

Verify HW VoQ Programming on a Multichassis NCS4K

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Introduction

This document describes the procedure to verify Hardware (HW) Virtual Output Queueing (VoQ) programming on a multichassis NCS4K.

Procedure

This is a step-by-step approach to verify HW VoQ programming on NCS4K nodes.

Multichassis nodes in 6.5.26 release are potentially affected by [Cisco bug ID CSCvz41459](#), where VoQ is misprogrammed on the ingress Line Card (LC) Virtual Machine (VM).

Step 1. First, you need to check the ingress and egress interface for the traffic flow.

In this example, the ingress interface is TenGigE1/3/0/0/1.4001 (rack 1), and the egress interface is Hu0/9/0/11/2.4001 (rack 0). So, ingress and egress interfaces are on different racks, and you could potentially be affected by Distributed Defect Tracking System (DDTS) [Cisco bug ID CSCvz41459](#)

For example, see tunnel 117:

```
#show mpls forwarding tunnels 117 Wed Nov 9 13:15:47.159 UTC Tunnel Outgoing Outgoing Next Hop
Bytes Name Label Interface Switched -----
----- tt117 24764 Hu0/9/0/11/2.4001 172.16.13.170 0
```

Step 2. Check active LC VM in rack 0 and rack 1:

```
#show redundancy summary Wed Nov 9 13:16:59.309 UTC Active Node Standby Node -----
----- 1/LC0 1/LC1 (Node Ready, NSR:Not Configured) 0/RP1 1/RP0 (Node Ready, NSR:Ready) 0/RP0
1/RP1 (Node Ready, NSR:Not Configured) 0/LC0 0/LC1 (Node Ready, NSR:Not Configured)
```

In this example, 0/LC0 is an active VM in rack 0 and 1/LC0 is in rack 1.

Step 3. As a next step, check SysPort number for the egress interface in egress LC VM:

```
#show controllers npu voq-usage interface HundredGigE 0/9/0/11/2.4001 instance all location
0/lc0 Wed Nov 9 13:16:45.149 UTC -----
---- Node ID: 0/LC0 Intf Intf NPU NPU PP Sys VOQ Flow VOQ Port name handle # core Port Port base
base port speed (hex) type -----
```

```
- Hu0/9/0/11/2.4001 8000bd4 18 1 448 24655 1336 5152 local 100G Hu0/9/0/11/2.4001 8000bd4 0 0 0
24655 1144 0 remote 0M
```

In this case, SysPort is 24655 and VoQ base is 1336.

Step 4. Check the same SysPort on the ingress line card and ingress VM.

The command is:

```
show controllers fia diagshell <ingress Line card number> "dump
IRR_DESTINATION_TABLE <SysPort>" location <ingress LC VM>
```

For example:

```
#show controllers fia diagshell 3 "dump IRR_DESTINATION_TABLE 24655" location 1/lc0 Wed Nov 9
13:18:00.684 UTC Node ID: 1/LC0 IRR_DESTINATION_TABLE.IRR0[24655]:
<VALID_1=1,VALID_0=1,TC_PROFILE=0,QUEUE_NUMBER=0x538,ECC=0>
```

In this example, QUEUE_NUMBER is 0x538 in HEX, that is matching to your VoQ base 1336 (dec) from the previous output.

If you hit [Cisco bug ID CSCvz41459](#) the QUEUE_NUMBER is 0x1ffff.

For example:

```
#show controllers fia diagshell 3 "dump IRR_DESTINATION_TABLE 24655" location 1/LC0 Wed Nov 9
12:44:54.270 UTC Node ID: 1/LC0 IRR_DESTINATION_TABLE.IRR0[24655]:
<VALID_1=0,VALID_0=0,TC_PROFILE=0,QUEUE_NUMBER=0x1ffff,ECC=0>
```

Recovery Method

The recovery method for this issue is to remove the affected egress subinterface, and re-apply it back.

Do not forget to check the flow path in the reverse direction as well.