

1. 测试环境

测试固件: RP0075-1FF9_LED_disable_arp_83120010.img

测试平台: NF5280M6, BMC4.19.06, BIOS6.00.02

测试系统: centos7.7, 内核: 3.10.0-1062.el7.x86_64

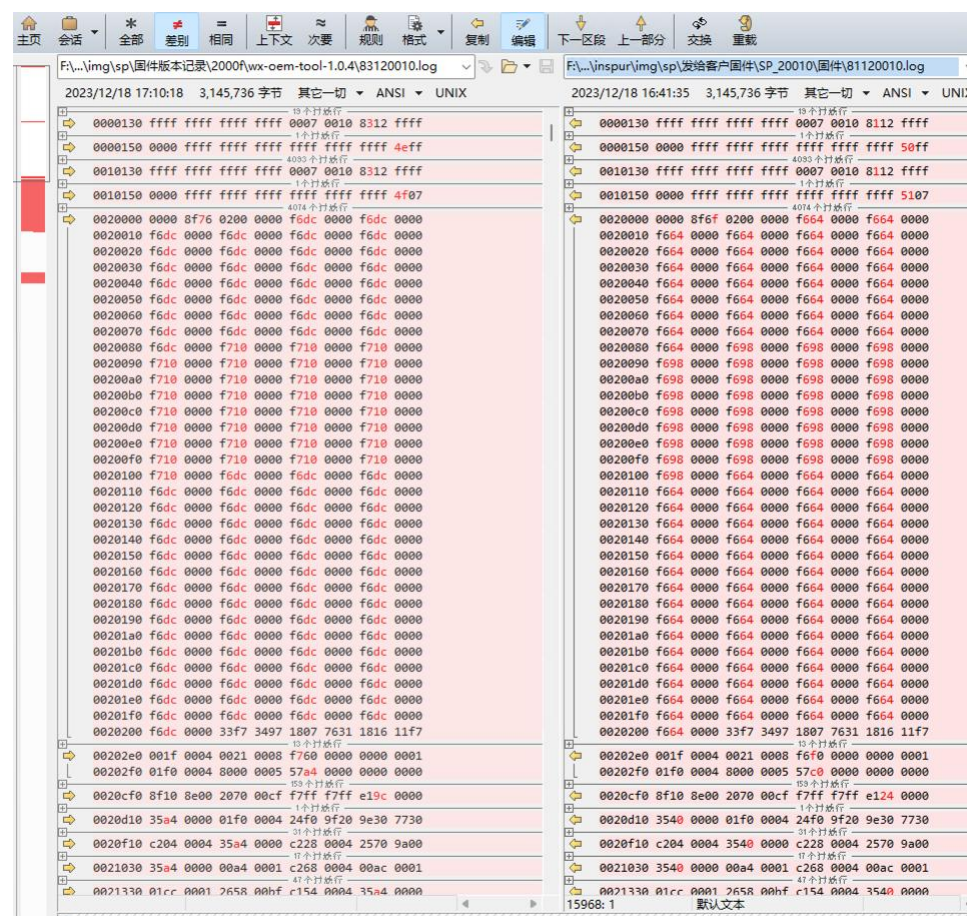
测试驱动: txgbe-1.3.5.1, txgbe-1.3.5-20231101

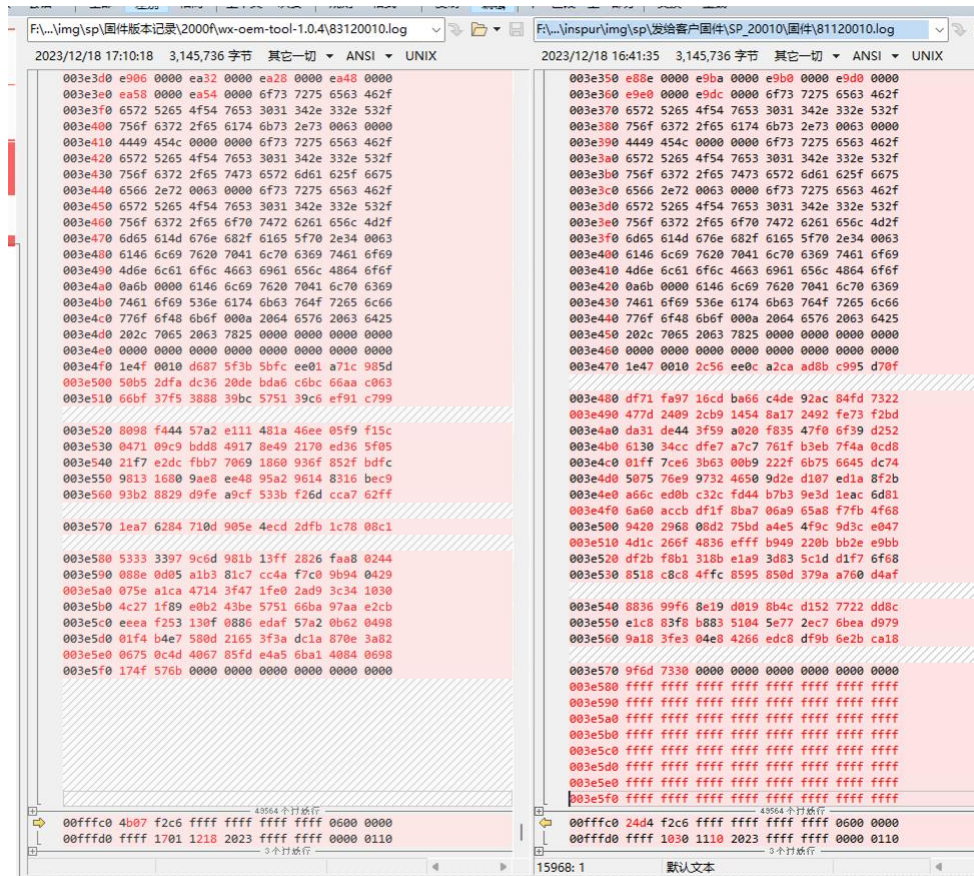
MD5 值:

c66933b9e95e087512a991b13deaa6d5 RP0075-1FF9_LED_disable_arp_83120010.img

2. 测试用例

2.1 固件 img 检查





```
[root@localhost ~]#  
[root@localhost ~]# lspe -d 8088: -nm  
01:00.0 "0200" "8088" "0101" -r01 "8088" "c201"  
01:00.1 "0200" "8088" "0101" -r01 "8088" "c201"  
02:00.0 "0200" "8088" "1001" -r03 "1ff9" "0075"  
02:00.1 "0200" "8088" "1001" -r03 "1ff9" "0075"  
[root@localhost ~]#  
[root@localhost ~]#  
[root@localhost ~]# ethtool -i p12p1  
driver: txgbe  
version: 1.3.5-20231101  
firmware-version: 0x83120010  
expansion-rom-version:  
bus-info: 0000:02:00.0  
supports-statistics: yes  
supports-test: yes  
supports-eprom-access: yes  
supports-register-dump: yes  
supports-priv-flags: yes  
[root@localhost ~]#
```

```

[root@localhost ~]# lspci -s 02:00.0 -vvv
02:00.0 Ethernet controller: Beijing Wangxun Technology Co., Ltd. Ethernet Controller RP1000 for 10GbE SFP+ (rev 03)
Subsystem: Device 1ff9:0075
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx+
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-
Latency: 0
Interrupt: pin A routed to IRQ 89
NUMA node: 0
Region 0: Memory at ec900000 (64-bit, non-prefetchable) [size=128K]
Region 4: Memory at ec940000 (64-bit, non-prefetchable) [size=16K]
Expansion ROM at ec800000 [disabled] [size=512K]
Capabilities: [40] Power Management version 3
Flags: PMEClk- DSI- D1- D2- AuxCurrent=375mA PME(D0+,D1-,D2-,D3hot+,D3cold-)
Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-
Capabilities: [50] MSI: Enable- Count=1/1 Maskable+ 64bit+
Address: 0000000000000000 Data: 0000
Masking: 00000000 Pending: 00000000
Capabilities: [70] Express (v2) Endpoint, MSI 00
DevCap: MaxPayload 512 bytes, PhantFunc 0, Latency L0s unlimited, L1 unlimited
ExtTag+ AttnBtn- AttnInd- PwrInd- RBE+ FLReset+ SlotPowerLimit 0.000W
DevCtl: CorrErr+ NonFatalErr+ FatalErr+ UnsupReq-
RlxdOrd+ ExtTag+ PhantFunc- AuxPwr- NoSnoop+ FLReset-
MaxPayload 512 bytes, MaxReadReq 256 bytes
DevSta: CorrErr+ NonFatalErr- FatalErr- UnsupReq+ AuxPwr- TransPend-
LnkCap: Port #0, Speed 8GT/s, Width x8, ASPM L0s L1, Exit Latency L0s <512ns, L1 <4us
ClockPM- Surprise- LLActRep- BwNot- ASPMOptComp+
LnkCtl: ASPM Disabled, RCB 64 bytes Disabled- CommClk+
ExtSynch- ClockPM- AutWidDis- BWInt- AutBWInt-
LnkSta: Speed 8GT/s (ok), Width x4 (downgraded)
TrErr- Train- SlotClk+ DLActive- BWMgmt- ABWMgmt-
DevCap2: Completion Timeout: Not Supported, TimeoutDis+, LTR-, OBFF Not Supported
AtomicOpsCap: 32bit- 64bit- 128bitCAS-
DevCtl2: Completion Timeout: 50us to 50ms, TimeoutDis+, LTR-, OBFF Disabled
AtomicOpsCtl: ReqEn-
LnkCtl2: Target Link Speed: 8GT/s, EnterCompliance- SpeedDis-
Transmit Margin: Normal Operating Range, EnterModifiedCompliance- ComplianceSOS-
Compliance De-emphasis: -6dB
LnkSta2: Current De-emphasis Level: -3.5dB, EqualizationComplete+, EqualizationPhase1+
EqualizationPhase2+, EqualizationPhase3+, LinkEqualizationRequest-
Capabilities: [b0] MSI-X: Enable+ Count=64 Masked-
Vector table: BAR=4 offset=00000000
PBA: BAR=4 offset=00002000
Capabilities: [d0] Vital Product Data
Product Name: Ethernet Adapter ENPW1101-SP2 for 10GbE, Wangxun SP1000A Controller
Read-only fields:
[PN] Part number: YZNC-03255-109
[SN] Serial number: SN-123456
[RV] Reserved: checksum good, 4 byte(s) reserved
End
Capabilities: [100 v2] Advanced Error Reporting
UESta: DLP- SDES- TLP- FCP- CmpltTO- CmpltAbrt- UnxCmplt- RxOF- MalfTLP- ECRC- UnsupReq- ACSViol-
UEMsk: DLP- SDES- TLP- FCP- CmpltTO- CmpltAbrt- UnxCmplt- RxOF- MalfTLP- ECRC- UnsupReq- ACSViol-

```


2.2 烧录测试

```
[root@localhost ~]# ./wxtool -F dc/RP0075-1FF9_LED_disable_arp_83120010.img -T
Please Select which kind of NIC to upgrade:
  1. 1000M_nics_1ports
  2. 1000M_nics_2ports
  3. 1000M_nics_4ports
  4. 10_Gigabit_nics
please input choose number: 4
SIG_FILE:dc/RP0075-1FF9_LED_disable_arp_83120010.sig

FILE SHA256 sum:
fb3a4f3380ab4a5cab9c69deec5d65a84016ad819a217a5855c4398641dbcb0  dc/RP0075-1FF9_LED_disable_arp_83120010.sig
518327c88524d988f44c14a0051436a7d54e80678cd6f70ea78c962d6673d9d7  dc/RP0075-1FF9_LED_disable_arp_83120010.img

Verified OK

Raptor PCI Utils tool is started.
We will download 1 in 1 cards depends on the configuration.

flash write-protect register val : 0
Start to download No.0 adaptor card [ 01:00.0 ]:
Old: MAC Address0 is: 3009f9257365
    MAC Address1 is: 3009f9257366
    SN is: ffffffffffffffff

vpd_sn_change_t
id_str: Ethernet Adapter ENPW1101-SP2 for 10GbE, Wangxun SP1000A Controller
pn_str: YZNC-03255-109
sn_str: ffffffffffffffff
Erase sector1 command, return status = 0
Start to erase flash ..... complete 100%
Start to download image to adaptor ..... complete 99%
lan0 - 0x18036 : 1804 - 0x18037 : 0050
lan0 : main: 24 - pre: 4 - post: 16
lan1 - 0x18036 : 1804 - 0x18037 : 0050
lan1 : main: 24 - pre: 4 - post: 16
New: MAC Address0 is: 0x3009f9257365
    MAC Address1 is: 0x3009f9257366
    SN is: ffffffffffffffff

Download Complete 100
[ ^_^ ] Raptor PCI Utils upgrading is succeeded! 1 cards are upgraded!!

[root@localhost ~]# poweroff
```

2.3 LLDP

1. 烧录固件后，LLDP 状态默认 off，可以设置 on/off
2. 当网口 lldp 为 on 时，会发送 lldp 报文，对端 lldp 为 off 时可以收到对应的 lldp 报文；而 lldp 为 on 时 lldp 报文被固件过滤掉，无法抓到
3. os 下 ifconfig 临时修改所有网口 mac 地址，查看 LLDP 报文源 mac 地址没有跟随改变，对端使用 tcpdump 抓到的 LLDP 报文，源 mac 地址一直都是默认的地址。

```
[root@localhost ~]# ifconfig ens9f1 hw ether 02:03:02:03:05:04
[root@localhost ~]# ifconfig ens9f1
ens9f1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 02:03:02:03:05:04 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
[root@localhost ~]# tcpdump -tni ens9f1 ether proto 0x88cc
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode
listening on ens9f1, link-type EN10MB (Ethernet), capture size 262144 bytes
02:02:03:04:05:06 > 30:09:f9:25:73:66, ethertype LLDP (0x88cc), length 60: LLDP, length 46: Wangxun_SP_firmware
02:02:03:04:05:06 > 30:09:f9:25:73:66, ethertype LLDP (0x88cc), length 60: LLDP, length 46: Wangxun_SP_firmware
```

4. lldp on/off 时, iperf 测试无异常。

2.4 SMBUS

ncsi command 测试见测试脚本和测试脚本日志

2.5 pxe 测试

legacy 安装 os 测试 ok

undi 安装 os 测试 ok, bios 点灯闪烁测试, 速率灯闪烁

2.6 模块测试:

光模块, AOC 模块, 光转电三种模块在 undi, legacy, txgbe 下都能 link 使用。