ERPS Debugging Steps

1. **Configs order should be proper.**
   1. ECFM Configs.
   2. Create Data VSI alone(do not map vep ports).
   3. ERPS Ring configs.
   4. Map Datavep ports to Data VSI.
   5. ERPS group active.
2. **After configuration, Ring must be in Idle state.**
   1. iss# sh ap ring | grep State

Ring State : Idle

P1—ingress, egressed(0)—unblock, egress(1)--blcoked

1. **To check DataVep ports state in hardware.**
   1. Enable “debug failover +” during ERPS configs.
   2. And get the EgressFailover Id(which is negative value)

API: bcm\_failover\_set(0,1610612992,1) -> 0 Ok 🡪IngressFailoverId

API: bcm\_failover\_set(0,-2147483647,0) -> 0 Ok 🡪EgressFailoverId

API: bcm\_failover\_set(0,1610613248,0) -> 0 Ok

API: bcm\_failover\_set(0,-2147483646,1) -> 0 Ok

0 🡪 Forwarding 1🡪Discarding

* 1. Also in vsiminp.c, can print LIF, EgressFailoverId in bcm\_vlan\_port\_create().
  2. In CINT, we can check as below.

iss(config)# hw

iss(config-hw)# hw "c"

cint> int mode;

cint> print bcm\_failover\_get(0,-2147483646,&mode);

int $$ = 0 (0x0)

cint> print mode;

int mode = 1 (0x1)

cint> print bcm\_failover\_get(0,-2147483647,&mode);

int $$ = 0 (0x0)

cint> print mode;

int mode = 0 (0x0)

cint>

1. **When shut of unblocked ports, Ring state will be Protection**

iss# sh ap ring| grep State

Ring State : Protection

1. **On no-shut of ports, Ring will be moving from Protection-Pending To Idle State.**
2. **To check filter dump and filter action of ports.**
   1. In CINT, do as follow

iss(config)# hw

iss(config-hw)# hw "c"

**cint> bcm\_field\_group\_dump(0,10);**

From this dump , can identify entry id (APS filter 01:A7)

Entry 160

Flags = 00000007

+USED +IN\_HW +WANT\_HW -upd -chg -new -sta

Group = 10

Priority = 2147483647

Prev/Next = 146 / 161

HW entry ID = 00000069

HW priority = 7FFFFFFF

Qualifiers:

DstMac (7) -> da (13)

01:19:A7:00:00:00/FF:FF:FF:FF:FF:00

00000119A7000000/0000FFFFFFFFFF00 (expected)

00000119A7000000/0000FFFFFFFFFF00 (actual)

Entry 161

Flags = 00000007

+USED +IN\_HW +WANT\_HW -upd -chg -new -sta

Group = 10

Priority = 2147483647

Prev/Next = 160 / 1

HW entry ID = 0000006A

HW priority = 7FFFFFFF

Qualifiers:

DstMac (7) -> da (13)

01:19:A7:00:00:00/FF:FF:FF:FF:FF:00

00000119A7000000/0000FFFFFFFFFF00 (expected)

00000119A7000000/0000FFFFFFFFFF00 (actual)

* 1. Print filter action using Entry Id.

**cint> bcm\_field\_entry\_dump(0,161);**

SrcPort (35) -> src\_syst\_port (85)

000A/FFFF 🡪p**ort10**

000000000000000A/000000000000FFFF (expected)

000000000000000A/000000000000FFFF (actual)

BCM actions:

Trap (251) 🡪Trap/Blocked state.

1600702A,00000000

PPD actions:

**cint> bcm\_field\_entry\_dump(0,160);**

OuterVlanId (18) -> vlan\_tag\_id (417)

064/FFF

0000000000000064/0000000000000FFF (expected)

0000000000000064/0000000000000FFF (actual)

BCM actions:

Snoop (255) Snoop/Forwarding state 🡪**Port11**

160370B8,00000000

PPD actions:

snp (4)

000003B8

1. **In RPL-OWNER/RPL-NEIGHBOR Nodes, following filters will be installed.**
   1. RPLOwner/Neighbor nodes will have one blocked and one unblocked ports.

Data Port Port Status

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acGi0/11.200 Blocked 🡪RPL Owner/Neighbor

acGi0/10.200 Unblocked

* 1. For port11 filter action as Trap and port10 filter action as Snoop will be installed.

1. **In Non-RPL Nodes, following filters will be installed.**
   1. In Non-RPL nodes, will have both unblocked ports.

Data Port Port Status

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acGi0/11.200 Unblocked

acGi0/10.200 Unblocked

* 1. Hence for port10 and port11 filter action will be snoop.