

组会报告

徐益

2018 年 7 月 2 日

1 工作内容

1. 去除原编解码-DPDK 系统中 buff 缓存模块
2. 试图解决丢包后系统崩溃问题

2 去除 buff 缓存模块的编解码-DPDK 系统

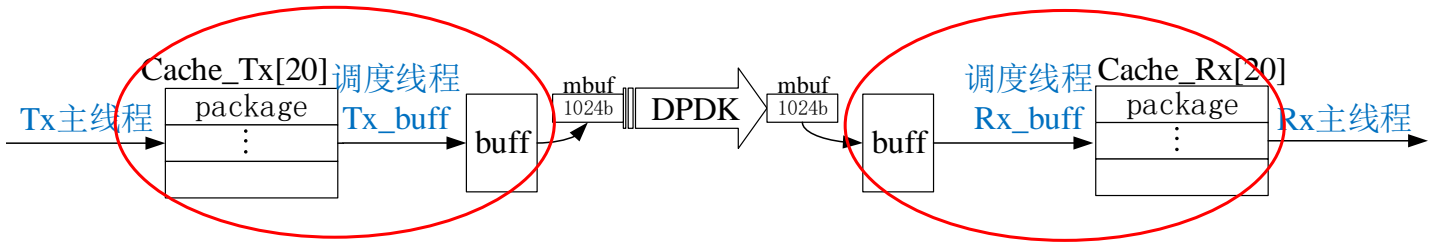


图 1: 原分块传输系统

Package_tx:
tbs:8×4bit
CQI:8×4bit
SNR:1×4bit
y:1200×8×14×8bit
data[0]:1200×6×12×1bit
...
data[7]:1200×6×12×1bit

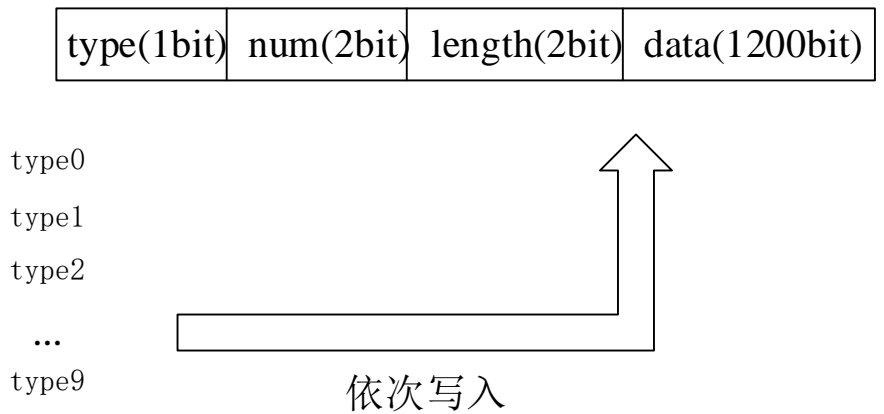


图 2: package_tx 与传输块结构

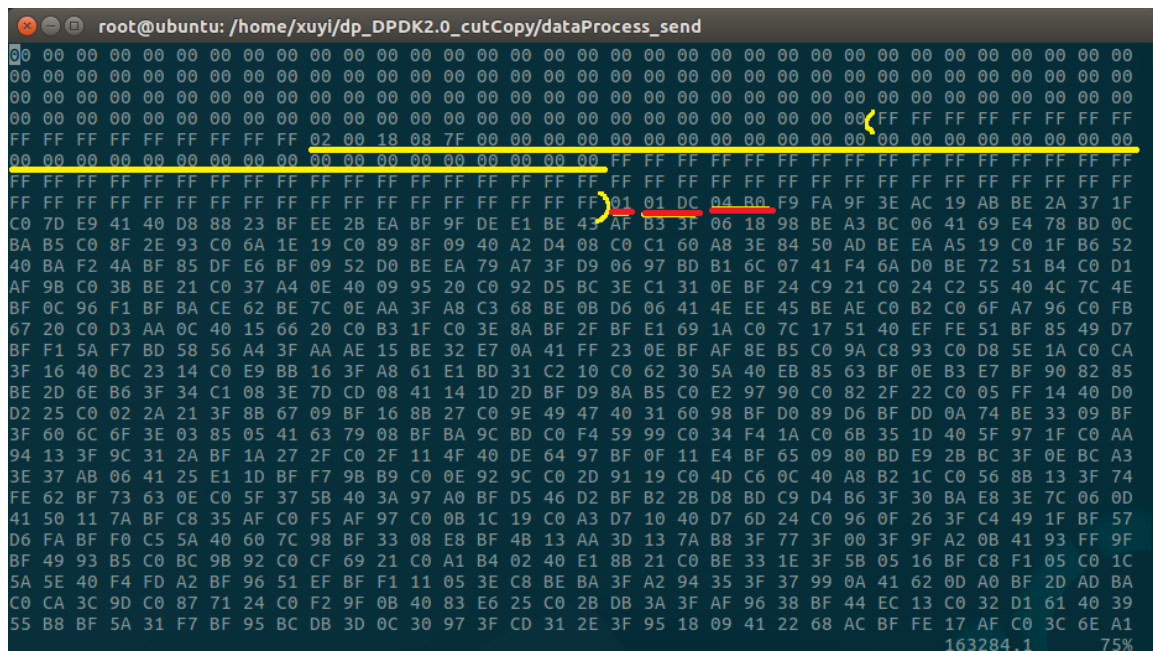


图 5: DPDK 发送时出现错误

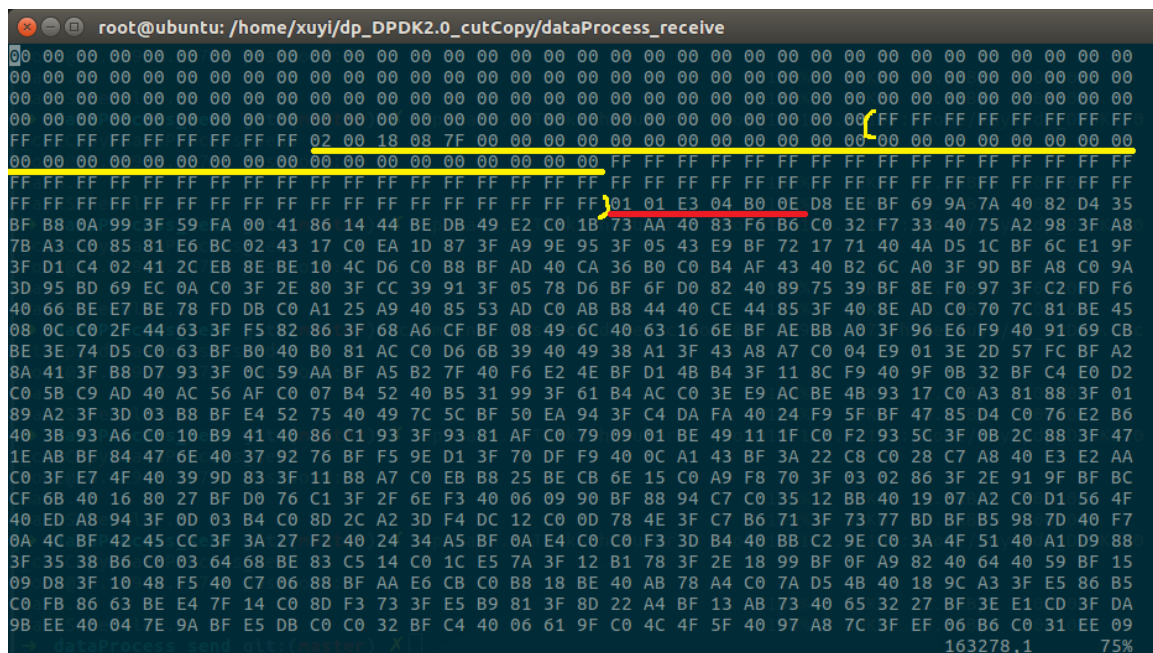


图 6: DPDK 接收时出现更多错误

方案二: 检测到误报仅丢弃误报本身

```
root@ubuntu: /home/xuyi/dp_DPDK2.0_cutCopy/dataProcess_receive
-----No.1-100-----
-----Block Error statistics(SNR 15.00)-----
Block error : 1.000000(800/800)
Layer 0 Block error : 1.000000(100/100)
Layer 1 Block error : 1.000000(100/100)
Layer 2 Block error : 1.000000(100/100)
Layer 3 Block error : 1.000000(100/100)
Layer 4 Block error : 1.000000(100/100)
Layer 5 Block error : 1.000000(100/100)
Layer 6 Block error : 1.000000(100/100)
Layer 7 Block error : 1.000000(100/100)
-----Bits Error statistics(SNR 15.00)-----
Bits error : 0.101192(6473034/63968000)
Layer 0 Bits error : 0.074695(597263/7996000)
Layer 1 Bits error : 0.106115(848494/7996000)
Layer 2 Bits error : 0.078314(626198/7996000)
Layer 3 Bits error : 0.085558(684122/7996000)
Layer 4 Bits error : 0.075434(603171/7996000)
Layer 5 Bits error : 0.071012(567809/7996000)
Layer 6 Bits error : 0.135162(1080756/7996000)
Layer 7 Bits error : 0.183244(1465221/7996000)
-----RX : Time statistics-----
Amount of information : 61.0046 Mbit
RX time : 7.3337 s
Throughput : 8.3184 Mbps
CNT:104,tx_write:0,tx_read:0,rx_write:5,rx_read:4
      start_tx:0,ready_tx:0,start_rx:19,ready_rx:21,empty:0
CNT:105,tx_write:0,tx_read:0,rx_write:6,rx_read:5
```

图 7: 方案二结果

4 仍存在的问题

丢包问题严重:

平均每 1000 各包就会存在一次丢包

原因未知

```
root@ubuntu: /home/xuyi/dp_DPDK2.0_cutCopy/dataProcess_send
Port statistics =====
Statistics for port 0 -----
Packets sent:          252565
Packets received:      252065
Packets dropped:        0
Aggregate statistics =====
Total packets sent:    252565
Total packets received: 252065
Total packets dropped: 0
=====
root@ubuntu: /home/xuyi/dp_DPDK2.0_cutCopy/dataProcess_send#
```

图 8: 发送端结果

```
root@ubuntu: /home/xuyi/dp_DPDk2.0_cutCopy/dataProcess_receive

Port statistics =====
Statistics for port 0 -----
Packets sent:                252304
Packets received:            252304
Packets dropped:              0
Aggregate statistics =====
Total packets sent:          252304
Total packets received:      252304
Total packets dropped:        0
=====
root@ubuntu: /home/xuyi/dp_DPDk2.0_cutCopy/dataProcess_receive#
```

图 9: 接收端结果

5 下阶段计划

尝试理解丢包、误包原因并解决。