UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

ROCK CREEK NETWORKS, LLC, Plaintiff v. **NVIDIA CORPORATION,** Defendant	**Case No. 6:21-cv-00**675 **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Rock Creek Networks, LLC ("Plaintiff" or "RCN") files this Complaint against Defendant Nvidia Corporation ("Nvidia" or "Defendant") for infringement of RCN's patent: U.S. Patent No. 6,671,750 (PX-750 attached).

THE PARTIES

1. Plaintiff and patent owner RCN is a Texas limited liability company with its headquarters and principal place of business in Waco, Texas.

2. On information and belief, Defendant Nvidia is a corporation organized under the laws of Delaware, with a place of business at 2788 San Tomas Expressway, Santa Clara, CA 95051.

3. Nvidia maintains a physical location in Austin, that, on information and

belief, is located at The Crossings at Lakeline, 11001 Lakeline Blvd. #100, Austin, Texas 78717.

JURISDICTION AND VENUE

4. This is a patent suit brought under the United States Patent Act, namely 35 U.S.C. §§ 271, 281, and 284-285, among other laws. This Court has subject-matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. NVIDIA, directly and/or through its subsidiaries and agents (including distributors, retailers, nvidia.com website, and/or others) purposefully and voluntarily places one or more of its infringing products into the stream of commerce with both the expectation and knowledge that those products will be purchased and used by consumers in the State of Texas and the Western District of Texas. NVIDIA, directly and/or through its subsidiaries and agents (including distributors, retailers, nvidia.com website, and/or others), offers for sale and sells products within the State of Texas and within the Western District of Texas that infringe the Asserted Patent. NVIDIA either itself and/or through the activities of its subsidiaries, makes, uses, sells, offers for sale, and/or imports throughout the United States, including within this District, products accused of infringement. NVIDIA provides a distribution channel of infringing products within this District and the U.S. nationally. NVIDIA has committed acts of patent infringement within the State of Texas and, more particularly, within Western District of Texas.

6. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b). Defendant has a physical location in this District, and markets, sells, and delivers accused products in this District, directs and instructs customers and end users how to use the accused products in this District, and has committed acts of infringement in this District.

NOTICE OF RCN'S PATENT

7. Plaintiff is the owner, by assignment, of U.S. Patent No. 6,671,750 (the "'750 Patent"), entitled LAN INTERFACE, which issued on December 30, 2003. A copy of the '750 Patent is attached hereto as Exhibit PX-750.

8. RCN possesses all rights of recovery under the Asserted Patents.

9. Defendant has been on notice of the '750 Patent at least as early as the date it received service of this complaint.

NVIDIA'S PRODUCTS

10. On information and belief, Nvidia makes, imports, sells, offers to sell, distributes, licenses, markets and/or uses ethernet network adaptor cards such as ConnectX-4 LX Ethernet Adaptor Cards, ConnectX-5 EN Ethernet Adaptor Cards, ConnectX-6 EN Ethernet Adaptor Cards, and ConnectX-6 Lx Ethernet SmartNIC cards ("the Accused Products").

11. The Accused Products support Energy Efficient Ethernet:

Standards*

- IEEE 802.3ae 10 Gigabit Ethernet
- 25/50 Ethernet Consortium 25G and 50G supporting all FEC modes
- IEEE 802.3by 25G supporting all FEC modes
- IEEE 802.3ad, 802.1AX Link Aggregation
- IEEE 802.3az Energy Efficient Ethernet (supports only "Fast-Wake" mode)
- IEEE 802.3ap based auto-negotiation and KR startup
- IEEE 802.1Q, 802.1P VLAN tags and priority
- IEEE 802.1Qaz (ETS)
- IEEE 802.1Qbb (PFC)
- IEEE 802.1Qbg
- IEEE 1588v2
- IEEE 1149.1 and IEEE 1149.6 JTAG
- PCI Express Gen 3.0 and 4.0

https://www.mellanox.com/files/doc-2020/pb-connectx-6-lx-en-card.pdf.

12. IEEE 802.3az Energy Efficient Ethernet describes reduce energy usage when no data packets are sent through a link by putting said link into a sleep mode in the absence of data packet transmission:

ABSTRACT

Ethernet is the dominant wireline communications technology for LANs with over 1 billion interfaces installed in the U.S. and over 3 billion worldwide. In 2006 the IEEE 802.3 Working Group started an effort to improve the energy efficiency of Ethernet. This effort became IEEE P802.3az Energy Efficient Ethernet (EEE) resulting in IEEE Std 802.3az-2010, which was approved September 30, 2010. EEE uses a Low Power Idle mode to reduce the energy consumption of a link when no packets are being sent. In this article, we describe the development of the EEE standard and how energy savings resulting from the adoption of EEE may exceed $400 million per year in the U.S. alone (and over $1 billion worldwide). We also present results from a simulation-based performance evaluation showing how packet coalescing can be used to improve the energy efficiency of EEE. Our results show that packet coalescing can significantly improve energy efficiency while keeping absolute packet delays to tolerable bounds. We are aware that coalescing may cause packet loss in downstream buffers, especially when using TCP/IP. We explore the effects of coalescing on TCP/IP flows with an ns-2 simulation, note that coalescing is already used to reduce packet processing load on the system CPU, and suggest open questions for future work. This article will help clarify what can be expected when EEE is deployed.

https://www.csee.usf.edu/~kchriste/energy/commMag10b.pdf

13. IEEE 802.3az Energy Efficient Ethernet describes preventing data transmission when there is no data to send and to resume data transmission when

new data packets arrive:

> (EEE) standard [2, 3]. The approach in EEE is to limit transmission when there is no data to short periodic refresh intervals to maintain alignment between the transmitter and receiver. The IEEE Std 802.3az-2010 focuses on Ethernet transceivers that operate over UTP, which account for the vast majority of Ethernet links. The standard defines mechanisms to stop transmission when there is no data to send and to resume it quickly when new packets arrive. This is done by introducing the concept of Low Power Idle (LPI), which is used instead of the continuous IDLE signal when there is no data to transmit. LPI defines large periods over which no signal is transmitted and small periods during which a signal is transmitted to refresh the receiver state to align it with current conditions. Large energy savings are obtained when the device spends a significant fraction of the time in the low power mode. Although the savings vary from device to device, the energy consumption when the device is in low power mode can be as low as 10 percent that of the active mode. During the transitions in and out of low power mode there is significant energy consumption as many elements in the transceiver have to be active. The actual value will depend on the implementation possibly ranging from 50 percent to 100 percent of the active mode energy consumption.

https://www.csee.usf.edu/~kchriste/energy/commMag10b.pdf

14. The Accused Products regulate the transmission of signals passing through them:

Features

- Tag matching and rendezvous offloads
- Adaptive routing on reliable transport
- Burst buffer offloads for background checkpointing
- NVMe over Fabric offloads
- Backend switch elimination by host chaining
- Embedded PCIe switch
- Enhanced vSwitch/vRouter offloads
- Flexible pipeline
- RoCE for overlay networks
- PCIe Gen 4.0 support
- RoHS compliant
- ODCC compatible
- Various form factors available

https://store.mellanox.com/products/nvidia-mcx516a-ccat-connectx-5-en-adapter-card-100gbe-dual-port-qsfp28-pcie3-0-x16-tall-bracket-rohs-r6.html

COUNT I
INFRINGEMENT OF U.S. PATENT NO. 6,671,750

15. Plaintiff realleges and incorporates by reference the allegations in the preceding paragraphs as if fully set forth herein.

16. The ’750 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

17. Plaintiff is the owner by assignment of the ’750 Patent.

18. The Accused Products are designed to connect to provide interactive services using applications.

19. Upon information and belief, Defendant has infringed and continue to infringe one or more claims, including Claim 1, of the ’750 Patent by making, using, importing, selling, and/or, offering for sale the Accused Products in the United States without authority.

20. Defendant has infringed and continues to infringe the ’750 Patent either directly or through the acts of inducement in violation of 35 U.S.C. § 271.

21. Defendant encourages others, including their customers, to use the Accused Products in the United States without authority.

22. Claim 6 of the ’750 Patent recites:

> 6. A LAN interface comprising:
>
> a LAN controller for processing a signal transmitted from a terminal connected to an I/O bus and then transmitting a processed signal to said counter device, and for processing a signal transmitted from said counter device and then transmitting a processed signal to said connection device;
>
> a separator connected between said LAN controller and said I/O bus, for electrically disconnecting said LAN controller from said I/O bus; and
>
> a link pulse detector for operating on a predetermined voltage supplied via said I/O bus and detecting a link pulse from said counter

device connected to said connection port;

wherein said link pulse detector, when detecting a link pulse output from the counter device, controls the LAN controller and the isolation section to controllably bring them to an operation state thereof and, when not detecting a link pulse output from the counter device, controls the LAN controller and the isolation section to controllably bring them to a non-operation state.

23. As exemplified in the information referenced in the above paragraphs and the use of one or more of the Accused Products, the Accused Products include a LAN interface that has LAN controller for processing a signal transmitted from a terminal connected to an I/O bus and then transmitting a processed signal to said counter device, and for processing a signal transmitted from said counter device and then transmitting a processed signal to said connection device.

24. The Accused Products have a LAN interface that has a separator connected between said LAN controller and said I/O bus, for electrically disconnecting said LAN controller from said I/O bus.

25. The LAN interface includes a link pulse detector for operating on a predetermined voltage supplied via said I/O bus and detecting a link pulse from said counter device connected to said connection port.

26. In operation, the link pulse detector, when detecting a link pulse output

from the counter device, controls the LAN controller and the isolation section to controllably bring them to an operation state thereof and, when not detecting a link pulse output from the counter device, controls the LAN controller and the isolation section to controllably bring them to a non-operation state.

27. Defendant's infringing activities are and have been without authority or license under the '750 Patent.

28. Plaintiff is entitled to recover from Defendant the damages sustained by Plaintiff as a result of Defendant's infringing acts, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests the Court enter judgment against Defendant:

1. declaring that the Defendant has infringed the '750 Patent;
2. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '750 Patent;
3. awarding Plaintiff its costs, attorneys' fees, expenses, and prejudgment and post-judgment interest; and
4. granting Plaintiff such further relief as the Court deems just and proper.

JURY DEMAND

Plaintiff hereby demands a trial by jury of all issues so triable pursuant to Fed. R. Civ. P. 38.

Dated: June 25, 2021

Respectfully Submitted,

By: */s/ Cabrach Connor*
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