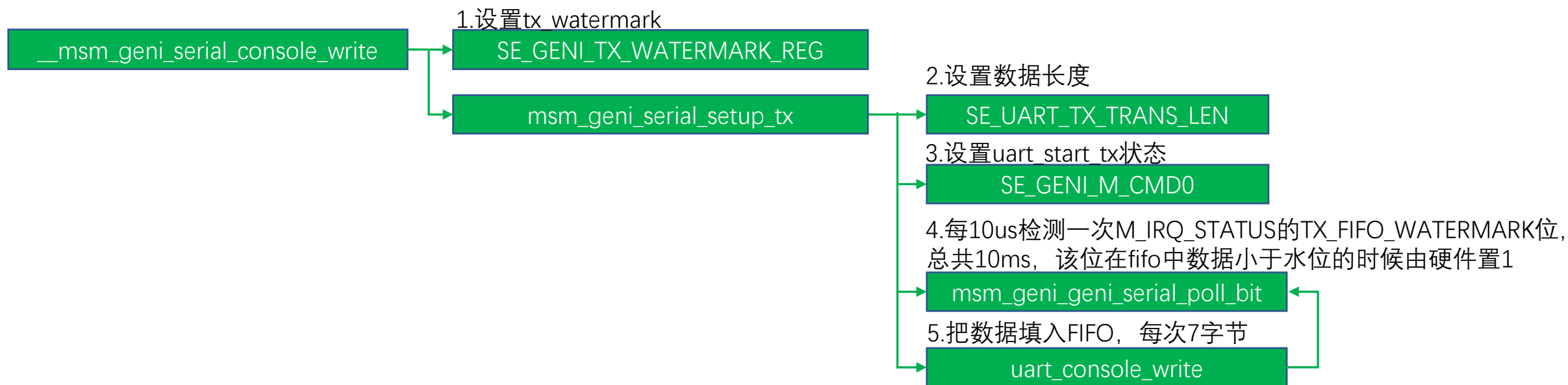
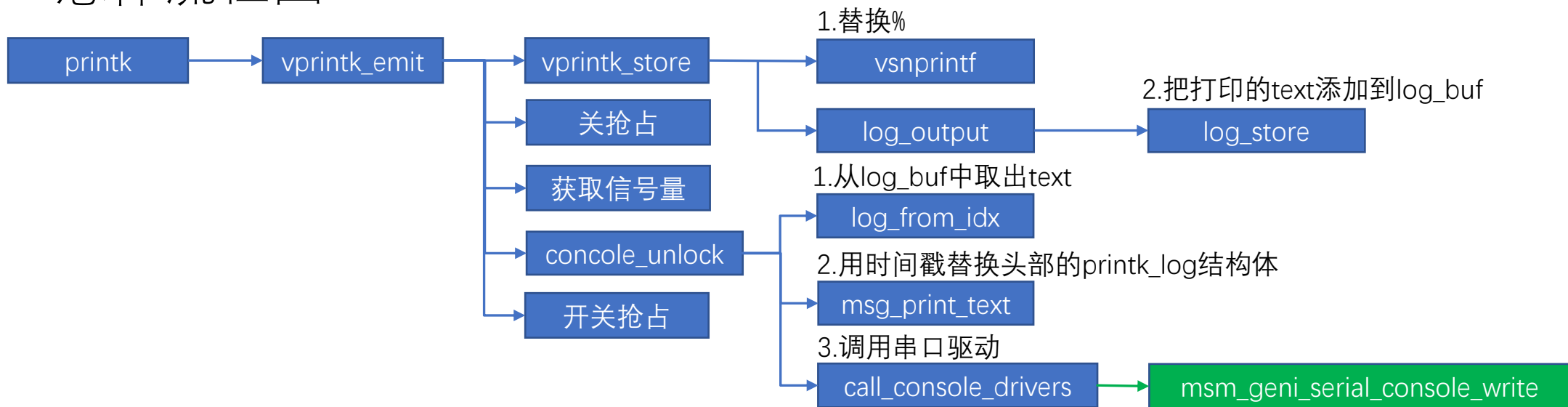
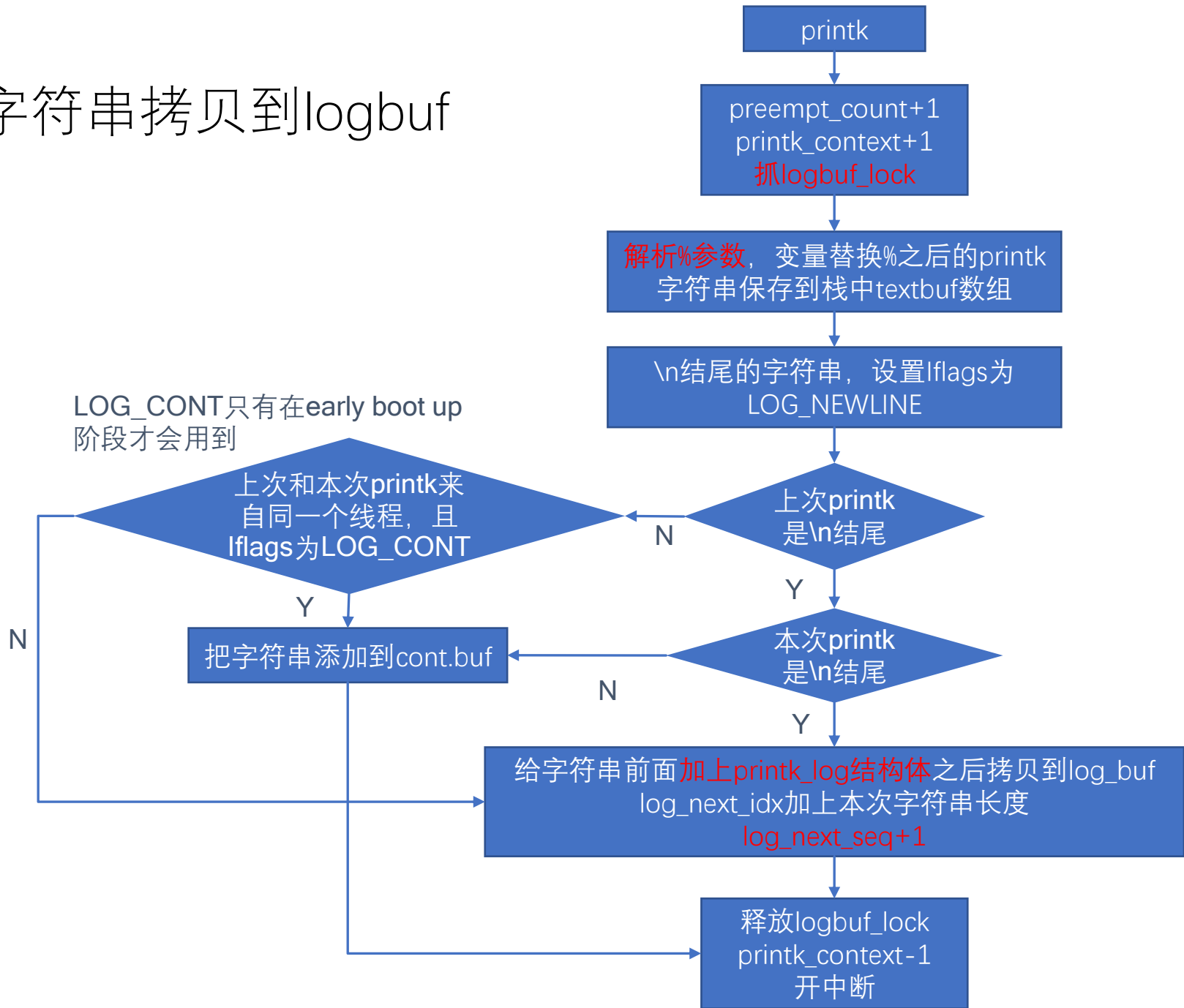


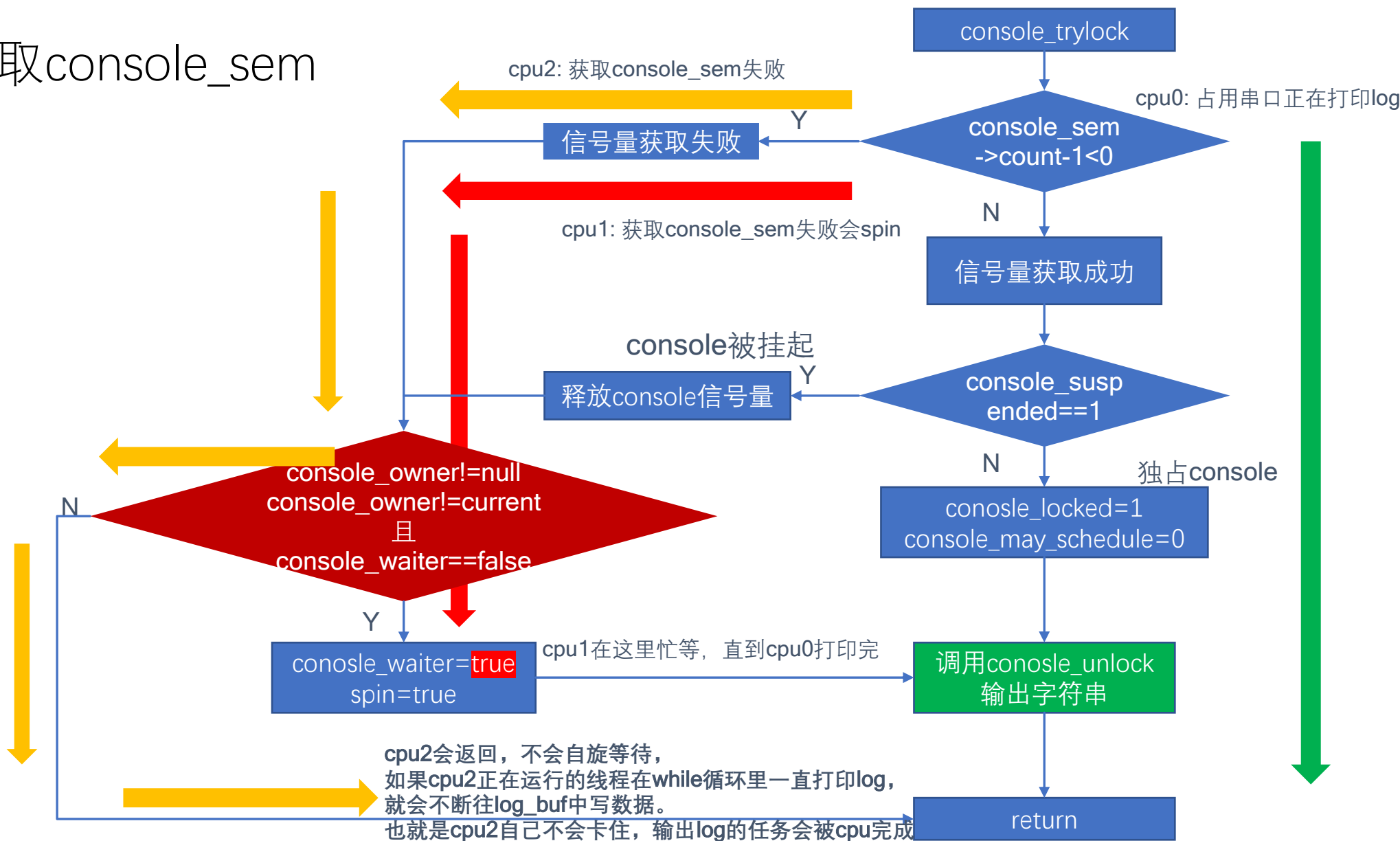
## 总体流程图



# 数据流—字符串拷贝到logbuf



# 数据流—获取console\_sem





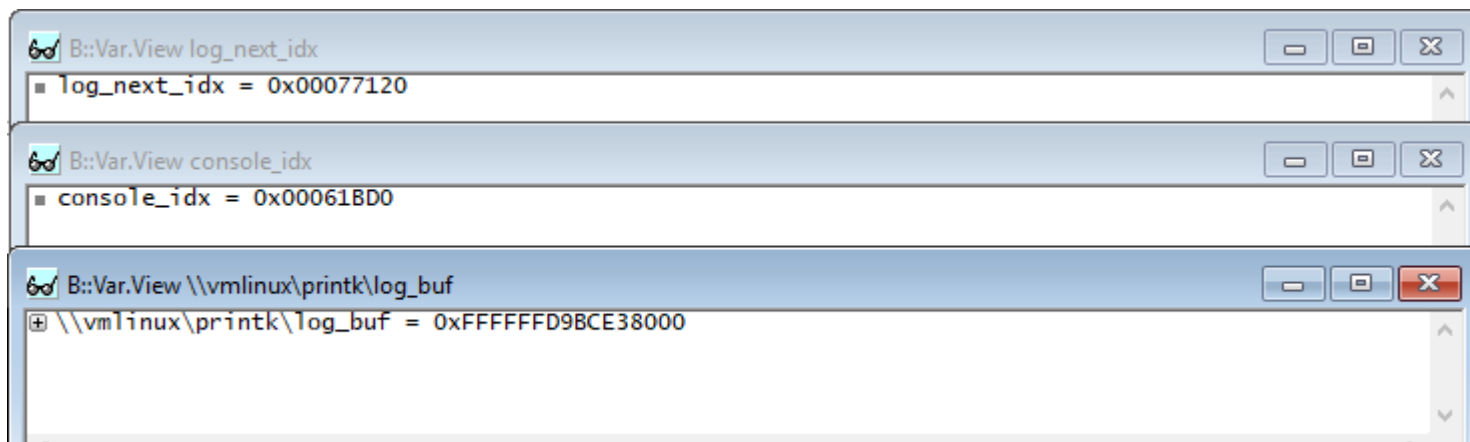
# 数据流



## 实例分析--excessive logging导致watchdog bark

- 环境：Trace32+ramdump，dmesg是从log\_buf中解析出来的，栈中的字符串是当前正在打印的

```
004 msm_geni_serial_console_write(
    ?
    ⊕ (register char *) [X20] s = 0xFFFFF84DDFD6994 → "[46125.060047]_binder:_transaction_release_168095242_bad_handle_1088,_ret=_-22"
    • (register unsigned int) [X19] count = 0x50
    • (register long unsigned int) [X21] flags = 0x01C0
    ⊕ (register struct uart_port *) [X22] uport = 0xFFFFF84DE8D8178
005 cpumask_test_cpu(inline)
576
```



# 实例分析

```
NSD:FFFFFFFFD9BCE99B70 38303120 72202C37 3D207465 32322D20 u1087,uretu=u-2.
NSD:FFFFFFFFD9BCE99B80 53D1C27D 000029F3 00400050 66000000 }S(S)NNPN@NNNN.
NSD:FFFFFFFFD9BCE99B90 646E6962 203A7265 6E617274 74636173 binder:utransac
NSD:FFFFFFFFD9BCE99BA0 206E6F69 656C6572 20657361 30383631 ionureleaseu168
NSD:FFFFFFFFD9BCE99BB0 34323539 61622032 61682064 656C646E 95242ubaduhandl
NSD:FFFFFFFFD9BCE99BC0 38303120 72202C38 3D207465 32322D20 u1088,uretu=u-2.
NSD:FFFFFFFFD9BCE99BD0 53D1D087 000029F3 00400050 66000000 }S(S)NNPN@NNNN.
NSD:FFFFFFFFD9BCE99BE0 646E6962 203A7265 6E617274 74636173 binder:utransac
NSD:FFFFFFFFD9BCE99BF0 206E6F69 656C6572 20657361 30383631 ionureleaseu168
NSD:FFFFFFFFD9BCE99C00 34323539 61622032 61682064 656C646E 95242ubaduhandl
NSD:FFFFFFFFD9BCE99C10 38303120 72202C39 3D207465 32322D20 u1089,uretu=u-2.
NSD:FFFFFFFFD9BCE99C20 53D1DE91 000029F3 00400050 66000000 }S(S)NNPN@NNNN.
NSD:FFFFFFFFD9BCE99C30 646E6962 203A7265 6E617274 74636173 binder:utransac
```

log\_buf+console\_idx:下一条打印的log所在的起始地址,  
前一条log就是栈里的log

address	0	4	8	C	0123456789ABCDEF
NSD:FFFFFFFFD9BCEAF030	63373120	30303031	63712E30	772C6D6F	u17c10000.qcom,w
NSD:FFFFFFFFD9BCEAF040	203A7464	63746157	676F6468	73616C20	dt:u.Watchdog,las
NSD:FFFFFFFFD9BCEAF050	65702074	74612074	31363420	362E3032	t.petu46120.6
NSD:FFFFFFFFD9BCEAF060	39393232	42555334	54535953	703D4D45	22994SUBSYSTEM=p
NSD:FFFFFFFFD9BCEAF070	6674616C	006D726F	49564544	283D4543	latformatNDEVICE=+
NSD:FFFFFFFFD9BCEAF080	74616C70	6D726F66	6337313A	30303031	platform:17c100C
NSD:FFFFFFFFD9BCEAF090	63712E30	772C6D6F	00007464	DB055517	0.qcom,wdtNUEQ
NSD:FFFFFFFFD9BCEAF0A0	000029F4	003F0084	C6000035	5F6D736D	f)NNNN?N5NNsmm_
NSD:FFFFFFFFD9BCEAF0B0	63746177	676F6468	63373120	30303031	watchdog.17c100C
NSD:FFFFFFFFD9BCEAF0C0	63712E30	772C6D6F	203A7464	20757063	0.qcom,wdt:ucpu
NSD:FFFFFFFFD9BCEAF0D0	76696C61	616D2065	66206B73	206D6F72	aliveumaskufromu
NSD:FFFFFFFFD9BCEAF0E0	7473616C	74657020	53666620	59534255	lastupetu.fSUBSY
NSD:FFFFFFFFD9BCEAF0F0	4D455453	616C703D	726F6674	4544006D	STEM=platformNDE
NSD:FFFFFFFFD9BCEAF100	45434956	6C702B3D	6F667461	313A6D72	VICE=+platform:1
NSD:FFFFFFFFD9BCEAF110	30316337	2E303030	6D6F6371	7464772C	7c10000.qcom,wdt
NSD:FFFFFFFFD9BCEAF120	3A33305B	343A3335	38382E36	38323136	[03:53:46.886128
NSD:FFFFFFFFD9BCEAF130	6C77205D	203A6E61	203A305B	45523A45	]uwan:u[0:uE:RE
NSD:FFFFFFFFD9BCEAF140	414C5547	59524F54	6572205D	65675F67	GIIATORYI..reg af

log\_buf+log\_next\_idx:下一条添加的log所在的起始地址,  
如果printk\_log完整的话, 这里其实也是dmesg的第一条log地址,  
如果printk\_log不完整的话, 再下一条是dmesg的第一条log  
前一条log是watchdog的信息

```
[45876.442089] [soft_irq] [0xd364e9df4c] [03:53:46.886151] wlan: [0: E:REGULATORY] reg_get_chan_enum: 864: invalid channel number 106
[45876.442115] [soft_irq] [0xd364e9e13b] [03:53:46.886177] wlan: [0: E:REGULATORY] reg_get_chan_enum: 864: invalid channel number 106
[45876.442140] [soft_irq] [0xd364e9e315] [03:53:46.886201] wlan: [0: E:REGULATORY] reg_get_chan_enum: 864: invalid channel number 106
[45876.442164] [soft_irq] [0xd364e9e4e4] [03:53:46.886225] wlan: [0: E:REGULATORY] reg_get_chan_enum: 864: invalid channel number 122
```

```
NSD:FFFFFFFFD9BCEAF0F0 4D455453 616C703D 726F6674 4544006D STEM=platformNDE
NSD:FFFFFFFFD9BCEAF100 45434956 6C702B3D 6F667461 313A6D72 VICE=+platform:1
NSD:FFFFFFFFD9BCEAF110 30316337 2E303030 6D6F6371 7464772C 7c10000.qcom,wdt
NSD:FFFFFFFFD9BCEAF120 3A33305B 343A3335 38382E36 38323136 [03:53:46.886128
NSD:FFFFFFFFD9BCEAF130 6C77205D 203A6E61 203A305B 45523A45 ]uwan:u[0:uE:RE
NSD:FFFFFFFFD9BCEAF140 414C5547 59524F54 6572205D 65675F67 GULATORY]ureg ge
NSD:FFFFFFFFD9BCEAF150 68635F74 655F6E61 3A6D756E 34363820 t_chan_enum:u864
NSD:FFFFFFFFD9BCEAF160 6E69203A 696C6176 68632064 656E6E61 :uinvalidchanne
NSD:FFFFFFFFD9BCEAF170 756E206C 7265626D 36303120 7108C843 lunumberu106C8c
NSD:FFFFFFFFD9BCEAF180 000029B9 00740084 C6000000 666F7358 }NNNN+NNNN[sof
NSD:FFFFFFFFD9BCEAF190 72695F74 305B5D71 36336478 64396534 t_irq] [0xd364e9c
NSD:FFFFFFFFD9BCEAF1A0 5D633466 3A33305B 343A3335 38382E36 f4c] [03:53:46.88
NSD:FFFFFFFFD9BCEAF1B0 31353136 6C77205D 203A6E61 203A305B 6151]uwan:u[0:u
NSD:FFFFFFFFD9BCEAF1C0 45523A45 414C5547 59524F54 6572205D E:REGULATORY]ure
NSD:FFFFFFFFD9BCEAF1D0 65675F67 68635F74 655F6E61 3A6D756E g_get_chan_enum:
NSD:FFFFFFFFD9BCEAF1E0 34363820 6E69203A 696C6176 68632064 u864:uinvalidch
NSD:FFFFFFFFD9BCEAF1F0 656E6E61 756E206C 7265626D 36303120 annelunumberu106
NSD:FFFFFFFFD9BCEAF200 71092ECD 000029B9 00740084 C6000000 C.Hg)NNNN+NNNG
```

# 场景

time

线程A

线程B (其他CPU)

数据拷贝到log\_buf, log\_next\_seq+1

数据拷贝到log\_buf, log\_next\_seq+1

数据拷贝到log\_buf, log\_next\_seq+1

数据拷贝到log\_buf, log\_next\_seq+1

在while循环里一直调用printk

console\_seq==log\_next\_seq跳出循环

从log\_buf取出数据, console\_seq+1

调用串口驱动输出

串口输出的过程中被抢占，  
如果msm\_watchdog线程刚好运行在这个cpu  
那么需要等待所有log打印完才会被调度。  
由于串口速率较低，大量log输出比较耗时，  
就会导致不能及时喂狗