

## What is the latency of Sniffer10G v2/v3?

### Model:

Arc Series C Adapter (10G-PCIe2-8C2-2S)

### Software:

Sniffer version 2 & 3

### Operating System:

Supports both Linux and Windows

### Information:

The Sniffer10G datasheet states that:

“Low Latency- Sniffer10G adaptive packet coalescing enables very low latency during normal traffic conditions and limits actual latency during extreme traffic conditions. The worst case latency for standard (1500 byte) frames is 4 microseconds.”

The datasheet refers to receive latency when packet coalescing is turned off and some tuning is done on the system. Transmit latency is higher. The proper CPU power state must be set (the frequency high and the idle C-state to C1), and receive packet coalescing turned off (ethtool -C ethX rx-usecs 0) in order to attain the lowest possible latency. Setting rx-usecs to 0, however, means that full line rate for small packets will no longer be attainable.

We have an internal program, snf\_pingpong, which sends a packet via snf\_send () to a peer which is also running snf\_pingpong. The peer receives the packet and sends it back and the round trip is measured. Here are those results divided by 2 (HRT=Half Round Trip) for various packet sizes:

```
elapsed = 1034146 us, 5.17 per HRT (min:4.94, max:42.67), size 1
elapsed = 1033797 us, 5.17 per HRT (min:4.58, max:52.46), size 2
elapsed = 1033841 us, 5.17 per HRT (min:3.35, max:19.17), size 4
elapsed = 1036750 us, 5.18 per HRT (min:3.91, max:21.08), size 8
elapsed = 1038447 us, 5.19 per HRT (min:2.91, max:20.94), size 16
elapsed = 1040970 us, 5.20 per HRT (min:4.63, max:40.19), size 32
elapsed = 1047654 us, 5.24 per HRT (min:3.82, max:16.06), size 64
elapsed = 1075030 us, 5.38 per HRT (min:4.81, max:14.08), size 128
elapsed = 1121875 us, 5.61 per HRT (min:5.30, max:49.79), size 256
elapsed = 1207149 us, 6.04 per HRT (min:4.44, max:20.01), size 512
elapsed = 1441682 us, 7.21 per HRT (min:5.53, max:55.82), size 1024
elapsed = 1880280 us, 9.40 per HRT (min:7.07, max:20.99), size 2048
```

<b>Revision</b>	<b>Date</b>	<b>Change</b>
1	7/6/2016	Initial Draft
2	7/28/2016	Feedback

