Troubleshoot Flooding of Continuous Pause Frames in NCS 5500 Series

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Introduction

This document describes steps to troubleshoot and resolve continuous pause frame flooding issues on NCS 5500 Series devices.

Problem Description

Routers flooded with given logs:

```
LC/0/3/CPU0:Mar 20 17:11:50.360 UTC: fia_driver[303]: %PLATFORM-PFC_WATCHDOG-5-GLOBALPAUSE :
PFC watchdog detected global pause frames on interface HundredGigE0_3_0_24
```

What are pause frames and why is it a problem?

Pause frames are a mechanism used in network traffic control to temporarily halt data transmission when a receiving device is overloaded. However, excessive pause frames can significantly impact network performance.

Breakdown of this Error Message:


```
LC/0/3/CPU0:Mar 20 17:11:50.360 UTC: fia_driver[303]: %PLATFORM-PFC_WATCHDOG-5-GLOBALPAUSE :
PFC watchdog detected global pause frames on interface HundredGigE0_3_0_24
```


This log entry indicates that a specific event related to the Platform Forwarding Card (PFC) watchdog has been detected "global pause" frames on the specified interface.
Priority Flow Control: PFC is an enhancement to Ethernet flow control that provides pause frame

functionality based on priority.
Global Pause Frames: Global pause frames are pause frames that affect all priorities on the interface, effectively halting all traffic on the interface for a short period.
PFC watchdog: Monitors the state of PFC on the network interfaces. If it detects excessive use of pause frames, which can indicate congestion or misconfiguration, it logs an error.

How to identify the issue?

1. Verify if the given log is encountered and is continous.

```
LC/0/3/CPU0:Mar 20 17:11:50.360 UTC: fia_driver[303]: %PLATFORM-PFC_WATCHDOG-5-GLOBALPAUSE :
PFC watchdog detected global pause frames on interface HundredGigE0_3_0_24
```

2. Run show command three times to see the increase in Input pause frames output:

```
#show controllers <> all | i pause
```

If the value is increasing in order of more than 1M for 1min time frame then we are hitting this issue:

Sample Output:

```
#show controllers tenGigE 0/0/0/1 all | i pause
Fri Apr 24 07:39:29.282 UTC
Input pause frames = 990741176
Output pause frames = 0
```

Troubleshooting Steps

1. Check the interface status with **show interfaces HundredGigE0/3/0/24** command.
2. Check for Configuration Errors with show running-config interface HundredGigE0/3/0/24 command.
3. Physical Layer Troubleshooting: Verify that all physical connections, including cables and transceivers, are in good condition and properly connected.
4. Reset the Interface: As a last resort, you can try to reset the interface to see if that clears the condition. However, this causes a brief disruption in service, so it must be done with caution.