0

R1 0x0

R2 0x0

R3 0x60000013

R4 0xc010bffc

R5 0xc00f089c

R6 0x0

R7 0xc0874160

R8 0xc0873000

R9 0xc00fca2c

R10 0x3

R11 0xc013bf18

R12 0xc013bf0c

R13 0xc013bf0c

LR 0xc0022c28

PC 0xc0022c78

(skyeye)disassemble 0xc0022c78

b

andsgt fp, r0, r4, ror #23

strdgt pc, [lr], -ip

andsgt r0, r1, r0, ror #9

andgt pc, lr, r4, lsl r3

andgt pc, lr, ip, lsr r3

ldrshgt fp, [r0], -r8

ldrshgt fp, [r0], -ip

andgt pc, lr, ip, asr r3

ldmdb fp, {r4, r5, fp, sp, pc}

(skyeye)stepi

In skyeye_stepi, stopped_step=16656907

(running)

(skyeye)stepi

In skyeye_stepi, stopped_step=16656908

(running)

(skyeye)x 0xc0022c78

0xc0022c78:0xeaaffffe
(skyeeye)show-step
steps: 16656908
(skyeeye)

2.3.3 屏幕快照

