

Why am I getting a difference in my system’s Read/Write Performance?

Model:

ARC Series C Adapter (10G-PCIE2-8C-2S & 10G-PCIE-8C-2S)

Software:

DBL, Myri10GE Drivers & Sniffer (version 3 and below)

Operating System:

MAC OS 10.9.5

Information:

Using a 10G-PCIE2-8B2-2S I am getting 700 MB/sec writes and 400 MB/sec reads. When using the same machine on the same volumes, everything being the same but using the 10G-PCIE-8B-2S I am getting 700 MB/sec writes and 200 MB/sec Reads. System is running MAC OS version 10.9.5 on a MAC pro 5.1.

The 8B2-2S cards have a PCIe switch from IDT. The IDT switch chip is a PCIe2 capable switch so it is providing a full bandwidth path for one 10Gb/s stream (PCIe2 x4). The IDT switch chip is effectively converting PCIe1 x8 into PCIe2 x4. Our LANai chip is a PCIe1 x8 chip which is equivalent in bandwidth to a device with PCIe2 x4. The 8B-S card is a single LANai chip card and it doesn't have a PCIe switch on it. It is only connecting as a PCIe1 x4 device so it loses almost half of its bandwidth. To get the full effective bandwidth of this single LANai chip card, it should use all lanes and be put in a slot with all 8 lanes available.

According to the MacPro 5.1 user guide it indicates that slot 1 and slot 2 are PCIe2x16 and slot 3 and slot 4 are PCIe2x4 electrically.

Revision:	Date:	Change:
1	6/23/2016	Initial Draft SF 2039
2	7/20/2016	Feedback

