**Data collection MOP for San Francisco Issues –**

**Case SR616687347**

**Problem Identification**

The problem is seen with ATM E3 Line cards ( FRU: 4OC12/ATM-IR-SC) on the GSR-XR running Release 3.6.3.

Syslog will show affected Engine 3 LC Ingress reporting “PLIM error” followed by “Soft Error Recovery”. Then you will see the affected LC ATM sub-interfaces goes DOWN and stayed down. Error is reported by the “rx\_xmba” See below;

**Snippets from “show log”**

LC/0/11/CPU0:Jan 28 02:42:08.562 : **rx\_xbma[77]:** %L2-**E3INGRESSQ**-4-INTERRUPT : **PLIM error: reg 0x2000**

LC/0/11/CPU0:Jan 28 02:42:08.668 : hfa\_main[56]: %L2-PSE-6-INFO\_MSG : Info: **Invoking Soft**

**Error Recovery**

LC/0/11/CPU0:Jan 28 02:42:29.247 : ifmgr[162]: %PKT\_INFRA-LINK-3-UPDOWN : Interface **ATM0/11/0/0.201**, changed state to **Down**

LC/0/11/CPU0:Jan 28 02:42:29.248 : ifmgr[162]: %PKT\_INFRA-LINEPROTO-5-UPDOWN : Line protocol on Interface ATM0/11/0/0.201, changed state to Down

RP/0/7/CPU0:Jan 28 02:42:29.262 : pim[327]: %ROUTING-IPV4\_PIM-5-INTCHG : PIM interface AT0/11/0/0.201 DOWN

RP/0/7/CPU0:Jan 28 02:42:29.264 : pim[327]: %ROUTING-IPV4\_PIM-5-NBRCHG : PIM neighbor 165.87.147.97 DOWN on AT0/11/0/0.201 - interface state changed

RP/0/7/CPU0:Jan 28 02:42:29.268 : pim[327]: %ROUTING-IPV4\_PIM-5-NBRCHG : PIM neighbor 165.87.147.98 DOWN on AT0/11/0/0.201 - interface state changed

LC/0/11/CPU0:Jan 28 02:42:29.253 : ifmgr[162]: %PKT\_INFRA-LINK-3-UPDOWN : Interface **ATM0/11/0/0.202**, changed state to **Down**

LC/0/11/CPU0:Jan 28 02:42:29.255 : ifmgr[162]: %PKT\_INFRA-LINEPROTO-5-UPDOWN : Line protocol on Interface ATM0/11/0/0.202, changed state to Down

LC/0/11/CPU0:Jan 28 02:42:29.259 : ifmgr[162]: %PKT\_INFRA-LINK-3-UPDOWN : Interface **ATM0/11/0/0.203**, changed state to **Down**

RP/0/7/CPU0:Jan 28 02:42:29.308 : pim[327]: %ROUTING-IPV4\_PIM-5-INTCHG : PIM interface AT0/11/0/0.202 DOWN

RP/0/7/CPU0:Jan 28 02:42:29.313 : pim[327]: %ROUTING-IPV4\_PIM-5-NBRCHG : PIM neighbor 32.119.182.58 DOWN on AT0/11/0/0.202 - interface state changed

LC/0/11/CPU0:Jan 28 02:42:29.262 : ifmgr[162]: %PKT\_INFRA-LINEPROTO-5-UPDOWN : Line protocol on Interface ATM0/11/0/0.203, changed state to Down

RP/0/7/CPU0:Jan 28 02:42:29.320 : pim[327]: %ROUTING-IPV4\_PIM-5-NBRCHG : PIM neighbor 32.119.182.57 DOWN on AT0/11/0/0.202 - interface state changed

RP/0/7/CPU0:Jan 28 02:42:29.325 : pim[327]: %ROUTING-IPV4\_PIM-5-INTCHG : PIM interface AT0/11/0/0.203 DOWN

RP/0/7/CPU0:Jan 28 02:42:29.328 : pim[327]: %ROUTING-IPV4\_PIM-5-NBRCHG : PIM neighbor 32.119.182.66 DOWN on AT0/11/0/0.203 - interface state changed

RP/0/7/CPU0:Jan 28 02:42:29.331 : pim[327]: %ROUTING-IPV4\_PIM-5-NBRCHG : PIM neighbor 32.119.182.65 DOWN on AT0/11/0/0.203 - interface state changed

If the interface has OSPF & MPLS LDP, it will also go Down.

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RP/0/7/CPU0:Jan 28 02:42:29.266 : **ospf[318]: %ROUTING-OSPF-5-ADJCHG** : Process 50, Nbr 165.87.250.123 on **ATM0/11/0/0.201** in area 0.0.0.32 **from FULL to DOWN, Neighbor Down**: interface down or detached

RP/0/7/CPU0:Jan 28 02:42:29.291 **: mpls\_ldp[296]: %ROUTING-LDP-5-NBR\_CHANGE** : Neighbor 165.87.250.123:0, **DOWN (Interface state down)**

RP/0/7/CPU0:Jan 28 02:42:29.314 : **ospf[318]: %ROUTING-OSPF-5-ADJCHG** : Process 50, Nbr 165.87.250.87 on **ATM0/11/0/0.202** in area 0.0.0.32 **from FULL to DOWN, Neighbor Down**: interface down or detached

RP/0/7/CPU0:Jan 28 02:42:29.321 : **ospf[318]: %ROUTING-OSPF-5-ADJCHG** : Process 50, Nbr 165.87.250.97 on **ATM0/11/0/0.203** in area 0.0.0.32 **from FULL to DOWN, Neighbor Down**: interface down or detached

RP/0/7/CPU0:Jan 28 02:42:29.437 : **mpls\_ldp[296]: %ROUTING-LDP-5-NBR\_CHANGE** : Neighbor 165.87.250.87:0,

**DOWN** **(Interface state down)**

RP/0/7/CPU0:Jan 28 02:42:29.438 : **mpls\_ldp[296]: %ROUTING-LDP-5-NBR\_CHANGE** : Neighbor 165.87.250.97:0, **DOWN (Interface state down)**

**Data Collection Commands**

The following are the CLI commands to be executed to collect the data/traces

**show log <cr>**

**show platform <cr>**

**show install <cr> (in Admin mode)**

**show ip int brief <cr>**

**show interface <main interface> <cr> (capture 3 times 5-10 seconds apart)**

**show interface <sub-interface> <cr> (capture 3 times 5-10 seconds apart)**

**show controller atm <main interface> <cr> (capture 3 times 5-10 seconds apart)**

**show controller atm <interface> traffic port <cr> (capture 3 times 5-10 seconds apart)**

**show controller pse ingress stat loc <location of LC> <cr> (capture 3 times 5-10 seconds apart)**

**show controller fwd stats loc <location of LC> <cr>**

**show controller ingressq qmstats 0 loc <location of LC> <cr>**

Attach to LC to collect the following;

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**RP/0/4/cpu0:12K06-CE16# run attach <location of LC> <cr>**

**ksh-LC> hfa\_show –c <cr>**

*Showing Circular Buffer and Interrupt Signature*

*show\_cb:*

*ser\_comm\_area = 0x38229000, cb\_info = 0x38298000*

*Interrupts: HFA- 0 0 XBMA- 0 0 FIA- 0 0 PLIM- 0 0*

*Errors: HFA- 0 0 XBMA- 0 0 FIA- 0 0 PLIM- 0 0*

*Printing Interrupt Signature*

*0x0000 Slot# 3, pthread# 4 , @02/09 04:30:05.411 SER\_HFA\_RX: Interrupt*

*0x0001 Slot# 3, pthread# 4 , @02/09 04:57:22.677 SER\_HFA\_RX: Interrupt*

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**ksh-LC>**

**Capture the packet trace dump**

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**ksh-LC> cd /tmp <cr>**

**ksh-LC> more plim\_dump.txt <cr>**

*SDRAM maxlen overflow addr = 0xff7e7f*

*0x000000d300000000 0x1373631239352030*

*0x0000003000000000 0x0004002206030100*

*0x0000005000000000 0x0200086700080408*

*0x0000000000000000 0x000000030000400e*

*0x0000000000000000 0x0000000000000000*

*0x000000d300000000 0x1373634639312030*

*0x0000000300000000 0x0303030e206e0d0a*

*0x0000000300000000 0x0303030e31373835*

*0x000000a300000000 0x7362030030303030*

*0x000000e200000000 0x06e0d0a030303030*

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**ksh-LC>**

**Use dip tool to capture channel status & CPK data (for all 4 ports, one at a time)**

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**ksh-LC> dip\_atm <cr>**

*dip\_install\_server\_connection: connected to /dev/dip\_atm\_ifdisc*

*dip\_install\_server\_connection: connected to /dev/dip\_atm\_vcmea*

*dip\_install\_server\_connection: connected to /dev/dip\_atm\_atmdrv\_0*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_atmdrv\_1*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_atmdrv\_2*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_atmdrv\_3*

*dip\_install\_server\_connection: connected to /dev/dip\_atm\_oam*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_vcmma*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_ilmi*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_inarp*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_socket*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_netio*

*dip\_install\_server\_connection: could not connect to /dev/dip\_atm\_qosea*

*DIP %*

**DIP % gatm0 dad status –l0 <cr>** (capture 3 times 5-10 seconds apart for each port)   
*dip\_client:===> Processing ... gatm0 dad status -l0*

*=== CPK24 LINE 0 (Bay=0, Device=0, Channel=0) CHANNEL STATUS ===*

*DEVICE Status = OPEN Bus type = 16\_BIT\_MULTI\_BUS*

*Device base = 3b9ac000 Channel base = 3b9ac000*

*--- Ingress ----------------+------ Egress ---------------+----- CPU/RAM ----------------*

*SAR packet err: 0 | SOP packet err: 0 | CPU access err: 0*

*SAR parity err: 0 | SOP parity err: 0 | RAM access err: 0*

*SOP/EOP seq err: 0 | SOP/EOP seq err: 0 | SDRAM CRC err: 0*

*SOP timeout err: 0 | SAR timeout err: 0 | SSRAM parity err: 0*

*packet len err: 0 | SOP length err: 0 |*

*| bad CCRQ/CCI: 0 |*

*FIFO full: OFF | FIFO full: OFF | SDRAM almost full: OFF*

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*0 (0x0)*

**DIP % gatm0 dad status –l1 <cr>**

**DIP % gatm0 dad status –l2 <cr>**

**DIP % gatm0 dad status –l3 <cr>**

**DIP % gatm0 dad pm cpk –l0 <cr>** (capture 3 times 5-10 seconds apart for each port)

*dip\_client:===> Processing ... gatm0 dad pm cpk -l0*

*==== Port 0: Ingress === Egress ===*

*--------------------------------------------------------------*

*ATM arrive cell count = 0 AToM Arrive cell count = 70479*

*AToM depart cell count = 0 ATM Depart cell count = 70479*

*AToM depart packet count = 0 AToM Arrive packet count = 70479*

*AAL5 Arrive packet count = 127921 AAL5 Arrive cell count = 40164*

*AAL5 Depart packet count = 127921 AAL5 Depart cell count = 40164*

*Cell drop count = 0 AAL5 packet drop cell count = 0*

*0 (0x0)*

**DIP % gatm0 dad pm cpk –l1 <cr>**

**DIP % gatm0 dad pm cpk –l2 <cr>**

**DIP % gatm0 dad pm cpk –l3 <cr>**

**DIP % quit <cr>**

*dip\_client:===> Processing ... quit*

**ksh-LC> exit <cr>**

**RP/0/4/CPU0:ios#**