

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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INTEL CORP., CAVIUM, INC., WISTRON, INC., and DELL INC.,  
Petitioner,

v.

ALACRITECH, INC.,  
Patent Owner.

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Case IPR2017-01392<sup>1</sup>  
U.S. Patent No. 7,337,241  
Title: FAST-PATH APPARATUS FOR RECEIVING DATA CORRESPONDING  
TO A TCP CONNECTION

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**DECLARATION OF ROBERT HORST IN SUPPORT OF PETITIONER'S  
SUR-REPLY IN OPPOSITION TO PATENT OWNER'S MOTION  
TO AMEND FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 7,337,241**

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<sup>1</sup> Cavium, Inc., which filed a Petition in Case IPR2017-01728, Wistron, Inc., which filed a Petition in Case IPR2018-00328, and Dell Inc., which filed a Petition in Case IPR2018-00372, have been joined as petitioners in this proceeding.

**TABLE OF CONTENTS**

	<b>Page</b>
I. INTRODUCTION.....	1
II. PATENT OWNER AND DR. ALMEROOTH FAIL TO IDENTIFY SUPPORT FOR THE NEW LIMITATIONS .....	1
III. ERICKSON DOES NOT DISCLOSE SENDING INTERRUPTS TO THE HOST DURING EXECUTION OF THE UDPSOCKET PROCEDURE .....	4

I, Robert Horst, hereby declare as follows:

## **I. INTRODUCTION**

1. My name is Robert Horst. I have been retained on behalf of Petitioner Intel Corporation (“Intel”) to provide this Declaration concerning technical subject matter relevant to the petition for *inter partes* review (“Petition”) concerning U.S. Patent No. 7,337,241 (Ex. 1001, the “241 Patent”). I reserve the right to supplement this Declaration in response to additional evidence that may come to light.

2. I am over 18 years of age. I have personal knowledge of the facts stated in this Declaration and could testify competently to them if asked to do so.

3. I am being compensated for my time at the rate of \$550 per hour. My compensation is not based on the resolution of this matter. My findings are based on my education, experience, and background in the fields discussed below.

4. I am an independent consultant with more than 30 years of expertise in the design and architecture of computer systems. My current curriculum vitae is submitted as Ex. 1236.

5. I incorporate my declaration Ex. 1210 herein.

## **II. PATENT OWNER AND DR. ALMEROOTH FAIL TO IDENTIFY SUPPORT FOR THE NEW LIMITATIONS**

6. The amended portion of substitute claim 25, on which substitute claims 26-32 depend, is reproduced below:

sending, by the first mechanism, the data from each packet of the first type to a destination in memory allocated to an application running on a host computer without sending any of the media access control layer headers, network layer headers or transport layer headers to the destination or to a host protocol stack running on the host computer.

Paper 25 at Appendix A (emphasis in original).

7. It is my opinion that Patent Owner and Dr. Almeroth do not identify sufficient support for these additional limitations in the original disclosure of the 241 Patent, U.S. Application No. 10/260,878 (“241 Patent Application”). For example, Dr. Almeroth identifies the communication processing device (CPD) 30 in Figs. 3 and 4 that “sends ‘application data’ from each packet of a first type [] to” “storage 35.” While the 241 Patent Application discloses that storage 35 is located on the host and that application data is sent to it, there is no discussion or indication in the cited portions that storage 35 or any portion of storage 35 is allocated to an application. *See* Ex. 2021 at Abstract, Figs. 3 and 4, [0055]-[0064]. Thus, sending packet data “to a destination in memory allocated to an application running on a host computer” is unsupported.

8. The amended portion of substitute claim 33, on which substitute claims 34-40 depend, is reproduced below:

prepending a packet header to each of the segments by a second processor, thereby forming a packet corresponding to each segment, each packet header containing a media access control layer header, a

network layer header and a transport layer header, wherein the network layer header is Internet Protocol (IP), the transport layer header is Transmission Control Protocol (TCP) and the media access control layer header, the network layer header and the transport layer header are prepended at one time as a sequence of bits during the prepending of each packet header; and transmitting the packets to the network, wherein the dividing, prepending, and transmitting occur without the second processor generating an interrupt to the first processor. \

Paper 25 at Appendix A (emphasis in original).

9. The amended portion of substitute claim 41, on which substitute claims 42-48 depend, is reproduced below:

prepending transmitting the outbound packets to the network, wherein the dividing, prepending, and transmitting occur without the second mechanism generating an interrupt to the first mechanism.

Paper 25 at Appendix A (emphasis in original).

10. Dr. Almeroth argues that the priority application disclosure of a “Fast-path 400 byte send” is sufficient because it “will result in one interrupt” and that the host will “only receive [that interrupt] when the send command has been given to the INIC completes.” Ex. 2305, ¶ 28. However, this position is inconsistent with Alacritech’s in the related case, Case No. IPR2017-01393 related to patent 9,055,104. There, Alacritech argued that a transmit complete interrupt was sent

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