

组会报告

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1 本周工作内容

1. 实现基于 DPDK 传输的 LTE 编码调制仿真系统
2. 实现基于令牌的流量控制模块

2 实现基于 DPDK 传输的 LTE 编码调制仿真系统

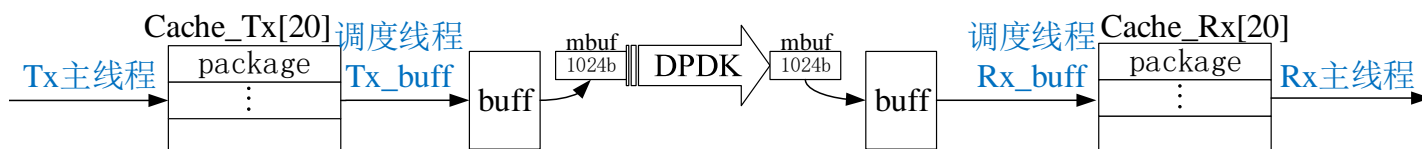


图 1: 分块传输系统

2.1 实现过程中的问题

1. 无法接收部分包

```
root@ubuntu: /home/xuyi/dataProcess_send

Port statistics =====
Statistics for port 0 -----
Packets sent: 11
Packets received: 10
Packets dropped: 0
Aggregate statistics =====
Total packets sent: 11
Total packets received: 10
Total packets dropped: 0
=====
root@ubuntu: /home/xuyi/dataProcess_send#
```

图 2: 无法接收部分包


```
root@ubuntu: /home/xuyi/dataProcess_receive
tdec[0]:12407
tdec[1]:0
tdec[2]:0
tdec[3]:0
tdec[4]:0
tdec[5]:0
tdec[6]:0
tdec[7]:0
tdec[8]:0
tdec[9]:0
tdec[10]:0
tdec[11]:0
tdec[12]:0
tdec[13]:0
tdec[14]:0
tdec[15]:0
tdec[16]:0
tdec[17]:0
tdec[18]:0
tdec[19]:0
tdec[20]:0
tdec[21]:0
tdec[22]:0
55,1 0%
```

图 5: 速率匹配错误

```
1 void srslte_rm_turbo_gentables();
```

2.2 实现结果

```
root@ubuntu: /home/xuyi/dataProcess_send
Port statistics =====
Statistics for port 0 -----
Packets sent:                256320
Packets received:            8009
Packets dropped:              0
Aggregate statistics =====
Total packets sent:          256320
Total packets received:      8009
Total packets dropped:        0
=====
root@ubuntu: /home/xuyi/dataProcess_send#

root@ubuntu: /home/xuyi/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 : 0.200045(12796467/63968000)
Layer 0 Bits error : 0.119829(958155/7996000)
Layer 1 Bits error : 0.208272(1665342/7996000)
Layer 2 Bits error : 0.146765(1173529/7996000)
Layer 3 Bits error : 0.164037(1311643/7996000)
Layer 4 Bits error : 0.131531(1051724/7996000)
Layer 5 Bits error : 0.136640(1092575/7996000)
Layer 6 Bits error : 0.276484(2210768/7996000)
Layer 7 Bits error : 0.416800(3332731/7996000)
-----RX : Time statistics-----
Amount of information : 61.0046 Mbit
RX time : 9.2112 s
Throughput : 6.6229 Mbps
```

图 6: 接收端服务器显示

3 实现基于令牌的流量控制模块

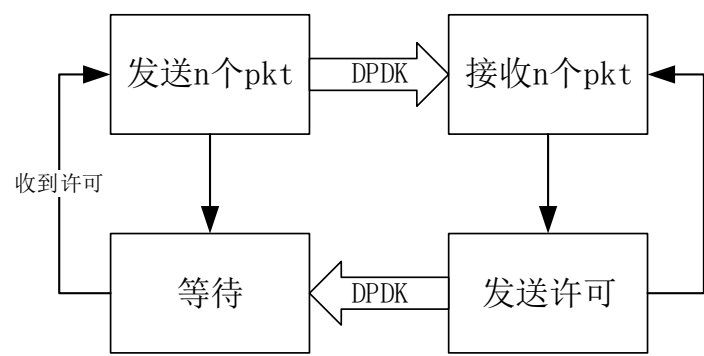


图 7: 原流量控制系统

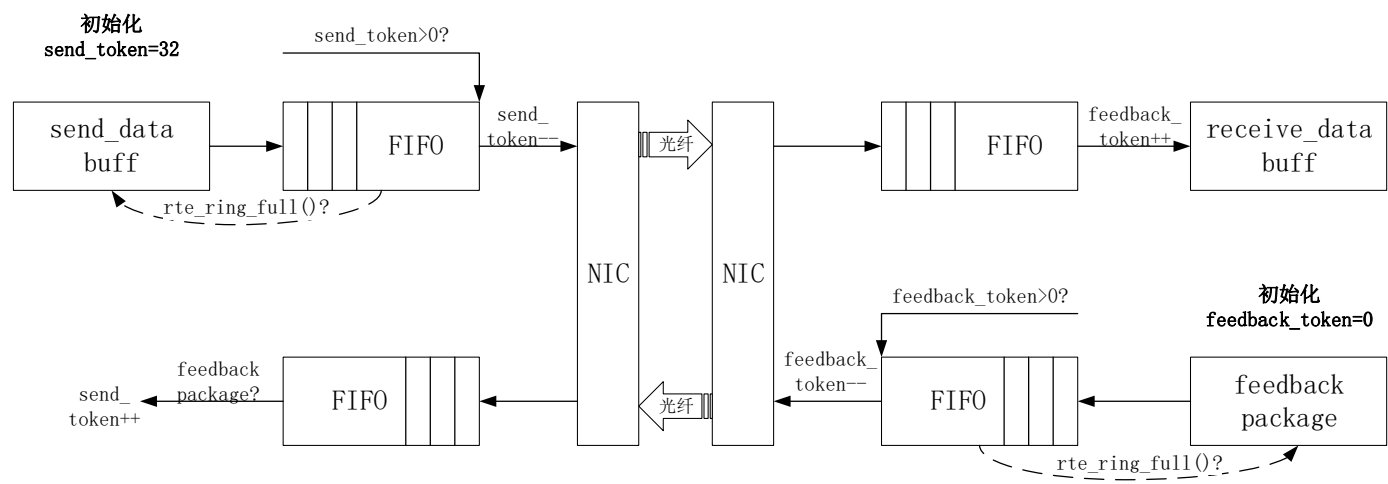


图 8: 基于令牌的流量控制系统

4 仍存在的问题

1. 内存溢出错误

```
root@ubuntu: /home/xuyi/dataProcess_receive

Port statistics =====
Statistics for port 0 -----
Packets sent:                214
Packets received:            54672
Packets dropped:              0
Aggregate statistics =====
Total packets sent:          214
Total packets received:      54672
Total packets dropped:        0
=====
57
send_rate= 0.000031 Gb
receive_rate= 0.007857 Gb
CNT:32,tx_write:0,tx_read:0,rx_write:12,rx_read:11
      start_tx:0,ready_tx:0,start_rx:1,ready_rx:1,empty:1
Segmentation fault (core dumped)
root@ubuntu: /home/xuyi/dataProcess_receive#
```

图 9: 内存溢出报错

2. 拷贝过程的简化

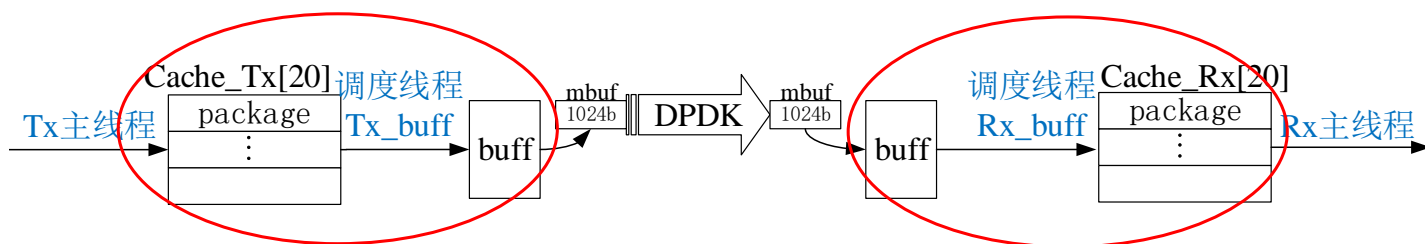


图 10: 分块传输系统

5 下周计划

1. 解决内存溢出错误
2. 实现拷贝过程的简化
3. 期末复习