Troubleshoot SMAUG FPD "NOT READY" in NCS4K

Contents

Introduction

This document describes how to fix SMAUG – Field Programmable Device (FPD) "NOT READY" and the logs that need to be collected for Root Cause Analysis (RCA).

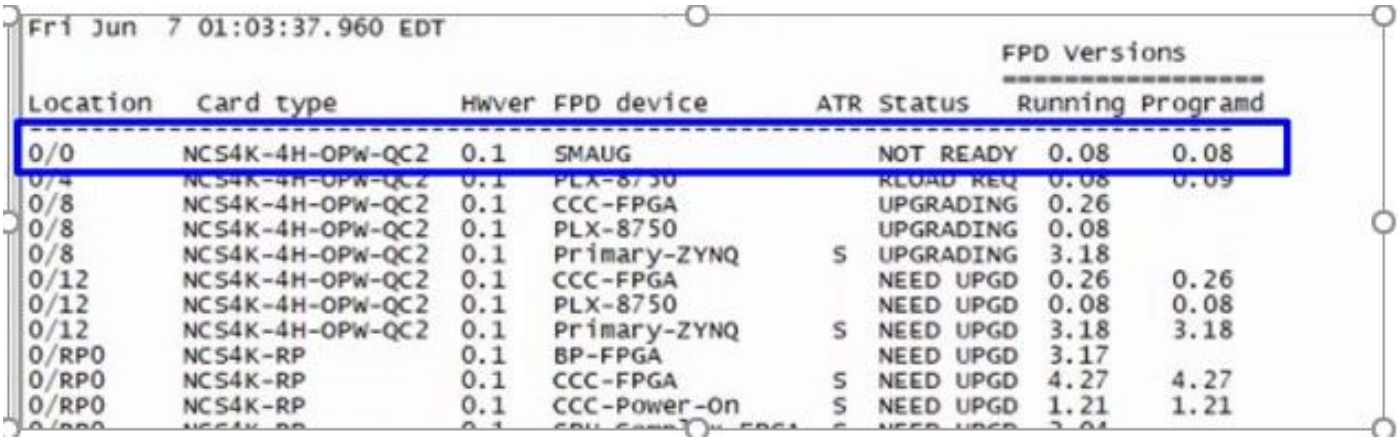
Troubleshoot "SMAUG FPD NOT READY" in NCS4K

Platform: NCS4K

Card: 400G Line card – NCS4K-4H-OPW-QC2

Probable Trigger: FPD upgrade and card reload, RP reload, or switch over

The issue is depicted here:



```
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                                                                FPD Versions
                                                                ================
Location   Card type        HWver FPD device       ATR Status    Running Programd
-------------------------------------------------------------------------------
0/0        NCS4K-4H-OPW-QC2  0.1   SMAUG                NOT READY  0.08     0.08
0/4        NCS4K-4H-OPW-QC2  0.1   PLX-8750             RLOAD REQ  0.08     0.09
0/8        NCS4K-4H-OPW-QC2  0.1   CCC-FPGA             UPGRADING  0.26
0/8        NCS4K-4H-OPW-QC2  0.1   PLX-8750             UPGRADING  0.08
0/8        NCS4K-4H-OPW-QC2  0.1   Primary-ZYNQ       S UPGRADING  3.18
0/12       NCS4K-4H-OPW-QC2  0.1   CCC-FPGA             NEED UPGD  0.26     0.26
0/12       NCS4K-4H-OPW-QC2  0.1   PLX-8750             NEED UPGD  0.08     0.08
0/12       NCS4K-4H-OPW-QC2  0.1   Primary-ZYNQ       S NEED UPGD  3.18     3.18
0/RP0      NCS4K-RP          0.1   BP-FPGA              NEED UPGD  3.17
0/RP0      NCS4K-RP          0.1   CCC-FPGA           S NEED UPGD  4.27     4.27
0/RP0      NCS4K-RP          0.1   CCC-Power-On       S NEED UPGD  1.21     1.21
0/RP0      NCS4K-RP          0.1   CPU Comm'n FPGA    S NEED UPGD  3.04
```

Problematic state is depicted

Logs to be collected:

- From XR: **show tech-support stat**andshow tech-support slice-manager
- From Admin: show tech-support slice-manager, show tech-support shelf_mgr,show tech-support ccc, show tech-support HBloss
- From the XR: dumpcore running grima_driver location <active LC>
- From the active LC get the traces for grima and dma. Perform the steps from XR Prompt.

```
#attach location 0/lc0

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[xr-vm_node0_LC0_CPU0:~]$ export PS1=#
```

```
#lspci -vd:8bec

#grima_ltrace_show -A

#nl_dma_ltrace_show -A
```

To recover the issue:

- From XR check for the process for grima_driver and slice_manager, then restart them for active LC location.

```
show processes grima_driver location <0/LC0 or 0/LC1 – active LC>

show processes slice_manager location <0/LC0 or 0/LC1 – active LC>

Process restart grima_driver location <active LC>

Process restart slice_manger location <active LC>
```

This must fix the issue in most cases.